

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 Oregon Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) Cars: 10	23 Nov-86	36° 00.243' / 075° 31.872'
	12 Dec-86	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° 32.881'
		36° 00.210' / 075° 31.861'
		36° 00.120' / 075° 31.827'
Concrete Pipe: 227 Pieces of 18' & 30' x 8' (265 Tons)	30-Sept-02 8-Nov-02	South of Reef Balls

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 Oregon Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) Cars: 10	23-Nov-86	35° 56.741' / 075° 31.880' 35° 56.751' / 075° 31.887'
Barge 130'	13-Jun-89	35° 56.750' / 075° 31.917'
Barge 130'	15-Jun-89	35° 56.767' / 075° 31.750'
Concrete Pipe	14-Nov-98	35° 56.917' / 075° 31.767'
Concrete Pipe	23-Nov-98	35° 56.917' / 075° 31.767'

AR-145

Average Depth: 55'

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 Oregon Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Landing Craft (LCU 1468) 115'	12-Jan-87	35° 54.067' / 075° 23.933'
Bridge rubble: 4 areas	1991	35° 53.967' / 075° 23.933' 35° 53.883' / 075° 23.950' 35° 53.950' / 075° 23.983'
"Advance II" 185' vessel	1994	35° 54.000' / 075° 23.867'
Concrete Pipe: small load		35° 54.100' / 075° 23.867' to 35° 54.067' / 075° 23.817'
Concrete Pipe: large load		35° 53.983' / 075° 23.967'
AIRPLANE: USCG FALCON	04-May-05	35° 53.946' / 075° 23.783'

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 Oregon Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
"Zane Gray" 440' liberty ship	12-Dec-74	35° 43.837' / 075° 26.776' 35° 43.769' / 075° 26.776'
"Irving H" 83' trawler		Unverified
"Dionysus" 440' liberty ship	30-Nov-78	35° 44.055' / 075° 26.733'
"Dionysus" west part		35° 44.040' / 075° 26.756'
"Dionysus" south part		35° 44.020' / 075° 26.750'
8 Concrete VanDoren units		35° 43.910' / 075° 26.851' 35° 43.873' / 075° 26.860'
Concrete Piling Cutoffs	8-Dec-99	35° 43.933' / 075° 26.900'
Reef Balls (43)	8-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, 122 pcs. (36'x8')	13 & 23- Sept-03	35° 43.865' / 075° 26.764'

AR-220

Average Depth: 64'

Buoy Location in GPS ddm: 35° 08.117' / 077° 40.633'

LORAN Coordinates: 26951.0 / 40182.0

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

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars: 9	12-Dec-86	35° 08.150' / 075° 40.803' 35° 08.102' / 075° 40.696' 35° 08.093' / 075° 40.755' 35° 08.105' / 075° 40.752'
Concrete Pieces: 5 (75 tons)	15-Dec-86	Unverified
Concrete Pieces	1993	35° 08.067' / 075° 40.633'
Reef Balls: 200 (large area)	Jan-01	35° 08.110' / 075° 40.574' 35° 08.099' / 075° 40.550' 35° 08.066' / 075° 40.540' 35° 08.055' / 075° 40.613' 35° 08.055' / 075° 40.540'

AR-225

Average Depth: 69'

Buoy Location in GPS ddm: 35° 06.750' / 075° 39.233'

LORAN Coordinates: 26945.0 / 40175.0

General Location: 120° M, 6.2 nm from Hatteras Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train Box cars: 8	12-Dec-86	35° 06.868' / 075° 39.541' 35° 06.868' / 075° 39.556' 35° 06.788' / 075° 39.343'
Concrete pieces: 7 (105 tons)		35° 06.773' / 075° 39.250' 35° 06.716' / 075° 39.321' 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: 148° M, 3.7 nm from Hatteras Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
"Mr J.C." 105' tug	15-Sep-87	35° 06.117' / 075° 42.967'
Yard Freighter 130'	1991	35° 06.183' / 075° 42.967'
Landing Craft 75'	1991	35° 06.208' / 075° 42.950'

AR-250

Average Depth: 83'

Buoy Location in GPS ddm: 34° 56.900' / 075° 54.867'

LORAN Coordinates: 26987.3 / 40024.0

General Location: 156° M, 5.1 nm from Ocracoke Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars: 10	14-Nov-86	34° 56.679' / 075° 55.104'
Concrete rubble	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'	3-May-01	34° 56.787' / 075° 54.811'
		34° 56.794' / 075° 54.804'

