

*Oceanography Branch CTD Data Report*  
*CTD\_REPORT\_2011002HB*

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Science Center, Woods Hole, Massachusetts 02543-1097.**

DATE: Revised: September 20, 2011

# Oceanography Branch CTD Data Report

## CTD\_REPORT\_2011002HB

NOAA Fisheries Service  
Northeast Fisheries Science Center  
Woods Hole, MA 02543

HB 11-02  
Spring Bottom Trawl Survey  
Data Coverage: March 3 – May12, 2011

This report presents a summary of surface and bottom temperature and salinity data collected during the Northeast Fisheries Science Center's 2011 Spring Bottom Trawl survey aboard the NOAA FSV *Henry B. Bigelow*. All data was obtained with Seabird Electronics SBE Model 19 profiling CTD (s/n 1447). A correction of +0.029 PSU was applied to the salinity data.

Data presented here have been audited, however, corrections and/or updates may be applied at a later time. The most recent and complete station data can be found in an NODC formatted ASCII file at:  
<ftp://ftp.nefsc.noaa.gov/pub/hydro/hb1102.dat>

This report may be viewed on the Oceanography Branch website at:

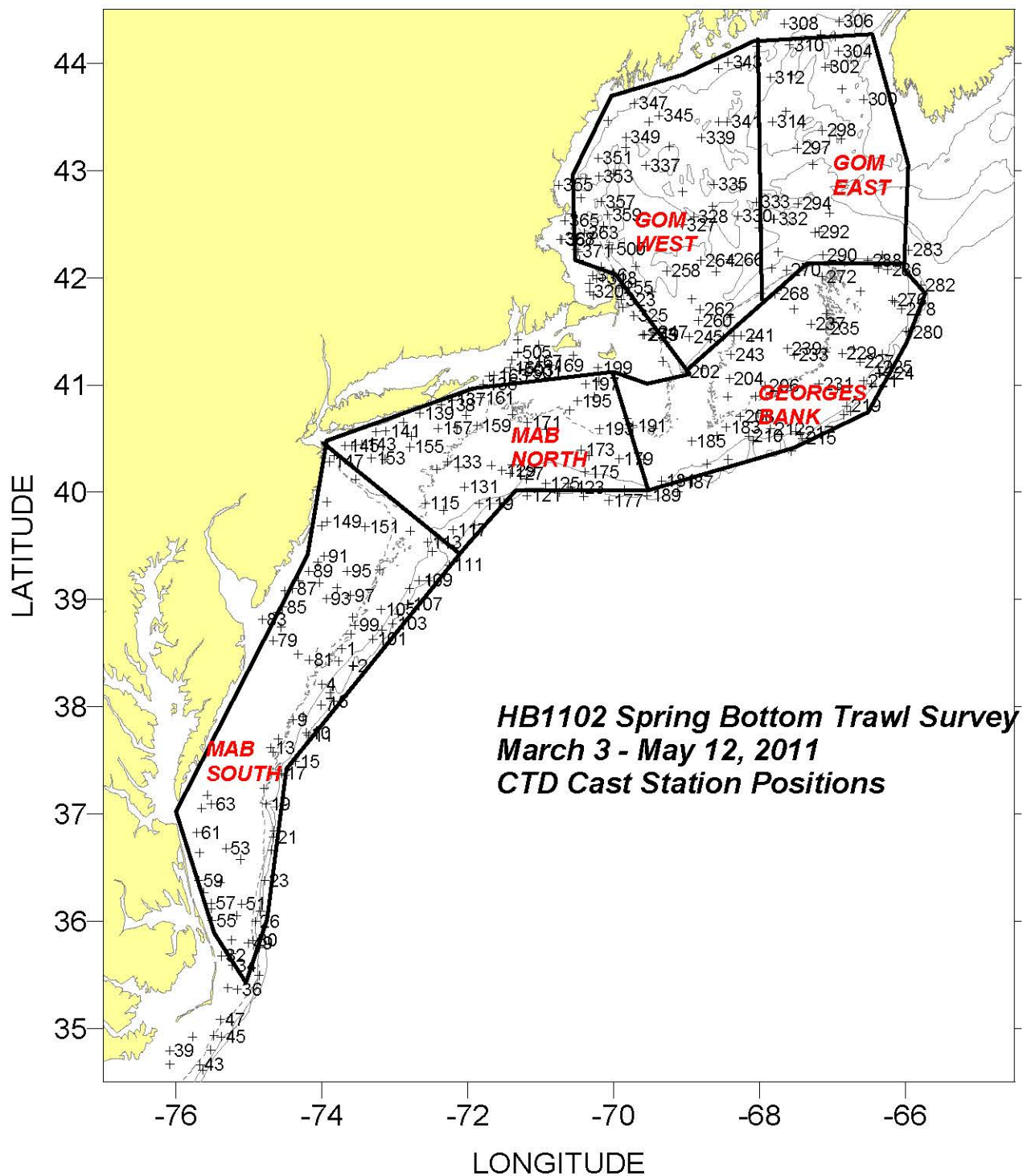
<http://www.nefsc.noaa.gov/HydroAtlas/>

choose: **2011 Cruises**

**MAR\_TRAWL\_HB1102**

**CTD\_REPORT\_2011002HB.pdf**

Revised: September 20, 2011



Areal average surface and bottom temperature/salinity and temperature/salinity anomalies for the 2011 Spring Bottom Trawl Survey HB1102

|        |     | SURFACE                  |       |         |      |      |      | BOTTOM |       |         |      |      |      |         |
|--------|-----|--------------------------|-------|---------|------|------|------|--------|-------|---------|------|------|------|---------|
| CRUISE | CD  | #obs                     | T/S   | Anomaly | SDV1 | SDV2 | Flag | #obs   | T/S   | Anomaly | SDV1 | SDV2 | Flag | Purpose |
|        |     | Gulf of Maine West       |       |         |      |      |      |        |       |         |      |      |      |         |
| HB1102 | 121 | 53                       | 7.04  | 0.74    | 0.15 | 0.73 | 0    | 52     | 7.17  | 2.04    | 0.13 | 0.96 | 0    | 10      |
| HB1102 | 121 | 53                       | 31.49 | -0.94   | 0.10 | 0.91 | 0    | 52     | 33.42 | 0.09    | 0.07 | 0.51 | 0    | 10      |
|        |     | Gulf of Maine East       |       |         |      |      |      |        |       |         |      |      |      |         |
| HB1102 | 116 | 29                       | 5.90  | 0.43    | 0.18 | 1.43 | 1    | 27     | 8.05  | 1.06    | 0.19 | 1.96 | 1    | 10      |
| HB1102 | 116 | 29                       | 32.14 | -0.38   | 0.12 | 1.69 | 1    | 27     | 34.23 | 0.09    | 0.10 | 1.04 | 1    | 10      |
|        |     | Georges Bank             |       |         |      |      |      |        |       |         |      |      |      |         |
| HB1102 | 99  | 55                       | 5.57  | 0.37    | 0.14 | 1.03 | 0    | 42     | 6.03  | 0.77    | 0.17 | 0.92 | 0    | 10      |
| HB1102 | 99  | 55                       | 32.48 | -0.52   | 0.08 | 0.39 | 0    | 42     | 32.84 | -0.33   | 0.10 | 0.49 | 0    | 10      |
|        |     | Mid Atlantic Bight North |       |         |      |      |      |        |       |         |      |      |      |         |
| HB1102 | 82  | 55                       | 5.27  | 0.60    | 0.17 | 0.81 | 0    | 47     | 5.13  | -0.35   | 0.20 | 1.73 | 0    | 10      |
| HB1102 | 82  | 55                       | 32.35 | -0.54   | 0.11 | 0.60 | 0    | 47     | 32.64 | -0.81   | 0.12 | 0.46 | 0    | 10      |
|        |     | Mid Atlantic Bight South |       |         |      |      |      |        |       |         |      |      |      |         |
| HB1102 | 70  | 69                       | 6.79  | 0.59    | 0.16 | 1.37 | 0    | 58     | 6.49  | 0.35    | 0.21 | 1.58 | 0    | 10      |
| HB1102 | 70  | 69                       | 32.80 | -0.46   | 0.12 | 1.04 | 0    | 58     | 33.12 | -0.48   | 0.12 | 0.48 | 0    | 10      |

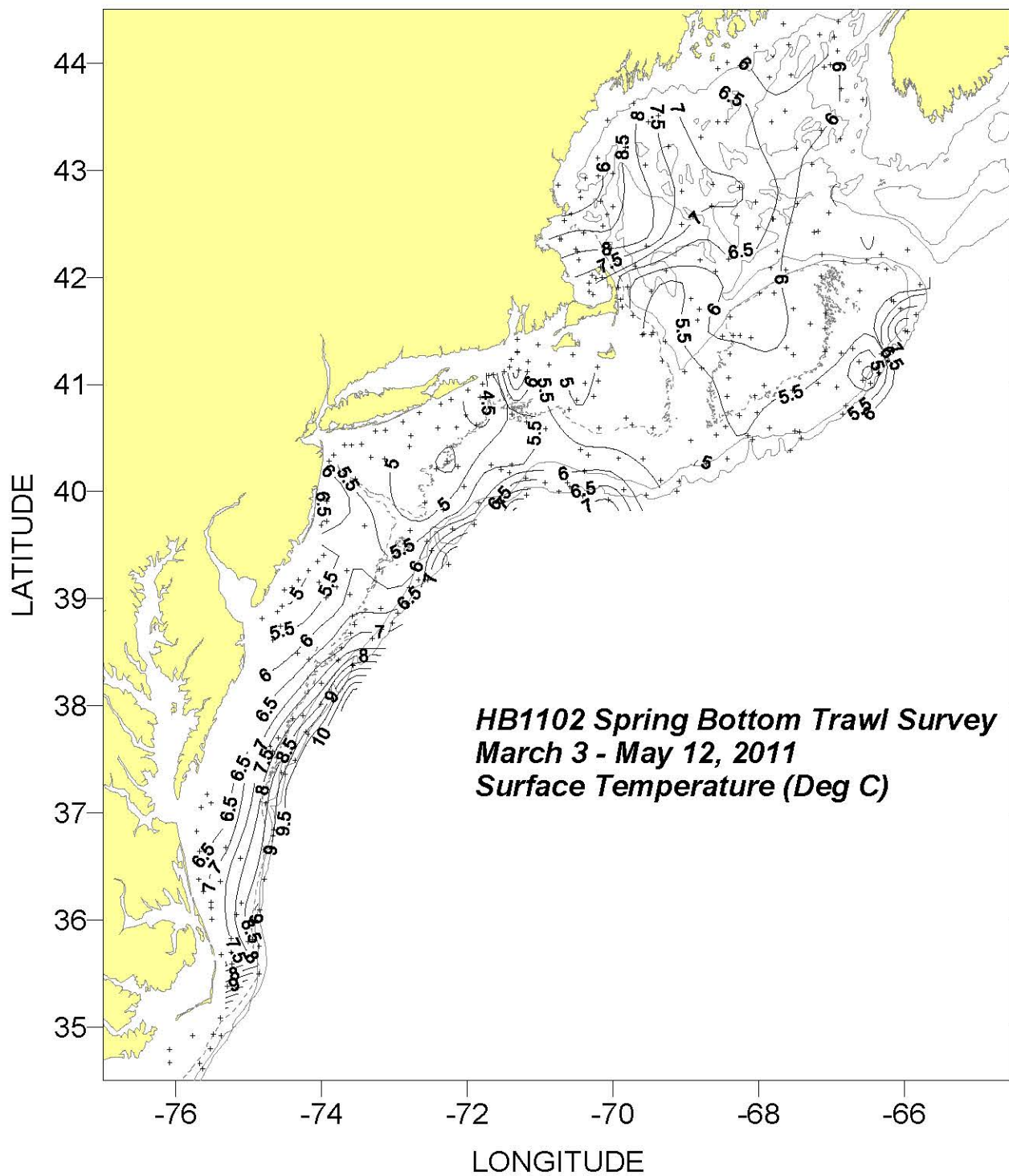
"CRUISE", the code name for a cruise: "CD", the calendar mid-date of all the stations within a region for a cruise:

