

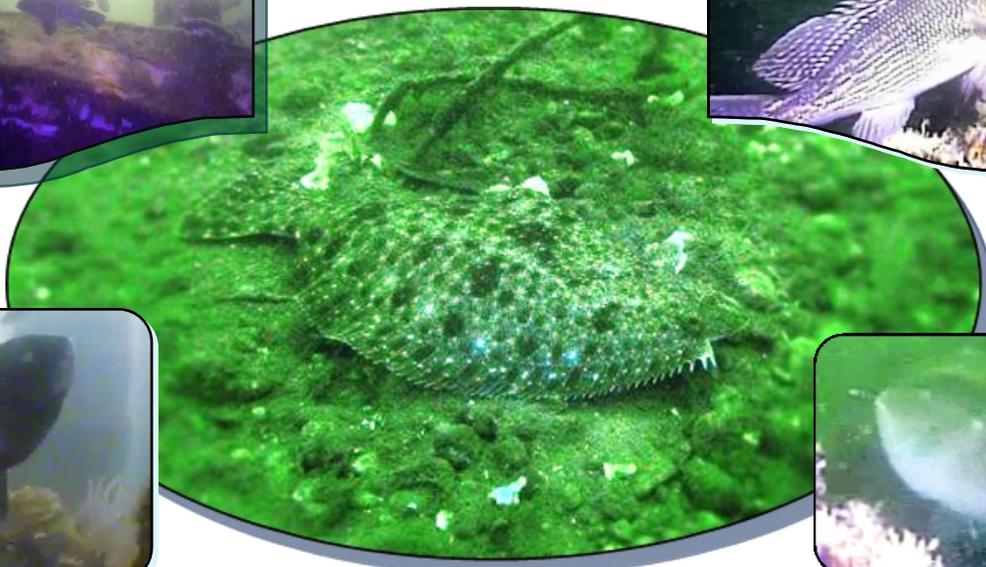
DELAWARE REEF GUIDE

2015 - 2016

IF YOU BUILD IT



THEY WILL COME



Delaware's Artificial Reef Program is funded under the Federal Aid in Fisheries Restoration Act by the Delaware Division of Fish and Wildlife

ABOUT THE COVER

Some of the most popular fish on Delaware's artificial reefs are not those typically thought of as structure-oriented species, like tautog and black sea bass. Summer flounder are attracted to reef structure because of enhanced feeding opportunities. During late summer, lower bay and ocean sites probably support more fishing effort for summer flounder than for any other species.



Another example of a non-structure fish on reefs is the bluefish. Recently, a new state record bluefish (24.8 lbs.) was caught on the Del-Jersey-Land Inshore site.



THE DELAWARE REEF PROGRAM

Delaware has fourteen permitted artificial reef sites in Delaware Bay and along the Atlantic Coast. Development of these sites began in 1995 and will continue in the future, as resources become available. The Delaware Reef Program is one part of a comprehensive fisheries management effort and is designed to enhance fisheries habitat, benefit structure-oriented fish, and provide fishing opportunities for anglers.

Reef construction is especially important in the Mid-Atlantic Region, where near shore bottom is usually featureless sand or mud. We have neither the natural rocky outcrops common in New England, nor the coral reefs of the Southeastern Atlantic Coast. Durable, stable, non-toxic reef materials can develop an invertebrate community, which is hundreds of times richer than adjacent bottom, providing food and physical protection for reef fish such as tautog, sea bass, scup, spadefish and triggerfish. In addition, game fish such as flounder, bluefish, striped bass, weakfish, tunas and sharks are attracted to baitfish, which congregate around reef structure.

Recycled materials have supported reef development efforts to date. Donated concrete culvert pipe and other concrete products are the primary materials used at the eight Delaware Bay sites. Ballasted tire units have been deployed at the three ocean sites. To date, over 89,000 tons of concrete products, 9,000 tons of ballasted tire units and 86 decommissioned military vehicles have been utilized by the Delaware reef program. Retired vessels have become an important part of the Reef Program in recent years with vessels from 40-565' sunk on eight of the reef sites.

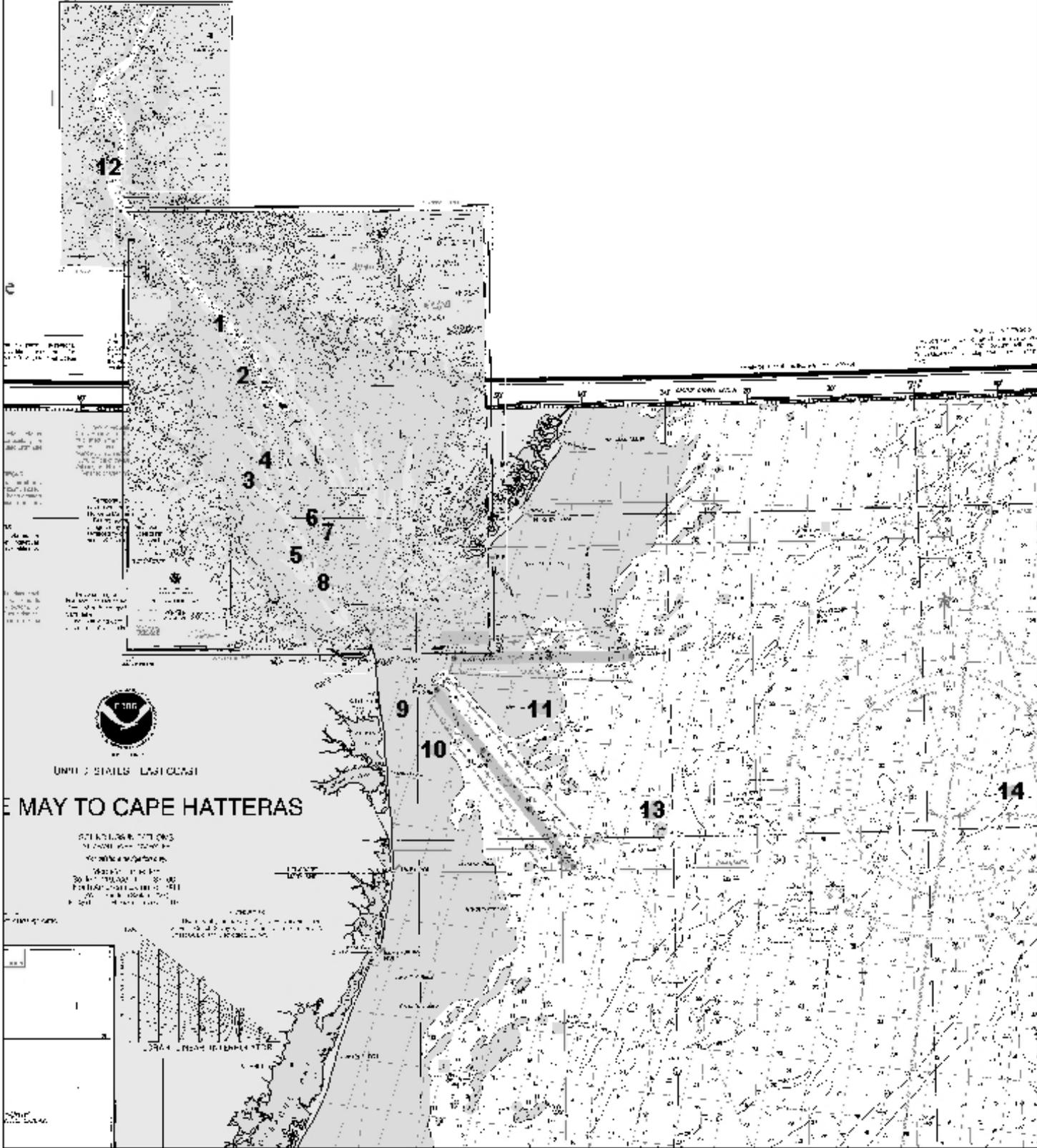
The reef program uses DGPS (Differential Global Positioning System) to accurately place materials on site. The site charts in the reef guide show where reef materials have been deployed from 1995—2014. Locations (latitude—longitude) noted for each site indicate the position of deployments of reef material from an anchored barge. In the case of large, concentrated reef deployments, a latitude or longitude range, may be given such as: N 39⁰ 15.377' - 402'. This indicates material occurs between 39 degrees, 15.377 to 15.402 minutes north latitude. Due to variability between DGPS receivers, slight variation in readings may occur. It is suggested you use your GPS and a good fathometer to locate reef structure, then note the coordinates on your own GPS.

ENJOY FISHING DELAWARE'S REEFS

Key to Reading the Reef Charts.

-  = Reef material plotted from periodic sidescan sonar surveys.
-  = Position of vessels on deployments made since the last sidescan survey of the site.
-  = Position of concrete deployments made since the last sidescan survey of the site.

GENERAL LOCATION OF DELAWARE'S FOURTEEN PERMITTED ARTIFICIAL REEF SITES



DELAWARE ARTIFICIAL REEF SITES:

