

# VIRGINIA'S ARTIFICIAL REEF PROGRAM



fishermen have known for centuries that fish congregate around shipwrecks and natural anomalies on the bottom of coastal waters, such as oyster rocks, exposed bed rock and coral reefs.

This has resulted in attempts to artificially recreate these types of habitat in virtually every body of water in the world

Attempts to replicate productive, natural fish habitat have led to the use of a variety of materials, from U. S. Army tanks and Christmas trees to derelict automobiles and their tires. A variety of ships and even some kitchen sinks have been sunk by enterprising reef builders. Some materials have worked well, while others seemed to disappear with the tide.

All of these efforts were attempts to create artificial reefs, which are man-made or natural materials intentionally placed upon the bottom of marine or freshwater environments to provide habitat for fish.

Virginia now has one of most extensive artificial reef systems in the country, and is the envy of many other states.

Many of these popular and successful fish magnets have been expanded in recent years, and new reefs have been created. Almost two dozen now are scattered through the Chesapeake Bay and off the state's coastline.

Side scan sonar displays of many of the reefs are now available on the Virginia Marine Resources Commission's website. To view the most up-to-date version, go to the Virginia Marine Resources Commission's homepage at [www.mrc.virginia.gov](http://www.mrc.virginia.gov). Locate "search this site," enter artificial reef, and click enter.

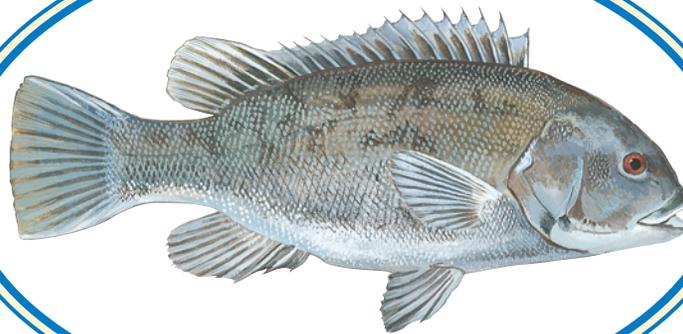
## HOW REEFS WORK

A great portion of the bottom in coastal waters and the Chesapeake Bay consists of soft mud or shifting sand. This relatively stark, featureless environment offers little attraction for many types of marine life. Natural and artificial reef areas provide places for a variety of marine life to live and food to eat.

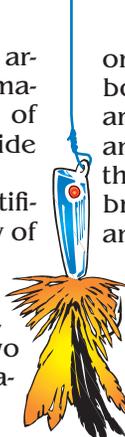
The surface area, or hard substrate, of an artificial reef provides a place for encrusting organisms such as barnacles, mussels and tube worms to thrive. These sessile

organisms are unable to live on soft or shifting bottom but by attaching to hard surfaces they are able to feed effectively by filtering plankton and other small organisms from the water. Once this initial "fouling" community is established a broader assortment of crustaceans, such as crabs and shrimp, and soft-bodied organisms, such as worms, appear. Then, the "food chain" continues to expand with the appearance of predators like tautog, which feed on crabs and mussels, and sea bass, which feed on crabs and shrimp.

Artificial reefs provide shelter for a variety of marine organisms. Fish and crabs seek out the



TAUTOG



Predators, possibly attracted by the abundance of food and the sense of protection afforded by reefs, are always present.

nooks and crannies in artificial reefs to hide from predators. Fish use the larger interior areas of the structure to get away from wave action and currents, enabling them to expend less energy. Deflected currents and eddies carry food to fish waiting to ambush an easy meal, just as the currents carried plankton and other small organisms to the initially encrusting community.

Many reef dwelling fish appear to prefer low profile structures with numerous cavities. Tautog and sea bass are good local examples and often comprise a significant portion of the fish inside Virginia's artificial reef structures. Tautog are known to nestle into holes or cavities in or between structures for extended periods of time.

Other species of fish, although not considered reef dwellers, will orient to artificial reefs. Schooling baitfish, such as anchovy, silverside, scad and menhaden, are attracted to high profile structures. These larger structures, such as shipwrecks, towers and bridges, may offer a point of reference in an otherwise featureless environment and some level of protection in their shadows.

Predators, possibly attracted by the abundance of food and the sense of protection afforded by reefs, are always present. Amberjack, bluefish, king and Spanish mackerel, cobia, striped bass, and sharks are some of the species found around coastal and Chesapeake Bay reefs.

## BUILDING ARTIFICIAL REEFS

The Artificial Reef Program, which is managed by the Virginia Marine Resources Commission, traces its roots back more than 40 years. In the 1950's recreational fishermen spearheaded efforts resulting in the sinking of automobile bodies, tires and over 100 surplus U.S. Navy landing craft and pontoon barge sections off Virginia Beach.

The Commission became formally involved in reef building as the authorized recipient of six World War II Liberty ships in the early 1970's. These were scrapped and cleaned to U.S. Coast Guard and Army Corps of Engineers requirements, with great care taken to remove all oil and fuel residue. All six vessels were sunk in offshore waters to form the popular Triangle Reef off Virginia Beach and the Parramore Reef off Wachapreague.

During the 1970's and early 1980's, the Artificial Reef Program primarily used "materials of opportunity" to create artificial reefs. Concrete pipe, ships, and automobile tires were used most often. In addition to simple deployments, attempts were made to use these materials to develop structures that provided stability, durability and a maximum amount of surface area and interior space. For example, tires were split and sunk vertically into concrete bases and concrete pipe was bundled into pyramids.

All of the reef materials used by the Artificial Reef Program are placed upon permitted sites

and meet rigorous state and federal environmental standards. An artificial reef advisory committee provides VMRC with direct angler input on reef location, construction and augmentation efforts.

## LOCATING ARTIFICIAL REEFS

Loran and Lat/Long coordinates are provided here for the major structures at each reef site. It is a good idea to remember there is some variation among Loran and GPS units, so coordinates seldom match exactly. A good way to locate a particular reef structure is to steer to the published coordinates for the structure and drop a small buoy. Then, run a circular or grid pattern around the buoy until the structure appears on a depth sounder. A second buoy can be deployed directly over the structure, and the exact coordinates for your specific unit should be recorded.

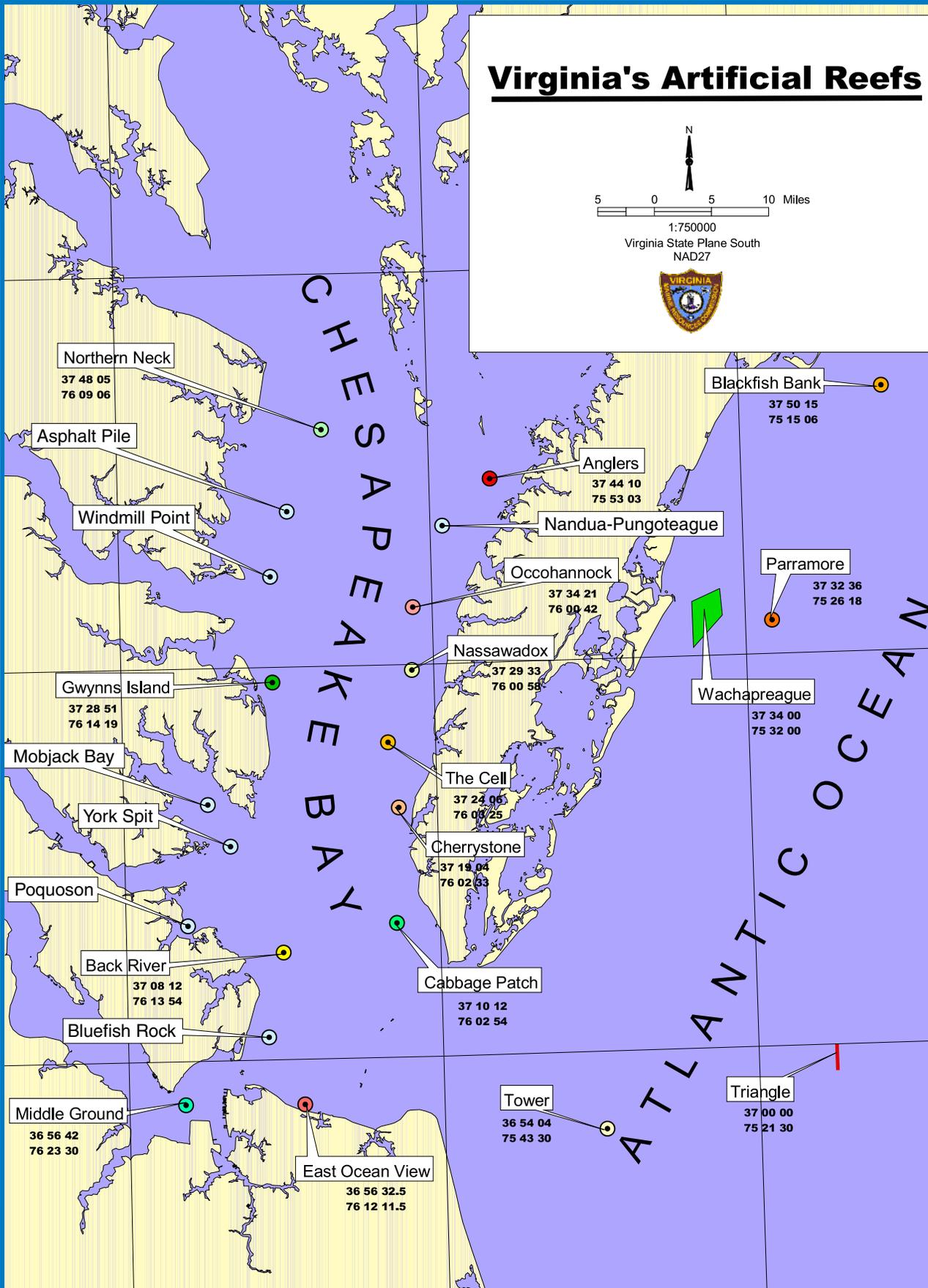
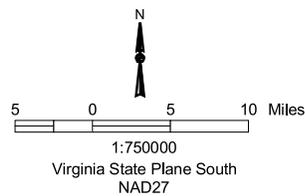
Yellow buoys designate the locations of all permitted reefs in the Artificial Reef Program. However, these buoys may not be stationed directly over any structure. Buoys may be stationed in the center or on the perimeter of a reef site, or within a short distance of the published Loran coordinates for structures on the reef site.

Storms, collisions and vandalism can cause the yellow buoys to be moved from their intended locations. Buoy status reports are available from the Artificial Reef Program office. If a yellow reef buoy is missing from a reef site, or appears to be improperly located, contact the Artificial Reef Program so corrective measures can be taken. The program address and phone number follow:

**Virginia Marine Resources Commission  
Artificial Reef Program, Third Floor  
2600 Washington Ave.  
Newport News, VA 23607  
(757) 247-2263**



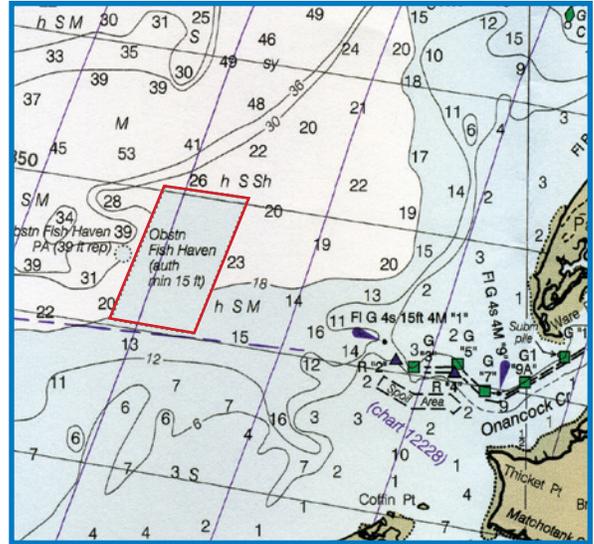
# Virginia's Artificial Reefs



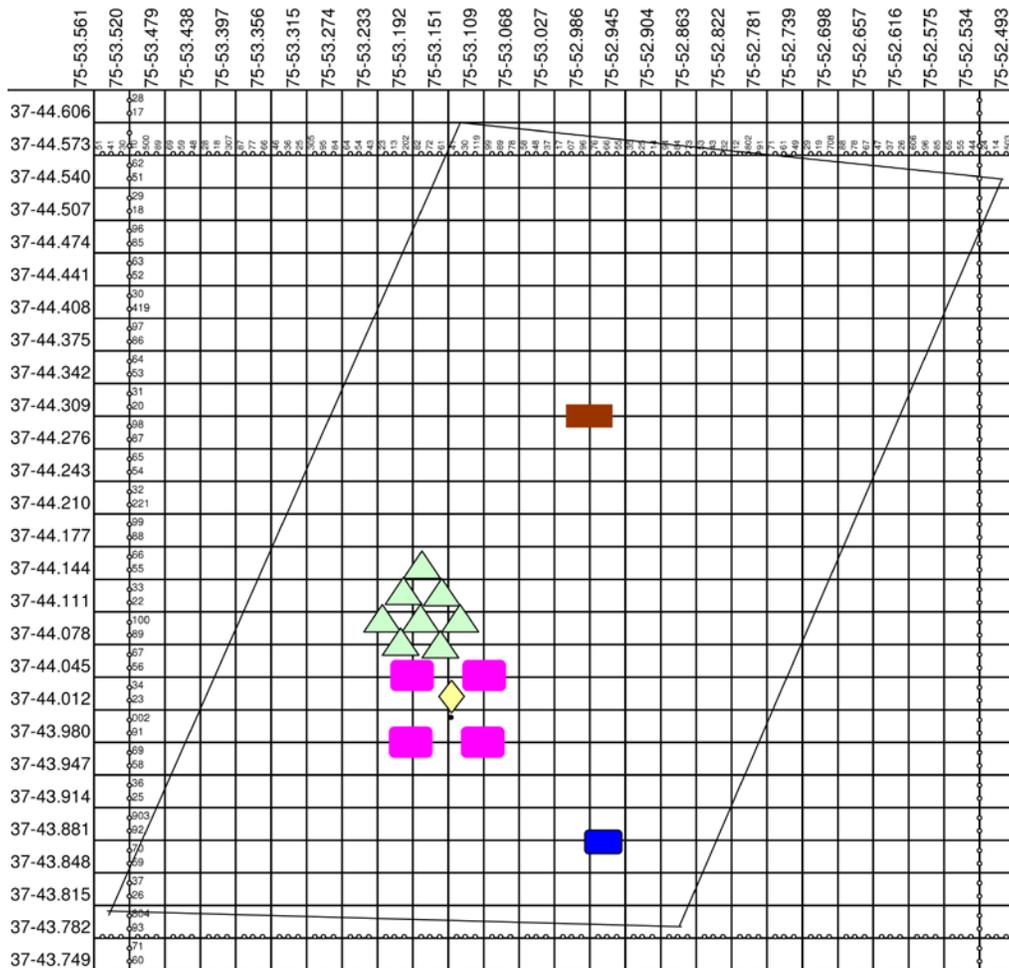
## ANGLERS REEF

Anglers Reef is located 2.5 nautical miles WNW of the entrance to Onancock Creek. The shape of the site is a parallelogram with the perimeter defined by loran lines.

