



**New Jersey**



# Fish & Wildlife

D I G E S T

**2006 Marine Issue**

VOL. 19 NO. 3

MAY 2006

A Summary of Rules & Management Information  
[www.NJFishandWildlife.com](http://www.NJFishandWildlife.com)

**Free**

**Reef  
Network  
Expands**

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**Profile: American Eel**

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# New Jersey Fish & Wildlife Digest, 2006 Marine Issue



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## Hotlines

### NJ Fish and Wildlife

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NOAA Fisheries  
Office of Law Enforcement  
Northeast Enforcement  
Division HQ  
(973) 281-9213

Fisheries Law Enforcement  
Field Offices  
Wall: (732) 280-6490  
Marmora: (609) 390-8303

## Commissioner's Message



BY LISA P. JACKSON

On February 28, I was honored to have Governor Jon S. Corzine swear me in as Commissioner of the Department of Environmental Protection (DEP). For many of you this might be the first time hearing my name. Although I began my career at DEP in 2002, I haven't had much interaction with the


fish and wildlife community as my focus was primarily environmental regulation. Prior to my appointment at DEP, I spent 16 years at the Environmental Protection Agency. During my time at DEP, as Assistant Commissioner of Environmental Regulation and subsequently Land Use Management, I had the pleasure of working with many dedicated and skilled professionals. Luckily, many of those same people have decided to stay with us and continue their work in the Corzine administration.

One of these very talented people requires no introduction since many of you are familiar with him from his previous role as Assistant Commissioner of Natural and Historic Resources. I am proud to have Jay Watson advance to his new role as the Deputy Commissioner of Natural and Historic Resources. Jay brings many talents with him as he embarks on this new position. Prior to his tenure as Assistant Commissioner, Jay served as Administrator of New Jersey's Green Acres program where he helped expand the state's Wildlife Management Area system and fishing access points for the state's anglers. Not only is Jay a committed environmentalist, he is a trusted colleague and his advancement will bring natural and historic resource issues to the forefront.

Amy Cradic is filling Jay's former position as Assistant Commissioner of Natural and Historic Resources. Amy has more than 10 years of experience at DEP most recently serving as Deputy Director of the Division of Parks and Forestry where she helped manage the day-to-day operations of the division's 600 full-time and 700 part-time seasonal employees and a \$34 million annual operat-

ing budget. Amy is an incredible asset to our agency and will be an excellent Assistant Commissioner. We both gained a better understanding of an angler's life during Becoming an Outdoors-Woman training we attended together a few years ago. Amy and I had some great times kayaking, fishing, practicing archery and learning how to cook seafood.

Although fish and wildlife management is a new responsibility for me, the community is a constituency I have gained a lot of respect for in my time at DEP. Having your support for stronger water protections such as Category One (C1) waterbody designations and stormwater rules makes our job to protect the environment easier. I value this partnership and it is something I hope to build upon as we continue to take aggressive measures to protect our water. I am committed to expanding C1 protections and successfully implementing the Highlands Water Protection and Planning Act. While the benefit from these programs mainly affects freshwater, the reduced non-point source pollution also helps prevent pollution in our coastal waters.

Governor Corzine strongly supports these and other environmental programs important to New Jersey's sportsmen and women. His commitment was demonstrated in his recent budget proposal. Despite troubling budget times, the Governor's proposal maintains the same state funding for the hunters and anglers license fund. Additionally, \$8.9 million in funding will be dedicated to watershed restoration projects to address ongoing pollution sources that degrade our ponds and streams. Even though this funding will give a much-needed boost to our watershed protection work, there are many challenges ahead. I look forward to working with the fishing and hunting community to meet these challenges. Together I'm confident we can continue the progress that has made New Jersey a leader in environmental policy and expand protection for our natural and wildlife resources. 

Lisa P. Jackson is Commissioner of the New Jersey Department of Environmental Protection.

## Director's Message



BY DAVE CHANDA

As the recently appointed Acting Director of the Division of Fish and Wildlife, I look forward to working with all of you to conserve our fish and wildlife resources and to preserve the outdoor traditions that mean so much to us all. I also look forward to facing the challenges that come with the ever-increasing complexity

of fish and wildlife management in the 21st century.

One challenge I do not look forward to however, is replacing six valued employees who have retired during the past year from the Division of Fish and Wildlife's Marine Fisheries Administration. These six employees represent 180 years of institutional knowledge and dedicated work for the marine resource and they leave a gap that will be difficult, if not impossible, to fill.

The short tributes I will provide here to each of those employees cannot do justice to their long and illustrious careers. Hopefully it will help you appreciate how fortunate we are to have the dedicated people who do the research, collect the data and perform the management necessary to restore and maintain a healthy and harvestable marine resource.