DESCRIPTIONS AND COORDINATES

Site #1

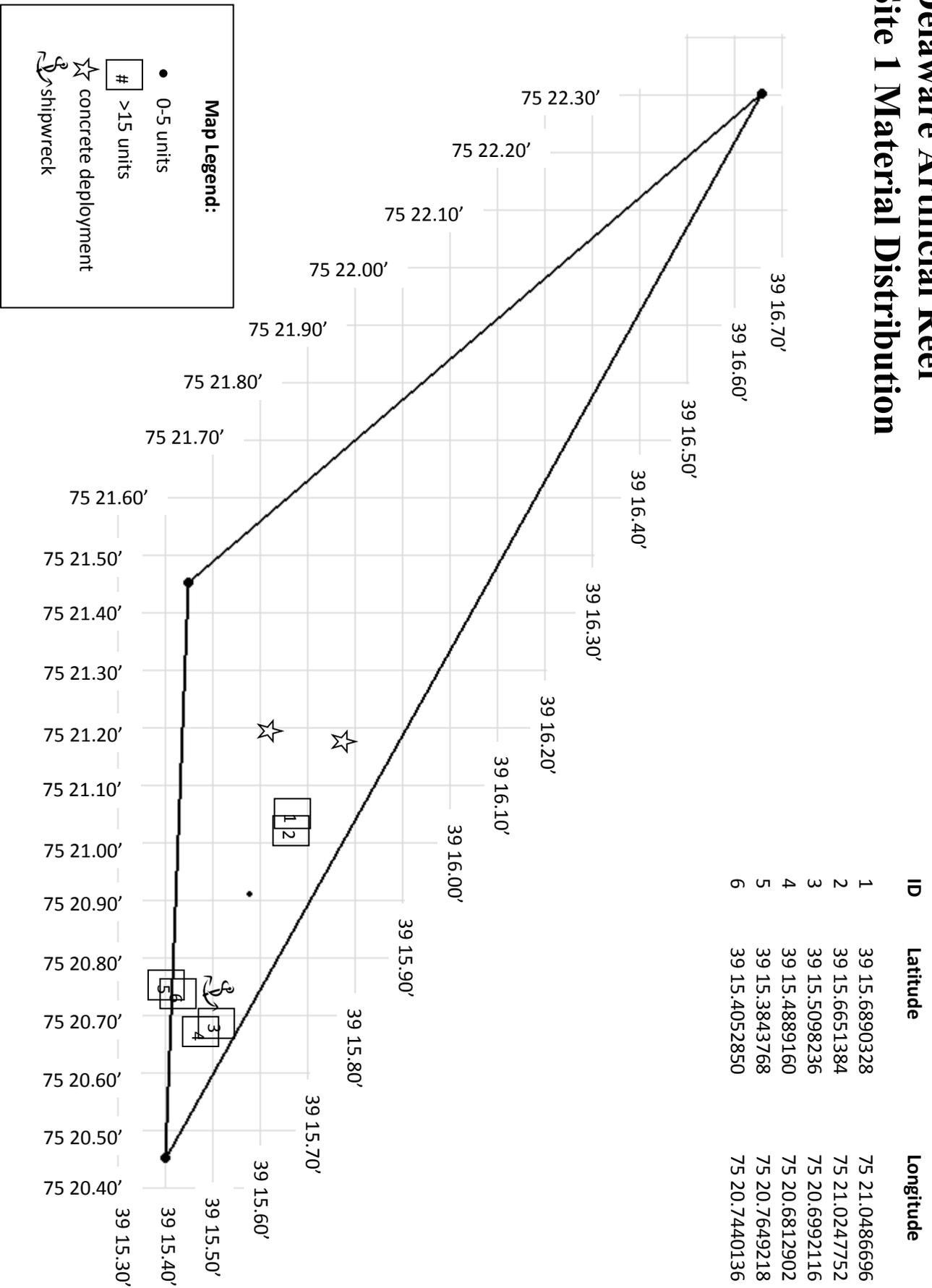
| | | |
|---------------------------|---|--|
| Total area of site | - | 0.41 square nautical miles |
| Depth range | - | 17-30' (mean low water) |
| Distance from port | - | 5.2 nautical miles from Port Mahon |
| Invertebrate Colonization | - | oyster, barnacle, hydroid community |
| Fish | - | sea bass plus pelagic species (weakfish, striped bass) |

Deployments

1. 500 tons of concrete culvert deployed from an anchored barge 3/28/96. Depth about 30'.
N 39° 15.559'
W 075° 20.689'
2. 500 tons of concrete culvert deployed from an anchored barge 9/15/98. Depth about 29'.
N 39° 15.377' - .402'
W 075° 20.750' - .777'
3. 1,690 tons of concrete culvert deployed from an anchored barge 1/09/03.
N 39° 15.685'
W 075° 21.032'
4. 782 tons of concrete culvert deployed from an anchored barge 7/3/04.
N 39° 15.685'
W 075° 21.032'
5. 1,582 tons of concrete culvert deployed from an anchored barge 7/10/04.
N 39° 15.788'
W 075° 21.177'
6. 40' steel hull pilot boat
N 39° 15.519'
W 075° 20.753'
7. 1,215 tons of complex concrete deployed from an anchored barge 7/27//11
N 39° 15.615'
W 075° 21.200'

Notes

Delaware Artificial Reef Site 1 Material Distribution



Site #2

| | | |
|---------------------------|---|--|
| Total area of site | - | 0.71 square nautical miles |
| Depth range | - | 16-28' (mean low water) |
| Distance from port | - | 3.8 nautical miles from Port Mahon |
| Invertebrate Colonization | - | oyster, barnacle, hydroid community |
| Fish | - | sea bass plus pelagic species (weakfish, striped bass) |

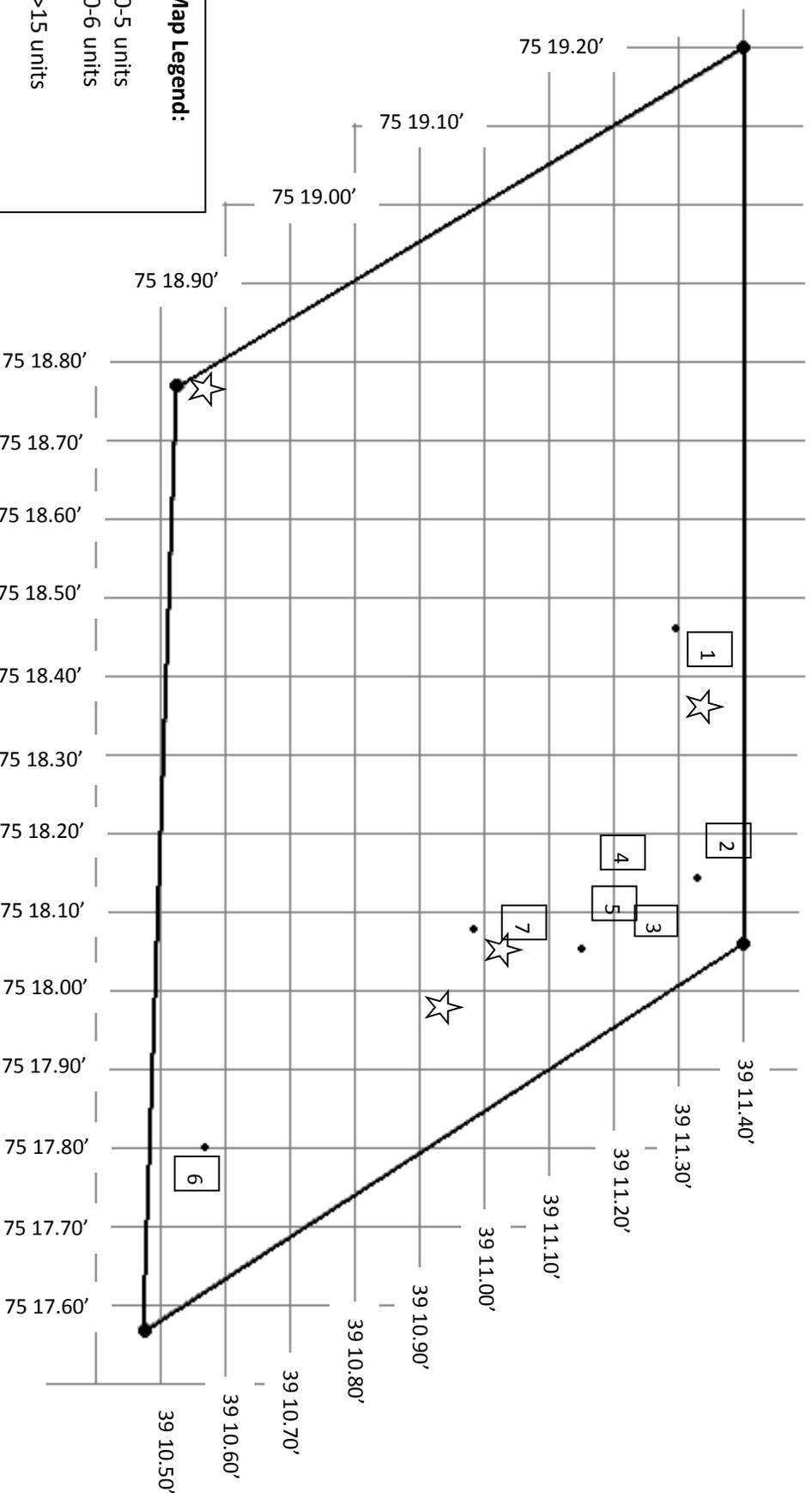
Deployments

1. 500 tons of concrete culvert deployed 3/28/96. Depth about 22'.
N 39° 11.335'
W 075° 18.379'
2. 500 tons of concrete culvert deployed 9/15/98. Depth 26'.
N 39° 11.038'
W 075° 18.033'
3. 886 tons of concrete culvert deployed 6/20/00. Depth 28.5'.
N 39° 10.565 - 70'
W 075° 17.774 - 86'
4. 1,100 tons of concrete culvert deployed 5/11/02. Depth 28'.
N 39° 11.265'
W 075° 18.097'
5. 1,000 tons of concrete culvert deployed 12/23/02. Depth 28'.
N 39° 11.181'
W 075° 18.146'
6. 1,610 tons of concrete culvert deployed 11/07/03.
N 39° 11.426'
W 075° 18.177'
7. 1,212 tons of complex concrete deployed 1/26/2012
N 39° 10.915'
W 075° 17.969'

Notes

Delaware Artificial Reef Site 2 Material Distribution

| ID | Latitude | Longitude |
|----|---------------|---------------|
| 1 | 39 11.3601486 | 75 18.4218708 |
| 2 | 39 11.4254856 | 75 18.1892724 |
| 3 | 39 11.2739046 | 75 18.0925740 |
| 4 | 39 11.2268616 | 75 18.1709778 |
| 5 | 39 11.2007274 | 75 18.1317762 |
| 6 | 39 10.5865620 | 75 17.758228 |
| 7 | 39 11.0543730 | 75 18.0951876 |



