# AR-130

## Average Depth: 57'

**Buoy Location in GPS ddm: 36° 00.192' / 075° 31.800'**

**LORAN Coordinates: 26979.1 / 40726.0**

**General Location: 004° M, 12.5 nm from the Oregon Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 23-Nov-86<br>12-Dec-86 | 36° 00.243' / 075° 31.872'<br>36° 00.184' / 075° 31.883' |
| Reef Balls®: 300 | 28-Nov-00 | 36° 00.179' / 075° 31.840' |
| | | 36° 00.180' / 075° 31.805' |
| | | 36° 00.182' / 075° 31.880' |
| | | 36° 00.139' / 075° 31.813' |
| | | 36° 00.210' / 075° 31.881' |
| | | 36° 00.210' / 075° 31.861' |
| | | 36° 00.120' / 075° 31.827' |
| Concrete pipe: 265 tons,<br>227 Pieces of 18" & 30" by 8' | 30-Sept-02<br>08-Nov-02 | 36° 00.176' / 075° 31.876'<br>to<br>36° 00.145' / 075° 31.876' |
| Bridge piling cutoffs | 1-Dec-99 | 36° 00.217' / 075° 31.867' |

# AR-140

## Average Depth: 57'

**Buoy Location in GPS ddm: 35° 56.741' / 075° 31.781'**

**LORAN Coordinates: 26975.0 / 40690.0**

**General Location: 001° M, 8.9 nm from the Oregon Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 23-Nov-86 | 35° 56.741' / 075° 31.880'<br>35° 56.751' / 075° 31.887' |
| 130' barge | 13-Jun-89 | 35° 56.745' / 075° 31.887' |
| 130' barge | 15-Jun-89 | 35° 56.677' / 075° 31.922' |
| Concrete pipe: 1000 tons | 14-Nov-98 | 35° 56.750' / 075° 31.750'<br>35° 56.767' / 075° 31.750'<br>35° 56.783' / 075° 31.733'<br>35° 56.767' / 075° 31.717' |
| Concrete pipe: 1000 tons | 23-Nov-98 | 35° 56.933' / 075° 31.600'<br>35° 56.883' / 075° 31.800'<br>35° 56.917' / 075° 31.767'<br>35° 56.917' / 075° 31.750' |

# AR-145

## Average Depth: 65'

**Buoy Location in GPS ddm: 35° 54.017' / 075° 23.883'**

**LORAN Coordinates: 26941.4 / 40685.7**

**General Location: 049° M, 8.1 nm from the Oregon Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 115' Landing Craft (LCU 1468) | 12-Jan-87 | 35° 54.067' / 075° 23.933' |
| Rubble from Washington Baum Bridge | 1991 | 35° 53.967' / 075° 23.933'<br>35° 53.883' / 075° 23.950'<br>35° 53.950' / 075° 23.983' |
| 185' vessel "ADVANCE II" | Jun-94 | 35° 54.000' / 075° 23.867' |
| Concrete pipe: small load | 17-Nov-98 | 35° 54.100' / 075° 23.867'<br>to<br>35° 54.067' / 075° 23.817' |
| Concrete pipe: large load | 29-Nov-98 | 35° 53.983' / 075° 23.967' |
| Aircraft: USCG HU-25 Falcon 2101 | 04-May-05 | 35° 53.946' / 075° 23.783' |
| Aircraft: USCG HU-25 Falcon 2111 | 08-Jun-06 | 35° 53.918' / 075° 23.778' |

# OREGON INLET REEF

## AR-160

## Average Depth: 66'

**Buoy Location in GPS ddm: 35° 43.888' / 075° 26.771'**
**LORAN Coordinates: 26940.7 / 40574.1**
**General Location: 150° M, 4.0 nm from the Oregon Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 441' Liberty Ship "ZANE GREY" | 12-Dec-74 | Bow 35° 43.837' / 075° 26.776'<br>Stern 35° 43.769' / 075° 26.776' |
| 83' wooden trawler "IRVING H." | Mid 1970's | 35° 43.790' / 075° 26.746' |
| 441' US Navy Repair Ship "DIONYSUS" | 30-Nov-78 | 35° 44.055' / 075° 26.733' |
| "DIONYSUS"<br>Northern section | | 35° 44.040' / 075° 26.756' |
| "DIONISUS"<br>Southern section | | 35° 44.020' / 075° 26.750' |
| Concrete "Waffle-Crete"® units: 8 | 1997 | 35° 43.910' / 075° 26.851'<br>35° 43.873' / 075° 26.860' |
| Concrete piling cutoffs: 107 tons;<br>60 pieces, piling tops | 08-Dec-99 | 35° 43.933' / 075° 26.900' |
| Reef Balls®: 43 | 08-Dec-99 | 35° 43.883' / 075° 26.833' |
| Reef Balls®: 26 | 15-Aug-00 | 35° 43.867' / 075° 26.817' |
| Concrete piling cutoffs: 115 | 16-Aug-00 | 35° 43.917' / 075° 26.883' |
| Concrete pipe: 271 tons;<br>122 pieces 36" by 8' | 13 & 23-Sept-02 | 35° 43.865' / 075° 26.764' |
| Concrete "Waffle-Crete®" units: 8 | 19-Jun-05 | 35° 43.910' / 075° 26.851'<br>to<br>35° 43.873' / 075° 26.860' |

# AR-220

## Average Depth: 64'

**Buoy Location in GPS ddm: 35° 08.117' / 075° 40.633'**

**LORAN Coordinates: 26951.0 / 40182.0**

**General Location: 111° M, 4.9 nm from the Hatteras Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 9 | 12-Dec-86 | 35° 08.150' / 075° 40.803'<br>35° 08.102' / 075° 40.696'<br>35° 08.093' / 075° 40.755'<br>35° 08.105' / 075° 40.752' |
| Concrete items: 5 (75 tons) | 15-Dec-86 | 35° 08.111' / 075° 40.822' |
| Miscellaneous concrete items | 1993 | 35° 08.067' / 075° 40.633' |
| Reef Balls®: 200 (large area) | Jan-01 | 35° 08.110' / 075° 40.574'<br>35° 08.099' / 075° 40.550'<br>35° 08.066' / 075° 40.540'<br>35° 08.055' / 075° 40.613'<br>35° 08.055' / 075° 40.540' |

| AR-225<br>Average Depth: 69'<br>Buoy Location in GPS ddm: 35° 06.750' / 075° 39.233'<br>LORAN Coordinates: 26945.0 / 40175.0<br>General Location: 120° M, 6.2 nm from the Hatteras Inlet sea buoy | | |
|---|---|---|
| **Material** | **Deployment Date(s)** | **GPS (Decimal Minutes)** |
| Railroad boxcars: 8 | 12-Dec-86 | 35° 06.868' / 075° 39.541'<br>35° 06.868' / 075° 39.556'<br>35° 06.788' / 075° 39.343' |
| Miscellaneous concrete items: 7<br>105 tons | 15-Dec-86 | 35° 06.773' / 075° 39.250'<br>35° 06.716' / 075° 39.321'<br>35° 06.673' / 075° 39.360' |

# MR. J.C. REEF

## AR-230

## Average Depth: 72'

**Buoy Location in GPS ddm: 35° 06.133' / 075° 42.933'**

**LORAN Coordinates: 26957.0 / 40155.0**

**General Location: 167° M, 3.5 nm from the Hatteras Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 105' tug "MR.  J.C." | 15-Sep-87 | 35° 06.121' / 075° 42.951' |
| 130’ yard freighter | 1991 | 35° 06.183' / 075° 42.967' |
| 75’ landing craft | 1991 | 35° 06.208' / 075° 42.950' |

| AR-250<br>Average Depth: 83'<br>Buoy Location in GPS ddm: 34° 56.900' / 075° 54.867'<br>LORAN Coordinates: 26987.3 / 40024.0<br>General Location: 156° M, 5.1 nm from the Ocracoke Inlet sea buoy | | |
|---|---|---|
| **Material** | **Deployment Date(s)** | **GPS (Decimal Minutes)** |
| Railroad boxcars: 10 | 14-Nov-86 | 34° 56.679' / 075° 55.104' |
| Concrete rubble: 500 tons | 1990 - 1992 | 34° 56.917' / 075° 54.767' |
| | | 34° 56.967' / 075° 54.783' |
| | | 34° 56.917' / 075° 54.817' |
| | | 34° 56.933' / 075° 54.833' |
| | | 34° 56.983' / 075° 54.833' |
| | | 34° 56.983' / 075° 54.817' |
| Old Fairfield Bridge steel truss span, 220’ | 03-May-01 | 34° 56.787' / 075° 54.811' - SW end |
| | | 34° 56.794' / 075° 54.804' - NE end |
| Concrete box sections: 450 tons; 188 pieces<br>Laid in a rectangular pattern running NE to SW | 07&09-Nov-05 and 07-Feb-06 | 34° 56.929' / 075° 54.985' - NE corner<br>34° 56.907' / 075° 54.985' - SE corner<br>34° 56.899' / 075° 54.018' - Site Center<br>34° 56.876' / 075° 54.061' - NW corner<br>34° 56.874' / 075° 54.043' - SW corner |

