

## 2001 Edition

## New Jersey's Recreational Reef Fishery

## The Creation of a Marine Resource

New Jersey's reefs have come a long way in the past fifteen years. Prior to 1984, Sea Girt was the only active reef site off the Jersey coast and that site only had a half-dozen reef structures. Since then, the Department of Environmental Protection's Division of Fish and Wildlife developed a network of 14 reef sites, stretching from Sandy Hook to Cape May, and constructed over 1,300 fishing and diving reefs on these sites.

Both fish and fishermen have responded to this effort by the State. Considering only fishing trips for bottom species, such as sea bass, tautog and porgy, artificial reefs accounted for only 7 percent of the private and 3 percent of the party boat trips in 1970; with only a few artificial reefs in existence, the vast majority of bottom fishing occurred on the hundreds of shipwrecks sunk by storms, accidents and wars along the Jersey coast. In 1991, following initial reef construction efforts, use of artificial reefs rose to 42 percent of the private and 20 percent of the party boat bottom fishing activity. By 2000, following extensive reef building, reefs dominated the bottom fishing action, with 90 percent of private and 47 percent of party boat trips targeting bottom species occurring on reefs created by the Division. In other words, for anglers seeking bottom species like sea bass and tautog, private boat captains went to reefs



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New Jersey Department of Environmental Protection Division of Fish and Wildlife



## **Recreational Reef Fishery**

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9 out of 10 trips and party boat captains preferred reefs 1 out of every 2 trips.

New Jersey's recreational wreck/reef fishing fleet now consists of 5,401 private, 240 charter and 64 party boats. During the course of the 2000 fishing season, one-third of a million angler-trips targeted wreck/reef species throughout the State's ocean waters. In 2000, these boats caught an estimated 7.9 million wreck/reef fishes, with 4.8 million of these being taken on our 14 ocean reef sites. The most

### New Jersey anglers caught 4.8 million fish on ocean reefs in 2000.

important species in the catch was sea bass (5.6 million), followed by porgy (0.5 million), tautog (0.4 million) and fluke (0.3 million); 25 other species were caught in smaller numbers.

Fortunately, about 56 percent (4.4 million) of the fish caught were released alive. This season was marked by an outstanding run of sea bass that were represented by several strong year classes. For private boats, the Garden State North (28 fish/angler), Sandy Hook (24), Wildwood (23) and Atlantic City (21) reefs produced the best daily catches (includes kept and released), while Shark River (7), Great Egg (10) and Ocean City (13) reefs had the lowest catch rates. The catch rate for bottom fishing on wrecks not on reef sites was 24 fish per angler. National recreational fishing surveys estimated the State's total catch of all saltwater species averaged about 27 million fish annually during 1979-1999. Thus, the reefs accounted for 18 percent of all of the fish



caught in our state's saltwaters. In other words, roughly 2 out of every 11 fish caught along the Jersey shore during 2000 were caught on a reef built by the Division of Fish and Wildlife. This is a particularly amazing statistic given the fact that reef sites only comprise 0.3 percent of New Jersey's sea floor. "This survey demonstrates the importance of artificial reefs," said Bob McDowell, Director of the Division of Fish and Wildlife. "The time and effort the Division has invested in developing our ocean reef network is now paying big dividends for New Jersey anglers. The Reef Program is creating a valuable new marine resource that will benefit the State's marine sport fishing industry for decades to come."

This information was collected as part of an intensive survey conducted between April and November, 2000. During this time, the Division interviewed 1,055 private and charter boat captains and 1,012 party boat anglers to obtain information about their fishing activities. We appreciate the support and cooperation of all the fishermen who participated in the study.

Structure	Latitude	Longitude
Coney Island, 250' tanker	4006.285	7341.365
Capt. Etzel, 110' barge	4007.910	7356.168
Ocean Wreck Divers III, 165' tanker	4000.587	7359.555
PSI, tank	3945.016	7401.582
Jerry, 42' tug	3937.757	7400.828
VHFC, 44' CG Cutter	3933.496	7405.991
A.C. Westcoat, 60' barge	3915.540	7414.691
Peggy Diana, 56' LCM	3850.830	7442.510

## **Some DGPS Coordinates**



# Accomplishment, 1984-2000

Since the inception of the Division of Fish and Wildlife's Reef Program in 1984, 1,374 patch reefs have been built on New Jersey's network of 14 ocean reef sites. A patch reef is a several-square-yard to several-acre reef created by sinking a ship or placing a barge load of other material on the sea floor. In 2000, 60 patch reefs were constructed.

