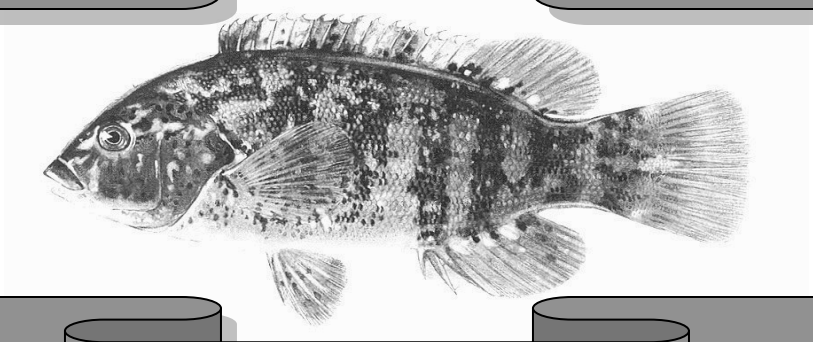
DELAWARE REEF GUIDE
2013-2014

IF YOU BUILD IT



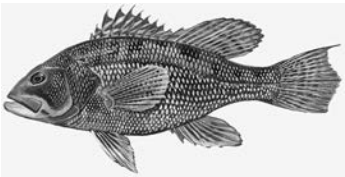
THEY WILL COME

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

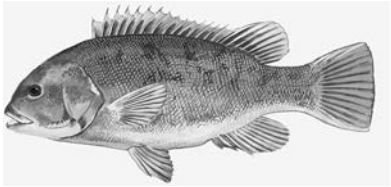
ABOUT THE COVER

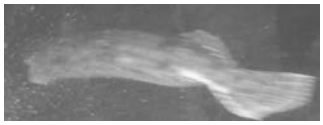
On the front cover are images of fish on actual Delaware artificial reefs. These images were captured on camera by DNREC sampling staff during trips between 2010 and 2012. The fishes pictured are among those most often found on Delaware reef sites, including:

black sea bass
(Centropristis striata)

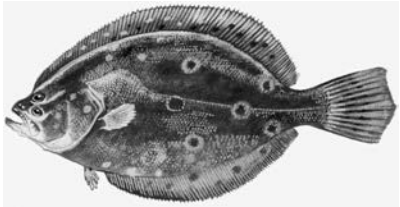


tautog *(Tautoga onitis)*





summer flounder *(Paralichthys dentatus)*



grey triggerfish *(Balistes capriscus)*

To find these species and more, enjoy fishing Delaware's artificial reefs!

Fish illustrations by Duane Raver Jr.—used with permission by DNREC, Division of Fish and Wildlife.

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. 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 84,000 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—2012. 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 39^0 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.

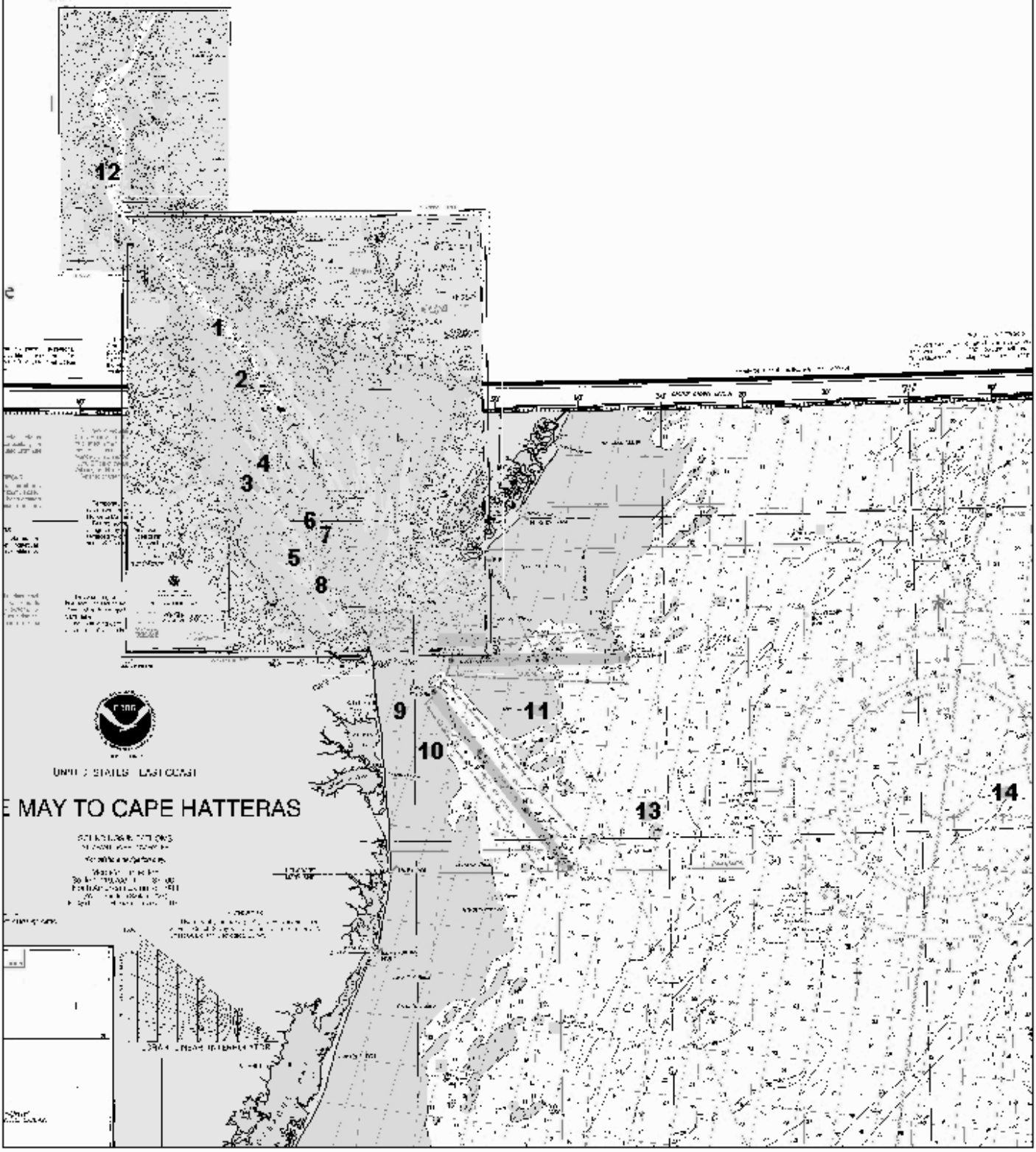
ENJOY FISHING DELAWARE'S REEFS

Key to Reading the Reef Charts.