# AR-255

**Average Depth: 84'**

**Buoy Location in GPS ddm: 34° 55.483' / 075° 57.917'**

**LORAN Coordinates: 26995.9 / 39998.0**

**General Location: 184° M, 6.1 nm from the Ocracoke Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 14-Nov & 15-Dec 1986 | 34° 55.533' / 075° 57.867'<br>34° 55.467' / 075° 57.950' |
| Concrete pipe | | 34° 55.483' / 075° 57.953' |
| High Profile units: 10 steel pyramids | 1-Dec-95 | 34° 55.500' / 075° 57.900' |
| Concrete rubble: 80 tons | 15-Jun-95 | 34° 55.533' / 075° 57.950'<br>to<br>34° 55.517' / 075° 57.867' |
| Old Hobucken Bridge steel truss span, 150' | 1998 | 34° 55.517' / 075° 57.867'<br>to<br>34° 55.467' / 075° 57.950' |

# BILLY SMITH REEF

## AR-275

## Average Depth: 55'

**Buoy Location in GPS ddm: 34° 50.093' / 076° 16.880'**

**LORAN Coordinates: 27052.0 / 39870.2**

**General Location: 140° M, 2.0 nm from the north end of Drum Inlet**

**Warning: Drum Inlet is not a maintained inlet. Please exercise caution when using this inlet.**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Concrete pipe:<br>740 pieces<br>48" by 8' | 1991, 1993 | 34° 50.067' / 076° 17.017'<br>to<br>34° 50.033' / 076° 17.017'<br>and<br>34° 50.100' / 075° 16.983' |
| 65' crew boat "MISS CLARA" | 21-Jul-92 | 34° 50.150' / 076° 16.850' |
| 130' menhaden vessel "GULF COAST" | 17-Jun-95 | 34° 50.117' / 076° 16.617' |
| Reef Balls®:<br>100 in one tight group | 29-Feb-00 | 34° 50.083' / 076° 17.033'<br>to<br>34° 50.133' / 076° 17.066' |
| 5 birdhouse stands, 1/2 "H" unit,<br>5 inshore sinkers, 10 "H" unit molds | 05-Jan-05 | 34° 50.100' / 076° 16.800' |
| APAC concrete mixing drum | 05-Jan-05 | 34° 50.085' / 076° 16.801' |
| Concrete pipe: 179 tons | 12-Jun-07 | 34° 50.127' / 076° 16.729' to<br>34°50.148' / 076° 16.739' |

# GEORGE SUMMERLIN REEF

## AR-285

## Average Depth: 65'

**Buoy Location in GPS ddm: 34° 33.383' / 076° 26.350'**
**LORAN Coordinates: 27062.2 / 39682.7**
**General Location:**
**013° M, 4.4 nm from Cape Lookout Shoal buoy R"2"**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 130' steel hull fishing vessel "NANCY LEE" | 31-Jan-89 | 34° 33.533' / 076° 26.200' to 34° 33.376' / 076° 26.200' |
| Concrete pipe: 605 pieces, 60" by 8' | 1991 | 34° 33.567' / 076° 26.250' |
| Concrete pipe: 50 large pieces | Oct-93 | 34° 33.467' / 076° 26.300' and 34° 33.500' / 076° 26.283' |
| High Profile units: 10 | 1-Nov-95 | 34° 33.350' / 076° 26.333' |
| Reef Balls®: 100 | 06-Mar-00 | 34° 33.383' / 076° 26.383' to 34° 33.350' / 076° 26.400' |
| Manhole sections and risers: 80 pieces | 7-Jun-07 | 34° 33.378' / 076° 26.204' |

# HARDEE'S REEF

## AR-300

## Average Depth: 90'

**Buoy Location: NO BUOY MAINTAINED**

**General Location: 149° M, 21.8 nm from the Beaufort Inlet sea buoy, 500 yards north of buoy R"14"**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 174' US Navy Yard Oiler FS-26 | 29-Jan-89 | 34° 18.517' / 076° 24.133' to 34° 18.543' / 076° 24.125' |
| Concrete pipe: 1000 pieces 48" by 8' | May-91 | 34° 18.617' / 076° 24.133' |
| | | 34° 18.567' / 076° 24.533' |
| | | 34° 18.467' / 076° 24.567' |
| | | 34° 18.533' / 076° 24.550' |
| | | 34° 18.417' / 076° 24.600' |
| | | 34° 18.600' / 076° 24.550' to 34° 18.167' / 076° 24.550' |
| Concrete pipe: 500 pieces 48" by 8' | 15-Sep-93 | 34° 18.517' / 076° 24.300' |
| | | 34° 18.633' / 076° 24.150' |

# YANCEY

## AR-302

## Average Depth: 160'

**Buoy Location: NO BUOY MAINTAINED**

**LORAN Coordinates: 26998.8 / 39567.3 (south end) and 26998.7 / 39568.0 (north end)**

**General Location: 145° M, 32.0 nm from the Beaufort Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 459' Assault Transport Ship "YANCEY" Southern end | 01-Aug-90 | 34° 10.265' / 076° 13.703' |
| Concrete pipe:<br>330 pieces<br>48" by 8' | 17-May-91 | 34° 10.267' / 076° 13.767'<br>to<br>34° 10.283' / 076° 13.783'<br>and<br>34° 10.283' / 076° 13.800' |
| Concrete pipe:<br>500 pieces<br>800 tons | Oct-93 | 34° 10.267' / 076° 13.750'<br>to<br>34° 10.233' / 076° 13.733'<br>and<br>34° 10.200' / 076° 13.733' |

# CARTERET COUNTY SPORTFISHING ASSOCIATION REEF

## AR-305

## Average Depth: 104'

**Buoy Location: NO BUOY MAINTAINED**

**LORAN Coordinates: 27081.4 / 39489.7**

**General Location: 182° M, 18.5 nm from the Beaufort Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 439' US Navy Cable Layer "AEOLUS" | 29-Jul-88 | Bow 34° 16.700' / 076° 38.592'<br>Stern 34° 16.683' / 076° 38.650' |
| 183' USCG Buoy Tender "SPAR" | 10-Jun-04 | Bow 34° 16.663' / 076° 38.685'<br>Stern 34° 16.627' / 076° 38.663' |