Four 450 ton deployments of concrete pipe are located at the NW, NE, SW, and SE quadrants approximately 200 feet from the yellow VMRC buoy designated "A". More than 1600 concrete tetrahedrons are deployed in a 600 ft. circular pattern NW of the buoy, and a 35 foot x 90 foot barge is to the northeast. In 2006, 2000 tons of cylinder pile, block and bridge sections were deployed to the SE. This deployment was paid for with saltwater fishing license revenue. **Actual reef site is northwest of the charted fish haven area.**



NOAA Chart 12210



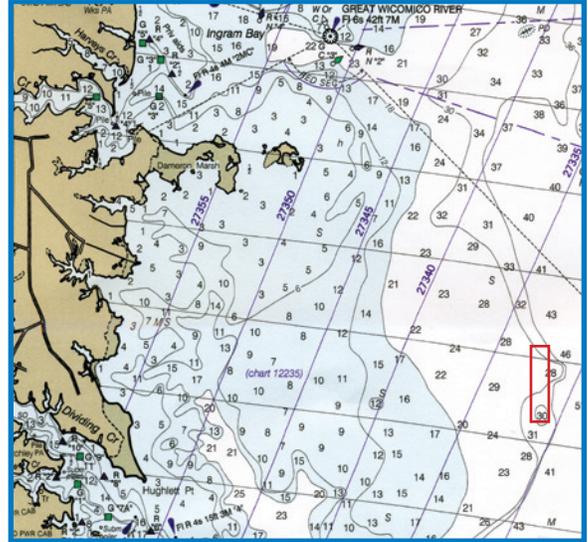
- Barge
- Buoy
- Pipe
- Bridge Sections
- Tetrahedrons

**Angler's Artificial Reef 08/28/06**  
 Grid approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

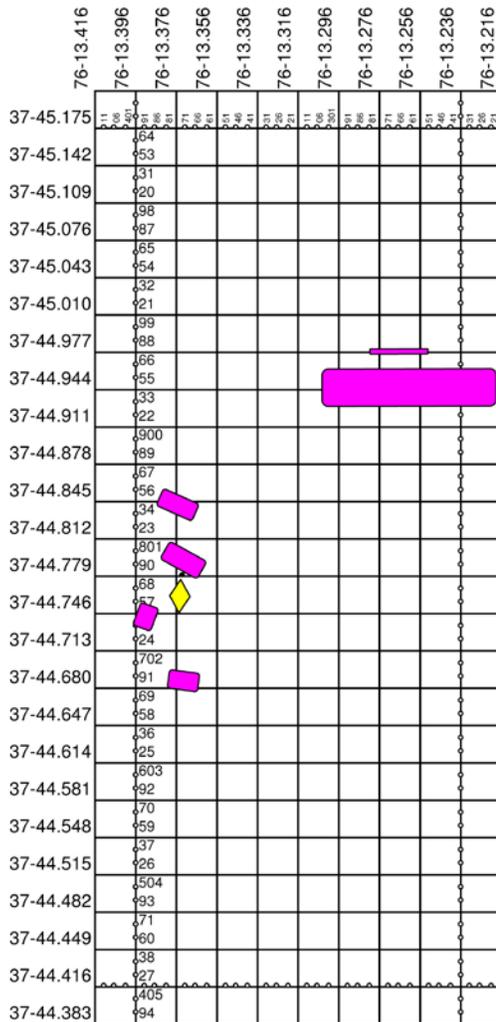
## ASPHALT PILE REEF

This artificial reef was constructed in 2001. It is a 300 yard wide by 1600 yard long rectangle, located 4 nautical miles SSE of the entrance to the Great Wicomico River.

This artificial reef was constructed as a result of the effort of the Northern Neck Charter Boat Association. The concrete pipe at this site was donated and the deployment of this pipe was paid for with saltwater fishing license revenue. The center of this site is marked with a yellow VMRC buoy designated "AP".



NOAA Chart 12225



 Buoy  
 Pipe



Pipe being lowered to form an artificial fishing reef.



Reef Balls manufactured for artificial fishing reef deployment.

To maximize the benefit of Saltwater Fishing License revenue the Commonwealth of Virginia accepts donated materials in addition to purchasing specially fabricated structures for Virginia's sport fishing community.

**Asphalt Pile Artificial Reef 12/18/07**  
 Grid approximately 190 Ft. centers  
 Authorized clearance 15 Ft. MLW

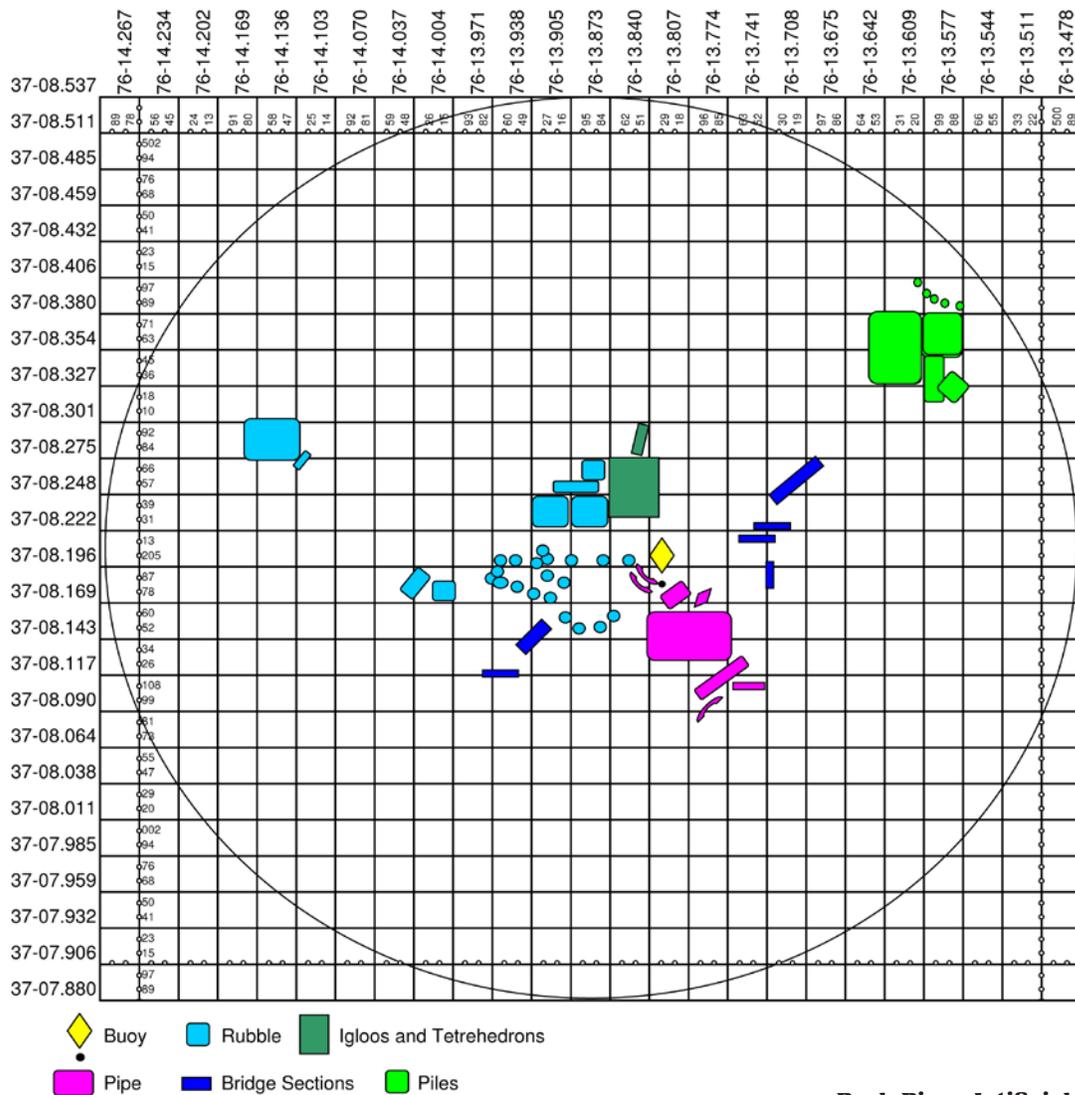
## BACK RIVER REEF

This is a circular reef site located 3 nautical miles E of Plumtree Point between Back River and the Poquoson River.

When this reef was established, forty concrete igloos were placed on the bottom 50 ft. apart in an "X" shaped pattern. This pattern was filled in with concrete tetrahedrons placed along each side of the NE and NW legs while concrete pipe and girders augment the SE and SW legs. In 2005, 2400 tons of concrete bridge sections and piles were added to the existing concrete pier rubble and pipe previously distributed on this site. The center of this reef is marked with a yellow VMRC buoy designated "BR".



NOAA Chart 12221



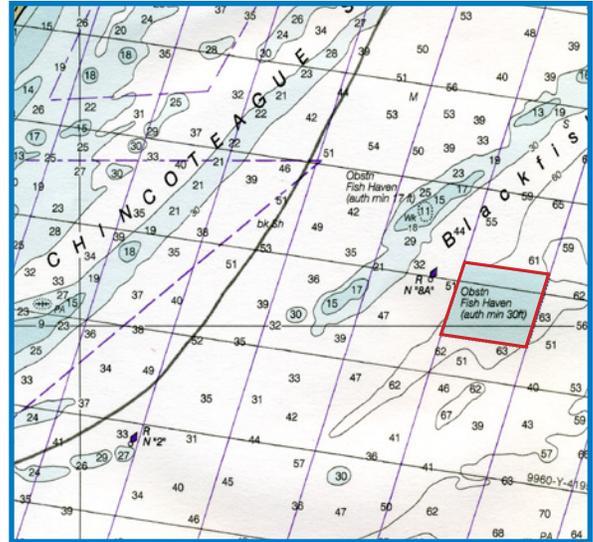
- ◆ Buoy
- Rubble
- Igloos and Tetrehedrons
- Pipe
- Bridge Sections
- Piles

**Back River Artificial Reef 08/11/08**  
 Grid on 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

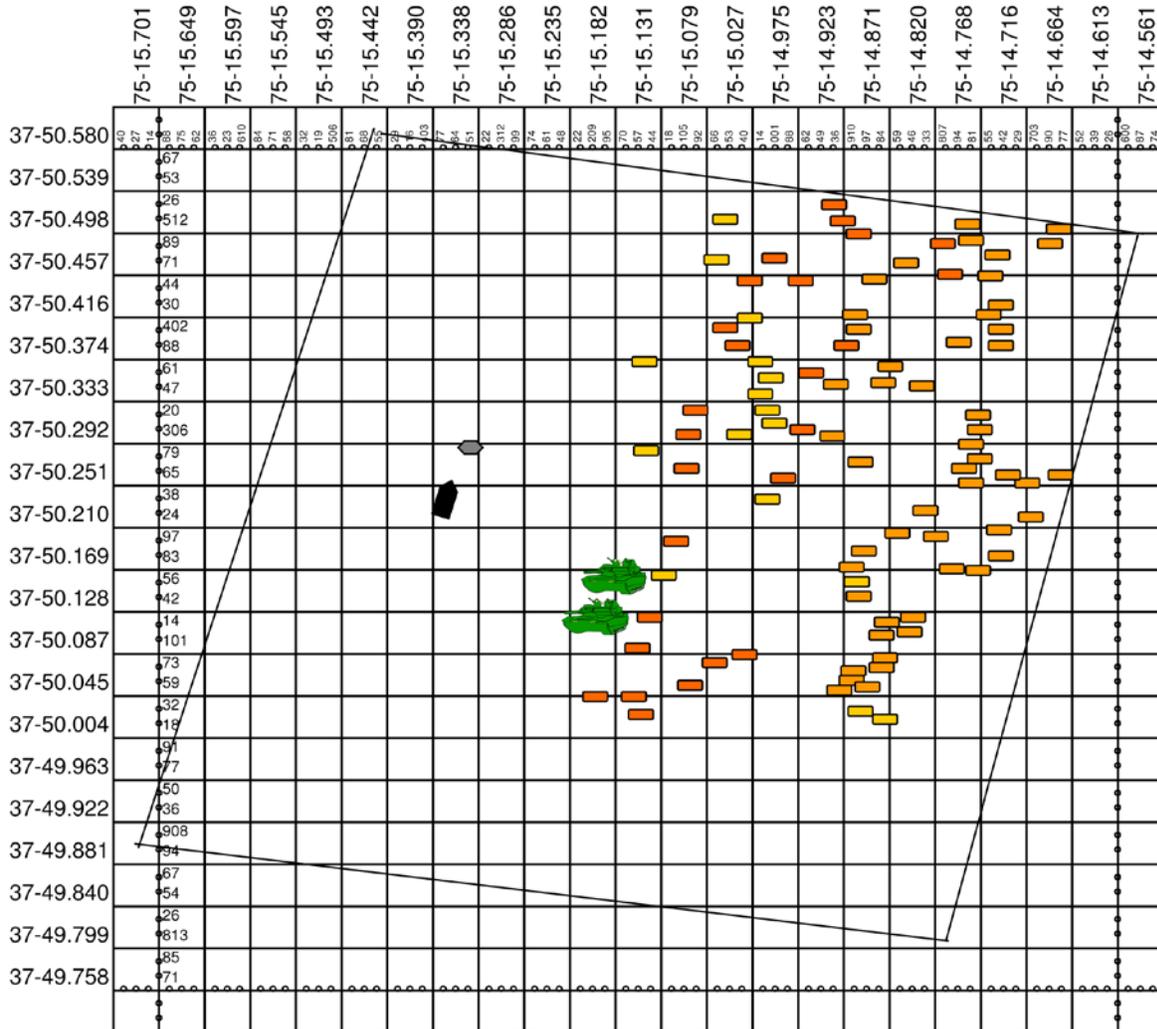
## BLACKFISH BANK REEF

This reef is located 5.8 nautical miles SE of Assateague Beach. The site is a 1300 yd. by 1600 yd. parallelogram with the perimeter defined by loran lines.

40 Armored personnel carriers were scattered at this site as part of "Operation Reef-Ex '98". The Army National Guard, Fort Dix, NJ prepared and transported the military vehicles. The deployment was accomplished as a joint effort with U.S. Naval Weapons Station, Colt's Neck, NJ, U.S. Army 24th Transportation Battalion, Fort Eustis, VA, and the U.S. Coast Guard, Chincoteague, VA participating. In 2003, 50 New York City MTA subway cars were added to the site, and in 2008 another 44 subway cars were added.