= Reef material plotted from periodic sidescan sonar surveys

= Position of reef material on 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	-	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'

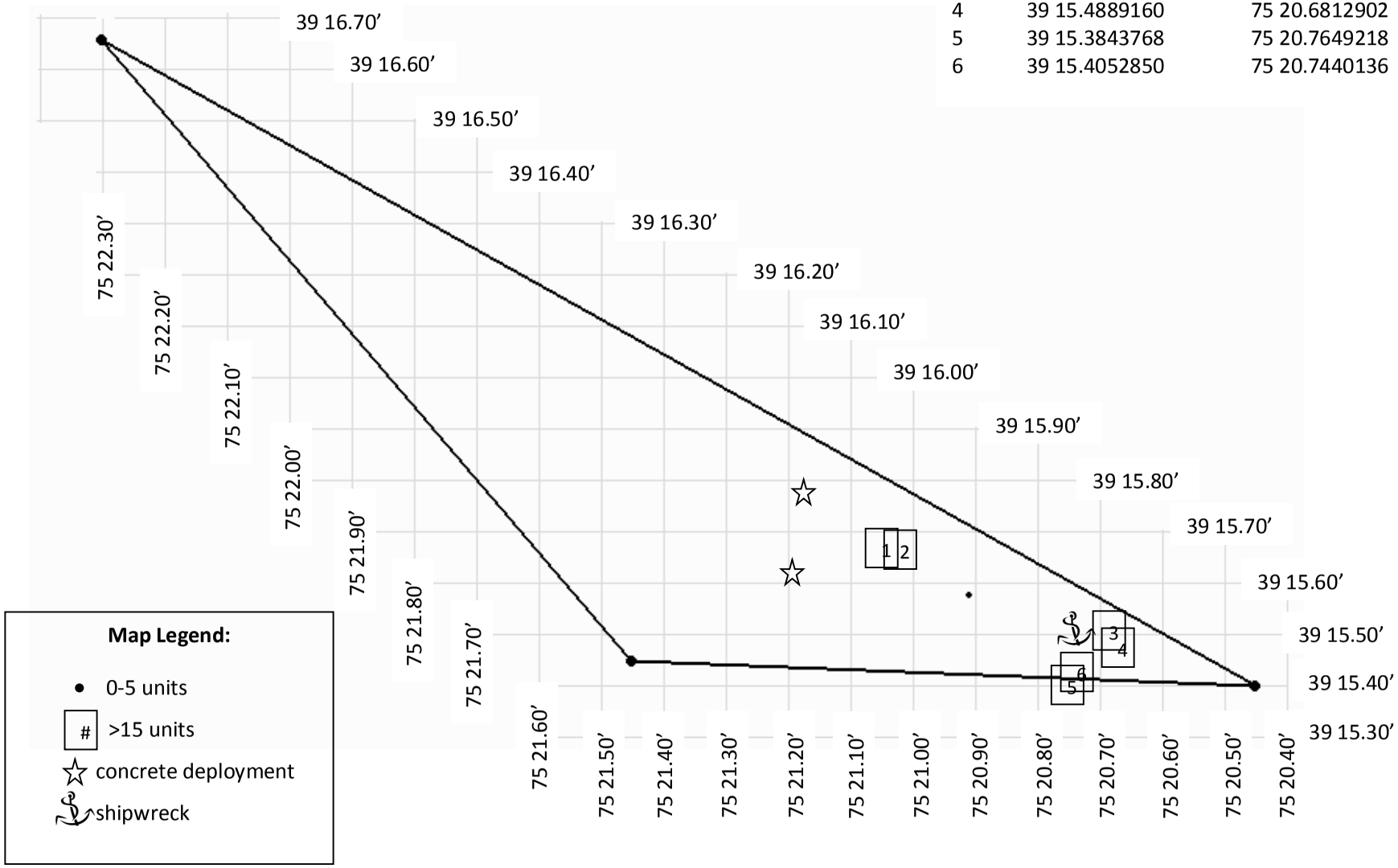
7. 1,215 tons of complex concrete deployed from an anchored barge 7/27//11

   N 39° 15.615'
   W 075° 21.200'

Notes

Delaware Artificial Reef
Site 1 Material Distribution

ID	Latitude	Longitude
1	39 15.6890328	75 21.0486696
2	39 15.6651384	75 21.0247752
3	39 15.5098236	75 20.6992116
4	39 15.4889160	75 20.6812902
5	39 15.3843768	75 20.7649218
6	39 15.4052850	75 20.7440136



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Site #2

Total are 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	-	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'

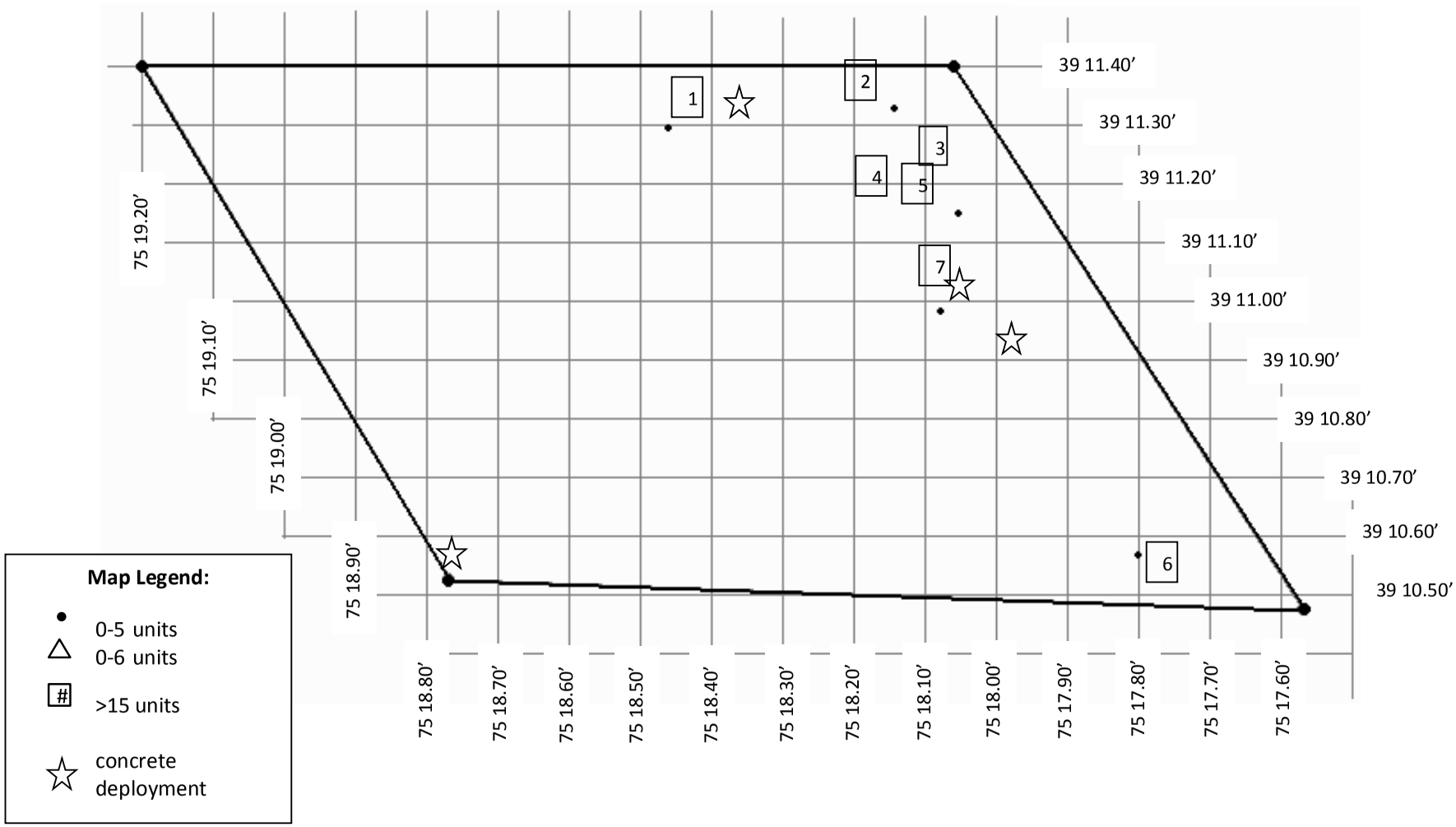
6. 1,610 tons of concrete culvert deployed 11/07/03.
   N 39° 11.426'
   W 075° 18.177'