Reef Material	Patch Reefs Built <u>in 2000</u>	Total Patch Reefs Built <u>1984-2000</u>
Tire Units	—	228
Concrete	2	180
Rock	—	392
Vessels, Barges	4	95
Army Vehicles	—	397
Reef Balls	34	49
Other	20	33
Total	60	1,374

## **Objectives of The Reef Program**

New Jersey's Reef Program is administered by the Department of Environmental Protection's Division of Fish and Wildlife. The objectives of the program are to construct hard-substrate "reef" habitat in the ocean for certain species of fish and shellfish, new fishing grounds for anglers and underwater structures for scuba divers. Explosive charges set by the State Police Bomb Squad sank the 165-foot Navy tanker "Capt. Bart" in less than three minutes.



 $\equiv$  New Wrecks in Y2K  $\equiv$ 







An 83' Coast Guard cutter sponsored by the Cape May County Party and Charter Boat Association was sunk on March 30 on the Cape May Reef at DGPS coordinates 3853.621 7440.600.





A 174' Navy tanker sponsored by the Greater Pt. Pleasant Charter Boat Association, Crown Beer Distributors and Budweiser was sunk on June 9 on the Shark River Reef at DGPS Coordinates 4007.103 7341.479 in memory of Charlie "Captain Bart" Rozanski.



#### "McGurr's Tug"

An 85' canal tug sponsored by the Ocean Wreck Divers Scuba Club was sunk on September 12 on the Axel Carlson Reef at DGPS coordinates 4002.473 7359.599 in loving memory of Charles J. McGurr, Jr.



#### "HRFA-NJ"

A 98' tug sponsored by the Hudson River Fisherman's Association was sunk on September 22 on the Shark River Reef at DGPS coordinates 4006.883 7341.534.









Divers Joe Morrison (left to right), Terry Zeller and Charles Cole retrieved two portholes from the Red Oak, a 157-foot Coast Guard buoy tender sunk on the Cape May Reef in 1999. Photo by Capt. Joe Morrison of the Charter boat "Black Knight".

# **WANTED** EXPERIENCED DIVERS

The Reef Program needs experienced divers to assess the condition of shipwrecks on New Jersey reef sites. Your underwater observational skills will assist our efforts to inventory over 100 wrecks sunk on artificial reef sites. The types of information we need include depth, shipwreck orientation, hull condition, diver hazards, and more. The ultimate goal of this project is to prepare a book on shipwreck vital statistics for use by divers and fishermen. Each participating diver will be credited in the book.

If you would like to help, call the Reef Program at 609-748-2020. We will supply the data forms and a list of wrecks to be surveyed and their locations.







## **Reef Plans for 2001**

Reef Ball Habitats	700
Dredge Rock	250,000 cubic yards
Concrete	20,000 cubic yards
APL-31	260' Navy troop transport





What's that structure on the fathometer?

A single Reef Ball habitat on the Axel Carlson Reef as recorded by Capt. John Hawryluk of the party boat Norma K III. The habitats were covered with sea bass and porgy.

## How Reef Structures Benefit Marine Life

Surface Area: In the ocean, the surface area of a habitat is very important because it represents the interface between the surface upon which an animal lives and its exposure to the water column where it feeds and respires. The sandy sea floor is twodimensional and has a relative surface area of 1. Three-dimensional reef structures, on the other hand, have height and thus more living area for the same relative unit of sea floor that they occupy. A human analogy would be a comparison between the floor space of a ranch house and that of a high-rise apartment building, both occupying the same footprint on the ground. The taller and more complicated a structure, the more surface area is available for marine life to colonize and consequently, the more productive it can be.

**Firm, Stable Substrate:** Unlike sand that is constantly shifting, reef structures provide firm, stable substrates for the attachment of marine life. Once anchored in place on a reef structure, marine life can withstand strong ocean currents and storms.

**Habitat Diversity:** Reef structures add a third component to New Jersey's marine environment, which now consists of sandy sea floor and water column habitats. The more diverse an environment, the more options are available to marine life and thus, the greater the diversity of species living there.

**Refuge:** The nooks and crevices of reef structures provide hiding places for juvenile and adult fish and other marine life to avoid predation.

**Reduced Energy:** The diffusion of currents by reef structures provides calm water, resting areas for fish, much like a boulder provides relief for a trout in a stream. Thus, the energy that would otherwise have been wasted upon swimming against the current can be better put towards growth.

**Turbulence:** The deflection of currents by reef structures can result in the creation of eddies that concentrate plankton, a prime food source for young fish. Schools of planktivorous fish often concentrate in these feeding zones.

**Increased Biomass:** The increased biomass (weight of marine life) associated with reef structures provides a ready source of food for fish and other marine life.



**How Reef Structures Benefit Marine Life** 

## **REEF WEB SITE**

ATTENTION: "CYBER DIVERS"

The New Jersey Division of Fish and Wildlife's Internet web site provides information about New Jersey artificial reefs: www.njfishandwildlife.com.