Site #3

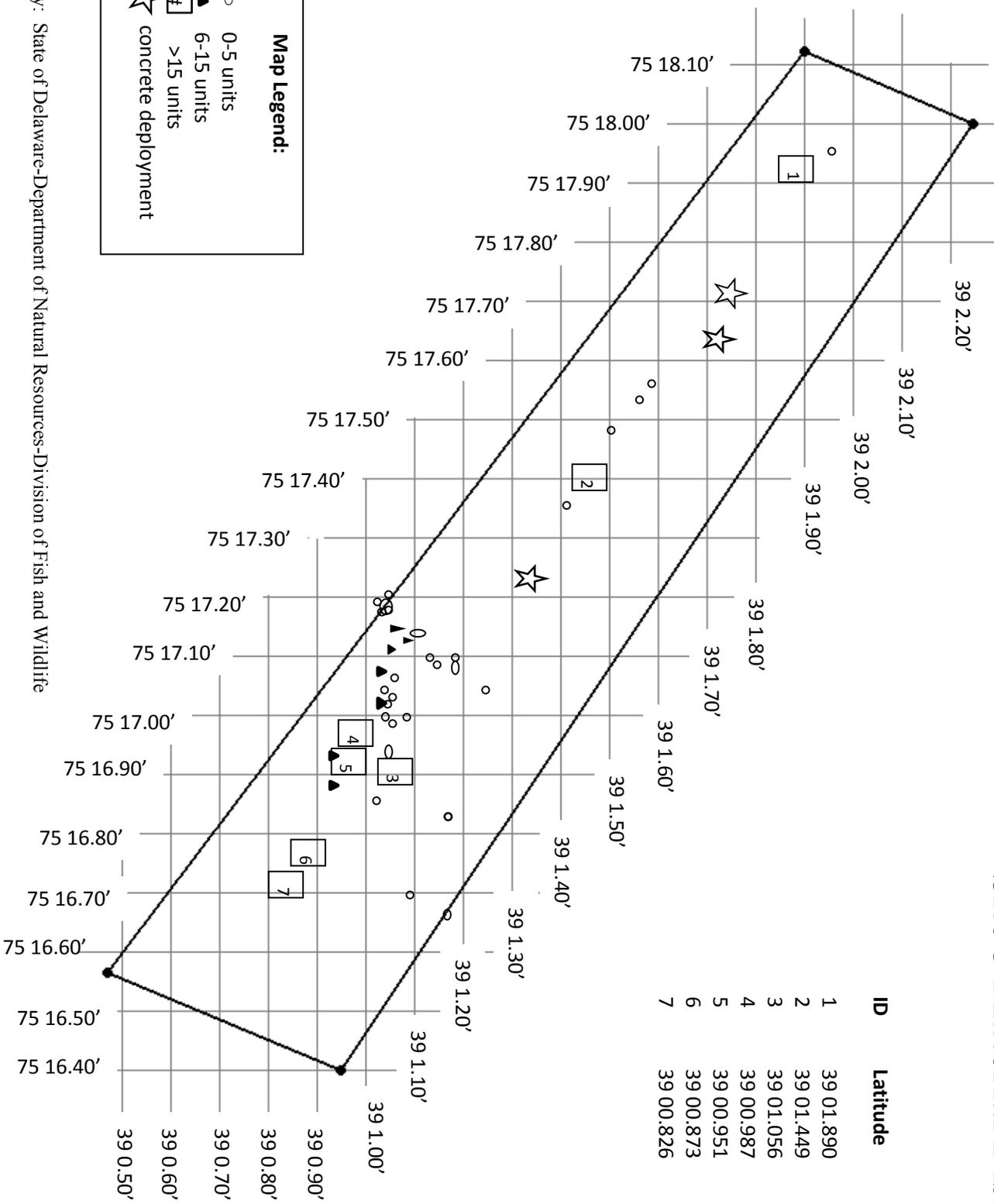
| | | |
|---------------------------|---|--|
| Total area of site | - | 0.68 square nautical miles |
| Depth range | - | 18-28' (mean low water) |
| Distance from port | - | 6.5 nautical miles from Bowers Beach 6.0 nautical miles from Mispillion River |
| Invertebrate Colonization | - | blue mussel, sulfur sponge community |
| Fish | - | sea bass, weakfish, striped bass, bluefish |

Deployments

1. 500 tons of concrete culvert deployed 1/15/96.
2. 1,000 tons of concrete culvert deployed from an anchored barge 5/14/97. Water depth about 32'.
N 39° 01.054' - .087'
W 075° 16.882' - .895'
3. 807 tons of concrete culvert deployed 6/1/00. Depth 30'.
N 39° 00.881' - .84'
W 075° 16.749' - .772'
4. 961 tons of concrete culvert deployed 7/7/00. Depth 34'.
N 39° 00.928' - .81'
W 075° 16.914' - .29'
5. 1,300 tons of concrete deployed 7/15 / 01.
N 39° 01.888'
W 075° 17.936'
6. 1,000 tons of concrete deployed 6/10/02. Depth 28'.
N 39° 01.449'
W 075° 17.395'
7. 1,092 tons of concrete deployed 4/14/03. Depth 26.
N 39° 01.730'
W 075° 17.640'
8. 1,590 tons of concrete deployed 3/11/04. Depth 26'.
N 39° 01.339'
W 075° 17.242'
9. 1,808 tons of complex concrete deployment 3/23/12
N 39° 01.743'
W 075° 17.716'

Notes

Delaware Artificial Reef Site 3 Material Distribution



| ID | Latitude | Longitude |
|----|-----------|-----------|
| 1 | 39 01.890 | 75 17.938 |
| 2 | 39 01.449 | 75 17.395 |
| 3 | 39 01.056 | 75 16.892 |
| 4 | 39 00.987 | 75 16.933 |
| 5 | 39 00.951 | 75 16.917 |
| 6 | 39 00.873 | 75 16.772 |
| 7 | 39 00.826 | 75 16.709 |

Map Legend:

- 0-5 units
- ▲ 6-15 units
- ★ >15 units
- ☐# concrete deployment

Produced by: State of Delaware-Department of Natural Resources-Division of Fish and Wildlife

Site #4

| | | |
|---------------------------|---|--|
| Total area of site | - | 0.63 square nautical miles |
| Depth range | - | 30-38' (mean low water) |
| Distance from port | - | 6 nautical miles from Bowers Beach 7 nautical miles from Mispillion River |
| Invertebrate Colonization | - | blue mussel community |
| Fish | - | sea bass, weakfish, striped bass, tautog |

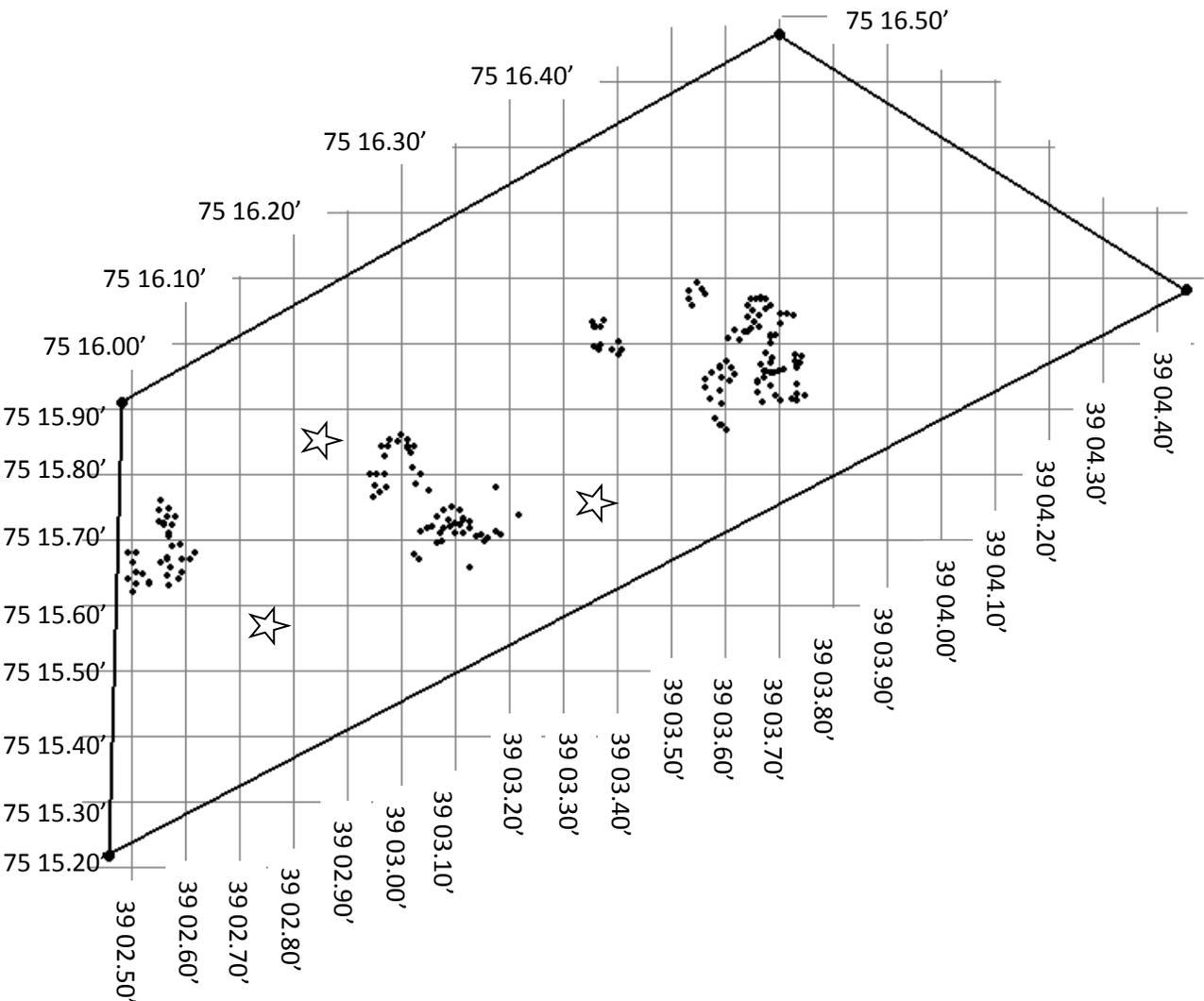
Deployments

1. 500 tons of concrete culvert deployed from a moving barge.
2. 900 tons of concrete culvert deployed from an anchored barge on 2/12/97. Depth about 38'.
N 39° 03.712'
W 075° 16.051'
3. 1,000 tons of concrete deployed on 10/2/97. Approximate depth 35'.
N 39° 03.560'
W 075° 16.070'
4. 1,100 tons of concrete deployed on 3/21/99. Depth 37'.
N 39° 03.358 – 386'
W 075° 15.990 – 16.031'
5. 850 tons of concrete deployed on 4/8/99. Depth 42'.
N 39° 02.621'
W 075° 15.695'
6. 1,192 tons of concrete deployed 3/28/03. Depth 38.
N 39° 03.065'
W 075° 15.724'
7. 1,511 tons of concrete deployed 7/7/04.
N 39° 02.853'
W 075° 15.805'
8. 1,407 tons of concrete deployed 11/02/05. Depth 34'.
N 39° 03.342'
W 075° 15.743'
9. 1,757 tons of complex concrete material deployed 10/2/11.
N 39° 02.746'
W 075° 15.587'