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 17.7528228
7	39 11.0543730	75 18.0951876



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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	-	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'

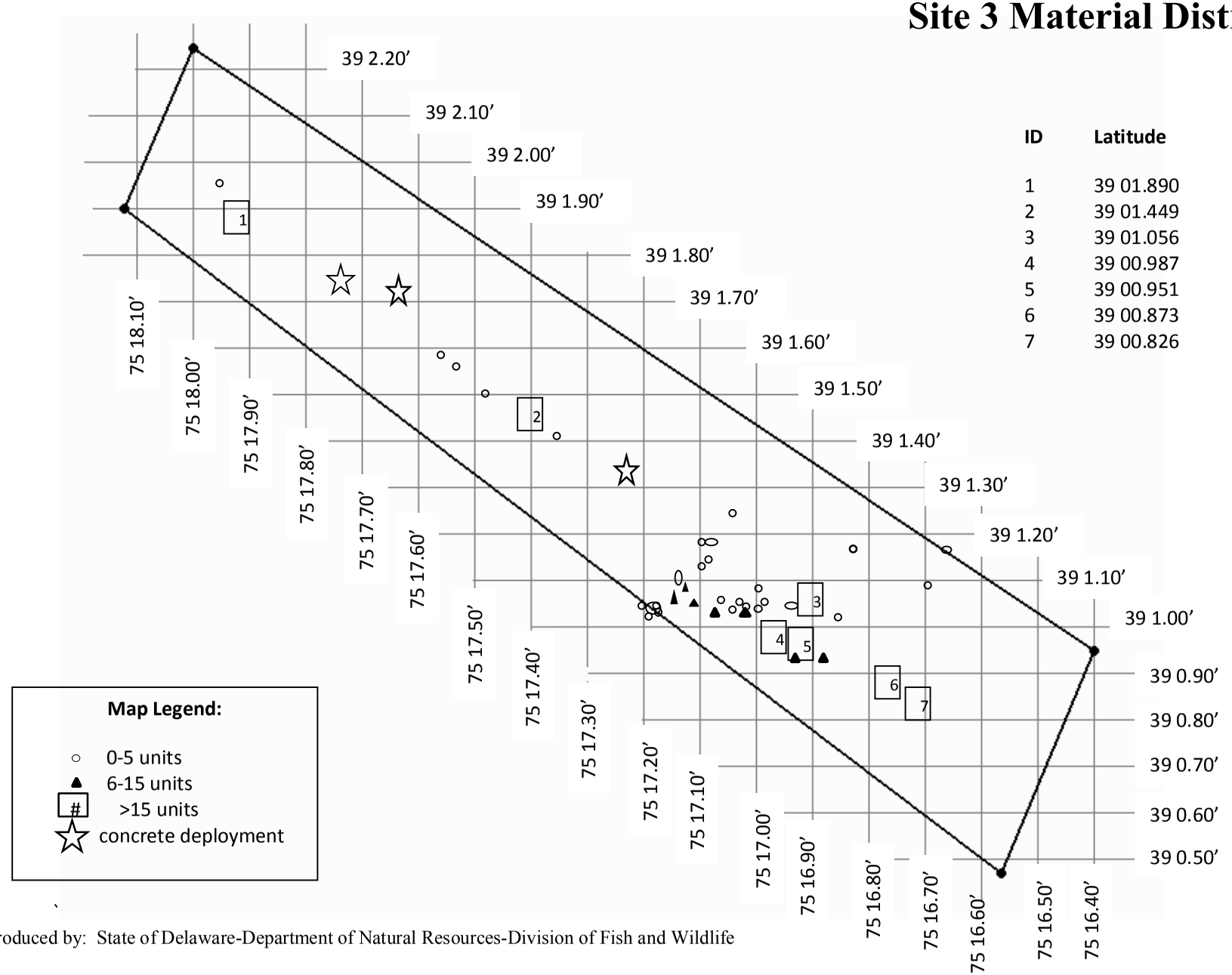
7. 1,092 tons of concrete deployed 4/14/03. Depth 26.
   N 39° 01.730'
   W 075° 17.640'

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

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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	-	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'