# ATLANTIC BEACH REEF

## AR-315

## Average Depth: 49'

**Buoy Location in GPS ddm: 34° 40.333' / 076° 44.667'**
**LORAN Coordinates: 27128.0 / 39660.8**
**General Location: 260° M, 3.5 nm from Beaufort Inlet at the Fort Macon jetty**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 440' Liberty Ship "THEODORE PARKER" | 04-Jun-74 | 34° 40.350' / 076° 44.717'<br>to<br>34° 40.350' / 076° 44.767' |
| Tires: 177,168 | 1974-1984 | Throughout area N of Liberty Ship |
| Steel-hull sportfishing vessel "FINEST KIND" | 02-Aug-77 | 34° 40.200' / 076° 44.703' |
| Atlantic Beach Bridge rubble | 1989 | 34° 39.967' / 076° 45.050'<br>and<br>34° 39.983' / 076° 45.033' |
| 60' lash barge "#1" with 450 tons of concrete rubble | 09-Jun-89 | 34° 40.233' / 076° 44.600' |
| 60' lash barge "#2" | 09-Jun-89 | 34° 40.400' / 076° 44.483' |
| Atlantic Beach Bridge steel framing | 11-Jun-89 | 34° 40.350' / 076° 44.583'<br>34° 40.383' / 076° 44.583' |
| Aircraft: F-4 | 25-Mar-92 | 34° 40.350' / 076° 44.650' |
| Aircraft: F-4 | 25-Mar-92 | 34° 40.352' / 076° 44.636' |
| Aircraft: A-4E (2) | 30-Mar-92 | 34° 40.367' / 076° 44.650' |
| Aircraft: CH-46 & OV10 | 30-Mar-92 | 34° 40.378' / 076° 44.655' |
| Concrete rubble: 80 tons | 1991, 1992 | 34° 40.383' / 076° 44.650'<br>to<br>34° 40.383' / 076° 44.667' |
| Concrete pipe: 150 tons ~60 pieces | 05-Apr-99 | 34° 40.305' / 076° 44.516'<br>34° 40.305' / 076° 44.503' |
| Reef Balls®: 100 | 21-Feb-00 | 34° 40.383' / 076° 44.500'<br>to<br>34° 40.400' / 076° 44.517'<br>and<br>34° 40.400' / 076° 44.500'<br>34° 40.400' / 076° 44.483' |
| 104' US Navy tug "TAKOS" | 02-Nov-00 | 34° 40.329' / 076° 44.780' |
| Concrete pipe: Newport DOT | Dec-02 | 34° 40.316' / 076° 44.804' |
| Concrete pipe: Newport DOT<br>Miscellaneous concrete items, Radio Island pilings | 25-Jan-03 | 34° 40.330' / 076° 44.793' |
| Radio Island ramp pilings, T.D. Eure Construction<br>(6-12' length ~500 pieces in each of two areas) | 2003 | 34° 40.280' / 076° 44.534' - NE end<br>and<br>34° 40.217' / 076° 44.617' - SW end |
| Concrete pipe (Heavy Concentration)<br>Carteret County Sportfishing Association | Jan-Feb 2003 | 34° 40.243' / 076° 44.600' |
| Radio Island ramp pilings, T.D. Eure Construction<br>(Round Dispersal Pattern) | Feb-03 | 34° 39.908' / 076° 45.189' |
| Broadcast of pilings and concrete pipe:<br>This area is ideal for casual drift bottom fishing that is away from the heaviest reef trolling and diving activity. Carteret County Sportfishing Association and T.D. Eure Construction | Feb-03 | Four corner area coordinates:<br>34° 39.957' / 076° 45.129' - NW<br>34° 39.925' / 076° 45.062' - NE<br>34° 39.863' / 076° 45.085' - SE<br>34° 39.839' / 076° 45.156' - SW |

| | | |
|---|---|---|
| Miscellaneous concrete scrap and ramp pilings: approximately 190 tons | 19&20-Feb-03 | 34° 40.329' / 076° 44.792' and 34° 39.911' / 076° 45.188' |
| Scrap concrete ramp pilings: 87 pieces | 5-Mar-03 | 34° 39.903' / 076° 45.177' |
| Scrapped USCG buoy anchors | Ongoing | Center point is 34° 40.333' / 076° 44.770' ; spread between "THEODOR PARKER" and "TAKOS" |
| 22 pieces concrete scrap | 18-Mar-04 | 34° 40.200' / 076° 45.187' |
| Reef Balls®: 50 Ultra Reef Ball®: 1 | 19-Mar-04 | 34° 39.955' / 076° 44.800' |
| Bay balls: 2 | 21-Sep-04 | $34^0$ 40.206' / $076^0$ 44.767' |
| Assorted concrete pipe and headers | 22-May-07 | $34^0$ 40.200' / $076^0$ 44.499' |
| Assorted manhole boxes & risers: 74 pieces | 30-May-07 | $34^0$ 39.996' / $076^0$ 44.640' |
| Concrete pipe: 157 tons | 18-Nov-08 | $34^0$ 40.297' / $076^0$ 44.525' |
| Concrete pipe: 160 tons | 20-Nov-08 | $34^0$ 40.368' / $076^0$ 44.477' |
| Concrete pipe: 162 tons | 3-Dec-08 | $34^0$ 40.336' / $076^0$ 44.487' |
| Concrete pipe: 161 tons | 4-Dec-08 | $34^0$ 40.384' / $076^0$ 44.459' |

# CLIFTON MOSS REEF

## AR-320

## Average Depth: 50'

**Buoy Location in GPS ddm: 34° 39.533' / 076° 48.417'**
**LORAN Coordinates: 27138.6 / 39637.3**
**General Location: 259° M, 7.3 nm from Beaufort Inlet at the Fort Macon jetty**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 140' menhaden vessel "NOVELTY" | 09-Jul-86 | 34° 39.483' / 076° 48.433' |
| Atlantic Beach Bridge rubble:<br>2 rows running N to S<br>100' E and 300' W of "NOVELTY" | 26-May-87<br>to<br>31-Dec-87 | 34° 39.483' / 076° 48.450'<br>to<br>34° 39.400' / 076° 48.450'<br>and<br>34° 39.517' / 076° 48.433'<br>to<br>34° 39.517' / 076° 48.467' |
| Atlantic Beach Bridge,<br>steel truss span | 1987 | 34° 39.483' / 076° 48.450'<br>to<br>34° 39.517' / 076° 48.467' |
| Concrete "Waffle-Crete"® units | 1997 | 34° 39.543' / 076° 48.452' |
| Concrete manhole sections:<br>33 units | 06-Apr-06 | 34° 39.341' / 076° 48.405'<br>to<br>34° 39.307' / 076° 48.405' |

# HOWARD CHAPIN REEF

## AR-330

## Average Depth: 62'

**Buoy Location in GPS ddm: 34° 33.634' / 076° 51.267'**
**LORAN Coordinates: 27139.7 / 39569.5**
**General Location: 228° M, 11.8 nm from Beaufort Inlet at the Fort Macon jetty; 118° M, 12.8 nm from the Bogue Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 1986 | 34° 33.633' / 076° 51.350'<br>to<br>34° 33.633' / 076° 51.367'<br>and<br>34° 33.550' / 076° 51.333'<br>34° 33.583' / 076° 51.367'<br>34° 33.550' / 076° 51.317' |
| Pre-fabricated fiberglass domes | 1990 | 34° 33.783' / 076° 51.267'<br>34° 33.767' / 076° 51.250'<br>34° 33.733' / 076° 51.333' |
| Concrete pipe: 160 pieces | 1990 | 34° 33.583' / 076° 51.200' |
| 320' Landing Craft Repair Ship "INDRA" | 05-Aug-92 | Bow 34° 33.700' / 076° 51.100'<br>to<br>Stern 34° 33.738' / 076° 51.091' |
| C-130 aircraft: 2 | 15-Nov-94 | 34° 33.633' / 076° 51.367'<br>and<br>34° 33.633' / 076° 51.383' |
| F-4 aircraft: 1 | 1995 | 34° 33.633' / 076° 51.350' |
| Concrete pipe: 41 pieces | 1999 | 34° 33.617' / 076° 51.200' |
| "H" units: 43 | 1999 | 34° 33.690' / 076° 51.385' |
| Reef Balls®: 45 | 1999 | 34° 33.712' / 076° 51.354' |
| "H" units: 45 | 11-Sep-00 | 34° 33.450' / 076° 51.450'<br>to<br>34° 33.450' / 076° 51.483' |
| Reef Balls®: 45 | 11-Sep-00 | 34° 33.430' / 076° 51.400'<br>to<br>34° 33.444' / 076° 51.396' |
| Concrete pipe: 600 tons Carteret County Sportfishing Association | Feb-03 | 34° 33.589' / 076° 51.438'<br>34° 33.587' / 076° 51.445'<br>34° 33.580' / 076° 51.442' |
| 55' steel sailboat "NEPOMUK" | 11-Jun-09 | 34° 33.724' / 076° 51.106' |