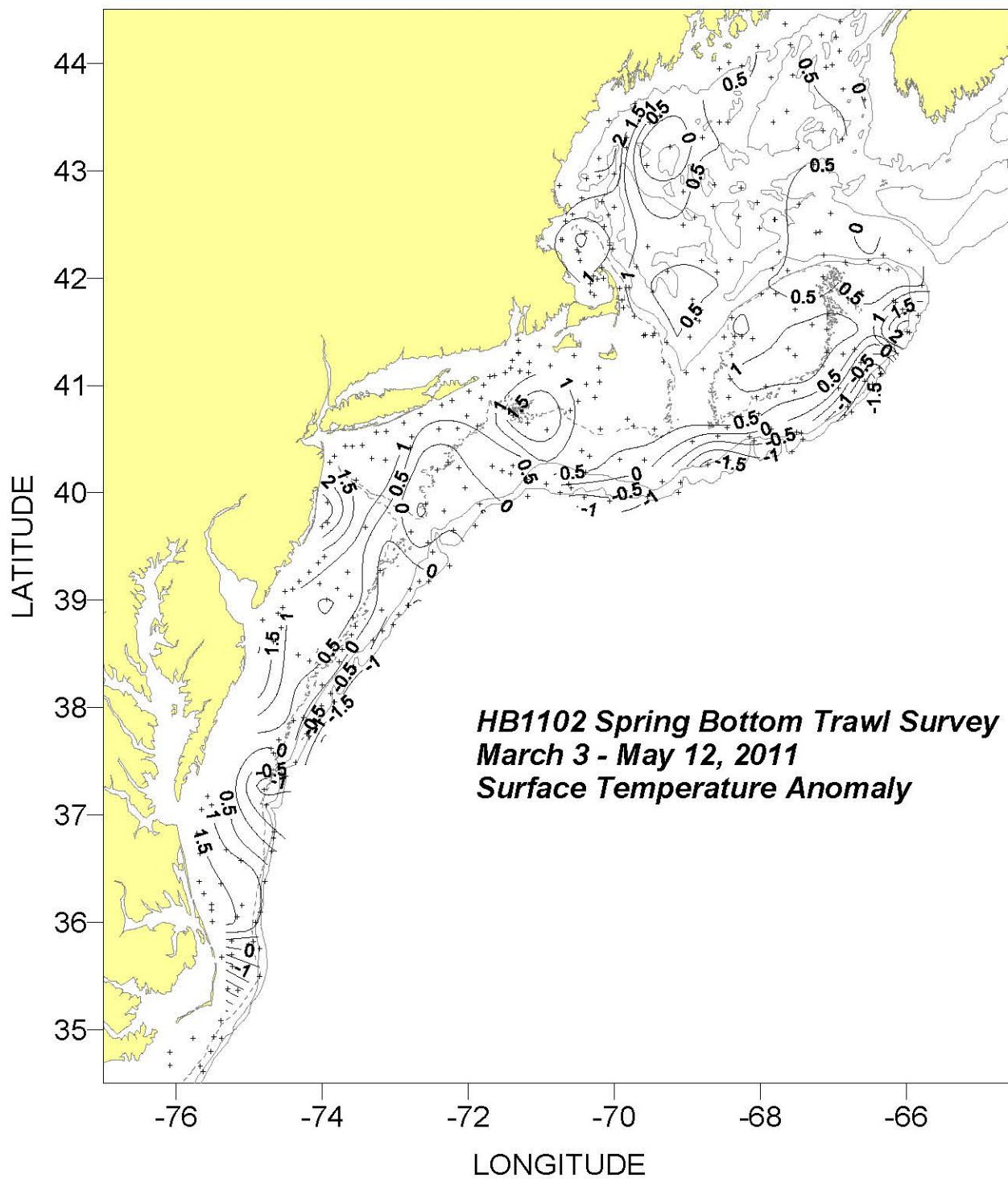
"#obs", the number of observations included in each average: "T/S", the areal average temp/salt: "Anomaly", the areal average temp/salt anomaly:

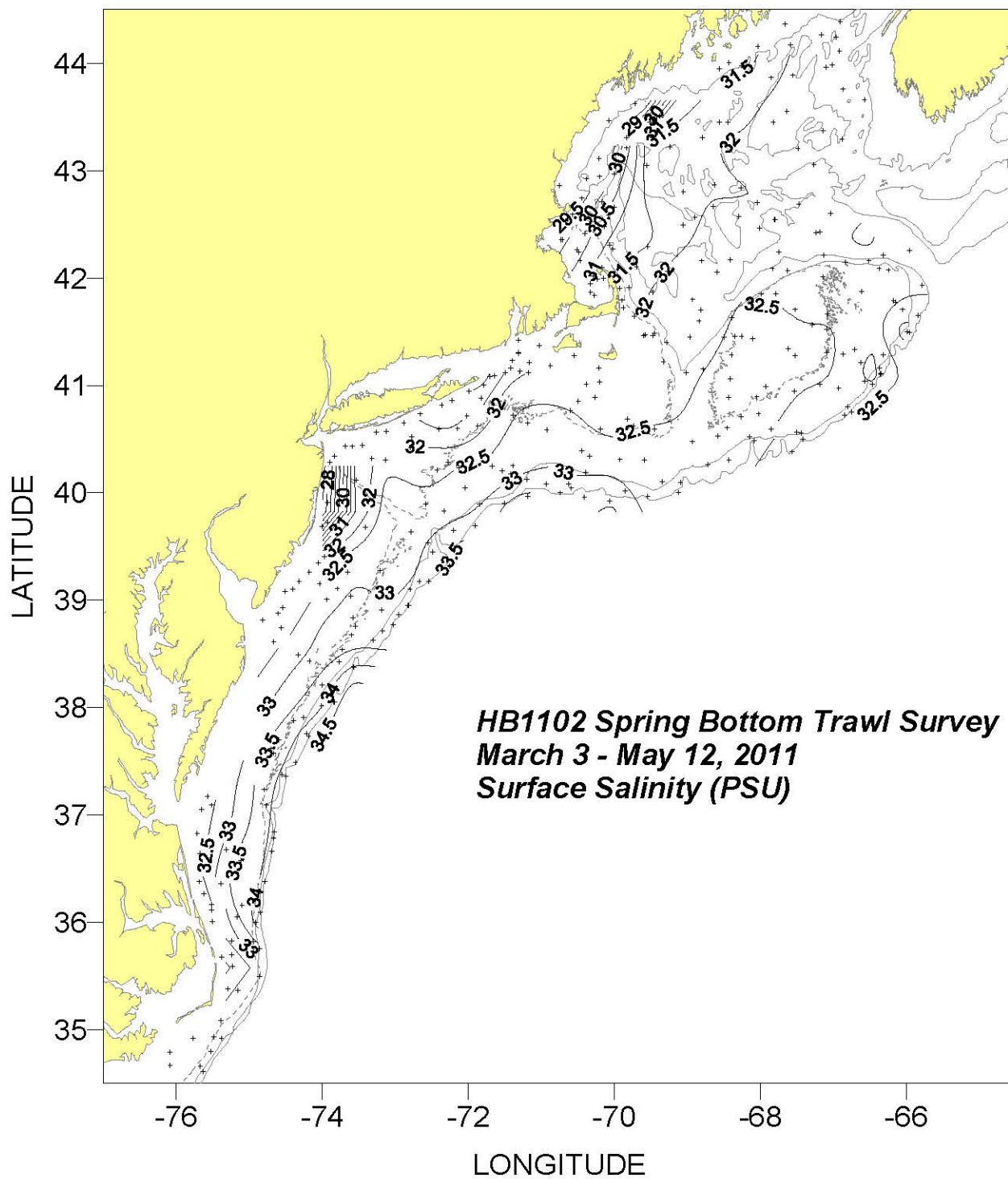
"SDV1", the standard deviation associated with the average temp/salt anomaly: "SDV2", the standard deviation of the individual anomalies from which the average anomaly was derived

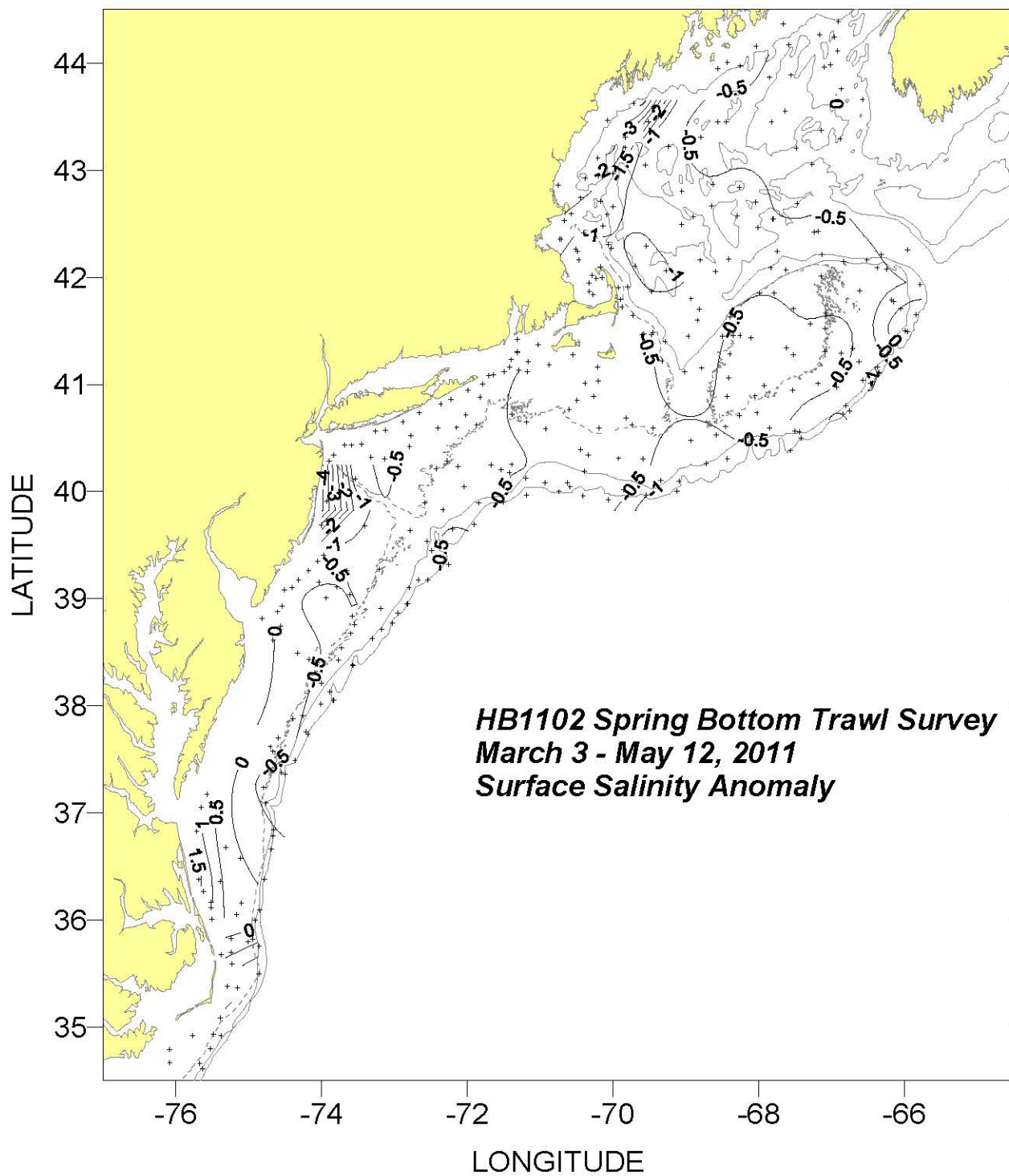
"Flag", a value of "1" indicates that a true areal average could not be calculated due to poor station coverage. The areal averages listed were derived from a simple average of the observations within the region.

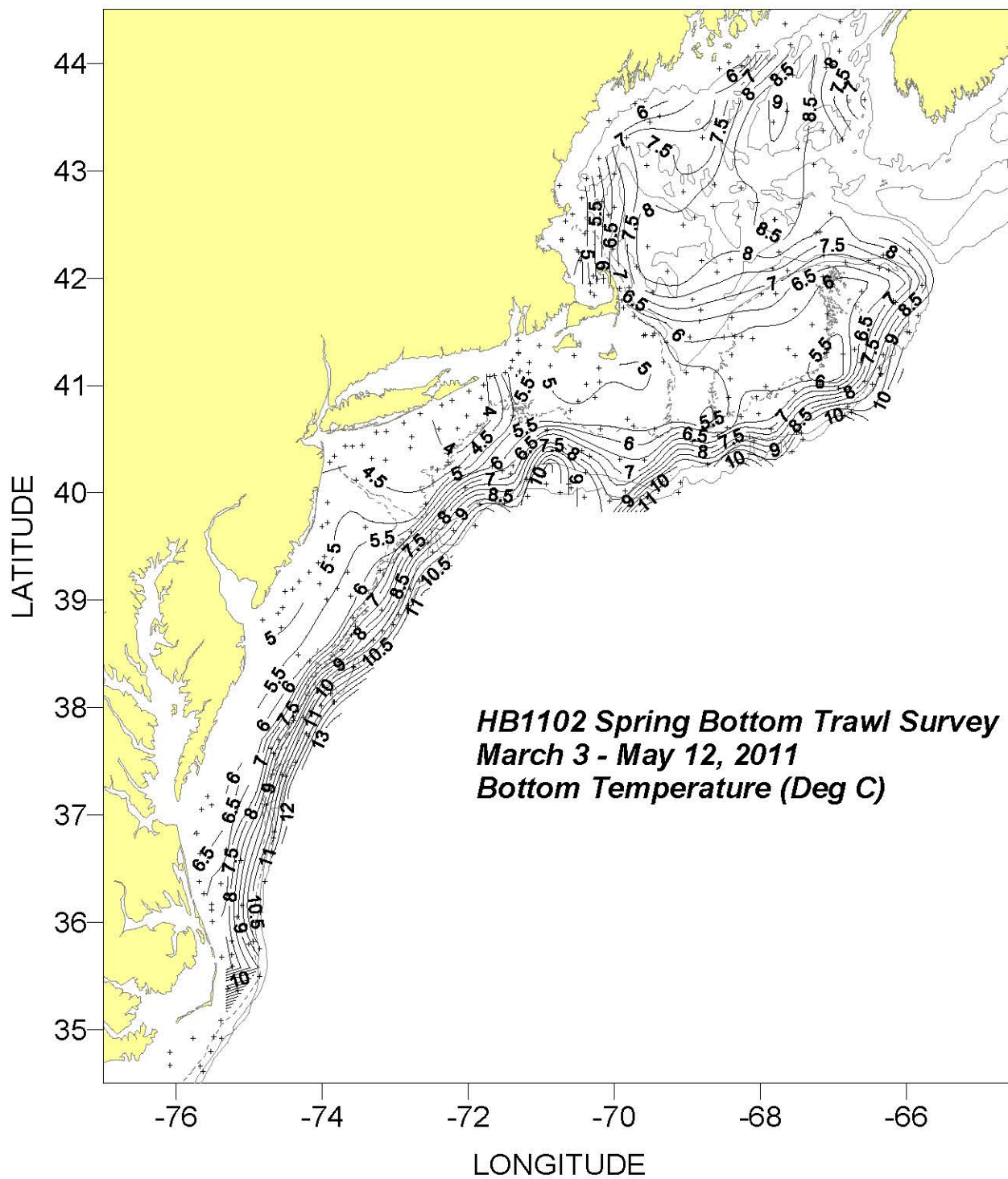
"Purpose", 2 digit code assigned by DMS to identify a unique NEFSC program survey.