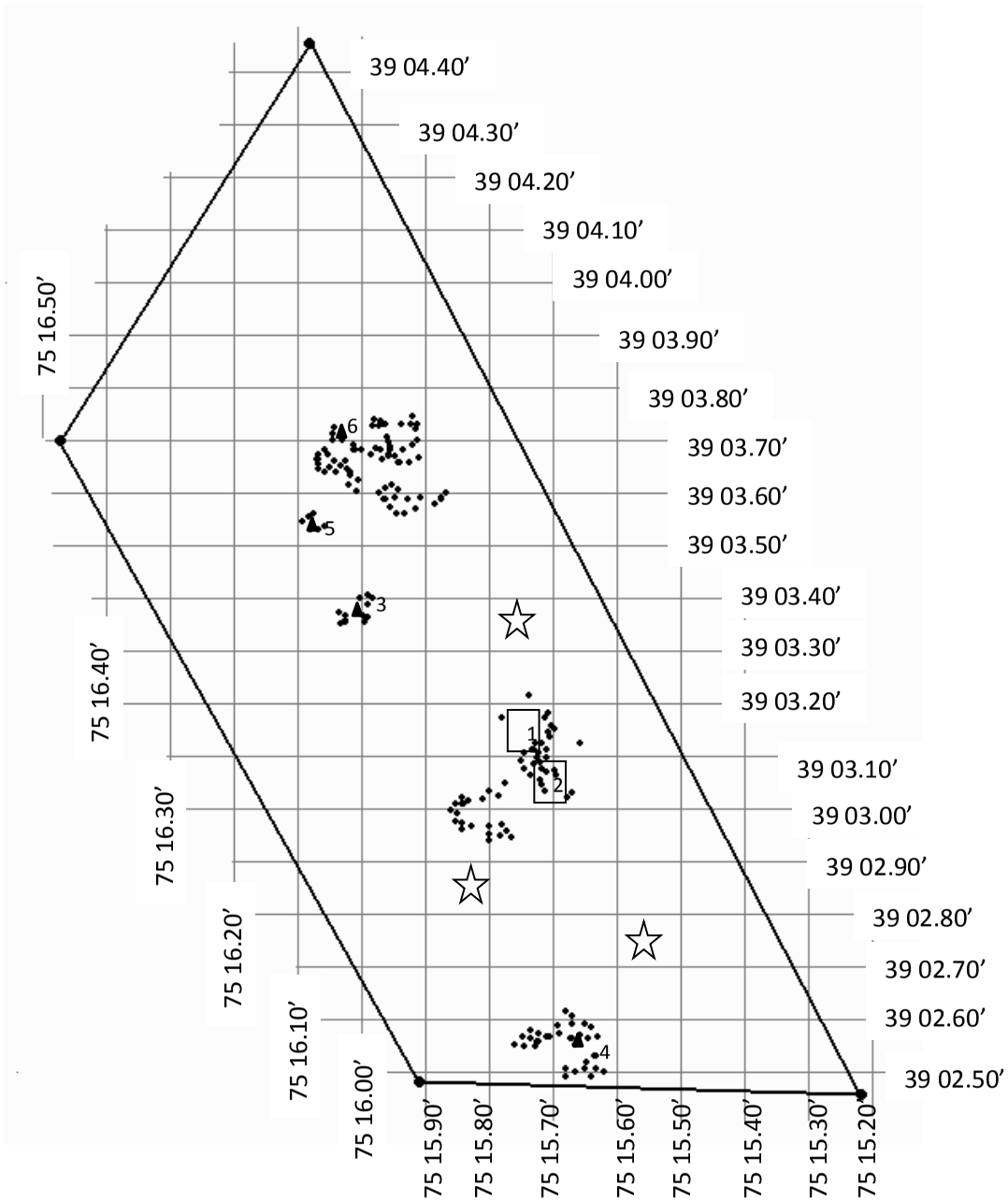
7. 1,511 tons of concrete deployed 7/7/04.
   N 39° 02.853'
   W 075° 15.805'

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
- 6-15 units
- # >15 units

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

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'

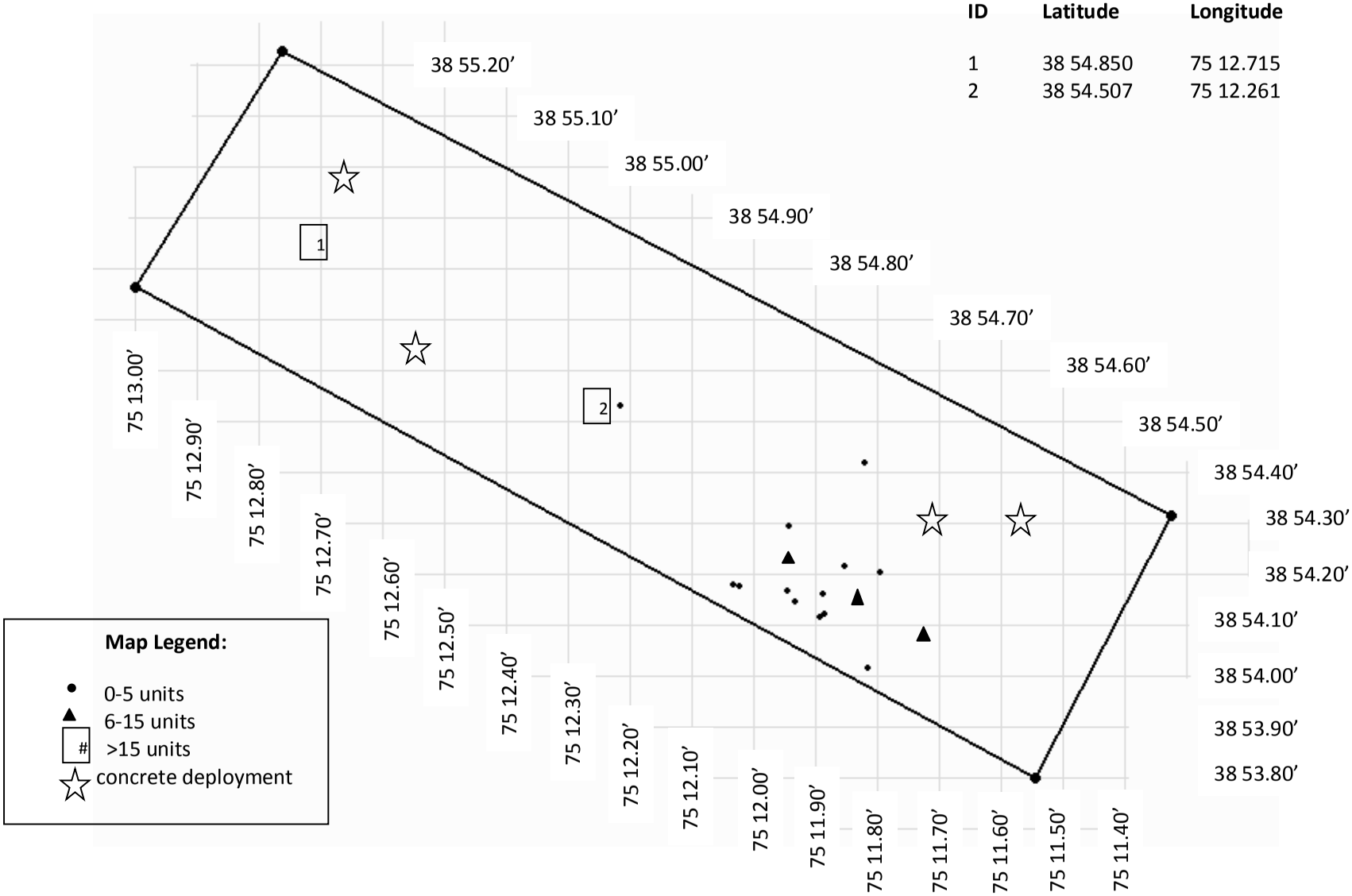
9. 1,588 tons of concrete deployed on 8/24/04.
   N 38° 54.983'
   W 075° 12.657'

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



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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'