# J. PAUL TYNDALL REEF

## AR-340

## Average Depth: 58'

**Buoy Location in GPS ddm: 34° 34.350' / 076° 58.300'**
**LORAN Coordinates: 27162.4 / 39545.3**
**General Location: 129° M, 7.0 nm from the Bogue Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 9<br>Railroad flatcars: 1 | 29-Nov-86 | 34° 34.300' / 076° 58.393'<br>34° 34.291' / 076° 58.355'<br>34° 34.253' / 076° 58.347' |
| Concrete pipe: 1000 tons<br>(500 tons are 60" by 8') | Mar-91 | 34° 34.404' / 076° 58.287'<br>34° 34.379' / 076° 58.295'<br>34° 34.363' / 076° 58.271'<br>34° 34.344' / 076° 58.281' 34° 34.317' / 076° 58.317' |
| Concrete pipe: 500 pieces | Aug-93 | 34° 34.450' / 076° 58.338'<br>34° 34.438' / 076° 58.340'<br>34° 34.426' / 076° 58.334'<br>34° 34.425' / 076° 58.314'<br>34° 34.411' / 076° 58.322' |
| Hatteras boat molds: 12 | 07-Nov-96<br>21-Nov-96 | 34° 34.367' / 076° 58.500'<br>34° 34.367' / 076° 58.333'<br>34° 34.383' / 076° 58.500'<br>34° 34.450' / 076° 58.500'<br>34° 34.500' / 076° 58.517'<br>34° 34.417' / 076° 58.483'<br>34° 34.433' / 076° 58.517'<br>34° 34.400' / 076° 58.483'<br>34° 34.400' / 076° 58.533'<br>34° 34.383' / 076° 58.517'<br>34° 34.367' / 076° 58.533' |
| Reef Balls®: 25 | 03-Oct-00 | 34° 34.517' / 076° 58.420' |
| Reef Balls®: 46 | 05-Oct-00 | 34° 34.528' / 076° 58.455'<br>34° 34.547' / 076° 58.435'<br>34° 34.517' / 076° 58.417'<br>34° 34.501' / 076° 58.445'<br>34° 34.517' / 076° 58.433' |
| Concrete manhole sections:<br>43 pieces | 06-Apr-06 | 34° 34.394' / 076° 58.436' to 34° 34.367' / 076° 58.423' |
| Assorted panels & headers: 67 pieces | 4-May-07 | 34$^0$ 34.395' / 076$^0$ 58.586' |
| Assorted dock & roof panels: 67 pieces | 15-May-07 | 34$^0$ 34.392' / 076$^0$ 58.594' |
| Assorted dock panels & pipe | 17-May-07 | 34$^0$ 34.390' / 076$^0$ 58.589' |

# ONSLOW BAY SPORT FISHING CLUB REEF

## AR-342

## Average Depth: 49'

**Buoy Location in GPS ddm: 34° 36.552' / 077° 02.189'**

**LORAN Coordinates: 27177.0 / 39549.8**

**General Location: 124° M, 3.0 nm from Bogue Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Tires: 19,488 | 16-Feb-83 | 34° 36.467' / 077° 02.167' |
| Concrete pipe: 160 pieces | 20-May-86 | 34° 36.583' / 077° 02.183' |
| Concrete pipe: 61 pieces | 19-Dec-86 | 34° 36.444' / 077° 02.177' |
| 40 cubic yard metal containers: 10 units | 25-Feb-83 | 34° 36.475' / 077° 02.179'<br>and<br>34° 36.495 / 077° 02.185' |
| Train boxcars: 10 | 20-May-86 | 34° 36.467' / 077° 02.167'<br>34° 36.425' / 077° 02.258' |
| Concrete pipe: 246 pieces | 1994 | 34° 36.583' / 077° 02.240'<br>to<br>34° 36.600' / 077° 02.183'<br>and<br>34° 36.617' / 077° 02.233'<br>to<br>34° 36.589' / 077° 02.238'<br>and<br>34° 36.467' / 077° 02.167' |
| Concrete pipe: 174 pieces<br>Onslow Bay Sport Fishing Club | 24 & 25<br>Mar-04 | 34° 36.677' / 077° 02.326'<br>to<br>34° 36.655' / 077° 02.342' |
| Concrete manhole sections: 78 pieces | 23-Feb-06 | 34° 36.669' / 077° 02.055' |
| Concrete cones, risers and bases: approximately 75 pieces | 10-Apr-07 | $34^0$ 36.669' / $077^0$ 02.247'<br>34° 36.666' / 077° 02.244'<br>34° 36.675' / 077° 02.209' |
| Assorted concrete items: approximately 55 | 13-Apr-07 | $34^0$ 36.664' / $077^0$ 02.150'<br>34° 36.667' / 077° 02.100' |
| Concrete pipe: 158 tons | 18-Apr-07 | $34^0$ 36.664' / $077^0$ 02.281' |
| Concrete pipe: 118 pcs. | 19-Apr-07 | $34^0$ 36.652' / $077^0$ 02.235' |
| Concrete pipe: 125 pcs. | 23-Apr-07 | $34^0$ 36.658' / $077^0$ 02.191' |
| Concrete pipe: 125 pcs. | 1-May-07 | $34^0$ 36.670' / $077^0$ 02.155' |
| Concrete pipe: 128 pcs. | 3-May-07 | $34^0$ 36.642' / $077^0$ 02.114' |

# SWANSBORO ROTARY CLUB REEF

## AR-345

## Average Depth: 60'

**Buoy Location in GPS ddm: 34° 32.300' / 076° 58.467'**

**LORAN Coordinates: 27160.2 / 39542.8**

**General Location: 143° M, 8.1 nm from the Bogue Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 23-Dec-86 | 34° 32.233' / 076° 58.500'<br>34° 32.233' / 076° 58.533'<br>34° 32.333' / 076° 58.550' |
| Concrete pipe: 750 pieces<br>Manhole sections: 1500 tons | Jan-Feb 1991 | 34° 32.233' / 076° 58.417'<br>to<br>34° 32.267' / 076° 58.450'<br>and<br>34° 32.217' / 076° 58.417' |
| Concrete pipe | 1991 | 34° 32.300' / 076° 58.533' |
| Concrete "Waffle-Crete"® units: 8 | Oct-97 | 34° 32.400' / 076° 58.467'<br>34° 32.400' / 076° 58.483' |
| Reef Balls®: 75 | 03-Oct-00 | 34° 32.333' / 076° 58.333'<br>to<br>34° 32.333' / 076° 58.367'<br>and<br>34° 32.352' / 076° 58.317'<br>34° 32.333' / 076° 58.376' |
| Ultra Reef Balls®: 50<br>Reef Balls®: 1 | 19-Mar-04 | 34° 32.420' / 076° 58.610' |
| 116' tug "TITAN" | 27-Jul-04 | 34° 32.141' / 076° 58.473' |
| Reef Balls®: 20 in 4 groups of 5 each | 7-Dec-05 | 34° 32.304' / 076° 58.312' 34° 32.288' / 076° 58.292' 34° 32.252' / 076° 58.268' 34° 32.268' / 076° 58.248' |
| Manhole bases: 20 in 4 groups of 5 each | 07-Dec-05 | 34° 32.288' / 076° 58.312' 34° 32.304' / 076° 58.292' 34° 32.268' / 076° 58.268' 34° 32.252' / 076° 58.248' |
| Concrete pipe: 150 tons<br>Craven County DOT | 21-Feb-06 | 34° 32.125' / 076° 58.486' |

# NEW RIVER REEF

## AR-355

## Average Depth: 60'

**Buoy Location in GPS ddm: 34° 21.183' / 077° 20.000'**

**LORAN Coordinates: 27210.0 / 39324.4**

**General Location: 185° M, 9.7 nm from the New River Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 18-Dec-86 | 34° 21.150' / 077° 19.983' |
| Hwy. 172 bridge rubble:<br>10 barge loads of pilings and rails | Jul-Oct<br>1993 | 34° 21.233' / 077° 19.900'<br>34° 21.267' / 077° 19.967'<br>34° 21.283' / 077° 19.900'<br>34° 21.250' / 077° 19.983'<br>34° 21.200' / 077° 20.067'<br>34° 21.317' / 077° 19.983' |
| 60' ferro-cement vessel "SEA MINT" | 1993 | 34° 21.200' / 077° 20.067' |
| High Profile units: 11 | Jun-95 | 34° 21.150' / 077° 20.983' |