## 2000 Reef Ball Habitat Sponsors



- Sponsor Kathi Smock created "The Wanderer Reef" for her two brothers, Tom and Don Zmuda.
- Reef Ball sponsors from the New Jersey Council of Diving Clubs included Glen Gunther, Peggy Bowen, New Jersey Skin Diving Club, Ocean Wreck Divers, Al Guzzo, On the Bottom Dive Club, New Jersey Aquanauts, New Jersey Divers Association, Shore Aquatic Club, Staten Island Sport Divers, and Philadelphia Sea Horses.
- Sponsor Walter Metzger created the "Hi Mom" reef.
- Earl Gallup sponsored the "Rande Reef."
- Fred Brucker sponsored the "Fred's Beds" reef.
- Adam Siodlowski sponsored the "Adam Siodlowski" reef.
- Peter O'Connor sponsored the "Ratcatcher" reef.
- Marine Academy of Science and Technology Scuba Club sponsored the "MAST PTSA" reef.
- Bruce Liming sponsored a reef in memory of his fishing buddy, Frank Maloney, Jr.
- Gordon Wiegmann sponsored the "Top Gun" reef.

- The Gordon and Barry Wiegmann families sponsored a reef in memory of "Rick" Colicchio.
- Janice Kennedy sponsored the "Bob Kennedy Last Chance" reef.
- Dr. Nicholas Cavarocchi sponsored the "Alexis" and "Nicky" reefs.
- Cynthia Hamilton sponsored the "Woodrow W. Page" reef.
- Peter Donnelly sponsored the "Rag Doll" reef.
- GWL and LSL sponsored the "GWL/LSL" reef.
- Jeff Meckler sponsored the "Mecklerstone" reef.
- Michele Fennimore sponsored the "Len Fen" reef.
- John Scalzo sponsored the "John's Glory" and "John's Bait Shop" reefs.
- Lou Meier sponsored "Lou's Reef".
- Carmen Russo sponsored "Russo's Ridge".
  - See page 11 for details on how you can sponsor a reef habitat.

#### "Salty Rinse"

On August 12, 12 Reef Balls sponsored by Robert C. Shawger, Jr. were placed on the Axel Carlson Reef.

#### "Frank and Elizabeth Frasco Reef"

On August 25, 12 Reef Balls sponsored by Frank and Fran Frasco, Jr. were placed on the Barnegat Light Reef in memory of Frank and Elizabeth Frasco, Sr.

#### "Bayhead Shores Fishing Club Memorial Reef"

On August 11, 20 Reef Balls sponsored by the Bayhead Shores Fishing Club were placed on the Axel Carlson Reef as a living memorial for past members.

#### "Foggy Notion Reef"

On August 18, 12 Reef Balls sponsored by Don Kamienski were placed on the Barnegat Light Reef.

#### "Beach Haven Yacht Club Reef"

On August 20, 7 Reef Balls sponsored by the Beach Haven Yacht Club were placed on the Garden State South Reef.

#### "Materazzi Reef"

On August 1, 7 Reef Balls sponsored by the Village Harbor Fishing Club were placed on the Garden State South Reef in memory of the club's vice-president, Ernie Materazzi.

#### "Sam and Jim Blair Reef"

On August 16, 12 Reef Balls sponsored by Lois Blair were placed on the Axel Carlson Reef.

#### "Morrison's Marina and Restaurant Reef"

On August 20, 12 Reef Balls sponsored by Morrison's Seafood Inc. were placed on the Garden State South Reef.

#### "Marion and Cliff Reef"

On August 9, 30 Reef Balls sponsored by the Kleimenhagens, Roshellis, Gablers and Figleys were placed on the Garden State South Reef in memory of Marion Figley and Clifford Ellis.

#### "Sea Gypsies Reef"

On August 2, 20 Reef Balls sponsored by the New York City Sea Gypsies Diving Club were placed on the Axel Carlson Reef.

#### "Dive Council Reef"

On August 2, 30 Reef Balls sponsored by the New Jersey Council of Diving Clubs were placed on the Axel Carlson Reef.

#### "Miss Dawnie Reef"

On August 20, 12 Reef Balls sponsored by Walter Herrmann were placed on the Garden State South Reef in honor of his wife's birthday.

#### "Rick Schmidt's Reef"

On November 8, 50 Reef Balls sponsored by family and friends were placed on the Barnegat Light Reef in memory of Rick Schmidt.

#### "Thal's Fin Alley"

On November 13, 12 Reef Balls sponsored by James W. Thal were placed on the Axel Carlson Reef Site.

#### "TNT Reef"

On August 11, 20 Reef Balls sponsored by Thomas and Theresa DePaola were placed on the Axel Carlson Reef Site.