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 Ocracoke Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars: 10	Nov and Dec-86	34° 55.533' / 075° 57.867' 34° 55.467' / 075° 57.950'
Pipe		34° 55.480' / 075° 57.950'
High profile units: steel pyramids		34° 55.500' / 075° 57.900'
Concrete rubble		34° 55.533' / 075° 57.950' to 34° 55.517' / 075° 57.867'
"Old Hobucken Bridge" steel truss span 150'		34° 55.517' / 075° 57.867' and 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

Material	Deployment Date	GPS (Decimal Minutes)
Concrete pipes	1991, 1993	34° 50.067' / 076° 17.017' to 34° 50.033' / 076° 17.017' and 34° 50.100' / 075° 16.983'
"Miss Clara" 65' crew boat	1992	34° 50.150' / 076° 16.850'
"Gulf Coast" 130' menhaden vessel	17-Jun-05	34° 50.117' / 076° 16.617'
Reef Balls: 100 in one tight group	29-Feb-00	34° 50.083' / 076° 17.033' to 34° 50.133' / 076° 17.066'
5 birdhouse stands, 1/2 H unit, 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'

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:

125° M, 3.5 nm from the east Cape Lookout Shoals Slough Buoy (RW "E")

Material	Deployment Date	GPS (Decimal Minutes)
"NANCY LEE" 130' steel hull fishing vessel	31-Jan-89	34° 33.533' / 076° 26.200' to 34° 33.367' / 076° 26.200'
Concrete pipes	1991	34° 33.567' / 076° 26.250'
Concrete pipes	1993	34° 33.467' / 076° 26.300'
		34° 33.500' / 076° 26.283'
High Profile Units		34° 33.350' / 076° 26.333'
Reef Balls: 100	6-Mar-00	34° 33.383' / 076° 26.383' to 34° 33.350' / 076° 26.400'

HARDIE'S REEF

AR-300

Average Depth: 90'

Buoy Location: NO BUOY MAINTAINED

General Location: 153° M, 24.0 nm from Beaufort Inlet sea buoy

Located 500 yards north of 14 buoy (R "14")

Material	Deployment Date	GPS (Decimal Minutes)
Yard Oiler FS-26 174'	29-Jan-89	34° 18.517' / 076° 24.133'
		34° 18.543' / 076° 24.125'
Concrete pipes	1991	34° 18.517' / 076° 24.300'
		34° 18.633' / 076° 24.150'
Concrete pipes		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'

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: 143° M, 35.4 nm from Beaufort Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
"YANCEY" 459 ft assault transport ship South End	Sep-86	34° 10.265' / 076° 13.703'
Concrete Pipe	1991	34° 10.267' / 076° 13.767' to 34° 10.283' / 076° 13.783' and 34° 10.283' / 076° 13.800'
Concrete Pipe	1993	34° 10.267' / 076° 13.750' to 34° 10.233' / 076° 13.733' and 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: 184° M, 22.5 nm from Beaufort Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
"AEOLUS" 439 ft ex-USN Cable Layer	Sep-86	Bow 33° 50.133' / 078° 21.933' Stern 34° 16.683' / 076° 38.650'
"SPAR" 183' USCG Buoy Tender	June-04	Bow 34° 16.663' / 076° 38.685' 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 Fort Macon jetty