NOAA Chart 12210



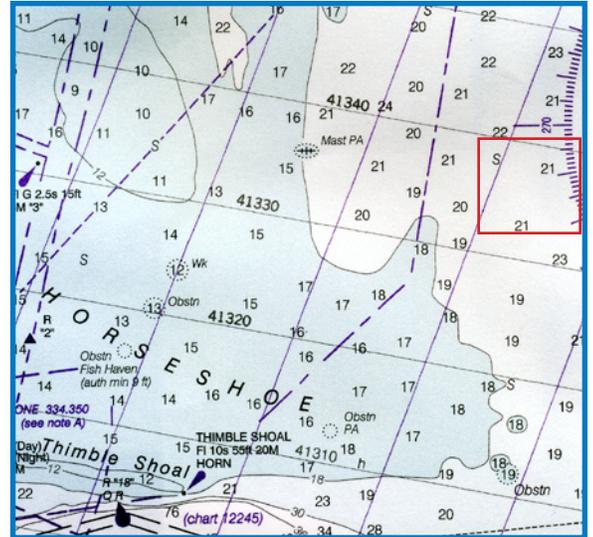
- Subway cars
- Vessel
- Military vehicles
- Unknown

**Blackfish Bank Artificial Reef 12/10/08**  
 Grid on 250 Ft. centers  
 Authorized clearance 30 Ft. MLW

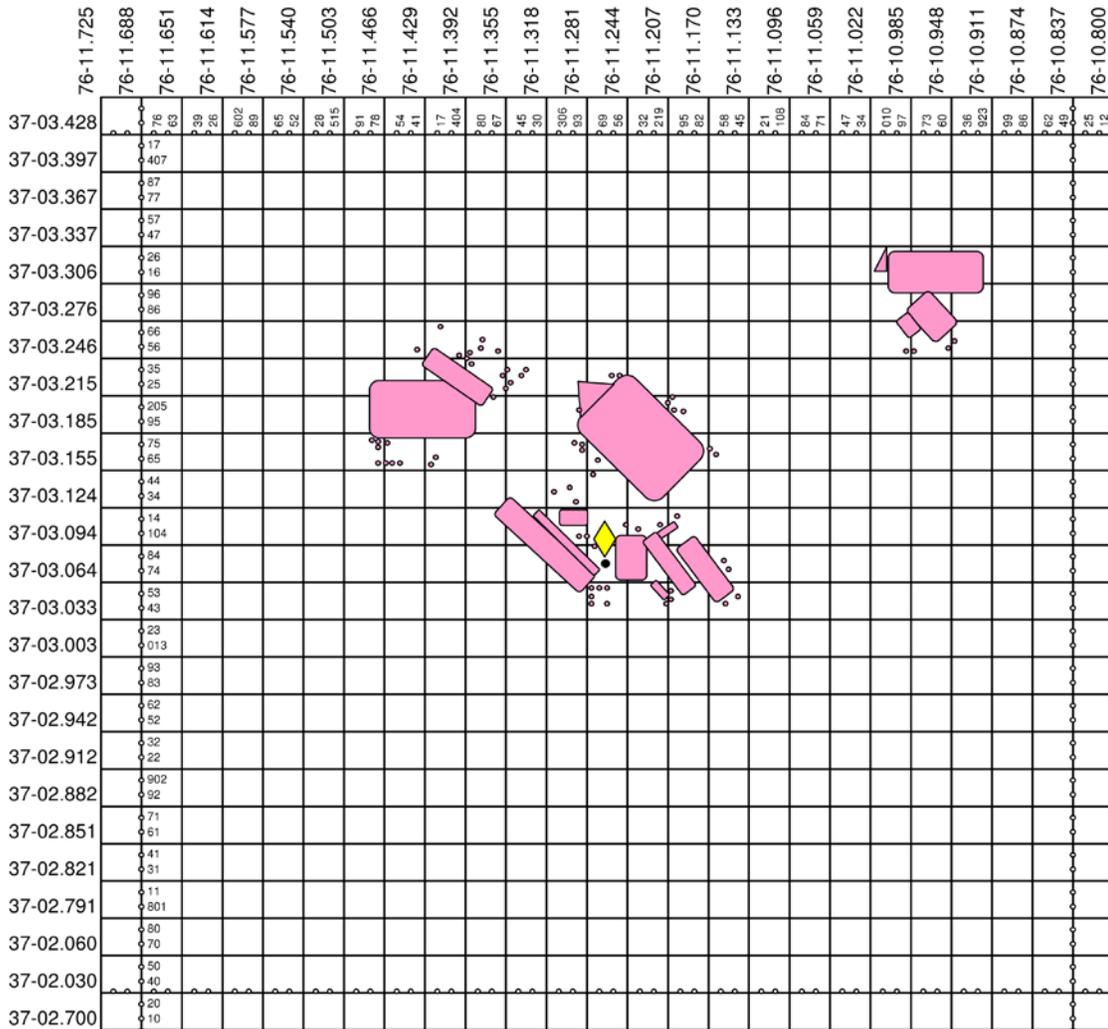
## BLUEFISH ROCK REEF

This Reef is located approximately 4½ nautical miles E of Buckroe Beach and Saltponds.

This reef was established in November of 2007, with a 1000 ton field of concrete pipe. Since that time, 8,218 tons of donated pipe have been deployed with saltwater fishing license revenue. The center of this reef is marked with a yellow VMRC buoy designated "BF".



NOAA Chart 12221



-  Buoy
-  Pipe

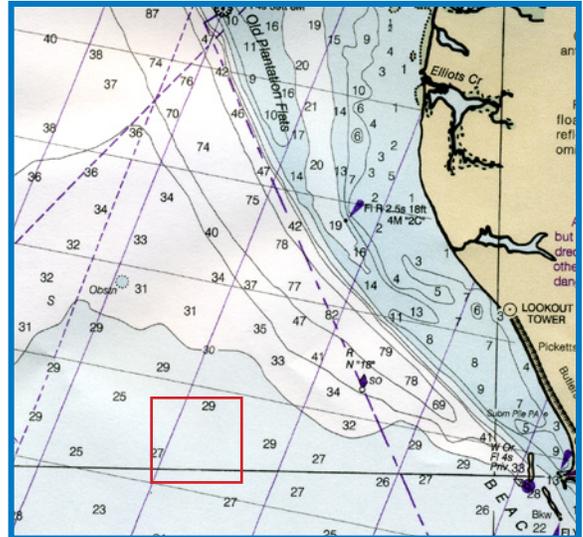
**Bluefish Rock Artificial Reef 01/07/09**  
 Grid approximately 200 ft. centers  
 Authorized clearance 15 Ft. MLW

## CABBAGE PATCH REEF

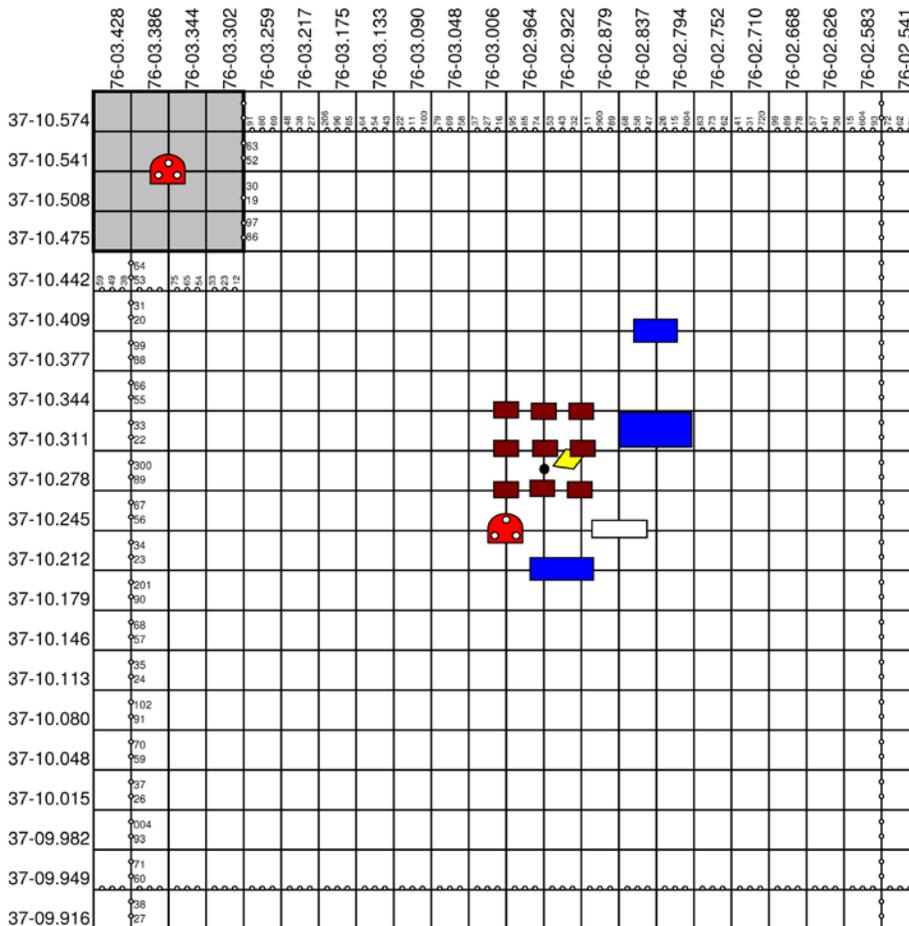
Constructed in October 2000, this square reef site is located 5.5 nautical miles SSW of the entrance to Cape Charles Harbor.

The reef includes a deployment of 36 double-T beams, 60 ft. long stacked to form a waffle shaped grid two beams high, 28 concrete slabs, 187 tons of concrete sinkers, and 1000 tons of concrete block. These deployments were paid for with saltwater fishing license revenue. 10 Reef Balls were constructed by the Girl Scouts of America with materials donated by, and placed on the reef site by Sea Search of Virginia. The northwest corner has been reserved as an Eternal Reef site.

This reef was constructed as the result of the effort by the Eastern Shore Chapter of the Coastal Conservation Association of Virginia. The center of the reef is marked with a yellow VMRC buoy designated "CP".



NOAA Chart 12221



- Eternal Reef
- Ddbl. T Sections
- Concrete Slabs
- Buoy
- Reef Balls



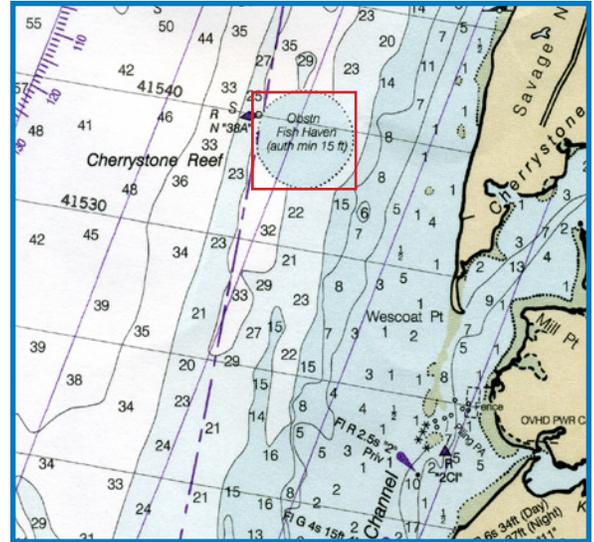
Reef material awaiting deployment.

**Cabbage Patch Artificial Reef 06/26/06**  
 Buoy Grid approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

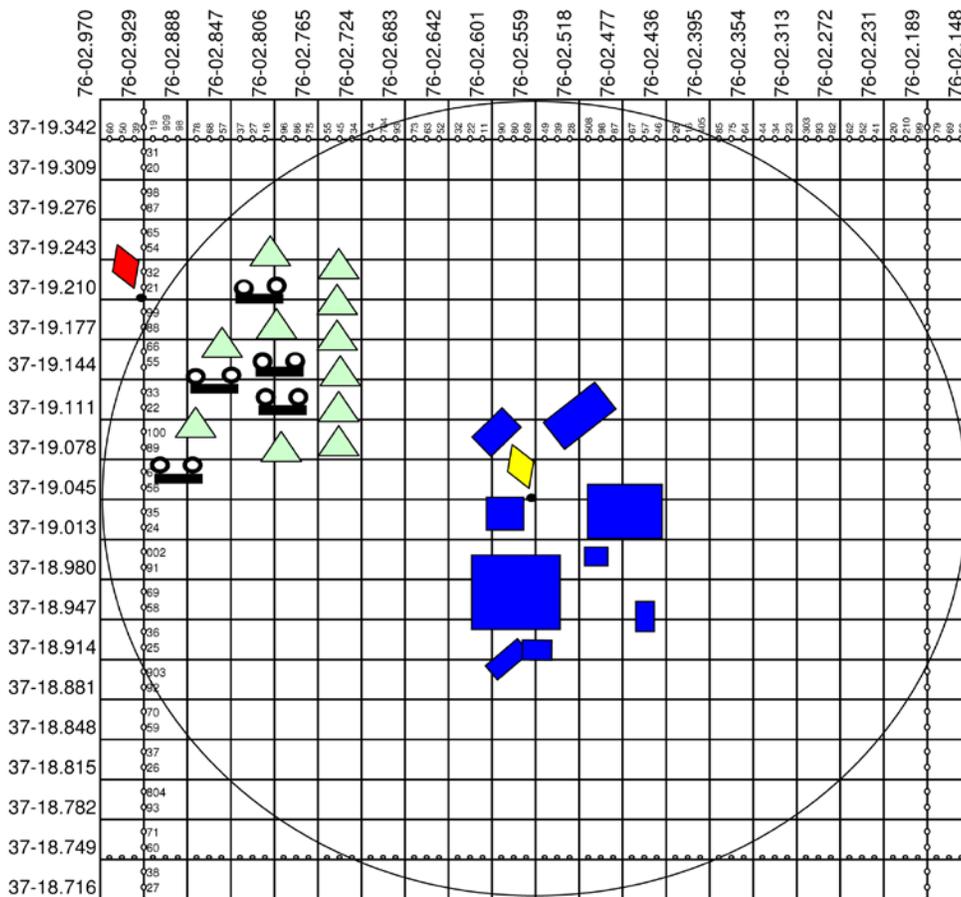
## CHERRYSTONE REEF

Cherrystone Reef was recently reconfigured to a square site and is located 1.8 nautical miles NNW of Cherrystone Creek, bayside, on the Eastern Shore .

Concrete igloos, stacks of concrete pipe, Chesapeake Bay Bridge Tunnel concrete deck sections, and over 2500 TICs have been scattered on this site. In 2006, 2000 tons of concrete block, donated by Bayshore Concrete Products, Inc., were added. The deployments on this site were paid for with saltwater fishing license revenue. A yellow VMRC buoy designated "CS" marks the site.



NOAA Chart 12221



-  Buoy
-  Buoy " 8" A
-  Tetrahedrons
-  Tires in concrete
-  Concrete slabs



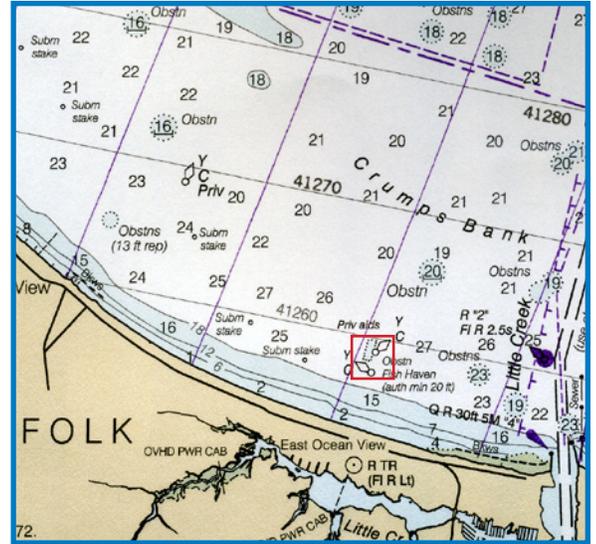
Concrete pipe loaded on barges for deployment.