Notes

Delaware Artificial Reef Site 4 Material Distribution

| ID | Latitude | Longitude |
|----|-----------|-----------|
| 1 | 39 03.144 | 75 15.726 |
| 2 | 39 03.038 | 75 15.689 |
| 3 | 39 03.382 | 75 15.999 |
| 4 | 39 03.536 | 75 15.648 |
| 5 | 39 03.547 | 75 15.072 |
| 6 | 39 03.708 | 75 15.038 |



Map Legend:

- 0-5 units
- ☆ concrete deployment

Site #5

| | | |
|---------------------------|---|---|
| Total area of site | - | 0.65 square nautical miles |
| Depth range | - | 18-24' (mean low water) |
| Distance from port | - | 4.5 nautical miles from Mispillion River 8.5 nautical miles from Roosevelt Inlet |
| Invertebrate Colonization | - | blue mussel, sulfur sponge community |
| Fish | - | sea bass, tautog, scup, weakfish |

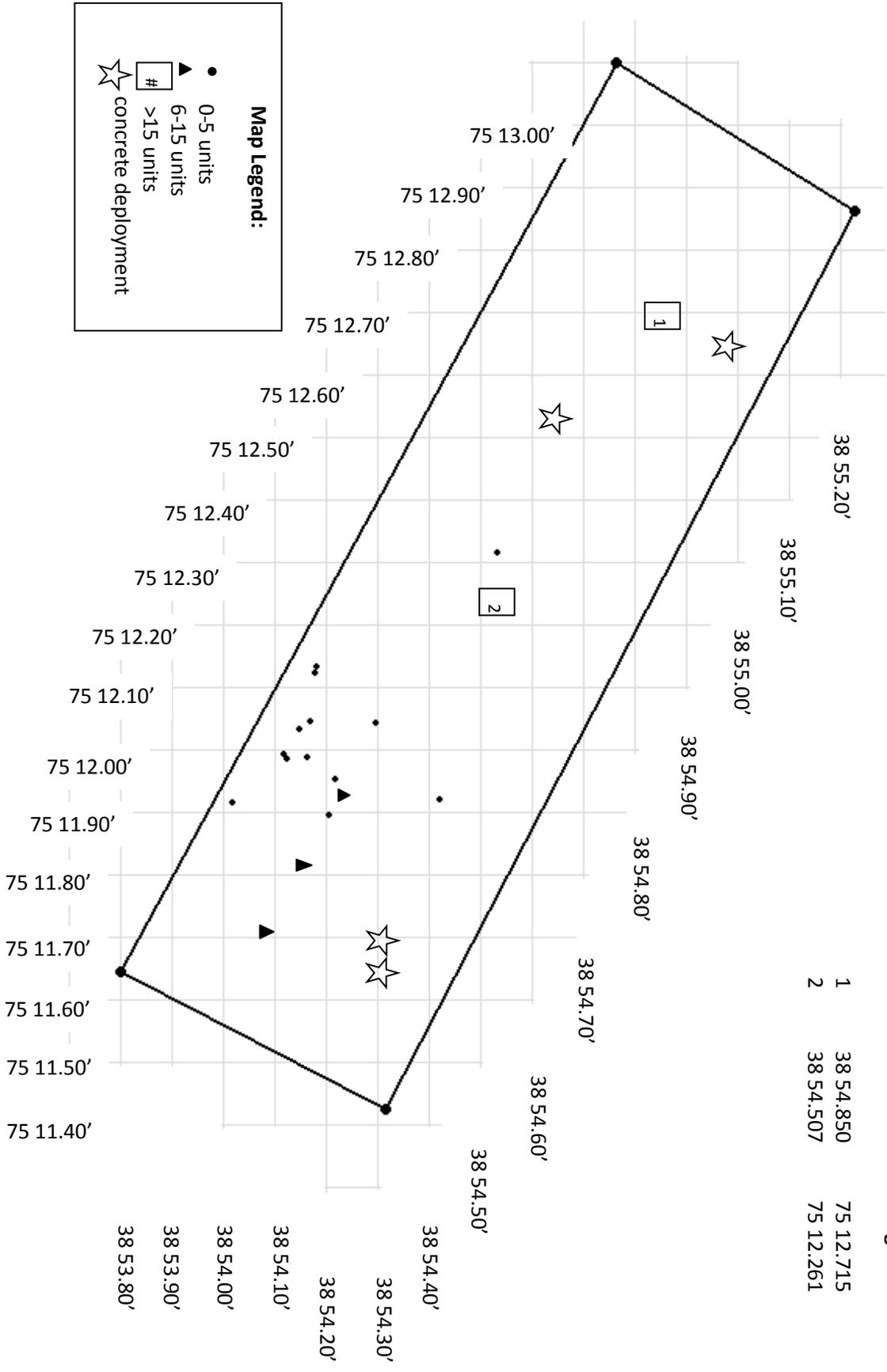
Deployments

1. 91 large rectangular concrete structures deployed from a moving barge 7/6/95. Depth about 22'.
2. 1,000 tons of concrete culvert deployed on 8/17/97. Approximate depth 25'.
N 38° 54.095'
W 075° 11.670'
3. 997 tons of concrete culvert deployed on 7/12/00. Depth 26'.
N 38° 54.476 – 96'
W 075° 12.224 - 59'
4. 1,100 tons of concrete deployed on 6/11/01.
N 38° 54.218'
W 075° 11.952'
5. 1,300 tons of concrete deployed on 8/10/01.
N 38° 54.092'
W 075° 11.732'
6. 1,098 tons of concrete deployed on 7/29/02.
N 38° 54.850'
W 075° 12.715'
7. 1,087 tons of concrete deployed on 12/29/02.
N 38° 54.638'
W 075° 12.567'
8. 1,085 tons of concrete deployed on 4/25/03.
N 38° 54.303'
W 075° 11.684'
9. 1,588 tons of concrete deployed on 8/24/04.
N 38° 54.983'
W 075° 12.657'
10. 1,100 tons of concrete deployed 3/30/06.
N 38° 54.306'
W 075° 11.710'

Notes

Delaware Artificial Reef Site 5 Material Distribution

| ID | Latitude | Longitude |
|----|-----------|-----------|
| 1 | 38 54.850 | 75 12.715 |
| 2 | 38 54.507 | 75 12.261 |



Map Legend:

- 0-5 units
- ▲ 6-15 units
- ▲ >15 units
- ☐ # concrete deployment
- ★ concrete deployment

Site #6

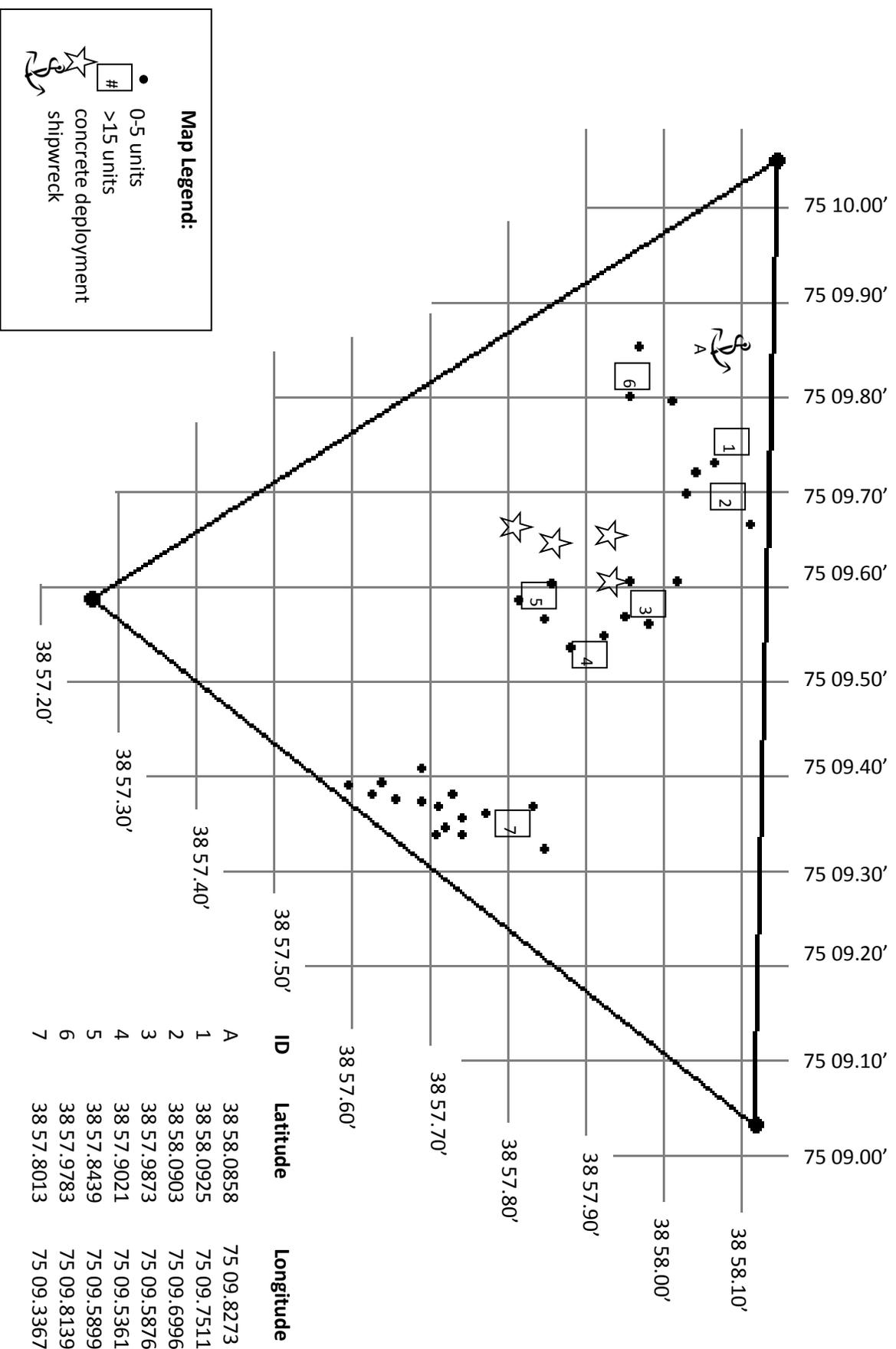
| | | |
|---------------------------|---|--|
| Total area of site | - | 0.28 square nautical miles |
| Depth range | - | 20-43' (mean low water) |
| Distance from port | - | 7 nautical miles from Mispillion River 10 nautical miles from Roosevelt Inlet |
| Invertebrate Colonization | - | blue mussel community |
| Fish | - | sea bass, tautog, scup, weakfish, striped bass, bluefish |