Material	Deployment Date	GPS (Decimal Minutes)
"THEODORE PARKER" 440' liberty ship	4-Jun-74	34° 40.350' / 076° 44.717' to 34° 40.350' / 076° 44.767'
Tires: 177,168	1974-1984	Throughout area N of Lib. Ship
"FINEST KIND" steel hull sportfishing vessel	02-Aug-77	Unverified
Coast Guard launch 40'	1980	Unverified
"HELEN MAY" trawler	6-Jan-83	Unverified
Lash Barge #1, 60' with 450 tons of concrete rubble	9-Jun-89	34° 40.233' / 076° 44.600'
Lash Barge #2, 60'	9-Jun-89	34° 40.400' / 076° 44.483'
Aircraft F-4	1992	34° 40.350' / 076° 44.650'
Aircraft A-4 (2)	1992	34° 40.367' / 076° 44.650'
Concrete Rubble	1991, 1992	34° 40.383' / 076° 44.650' to 34° 40.383' / 076° 44.667'
Bridge Rubble	1989	34° 39.967' / 076° 45.050' and 34° 39.983' / 076° 45.033'
Steel bridge framing	1989	34° 40.350' / 076° 44.583' 34° 40.383' / 076° 44.583'
Reef Balls	21-Feb-00	34° 40.383' / 076° 44.500' to 34° 40.400' / 076° 44.517' and 34° 40.400' / 076° 44.500' 34° 40.400' / 076° 44.483'
"TAKOS" 104' Navy tug	2-Nov-00	34° 40.320' / 076° 44.806'
Concrete Pipe: Newport DOT	2002	34° 40.316' / 076° 44.820'
Concrete Pipe: Newport DOT Misc. Concrete, Radio Island Pilings	2003	34° 40.330' / 076° 44.793'
Radio Island Ramp Pilings (6-12' length, ~500 pieces), T.D. Eure Const.	2003	34° 40.280' / 076° 44.534'
Radio Island Ramp Pilings (6-12' length, ~500 pieces), T.D. Eure Const.	2003	34° 40.217' / 076° 44.617'
Concrete Pipe (Heavy Concentration) Carteret County Sportfishing Association	2003	34° 40.243' / 076° 44.600'
Carteret County Sportfishing Association Pilings (Round Disperse Pattern)	2003	34° 39.908' / 076° 45.189'
Broadcast of pilings and concrete pipe: 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 Const.	2003	Four corner area coordinates. 34° 39.957' / 076° 45.129' 34° 39.925' / 076° 45.062' 34° 39.863' / 076° 45.085' 34° 39.839' / 076° 45.156'
Reef Balls: 50, Ultra Ball: 1,	19-Mar-04	34° 40.200' / 076° 44.800'

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 Fort Macon jetty

Material	Deployment Date	GPS (Decimal Minutes)
"NOVELTY" 140' menhaden vessel	9-Jul-86	34° 39.483' / 076° 48.433'
Atlantic Beach bridge rubble, 2 rows	26-May-87 to 31-Dec-87	34° 39.483' / 076° 48.450' 34° 39.400' / 076° 48.450' and 34° 39.517' / 076° 48.433' to 34° 39.517' / 076° 48.467'
Atlantic Beach bridge, steel truss span	1987	34° 39.483' / 076° 48.450' to 34° 39.517' / 076° 48.467'
Concrete Waffel Crete pre-fab	1990	34° 39.543' / 076° 48.452'

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 Fort Macon jetty
and 118° M, 12.8 nm from Bogue Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) Cars, 10	1986	34° 33.633' / 076° 51.350' to 34° 33.633' / 076° 51.367' and 34° 33.550' / 076° 51.333' 34° 33.583' / 076° 51.367' 34° 33.550' / 076° 51.367'
"Domes" Fiberglass Pre-fabricated	1990	34° 33.783' / 076° 51.267' 34° 33.767' / 076° 51.250' 34° 33.733' / 076° 51.333'
Concrete pipe: 160 pieces	1990	34° 33.583' / 076° 51.200'
"INDRA" '320' landing craft repair ship	1992	34° 33.700' / 076° 51.100' 34° 33.738' / 076° 51.091'
C-130 aircraft: 2	1994	34° 33.633' / 076° 51.367' to 34° 33.633' / 076° 51.383'
F-4 aircraft: 1	1995	34° 33.633' / 076° 51.350' to 34° 33.633' / 076° 51.367'
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' to 34° 33.450' / 076° 51.483'
Reef Balls: 45	11-Sep-00	34° 33.430' / 076° 51.400' to 34° 33.444' / 076° 51.396'
Concrete Pipe: 600 tons Carteret County Sportfishing Association	2003	34° 33.589' / 076° 51.438' 34° 33.587' / 076° 51.445' 34° 33.580' / 076° 51.442'

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 Bogue Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) Cars, 10	29-Nov-86	34° 34.317' / 076° 58.350' to 34° 34.300' / 076° 58.367' and 34° 34.283' / 076° 58.350'
Concrete pipes: (1000) 500 are 5' x 8'	1991	34° 34.317' / 076° 58.350'
500 pieces of concrete pipe	1993	34° 34.383' / 076° 58.300' 34° 34.350' / 076° 58.250' 34° 34.317' / 076° 58.317' 34° 34.317' / 076° 58.300' 34° 34.367' / 076° 58.317'
Hatteras boat molds: 12		34° 34.367' / 076° 58.500' 34° 34.367' / 076° 58.333' 34° 34.383' / 076° 58.500' 34° 34.450' / 076° 58.500' 34° 34.500' / 076° 58.517' 34° 34.417' / 076° 58.483' 34° 34.433' / 076° 58.517' 34° 34.400' / 076° 58.483' 34° 34.400' / 076° 58.533' 34° 34.383' / 076° 58.517' 34° 34.367' / 076° 58.533'
Reef Balls: 25	3-Oct-00	34° 34.517' / 076° 58.420'
Reef Balls: 46	5-Oct-00	34° 34.528' / 076° 58.455' 34° 34.547' / 076° 58.435' 34° 34.517' / 076° 58.417' 34° 34.501' / 076° 58.445' 34° 34.517' / 076° 58.433'