# TOPSAIL REEF

## AR-360

## Average Depth: 44'

**Buoy Location in GPS ddm: 34° 20.983' / 077° 36.183'**

**LORAN Coordinates: 27256.9 / 39252.5**

**General Location: 085° M, 2.5 nm from the New Topsail Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Tires: 48,700 | 26-Sep-74 | Scattered throughout reef site; mostly buried |
| Concrete pipe: 850 pieces, 48" by 8' | 1992 | 34° 21.017' / 077° 36.183'<br>34° 21.033' / 077° 36.200' |
| Concrete pipe: 140 tons | 02-Apr-02 | 34° 20.781' / 077° 36.148' |
| Concrete pipe: 140 Tons Topsail Beach Offshore Fishing Club | 09-Apr-02 | 34° 20.776' / 077° 36.156'<br>34° 20.774' / 077° 36.155'<br>34° 20.779' / 077° 36.145' |
| 23 reef balls, 1 "H" unit | 8-Jun-06 | $34^0$ 20.880' / $077^0$ 36.220' |

# TOM BOYETTE REEF

## AR-362

## Average Depth: 54'

**Buoy Location in GPS ddm: 34° 15.717' / 077° 30.450'**

**LORAN Coordinates: 27233.1 / 39224.5**

**General Location: 126° M, 8.7 nm from the New Topsail Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 05-Dec-86 | Throughout Reef |
| Concrete pipe:<br>850 pieces, 48" by 8' | 1992 | 34° 15.767' / 077° 30.433'<br>34° 15.733' / 077° 30.383'<br>34° 15.767' / 077° 30.417'<br>34° 15.767' / 077° 30.383' |
| Concrete pipe: 140 Tons<br>Topsail Beach Offshore Fishing Club | 18-Apr-02 | 34° 15.750' / 077° 30.560'<br>34° 15.753' / 077° 30.566'<br>34° 15.755' / 077° 30.566'<br>34° 15.744' / 077° 30.566'<br>34° 15.747' / 077° 30.566' |

# BILLY MURRELL REEF

## AR-364

## Average Depth: 44'

**Buoy Location in GPS ddm: 34° 14.833' / 077° 42.833'**

**LORAN Coordinates: 27267.4 / 39160.6**

**General Location: 050° M, 6.2 nm from the Masonboro Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Tires: 76,873 | 1974-1984 | Throughout Site |
| 32 concrete pieces: 480 tons | 18-Dec-86 | 100-300' S of buoy |
| 65' tug "SOUTHERN CRAFT 8" | 12-May-88 | 34° 14.850' / 077° 42.833' |
| 55' Landing Craft (LCM) | 18-Jan-89 | 34° 14.783' / 077° 42.850' |
| Pre-fabricated fiberglass units: 24 Domes; 18 Cubes | Dec-89 | Positions unverified |
| 52' tug "CAPTAIN TOM" | 13-May-92 | 34° 14.833' / 077° 42.800' |
| 65' tug "CAPTAIN JERRY" | 1994 | 34° 14.850' / 077° 42.833' |
| 297' barge "HT-290" | 1997 | Bow 34° 14.767' / 077° 42.900'<br>Stern 34° 14.817' / 077° 42.867' |

# AR-366

## Average Depth: 66'

**Buoy Location in GPS ddm: 34° 12.950' / 077° 25.250'**

**LORAN Coordinates: 27214.6 / 39225.0**

**General Location: 130° M, 14.0 nm from the New Topsail Inlet sea buoy; 090° M, 30.0 nm from the Masonboro Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 05-07 Dec-86 | 34° 12.898' / 077° 25.330'<br>34° 12.911' / 077° 25.332'<br>34° 12.883' / 077° 25.310'<br>34° 12.832' / 077° 25.275' |
| Concrete pipe: 850 pieces, 48" by 8' | 1992 | 34° 12.983' / 077° 25.267'<br>34° 12.950' / 077° 25.233' |
| Concrete pipe: 260 Tons Topsail Beach Offshore Fishing Club | 15/16-Apr-02 | 34° 13.018' / 077° 25.160' |
| Concrete box culvert: 66 Pieces Topsail Beach Offshore Fishing Club | 27-Jan-04 | 34° 12.873' / 077° 25.230'<br>34° 12.879' / 077° 25.235'<br>34° 12.885' / 077° 25.256' |
| Manhole sections: 61 Pieces Topsail Beach Offshore Fishing Club | 29-Jan-04 | 34° 12.921' / 077° 25.255' |
| Manhole sections: 38 Concrete box culverts: 39 Topsail Beach Offshore Fishing Club | 04-Feb-04 | 34° 12.888' / 077° 25.261'<br>34° 12.833' / 077° 25.264' |

# AR-368

## Average Depth: 66'

**Buoy Location in GPS ddm: 34° 09.567' / 077° 25.833'**

**LORAN Coordinates: 27211.7 / 39195.0**

**General Location: 140° M, 15.5 nm from the New Topsail Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 07-Dec-86 | 34° 09.417' / 077° 25.917' |
| 241' barge "LC-16" | 1994 | 34° 09.583' / 077° 25.917'<br>34° 09.583' / 077° 25.933'<br>34° 09.583' / 077° 25.883' |
| Scattered rubble | Unknown | 34° 09.583' / 077° 25.933'<br>34° 09.583' / 077° 25.883'<br>34° 09.567' / 077° 25.967' |
| Concrete pipe: 130 tons<br>Topsail Beach Offshore Fishing Club | 17-Apr-02 | 34° 09.667' / 077° 25.832'<br>34° 09.694' / 077° 25.807'<br>34° 09.690' / 077° 25.817'<br>34° 09.684' / 077° 25.828' |

# MEARES HARRISS REEF

## AR-370

## Average Depth: 52'

**Buoy Location in GPS ddm: 34° 10.467' / 077° 45.067'**

**LORAN Coordinates: 27267.8 / 39106.3**

**General Location: 100° M, 3.5 nm from the Masonboro Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 110' tug "FIREFIGHTER" | 02-Jun-70 | 34° 10.490' / 077° 44.990' |
| 50' truck tank | Summer 1972 | Position unverified |
| 90' barges: 2 | 01-Aug-73 | 34° 10.467' / 077° 44.800' |
| Tires: 56,500 | 1973 - 1974 | Throughout site |
| 440' Liberty Ship "ALEXANDER RAMSEY" | 26-Aug-74 | 34° 10.520' / 077° 45.120' |
| 135' barge | 25-Sep-80 | 34° 10.483' / 077° 44.783' |
| 120' tug "SOCONY 8" | 15-Dec-82 | 34° 10.533' / 077° 45.083' |
| 105' tug "STONE BROTHERS" | 14-Jan-83 | 34° 10.330' / 077° 44.790' |
| Concrete pipe: 155 tons | 16-Sep-08 | $34^0$ 10.454' / $077^0$ 44.950' |

# AR-372

## Average Depth: 48'

**Buoy Location in GPS ddm: 34° 06.217' / 077° 44.950'**

**LORAN Coordinates: 27261.4 / 39068.9**

**General Location: 154° M, 5.0 nm from the Masonboro Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 07-Nov-86 | 34° 06.240' / 077° 44.820' |
| 220' barge (Northern) | 09-May-90 | 34° 06.250' / 077° 44.800' |
| 220' barge (Southern) | 09-May-90 | 34° 06.233' / 077° 44.800' |
| Reef Balls®:<br>128 in five groups of 25-28<br>Onslow Bay Artificial Reef Association | 08-Oct-01 | 34° 06.286' / 077° 44.895' |
| | | 34° 06.310' / 077° 44.890' |
| | | 34° 06.259' / 077° 44.874' |
| | | 34° 06.279' / 077° 44.910' |
| | | 34° 06.294' / 077° 44.848' |

| AR-376<br>Average Depth: 60'<br>Buoy Location in GPS ddm: 34° 03.283' / 077° 39.633'<br>LORAN Coordinates: 27243.1 / 39077.2<br>General Location: 142° M, 9.9 nm from the Masonboro Inlet sea buoy | | |
|---|---|---|
| Material | Deployment Date(s) | GPS (Decimal Minutes) |
| Railroad boxcars: 10 | 1986 | 34° 03.267' / 077° 39.617' |
| Concrete pipe: 60" by 8'<br>850 pieces | Nov-92 | 34° 03.333' / 077° 39.700' |
| Concrete "Waffle Crete"® units: 7 | Nov-97 | 34° 03.267' / 077° 39.583'<br>34° 03.267' / 077° 39.616' |