**Cherrystone Artificial Reef 7/12/06**  
 Grid approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

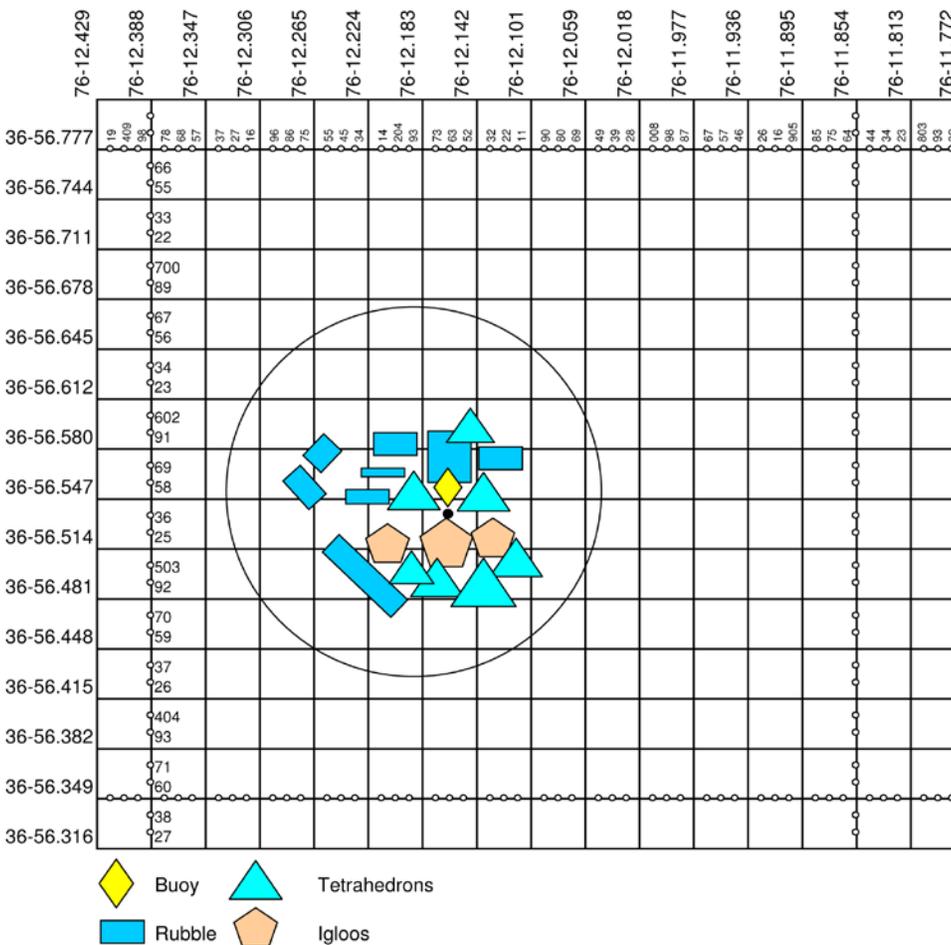
## EAST OCEANVIEW REEF

This reef, originally referred to as the ODU reef, is located 2500 yards west of the entrance to Little Creek Harbor, 900 yds off of the beach.

A yellow VMRC buoy designated "EO" marks the center of this site. 40 Concrete igloos, with concrete tetrahedrons scattered among them, are deployed south of the center. Donated concrete bridge rubble, pier sections and piling have been added more recently and are located to the north and west of the center of this site.



NOAA Chart 12221



The Tug J. B. Eskridge being laid to rest at Tower Artificial Reef.



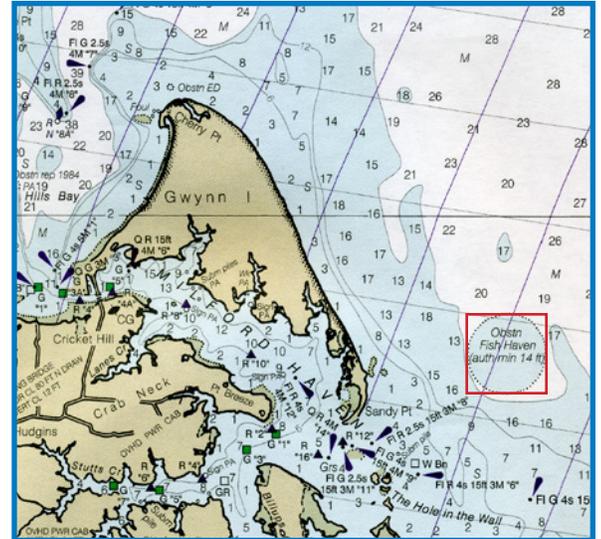
J. B. Eskridge

**East Ocean View Artificial Reef 02/07/08**  
 Grid approximately 200 Ft. centers  
 Authorized clearance 20 Ft. MLW

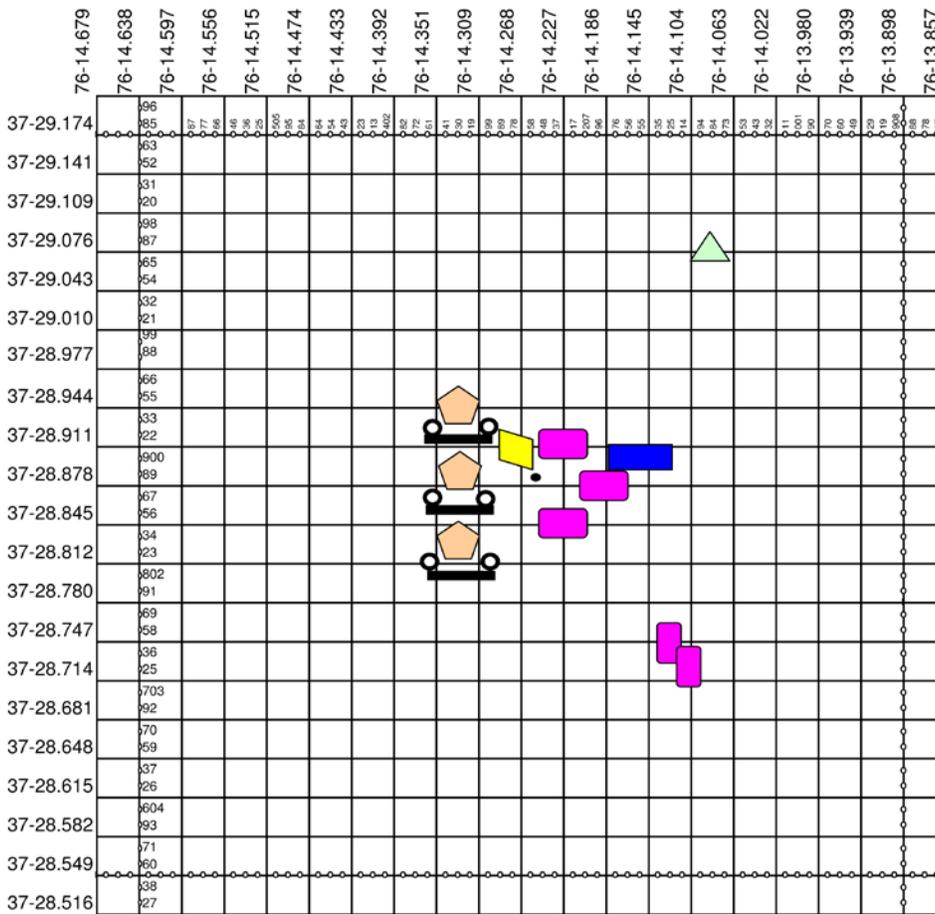
## GWYNN ISLAND REEF

Gwynn Island Reef was reconfigured to a square site located 1.35 nautical miles northeast of "Hole in the Wall".

The reef contains a variety of structures, including concrete igloos, stacked tire units, and TICs. McLean Contracting Company donated and deployed at no charge 3762 tons of concrete bridge decking. 1000 tons of concrete pipe was deployed with saltwater fishing license revenue. The center of this reef is marked with a yellow VMRC buoy designated "GI".



NOAA Chart 12225



- Buoy
- Tetrahedrons
- Pipe
- Tires in concrete
- Igloos
- Concrete slabs



Barge with pipe being loaded for reef deployment.



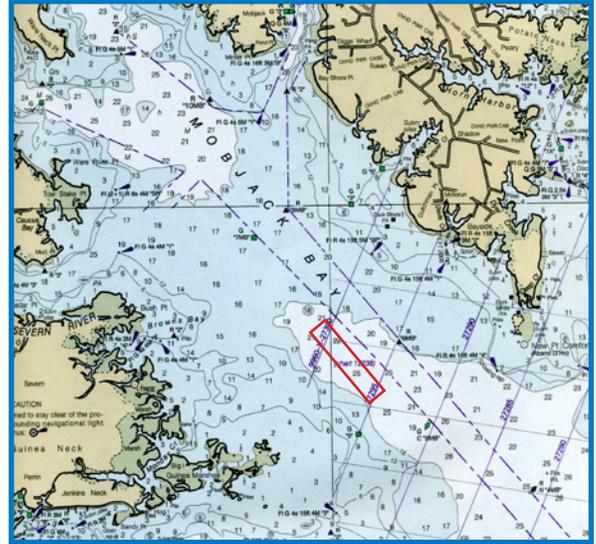
Prince of Peace being sunk on Parramore Reef.

**Gwynn Island Artificial Reef 3/15/05**  
Grid approximately 200 Ft. centers  
Authorized clearance 14 Ft. MLW

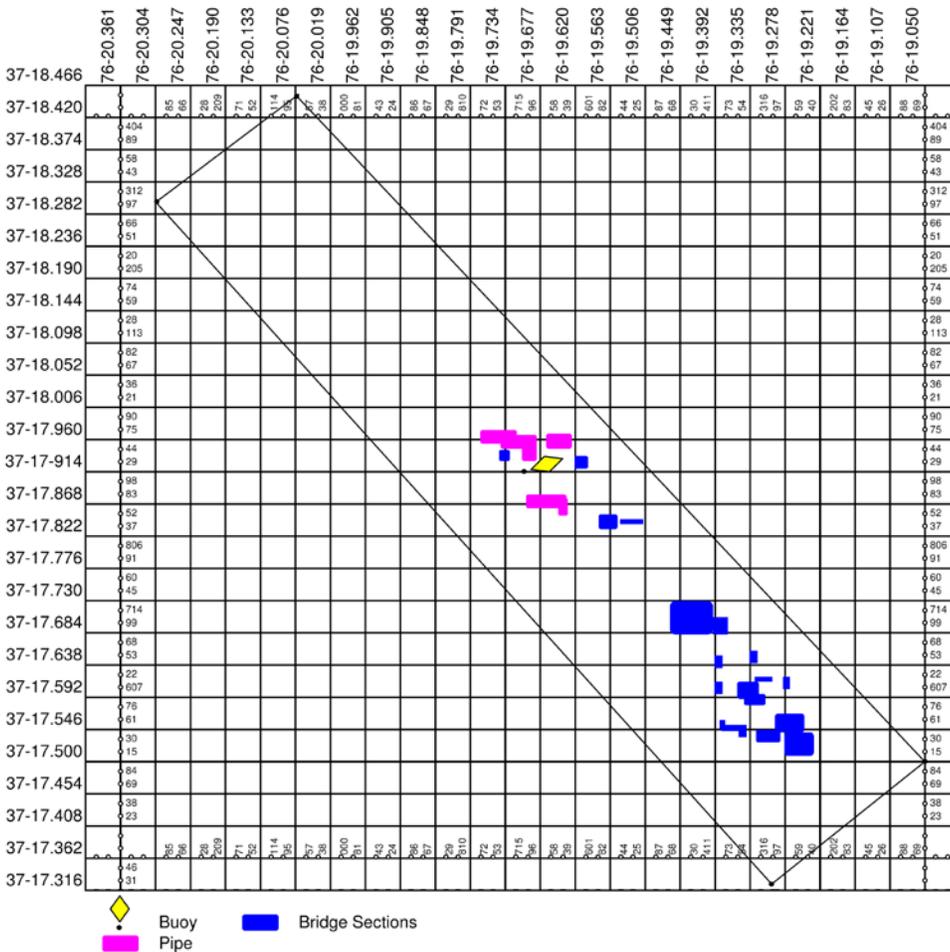
## MOBJACK BAY REEF

Mobjack Bay Reef is a rectangular shaped reef located outside of the channel, SW of Mobjack Bay Main Channel Buoy "6MB".

This site was constructed in July, 2006. The initial deployment of 1,250 tons of concrete pipe, placed near the center of the reef. Transportation and deployment costs were funded with saltwater fishing license revenue. Since 2006 an additional 8202 tons of bridge sections and rubble has been deployed. The center of this reef is marked with a yellow VMRC buoy designated "M".



NOAA Chart 12221



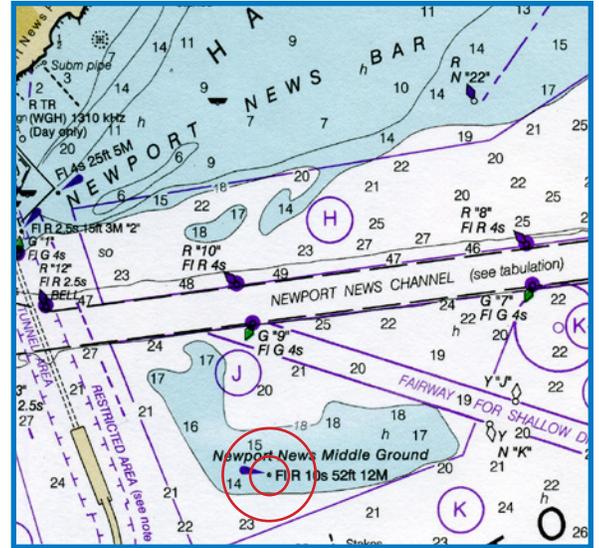
Bridge Section placement, Mobjack Bay Artificial Fishing Reef.