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	GPS (Decimal Minutes)
Tire units: 19,488	16-Feb-83	34° 36.467' / 077° 02.167'
Concrete pipe: 160 pieces		34° 36.583' / 077° 02.183'
Concrete pipe: 61 pieces		34° 36.444' / 077° 02.177'
40 cu. ft. metal containers: 10 units	25-Feb-83	34° 36.475' / 077° 02.179' and 34° 36.495' / 077° 02.185'
Train (box) cars: 10	20-May-86	34° 36.467' / 077° 02.167' 34° 36.425' / 077° 02.258'
Concrete pipe: 246 pieces		34° 36.583' / 077° 02.240' to 34° 36.600' / 077° 02.183' and 34° 36.617' / 077° 02.233' to 34° 36.589' / 077° 02.238' and 34° 36.467' / 077° 02.167'
Concrete pipe: (72) 30'x12', (22) 24'x8', (35) 18'x8', (45) 15'x8' OBSFC	24 & 25 Mar-04	34° 36.677' / 077° 02.326' to 34° 36.655' / 077° 02.342'

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

Geneneral Location: 143° M, 8.1 nm from Bogue Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars: 10	23-Dec-86	34° 32.233' / 076° 58.500' 34° 32.233' / 076° 58.533' 34° 32.333' / 076° 58.550'
Concrete Pipe: 750 pieces	1991	34° 32.233' / 076° 58.417' to 34° 32.267' / 076° 58.450' and 34° 32.217' / 076° 58.417'
Concrete pipe	1991	34° 32.300' / 076° 58.533'
Concrete "Vandorn" units: 8		34° 32.400' / 076° 58.467' 34° 32.400' / 076° 58.483'
Reef Balls: 75	3-Oct-00	34° 32.333' / 076° 58.333' to 34° 32.333' / 076° 58.367' and 34° 32.352' / 076° 58.317' 34° 32.333' / 076° 58.376'
Ultra Balls: 50, Reef Ball: 1	19-Mar-04	34° 32.420' / 076° 58.610'
"TITAN" 116' tug	27-Jul-04	34° 32.141' / 076° 58.473'

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 New River Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Box cars (10) in 2 groups	18-Dec-86	34° 21.150' / 077° 19.983'
Concrete rubble from Hwy. 172 bridge: 10 barge loads	1993	34° 21.233' / 077° 19.900' 34° 21.267' / 077° 19.967' 34° 21.283' / 077° 19.900' 34° 21.200' / 077° 20.067' 34° 21.317' / 077° 19.983'
"SEA MINT" 60' ferro-cement vessel	1993	34° 21.200' / 077° 20.067'
High Profile Units		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: 85° M, 2.5 nm from New Topsail Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Tires - 48,700	26-Sep-74	Throughout Reef
Concrete pipe: 4' x 8': 850 pieces	1992	34° 21.017' / 077° 36.183' 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	Apr-02	34° 20.776' / 077° 36.156' 34° 20.774' / 077° 36.155' 34° 30.779' / 077° 36.145'