Russell Tilton started his career with Fish and Wildlife at age 17 and retired in May 2005 after 37 years of dedicated service. During his career, he worked on every field project conducted by the Bureau of Marine Fisheries. Russ tagged over 20,000 fish and collected data on many tens of thousands more. Along with his vast knowledge of marine fish and their eggs and larvae, Russ (a.k.a. Mr. Fix-it) will be missed for his ability to repair anything and everything that came his way.

Barry Preim retired January 1, 2006 with 33 years of service with the Division. Barry participated on essentially every program in which the Bureau of Marine Fisheries has been involved, including the estuarine inventory programs, ocean trawl program and most recently, the artificial reef program. Barry's expertise will be sorely missed.

Kurt Powers retired from the Division of Fish and Wildlife in December 2005 after 29 years. Kurt began his career at the Hackettstown Trout Hatchery and was heavily involved in the design and construction of the Pequest Trout Hatchery and the renovation of the Hackettstown Hatchery. In his last few years with the Division, Kurt was the Chief of the Bureau of Marine Fisheries and used his vast fisheries management knowledge to guide the Bureau through many difficult marine fisheries issues.

Nancy Loveland dedicated 27 years of her life to serving the Division's Bureau of Shellfisheries. Nancy coordinated all the shell-

*(Continued on page 8)*

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# Fish & Wildlife

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The Division of Fish and Wildlife is a professional, environmental organization dedicated to the protection, management and wise use of the state's fish and wildlife resources.

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Cover image: Couple with striped bass, Peter Morgan, Windigo Images

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## Where to Write Us

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P.O. Box 400 • Trenton, NJ 08625-0400 • Internet: www.njfishandwildlife.com

## New Jersey Fish & Wildlife

### Our Mission

To protect and manage the state's fish and wildlife to maximize their long-term biological, recreational and economic value for all New Jerseyans.

### Our Goals

- To maintain New Jersey's rich variety of fish and wildlife species at stable, healthy levels and to protect and enhance the many habitats on which they depend.
- To educate New Jerseyans on the values and needs of our fish and wildlife and to foster a positive human/wildlife co-existence.
- To maximize the recreational and commercial use of New Jersey's fish and wildlife for both present and future generations.

# Young

# Eel

## American Eel Young-of-Year Survey Part of Fisheries Management Plan

By Heather Corbett, Assistant Fisheries Biologist

Patcong Creek, a quiet tidal tributary of Great Egg Harbor Bay in Atlantic County, flows gently through salt-marsh and peat-bank habitats. The creek is home to a wide assortment of marine, estuarine and wildlife species. Local residents use it for fishing, crabbing, boating and other recreational activities. Patcong Creek is also the site of a very important survey New Jersey Department of Environmental Protection's Division of Fish and Wildlife's Bureau of Marine Fisheries is conducting to collect information on American eels.

As a result of growing concerns about the status of American eel populations, the Atlantic States Marine Fisheries Commission (ASMFC) implemented a fishery management plan for American eel in 1999. As part of that plan, ASMFC required that, beginning in 2000, states conduct a survey of glass eels to collect information on the number of eels (young-of-year) recruiting to the population each year. (See *Species Profile: American Eel*, page 20.) New Jersey already had been sampling for several years to identify a suitable sampling site and to determine the best method to capture glass eels. By 2000, after experimenting with various sampling techniques at several locations, Patcong Creek was selected as our permanent sampling location.

The gear used to collect glass eels is a modified Japanese elver fyke net set under a bridge, just downstream of a spillway at Bargaintown Pond. A fyke net is a funnel-shaped net with two "wings" extending forward from the opening of the net. The wings help to guide the eels into a series of funnels in the net to the codend (a bag at the end of the net with very small mesh), where they are retained until the net is tended. The net is set with the opening



Lacking pigmentation, very young eels are translucent and known as glass eels at this life stage. This subsample (right) of many 2-inch to 3-inch glass eels are ready to be individually measured and weighed.

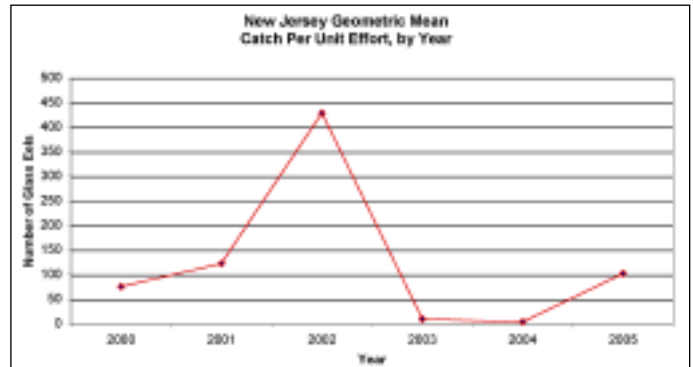
Photos: Heather Corbett, NJ Division of Fish and Wildlife

# of Year Survey



Heather Corbett, NJ Fish and Wildlife

Fyke net placed under a bridge to catch glass eels.