**Mobjack Bay Artificial Reef 01/02/08**  
 Grid on approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

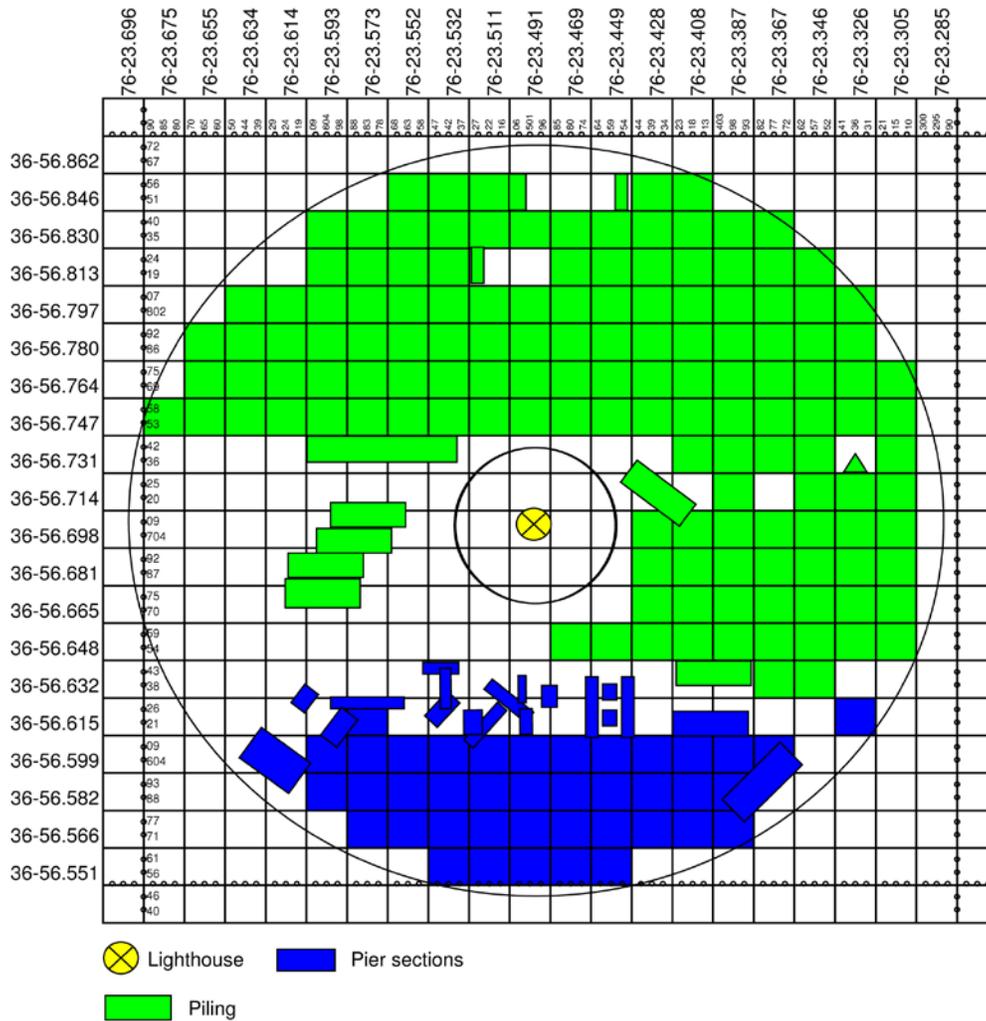
## NEWPORT NEWS MIDDLE GROUND REEF

This reef is located at the mouth of the James River around the Newport News Middle Ground Lighthouse.

The reef material forms a ring between 200 and 1000 feet around the light. Reef material includes Reef Balls, concrete rubble, buoy sinkers, piling and pier sections. This site is also a brood stock sanctuary providing seed clams for the lower James River. Groups instrumental in development of this reef include the Peninsula Chapter of the Coastal Conservation Association of Virginia, Magann Corporation, McLean Contracting, and Brawley Middle School, Charlottesville, VA.



NOAA Chart 12245



**Newport News Middle Ground 4/5/05**  
Grid on 200 Ft. center  
Authorized clearance 12 Ft. MLW

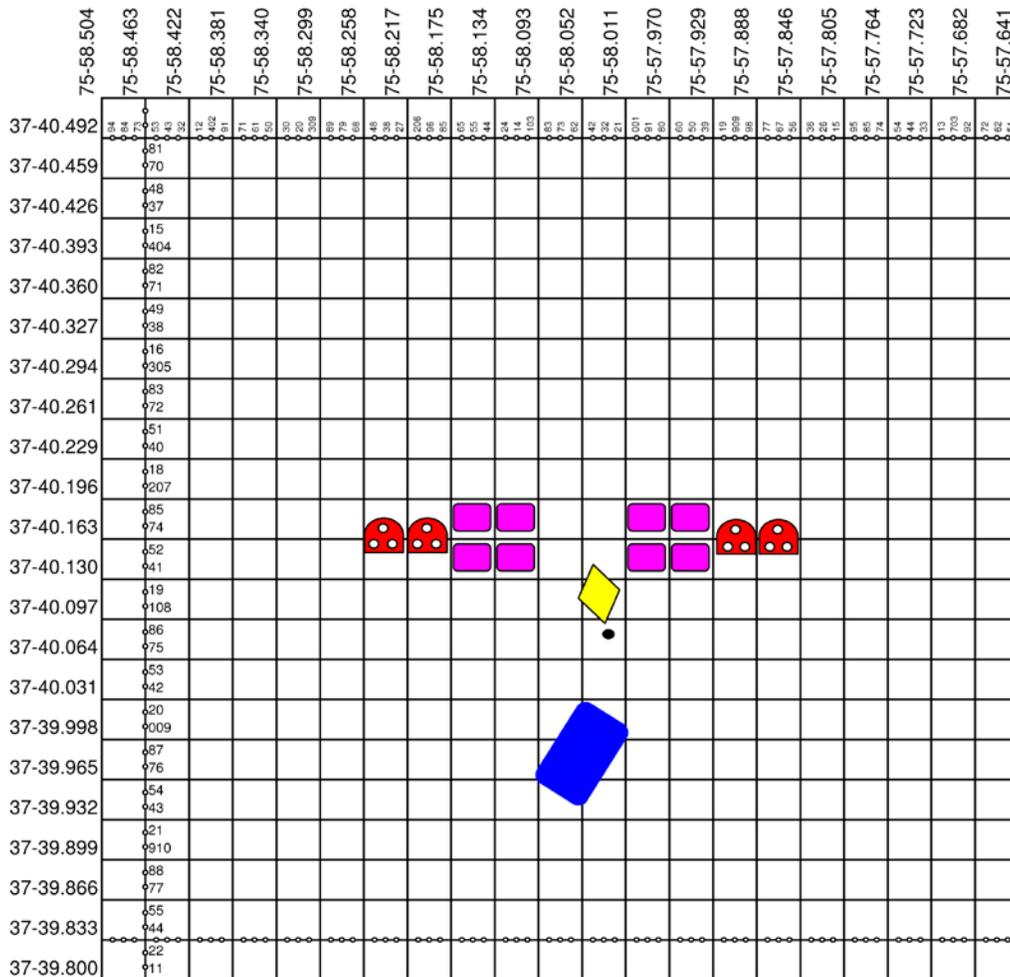
## NANDUA-PUNGOTEAGUE REEF

Nandua-Pungoteague Reef is located 3.3 NM ENE of the entrance to Pungoteague Creek.

This reef was created in August of 2004 with the purchase of 120 Reef Balls, and 1005 tons of donated concrete pipe. In 2006, 2000 tons of cylinder pile, concrete block and bridge sections were donated and added to the site. Each of these deployments was funded with saltwater fishing license revenue. The center of this reef is marked with a yellow "VMRC" buoy designated "NP".



NOAA Chart 12225



-  Buoy
-  Reef Balls
-  Pipe
-  Bridge Sections

**Nandua-Pungoteague Artificial Reef 08/18/06**  
 Grid approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

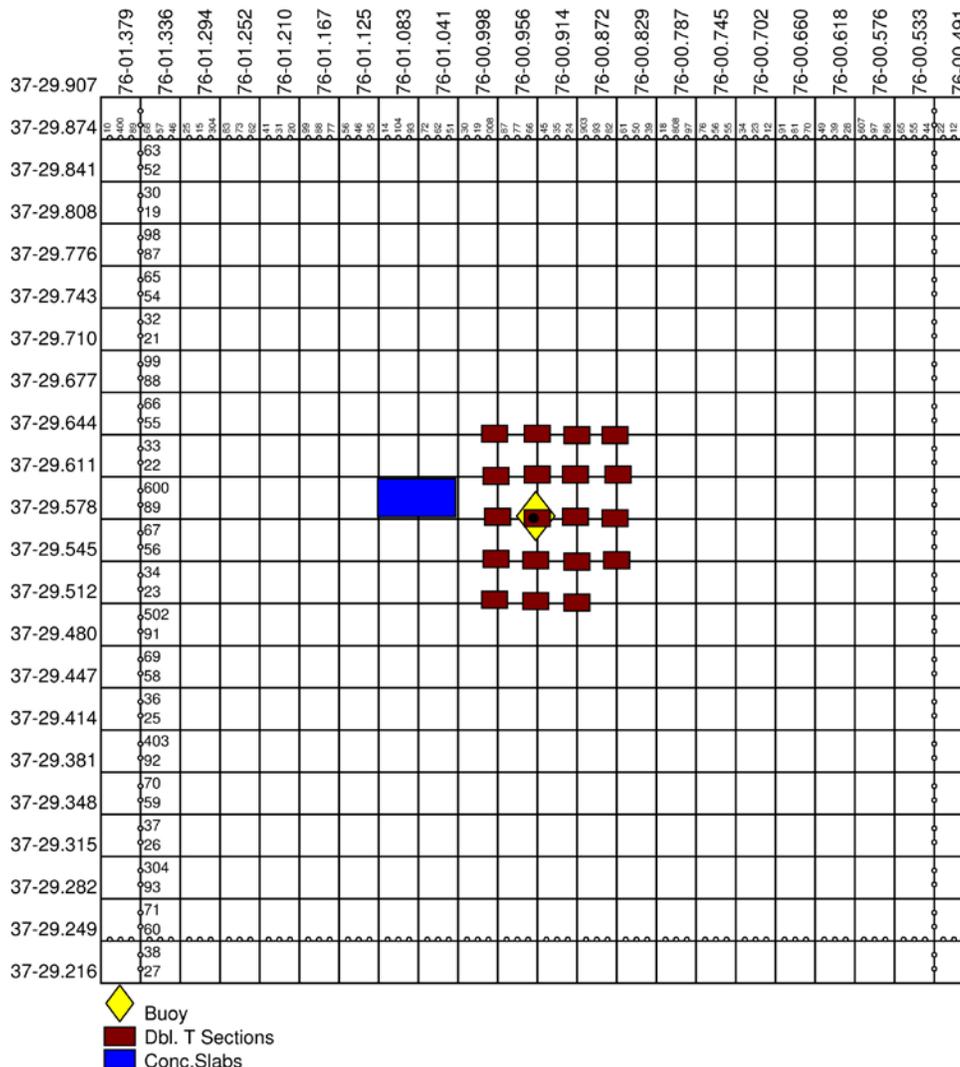
## NASSAWADOX REEF

Constructed in November 2000, This reef is located 2.6 nautical miles NW of the entrance to Nassawadox Creek bayside of the Eastern Shore. The permitted site is square and had an initial deployment of 76 double T-beams 60 ft. long stacked to form a waffle shaped grid two beams high. In 2006, 1000 tons donated concrete block was added. Both of these deployments were funded using saltwater fishing license revenue.

This reef was constructed as a result of the effort of the Eastern Shore chapter of the Coastal Conservation Association of Virginia. The center of this reef is marked with a yellow VMRC buoy designated "N".



NOAA Chart 12225

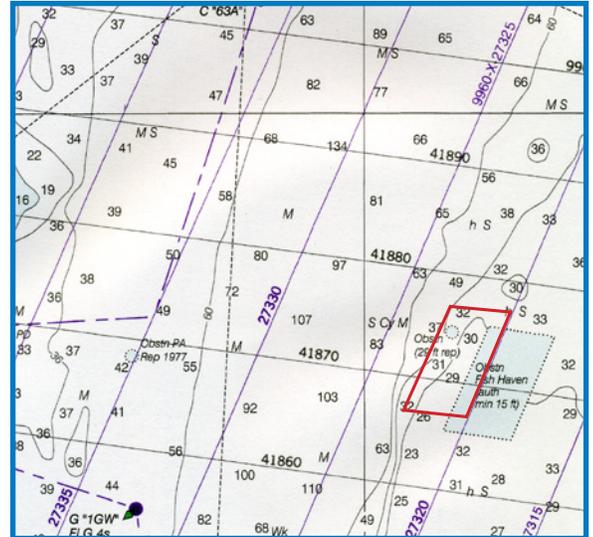


**Nassawadox Artificial Reef 6/26/06**  
 Sections Grid approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

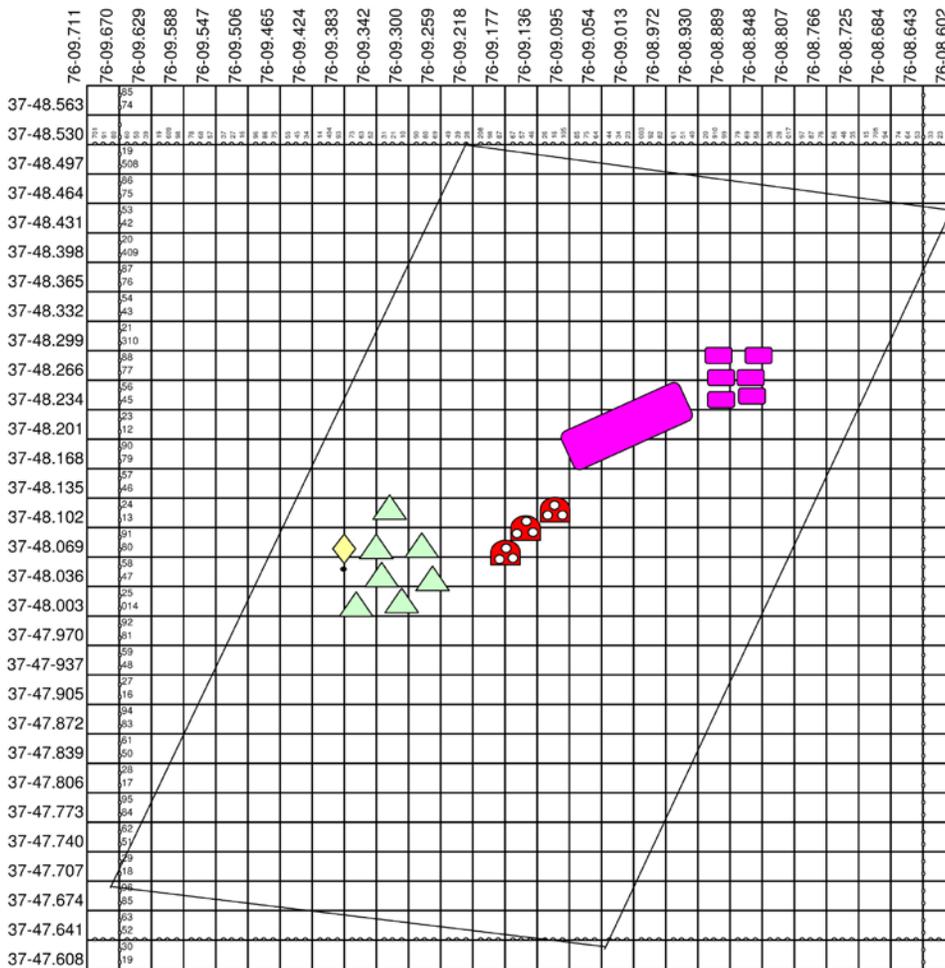
## NORTHERN NECK REEF

This reef is located 7 nautical miles E of the Great Wicomico River Light. The shape of the site is a parallelogram with the perimeter defined by loran lines.