Deployments

1. 500 tons concrete culvert deployed from a moving barge - 10/20/95.
2. 500 tons concrete culvert deployed from an anchored barge - 6/21/96.
N 38° 57.776'
W 075° 09.349'
3. 900 tons of concrete deployed from an anchored barge 9/25/99. Depth 39'.
N 38° 57.814 – 877'
W 075° 09.577 – 588'
4. 900 tons of concrete deployed from an anchored barge 11/19/99. Depth 43'.
N 38° 57.900 – 913'
W 075° 09.515 – 548'
5. 1,000 tons of concrete deployed on 8/9/02. Depth 41'.
N 38° 58.108'
W 075° 09.725'
6. 1,119 tons of concrete deployed on 4/3/03. Depth 40'.
N 38° 57.960'
W 075° 09.842'
7. 1,636 tons of concrete deployed on 11/02/03. Depth 40'.
N 38° 57.988'
W 075° 09.582'
8. 120' x 40' steel barge (Buchannon) was deployed 3/18/04.
N 38° 58.086'
W 075° 09.825'
9. 1,226 tons of concrete deployed on 2/23/05.
N 38° 57.820'
W 075° 09.658'
10. 1,500 tons of concrete deployed on 6/25/06.
N 38° 57.916'
W 075° 09.655'
11. 1,586 tons of complex concrete deployment on 10/11/11
N 38° 57.890'
W 075° 09.639'
12. 1,896 tons of concrete deployed on 12/17/14
N 38° 57.927'
W 075° 09.614'

Notes

Delaware Artificial Reef Site 6 Material Distribution



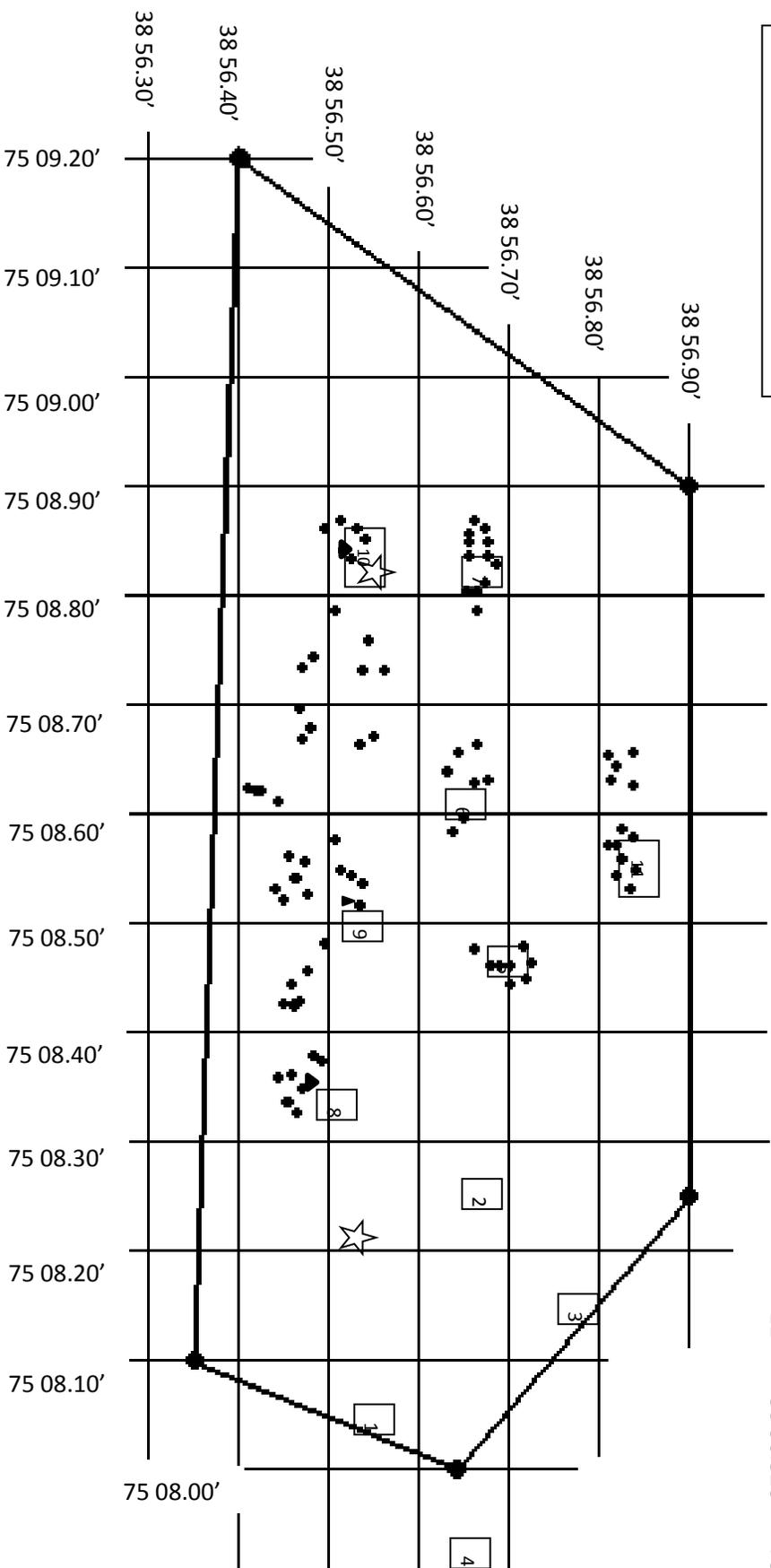
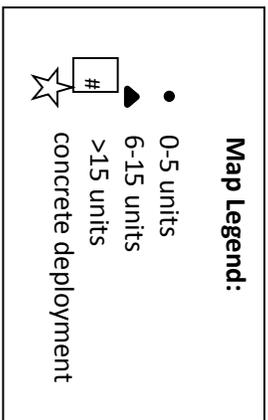
Site #7

| | | |
|---------------------------|---|---|
| Total area of site | - | 0.41 square nautical miles |
| Depth range | - | 30-40' (mean low water) |
| Distance from port | - | 8 nautical miles from Mispillion River 9 nautical miles from Roosevelt Inlet |
| Invertebrate Colonization | - | blue mussel community |
| Fish | - | sea bass, tautog, scup, weakfish, striped bass, bluefish |

Deployments

1. 500 tons of concrete culvert deployed from a moving barge 10/20/95.
 2. 500 tons of concrete culvert deployed from an anchored barge 5/3/96.
N 38° 56.511'
W 075° 08.896'
 3. 950 tons of concrete deployed from an anchored barge 8/12/98. Approximate depth 38'.
N 38° 56.519' - .525'
W 075° 08.535' - .545'
 4. 700 tons of concrete plus 35' and 42' steel vessels ("P3" and "Dolphin") 4/19/99. Depth 42'.
N 38° 56.460 - 467'
W 075° 08.508 - 537'
 5. 900 tons of concrete deployed from an anchored barge 7/16/99. Depth 36'.
N 38° 56.648 - 669'
W 075° 08.839 - 846'
 6. 1,100 tons of concrete deployed on 12/27/01.
N 38° 56.500'
W 075° 08.200'
 7. 1,098 tons of concrete deployed on 8/20/02. Depth 38'.
500+ tons 500+ tons
N 38° 56.540' N 38° 56.470'
W 075° 08.680' W 075° 08.680'
 8. 1,085 tons of concrete deployed on 5/15/03.
N 38° 56.828'
W 075° 08.629'
 9. 1,697 tons of concrete deployed on 11/17/03.
N 38° 56.653'
W 075° 08.604'
 10. 1,587 tons of concrete deployed on 12/23/04.
N 38° 56.517'
W 075° 08.237'
 11. 1,592 tons of complex concrete deployed on 11/7/11
N 38° 56.561'
W 075° 08.379'
-

Delaware Artificial Reef Site 7 Material Distribution



| ID | Latitude | Longitude |
|----|-----------|-----------|
| 1 | 38 56.542 | 75 08.058 |
| 2 | 38 56.675 | 75 08.275 |
| 3 | 38 56.772 | 75 08.155 |
| 4 | 38 56.651 | 75 08.938 |
| 5 | 38 56.698 | 75 08.476 |
| 6 | 38 56.658 | 75 08.610 |
| 7 | 38 56.671 | 75 08.828 |
| 8 | 38 56.488 | 75 08.74 |
| 9 | 38 56.515 | 75 08.525 |
| 10 | 38 56.511 | 75 08.857 |
| 11 | 38 56.828 | 75 08.579 |