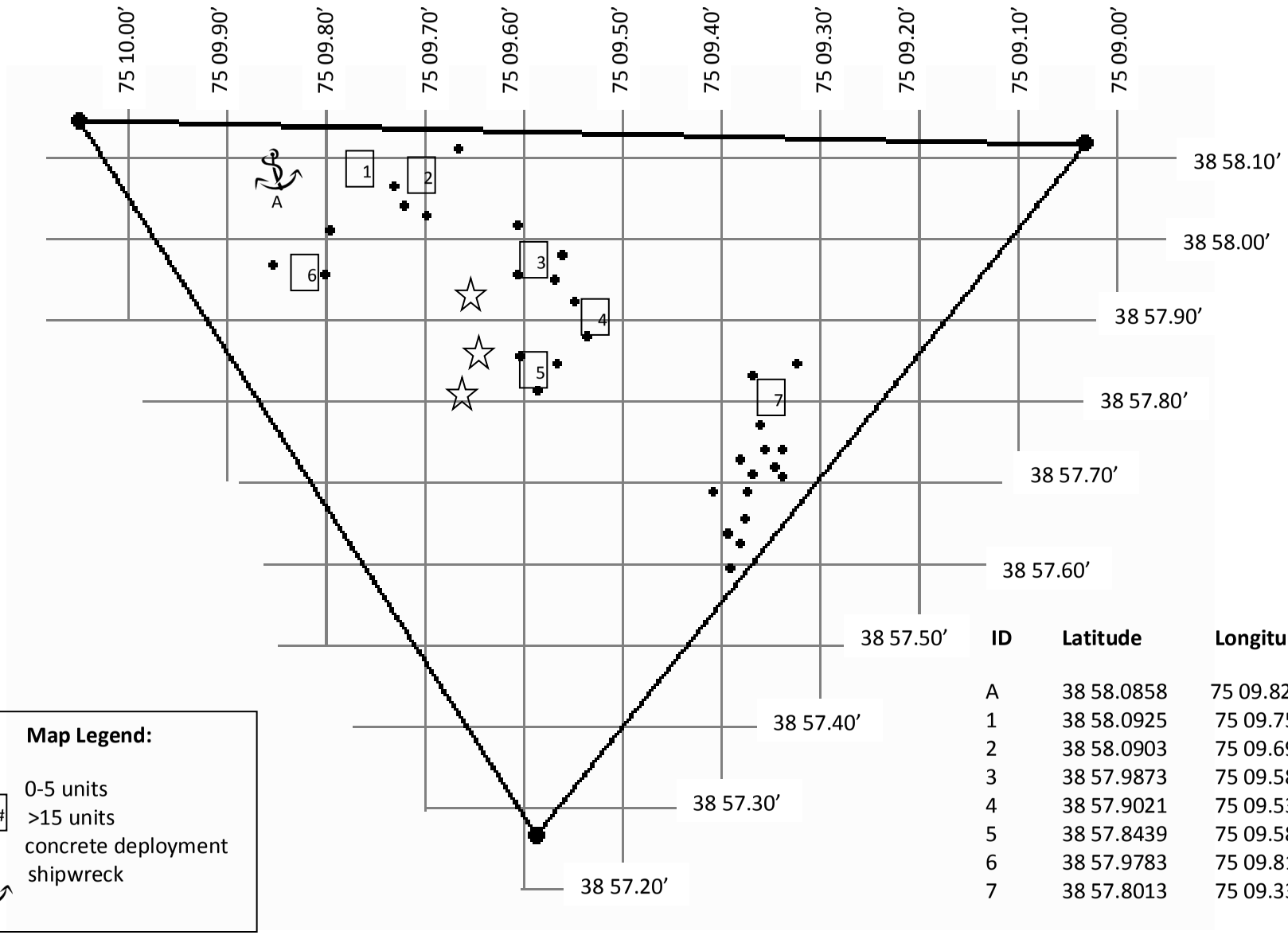
8 120' x 40' steel barge (Buchannon) was deployed 3/18/04.
   N 38° 58.086'
   W 075° 09.825'

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'

Delaware Artificial Reef
Site 6 Material Distribution



ID	Latitude	Longitude
A	38 58.0858	75 09.8273
1	38 58.0925	75 09.7511
2	38 58.0903	75 09.6996
3	38 57.9873	75 09.5876
4	38 57.9021	75 09.5361
5	38 57.8439	75 09.5899
6	38 57.9783	75 09.8139
7	38 57.8013	75 09.3367

Map Legend:

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

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

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'

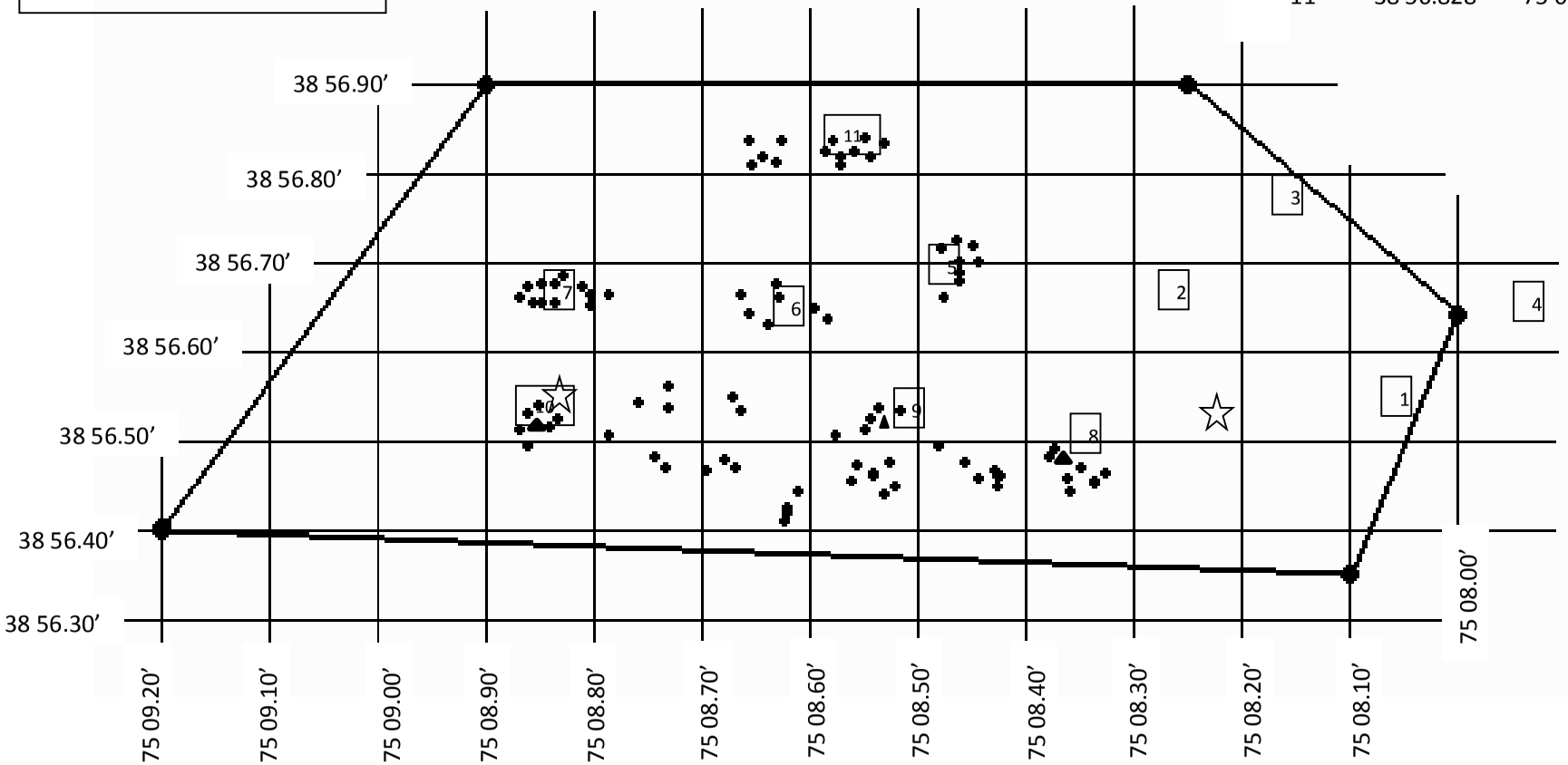
11. 1,592 tons of complex concrete deployed on 11/7/11
    N 38° 56.561'
    W 075° 08.379'