# PHILLIP WOLFE REEF

## AR-378

## Average Depth: 40'

**Buoy Location in GPS ddm: 34° 01.807' / 077° 52.232'**
**LORAN Coordinates: Chain (GRI) 9960 / 27275.5 / 57509.2 and**
**Chain (GRI) 7980 / 45336.0 / 58990.4**
**General Location: 184° M, 2.6 nm from the Carolina Beach Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 98' barges: 3 | 05-May-82 | 34° 00.650' / 077° 50.678' |
| | | 34° 00.648' / 077° 50.629' |
| | | 34° 00.621' / 077° 50.683' |
| Tires: 111,000 | 05-May-82 | 34° 00.783' / 077° 50.664' |
| 195' barge | Oct-93 | 34° 01.809' / 077° 52.139' |
| Reef Balls®: 10 | May-98 | 34° 01.950' / 077° 52.083' |
| Concrete pipe: 134 pieces | 1999 | 34° 01.850' / 077° 52.267'<br>to<br>34° 01.817' / 077° 52.300' |
| Reef Balls®: 100 in four groups of 25 each | 2001 | 34° 01.783' / 077° 52.233'<br>34° 01.783' / 077° 52.233'<br>34° 01.783' / 077° 52.233'<br>34° 01.783' / 077° 52.233' |
| Concrete pipe: 85 pieces | 2-Nov-06 | 34° 01.835' / 077° 50.192' |
| Assorted concrete pipe, pilings and headers: 114 pieces | 29-Nov-06 | 34° 01.850' / 077° 50.190' |
| Miscellaneous concrete items: Approximately 115 tons | 1-Oct-08 | $34^0$ 01.901' / $077^0$ 52.268' |
| Concrete pipe: 138 pieces | 2-Oct-08 | $34^0$ 01.885' / $077^0$ 52.265' |

# DREDGE WRECK REEF

## AR-382

## Average Depth: 58'

**Buoy Location in GPS ddm: 33° 58.583' / 077° 41.283'**
**LORAN Coordinates: 27241.5 / 39047.0**
**General Location: 134° M, 10.6 nm from Carolina Beach Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Dredge "PLAYA" (marine casualty) | Feb-31 | 33° 58.500' / 077° 41.283' |
| 105' tug "POCAHONTAS" | 26-Feb-85 | 33° 58.583' / 077° 40.917' |
| 86' tug "R.R. STONE" | 01-Mar-85 | 33° 58.467' / 077° 41.283' |
| Reef Balls® 100 in a single group starting at the bow of "R.R. STONE" | 08-Feb-01 | 33° 58.483' / 077° 41.283' to 33° 58.467' / 077° 41.383' |

# LENNON / HYDE REEF

## AR-386

## Average Depth: 78'

**Buoy Location in GPS ddm: 33° 57.517' / 077° 33.450'**
**LORAN Coordinates: 27218.3 / 39082.2**
**General Location: 143° M, 17.8 nm from the Masonboro Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 29-Oct-86 | 33° 57.360' / 077° 33.340'<br>33° 57.400' / 077° 33.320'<br>33° 57.330' / 077° 33.280' |
| 150' YTT barge "ALTON LENNON"<br>(AKA "The Schoolhouse" )<br>Cape Fear Community College<br>Marine Technology Classroom Barge | 22-Oct-87 | 33° 57.633' / 077° 33.400' |
| 215' USACOE dredge "HYDE" | 20-May-88 | 33° 57.450' / 077° 33.433' |
| 320' USACOE dredge "MARKHAM" | 20-Oct-95 | 33° 57.633' / 077° 33.200' |

# AR-400

## Average Depth: 70'

**Buoy Location: NO BUOY MAINTAINED**

**LORAN Coordinates: 45165.6 / 59218.4**

**General Location: 18.0 nm, 112° M from the R"4FP" buoy and 43.5 nm from Masonboro Inlet, 0.25 nm NE of Frying Pan Light Tower**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 184' menhaden vessel "CAPT. GREG MICKEY" (ex-"COASTAL MARINER") | 4-Aug-07 | 33° 29.302' / 077° 35.265' |

# TOM McGLAMMERY REEF

## AR-420

## Average Depth: 38'

**Buoy Location in GPS ddm: 33° 51.050' / 078° 06.710'**
**LORAN Coordinates: Chain (GRI) 7980 / 45347.9 / 59184.8**
**General Location: 345°M, 3.1 nm from the Cape Fear River sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 104' YSD barge | 06-Sep-86 | 33° 51.084' / 078° 06.630' |
| 180' barge "HT-85" | 03-Jan-87 | 33° 51.150' / 078° 06.567' |
| Bridge span: 230' | 12-Feb-87 | 33° 51.066' / 078° 06.678' |
| Concrete pipe and manhole sections: 60 pieces | 1992 | 33° 51.045' / 078° 06.670' |
| 110' water barge "YC-794" "Potter Barge" | Mar-00 | 33° 50.975' / 078° 06.691' |
| Reef Balls®: 50 | Apr-00 | 33° 51.013' / 078° 06.592' and 33° 51.000' / 078° 06.617' |
| Assorted concrete pipe: 280 pieces | 09-Apr-00 | 33° 50.952' / 078° 06.802' |
| Concrete pipe: 62 pieces 36" by 8' | 23-Mar-01 | 33° 50.966' / 078° 06.810' |
| Concrete pipe: 61 pieces 36" by 8' | 26-Mar-01 | 33° 50.952' / 078° 06.802' |
| Reef Balls®: 100 in four groups of 25 each | Winter 2001 | 33° 51.150' / 078° 06.600' |
| | | 33° 51.167' / 078° 06.567' |
| | | 33° 51.150' / 078° 06.550' |
| | | 33° 51.133' / 078° 06.583' |
| Concrete pipe: Deployment A | Winter 2001 | 33° 51.017' / 078° 06.617'<br>33° 51.000' / 078° 06.633'<br>33° 51.017' / 078° 06.600'<br>33° 50.983' / 078° 06.617' |
| Concrete pipe: Deployment B | Winter 2001 | 33° 50.967' / 078° 06.817'<br>33° 50.967' / 078° 06.800'<br>33° 50.950' / 078° 06.817' |
| Concrete pipe, pilings & scrap: 146 pieces | 09-Mar-04 | 33° 51.008' / 078° 06.741' to 33° 51.029' / 078° 06.759' |
| Miscellaneous concrete items: 87 pieces | 17-Mar-05 | 33$^0$ 51.084' / 078$^0$ 06.549' |
| Miscellaneous concrete items: 88 pieces | 18-Mar-05 | 33$^0$ 51.064' / 078$^0$ 06.564' |
| Miscellaneous concrete items: 90 pieces | 22-Mar-05 | 33$^0$ 51.065' / 078$^0$ 06.570' |
| Concrete mixing drums: 3<br>Concrete pipe: 135 pieces | 24-Mar-05 | 33$^0$ 51.032' / 078$^0$ 06.829' |
| Miscellaneous concrete items: 89 pieces | 29-Mar-05 | 33$^0$ 51.074' / 078$^0$ 06.559' |

| | | |
|---|---|---|
| **24" concrete pipe: 170 pieces** | **30-Mar-05** | **$33^0$ 51.034' / $078^0$ 06.838'** |
| **24" concrete pipe: 159 pieces** | **31-Mar-05** | **$33^0$ 51.031' / $078^0$ 06.834'** |
| **Assorted pipe and concrete items: 154 tons** | **17-Sep-08** | **$33^0$ 51.168' / $078^0$ 06.788'** |
| **Concrete manhole bases: 155 tons** | **22/29-Sept-08** | **$33^0$ 51.170' / $078^0$ 06.798'** |