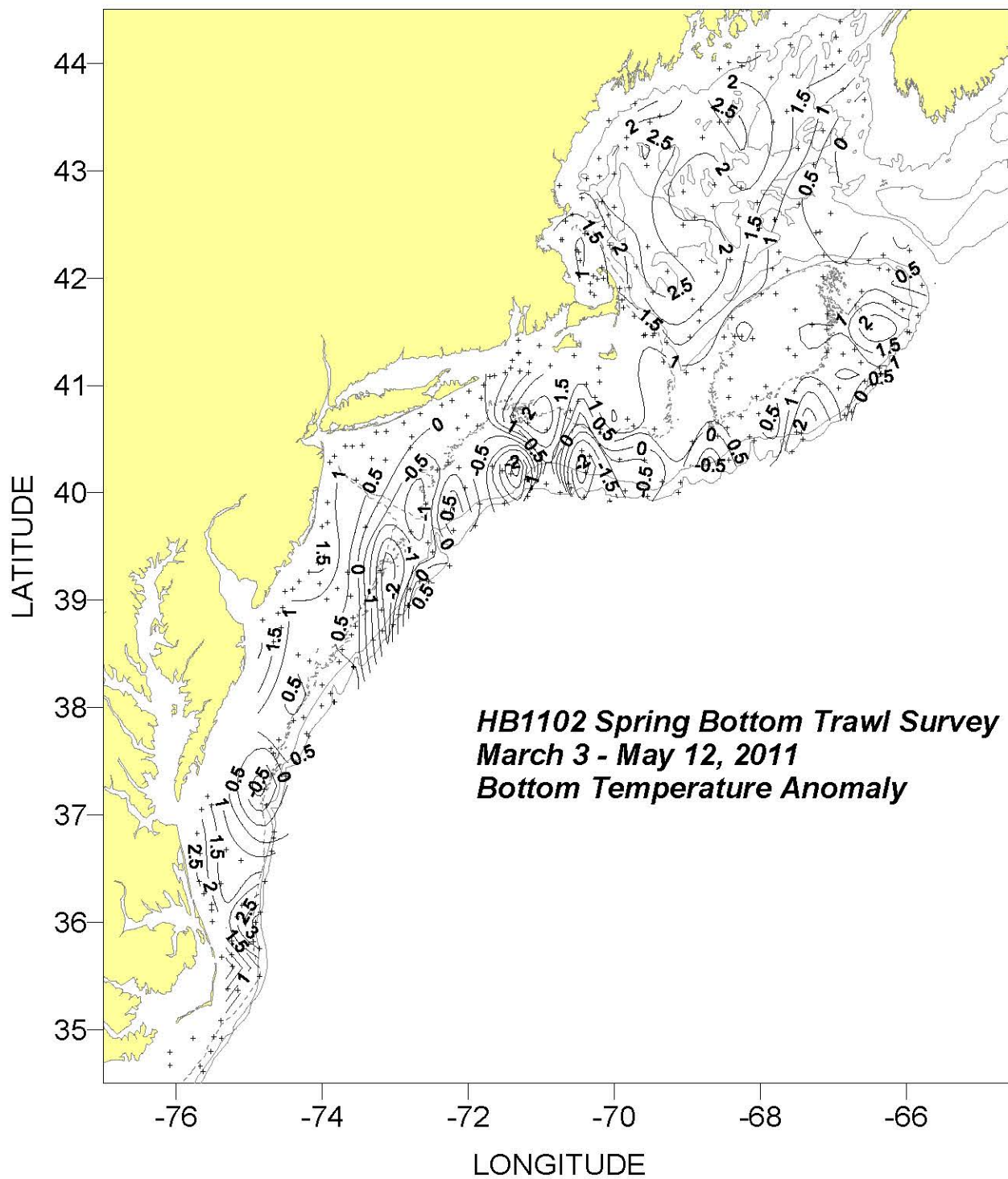


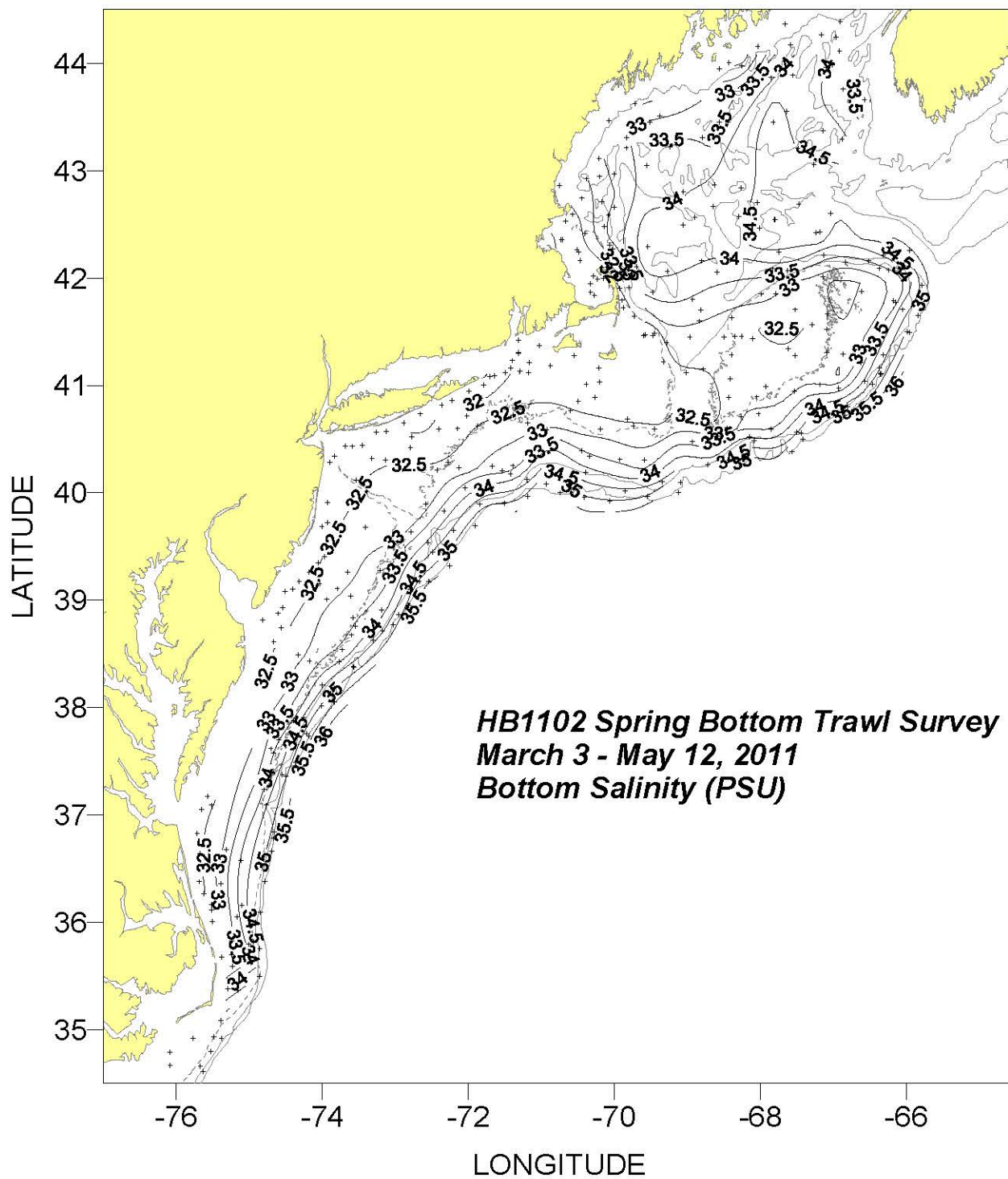


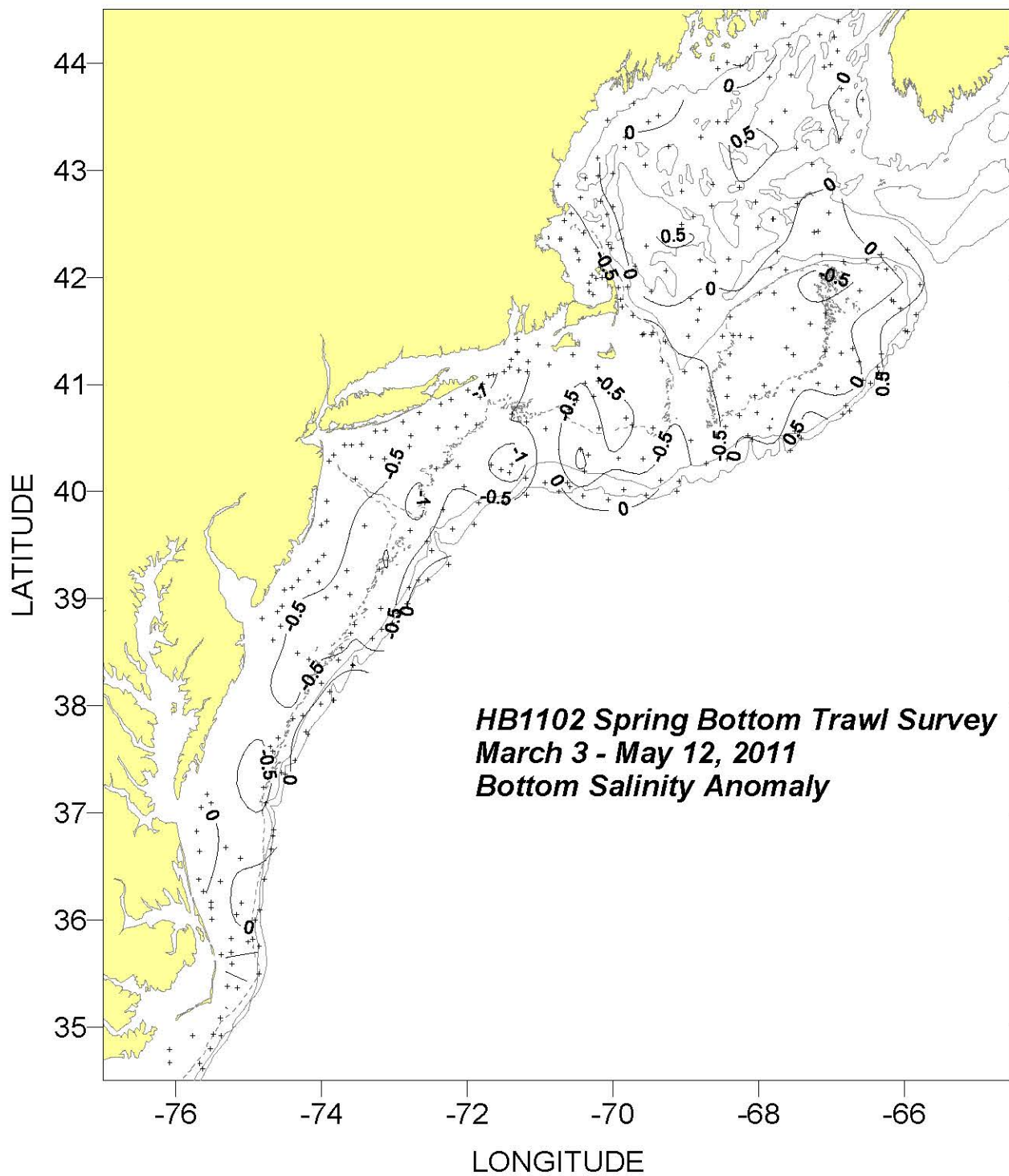












**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 1             | 1            | 3832.3       | 7343.7        | 3   | 3     | 2011 | 10:55       | 63                  | 6.59                      | 33.32                      | 6.61                              | 33.33                               | 2                        |
| 2             | 2            | 3822.8       | 7334.4        | 3   | 3     | 2011 | 17:10       | 173                 | 8.87                      | 99.99                      | 13.18                             | 35.71                               | 15                       |
| 3             | 2            | 3822.7       | 7333.9        | 3   | 3     | 2011 | 18:00       | 293                 | 9.29                      | 99.99                      | 10.95                             | 35.44                               | 2                        |
| 4             | 3            | 3825.5       | 7346.1        | 3   | 3     | 2011 | 20:16       | 67                  | 6.99                      | 33.43                      | 7.19                              | 33.50                               | 3                        |
| 5             | 4            | 3812.5       | 7359.9        | 3   | 3     | 2011 | 23:08       | 75                  | 7.16                      | 33.49                      | 7.30                              | 33.53                               | 3                        |
| 6             | 5            | 3807.8       | 7353.1        | 4   | 3     | 2011 | 0:58        | 122                 | 8.23                      | 33.87                      | 13.03                             | 35.59                               | 5                        |
| 7             | 6            | 3803.1       | 7349.8        | 4   | 3     | 2011 | 4:48        | 311                 | 12.65                     | 35.51                      | 10.33                             | 35.36                               | 1                        |
| 8             | 6            | 3803.2       | 7350.2        | 4   | 3     | 2011 | 5:15        | 296                 | 12.68                     | 35.50                      | 12.86                             | 35.69                               | 94                       |
| 9             | 7            | 3801.0       | 7400.4        | 4   | 3     | 2011 | 6:31        | 120                 | 9.27                      | 99.99                      | 13.05                             | 35.66                               | 5                        |
| 10            | 8            | 3754.5       | 7415.4        | 4   | 3     | 2011 | 9:06        | 74                  | 7.27                      | 33.53                      | 7.31                              | 33.55                               | 4                        |
| 11            | 9            | 3752.6       | 7423.6        | 4   | 3     | 2011 | 10:52       | 63                  | 7.59                      | 33.66                      | 7.62                              | 33.68                               | 2                        |
| 12            | 10           | 3745.4       | 7412.7        | 4   | 3     | 2011 | 13:10       | 125                 | 8.47                      | 33.95                      | 12.63                             | 35.52                               | 5                        |
| 13            | 11           | 3744.0       | 7411.1        | 4   | 3     | 2011 | 16:19       | 181                 | 8.12                      | 33.80                      | 12.67                             | 35.66                               | 1                        |
| 14            | 12           | 3742.0       | 7435.8        | 4   | 3     | 2011 | 18:19       | 56                  | 8.00                      | 33.76                      | 8.01                              | 33.84                               | 1                        |
| 15            | 13           | 3737.0       | 7442.2        | 4   | 3     | 2011 | 19:55       | 56                  | 7.16                      | 33.68                      | 7.06                              | 33.67                               | 4                        |
| 16            | 14           | 3734.4       | 7440.2        | 4   | 3     | 2011 | 21:25       | 60                  | 8.08                      | 33.84                      | 7.98                              | 33.91                               | 1                        |
| 17            | 15           | 3729.3       | 7421.9        | 5   | 3     | 2011 | 1:46        | 201                 | 9.81                      | 34.40                      | 11.36                             | 35.48                               | 1                        |
| 18            | 16           | 3721.5       | 7430.0        | 5   | 3     | 2011 | 3:15        | 120                 | 9.29                      | 34.21                      | 11.50                             | 35.06                               | 1                        |
| 19            | 17           | 3722.7       | 7432.8        | 5   | 3     | 2011 | 4:50        | 98                  | 8.16                      | 33.82                      | 10.25                             | 34.59                               | 3                        |
| 20            | 18           | 3714.1       | 7447.6        | 5   | 3     | 2011 | 6:58        | 56                  | 8.12                      | 33.80                      | 7.98                              | 33.88                               | 6                        |
| 21            | 19           | 3705.5       | 7445.6        | 5   | 3     | 2011 | 11:04       | 140                 | 8.04                      | 33.78                      | 9.64                              | 34.37                               | 5                        |
| 22            | 20           | 3650.6       | 7439.3        | 5   | 3     | 2011 | 14:33       | 126                 | 9.45                      | 34.27                      | 11.76                             | 35.22                               | 5                        |
| 23            | 21           | 3646.9       | 7439.9        | 5   | 3     | 2011 | 17:07       | 237                 | 8.76                      | 33.96                      | 11.34                             | 35.48                               | 1                        |
| 24            | 22           | 3639.9       | 7441.2        | 5   | 3     | 2011 | 19:57       | 319                 | 8.69                      | 33.91                      | 9.56                              | 35.29                               | 3                        |
| 25            | 23           | 3622.8       | 7446.9        | 5   | 3     | 2011 | 22:52       | 126                 | 8.78                      | 33.94                      | 12.27                             | 35.42                               | 1                        |
| 27            | 25           | 3605.4       | 7450.8        | 6   | 3     | 2011 | 4:10        | 97                  | 9.06                      | 34.08                      | 10.16                             | 34.63                               | 3                        |
| 28            | 26           | 3559.9       | 7454.5        | 6   | 3     | 2011 | 6:13        | 79                  | 9.16                      | 34.15                      | 11.07                             | 35.01                               | 1                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 30            | 28           | 3545.3       | 7451.2        | 6   | 3     | 2011 | 13:46       | 124                 | 9.46                      | 34.39                      | 10.91                             | 34.92                               | 5                        |
| 31            | 30           | 3549.4       | 7456.4        | 6   | 3     | 2011 | 20:06       | 63                  | 9.22                      | 34.25                      | 9.62                              | 34.48                               | 2                        |
| 32            | 31           | 3549.6       | 7514.2        | 7   | 3     | 2011 | 7:56        | 34                  | 7.24                      | 32.60                      | 8.38                              | 33.95                               | 7                        |
| 33            | 32           | 3540.6       | 7522.5        | 7   | 3     | 2011 | 10:03       | 26                  | 6.90                      | 31.98                      | 7.04                              | 33.19                               | 3                        |
| 34            | 33           | 3541.9       | 7514.2        | 7   | 3     | 2011 | 11:38       | 37                  | 7.20                      | 32.57                      | 8.20                              | 33.83                               | 4                        |
| 35            | 34           | 3535.3       | 7513.7        | 7   | 3     | 2011 | 13:19       | 35                  | 7.07                      | 32.08                      | 7.40                              | 33.41                               | 5                        |
| 36            | 35           | 3522.7       | 7517.4        | 7   | 3     | 2011 | 15:38       | 27                  | 7.38                      | 31.51                      | 7.36                              | 32.00                               | 4                        |
| 37            | 36           | 3521.9       | 7509.4        | 7   | 3     | 2011 | 17:16       | 34                  | 7.75                      | 31.72                      | 14.36                             | 34.38                               | 3                        |
| 38            | 38           | 3455.3       | 7546.3        | 8   | 3     | 2011 | 1:19        | 27                  | 14.52                     | 35.36                      | 14.53                             | 35.37                               | 3                        |
| 39            | 39           | 3447.5       | 7605.1        | 8   | 3     | 2011 | 3:34        | 31                  | 13.36                     | 34.90                      | 13.87                             | 35.15                               | 3                        |
| 40            | 40           | 3440.0       | 7604.9        | 8   | 3     | 2011 | 5:22        | 35                  | 20.89                     | 36.43                      | 20.60                             | 36.41                               | 5                        |
| 41            | 41           | 3425.8       | 7550.4        | 8   | 3     | 2011 | 8:01        | 152                 | 20.74                     | 36.41                      | 17.13                             | 36.27                               | 3                        |
| 42            | 42           | 3436.7       | 7537.9        | 8   | 3     | 2011 | 12:58       | 254                 | 20.43                     | 36.39                      | 12.55                             | 35.64                               | 2                        |
| 43            | 43           | 3439.7       | 7540.2        | 8   | 3     | 2011 | 14:11       | 100                 | 21.06                     | 36.37                      | 18.43                             | 36.41                               | 3                        |
| 44            | 44           | 3448.0       | 7531.5        | 8   | 3     | 2011 | 16:49       | 109                 | 22.54                     | 36.19                      | 19.09                             | 36.44                               | 1                        |
| 45            | 45           | 3455.4       | 7522.9        | 8   | 3     | 2011 | 18:42       | 136                 | 23.09                     | 36.20                      | 17.66                             | 36.07                               | 6                        |
| 46            | 46           | 3456.1       | 7528.9        | 8   | 3     | 2011 | 20:40       | 64                  | 22.61                     | 36.19                      | 16.56                             | 35.96                               | 3                        |
| 47            | 47           | 3505.1       | 7523.4        | 8   | 3     | 2011 | 22:34       | 27                  | 12.03                     | 33.08                      | 17.28                             | 35.95                               | 3                        |
| 48            | 48           | 3529.7       | 7451.6        | 9   | 3     | 2011 | 3:28        | 60                  | 7.52                      | 32.06                      | 8.33                              | 33.82                               | 3                        |
| 49            | 49           | 3547.7       | 7500.6        | 9   | 3     | 2011 | 5:19        | 49                  | 9.24                      | 34.20                      | 8.97                              | 34.19                               | 6                        |
| 50            | 50           | 3603.2       | 7510.0        | 9   | 3     | 2011 | 7:50        | 33                  | 8.32                      | 33.85                      | 8.32                              | 33.86                               | 4                        |
| 51            | 51           | 3609.7       | 7505.9        | 9   | 3     | 2011 | 9:22        | 41                  | 8.35                      | 33.96                      | 8.38                              | 33.97                               | 6                        |
| 52            | 52           | 3634.6       | 7506.8        | 9   | 3     | 2011 | 12:30       | 31                  | 8.02                      | 33.88                      | 8.01                              | 33.88                               | 3                        |
| 53            | 53           | 3640.8       | 7518.8        | 9   | 3     | 2011 | 14:49       | 28                  | 6.64                      | 33.08                      | 6.65                              | 33.08                               | 5                        |
| 55            | 54           | 3621.5       | 7523.4        | 9   | 3     | 2011 | 18:37       | 29                  | 7.34                      | 33.30                      | 7.23                              | 33.30                               | 5                        |
| 56            | 55           | 3600.4       | 7530.3        | 9   | 3     | 2011 | 21:10       | 25                  | 6.95                      | 31.85                      | 6.88                              | 31.92                               | 2                        |
| 57            | 56           | 3607.0       | 7531.0        | 9   | 3     | 2011 | 22:37       | 26                  | 7.09                      | 32.26                      | 6.91                              | 32.23                               | 3                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 58            | 57           | 3610.0       | 7531.0        | 9   | 3     | 2011 | 23:57       | 28                  | 7.20                      | 32.36                      | 6.72                              | 32.48                               | 3                        |
| 59            | 58           | 3616.1       | 7537.2        | 10  | 3     | 2011 | 1:37        | 26                  | 6.67                      | 32.23                      | 6.67                              | 32.29                               | 3                        |
| 60            | 59           | 3622.7       | 7541.1        | 10  | 3     | 2011 | 3:09        | 24                  | 6.58                      | 32.22                      | 6.58                              | 32.22                               | 2                        |
| 61            | 60           | 3638.4       | 7540.6        | 10  | 3     | 2011 | 5:10        | 18                  | 6.47                      | 32.12                      | 6.46                              | 32.13                               | 3                        |
| 62            | 61           | 3649.6       | 7542.7        | 10  | 3     | 2011 | 6:50        | 20                  | 6.18                      | 32.16                      | 5.98                              | 32.35                               | 2                        |
| 63            | 62           | 3703.2       | 7539.1        | 10  | 3     | 2011 | 9:13        | 19                  | 5.86                      | 32.10                      | 5.85                              | 32.12                               | 3                        |
| 64            | 63           | 3705.5       | 7530.9        | 10  | 3     | 2011 | 10:41       | 25                  | 5.76                      | 32.34                      | 5.77                              | 32.35                               | 4                        |
| 65            | 64           | 3710.5       | 7534.3        | 10  | 3     | 2011 | 12:34       | 23                  | 5.64                      | 32.16                      | 5.62                              | 32.18                               | 4                        |
| 66            | 79           | 3837.0       | 7439.8        | 11  | 3     | 2011 | 20:12       | 29                  | 5.59                      | 32.27                      | 4.91                              | 32.39                               | 4                        |
| 67            | 80           | 3829.4       | 7419.7        | 11  | 3     | 2011 | 22:40       | 42                  | 6.09                      | 32.94                      | 5.80                              | 33.11                               | 2                        |