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 New Topsail Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars - 10	5-Dec-86	Throughout Reef
Concrete pipes: 850 pieces 4' x 8'	1992	34° 15.767' / 077° 30.433' 34° 15.733' / 077° 30.383' 34° 15.767' / 077° 30.417'
Concrete Pipe: 140 Tons Topsail Beach Offshore Fishing Club	Apr-02	34° 15.750' / 077° 30.560' 34° 15.753' / 077° 30.566' 34° 15.755' / 077° 30.566' 34° 15.744' / 077° 30.566' 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 Masonboro Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Tires: 76,873	1974-1984	Throughout Reef
32 Concrete pieces: (480 tons)	18-Dec-86	Unverified
"SOUTHERN CRAFT 8" 65' tug	12-May-88	34° 14.850' / 077° 42.833'
Landing Craft (LCM), 55'	18-Jan-89	34° 14.783' / 077° 42.850'
"Domes" Fiberglass Pre-fabricated	1990	Unverified
"CAPTAIN TOM" 52' tug	1992	34° 14.833' / 077° 42.800'
"CAPTAIN JERRY" 65' tug	1994	34° 14.850' / 077° 42.833'
Barge, 298'		bow 34° 14.767' / 077° 42.900' 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: 127° M, 13.9 nm from New Topsail Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars - 10	5-7 Dec-86	34° 12.898' / 077° 25.330' 34° 12.911' / 077° 25.332' 34° 12.883' / 077° 25.310' 34° 12.832' / 077° 25.275'
Concrete pipe: 4' x 8': 850 pieces	1992	34° 12.983' / 077° 25.267' 34° 12.950' / 077° 25.233'
Concrete Pipe: 2 Loads (280 Tons Total) <u>T</u> opsail <u>B</u> each <u>O</u> ffshore <u>F</u> ishing <u>C</u> lub	Apr-02	34° 13.018' / 077° 25.160'
Concrete Box Culvert: 57 Pieces TBOFC	27-Jan-04	34° 12.873' / 077° 25.230' and 34° 12.879' / 077° 25.235'
Concrete Box Culverts: 9 Pieces TBOFC	27-Jan-04	34° 12.885' / 077° 25.256'
Manhole Sections: 61 Pieces TBOFC	29-Jan-04	34° 12.921' / 077° 25.255'
Concrete Risers & Manholes: 38 Pieces TBOFC	4-Feb-04	34° 12.888' / 077° 25.261'
Box Culverts: 39 Pieces TBOFC	4-Feb-04	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 New Topsail Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars - 10	7-Dec-86	34° 09.417' / 077° 25.917'
Barge "LC-16" 241'	1994	34° 09.583' / 077° 25.917' 34° 09.583' / 077° 25.933' 34° 09.583' / 077° 25.883'
Scattered rubble		34° 09.583' / 077° 25.933' 34° 09.583' / 077° 25.883' 34° 09.567' / 077° 25.967'
Concrete Pipe TBOFC	Apr-02	34° 09.667' / 077° 25.832'
Concrete Pipe TBOFC	Apr-02	34° 09.694' / 077° 25.807'
Concrete Pipe TBOFC	Apr-02	34° 09.690' / 077° 25.817' and 34° 09.684' / 077° 25.828'

MEARES HARRIS 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 Masonboro Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Tug 110'	02-Jun-70	34° 10.490' / 077° 44.990'
Tanker 50'	Summer 1972	Unverified
Barges (2) @ 90' each	01-Aug-73	34° 10.467' / 077° 44.800'
Tires: 56,500	1973 - 1974	34° 10.520' / 077° 45.120'
"ALEXANDER RAMSEY" 440' liberty ship	26-Aug-74	34° 10.520' / 077° 45.120'
Barge 135' x 30' x 18'	25-Sep-80	34° 10.483' / 077° 44.783'
"SICONY 8" 120' tug	15-Dec-82	34° 10.533' / 077° 45.083'
"STONE BROTHERS" 105' tug	14-Jan-83	34° 10.330' / 077° 44.790'

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 Masonboro Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars - 10	7-Nov-86	34°06.240' / 077° 44.820'
Barge 220' (north one)	1990	34°06.250' / 077° 44.800'
Barge 220' (south one)	1990	34° 06.233' / 077° 44.800'
Reef Balls: 128 in five groups of 25-28 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

Average Depth: 60'

Buoy Location in GPS ddm: 34° 03.283' / 077°39.633'

LORAN Coordinates: 27243.1 / 39077.2

General Location: 142° M, 9.9 nm from Masonboro Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars - 10 total (2 groups of 5)	1986	34° 03.267' / 077° 39.617'
Concrete pipe: 5' x 8', 850 pieces	1992	34° 03.333' / 077° 39.700'
Concrete "VanDoren" units: 7		34° 03.267' / 077° 39.583' 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:(9960) 27275.5 / 57509.2 and (7980) 45336.0 / 58990.4

General Location: 184° M, 2.6 nm from Carolina Beach Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Barges (3) 98'	5-May-82	34° 01.990' / 077° 51.960'
		34° 00.783' / 077° 50.667'
		34° 00.633' / 077° 50.683'
Tires: 111,000	5-May-82	34° 00.783' / 077° 50.667'
Barge 195'	1993	34° 01.820' / 077° 52.130'
Concrete Pipe: 134 pieces	1999	34° 01.850' / 077° 52.267' to 34° 01.817' / 077° 52.300'
Reef Balls: 100 In four groups of 25 each.	2001	34° 01.783' / 077° 52.233'
		34° 01.783' / 077° 52.250'
		34° 01.767' / 077° 52.250'
		34° 01.767' / 077° 52.233'