Average number of eels caught per day by year.

facing downstream in order to catch eels swimming upstream towards the pond. See photo (above) for an upstream view of the net.

Sampling is conducted during a six-week period in the late winter/early spring, ideally during the peak run of glass eels. Every day during daylight low tide, marine fisheries biologists wade into the creek to empty the catch into a bucket, remove debris from inside and around the net, and reset the net for the next day's catch.


At the same time, environmental and climatological data are recorded such as water and air temperatures, water depth, gear condition and more. The day's catch is brought to the lab where biological data on the eels is collected.

Although the goal is to collect information from every eel caught, when the catch is large data is collected only on a subsample.

Processing includes individually

measuring, weighing and determining the pigmentation stage of each eel. Stages of pigmentation range from one to seven, with seven characterizing a fully pigmented eel. Green eels and other non-target species caught are separated from the glass eel catch then individually measured and weighed. These are not included in the total catch weight of the glass eels. All aquatic life caught is returned upstream of the net after processing to avoid recapture. Fish species caught incidentally include banded killifish and tessellated darters.

During the six years of the survey, a total of 41 pounds of glass eels have been captured on 225 days of sampling. The largest catch of 4.4 pounds, approximately 13,400 eels, was caught in February of 2002. In April 2005, there was a one-day catch of nearly 3 pounds, even though the codend broke and a large portion of the catch escaped. It is likely that this would have been our largest catch during the survey. The graph (above) shows the average number of eels caught per day for each year of the survey.

With current data showing that American eel populations are at an all-time low, more research like this survey must be conducted to monitor population fluctuations. The American Eel Young-of-Year Survey allows marine researchers to learn the status of eel recruitment so informed management decisions can be made. 



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Barry Preim, NJ Div. of Fish and Wildlife

# New Jersey's Reef

By Hugh Carberry, Reef Coordinator

## Network Expands

### New Reef Site Under Way Off Townsends Inlet

**T**he New Jersey Department of Environmental Protection's Division of Fish and Wildlife last fall received the necessary permits and approvals to construct a new reef site 3.8 nautical miles southeast of Townsends Inlet, Cape May County. The site measures 0.52 square miles and has a depth range of 49 to 65 feet. It can be further identified as being approximately two nautical miles northwest of Avalon Shoal. The Townsends Inlet Reef will be a welcomed addition for anglers and divers from Sea Isle City, Avalon and Stone Harbor.

To best accommodate reef users, the site will be delineated into two areas. The shallower inshore portion will be reserved for drift fishing while the deeper offshore area will be utilized for vessel deployments to accommodate divers and



Hugh Carberry, NJ Div. of Fish and Wildlife

This vessel, the 82-foot Donna's Star along with a tugboat (next page), form the foundation of a new reef site off of Townsends Inlet, Cape May County. Donations are needed to grow this reef into prime underwater real estate for marine creatures.

Large Photo Above: Retired Reef Program coordinator Bill Figley supervises the sinking of an oil tanker barge on the Wildwood Reef site. Enjoy your retirement, Bill!

wreck fishing enthusiast.

Recent reef construction activities include the sinking of a 62-foot tugboat and an 82-foot trawling vessel. Although these vessels are a good beginning, much more is planned to create another reef site teeming with marine life.

Fish and Wildlife's Bureau of Marine Fisheries plans to deploy 800 reef ball habitats within the drift fishing portion this summer. Fishing and diving clubs throughout New Jersey provide financial assistance to make scheduled reef-material deployment a reality. Divers, anglers and other outdoor enthusiasts interested in helping to enhance fishing grounds in the Garden State are encouraged to learn about the DEP's Adopt-A-Reef Program.