| 68            | 81           | 3826.2       | 7410.5        | 12  | 3     | 2011 | 0:15        | 52                  | 7.06                      | 33.31                      | 6.63                              | 33.39                               | 2                        |
| 69            | 82           | 3844.5       | 7433.7        | 12  | 3     | 2011 | 3:31        | 27                  | 5.25                      | 32.30                      | 4.84                              | 32.39                               | 3                        |
| 70            | 83           | 3848.8       | 7448.8        | 12  | 3     | 2011 | 5:46        | 19                  | 5.60                      | 31.86                      | 5.32                              | 31.93                               | 2                        |
| 71            | 84           | 3852.6       | 7436.1        | 12  | 3     | 2011 | 7:35        | 17                  | 4.99                      | 32.11                      | 4.83                              | 32.15                               | 3                        |
| 72            | 85           | 3855.8       | 7432.4        | 12  | 3     | 2011 | 8:46        | 23                  | 4.86                      | 31.93                      | 4.69                              | 31.99                               | 3                        |
| 73            | 86           | 3904.8       | 7430.5        | 12  | 3     | 2011 | 10:34       | 21                  | 5.18                      | 31.50                      | 4.71                              | 31.80                               | 2                        |
| 74            | 87           | 3906.1       | 7424.0        | 12  | 3     | 2011 | 12:28       | 23                  | 4.90                      | 31.80                      | 4.65                              | 32.17                               | 1                        |
| 75            | 88           | 3910.4       | 7418.8        | 12  | 3     | 2011 | 13:46       | 24                  | 4.72                      | 31.98                      | 4.51                              | 32.13                               | 4                        |
| 76            | 89           | 3915.8       | 7410.6        | 12  | 3     | 2011 | 15:10       | 27                  | 4.79                      | 31.90                      | 4.47                              | 32.11                               | 2                        |
| 77            | 90           | 3920.8       | 7403.3        | 12  | 3     | 2011 | 16:28       | 25                  | 5.09                      | 31.96                      | 4.48                              | 32.35                               | 3                        |
| 78            | 91           | 3924.2       | 7358.0        | 12  | 3     | 2011 | 17:49       | 27                  | 4.98                      | 32.29                      | 4.78                              | 32.55                               | 2                        |
| 79            | 92           | 3909.4       | 7402.2        | 12  | 3     | 2011 | 19:53       | 38                  | 4.85                      | 32.32                      | 5.10                              | 32.78                               | 4                        |
| 80            | 93           | 3900.4       | 7356.2        | 12  | 3     | 2011 | 21:31       | 38                  | 5.64                      | 32.89                      | 5.56                              | 33.05                               | 3                        |
| 81            | 94           | 3906.4       | 7347.6        | 12  | 3     | 2011 | 23:25       | 36                  | 5.82                      | 32.96                      | 5.72                              | 33.08                               | 5                        |
| 82            | 95           | 3915.8       | 7339.2        | 13  | 3     | 2011 | 1:36        | 48                  | 6.02                      | 33.07                      | 5.99                              | 33.14                               | 3                        |
| 83            | 96           | 3916.6       | 7312.7        | 13  | 3     | 2011 | 3:55        | 66                  | 5.58                      | 32.94                      | 5.46                              | 32.93                               | 3                        |
| 84            | 97           | 3902.3       | 7336.7        | 13  | 3     | 2011 | 6:52        | 50                  | 6.14                      | 33.13                      | 6.11                              | 33.16                               | 2                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 85            | 98           | 3850.1       | 7334.6        | 13  | 3     | 2011 | 9:00        | 58                  | 6.41                      | 33.14                      | 6.16                              | 33.14                               | 2                        |
| 86            | 99           | 3845.6       | 7332.8        | 13  | 3     | 2011 | 10:25       | 67                  | 6.39                      | 33.11                      | 6.08                              | 33.14                               | 3                        |
| 87            | 100          | 3840.5       | 7336.1        | 13  | 3     | 2011 | 11:45       | 61                  | 6.66                      | 33.19                      | 6.37                              | 33.25                               | 4                        |
| 88            | 101          | 3837.8       | 7318.0        | 13  | 3     | 2011 | 13:52       | 95                  | 6.30                      | 33.08                      | 6.57                              | 33.24                               | 1                        |
| 89            | 102          | 3843.0       | 7310.2        | 13  | 3     | 2011 | 15:46       | 121                 | 6.62                      | 33.15                      | 10.74                             | 35.10                               | 3                        |
| 90            | 103          | 3846.4       | 7301.7        | 13  | 3     | 2011 | 19:01       | 335                 | 6.82                      | 33.15                      | 9.99                              | 35.28                               | 3                        |
| 91            | 104          | 3852.1       | 7257.1        | 13  | 3     | 2011 | 20:13       | 121                 | 6.39                      | 33.06                      | 12.09                             | 35.52                               | 1                        |
| 92            | 105          | 3854.5       | 7311.2        | 13  | 3     | 2011 | 22:43       | 83                  | 6.40                      | 33.01                      | 6.37                              | 33.17                               | 2                        |
| 93            | 106          | 3857.3       | 7249.4        | 14  | 3     | 2011 | 3:09        | 322                 | 6.15                      | 33.01                      | 9.16                              | 35.24                               | 6                        |
| 94            | 107          | 3857.3       | 7249.0        | 14  | 3     | 2011 | 6:48        | 341                 | 6.07                      | 33.00                      | 8.32                              | 35.18                               | 3                        |
| 95            | 108          | 3906.0       | 7247.9        | 14  | 3     | 2011 | 8:07        | 118                 | 6.05                      | 32.99                      | 12.45                             | 35.53                               | 2                        |
| 96            | 109          | 3910.7       | 7240.3        | 14  | 3     | 2011 | 9:53        | 137                 | 6.06                      | 33.07                      | 12.25                             | 35.56                               | 3                        |
| 97            | 110          | 3910.7       | 7232.5        | 14  | 3     | 2011 | 13:51       | 288                 | 6.59                      | 33.26                      | 11.27                             | 35.46                               | 4                        |
| 98            | 111          | 3919.2       | 7215.4        | 14  | 3     | 2011 | 17:04       | 302                 | 8.61                      | 34.00                      | 10.21                             | 35.34                               | 3                        |
| 99            | 112          | 3926.9       | 7229.2        | 14  | 3     | 2011 | 18:37       | 123                 | 6.28                      | 33.06                      | 9.92                              | 34.49                               | 3                        |
| 100           | 113          | 3932.0       | 7233.0        | 14  | 3     | 2011 | 20:00       | 92                  | 6.09                      | 32.98                      | 7.54                              | 33.69                               | 2                        |
| 101           | 114          | 3938.3       | 7247.2        | 14  | 3     | 2011 | 22:28       | 69                  | 5.03                      | 32.71                      | 4.89                              | 32.81                               | 2                        |
| 102           | 115          | 3953.9       | 7234.9        | 15  | 3     | 2011 | 1:01        | 58                  | 4.45                      | 32.57                      | 4.77                              | 32.76                               | 3                        |
| 103           | 116          | 3950.0       | 7219.9        | 15  | 3     | 2011 | 2:58        | 88                  | 5.01                      | 32.74                      | 7.25                              | 33.63                               | 2                        |
| 104           | 117          | 3939.0       | 7212.2        | 15  | 3     | 2011 | 5:16        | 123                 | 5.73                      | 32.91                      | 11.78                             | 35.15                               | 2                        |
| 105           | 118          | 3941.8       | 7154.2        | 15  | 3     | 2011 | 9:07        | 369                 | 5.72                      | 32.94                      | 8.13                              | 35.17                               | 2                        |
| 106           | 119          | 3953.5       | 7150.6        | 15  | 3     | 2011 | 10:46       | 139                 | 5.97                      | 33.04                      | 11.20                             | 34.98                               | 1                        |
| 107           | 120          | 3954.2       | 7130.4        | 15  | 3     | 2011 | 15:18       | 295                 | 7.02                      | 33.44                      | 9.32                              | 35.26                               | 2                        |
| 108           | 121          | 3958.1       | 7111.1        | 15  | 3     | 2011 | 18:43       | 348                 | 9.11                      | 34.21                      | 8.79                              | 35.22                               | 2                        |
| 109           | 122          | 4000.0       | 7044.6        | 15  | 3     | 2011 | 21:34       | 273                 | 5.86                      | 32.91                      | 10.79                             | 35.40                               | 1                        |
| 110           | 123          | 4002.6       | 7035.2        | 16  | 3     | 2011 | 0:13        | 160                 | 7.33                      | 33.41                      | 12.21                             | 35.52                               | 1                        |
| 111           | 124          | 4005.0       | 7037.6        | 16  | 3     | 2011 | 1:45        | 126                 | 8.03                      | 33.73                      | 12.13                             | 35.40                               | 2                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 112           | 125          | 4004.9       | 7055.7        | 16  | 3     | 2011 | 3:49        | 167                 | 5.72                      | 33.03                      | 13.04                             | 35.60                               | 6                        |
| 113           | 126          | 4007.4       | 7111.8        | 16  | 3     | 2011 | 5:48        | 145                 | 5.90                      | 33.08                      | 12.56                             | 35.55                               | 3                        |
| 114           | 127          | 4010.5       | 7125.3        | 16  | 3     | 2011 | 7:48        | 89                  | 5.66                      | 32.80                      | 6.39                              | 33.39                               | 3                        |
| 115           | 128          | 4015.1       | 7123.4        | 16  | 3     | 2011 | 9:22        | 88                  | 5.43                      | 32.67                      | 5.55                              | 33.08                               | 2                        |
| 116           | 129          | 4012.2       | 7131.9        | 16  | 3     | 2011 | 11:16       | 88                  | 5.60                      | 32.74                      | 6.43                              | 33.40                               | 2                        |
| 117           | 130          | 4015.0       | 7140.3        | 16  | 3     | 2011 | 13:10       | 84                  | 5.56                      | 32.68                      | 5.71                              | 33.07                               | 3                        |
| 118           | 131          | 4002.9       | 7202.7        | 16  | 3     | 2011 | 15:52       | 79                  | 5.57                      | 32.84                      | 5.38                              | 32.88                               | 3                        |
| 119           | 132          | 4014.0       | 7207.4        | 16  | 3     | 2011 | 18:02       | 66                  | 4.34                      | 32.48                      | 4.37                              | 32.68                               | 3                        |
| 120           | 133          | 4017.0       | 7216.6        | 16  | 3     | 2011 | 19:55       | 61                  | 4.35                      | 32.40                      | 3.96                              | 32.54                               | 2                        |
| 121           | 134          | 4012.8       | 7225.7        | 16  | 3     | 2011 | 21:34       | 64                  | 4.50                      | 32.45                      | 4.12                              | 32.55                               | 2                        |
| 122           | 135          | 4100.4       | 7147.2        | 21  | 3     | 2011 | 22:47       | 32                  | 4.16                      | 30.52                      | 4.05                              | 31.21                               | 4                        |
| 123           | 136          | 4056.7       | 7159.3        | 22  | 3     | 2011 | 1:04        | 28                  | 4.13                      | 30.74                      | 3.97                              | 31.11                               | 4                        |
| 124           | 137          | 4051.7       | 7213.2        | 22  | 3     | 2011 | 2:47        | 32                  | 4.55                      | 30.40                      | 3.80                              | 31.84                               | 5                        |
| 125           | 138          | 4048.9       | 7221.8        | 22  | 3     | 2011 | 4:04        | 28                  | 4.64                      | 30.80                      | 4.09                              | 31.62                               | 3                        |
| 126           | 139          | 4044.1       | 7239.5        | 22  | 3     | 2011 | 5:58        | 27                  | 4.80                      | 31.32                      | 4.35                              | 31.58                               | 2                        |
| 127           | 140          | 4039.2       | 7253.0        | 22  | 3     | 2011 | 7:34        | 27                  | 5.00                      | 31.56                      | 4.10                              | 31.89                               | 2                        |
| 128           | 141          | 4034.2       | 7307.4        | 22  | 3     | 2011 | 9:19        | 25                  | 4.68                      | 31.88                      | 4.57                              | 31.95                               | 4                        |
| 129           | 142          | 4033.8       | 7315.4        | 22  | 3     | 2011 | 11:31       | 24                  | 4.83                      | 31.89                      | 4.83                              | 31.89                               | 3                        |
| 130           | 143          | 4026.6       | 7327.2        | 22  | 3     | 2011 | 13:13       | 27                  | 4.74                      | 32.09                      | 4.71                              | 32.10                               | 3                        |
| 131           | 144          | 4025.9       | 7335.2        | 22  | 3     | 2011 | 14:23       | 24                  | 5.14                      | 31.26                      | 4.87                              | 32.03                               | 3                        |
| 132           | 145          | 4026.0       | 7340.8        | 22  | 3     | 2011 | 15:30       | 27                  | 5.15                      | 29.42                      | 4.72                              | 32.00                               | 4                        |
| 133           | 146          | 4020.7       | 7350.0        | 22  | 3     | 2011 | 17:07       | 28                  | 5.43                      | 27.74                      | 4.18                              | 32.29                               | 5                        |