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: 130° M, 10.7 nm from Carolina Beach Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
"Dredge Wreck" (marine casualty)	early 1940's	33° 58.500' / 077° 41.283'
"POCAHONTAS" 105' tug	26-Feb-85	33° 58.583' / 077° 40.917'
"R.R. STONE" 86' tug	27-Feb-85	33° 58.467' / 077° 41.283'
Reef Balls: 100 in a single group starting at the bow of the "R.R. STONE"	2001	33° 58.483' / 077° 41.283' through 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 Masonboro Inlet sea buoy

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

TOM McGLAMMERY REEF

AR-420

Average Depth: 30'

Buoy Location in GPS ddm: 33° 51.050' / 078° 06.710'

LORAN Coordinates: 45347.9 / 59184.8 Chain (GRI) 7980

General Location: 315° M, 3.0 nm from Cape Fear River sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Barge: 104' YSD	Sep-86	33° 51.084' / 078° 06.630'
Barge: HT-85 180'	January-87	33° 51.150' / 078° 06.567'
Bridge Span: 230'	March-87	33° 51.066' / 078° 06.678'
Concrete pipe and manhole sections: 60 pieces	1992	33° 51.033' / 078° 06.650'
"Potter Barge" YC-794 110' water barge	Mar-00	33° 50.975' / 078° 06.691'
Reef Balls: 50	Apr-00	33° 51.013' / 078° 06.618' and 33° 51.000' / 078° 06.617'
Concrete pipe: 62 pieces 36' x 8'	23-Mar-01	33° 50.966' / 078° 06.810'
Concrete pipe: 61 pieces 36' x 8'	26-Mar-01	33° 50.952' / 078° 06.802'
Concrete pipe: 15 pieces 18' x 8'	9-Apr-00	33° 50.952' / 078° 06.802'
Concrete pipe: 265 pieces 15' x 8'	April-01	33° 50.952' / 078° 06.802'
Reef Balls: 50	2000	33° 51.013' / 078° 06.618'
Reef Balls: 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' 33° 51.000' / 078° 06.633' 33° 51.017' / 078° 06.600' 33° 50.983' / 078° 06.617'
Concrete pipe: Deployment B	Winter 2001	33° 50.967' / 078° 06.817' 33° 50.967' / 078° 06.800' 33° 50.950' / 078° 06.817'
Small pile of concrete material	09-Mar-04	33° 51.031' / 078° 06.748'
Approx. 900 Tons Assorted manhole Sections & (30) 24" x 8" Pipe	March 2005	33° 51.061' / 078° 06.569'
(3) Concrete Mixing Drums & (2) Septic Tanks & (464) 24" x 8' Pipe	March 2005	33° 51.031' / 078° 06.835'

YAUPON BEACH REEF

AR-425

Average Depth: 30'

Buoy Location in GPS ddm: 33° 53.050' / 078° 06.567'

LORAN Coordinates: 45354.7 / 59169.6 Chain (GRI) 7980

General Location: 336° M, 4.4 nm from Cape Fear River sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Concrete Rubble: 600 tons	Sep-86	100 to 300 ft SW of buoy
Bridge railing: 100 pieces	1989	33° 53.067' / 078° 06.517' 33° 53.050' / 078° 06.483' 33° 53.067' / 078° 06.483'
Unknown Barge (Maritime Casualty)		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 VanDoren units: 8		33° 53.067' / 078° 06.617' 33° 53.033' / 078° 06.617'
Reef Balls: 100 in three groups of 33 each	2000	33° 52.983' / 078° 06.567' 33° 53.100' / 078° 06.500' 33° 53.033' / 078° 06.083'
Reef Balls: 100 in four groups of 25 each	Mar-01	33° 53.172' / 078° 06.576' 33° 53.150' / 078° 06.555' 33° 53.130' / 078° 06.585' 33° 53.149' / 078° 06.607'
Reef Balls	Mar-04	33° 53.103' / 078° 06.614' 33° 52.975' / 078° 06.567'
Concrete pipe: 147 pieces	26-Feb-01	33° 53.015' / 078° 06.621' to 33° 53.004 / 078° 06.610'
Manhole Sections	Mar-02	33° 53.186' / 078° 06.413'
Manhole Sections	Mar-02	33° 53.129' / 078° 06.413'
100 Reef Balls: In two groups of 50	22-Jun-05	33° 53.100' / 078° 06.500' and 33° 53.033' / 078° 06.083'
Manhole Sections	Apr-02	33° 52.995' / 078° 06.700' 33° 52.962' / 078° 06.646' 33° 52.954' / 078° 06.683'
Ultra Balls: 50 units in dense grouping	11-Feb-04	33° 52.899' / 078° 06.700'
Concrete Pipe: 132 tons	19-Feb-04	33° 52.921' / 078° 06.694' to 33° 52.909' / 078° 06.678'
Manhole Sections: 24 Tons	19-Feb-04	33° 52.919' / 078° 06.690' to 33° 06.916' / 078° 06.679'