#### "Edward N. Headley Reef"

On August 28, 12 Reef Balls sponsored by Tom Headley were placed on the Garden State North Reef Site.

#### "Jacob John Dmitruck Reef"

On November 9, 12 Reef Balls sponsored by Rose Dmitruck and John Racioppi were placed on the Barnegat Light Reef in honor of Jacob John Dmitruck.

#### "Kirkenir Reef"

On August 21, 12 Reef Balls sponsored by John H. Kirkenir were placed on the Garden State South Reef.

#### "Billy L. Sidney Reef"

In November, 12 Reef Balls sponsored by Wanda Sidney and friends were placed on the Axel Carlson Reef in memory of Billy L. Sidney.

#### "Beach Haven Marlin and Tuna Club Reefs"

On August 1 and 21, 20 Reef Balls sponsored by the Beach Haven Marlin and Tuna Club were placed on two sites on the Garden State South Reef.

#### "Forked River Tuna Club III"

On August 18, 7 Reef Balls sponsored by the Forked River Tuna Club were placed on the Barnegat Light Reef.



The volume and area of reef structures placed in NJ reefs through 2000.

## **Artificial Reef Association**

The Artificial Reef Association (ARA) was founded in 1991 by a group of party and charter boat captains and marina owners. The goal of the ARA is to promote reef construction throughout the State's coastal waters. The primary function of the non-profit organization has been to raise money to help pay the costs of cleaning, preparing and towing ships and barges destined for sinking on reef sites. So far the ARA has provided funds to sink 19 vessels.

The ARA has raised most of its funds through the sale of Reef T-shirts and Reef Books. Donations from fishing and diving clubs are particularly helpful. If your club would like to help sponsor the sinking of a vessel on a reef, contact:

ARA, PO Box 16, Oceanville, NJ 08231

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## **Sportfish Fund**

The Sportfish Fund is a nonprofit foundation administered by the Fisherman Magazine. Its purpose is to raise money to promote recreational fishing opportunities. Funds donated to the Reef Program are held in the Sportfish Fund account until they are needed to pay for reef construction activities.

## **PARTICIPATING AGENCIES**

The following agencies have helped make New Jersey's Reef Program a success:

#### Federal

- U.S. Fish and Wildlife Service
- U.S. Coast Guard
- U.S. Army Corps of Engineers
- National Marine Fisheries Service
- U.S. Navy and Reserves
- U.S. Army and Reserves
- U.S. Customs Service
- U.S. Environmental Protection Agency

#### State

N.J. State Police

N.J. State Police, Marine Bureau State Agency for Surplus Property Division of Land Use Regulation Southern State Correctional Facility N.J. Army National Guard

#### County

Ocean County Bridge Department Ocean County Department of Corrections Cape May Municipal Utilities Authority

#### Municipal

Atlantic City Police Bomb Squad

# **ADOPT-A-REEF HABITAT**

### A great gift or memoriam for a fisherman or diver

#### CREATE AN UNDERSEA CONDO FOR NEW JERSEY MARINE LIFE

New Jersey's marine life - sea bass, lobsters, crabs and many others - need a place to live. You can help by sponsoring the placement of a concrete reef habitat on a New Jersey ocean reef. Not only will your habitat create a home for marine life to thrive, but it will also provide anglers and divers a new place to fish and explore.

A tax-deductible donation will help pay for the fabrication and transportation of your habitat(s) to a New Jersey ocean reef site.



#### How much does it cost and what will you receive for sponsoring ocean habitats?

#### 



## The ultimate reef book is here! A Guide to Fishing and Diving New Jersey Reefs



- This 64-page book is a complete directory of New Jersey's 14 ocean reef sites, which encompass over 1200 reefs.
- The book features both LORAN and DGPS charts of all of the state's 14 reef sites.
- LORAN and DGPS coordinates of every named reef are provided.
- The pages are made of durable, waterproof plastic designed for use in bad weather and at sea.
- The book can be purchased at many bait and tackle shops or ordered through the mail (an order form is provided on the back cover).
- Every fisherman and diver needs these maps to find the sunken treasure (fish and lobster) on New Jersey's 14 reef sites.
- Don't leave the dock without it.

# ORDER FORM "The Ultimate Reef Book"

Name			
Address			

Zip

Please send a copy of *"A Guide to Fishing and Diving New Jersey Reefs."* Enclosed is my check, payable to *"ARA" for \$20.00 (\$17.95 for book plus \$2.05 for postage).* 

Artificial Reef Association PO Box 16 Oceanville, NJ 08231

REEF PROGRAM DIVISION OF FISH AND WILDLIFE P.O. BOX 418 PORT REPUBLIC, NJ 08241

Phone \_



Postmaster Address Correction Requested