| 134           | 147          | 4017.1       | 7353.5        | 22  | 3     | 2011 | 18:25       | 22                  | 5.74                      | 27.52                      | 4.37                              | 32.24                               | 3                        |
| 135           | 148          | 3954.6       | 7355.6        | 22  | 3     | 2011 | 21:31       | 23                  | 7.05                      | 26.94                      | 4.86                              | 31.97                               | 5                        |
| 136           | 149          | 3943.5       | 7355.6        | 22  | 3     | 2011 | 23:19       | 25                  | 6.79                      | 28.32                      | 5.15                              | 32.44                               | 4                        |
| 137           | 150          | 3941.2       | 7400.3        | 23  | 3     | 2011 | 0:45        | 23                  | 6.92                      | 29.14                      | 5.10                              | 32.27                               | 3                        |
| 138           | 151          | 3940.7       | 7324.4        | 23  | 3     | 2011 | 3:49        | 36                  | 5.83                      | 32.74                      | 5.41                              | 32.76                               | 5                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 139           | 152          | 4007.2       | 7332.3        | 23  | 3     | 2011 | 6:56        | 42                  | 5.07                      | 32.08                      | 4.39                              | 32.50                               | 5                        |
| 140           | 153          | 4019.1       | 7319.1        | 23  | 3     | 2011 | 9:31        | 34                  | 4.95                      | 32.35                      | 4.56                              | 32.39                               | 4                        |
| 141           | 154          | 4018.5       | 7308.1        | 23  | 3     | 2011 | 11:31       | 40                  | 5.10                      | 32.26                      | 4.42                              | 32.47                               | 5                        |
| 142           | 155          | 4025.3       | 7247.4        | 23  | 3     | 2011 | 13:55       | 44                  | 4.89                      | 32.14                      | 4.39                              | 32.43                               | 5                        |
| 143           | 156          | 4031.5       | 7246.4        | 23  | 3     | 2011 | 15:18       | 42                  | 4.75                      | 31.89                      | 4.14                              | 32.30                               | 3                        |
| 144           | 157          | 4035.8       | 7224.2        | 23  | 3     | 2011 | 17:32       | 45                  | 4.79                      | 31.66                      | 3.76                              | 32.34                               | 4                        |
| 145           | 158          | 4035.9       | 7208.6        | 23  | 3     | 2011 | 19:19       | 53                  | 4.70                      | 31.74                      | 3.54                              | 32.41                               | 7                        |
| 146           | 159          | 4037.2       | 7152.1        | 23  | 3     | 2011 | 21:34       | 56                  | 4.34                      | 31.61                      | 3.63                              | 32.49                               | 4                        |
| 147           | 160          | 4043.1       | 7201.0        | 23  | 3     | 2011 | 23:25       | 48                  | 4.69                      | 31.36                      | 3.57                              | 32.25                               | 2                        |
| 148           | 161          | 4052.8       | 7149.4        | 24  | 3     | 2011 | 1:57        | 44                  | 4.03                      | 31.94                      | 3.44                              | 32.27                               | 3                        |
| 149           | 162          | 4104.9       | 7142.4        | 24  | 3     | 2011 | 4:31        | 36                  | 4.01                      | 31.32                      | 3.61                              | 31.88                               | 2                        |
| 150           | 163          | 4105.3       | 7138.5        | 24  | 3     | 2011 | 5:40        | 37                  | 3.90                      | 31.37                      | 3.31                              | 32.10                               | 3                        |
| 151           | 164          | 4107.3       | 7129.5        | 24  | 3     | 2011 | 7:26        | 28                  | 3.99                      | 31.63                      | 3.39                              | 31.97                               | 4                        |
| 152           | 165          | 4109.7       | 7125.2        | 24  | 3     | 2011 | 10:28       | 33                  | 3.83                      | 31.70                      | 3.64                              | 31.82                               | 10                       |
| 153           | 166          | 4125.2       | 7118.7        | 24  | 3     | 2011 | 12:11       | 31                  | 3.80                      | 31.69                      | 3.16                              | 31.91                               | 4                        |
| 154           | 167          | 4112.9       | 7110.0        | 24  | 3     | 2011 | 14:31       | 44                  | 3.58                      | 32.14                      | 3.57                              | 32.14                               | 4                        |
| 155           | 168          | 4122.3       | 7101.4        | 24  | 3     | 2011 | 16:43       | 27                  | 4.28                      | 32.05                      | 4.22                              | 32.06                               | 3                        |
| 156           | 169          | 4110.9       | 7052.4        | 24  | 3     | 2011 | 19:06       | 26                  | 4.58                      | 32.17                      | 4.57                              | 32.17                               | 3                        |
| 157           | 170          | 4043.6       | 7123.2        | 26  | 3     | 2011 | 21:32       | 62                  | 5.18                      | 32.58                      | 5.16                              | 32.58                               | 4                        |
| 158           | 171          | 4038.9       | 7110.9        | 26  | 3     | 2011 | 23:58       | 64                  | 5.31                      | 32.53                      | 5.25                              | 32.68                               | 3                        |
| 159           | 172          | 4035.3       | 7055.4        | 27  | 3     | 2011 | 2:32        | 72                  | 5.56                      | 32.75                      | 5.50                              | 32.85                               | 5                        |
| 160           | 173          | 4023.7       | 7026.8        | 27  | 3     | 2011 | 5:46        | 82                  | 5.58                      | 32.91                      | 5.63                              | 32.96                               | 1                        |
| 161           | 174          | 4020.5       | 7020.3        | 27  | 3     | 2011 | 7:40        | 89                  | 5.69                      | 32.85                      | 5.66                              | 33.00                               | 2                        |
| 162           | 175          | 4011.3       | 7023.6        | 27  | 3     | 2011 | 9:46        | 116                 | 5.42                      | 32.63                      | 9.26                              | 34.39                               | 2                        |
| 163           | 176          | 3957.8       | 7024.4        | 27  | 3     | 2011 | 14:07       | 352                 | 6.58                      | 33.27                      | 7.58                              | 35.12                               | 1                        |
| 164           | 177          | 3955.4       | 7003.9        | 27  | 3     | 2011 | 18:10       | 356                 | 7.51                      | 33.65                      | 6.78                              | 35.07                               | 2                        |
| 165           | 178          | 4001.1       | 6951.2        | 27  | 3     | 2011 | 19:47       | 139                 | 6.04                      | 32.99                      | 11.33                             | 35.09                               | 2                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 166           | 179          | 4018.6       | 6955.2        | 27  | 3     | 2011 | 22:47       | 85                  | 5.53                      | 32.72                      | 6.58                              | 33.26                               | 1                        |
| 167           | 180          | 4018.4       | 6935.1        | 28  | 3     | 2011 | 1:21        | 76                  | 5.53                      | 32.80                      | 5.52                              | 32.88                               | 4                        |
| 168           | 181          | 4006.3       | 6920.5        | 28  | 3     | 2011 | 4:03        | 97                  | 5.26                      | 32.67                      | 9.92                              | 34.70                               | 6                        |
| 169           | 182          | 4018.4       | 6825.6        | 28  | 3     | 2011 | 21:34       | 140                 | 5.12                      | 32.59                      | 11.22                             | 35.12                               | 5                        |
| 170           | 183          | 4036.3       | 6827.3        | 29  | 3     | 2011 | 0:56        | 74                  | 5.05                      | 32.51                      | 5.10                              | 32.54                               | 1                        |
| 171           | 184          | 4031.7       | 6834.6        | 29  | 3     | 2011 | 2:35        | 78                  | 5.11                      | 32.53                      | 5.12                              | 32.52                               | 3                        |
| 172           | 185          | 4028.5       | 6855.7        | 29  | 3     | 2011 | 5:52        | 77                  | 5.23                      | 32.59                      | 6.04                              | 32.97                               | 5                        |
| 173           | 186          | 4015.9       | 6843.2        | 29  | 3     | 2011 | 8:37        | 110                 | 4.90                      | 32.50                      | 8.81                              | 34.17                               | 4                        |
| 174           | 187          | 4005.8       | 6905.6        | 29  | 3     | 2011 | 11:46       | 143                 | 5.08                      | 32.61                      | 12.07                             | 35.39                               | 2                        |
| 175           | 188          | 4000.2       | 6907.0        | 29  | 3     | 2011 | 15:51       | 278                 | 6.11                      | 33.05                      | 11.03                             | 35.42                               | 2                        |
| 176           | 189          | 3958.2       | 6932.3        | 29  | 3     | 2011 | 18:19       | 149                 | 5.41                      | 32.69                      | 11.89                             | 35.47                               | 4                        |
| 177           | 190          | 4035.5       | 6927.0        | 29  | 3     | 2011 | 22:28       | 52                  | 5.27                      | 32.51                      | 5.28                              | 32.51                               | 2                        |
| 178           | 191          | 4037.2       | 6944.3        | 30  | 3     | 2011 | 0:34        | 58                  | 5.29                      | 32.45                      | 5.40                              | 32.63                               | 2                        |
| 179           | 192          | 4041.2       | 6949.1        | 30  | 3     | 2011 | 2:12        | 53                  | 5.12                      | 32.35                      | 5.23                              | 32.47                               | 4                        |
| 180           | 193          | 4035.6       | 7011.5        | 30  | 3     | 2011 | 4:52        | 56                  | 5.00                      | 32.30                      | 5.46                              | 32.66                               | 3                        |
| 181           | 194          | 4045.9       | 7035.9        | 30  | 3     | 2011 | 7:48        | 57                  | 5.15                      | 32.46                      | 5.39                              | 32.57                               | 2                        |
| 182           | 195          | 4051.1       | 7029.5        | 30  | 3     | 2011 | 9:36        | 54                  | 4.78                      | 32.36                      | 4.79                              | 32.36                               | 5                        |
| 183           | 196          | 4053.4       | 7016.0        | 30  | 3     | 2011 | 11:49       | 42                  | 4.88                      | 32.25                      | 4.89                              | 32.25                               | 3                        |
| 184           | 197          | 4100.6       | 7023.1        | 30  | 3     | 2011 | 13:30       | 41                  | 4.67                      | 32.26                      | 4.66                              | 32.26                               | 4                        |
| 185           | 198          | 4102.1       | 7012.2        | 30  | 3     | 2011 | 15:46       | 28                  | 5.11                      | 32.22                      | 4.96                              | 32.22                               | 4                        |
| 186           | 199          | 4109.6       | 7012.8        | 30  | 3     | 2011 | 17:10       | 25                  | 4.93                      | 32.18                      | 4.88                              | 32.18                               | 4                        |
| 187           | 201          | 4116.6       | 7033.1        | 30  | 3     | 2011 | 21:36       | 24                  | 5.04                      | 32.11                      | 4.78                              | 32.16                               | 2                        |
| 188           | 202          | 4107.2       | 6901.0        | 7   | 4     | 2011 | 7:39        | 97                  | 5.28                      | 32.39                      | 5.29                              | 32.39                               | 1                        |
| 189           | 203          | 4109.1       | 6847.0        | 7   | 4     | 2011 | 10:38       | 76                  | 5.40                      | 32.46                      | 5.41                              | 32.46                               | 3                        |
| 190           | 204          | 4103.6       | 6824.5        | 7   | 4     | 2011 | 13:22       | 48                  | 5.78                      | 32.76                      | 5.80                              | 32.76                               | 4                        |
| 191           | 205          | 4053.4       | 6826.0        | 7   | 4     | 2011 | 15:53       | 49                  | 5.86                      | 32.82                      | 5.86                              | 32.82                               | 4                        |
| 192           | 206          | 4059.4       | 6755.2        | 7   | 4     | 2011 | 19:37       | 55                  | 5.86                      | 32.80                      | 5.75                              | 32.80                               | 4                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
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| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 193           | 207          | 4053.6       | 6802.8        | 7   | 4     | 2011 | 21:34       | 47                  | 6.03                      | 32.87                      | 5.84                              | 32.86                               | 2                        |
| 194           | 208          | 4042.4       | 6815.9        | 8   | 4     | 2011 | 0:09        | 68                  | 5.82                      | 32.75                      | 5.82                              | 32.75                               | 4                        |
| 195           | 209          | 4044.1       | 6801.4        | 8   | 4     | 2011 | 2:13        | 77                  | 5.49                      | 32.66                      | 5.55                              | 32.68                               | 5                        |
| 196           | 210          | 4031.4       | 6808.6        | 8   | 4     | 2011 | 4:43        | 109                 | 5.32                      | 32.59                      | 9.03                              | 34.66                               | 3                        |
| 197           | 211          | 4029.0       | 6804.8        | 8   | 4     | 2011 | 6:26        | 131                 | 5.32                      | 32.48                      | 9.90                              | 34.98                               | 2                        |