# YAUPON BEACH REEF

## AR-425

## Average Depth: 30'

**Buoy Location in GPS ddm: 33° 53.050' / 078° 06.567'**
**LORAN Coordinates: Chain (GRI) 7980 / 45354.7 / 59169.6**
**General Location: 357° M, 5.0 nm from the Cape Fear River sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Concrete rubble: 600 tons | Sep-86 | 33° 53.050' / 078° 06.588' |
| Concrete bridge railing: 100 pieces | 1989 | 33° 53.067' / 078° 06.517'<br>33° 53.050' / 078° 06.483'<br>33° 53.067' / 078° 06.483' |
| Floating Drydock (Maritime Casualty) | Late 1950's | 33° 53.068' / 078° 06.062' |
| Concrete pipe and manhole sections: 240 pieces | 1992 | 33° 53.004' / 078° 06.563' |
| Concrete pipe | 1993, 1994 | 33° 52.998' / 078° 06.523' |
| | | 33° 53.062' / 078° 06.516' |
| | | 33° 53.100' / 078° 06.567' |
| | | 33° 53.033' / 078° 06.567' |
| Concrete "Waffle-Crete"® units: 8 | Oct-97 | 33° 53.067' / 078° 06.617'<br>to<br>33° 53.033' / 078° 06.617' |
| Reef Balls®: 50 | Jan-98 | 33° 53.033' / 078° 06.083' |
| Reef Balls®: 50 | | 33° 52.983' / 078° 06.567' |
| Reef Balls®: 50 | | 33° 53.100' / 078° 06.500' |
| Reef Balls® | Mar-00 | 33° 53.112' / 078° 06.617'<br>33° 52.920' / 078° 06.567' |
| Reef Balls®: 100 in four groups of 25 each | Mar-01 | 33° 53.172' / 078° 06.576' N section<br>33° 53.150' / 078° 06.555' E section<br>33° 53.130' / 078° 06.585' S section<br>33° 53.149' / 078° 06.607' W section |
| Concrete pipe: 147 pieces | 26-Feb-01 | 33° 53.015' / 078° 06.621'<br>to<br>33° 53.004' / 078° 06.610' |
| Manhole sections: 150 tons | 1-Mar-02 | 33° 53.186' / 078° 06.413' |
| Manhole sections: 150 tons | 1-Mar-02 | 33° 53.129' / 078° 06.413' |
| Manhole sections: 150 tons | 1-Apr-02 | 33° 52.995' / 078° 06.700'<br>33° 52.962' / 078° 06.646'<br>33° 52.954' / 078° 06.683' |
| Ultra Reef Balls® : 50 units in dense grouping | 11-Feb-04 | 33° 52.899' / 078° 06.700' |

| | | |
|---|---|---|
| **Concrete pipe: 132 tons<br>Manhole sections: 24 tons** | **19-Feb-04** | **33° 52.921' / 078° 06.694'<br>to<br>33° 52.909' / 078° 06.679'<br>and<br>33° 52.919' / 078° 06.690'<br>to<br>33° 52.916' / 078° 06.679'** |
| **Reef Balls®: 100 in 2 groups of 50** | **22-Jun-05** | **33° 53.100' / 078° 06.500'<br>and<br>33° 53.033' / 078° 06.083'** |
| **Concrete pipe and dock panels:<br>approximately 325 pieces** | **11/30-Oct-06** | **33° 53.026' / 078° 06.664'<br>33° 53.104' / 078° 06.753'<br>33° 53.064' / 078° 06.706'** |
| **Concrete dock panels and headers** | **7-Nov-06** | **$33^0$ 53.054' / $078^0$ 06.732'** |
| **Concrete dock panels and headers** | **8-Nov-06** | **$33^0$ 53.078' / $078^0$ 06.716'** |
| **Scrap dock panels:<br>approximately 120 tons** | **9-Nov-06** | **$33^0$ 53.078' / $078^0$ 06.723'** |

# BRUNSWICK COUNTY FISHING CLUB REEF

## AR-440

## Average Depth: 42'

**Buoy Location in GPS ddm: 33° 49.800' / 078° 13.083'**

**LORAN Coordinates: Chain (GRI) 7980 / 43365.8 / 59246.6**

**General Location: 169° M, 4.5 nm from the Lockwood's Folly Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 7 | 31-Dec-87 | 33° 49.660' / 078° 13.050'<br>33° 49.710' / 078° 13.030'<br>33° 49.720' / 078° 13.040' |
| Boiler pieces: 4 | 03-Jan-87 | 33° 49.777' / 078° 13.053' |
| | | 33° 49.691' / 078° 13.061' |
| | | 33° 49.715' / 078° 13.060' |
| | | 33° 49.727' / 078° 13.082' |
| Concrete pipe: 150 pieces | 1992-1993 | 33° 49.817' / 078° 13.100'<br>33° 49.833' / 078° 13.083' |
| Concrete items: 4 pieces, 60 tons | 1993 | 33° 49.825' / 078° 13.068' |
| 65' tug "A.T. PINER" | May-93 | 33° 49.800' / 078° 13.094' |
| 65' tug "COOPEDGE" | May-93 | 33° 49.812' / 078° 13.127' |
| Reef Balls®:<br>100 in 2 groups | Apr-00 | 33° 49.775' / 078° 13.051'<br>to<br>33° 49.745' / 078° 13.075' |
| | | 33° 49.780' / 078° 13.050'<br>to<br>33° 49.797' / 078° 13.028' |
| Concrete pipe: 204 pieces, 30" by 8' | 20/21-Feb-01 | 33° 49.753' / 078° 13.091' |
| Concrete pipe: 210 pieces, 30" by 8' | 04/05-Apr-01 | 33° 49.733' / 078° 13.095' |
| Concrete pipe: 151 pieces 24" by 8' | 04-Mar-04 | 33° 49.884' / 078° 13.058'<br>to<br>33° 49.889' / 078° 13.070' |
| Concrete pipe, various sizes:<br>approximately 130 pieces | 25&30-Oct-06 | $33^0$ 49.807' / $078^0$ 12.922' |
| Concrete pipe, various sizes: 219 pieces | 6&15-Nov-06 | 33° 49.803' / 078° 12.956'<br>33° 49.807' / 078° 12.923'<br>$33^0$ 49.800' / $078^0$ 12.919' |
| Assorted concrete items | 6-Dec-06 | $33^0$ 49.735' / $078^0$ 12.986' |

# DALE McDOWELL REEF

## AR-445

## Average Depth: 53'

**Buoy Location in GPS ddm: 33° 44.783' / 078° 14.100'**
**LORAN Coordinates: Chain (GRI) 7980 / 45352.0 / 59289.0**
**General Location: 185° M, 9.3 nm from Lookwood's Folly Inlet**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 24-Oct-86 | 33° 44.792' / 078° 14.210' |
| 174' vessel "JELL II" | 10-Jul-91 | 33° 44.850' / 078° 14.050'<br>33° 44.833' / 078° 14.067' |
| Fiberglass and steel boat molds: 100 | 30-Jan-91 | 33° 44.829' / 078° 14.313'<br>33° 44.844' / 078° 14.326'<br>33° 44.810' / 078° 14.333' |
| Concrete manhole sections:<br>160 tons | Dec-93 | 33° 44.845' / 078° 14.153'<br>33° 44.840' / 078° 14.139'<br>33° 44.822' / 078° 14.132' |
| Concrete pipe: 250 pieces | 1994 | 33° 44.782' / 078° 14.049'<br>33° 44.742' / 078° 14.025'<br>33° 44.742' / 078° 14.075'<br>33° 44.767' / 078° 14.033'<br>33° 44.750' / 078° 14.083' |
| Reef Balls®: 100<br>In three groups of ~33 each | Apr-00 | 33° 44.767' / 078° 14.167' |
| | | 33° 44.800' / 078° 14.267' |
| | | 33° 44.867' / 078° 14.350' |
| Concrete pipe: 182 pieces | 27-Feb-01 | 33° 44.876' / 078° 14.152' |
| Concrete pipe: 135 pieces | 12-Mar-01 | 33° 44.863' / 078° 14.170' |
| Concrete pipe | Winter<br>2001 | 33° 44.867' / 078° 14.200'<br>33° 44.850' / 078° 14.200'<br>33° 44.867' / 078° 14.183'<br>33° 44.883' / 078° 14.150'<br>33° 44.867' / 078° 14.167' |
| Concrete scrap and<br>5 Scrap Reef Balls® | 03-Mar-04 | 33° 44.880' / 078° 14.023'<br>to<br>33° 44.861' / 078° 14.003' |
| Concrete pipe and manhole sections:<br>approximately 450 pieces | 4-Mar | 33° 44.870' / 078° 14.160' |
| 55' tug "ADMIRAL CHARLIE" | 19-Nov-04 | 33° 44.728' / 078° 14.193' |
| Assorted concrete pipe: 770 tons | 6/20-Aug-08 | 33° 44.654' / 078° 14.286'<br>33° 44.664' / 078° 14.192'<br>33° 44.641' / 078° 14.276'<br>33° 44.663' / 078° 14.295'<br>33° 44.645' / 078° 14.310' |