More than 1600 concrete tetrahedrons have been deployed in a circular pattern forming a 200 foot wide band 100 feet from the yellow VMRC buoy designated "NN". In October, 2001, 1000 tons of concrete pipe was added to the site. Deployment of the pipe was funded with saltwater fishing license revenue. **Actual reef site is northwest of charted fish haven area.**



NOAA Chart 12225



- Pipe
- Buoy
- Tetrahedrons
- Reef Balls



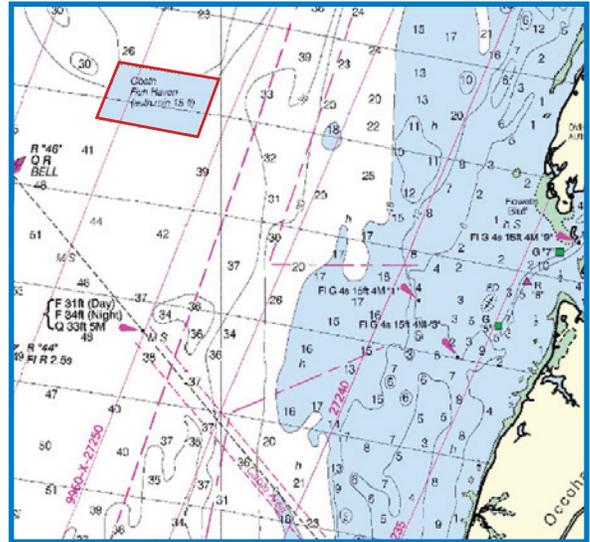
Northern Neck deployment  
November 2007

**Northern Neck Artificial Reef 03/11/08**  
Grid approximately 200 Ft. centers  
Authorized clearance 20 Ft. MLW

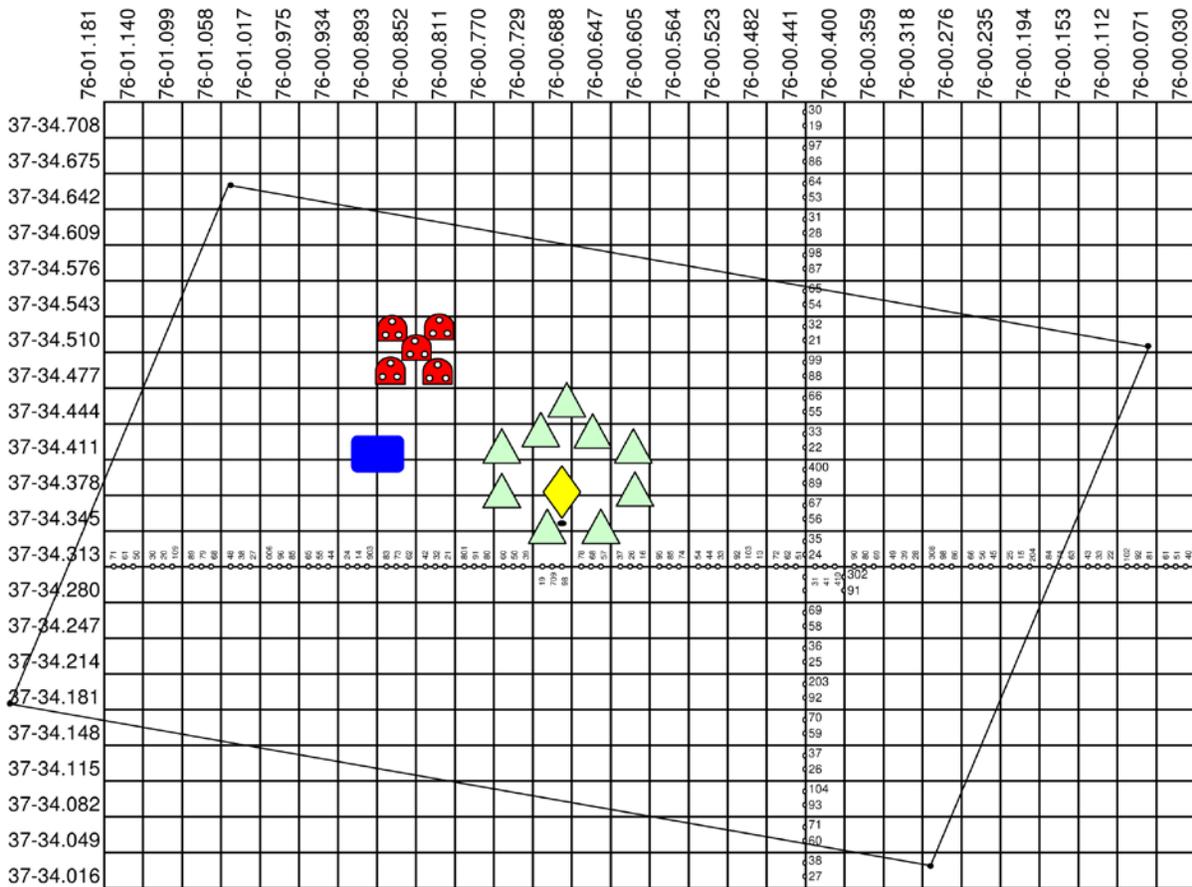
## OCCOHANNOCK REEF

Occohannock Reef is located 4 nautical miles WNW of the entrance to Occohannock Creek, bayside of the Eastern Shore. The shape of the reef is a parallelogram defined by loran lines.

A yellow VMRC buoy designated "O" marks the reef and the center of a deployment of 1200 concrete tetrahedrons. Additions to the reef include a 2004 purchase and deployment of 120 Reef Balls, and a 2006 deployment of 2000 tons of concrete block and bridge pieces. Each of these deployments were funded with saltwater fishing license revenue.



NOAA Chart 12225



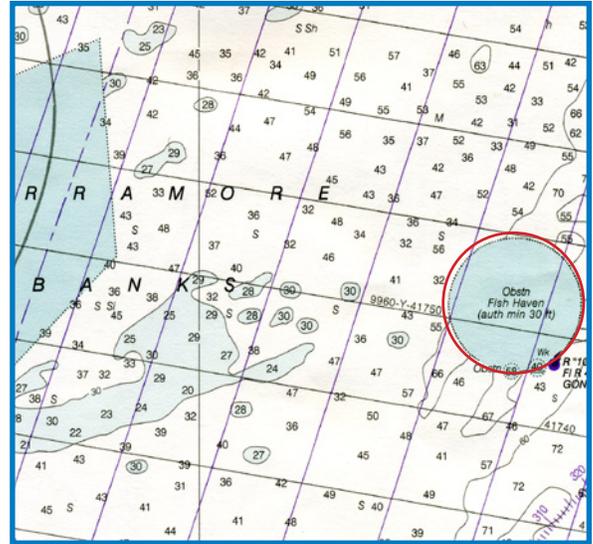
- ◆ Buoy
- ▲ Tetrahedrons
- Reef Balls
- Concrete Block

**Occohannock Artificial Reef 08/29/06**  
 Grid approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

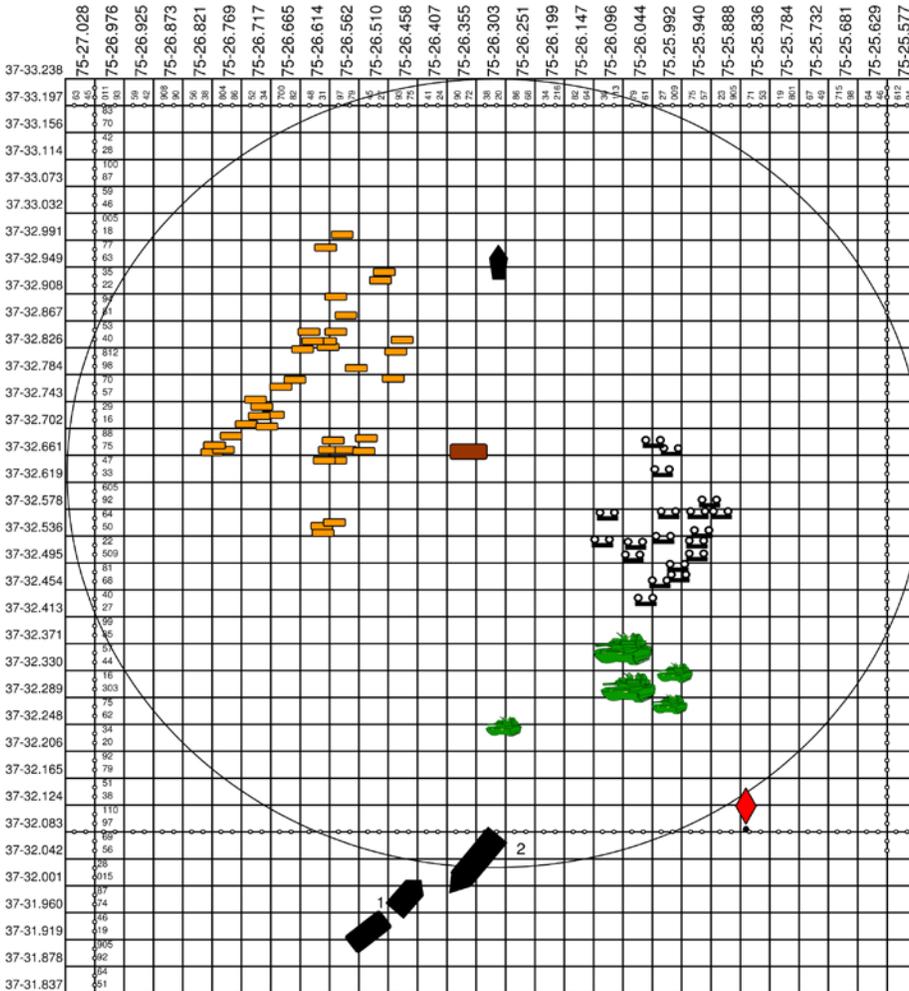
## PARRAMORE REEF

This reef is located 8.4 nautical miles east of the Parramore Beach cupola.

Two liberty ships are the main structure on this site. They were acquired and sunk through the efforts of the Seaside Sport Fishing Improvement Association which held the original permit for this site. A 90 Ft. USCG barge and the F/V "Prince of Peace", 50 subway cars and various military vehicles are also located on this site. Tires in concrete surround the center of this reef.



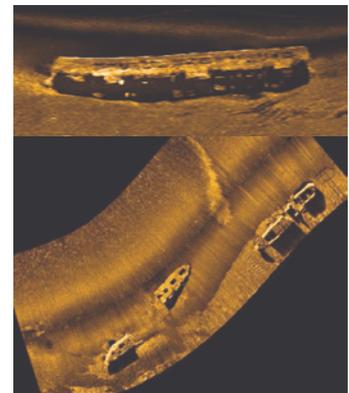
NOAA Chart 12210



- ◆ Buoy "10"
- ▭ Subway cars
- ▲ "Prince of Peace"
- Military vehicles
- ▭ Barge
- Tires in concrete
- 1 USNS Mona Isle
- 2 USNS Page



Subway cars deployed at Tower, Parramore and Blackfish Bank Artificial Reefs.



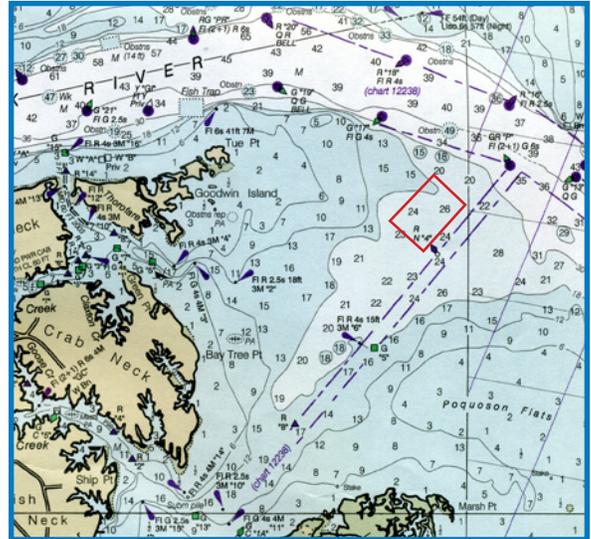
Side-scan image of subway car (top) and image of Liberty ships.

**Parramore Artificial Reef 07/11/08**  
 Grid approximately 250 Ft. centers  
 Authorized clearance 30 Ft. MLW

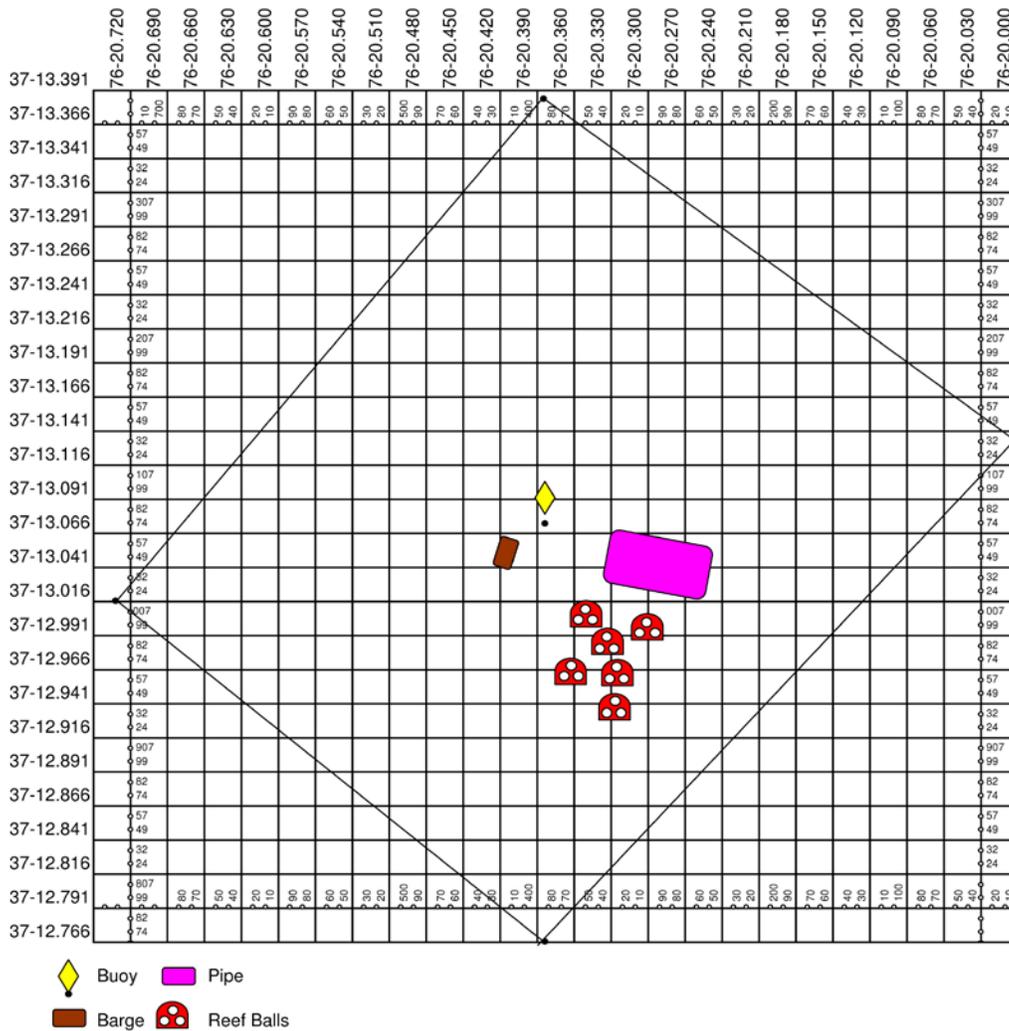
## POQUOSON REEF

This Reef is located approximately 2½ nautical miles E of the Goodwin Islands and northwest of Poquoson River channel buoy “4”. The shape of this reef is a rectangle, which runs parallel to the Poquoson River channel.