| 198           | 212          | 4035.5       | 6750.9        | 8   | 4     | 2011 | 8:37        | 88                  | 5.16                      | 32.53                      | 6.57                              | 33.27                               | 5                        |
| 199           | 213          | 4022.9       | 6733.7        | 8   | 4     | 2011 | 12:51       | 254                 | 5.19                      | 32.27                      | 9.16                              | 35.19                               | 3                        |
| 200           | 215          | 4030.1       | 6724.7        | 8   | 4     | 2011 | 17:42       | 288                 | 5.10                      | 32.16                      | 7.10                              | 35.06                               | 1                        |
| 201           | 216          | 4034.0       | 6730.1        | 8   | 4     | 2011 | 18:51       | 105                 | 5.03                      | 32.18                      | 10.88                             | 34.89                               | 3                        |
| 202           | 217          | 4033.4       | 6726.4        | 8   | 4     | 2011 | 20:08       | 115                 | 4.83                      | 32.04                      | 11.19                             | 35.23                               | 2                        |
| 203           | 218          | 4043.4       | 6650.5        | 9   | 4     | 2011 | 1:04        | 194                 | 5.22                      | 32.07                      | 12.00                             | 35.44                               | 2                        |
| 204           | 219          | 4048.3       | 6648.1        | 9   | 4     | 2011 | 2:09        | 114                 | 4.88                      | 31.76                      | 11.39                             | 35.15                               | 1                        |
| 205           | 220          | 4045.3       | 6645.0        | 9   | 4     | 2011 | 5:37        | 289                 | 7.09                      | 33.21                      | 7.98                              | 35.13                               | 2                        |
| 206           | 221          | 4102.3       | 6634.2        | 9   | 4     | 2011 | 7:34        | 89                  | 4.00                      | 31.68                      | 6.09                              | 33.05                               | 3                        |
| 207           | 222          | 4100.6       | 6627.6        | 9   | 4     | 2011 | 9:22        | 196                 | 4.67                      | 32.14                      | 10.63                             | 35.26                               | 3                        |
| 208           | 224          | 4106.6       | 6620.8        | 9   | 4     | 2011 | 15:25       | 285                 | 4.19                      | 31.74                      | 8.24                              | 35.16                               | 3                        |
| 209           | 224          | 4106.4       | 6621.1        | 9   | 4     | 2011 | 15:49       | 283                 | 4.62                      | 31.91                      | 9.64                              | 35.26                               | 79                       |
| 210           | 225          | 4109.9       | 6621.8        | 9   | 4     | 2011 | 17:04       | 113                 | 4.00                      | 31.57                      | 11.21                             | 35.24                               | 1                        |
| 211           | 226          | 4117.2       | 6618.8        | 9   | 4     | 2011 | 19:04       | 99                  | 4.95                      | 31.96                      | 10.67                             | 35.01                               | 4                        |
| 212           | 227          | 4112.9       | 6637.2        | 9   | 4     | 2011 | 21:45       | 83                  | 5.32                      | 32.47                      | 5.23                              | 32.63                               | 1                        |
| 213           | 228          | 4120.0       | 6642.5        | 9   | 4     | 2011 | 23:22       | 76                  | 5.77                      | 31.72                      | 5.16                              | 32.58                               | 1                        |
| 214           | 229          | 4117.6       | 6651.8        | 10  | 4     | 2011 | 1:02        | 71                  | 5.90                      | 32.70                      | 5.60                              | 32.70                               | 2                        |
| 215           | 230          | 4058.4       | 6655.4        | 10  | 4     | 2011 | 3:28        | 76                  | 5.00                      | 32.21                      | 5.21                              | 32.60                               | 3                        |
| 216           | 231          | 4100.5       | 6711.0        | 10  | 4     | 2011 | 5:25        | 73                  | 5.70                      | 32.65                      | 5.52                              | 32.71                               | 3                        |
| 217           | 232          | 4056.8       | 6732.0        | 10  | 4     | 2011 | 8:00        | 73                  | 5.53                      | 32.58                      | 5.49                              | 32.65                               | 2                        |
| 218           | 233          | 4116.8       | 6731.3        | 10  | 4     | 2011 | 12:22       | 45                  | 5.84                      | 32.58                      | 5.83                              | 32.58                               | 4                        |
| 219           | 234          | 4118.5       | 6705.3        | 10  | 4     | 2011 | 15:16       | 61                  | 5.93                      | 32.64                      | 5.68                              | 32.64                               | 2                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 220           | 235          | 4131.5       | 6705.5        | 10  | 4     | 2011 | 17:25       | 57                  | 6.07                      | 32.61                      | 5.67                              | 32.60                               | 4                        |
| 221           | 236          | 4139.8       | 6704.8        | 10  | 4     | 2011 | 19:15       | 60                  | 5.72                      | 32.57                      | 5.66                              | 32.56                               | 3                        |
| 222           | 237          | 4134.1       | 6717.3        | 10  | 4     | 2011 | 21:34       | 61                  | 5.81                      | 32.51                      | 5.76                              | 32.52                               | 3                        |
| 223           | 238          | 4142.4       | 6731.3        | 10  | 4     | 2011 | 23:58       | 50                  | 5.81                      | 32.47                      | 5.80                              | 32.47                               | 5                        |
| 224           | 239          | 4120.5       | 6736.9        | 11  | 4     | 2011 | 4:54        | 42                  | 5.97                      | 32.58                      | 5.97                              | 32.58                               | 4                        |
| 225           | 240          | 4126.3       | 6806.1        | 11  | 4     | 2011 | 9:10        | 50                  | 6.09                      | 32.69                      | 6.08                              | 32.70                               | 4                        |
| 226           | 241          | 4127.6       | 6815.4        | 11  | 4     | 2011 | 10:52       | 49                  | 5.77                      | 32.58                      | 5.76                              | 32.58                               | 4                        |
| 227           | 242          | 4127.5       | 6820.9        | 11  | 4     | 2011 | 12:55       | 55                  | 5.80                      | 32.55                      | 5.71                              | 32.50                               | 3                        |
| 228           | 243          | 4117.0       | 6823.6        | 11  | 4     | 2011 | 15:19       | 55                  | 5.76                      | 32.57                      | 5.75                              | 32.61                               | 1                        |
| 229           | 244          | 4126.9       | 6829.8        | 11  | 4     | 2011 | 17:38       | 87                  | 6.02                      | 32.47                      | 5.44                              | 32.51                               | 4                        |
| 230           | 245          | 4126.9       | 6857.9        | 11  | 4     | 2011 | 21:37       | 146                 | 5.62                      | 32.40                      | 5.87                              | 32.81                               | 3                        |
| 231           | 246          | 4124.0       | 6917.0        | 12  | 4     | 2011 | 1:07        | 117                 | 5.23                      | 32.30                      | 5.63                              | 32.68                               | 4                        |
| 232           | 247          | 4129.2       | 6926.8        | 12  | 4     | 2011 | 11:34       | 54                  | 4.95                      | 32.18                      | 4.87                              | 32.21                               | 4                        |
| 233           | 248          | 4128.1       | 6928.1        | 12  | 4     | 2011 | 14:31       | 43                  | 4.93                      | 32.19                      | 4.89                              | 32.18                               | 3                        |
| 234           | 249          | 4128.2       | 6934.7        | 12  | 4     | 2011 | 16:37       | 33                  | 5.12                      | 32.16                      | 5.02                              | 32.16                               | 5                        |
| 236           | 252          | 4113.2       | 6919.5        | 12  | 4     | 2011 | 23:21       | 59                  | 5.37                      | 32.32                      | 5.37                              | 32.32                               | 3                        |
| 237           | 253          | 4128.1       | 6935.9        | 13  | 4     | 2011 | 1:27        | 33                  | 5.12                      | 32.14                      | 5.13                              | 32.14                               | 3                        |
| 238           | 254          | 4154.6       | 6947.8        | 13  | 4     | 2011 | 7:58        | 105                 | 5.19                      | 31.80                      | 5.35                              | 32.61                               | 5                        |
| 239           | 255          | 4154.4       | 6955.3        | 13  | 4     | 2011 | 10:01       | 32                  | 5.09                      | 31.88                      | 4.97                              | 31.91                               | 4                        |
| 240           | 257          | 4206.5       | 6941.8        | 20  | 4     | 2011 | 5:25        | 219                 | 5.43                      | 31.97                      | 8.52                              | 34.13                               | 4                        |
| 241           | 258          | 4203.8       | 6916.3        | 20  | 4     | 2011 | 8:21        | 207                 | 5.39                      | 32.02                      | 8.58                              | 34.17                               | 6                        |
| 242           | 259          | 4152.1       | 6928.4        | 20  | 4     | 2011 | 11:56       | 198                 | 5.58                      | 32.00                      | 8.48                              | 34.10                               | 3                        |
| 243           | 260          | 4135.9       | 6850.3        | 20  | 4     | 2011 | 17:32       | 148                 | 6.16                      | 32.30                      | 6.75                              | 33.15                               | 3                        |
| 244           | 261          | 4137.7       | 6823.5        | 20  | 4     | 2011 | 21:34       | 20                  | 6.80                      | 32.57                      | 6.79                              | 32.56                               | 4                        |
| 245           | 262          | 4142.3       | 6848.8        | 21  | 4     | 2011 | 1:31        | 161                 | 5.58                      | 32.21                      | 6.91                              | 33.14                               | 2                        |
| 246           | 263          | 4148.0       | 6855.5        | 21  | 4     | 2011 | 3:58        | 164                 | 5.71                      | 32.25                      | 7.23                              | 33.34                               | 1                        |
| 247           | 264          | 4209.6       | 6848.1        | 21  | 4     | 2011 | 9:25        | 182                 | 5.60                      | 32.12                      | 8.42                              | 34.08                               | 5                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 248           | 265          | 4203.4       | 6835.6        | 21  | 4     | 2011 | 11:46       | 174                 | 5.94                      | 32.31                      | 7.67                              | 33.79                               | 3                        |
| 249           | 266          | 4210.1       | 6824.5        | 21  | 4     | 2011 | 14:23       | 188                 | 5.89                      | 32.31                      | 8.06                              | 34.33                               | 2                        |
| 250           | 267          | 4151.0       | 6759.1        | 21  | 4     | 2011 | 18:28       | 63                  | 6.33                      | 32.51                      | 6.16                              | 32.49                               | 3                        |
| 251           | 268          | 4151.2       | 6747.1        | 21  | 4     | 2011 | 20:47       | 41                  | 6.37                      | 32.50                      | 6.36                              | 32.50                               | 3                        |
| 252           | 269          | 4205.3       | 6749.9        | 21  | 4     | 2011 | 23:58       | 198                 | 5.89                      | 32.28                      | 8.43                              | 34.70                               | 2                        |
| 253           | 270          | 4204.2       | 6737.4        | 22  | 4     | 2011 | 2:57        | 155                 | 5.79                      | 32.33                      | 6.56                              | 33.08                               | 3                        |
| 254           | 271          | 4214.4       | 6744.5        | 22  | 4     | 2011 | 6:28        | 212                 | 5.79                      | 32.35                      | 8.73                              | 34.82                               | 1                        |
| 255           | 272          | 4200.7       | 6708.5        | 22  | 4     | 2011 | 13:18       | 55                  | 5.36                      | 32.14                      | 5.99                              | 32.43                               | 6                        |
| 256           | 274          | 4152.5       | 6636.8        | 22  | 4     | 2011 | 18:15       | 73                  | 5.96                      | 32.48                      | 5.91                              | 32.49                               | 1                        |
| 257           | 276          | 4147.5       | 6610.3        | 22  | 4     | 2011 | 22:15       | 84                  | 5.96                      | 32.44                      | 5.92                              | 32.52                               | 1                        |
| 258           | 277          | 4146.4       | 6608.4        | 23  | 4     | 2011 | 0:38        | 87                  | 6.01                      | 32.53                      | 5.96                              | 32.58                               | 1                        |
| 259           | 278          | 4142.4       | 6603.0        | 23  | 4     | 2011 | 2:50        | 101                 | 5.92                      | 32.37                      | 6.45                              | 32.94                               | 4                        |
| 260           | 279          | 4130.2       | 6559.4        | 23  | 4     | 2011 | 5:33        | 149                 | 8.69                      | 33.40                      | 10.35                             | 35.30                               | 3                        |
| 261           | 280          | 4129.6       | 6557.0        | 23  | 4     | 2011 | 7:28        | 218                 | 8.78                      | 33.47                      | 9.27                              | 35.21                               | 1                        |
| 262           | 281          | 4139.2       | 6550.4        | 23  | 4     | 2011 | 10:41       | 226                 | 8.70                      | 33.32                      | 10.83                             | 35.16                               | 3                        |
| 263           | 282          | 4155.9       | 6546.8        | 23  | 4     | 2011 | 15:41       | 189                 | 5.15                      | 31.91                      | 8.08                              | 34.98                               | 1                        |