# DALE WARD REEF

## AR-455

## Average Depth: 46'

**Buoy Location in GPS ddm: 33° 47.033' / 078° 17.883'**
**LORAN Coordinates: Chain (GRI) 7980 / 45373.0 / 59306.0**
**General Location: 272° M, 10.6 nm from the Cape Fear River sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | 24/27-Oct-86 | 33° 47.010' / 078° 17.850'<br>33° 46.990' / 078° 17.810'<br>33° 46.990' / 078° 17.870' |
| Concrete pipe: 600 tons | 1992, 1993 | 33° 47.083' / 078° 17.933'<br>33° 47.050' / 078° 17.900' |
| Concrete manhole sections: 150 pieces | 1993 | 33° 47.043' / 078° 17.788' |
| Reef Balls®: 100<br>in three groups of ~33 | 2000 | 33° 47.000' / 078° 17.867' |
| | | 33° 47.033' / 078° 17.900' |
| | | 33° 47.050' / 078° 17.933' |
| Concrete pipe: 65 pieces, 36" by 8' | 27-Mar-01 | 33° 47.033' / 078° 17.783' |
| Concrete pipe: 74 pieces | 28-Mar-01 | 33° 47.000' / 078° 17.767' |
| Reef Balls®: 100<br>in four groups of 25 | Apr-01 | 33° 47.000' / 078° 17.942' |
| | | 33° 46.967' / 078° 17.938' |
| | | 33° 46.957' / 078° 17.982' |
| | | 33° 46.992' / 078° 17.991' |
| Concrete pipe: 230 pieces | 16-Apr-01 | 33° 47.017' / 078° 17.800'<br>33° 47.000' / 078° 17.800' |
| "Dale Ward Ultra Ball Reef"<br>Ultra Reef Balls®: 51 | 10-Feb-04 | 33° 47.100' / 078° 18.000' |
| Assorted concrete items: 58 pieces | 17-Feb-04 | 33° 47.093' / 078° 17.973'<br>to<br>33° 47.078' / 078° 17.956' |
| Assorted concrete items: 27 pieces | 24-Feb-04 | 33° 47.106' / 078° 17.955' |
| Assorted concrete items: 272 pieces | 24-Feb-04 | 33° 47.080' / 078° 17.957'<br>and<br>33° 47.079' / 078° 17.857' |
| 102' US Navy tug "PAWTUCKET" | 26-Jul-04 | 33° 47.130' / 078° 17.920' |
| Concrete pipe:155 tons | 26-Aug-08 | $33^0$ 47.021' / $078^0$ 18.016' |
| Concrete pipe:154 tons | 27-Aug-08 | $33^0$ 47.024' / $078^0$ 18.026' |
| Concrete pipe and manhole sections:<br>156 tons | 29-Sep-08 | $33^0$ 47.024' / $078^0$ 18.008' |
| Concrete pipe: 175 tons | 8-Oct-08 | $33^0$ 47.021' / $078^0$ 17.998' |
| Concrete pipe: 160 tons | 9-Oct-08 | $33^0$ 47.037' / $078^0$ 18.006" |

# FISHERMAN'S REEF

## AR-460

## Average Depth: 38'

**Buoy Location in GPS ddm: 33° 50.217' / 078° 22.033'**
**LORAN Coordinates: Chain (GRI) 7980 / 45398.0 / 59323.0**
**General Location: 183° M, 3.0 nm from the Shallotte Inlet sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| Railroad boxcars: 10 | Sep-86 | 33° 50.100' / 078° 21.000'<br>33° 50.084' / 078° 22.132'<br>33° 49.993' / 078° 22.071'<br>33° 49.960' / 078° 22.146'<br>33° 49.959' / 078° 22.087'<br>33° 49.892' / 078° 22.059'<br>33° 49.897' / 078° 22.117' |
| 330' barge | 1990 | 33° 50.133' / 078° 21.933' |
| Reef Balls®: 100<br>in two groups of 50 | 2000 | 33° 50.267' / 078° 22.050'<br>33° 50.267' / 078° 22.000' |
| Reef Balls®: 100<br>In four groups of 25 | 2001 | 33° 50.241' / 078° 22.000' |
| | | 33° 50.241' / 078° 22.048' |
| | | 33° 50.200' / 078° 21.967' |
| | | 33° 50.150' / 078° 21.983' |
| Concrete pipe | 28-Feb-01 | 33° 50.183' / 078° 22.083'<br>to<br>33° 50.167' / 078° 22.083' |
| Concrete pipe: 126 pieces, 24" by 8' | Feb-04 | 33° 50.183' / 078° 22.100' |
| Concrete pipe: 105 pieces, 30" by 8' | Apr-04 | 33° 50.179' / 078° 22.106' |
| Assorted manhole sections:<br>approximately 360 tons | 21&24<br>Mar-05 | 33° 50.238' / 078° 21. 904'<br>33° 50.236' / 078° 21. 900'<br>33° 50.234' / 078° 21. 904' |
| Concrete pipe: 64 pieces | 16-Oct-06 | $33^0$ 50.213' / $078^0$ 22.143' |
| Concrete pipe: 40 pieces | 14/28-Nov-06 | 33° 50.210' / 078° 22.138'<br>to<br>33° 50.227' / 078° 22.165' |

# GARY ENNIS REEF

## AR-465

## Average Depth: 90'

**Buoy Location: NO BUOY MAINTAINED**

**General Location: 186°M, 27.2 nm from the Cape Fear River sea buoy**

| Material | Deployment Date(s) | GPS (Decimal Minutes) |
|---|---|---|
| 180' menhaden vessel "MANCE LASSITER" | Jun-96 | 33° 23.423' / 078° 11.052'<br>33° 23.395' / 078° 11.058' |
| Reef Balls®: 100 in 2 areas of 50 units each | 2000 | 33° 23.382' / 078° 11.090'<br>and<br>33° 23.399' / 078° 11.090' |
| Ultra Reef Balls®: 100 in broadly dispersed pattern | 19-Apr-01 | 33° 23.418' / 078° 11.005'<br>33° 23.375' / 078° 11.005'<br>33° 23.350' / 078° 11.005'<br>33° 23.385' / 078° 10.984' |
| Manhole sections Adjacent to "MANCE LASSITER" East side, 75' by 150' area | 21-Jan-02 | 33° 23.404' / 078° 11.047'<br>33° 23.408' / 078° 11.039'<br>33° 23.414' / 078° 11.047'<br>33° 23.419' / 078° 11.040' |
| Mega Pipe Project: 925 tons: 188 pieces of large concrete pipe, 42" to 102" diameter material by 8'. Material is deployed in a 150' radius from position. | 14-May-05 | 33° 23.385' / 078° 11.115' - NW corner<br>33° 23.337' / 078° 11.091' - SE corner<br>33° 23.360' / 078° 11.096' - Site Center<br>33° 23.376' / 078° 11.060' - NE corner<br>33° 23.347' / 078° 11.127' - SW corner |
| Concrete pipe concentration | 2005 | 33° 23.781' / 078° 11.094' |