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 08.374
9	38 56.515	75 08.525
10	38 56.511	75 08.857
11	38 56.828	75 08.579

Map Legend:

- 0-5 units
- 6-15 units
- # >15 units
- concrete deployment



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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'

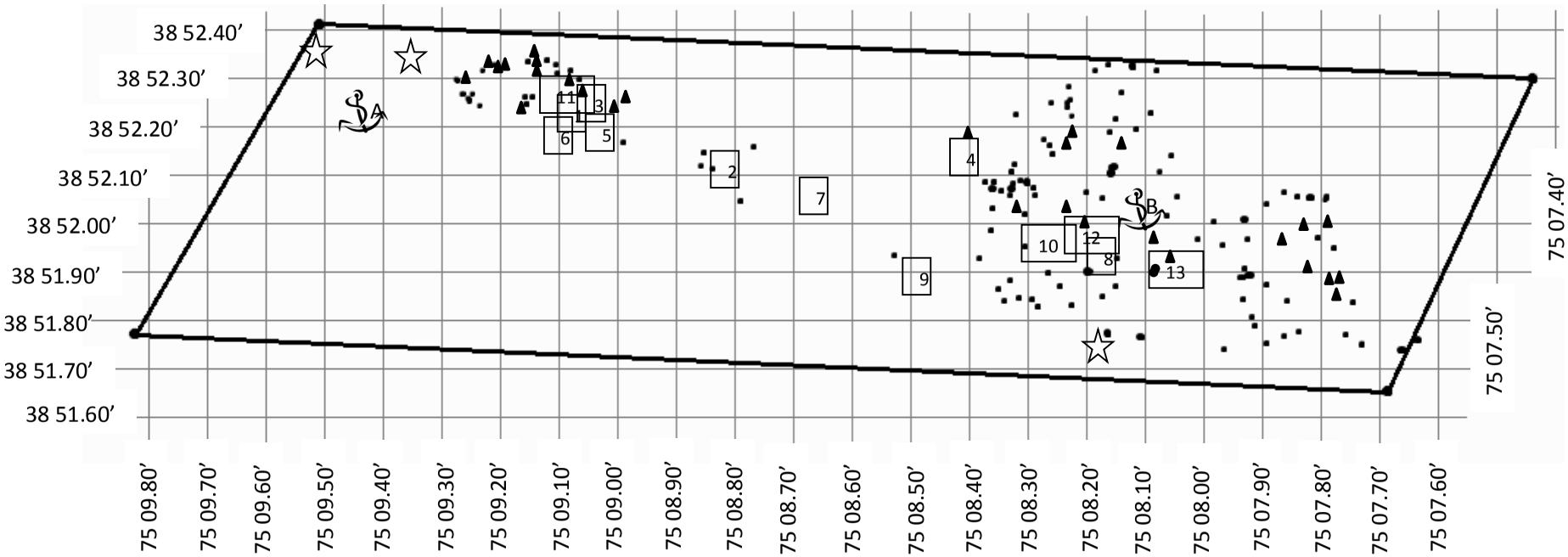
11. 1,138 tons of concrete deployed on 5/21/03.
    N 38° 51.749'
    W 075° 08.191'

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

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

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'

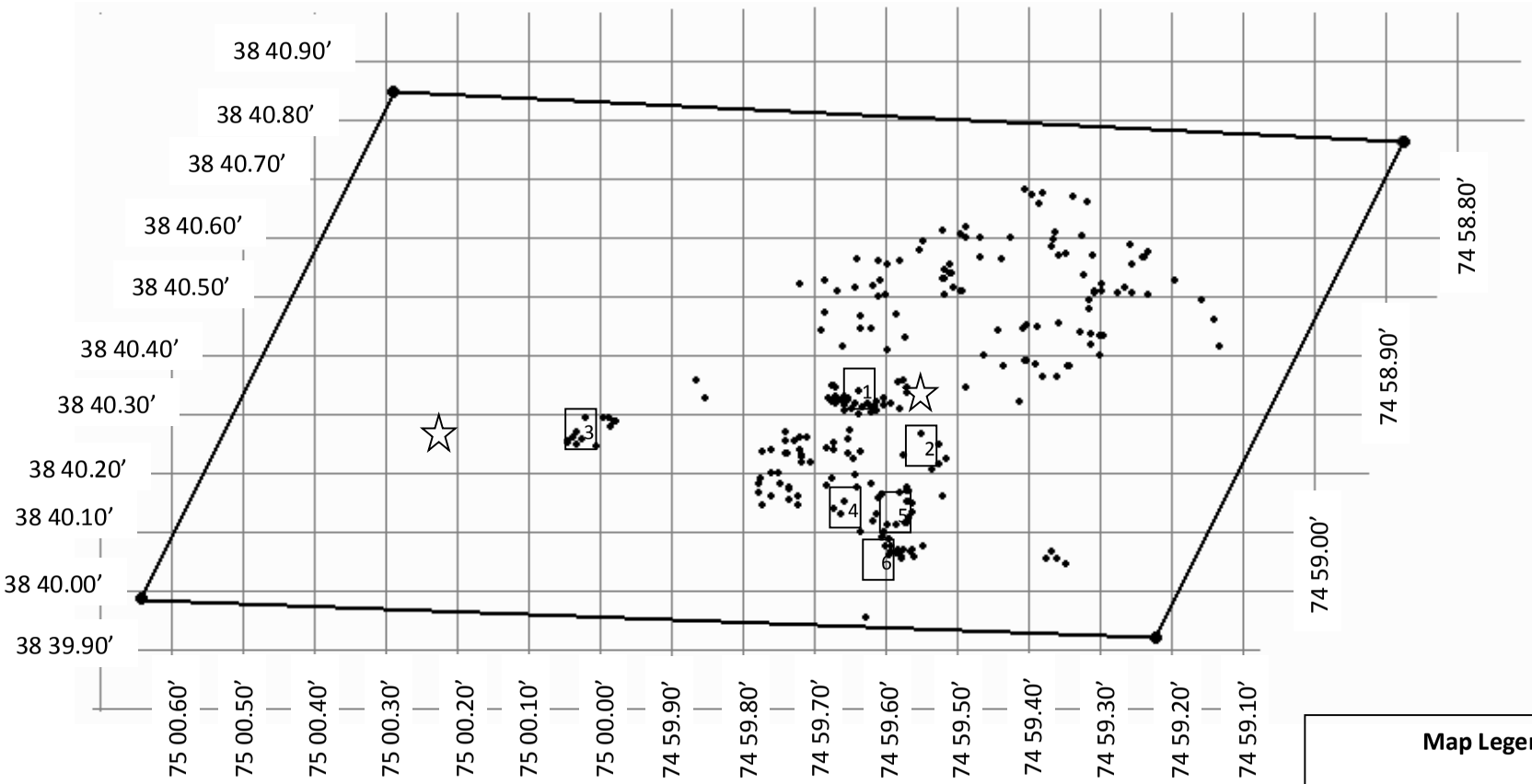
6. 1,100 tons of concrete deployed 6/24/03. Depth 62'.
   N 38° 40.231'
   W 074° 59.541'