This reef was established in July 2007. The reef has an initial deployment of a 150 ton pontoon barge and was augmented with a 1000 ton field of concrete pipe and 210 reef balls in 2008. The center of this reef is marked with a yellow VMRC buoy designated “PQ”.



NOAA Chart 12221



Poquoson Artificial Reef 03/11/08

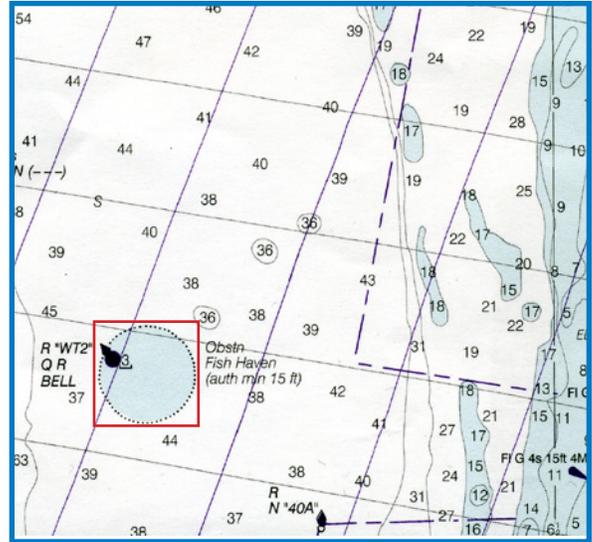
Grid on 200 Ft. centers

Authorized clearance 12 Ft. MLW

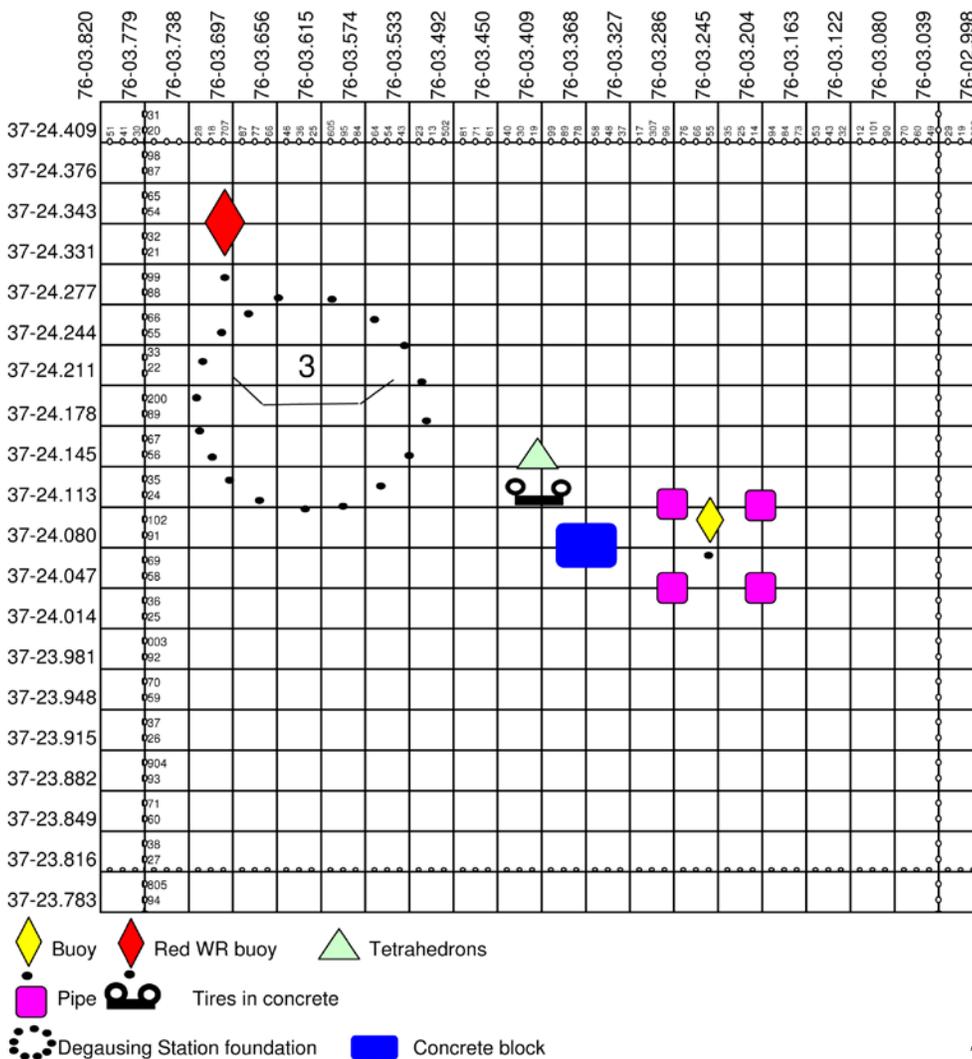
## THE "CELL" REEF

The "Cell " Reef located W of Hungars Creek bay-side of the eastern shore was recently enlarged to a square shape.

The subsurface remains of the Wolf Trap Degaussing Station, (the "Cell") located near the NW perimeter is the primary structure at this site, and is marked by the USCG buoy "WT2". In 2001, 1000 tons of concrete pipe was added; and in 2006, 2000 tons of concrete block was added. The deployments of concrete pipe and block were funded with salt water fishing license revenue. A yellow VMRC buoy designated "C" marks this fish haven.



NOAA Chart 12225



Tetrahedrons (top) and deployment of a reef ball (bottom).

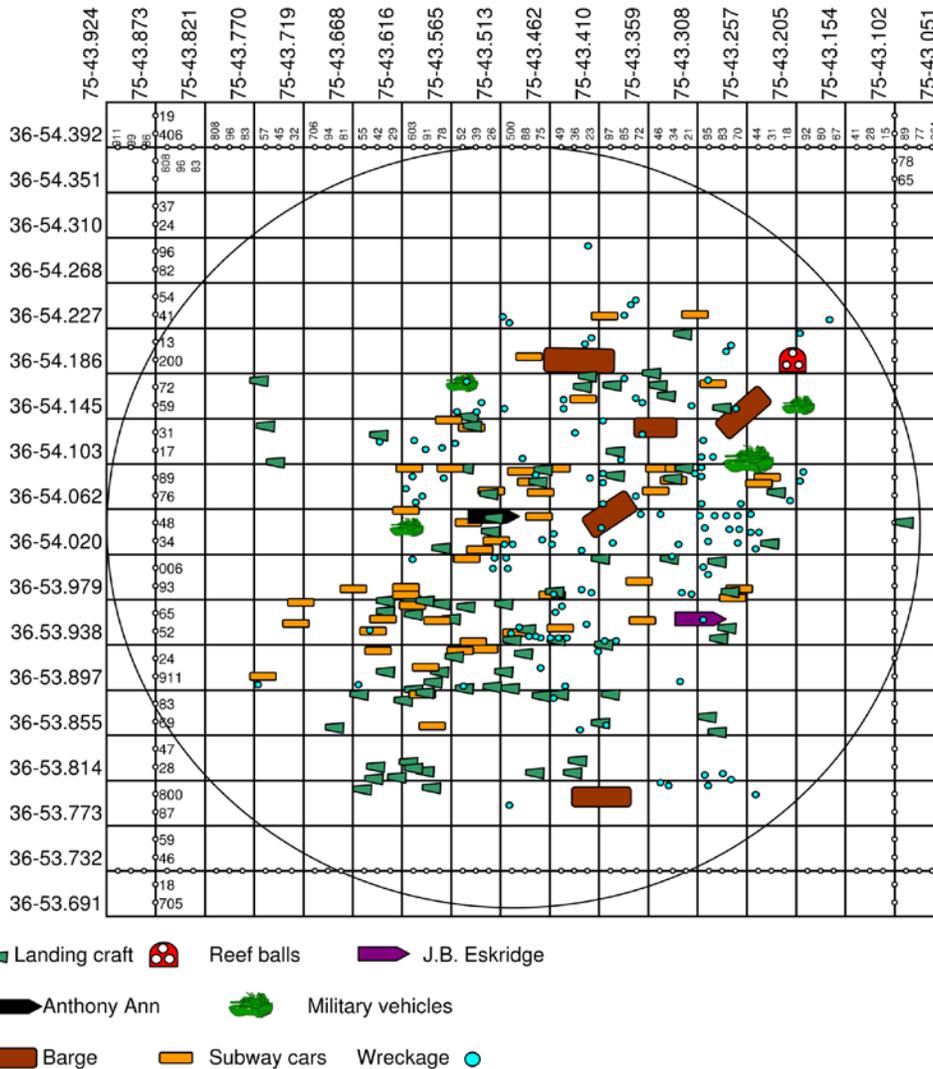
**The Cell Artificial Reef 08/29/06**  
 Grid approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW  
**Except 3 Ft. NW quadrant**

## TOWER REEF

Tower Reef is located .6 nautical miles WSW of the Chesapeake Light Tower. This reef was originally permitted to the Tidewater Artificial Reef Association of Virginia. TARAV placed more than 100 pontoon sections, numerous landing craft and other vessels on site. VMRC added two barges, four drydock sections and scattered thousands of TIC's, a deck barge and a hopper barg. In October 2002, the Tug J.B. Eskridge was deployed using saltwater fishing license funds.



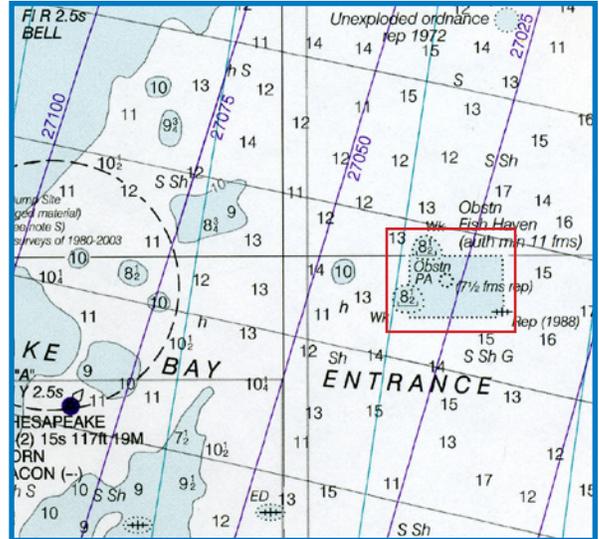
NOAA Chart 12221



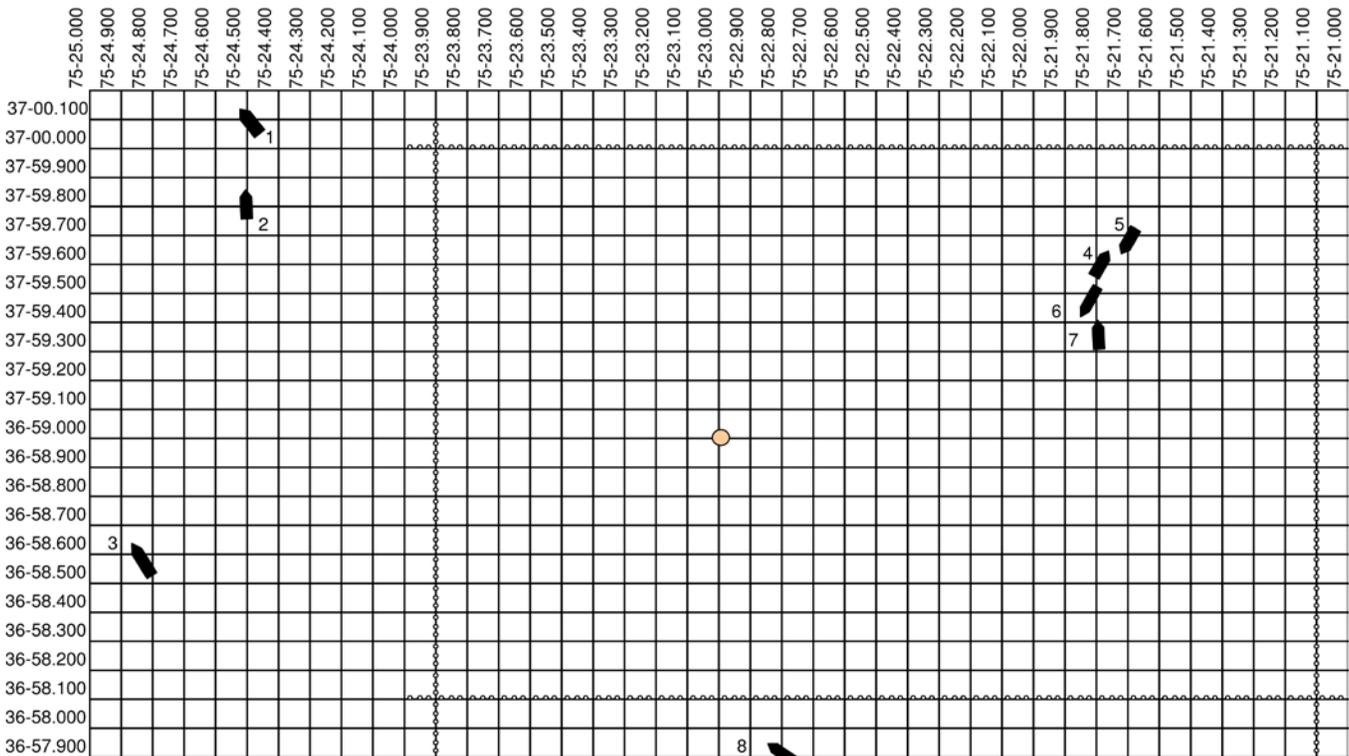
**Tower Artificial Reef 8/11/08**  
 Grid approximately 200 Ft.centers  
 Authorized clearance 30 Ft. MLW

## TRIANGLE REEF

Triangle Reef is located 16.5 nautical miles 073 degrees true from Chesapeake Light Tower. Large vessels are the main structures on this rectangular site. The Tidewater Artificial Reef Association of Virginia acquired the Liberty Ships located on this reef. **The vessel position shown on this grid listed with loran coordinates may not be exact.**



NOAA Chart 12200

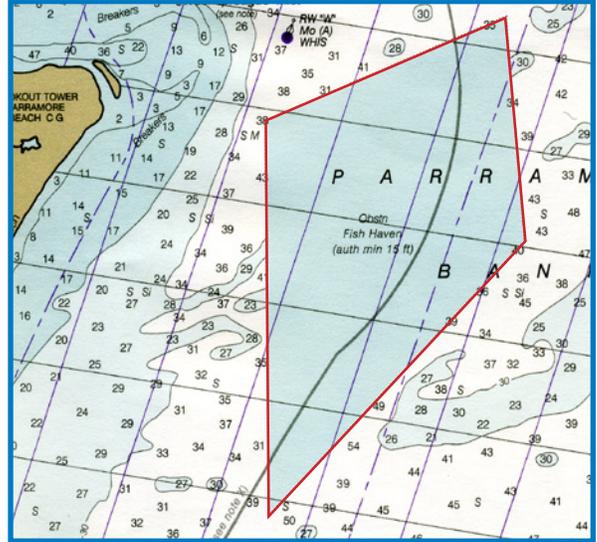


- |  |   |   |
|--|---|---|
| <ul style="list-style-type: none"> <li>1 USNS Morgan</li> <li>2 Tripca</li> <li>3 Lillian Luckenback</li> <li>4 USNS Garrison</li> </ul> | <ul style="list-style-type: none"> <li>5 USNS Webster</li> <li>6 USNS Haviland</li> <li>7 USNS Clark</li> <li>8 USCGC Cuyahoga</li> </ul> | <ul style="list-style-type: none"> <li>37-00.075N;75-24.479W</li> <li>Loran 41388.7;27032.9</li> <li>36-58.566N;75-24.836W</li> <li>36-59.594N;75-21.782W</li> <li>36-59.689N;75-21.680W</li> <li>36-59.459N;75-21.820W</li> <li>36-59.336N;75-21.784W</li> <li>36-57.903N;75-22.798W</li> <li>36-59.003N;75-22.999W</li> </ul> |
|--|---|---|