BRUNSWICK COUNTY FISHING CLUB REEF

AR-440

Average Depth: 42'

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

LORAN Coordinates: 43365.8 / 59246.6 Chain (GRI) 7980

Geneneral Location: 169° M, 4.5 nm from Lookwood's Folly Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars: 7	1987	33° 49.660' / 078° 13.050' 33° 49.710' / 078° 13.030' 33° 49.720' / 078° 13.040'
Boiler pieces: 4	1987	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 in 1992	1992-1993	33° 49.817' / 078° 13.100' 33° 49.833' / 078° 13.083'
Concrete: 60 tons: 4 pieces		Unverified
"A.T. PINER" 65' tug	1993	33° 49.800' / 078° 13.100'
"COOPEDGE" 65' tug	1993	33° 49.800' / 078° 13.100'
Reef Balls: 100 in 2 groups	Apr-00	33° 49.775' / 078° 13.051' to 33° 49.745' / 078° 13.075'
		33° 49.780' / 078° 13.050' to 33° 49.797' / 078° 13.028'
Concrete pipe: 104 pieces	20-Feb-01	33° 49.754' / 078° 13.090'
Concrete pipe: 100 pieces	21-Feb-01	33° 49.752' / 078° 13.092'
Concrete pipe: 105 pieces 30'	4-Apr-01	33° 49.733' / 078° 13.095'
Concrete pipe: 105 pieces 30'	5-Apr-01	33° 49.733' / 078° 13.095'
Concrete pipe: 151 pieces 24'	04-Mar-04	33° 49.884' / 078° 13.058' to 33°49.889' / 078° 13.070'

DALE McDOWELL REEF**AR-445****Average Depth: 53 '****Buoy Location in GPS ddm: 33° 44.783' / 078° 14.100'****LORAN Coordinates: 45352.0 / 59289.0 Chain (GRI) 7980****Geneneral Location: 185° M, 9.3 nm from Lookwood's Folly Inlet**

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars: 10	1986	33° 44.792' / 078° 14.210'
"JELL II" 174' vessel	1991	33° 44.850' / 078° 14.050' 33° 44.833' / 078° 14.067'
Fiberglass and steel boat molds: 100	1991	33° 44.829' / 078° 14.313' 33° 44.844' / 078° 14.326' 33° 44.810' / 078° 14.333'
Concrete sections	1993	33° 44.845' / 078° 14.153'
Concrete pipe: 250 pieces	1994	33° 44.767' / 078° 14.033' 33° 44.750' / 078° 14.083'
Reef Balls: 100 in three groups of about 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 2001	33° 44.867' / 078° 14.200' 33° 44.850' / 078° 14.200' 33° 44.867' / 078° 14.183' 33° 44.883' / 078° 14.150' 33° 44.867' / 078° 14.167'
Concrete scrap and 5 Scrap Reef Balls	03-Mar-04	33° 44.880' / 078° 14.023' to 33° 44.861' / 078° 14.003'
"ADMIRAL CHARLIE" 55' Tug	19-Nov-04	33° 44.728' / 078° 14.193'

DALE WARD REEF**AR-455**

Average Depth: 46'

Buoy Location in GPS ddm: 33° 47.033' / 078° 17.883'