| 264           | 283          | 4215.3       | 6557.5        | 23  | 4     | 2011 | 19:08       | 234                 | 6.07                      | 32.50                      | 9.07                              | 35.16                               | 3                        |
| 265           | 283          | 4215.5       | 6557.4        | 23  | 4     | 2011 | 19:27       | 233                 | 6.06                      | 32.48                      | 9.13                              | 35.18                               | 30                       |
| 266           | 285          | 4212.8       | 6618.7        | 24  | 4     | 2011 | 12:45       | 207                 | 5.01                      | 31.79                      | 8.56                              | 34.96                               | 2                        |
| 267           | 286          | 4204.4       | 6614.7        | 24  | 4     | 2011 | 14:37       | 90                  | 5.01                      | 31.89                      | 6.22                              | 32.91                               | 4                        |
| 268           | 287          | 4205.3       | 6622.3        | 24  | 4     | 2011 | 15:34       | 87                  | 5.08                      | 31.90                      | 6.13                              | 32.87                               | 2                        |
| 269           | 288          | 4209.6       | 6630.6        | 24  | 4     | 2011 | 18:22       | 159                 | 5.58                      | 31.98                      | 7.60                              | 33.80                               | 3                        |
| 270           | 289          | 4208.8       | 6649.9        | 24  | 4     | 2011 | 20:16       | 99                  | 6.23                      | 32.29                      | 5.86                              | 32.44                               | 5                        |
| 271           | 290          | 4212.8       | 6707.7        | 25  | 4     | 2011 | 0:28        | 195                 | 5.75                      | 31.90                      | 8.71                              | 34.94                               | 1                        |
| 272           | 291          | 4225.8       | 6710.9        | 25  | 4     | 2011 | 3:52        | 357                 | 5.19                      | 31.89                      | 7.90                              | 35.08                               | 2                        |
| 273           | 292          | 4225.4       | 6714.3        | 25  | 4     | 2011 | 5:55        | 354                 | 5.27                      | 31.88                      | 7.90                              | 35.08                               | 1                        |
| 274           | 293          | 4236.3       | 6702.1        | 25  | 4     | 2011 | 9:19        | 300                 | 5.28                      | 31.99                      | 8.25                              | 35.02                               | 1                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 275           | 294          | 4241.5       | 6728.4        | 25  | 4     | 2011 | 12:52       | 205                 | 6.01                      | 32.17                      | 8.43                              | 34.75                               | 2                        |
| 276           | 295          | 4303.4       | 6715.8        | 25  | 4     | 2011 | 16:28       | 213                 | 5.68                      | 32.17                      | 8.67                              | 34.64                               | 9                        |
| 277           | 297          | 4312.5       | 6729.0        | 25  | 4     | 2011 | 21:04       | 196                 | 6.17                      | 32.17                      | 8.37                              | 34.38                               | 3                        |
| 278           | 298          | 4322.2       | 6708.3        | 26  | 4     | 2011 | 0:41        | 235                 | 6.18                      | 32.26                      | 8.37                              | 34.36                               | 1                        |
| 279           | 298          | 4322.5       | 6708.1        | 26  | 4     | 2011 | 1:01        | 241                 | 6.23                      | 32.23                      | 8.32                              | 34.31                               | 40                       |
| 280           | 299          | 4317.5       | 6652.8        | 26  | 4     | 2011 | 3:49        | 198                 | 5.86                      | 32.21                      | 8.17                              | 34.16                               | 2                        |
| 281           | 300          | 4339.8       | 6634.4        | 26  | 4     | 2011 | 6:10        | 101                 | 5.45                      | 32.25                      | 5.97                              | 32.83                               | 5                        |
| 282           | 301          | 4345.5       | 6651.9        | 26  | 4     | 2011 | 8:46        | 151                 | 6.06                      | 32.46                      | 6.89                              | 33.40                               | 4                        |
| 283           | 302          | 4357.9       | 6705.8        | 26  | 4     | 2011 | 11:46       | 156                 | 6.11                      | 32.27                      | 8.15                              | 34.03                               | 6                        |
| 284           | 303          | 4359.1       | 6700.9        | 26  | 4     | 2011 | 13:34       | 168                 | 6.01                      | 32.26                      | 8.04                              | 33.98                               | 3                        |
| 285           | 304          | 4406.8       | 6654.8        | 26  | 4     | 2011 | 15:26       | 171                 | 6.04                      | 32.15                      | 7.94                              | 33.88                               | 3                        |
| 286           | 305          | 4414.8       | 6657.7        | 26  | 4     | 2011 | 17:37       | 170                 | 5.98                      | 32.20                      | 7.46                              | 33.61                               | 2                        |
| 287           | 306          | 4423.3       | 6654.2        | 26  | 4     | 2011 | 20:49       | 118                 | 5.57                      | 32.07                      | 6.08                              | 32.84                               | 4                        |
| 288           | 307          | 4416.1       | 6709.5        | 26  | 4     | 2011 | 22:40       | 162                 | 6.15                      | 32.30                      | 8.29                              | 34.07                               | 4                        |
| 289           | 308          | 4422.1       | 6739.4        | 27  | 4     | 2011 | 2:09        | 66                  | 4.94                      | 31.44                      | 4.67                              | 31.69                               | 4                        |
| 290           | 309          | 4409.6       | 6802.0        | 27  | 4     | 2011 | 5:13        | 88                  | 5.07                      | 31.51                      | 4.87                              | 31.94                               | 3                        |
| 291           | 310          | 4410.3       | 6735.1        | 27  | 4     | 2011 | 9:49        | 189                 | 5.37                      | 31.98                      | 8.89                              | 34.35                               | 2                        |
| 292           | 311          | 4353.3       | 6733.2        | 27  | 4     | 2011 | 11:40       | 207                 | 6.02                      | 32.09                      | 8.67                              | 34.32                               | 4                        |
| 293           | 312          | 4352.0       | 6750.9        | 27  | 4     | 2011 | 15:16       | 186                 | 6.12                      | 32.11                      | 9.05                              | 34.43                               | 3                        |
| 294           | 313          | 4333.1       | 6738.0        | 27  | 4     | 2011 | 19:42       | 235                 | 5.89                      | 31.98                      | 9.09                              | 34.51                               | 3                        |
| 295           | 314          | 4327.2       | 6749.3        | 27  | 4     | 2011 | 22:40       | 258                 | 6.05                      | 32.10                      | 9.30                              | 34.60                               | 5                        |
| 296           | 315          | 4206.1       | 7010.1        | 28  | 4     | 2011 | 10:21       | 34                  | 7.53                      | 31.33                      | 6.25                              | 31.50                               | 4                        |
| 297           | 316          | 4201.2       | 7017.2        | 28  | 4     | 2011 | 12:43       | 53                  | 7.72                      | 31.12                      | 4.23                              | 31.87                               | 4                        |
| 298           | 317          | 4159.5       | 7013.6        | 28  | 4     | 2011 | 14:28       | 40                  | 7.45                      | 31.24                      | 5.06                              | 31.68                               | 2                        |
| 299           | 318          | 4159.8       | 7008.8        | 28  | 4     | 2011 | 16:45       | 26                  | 8.58                      | 31.24                      | 8.47                              | 31.25                               | 4                        |
| 300           | 319          | 4150.3       | 7016.2        | 28  | 4     | 2011 | 18:36       | 26                  | 7.50                      | 31.19                      | 6.16                              | 31.35                               | 4                        |
| 301           | 320          | 4152.2       | 7019.4        | 28  | 4     | 2011 | 20:01       | 30                  | 7.35                      | 30.80                      | 5.07                              | 31.53                               | 4                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
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| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 302           | 321          | 4156.9       | 7019.7        | 28  | 4     | 2011 | 21:49       | 39                  | 7.46                      | 30.71                      | 4.42                              | 31.80                               | 3                        |
| 303           | 500          | 4216.1       | 7001.4        | 3   | 5     | 2011 | 23:32       | 189                 | 8.30                      | 31.13                      | 8.08                              | 33.62                               | 3                        |
| 304           | 322          | 4218.4       | 7003.6        | 4   | 5     | 2011 | 15:23       | 126                 | 8.63                      | 30.98                      | 6.60                              | 32.93                               | 4                        |
| 305           | 323          | 4147.6       | 6953.6        | 4   | 5     | 2011 | 18:28       | 28                  | 8.04                      | 31.46                      | 5.91                              | 31.89                               | 5                        |
| 306           | 324          | 4143.4       | 6952.6        | 4   | 5     | 2011 | 20:04       | 24                  | 7.51                      | 31.59                      | 6.04                              | 31.78                               | 4                        |
| 307           | 325          | 4138.7       | 6943.2        | 4   | 5     | 2011 | 22:28       | 51                  | 7.88                      | 31.68                      | 5.21                              | 32.15                               | 3                        |
| 308           | 326          | 4217.7       | 6932.3        | 5   | 5     | 2011 | 5:26        | 236                 | 8.17                      | 31.37                      | 8.58                              | 34.36                               | 2                        |
| 309           | 327          | 4229.6       | 6903.3        | 5   | 5     | 2011 | 10:15       | 220                 | 7.41                      | 31.97                      | 8.34                              | 34.44                               | 2                        |
| 310           | 327          | 4229.6       | 6903.4        | 5   | 5     | 2011 | 10:31       | 220                 | 7.49                      | 31.88                      | 8.37                              | 34.29                               | 22                       |
| 311           | 328          | 4234.0       | 6853.6        | 5   | 5     | 2011 | 14:36       | 204                 | 7.33                      | 31.93                      | 8.35                              | 34.39                               | 4                        |
| 312           | 329          | 4240.0       | 6838.6        | 5   | 5     | 2011 | 17:13       | 197                 | 7.35                      | 31.99                      | 8.39                              | 34.42                               | 1                        |
| 313           | 330          | 4234.6       | 6817.4        | 5   | 5     | 2011 | 19:01       | 190                 | 7.54                      | 32.11                      | 8.41                              | 34.44                               | 4                        |
| 314           | 331          | 4228.1       | 6800.4        | 5   | 5     | 2011 | 22:07       | 188                 | 7.06                      | 31.97                      | 8.42                              | 34.61                               | 2                        |
| 315           | 332          | 4232.8       | 6748.1        | 6   | 5     | 2011 | 2:10        | 229                 | 6.83                      | 31.95                      | 8.77                              | 35.03                               | 1                        |
| 316           | 332          | 4232.9       | 6747.9        | 6   | 5     | 2011 | 2:28        | 229                 | 6.78                      | 31.97                      | 8.84                              | 34.87                               | 26                       |
| 317           | 333          | 4242.3       | 6802.6        | 6   | 5     | 2011 | 4:55        | 186                 | 6.95                      | 32.05                      | 8.40                              | 34.62                               | 5                        |
| 318           | 334          | 4250.4       | 6815.6        | 6   | 5     | 2011 | 9:19        | 201                 | 6.97                      | 31.95                      | 8.37                              | 34.30                               | 5                        |
| 319           | 335          | 4252.2       | 6837.6        | 6   | 5     | 2011 | 17:57       | 189                 | 7.12                      | 31.96                      | 8.24                              | 34.17                               | 2                        |
| 320           | 336          | 4248.1       | 6903.1        | 6   | 5     | 2011 | 20:16       | 177                 | 7.34                      | 31.97                      | 7.47                              | 33.83                               | 3                        |
| 321           | 337          | 4302.9       | 6933.4        | 6   | 5     | 2011 | 23:51       | 161                 | 7.77                      | 31.79                      | 7.51                              | 33.43                               | 3                        |
| 322           | 338          | 4313.4       | 6914.1        | 7   | 5     | 2011 | 2:37        | 176                 | 7.55                      | 31.78                      | 7.77                              | 33.91                               | 4                        |
| 323           | 339          | 4318.4       | 6847.7        | 7   | 5     | 2011 | 5:31        | 126                 | 6.52                      | 31.88                      | 6.23                              | 32.84                               | 7                        |
| 324           | 340          | 4327.3       | 6833.4        | 7   | 5     | 2011 | 8:01        | 169                 | 6.88                      | 31.91                      | 8.42                              | 34.14                               | 5                        |
| 325           | 341          | 4327.2       | 6826.4        | 7   | 5     | 2011 | 9:53        | 174                 | 7.01                      | 32.09                      | 8.87                              | 34.33                               | 7                        |
| 326           | 342          | 4358.5       | 6815.3        | 7   | 5     | 2011 | 15:58       | 95                  | 6.12                      | 31.09                      | 5.55                              | 31.79                               | 4                        |
| 327           | 343          | 4400.5       | 6825.6        | 7   | 5     | 2011 | 16:52       | 71                  | 6.71                      | 31.35                      | 5.08                              | 31.90                               | 4                        |
| 328           | 344          | 4357.1       | 6833.6        | 7   | 5     | 2011 | 18:28       | 89                  | 6.41                      | 31.47                      | 5.31                              | 32.11                               | 2                        |