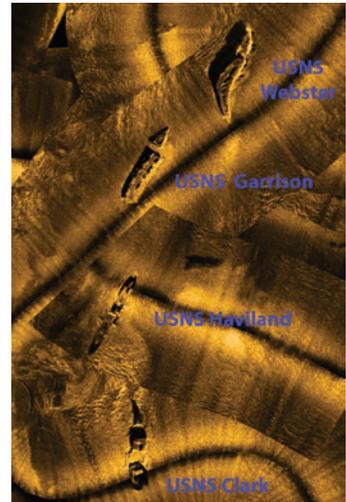
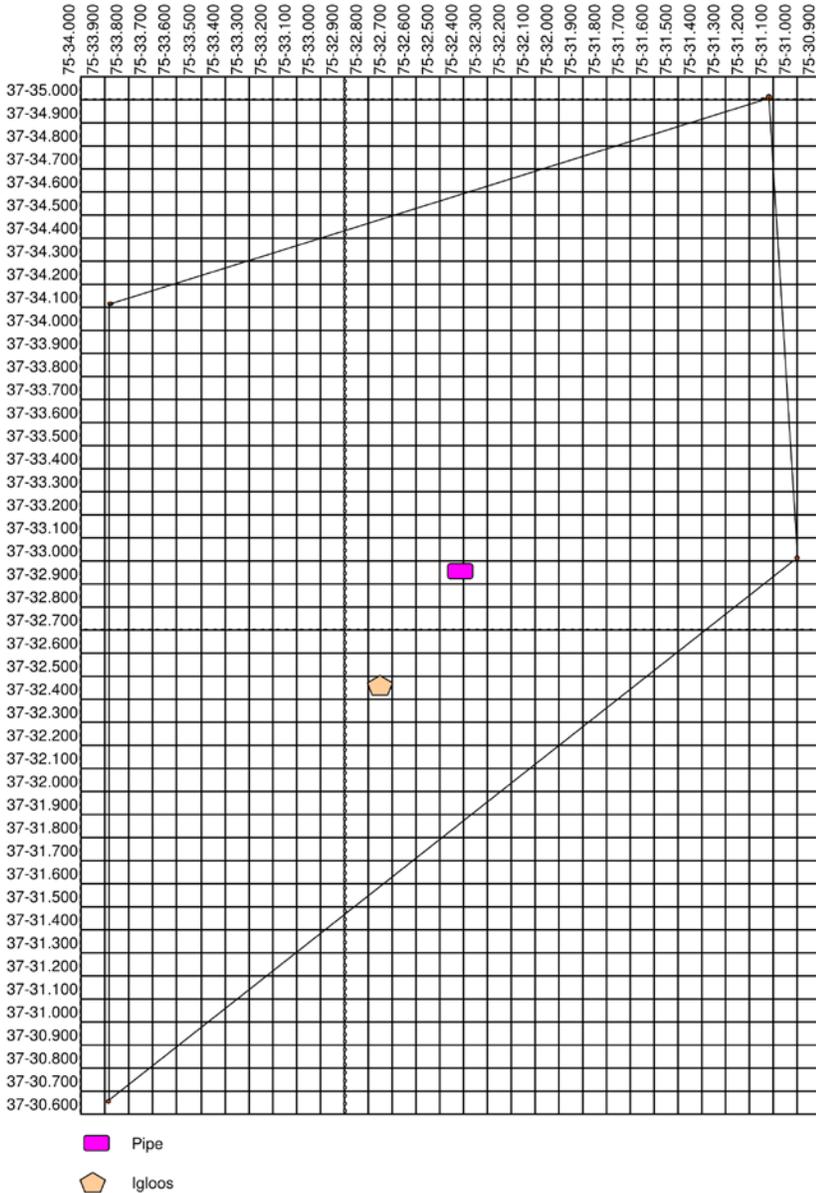
**Triangle Artificial Reef 8/21/07**  
 Grid approximately 1/10th mile centers  
 Authorized clearance 66 Ft. MLW

## WACHAPREAGUE REEF

This site is located 3.8 nautical miles E of the old Paramore Coast Guard Tower at Wachapreague Inlet. This reef, shaped like a kite, was developed as an off shore test site for experimental reef structures.



NOAA Chart 12210



Triangle Reef Wrecks



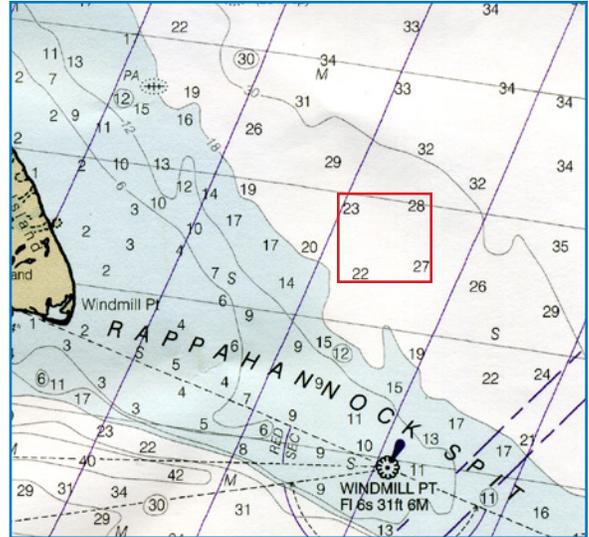
Barge on Poquoson fishing reef.

**Wachapreague Artificial Reef 4/5/05**  
 Grid approximately 1/10th mile centers  
 Authorized clearance 15 Ft. MLW

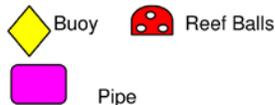
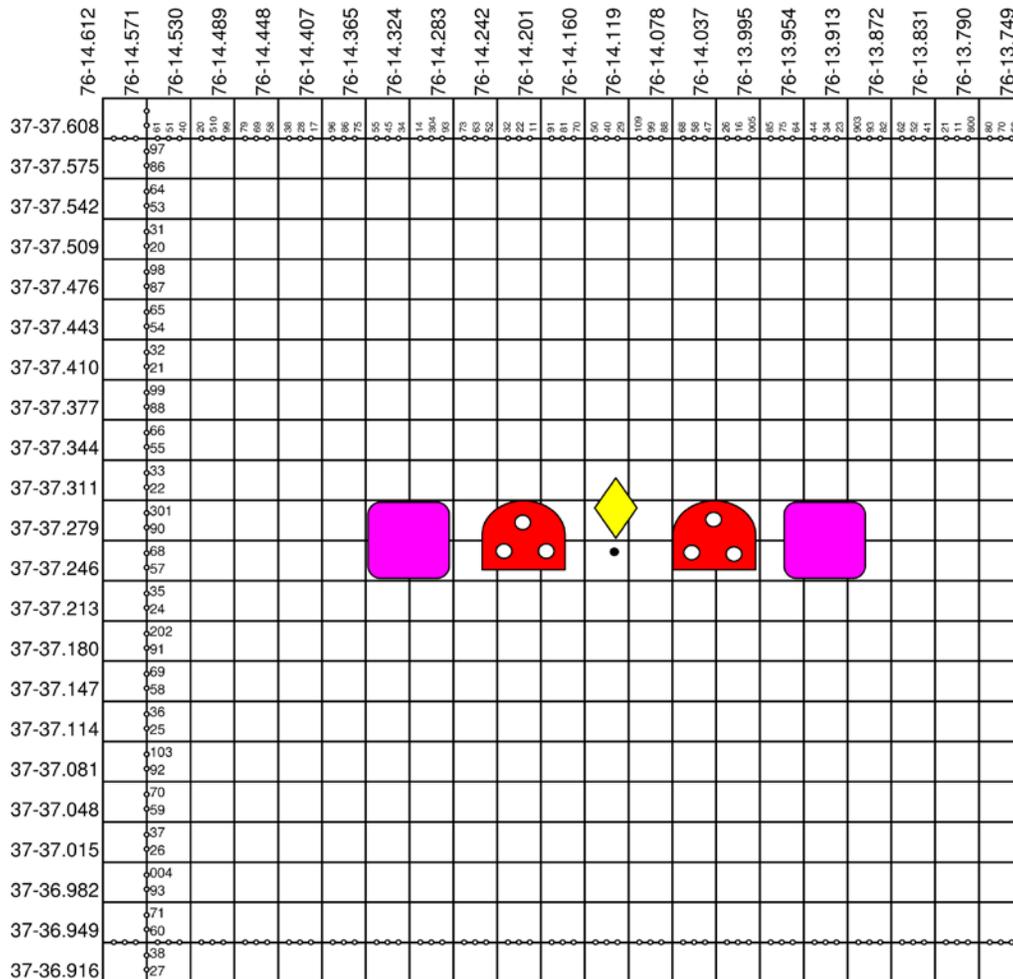
## WINDMILL POINT REEF

Windmill Point Reef was established in July 2004. This square reef site is located 1.4 nautical miles north of Windmill Point Light. The center of the reef is marked with a yellow VMRC buoy designated "WP".

Funded with Saltwater Fishing License revenue, 120 Reef balls were purchased for this site and deployed. There are two fields of 60 Reef Balls each located on the east and west side of the buoy; immediately east and west of the reef ball deployments are two deployments of 500+ tons each of concrete pipe. The deployment of this pipe was funded with Saltwater Fishing License revenue.



NOAA Chart 12225

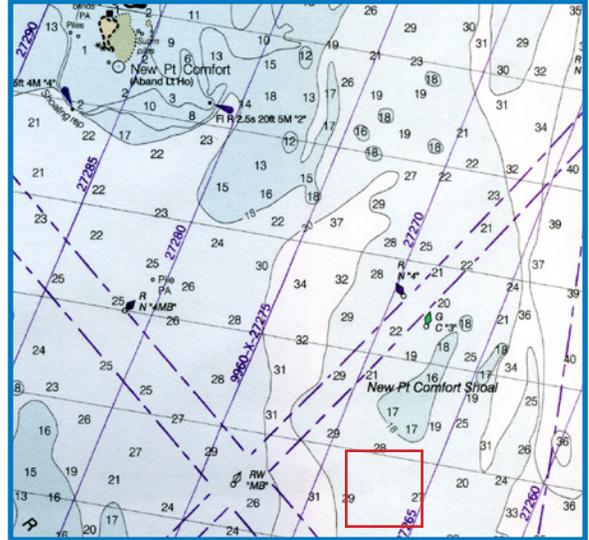


**Windmill Point Artificial Reef 8/15/04**  
 Grid approximately 200 Ft. centers  
 Authorized clearance 15 Ft. MLW

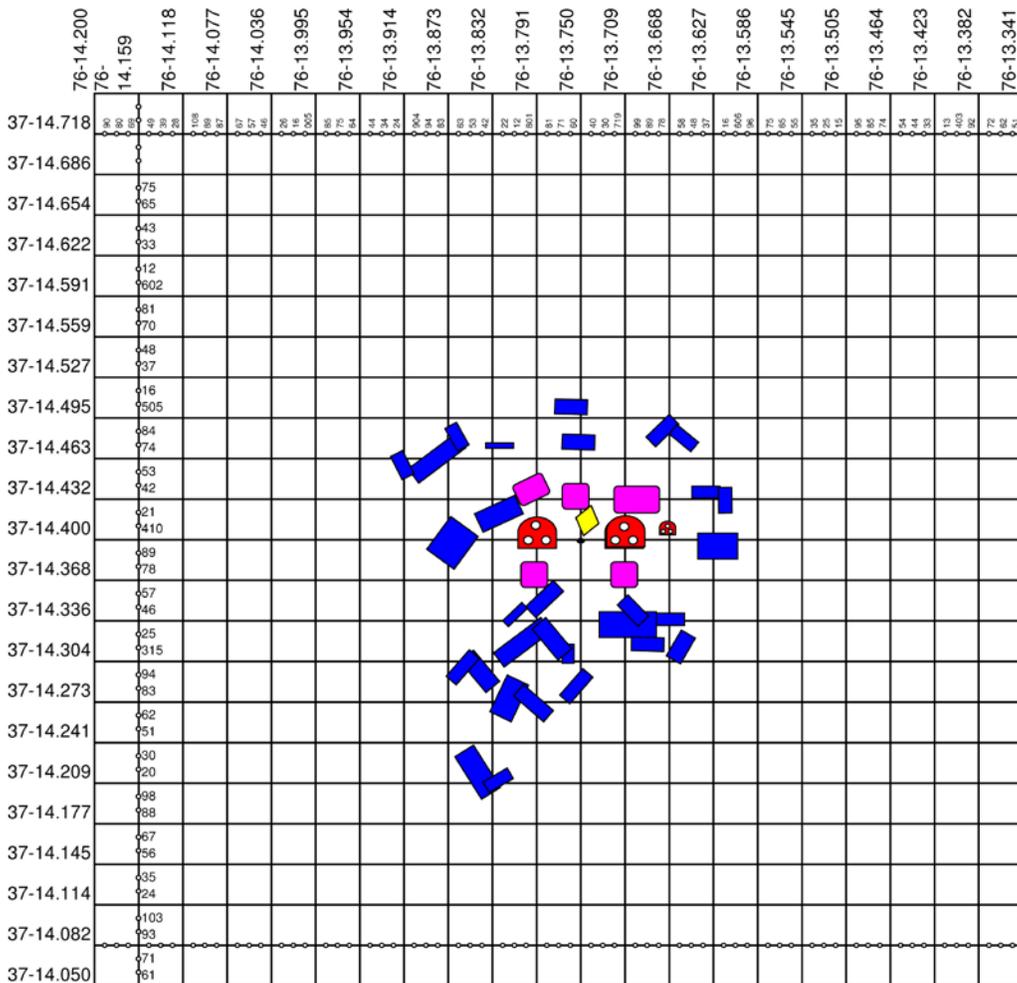
## YORK SPIT REEF

York Spit Reef is square shaped and located east of the entrance to the York River one-half nautical mile south of the New Point Comfort Shoal.

The concrete pipe placed at this site in November 2001 and the deployment was funded with saltwater fishing license revenue. Reef Balls were purchased and deployed also using saltwater fishing license revenue. Nearly 21,000 tons of bridge sections were donated and deployed between October 2003 and January 2005. The center of this reef is marked with a yellow VMRC buoy designated "YS".



NOAA Chart 12221



- ◆ Buoy
- Bridge sections
- Pipe
- ♣ Reef Balls

**York Spit Artificial Reef 1/06/05**  
 Grid on 190 Ft. centers  
 Authorized clearance 15 Ft. MLW