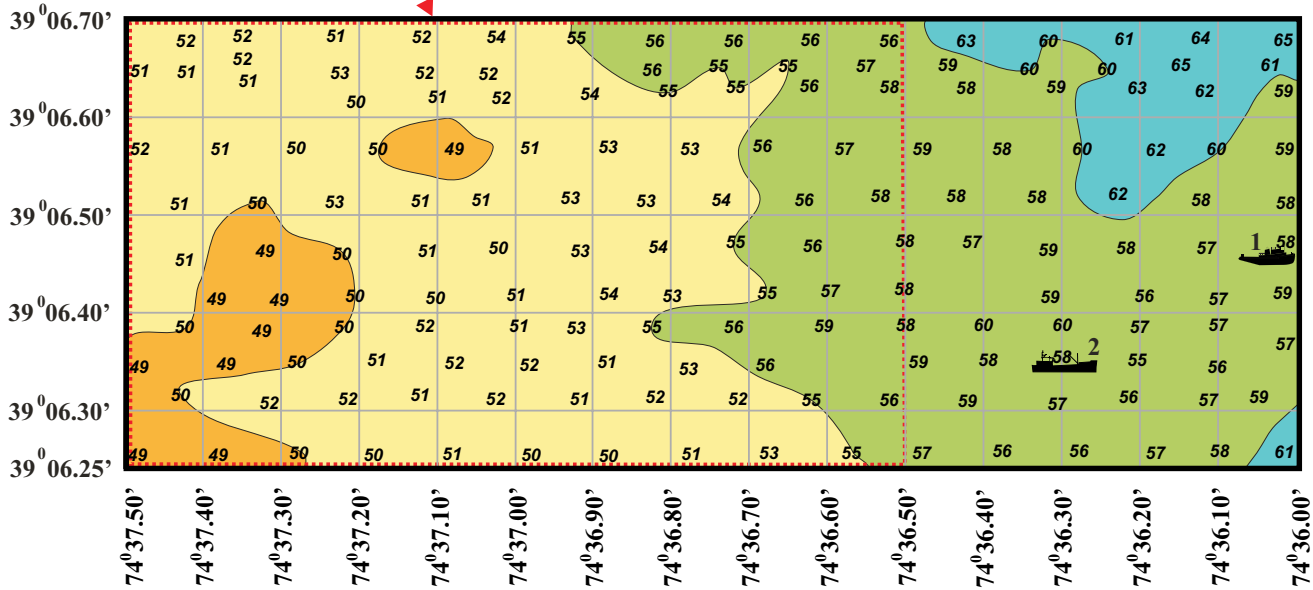
For more information on the Artificial Reef Program, visit [www.njfishandwildlife.com/artreef.htm](http://www.njfishandwildlife.com/artreef.htm). Or call the ▶

# Townsend's Inlet Reef

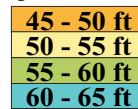
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Depth Contours



Water Depths in Feet

From →	Corson's Inlet	Townsend's Inlet	Hereford Inlet
Compass bearing	182°	110°	66°
Distance, (n.m.)	5.73	3.8	9.31

Distance offshore:--- 3.8 n.m.  
Reef area: ----- 0.52 sq. Mi.  
Depth range: ----- 45-70 ft.

(Director's Message, continued from page 2)

fish licensing in the State and eventually expanded her responsibility to include fiscal and revenue reporting for the entire Marine Fisheries Administration.

In his 24 years with Fish and Wildlife, Bruce Freeman became known and respected nationally through his work representing New Jersey anglers on the Atlantic States Marine Fisheries Commission and the Mid-Atlantic Fishery Management Council. His knowledge and his fervor for the conservation of our marine fish resources will be sorely missed.

And last but not least is Bill Figley. Bill's 30 years with Fish and Wildlife will be celebrated as the Artificial Reef Era. Since 1984, Bill has supervised the construction of 3,600 ocean reefs from 14 million tons of reef material, making our reef system the largest in the nation. His legacy is New Jersey's Artificial Reef Program and the fabulous proliferation of marine life now found where there was once bare ocean floor.

Good management of the State's marine fisheries resource requires dedicated professionals with a thorough knowledge of a species, baseline information, population dynamics, and habitat information. Without the professional staff to gather this necessary information, we would not be able to develop adequate management plans for many marine species. These six individuals represent the finest professionals with whom I have had the pleasure to work on a variety of initiatives. They will certainly be missed!

Please join me in wishing the best to this talented and dedicated group of people who are now celebrating their well-earned retirements.

Dave Chanda is the Acting Director  
of the Division of Fish and Wildlife

(Continued from page 7)

Artificial Reef Program at (609) 748-2020 or write to the Division of Fish and Wildlife at P.O. Box 418, Port Republic, NJ 08241, Attn: Reef Adoption Program.

For details on how you can adopt a reef, contact:  
Reef Program

NJ Division of Fish & Wildlife

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Hugh Canterbury, NJ Div. of Fish and Wildlife

This 62-foot tugboat joined Donna's Star in their second lives as part of the new reef site off of Townsend's Inlet, Cape May County.