7. 1,093 tons of concrete deployed 8/21/03. Depth 60'.
   N 38° 40.277'
   W 075° 00.214'

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

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

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 38º 36.649'
    W 074º 56.646'

14. YC 725 a 110' Navy barge sunk 03/10/10
    N 38° 36.608'
    W 074° 56.494'

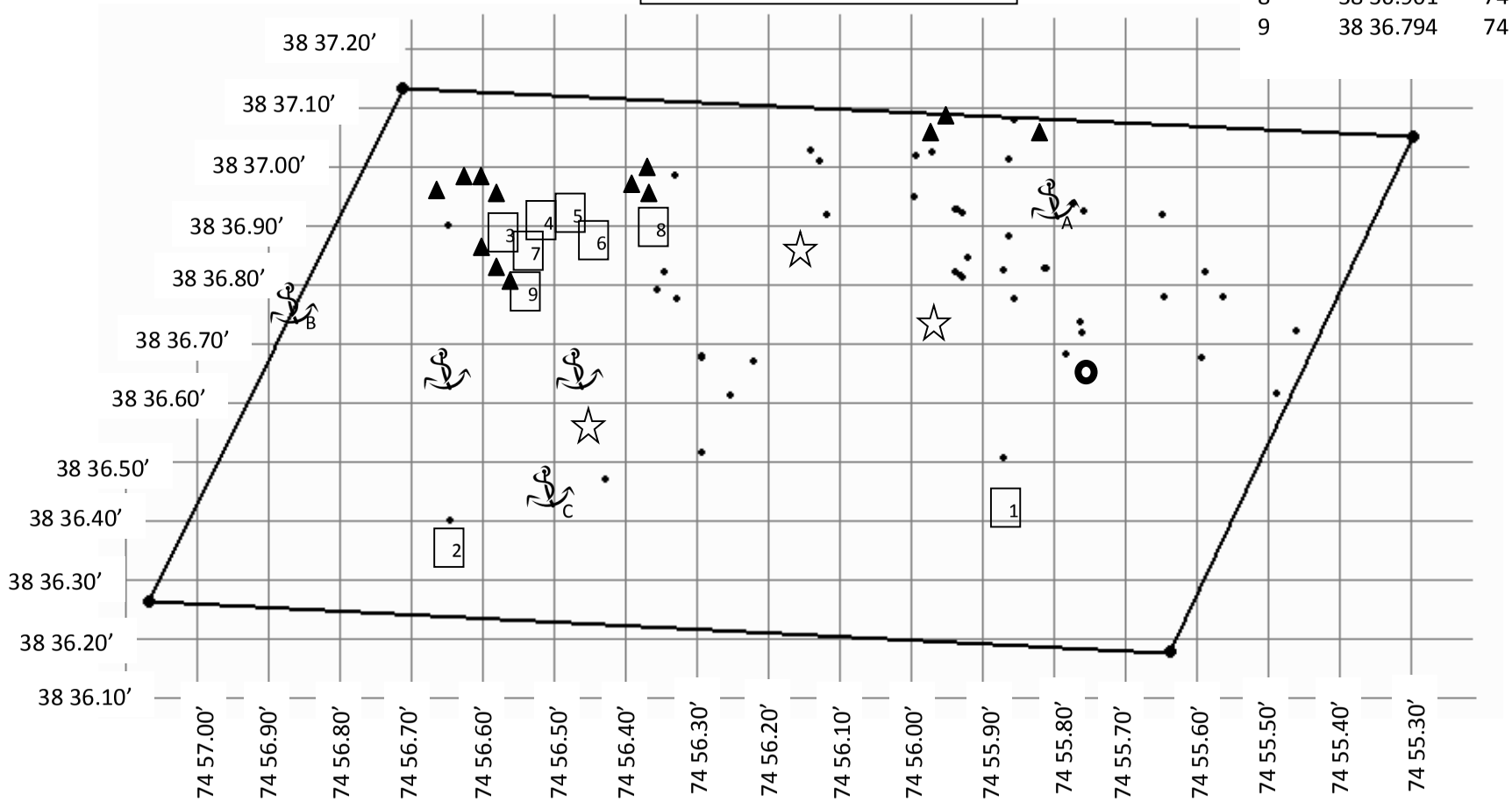
15. 95' barge. Sunk 03/10/10
    N 38° 36.608'
    W 074° 56.494'

Delaware Artificial Reef
Site 10 Material Distribution

Map Legend:

- 0-5 units
- 6-15 units
- # >15 units
- marine cable
- concrete deployment
- wreck

ID	Latitude	Longitude
A	38 36.943	74 55.819
B	38 36.769	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 36.691	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



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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°43.200'

9. 74' push boat, "Sandy Point" sunk 03/10/10. N38°40.667' W074°43.970'