**HB1102**  
**Spring Bottom Trawl Survey**  
**March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 329           | 345          | 4330.7       | 6922.6        | 8   | 5     | 2011 | 0:18        | 169                 | 7.10                      | 31.90                      | 7.21                              | 33.19                               | 9                        |
| 330           | 346          | 4327.3       | 6930.8        | 8   | 5     | 2011 | 2:35        | 162                 | 7.12                      | 31.53                      | 7.54                              | 33.37                               | 1                        |
| 331           | 347          | 4337.5       | 6943.0        | 8   | 5     | 2011 | 5:19        | 92                  | 8.60                      | 25.31                      | 4.47                              | 32.06                               | 6                        |
| 332           | 348          | 4327.9       | 7004.4        | 8   | 5     | 2011 | 8:19        | 118                 | 8.77                      | 28.06                      | 4.75                              | 32.29                               | 3                        |
| 333           | 349          | 4318.5       | 6949.7        | 8   | 5     | 2011 | 11:37       | 172                 | 8.51                      | 30.12                      | 8.41                              | 33.87                               | 5                        |
| 334           | 350          | 4312.7       | 6950.0        | 8   | 5     | 2011 | 14:34       | 171                 | 8.39                      | 30.86                      | 8.34                              | 33.92                               | 1                        |
| 335           | 351          | 4306.9       | 7012.4        | 8   | 5     | 2011 | 16:22       | 174                 | 9.12                      | 28.48                      | 6.45                              | 32.99                               | 8                        |
| 336           | 352          | 4258.3       | 6959.8        | 8   | 5     | 2011 | 18:46       | 144                 | 8.91                      | 29.79                      | 6.97                              | 33.09                               | 3                        |
| 337           | 353          | 4256.7       | 7011.9        | 8   | 5     | 2011 | 22:40       | 150                 | 9.00                      | 29.86                      | 6.28                              | 32.73                               | 2                        |
| 338           | 354          | 4255.4       | 7022.5        | 9   | 5     | 2011 | 1:06        | 123                 | 9.24                      | 29.88                      | 5.26                              | 32.46                               | 2                        |
| 339           | 355          | 4251.8       | 7045.1        | 9   | 5     | 2011 | 3:39        | 33                  | 9.36                      | 27.14                      | 4.61                              | 31.69                               | 4                        |
| 340           | 356          | 4244.6       | 7026.7        | 9   | 5     | 2011 | 5:46        | 91                  | 9.60                      | 29.14                      | 4.52                              | 32.24                               | 5                        |
| 341           | 357          | 4242.5       | 7010.1        | 9   | 5     | 2011 | 8:55        | 108                 | 8.71                      | 30.51                      | 4.91                              | 32.37                               | 4                        |
| 342           | 358          | 4239.5       | 6959.9        | 9   | 5     | 2011 | 10:04       | 129                 | 8.61                      | 30.57                      | 6.67                              | 33.02                               | 1                        |
| 343           | 359          | 4235.1       | 7004.7        | 9   | 5     | 2011 | 12:16       | 114                 | 8.12                      | 30.88                      | 5.20                              | 32.48                               | 3                        |
| 344           | 361          | 4228.8       | 7008.0        | 9   | 5     | 2011 | 16:19       | 80                  | 8.39                      | 31.13                      | 4.78                              | 32.32                               | 3                        |
| 345           | 363          | 4225.0       | 7024.0        | 9   | 5     | 2011 | 20:28       | 39                  | 8.44                      | 30.08                      | 4.59                              | 31.90                               | 3                        |
| 346           | 364          | 4235.5       | 7034.4        | 10  | 5     | 2011 | 1:23        | 54                  | 9.20                      | 29.31                      | 4.39                              | 31.82                               | 6                        |
| 347           | 365          | 4231.9       | 7040.1        | 10  | 5     | 2011 | 3:57        | 53                  | 9.19                      | 29.28                      | 4.32                              | 31.89                               | 4                        |
| 348           | 367          | 4221.4       | 7042.8        | 10  | 5     | 2011 | 14:23       | 36                  | 9.05                      | 30.16                      | 5.57                              | 31.29                               | 4                        |
| 349           | 368          | 4221.5       | 7043.5        | 10  | 5     | 2011 | 17:42       | 34                  | 9.09                      | 30.04                      | 5.67                              | 31.36                               | 4                        |
| 350           | 370          | 4215.9       | 7030.7        | 10  | 5     | 2011 | 21:22       | 72                  | 7.83                      | 30.64                      | 4.53                              | 31.94                               | 7                        |
| 351           | 371          | 4214.7       | 7029.1        | 10  | 5     | 2011 | 23:02       | 58                  | 7.73                      | 30.83                      | 4.56                              | 31.96                               | 6                        |
| 352           | 372          | 4210.0       | 7028.1        | 11  | 5     | 2011 | 2:09        | 62                  | 8.06                      | 31.01                      | 4.62                              | 31.92                               | 3                        |
| 353           | 501          | 4107.1       | 7110.3        | 11  | 5     | 2011 | 14:30       | 36                  | 9.32                      | 31.89                      | 6.93                              | 32.07                               | 4                        |
| 354           | 502          | 4113.9       | 7123.9        | 11  | 5     | 2011 | 20:04       | 39                  | 10.39                     | 31.90                      | 6.70                              | 32.07                               | 5                        |
| 355           | 503          | 4108.2       | 7117.6        | 11  | 5     | 2011 | 23:53       | 63                  | 9.28                      | 31.99                      | 6.64                              | 32.13                               | 4                        |

**HB1102****Spring Bottom Trawl Survey****March 3 - May 12, 2011**

| CTD<br>Cast # | Station<br># | Lat<br>Deg N | Long<br>Deg W | Day | Month | Year | Time<br>GMT | Bottom<br>Depth (m) | Surface<br>Temp.<br>Deg C | Surface<br>Salinity<br>PSU | Deepest<br>Observed<br>Temp Deg C | Deepest<br>Observed<br>Salinity PSU | Meters<br>From<br>Bottom |
|---------------|--------------|--------------|---------------|-----|-------|------|-------------|---------------------|---------------------------|----------------------------|-----------------------------------|-------------------------------------|--------------------------|
| 356           | 504          | 4118.3       | 7118.9        | 12  | 5     | 2011 | 4:20        | 33                  | 9.85                      | 31.93                      | 7.03                              | 31.99                               | 2                        |
| 357           | 505          | 4118.0       | 7118.9        | 12  | 5     | 2011 | 6:25        | 34                  | 9.94                      | 31.91                      | 6.93                              | 32.01                               | 1                        |