Site #8

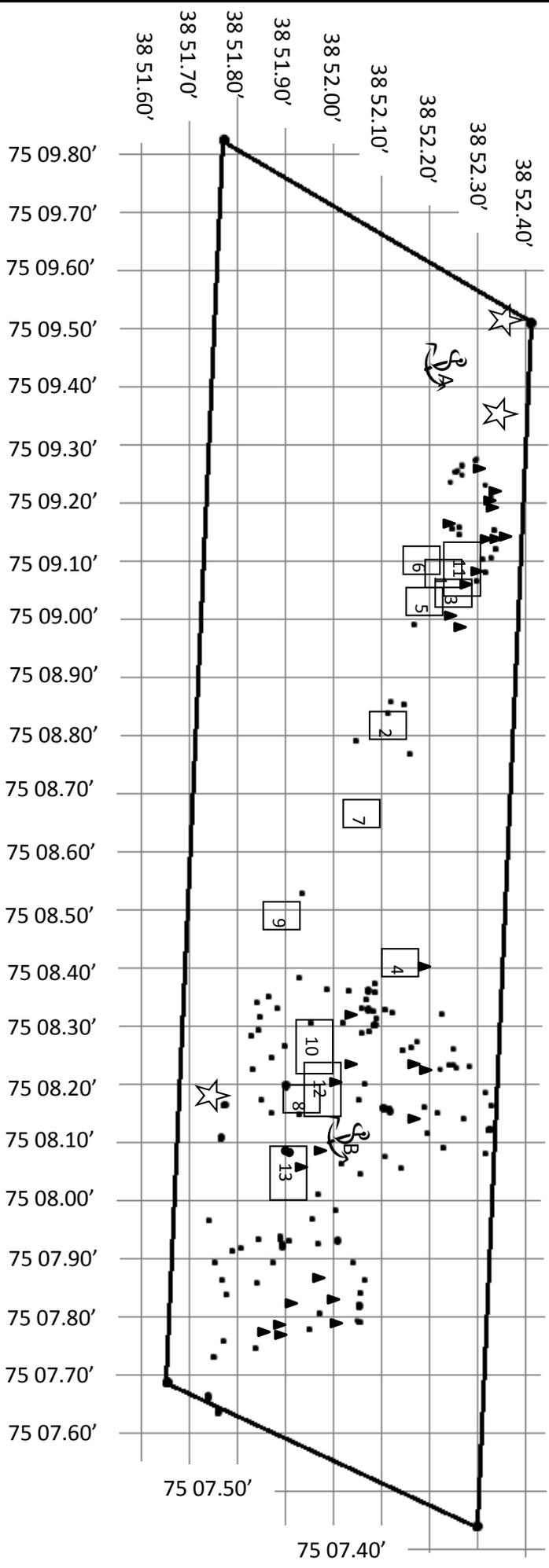
| | | |
|---------------------------|---|---|
| Total area of site | - | 0.96 square nautical miles |
| Depth range | - | 29-72' (mean low water) |
| Distance from port | - | 4.5 nautical miles from Roosevelt Inlet 8.5 nautical miles from Mispillion River |
| Invertebrate Colonization | - | blue mussel community |
| Fish | - | tautog, seabass, scup, weakfish, striped bass, bluefish |

Deployments

1. 550 tons of donated concrete and steel material donated by STAR Enterprise, deployed from a moving barge 3/1/95.
 2. 500 tons of concrete culvert deployed from a moving barge 8/25/95.
 3. 980 tons of donated concrete and steel material donated by STAR Enterprise, deployed from an anchored barge 1/23/96.
N 38° 51.892'
W 075° 08.054'
 4. 70' commercial tugboat "Golden Eagle" sunk 8/96 at
N 38° 52.080'
W 075° 08.094'
 5. 800 tons of concrete deployed from an anchored barge 6/18/98. Approximate depth 28'.
N 038° 51.887' - .892'
W 75° 08.491' - .495'
 6. 800 tons of concrete deployed from an anchored barge 6/5/99. Depth 41'.
N. 38° 51.948 - 963'
W 075° 08.184 - 193'
 7. 935 tons of concrete deployed from an anchored barge 7/8/99. Depth 37'.
N 38° 52.157 - 168'
W 075° 08.400 - 418'
 8. 1,000 tons of concrete deployed on 4/24/01.
N 38° 52.100'
W 075° 08.800'
 9. 1,010 tons of concrete deployed on 9/13/02. Depth 32'.
N 38° 52.176 - 261'
W 075° 09.024 - 102'
 10. 1,000 tons of concrete deployed on 12/13/02. Depth 30'.
N 38° 52.066'
W 075° 08.663'
 11. 1,138 tons of concrete deployed on 5/21/03.
N 38° 51.749'
W 075° 08.191'
 12. 1,091 tons of concrete deployed on 8/7/03.
N 38° 52.356'
W 075° 09.350'
 13. 1,764 tons of complex concrete deployed on 12/30/11
N 38° 52.389'
W 075° 09.505'
-

Delaware Artificial Reef Site 8 Material Distribution

| ID | Latitude | Longitude | ID | Latitude | Longitude |
|----|-----------|-----------|----|-----------|-----------|
| A | 38 52.215 | 75 09.436 | 6 | 38 52.176 | 75 09.102 |
| B | 38 52.082 | 75 08.107 | 7 | 38 52.066 | 75 08.663 |
| 1 | 38 52.220 | 75 09.070 | 8 | 38 51.948 | 75 08.176 |
| 2 | 38 52.095 | 75 08.811 | 9 | 38 51.891 | 75 08.485 |
| 3 | 38 52.247 | 75 09.033 | 10 | 38 51.971 | 75 08.255 |
| 4 | 38 52.156 | 75 08.399 | 11 | 38 52.261 | 75 09.077 |
| 5 | 38 52.200 | 75 09.024 | 12 | 38 51.988 | 75 08.193 |
| | | | 13 | 38 51.899 | 75 08.051 |



Map Legend:

- 0-5 units
- ▲ 6-15 units
- ▲ >15 units
- ☐ # concrete deployment
- ★ shipwreck

Site #9

| | | |
|---------------------------|---|--|
| Total area of site | - | 0.63 square nautical miles |
| Depth range | - | 52-63' (mean low water) |
| Distance from port | - | 12 nautical miles from Roosevelt Inlet 4.5 nautical miles from Indian River Inlet |
| Invertebrate Colonization | - | blue mussel community |
| Fish | - | tautog, seabass, scup, weakfish, bluefish, striped bass |

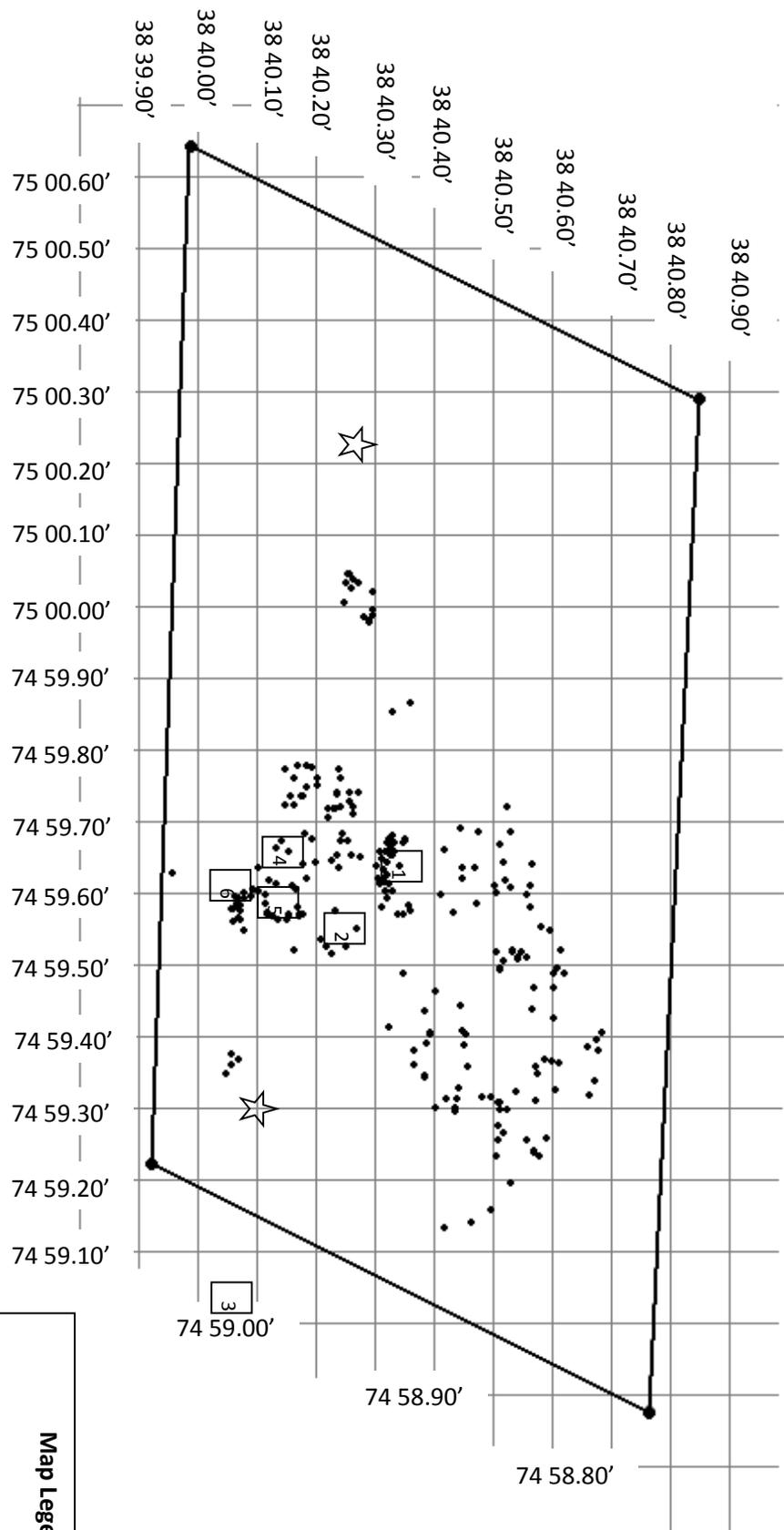
Deployments

1. 500 tons of concrete culvert - deployed from a moving barge 8/25/95.
2. 1000 tons of concrete culvert and stabilized tires deployed on 4/15/97 near
N 38° 40.235'
W 074° 59.718'
3. 900 tons of stabilized tires deployed on 6/26/97. Approximate depth 60'.
N 38° 40.062' - .081'
W 074° 59.561' - .581'
4. 800 tons of concrete culvert and stabilized tire units deployed on 7/31/98. Approximate depth 58'.
N 38° 40.151'
W 074° 59.588'
5. 500 tons of cement mixer drums deployed 7/6/01
N 38° 40.351'
W 074° 59.655'
6. 1,100 tons of concrete deployed 6/24/03. Depth 62'.
N 38° 40.231'
W 074° 59.541'
7. 1,093 tons of concrete deployed 8/21/03. Depth 60'.
N 38° 40.277'
W 075° 00.214'
8. 2,146 tons of concrete deployed 12/28/14. Depth 62'.
N 38° 40.100'
W 074° 59.300'