LORAN Coordinates: 45373.0 / 59306.0 Chain (GRI) 7980

Geneneral Location: 265° M, 12.2 nm from Cape Fear River sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) cars: 10	24-27 Oct-86	33° 47.010' / 078° 17.850' 33° 46.990' / 078° 17.810' 33° 46.990' / 078° 17.870'
Concrete pipe: 300 pieces in 1993	1992, 1993	33° 47.083' / 078° 17.933' 33° 47.050' / 078° 17.900'
Concrete manhole sections: 150 pieces	1992	33° 47.043' / 078° 17.788'
Reef Balls: 100 in three groups of ~33	2000	33° 47.000' / 078° 17.867' 33° 47.033' / 078° 17.900' 33° 47.050' / 078° 17.933'
Reef Balls: 100 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: 65 (36' x 8')	27-Mar-01	33° 47.033' / 078° 17.783'
Concrete pipe: 30 (30' x 8') and 44 (36" x 8')	28-Mar-01	33° 47.000' / 078° 17.767'
Concrete pipe: 230 pieces	16-Apr-01	33° 47.017' / 078° 17.800' 33° 47.000' / 078° 17.800'
Concrete pipe	Winter 2001	33° 47.034' / 078° 17.779' 33° 47.017' / 078° 17.797' 33° 47.020' / 078° 17.803' 33° 47.000' / 078° 17.771' 33° 47.000' / 078° 17.797'
Reef Balls: 100 in four groups of 25	Winter 2001	33° 46.983' / 078° 17.983' 33° 46.950' / 078° 17.983' 33° 47.000' / 078° 17.933' 33° 46.967' / 078° 17.933'
"Dale Ward Ultra Ball Reef" 51 Ultra Balls	10-Feb-04	33° 47.100' / 078° 18.000'
Concrete Pipe: 13 Cones, 2 Sm. Boxes, 3 Lg Boxes, 13 Lids, 4 Ultra Balls, 16 Bases, 7 Round Risers	17-Feb-04	33° 47.093' / 078° 17.973' to 33° 47.078' / 078° 17.956'
Concrete Pipe: 2 Cones, 2 Risers, 1 Lid, 1 Sm. Base, 1 Box, 17 (18' Flairs)	24-Feb-04	33° 47.106' / 078° 17.955'
Concrete Pipe: 237 (12' Pipe), 22 (24' Pipe), and 11 (18' Flairs)	24-Feb-04	33° 47.080' / 078° 17.957' and 33° 47.079' / 078° 17.857'
"Pawtucket" 104' Navy Tug	26-Jul-04	33° 47.130' / 078° 17.920'

FISHERMAN'S REEF

AR-460

Average Depth: 38'

Buoy Location in GPS ddm: 33° 50.217' / 078° 22.033'

LORAN Coordinates: 45398.0 / 59323.0 Chain (GRI) 7980

General Location: 183° M, 3.0 nm from Shallotte Inlet sea buoy

Material	Deployment Date	GPS (Decimal Minutes)
Train (Box) Cars: 10	Sep-86	33° 50.100' / 078° 21.000'
		33° 50.084' / 078° 22.132'
		33° 49.993' / 078° 22.071'
		33° 49.960' / 078° 22.146'
		33° 49.959' / 078° 22.087'
		33° 49.892' / 078° 22.059'
		33° 49.897' / 078° 22.117'
Barge: 330'	1990	33° 50.133' / 078° 21.933'
Reef Balls: 100 in two groups of 50	2000	33° 50.167' / 078° 22.133'
		33° 50.150' / 078° 22.133'
Reef Balls: 100 in two groups of 50	2000	33° 50.267' / 078° 22.050'
		33° 50.267' / 078° 22.000'
100 Reef Balls: 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	2001	33° 50.183' / 078° 22.083'
		33° 50.167' / 078° 22.083'
Concrete pipe - 126 pieces - 24' x 8'	Feb-04	33° 50.183' / 078° 22.100'
Concrete pipe - 105 pieces - 30'x 8'	Apr-04	33° 50.179' / 078° 22.106'
Assorted Manhole Sections: Approx. 360 tons	Mar-05	33° 50.241' / 078° 21. 895'

GARY ENNIS REEF

AR-465

Average Depth: 90'

Buoy Location: NO BUOY MAINTAINED

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

Material	Deployment Date	GPS (Decimal Minutes)
"MANCE LASSITER" 180' menhaden vessel		33° 23.417' / 078° 11.050' 33° 23.400' / 078° 11.067'
Ultra Balls: 100	19-Apr-01	33° 23.418' / 078° 11.005' 33° 23.350' / 078° 11.005' 33° 23.375' / 078° 10.020' 34° 12.873' / 077° 25.230' 34° 12.879' / 077° 25.235'
Reef Balls: 2 areas of 50 units	2000	33° 23.382' / 078° 11.070' and 33° 23.416' / 078° 11.166'
Manhole Sections	21-Jan-02	33° 23.442' / 078° 11.042' 33° 23.442' / 078° 11.091'
Mega Pipe Project: 925 tons: 188 pieces of large concrete pipe, 42' to 102' diameter material by 8". Material is deployed in a 150 foot radius from position	14-May-05	33° 23.359' / 078° 11.097'