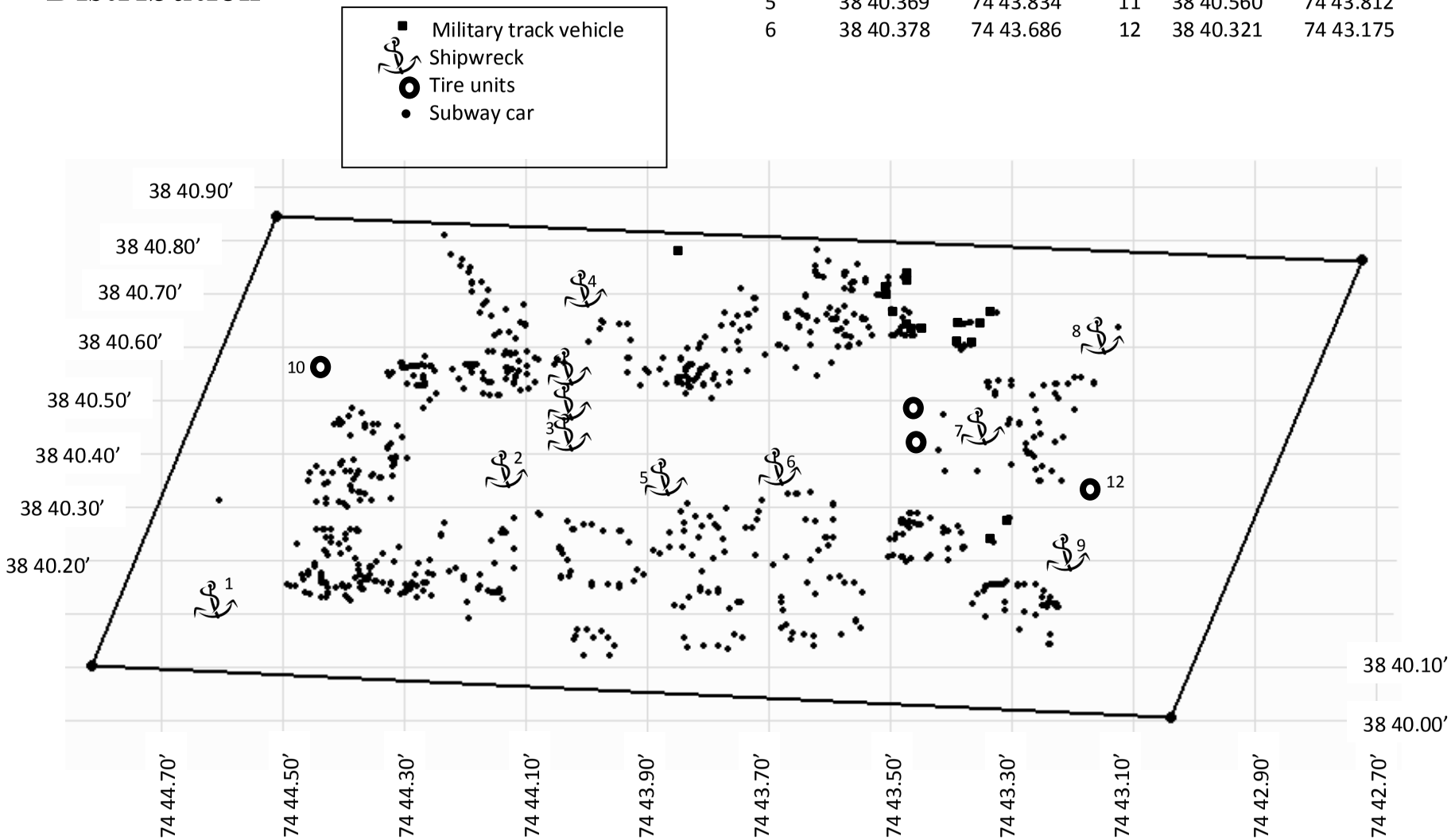
Subway cars

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 38º 40. 54' N; 074º 43.957' W
22. Crazy Horse 77' trawler sunk 1/30/09 38º 40. 490' N; 074º 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	38 40.434	74 43.377
2	38 40.369	74 44.142	8	38 40.619	74 43.176
3	38 40.413	74 44.007	9	38 40.209	74 43.198
4	38 40.689	74 43.986	10	38 40.550	74 44.434
5	38 40.369	74 43.834	11	38 40.560	74 43.812
6	38 40.378	74 43.686	12	38 40.321	74 43.175



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

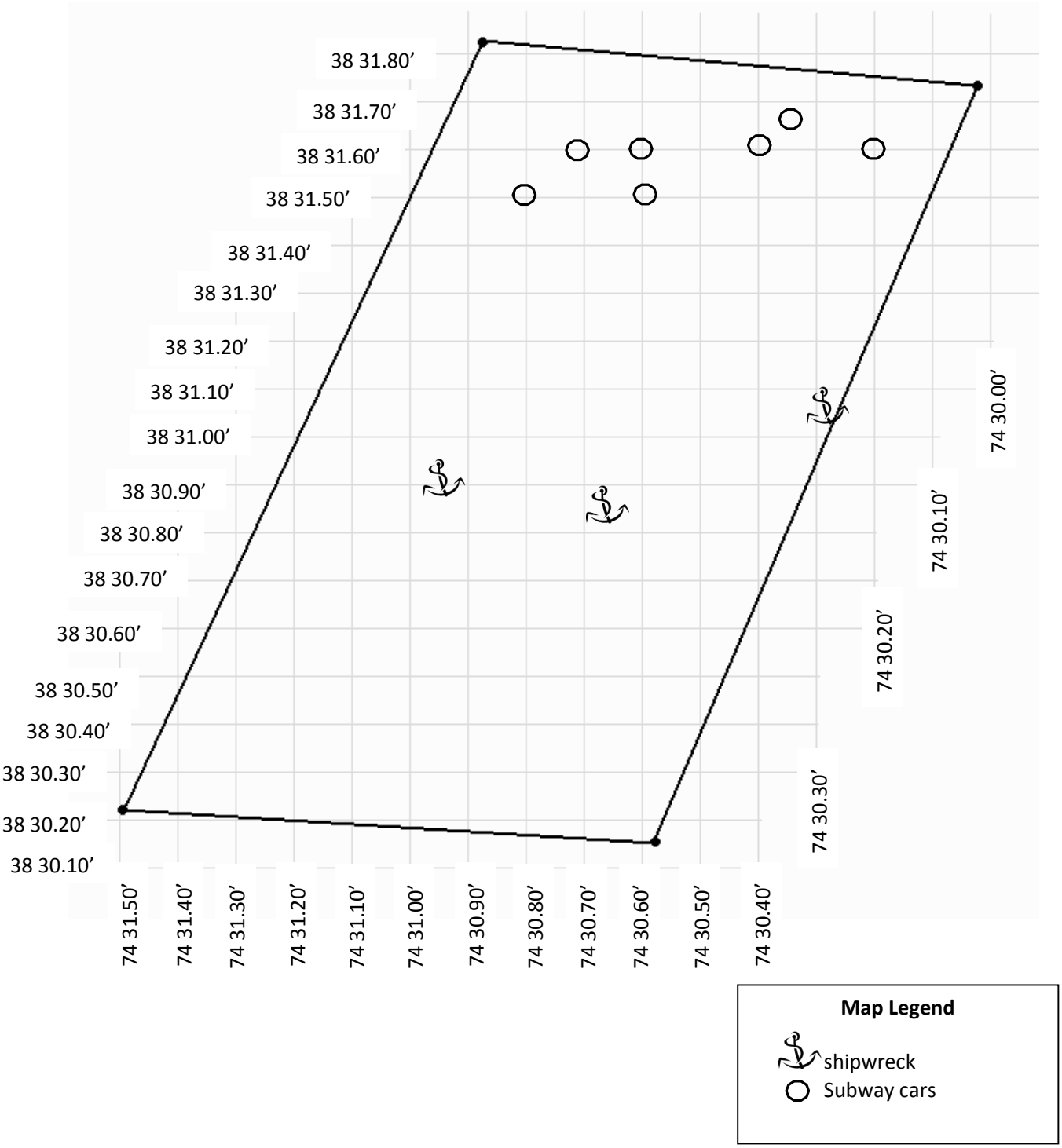
The USS Arthur W. Radford, a retired 563 foot NAVY destroyer ship, was sunk August 10, 2011, in 134 feet of water. Shortly after sinking, Hurricane Irene broke the vessel into three separate pieces that remain within a few hundred feet of each other.

N	38° 30.850
W	074° 30.656

Photo: Hugh Carberry

Photo: Z. Hense

Delaware Artificial Reef
Del-Jerseyland Inshore Distribution



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

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DIVISION OF FISH & WILDLIFE
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