Notes

Delaware Artificial Reef Site 9 Material Distribution

| ID | Latitude | Longitude |
|----|-----------|-----------|
| 1 | 38 40.324 | 74 59.633 |
| 2 | 38 40.239 | 74 59.554 |
| 3 | 38 40.029 | 74 59.006 |
| 4 | 38 40.018 | 74 59.644 |
| 5 | 38 40.152 | 74 59.594 |
| 6 | 38 40.083 | 74 59.589 |



Map Legend:

- 0-5 units
- # >15 units
- ☆ concrete deployment

Site #10

| | | |
|---------------------------|---|--|
| Total area of site | - | 0.69 square nautical miles |
| Depth range | - | 56-66' (mean low water) |
| Distance from port | - | 5.5 nautical miles from Indian River Inlet |
| Invertebrate Colonization | - | blue mussel community |
| Fish | - | sea bass, tautog, scup, weakfish, bluefish |

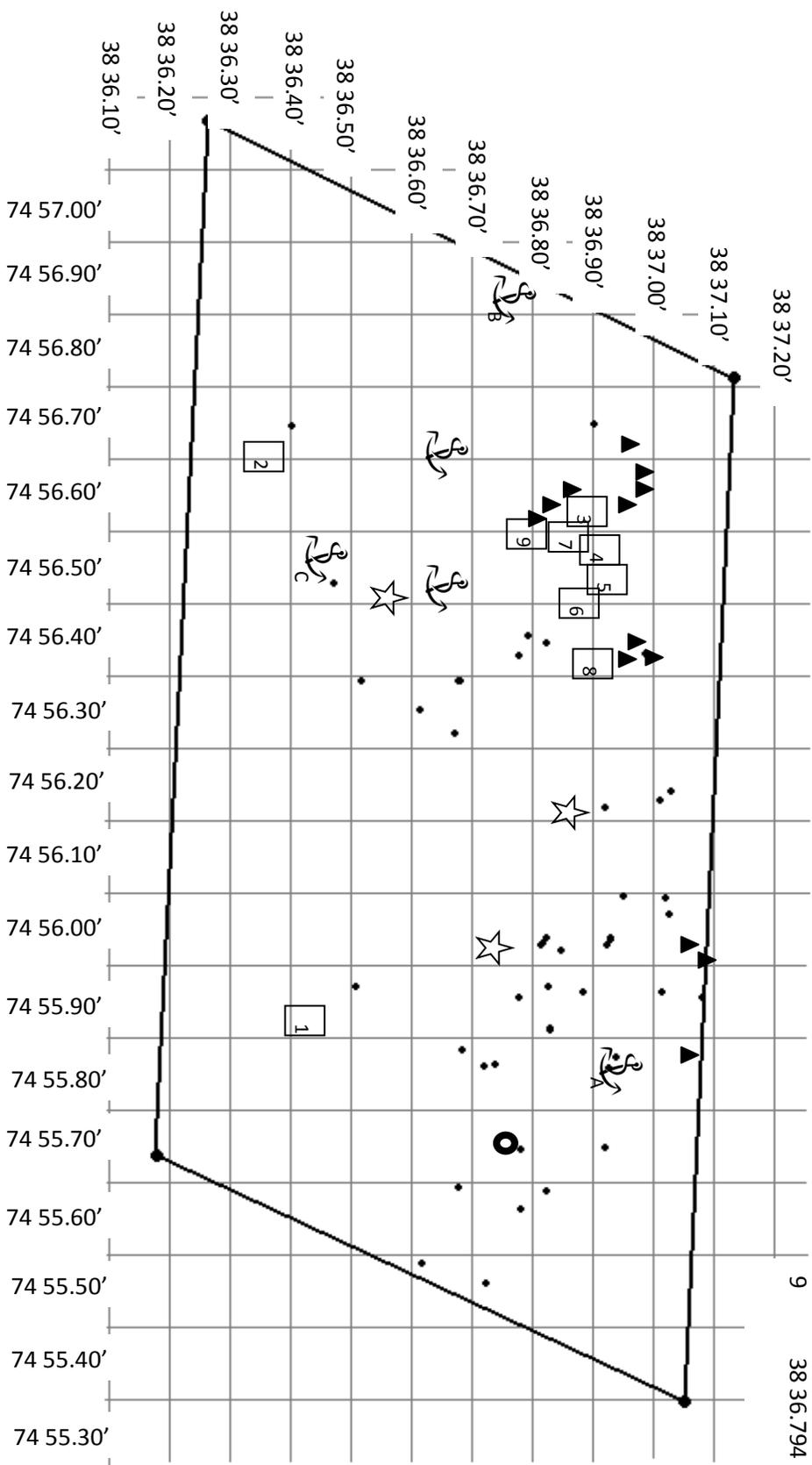
Deployments

1. Previously existing wreck (barge?)
N 38° 36.934'
W 074° 55.821'
 2. 1000 tons of concrete culvert and stabilized tire units deployed from a moving barge 8/25/95.
 3. 1000 tons of stabilized tire units deployed from a moving barge 11/18/95.
 4. 1000 tons of concrete culvert and stabilized tire units deployed from an anchored barge 8/5/96.
N 38° 36.890'
W 074° 56.454'
 5. 850 tons of ballasted tire units on 3/31/98. Approximate depth 60'.
 6. 850 tons of concrete culvert and stabilized tire units deployed on 5/19/98. Approximate depth 61'.
N 38° 36.365'
W 074° 56.600'
 7. 875 tons of ballasted tire units deployed from an anchored barge 8/19/99. Depth 64'.
N 38° 36.432 – 434'
W 074° 55.871 – 874'
 8. Yon 80 Navy barge sunk 6/18/02. Depth 62'.
N 38° 36.424'
W 074° 56.498'
 9. 1,190 tons of concrete deployed 11/20/02. Depth 60'.
N 38° 36.589'
W 074° 56.469'
 10. 5.6 nautical miles of marine cable deployed 5/11/03. Depth 62'.
N 38° 36.750'
W 074° 55.670'
 11. 1,072 tons of concrete deployed 7/9/03.
N 38° 36.738'
W 074° 55.965'
 12. 1,039 tons of concrete deployed 7/26/03.
N 38° 36.857'
W 074° 56.161'
 13. "Mr. G" and "Rusty Pusher" (small tug and push boat) 3/4/09
N 38° 36.649'
W 074° 56.646'
 14. YC 725 a 110' Navy barge sunk 03/10/10
N 38° 36.608'
W 074° 56.494'
 15. 95' barge. Sunk 03/10/10
N 38° 36.608'
W 074° 56.494'
-

Delaware Artificial Reef Site 10 Material Distribution

Map Legend:

- 0-5 units
- ▲ 6-15 units
- ▣ # >15 units
- marine cable
- concrete deployment
- ★ wreck
- ⚓ wreck



| ID | Latitude | Longitude |
|----|-----------|-----------|
| A | 38 36.943 | 74 55.819 |
| B | 38 36.759 | 74 56.878 |
| C | 38 36.424 | 74 56.498 |
| 1 | 38 36.430 | 74 55.876 |
| 2 | 38 36.359 | 74 56.646 |
| 3 | 38 36.891 | 74 56.577 |
| 4 | 38 36.894 | 74 56.515 |
| 5 | 38 36.901 | 74 56.484 |
| 6 | 38 36.884 | 74 56.462 |
| 7 | 38 36.880 | 74 56.539 |
| 8 | 38 36.901 | 74 56.367 |
| 9 | 38 36.794 | 74 56.542 |

Site 11

| | | |
|---------------------------|---|---|
| Total area of site | - | 1.3 square nautical miles |
| Depth range | - | 68-88' (mean low water) |
| Distance from port | - | 16.5 nautical miles from Indian River Inlet |
| Invertebrate Colonization | - | blue mussel community, northern coral community |
| Fish | - | sea bass, tautog, flounder, scup |

Deployments

1. 26 military track vehicles deployed in 3 tightly grouped clusters 1/96.
A. N38° 40.702' W 074°43.531' B. N38° 40.703' W 074°43.518' C. N38° 40.718' W 074° 43.550'
2. 40 military vehicles deployed in clusters.
A (7 vehicles) N38°40.648'; W074°43.535' B (13 vehicles) N38°40.561' - .576'; W074°43.487' - .511'
C (9 vehicles) N38°40.618' - .641'; W074°43.374 - .379' D (11 vehicles) N38°40.624' - .635'; W074°43.430' - .448'
3. 850 tons of ballasted off road tire units deployed 7/24/98. depth 90', N38° 40.389' - 415'; W074° 43.433' - .453'
4. 90' commercial tug "Delilah" sunk 1/15/99, N38° 40.433'; W074° 43.386'
5. 1,100 tons ballasted tires deployed from a moving barge 2/11/99, N38° 40.490' -530'; W074° 43.450' -500'
6. 7. YC 1479 (160' Navy barge) sunk 10/20/00, N38° 40.365'; W074° 43.818'
7. 90' Commercial tug "Margie Ann" sunk 6/19/01. Depth 90', N38° 40.322'; W074° 44.132'
8. 85' shrimp trawler "Frieda Marie" sunk 01/16/10. N38°40.606'N W074°30.200'
9. 74' push boat, "Sandy Point" sunk 03/10/10. N38°40.667' W074°43.970'

Subway cars

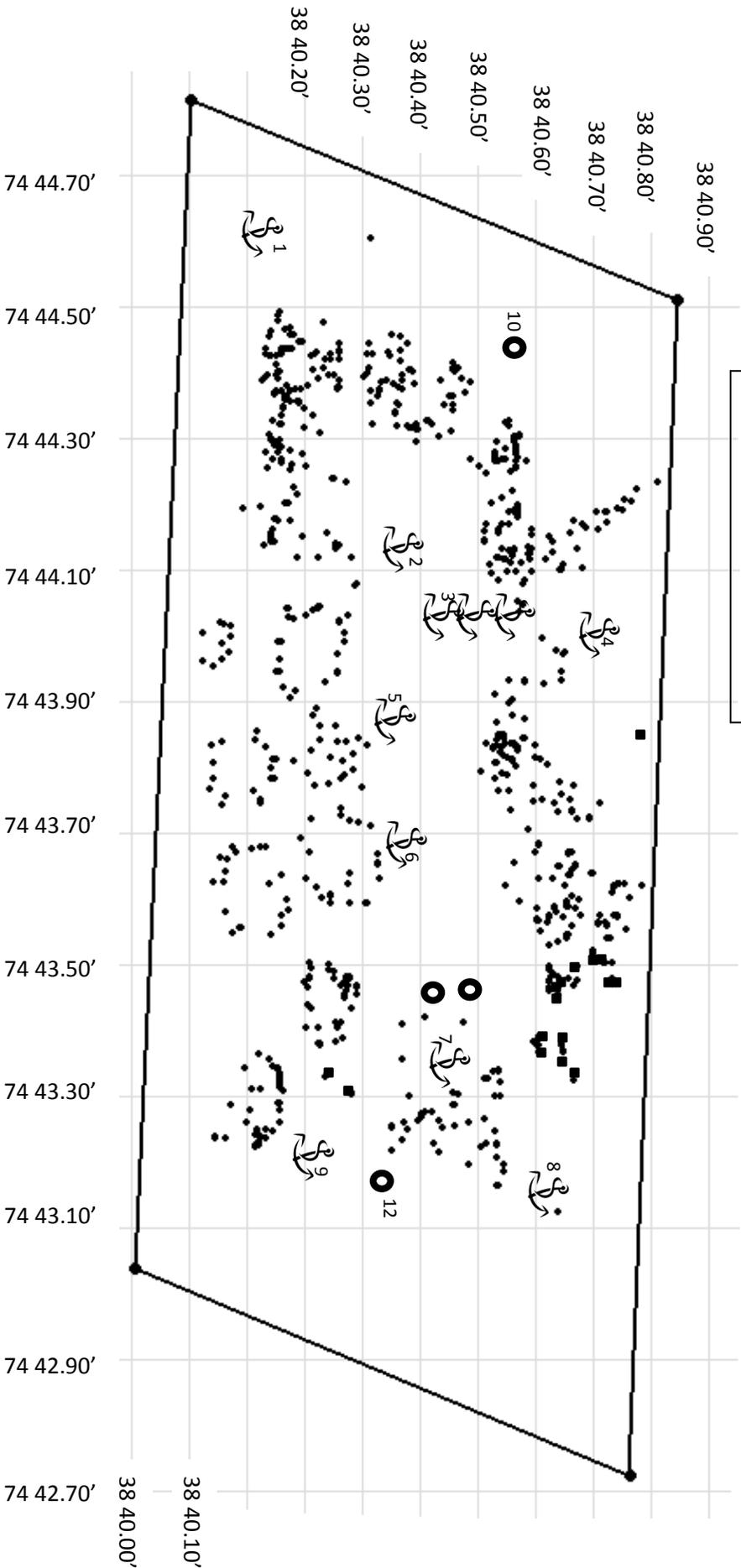
There are 714 subway cars on the site which can easily be found using this chart and your fathometer. The following coordinates are the densest concentrations identified by the sidescans sonar contractor:

10. N 38° 40.688'; W 074° 43.576'
11. N 38° 40.567'; W 074° 43.805'
12. N 38° 40.534'; W 074° 44.272'
13. N 38° 40.200'; W 074° 44.401'
14. N 38° 40.218'; W 074° 43.862'
15. N 38° 40.263'; W 074° 43.468'
16. N 38° 40.372'; W 074° 44.389'
17. 15. Margaret 85' tug sunk 6/28/07 Depth 88' N 38° 40.361'; W 074° 43.672'
18. William C. Snow 55' tug sunk 6/2/08 Depth 84' N 38° 40.105'; W 074° 44.600'
19. Fels Points 110' tug sunk 6/2/08 Depth 77' N 38° 40.212'; W 074° 43.196'
20. Cittie Point 95' tug sunk 6/2/08 Dept 81' N 38° 40.624'; W 074° 43.173'
21. Bay Tide 110' tug sunk 1/30/09 38° 40. 54' N; 074° 43.957' W
22. Crazy Horse 77' trawler sunk 1/30/09 38° 40. 490' N; 074° 43.957' W

Delaware Artificial Reef Site 11 (Redbird Reef) Material Distribution

| ID | Latitude | Longitude | ID | Latitude | Longitude |
|----|-----------|-----------|----|-----------|-----------|
| 1 | 38 40.411 | 74 43.686 | 7 | 40 52.434 | 74 43.377 |
| 2 | 38 40.369 | 74 44.142 | 8 | 40 52.619 | 74 43.176 |
| 3 | 38 40.413 | 74 44.007 | 9 | 40 51.209 | 74 43.198 |
| 4 | 38 40.689 | 74 43.986 | 10 | 40 51.550 | 74 44.434 |
| 5 | 38 40.369 | 74 43.834 | 11 | 40 51.560 | 74 43.812 |
| 6 | 38 40.378 | 74 43.686 | 12 | 40 52.321 | 74 43.175 |

- Military track vehicle
- Shipwreck
- Tire units
- Subway car



DEL-JERSEY-LAND INSHORE SITE

Total area of site - 1.00 square nautical miles
Depth range - 121-131'
Distance from port - 26 NM from Indian River Inlet
30 NM from Cape May, NJ Inlet
30 NM from Ocean City, MD Inlet
Invertebrate Colonization - Northern coral, whip coral, anemone community
Fish - black sea bass, ocean pout, winter flounder, red hake, bluefish,
bluefin tuna, shark

Gregory Poole 175' Minesweeper/Menhaden harvesting vessel sunk 12/2/2007
38° 30. 910' N
074° 30. 597' W

Atlantic Mist 185' Menhaden vessel sunk 1/16/10
38° 31. 063' N
074° 30. 271' W

Scattered subway cars in the vicinity of the following coordinates:

44 cars 38° 31.600' N
074° 30.600' W 8/2/09
44 cars 38° 31.600' N
074° 30.400' W 8/30/09
44 cars 38° 31.500' N
074° 30.800' W 9/30/09
44 cars 38° 31.600' N
074° 30.800' W 9/12/09
44 cars 38° 31.68' N
074° 30.384' W 11/10/09
44 cars 38° 31.600' N
074° 30.200' W 01/28/10
24 cars 38° 31.500' N
074° 30.500' W 04/22/10

The USS Arthur W. Radford, a retired 563 foot NAVY destroyer ship, was sunk August 10, 2011, in 134 feet of water. Shortly after sinking, Hurricane Irene broke the vessel into three separate pieces that remain within a few hundred feet of each other.

N 38° 30.850
W 074° 30.656

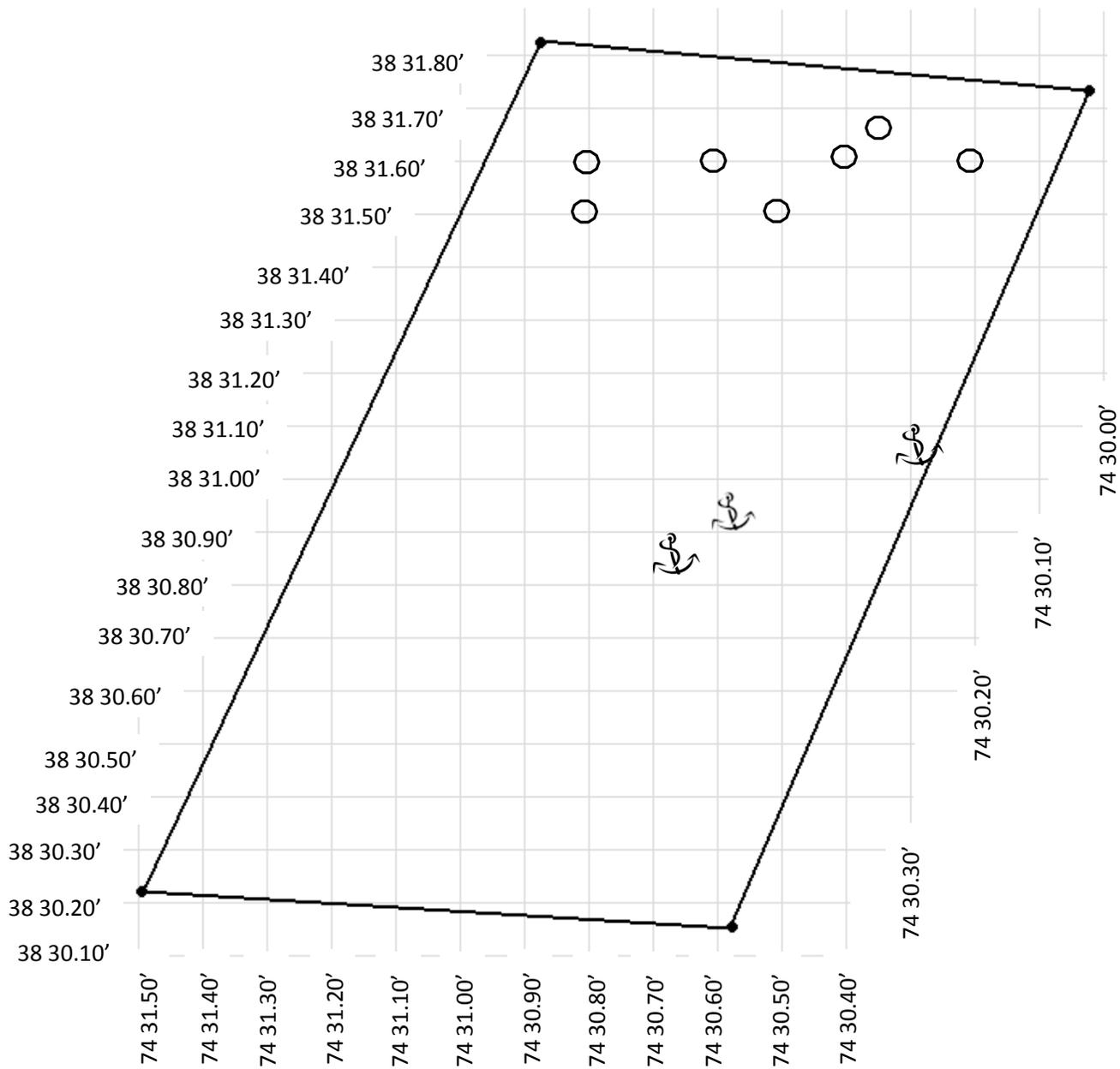


Photo: Hugh Carberry



Photo: Z. Hense

Delaware Artificial Reef Del-Jerseyland Inshore Distribution



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF FISH & WILDLIFE
FISHERIES BUILDING
3002 Bayside Drive
Dover, Delaware 19901

4050203 FW FISHERIES