



A Quarterly Publication from the Division of Fish and Wildlife, RI Department of Environmental Management

Lessons in Conservation by Kimberly Sullivan

Driving over the Newport Bridge and Narragansett Bay affords a spectacular view of sailboats and workboats, buoys and birds. Just south of the bridge, you may also notice a small antiquated lighthouse. Rose Island Lighthouse was important to the navigation of the Bay prior to 1968 and was made obsolete when the Pell Bridge was constructed. Rose Island is a small but historically significant piece of land. Known as Fort Hamilton during the Revolutionary War, an explosives storage area during WWII, and an island sought after by developers for condominiums in the 1980s, Rose Island is now a safe haven for nesting birds and an educational arena that not only delves into history but also teaches valuable lessons in conservation.

The Rose Island Lighthouse was constructed in 1870,

Rose Island Lighthouse.



Photo: K. Sullivan

atop one of the bastions built for Fort Hamilton during the Revolutionary War period. Its purpose was to steer ships clear of the rocks around the island. When the Pell Bridge was built in the late 1960s the need for the lighthouse as a navigational aid became unnecessary and the pretty white lighthouse fell into disarray. In 1984, the Rose Island Lighthouse Foundation was established and the little island, with its abundant nesting bird population, was saved from developers.

Through many grants and fundraising efforts, the Foundation restored the lighthouse back to its original splendor. With all of the hard work put into renovating the lighthouse, it was essential to maintain it in tip-top shape. This meant that the lighthouse had to house a keeper of some sort and modern times require

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Winter Duck Banding Fun by Josh Beuth

As waterfowl hunting seasons began to wrap up amidst the arctic breezes and snow of January, waterfowl biologists and technicians throughout the Atlantic and Mississippi flyways descended on the coastal marshes and waterways of their states with one goal in mind: capture and band as many American Black Ducks (*Anas rubripes*) as possible.

Following steady declines in the American Black Duck (hereafter, Black Duck) population between the 1950s and 1980s, the Black Duck Joint Venture (BDJV) was formed in 1989 to lead a coordinated monitoring, research and communications program to restore the population from 300,000 to 640,000 breeding Black Ducks. This particular project consists of a two-season banding program through the BDJV to monitor population vital rates of Black Duck.

Prior to the close of the regular duck season on January 24th, supervising biologist Jay



Photo: J. Beuth

Osenkowski, with the assistance of wildlife technicians Josh Beuth, Brian Embacher and John Veale, scouted locations and constructed numerous traps to be used throughout the banding season. Working under a U.S. Fish and Wildlife Service Avian Influenza (AI) monitoring grant, the technicians were responsible for collection of AI samples.

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THE DIVISION OF FISH AND WILDLIFE MISSION STATEMENT:

Our mission is to ensure that the Freshwater, Marine and Wildlife resources of the State of Rhode Island will be conserved and managed for equitable and sustainable use.



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Winter Duck Banding Fun by Josh Beuth *continued from page 1*

These samples were collected during beached bird surveys of mortality events and from the Black Duck trapping efforts of live birds.

After the close of the regular waterfowl season, and limited by the ongoing late Canada Goose (*Branta canadensis*) season, pre-scouted locations along the south coast were baited with corn. The birds were first given time to acclimate to the traps and then the traps were set.

Armed with a string of shiny new federal bands, tools, AI sample collection equipment and cameras, the team set out to check the traps for the first time at dawn on the morning of January 29th. True to their nature, the Black Ducks in the area were very wary of the traps and initial efforts proved fruitless.

The locations along the south coast weren't producing, so the traps were moved to new sites south of the late goose zone in the East Bay region. At these spots, aided by volunteers from the South Shore Chapter of Ducks Unlimited, the trapping crew was greeted with success, trapping about 239 Mallards (*Anas platyrhynchos*), banding 15 Black Ducks, and taking 175 AI samples. Also included in the captures were previously banded Mallards from Massachusetts, Connecticut and Quebec, as well as a previously banded Black Duck from New Brunswick.

With the trapping window closing quickly and the late Canada Goose season wrapping up, the technicians worked to move the traps to areas in the West Bay region. After placing the bait, it didn't take long to realize that the birds in these regions were hungry and quick to acclimate to the traps. Day after day, fighting brutal winds, numbing cold, sideways snow and heavy ice flows the team set out for the marshes hoping for traps full of ducks.

As the trapping season came to a close, the team was joined by Randy Mickley, wildlife biologist for USDA APHIS. Through this collaboration blood samples were collected for the Southeast Cooperative Wildlife Disease Study (SCWDS). This

study monitors diseases on a national and international level and studies their interactions between domestic livestock and wild-life populations.

The traps were emptied of ducks on the final day of the trapping season, and the team captured an additional 227 Mallards, banded 32 Black Ducks and took 85 AI samples in the West Bay region. Mallards and Black Ducks originally banded in Que-



Photos: B. Embacher

bec and New Brunswick were recaptured in the West Bay region as well.

Despite the harsh conditions, the trapping season was an overall success and a wonderful educational experience. The technicians learned a great deal about the response of the birds to the traps and found ways to improve the next trapping season.

Based on the 2010 trapping, results indicate that Mallards are more competitive than Black Ducks for food and may even chase them away. Due to possible complications with the data, Mallards were not banded this year, but after review, it is probable the Mallards will be banded next season. Continuing efforts to band Black Ducks and waterfowl in general will provide vital data to aid researchers in their efforts to monitor and restore populations to historical levels. Anyone recovering a bird band is reminded to report it to the Bird Banding Laboratory at (800) 327-BAND or online at www.reportband.gov.

White-Nose Syndrome in Bats *by Charles Brown*

A recently discovered disease is having a devastating impact on populations of several species of cave-hibernating bats in the northeastern United States. The disease, White-nose syndrome (WNS), is associated with a newly described cold-loving fungus (*Geomyces destructans*) and is so named for the white fungus that is often seen on the nose, ears, and wings of hibernating bats. First discovered in 2006 in a cave near Albany, NY, the disease has since been documented in 11 states and Ontario, Canada. The short history of its rapid spread and the proximity of affected sites to state borders suggest that it will likely be confirmed in other states in the future, but White-nose syndrome has not yet been documented in Rhode Island. Survey efforts here will probably detect the presence of affected bats as some of our summer resident bats are known to hibernate in caves or mines in other states where the disease is present.

Hibernating bats affected with WNS lose the fat reserves that are critical to their survival. They frequently leave their hibernacula (the caves or abandoned mines where bats hibernate) during daylight hours in the middle of winter when temperatures are below freezing. Many die outside or near the entrance of the cave or mine or are eaten by predators. The mortality rate in some infected sites has exceeded 90 percent. It is estimated that several hundred thousand and possibly close to one million bats have already died from the disease.

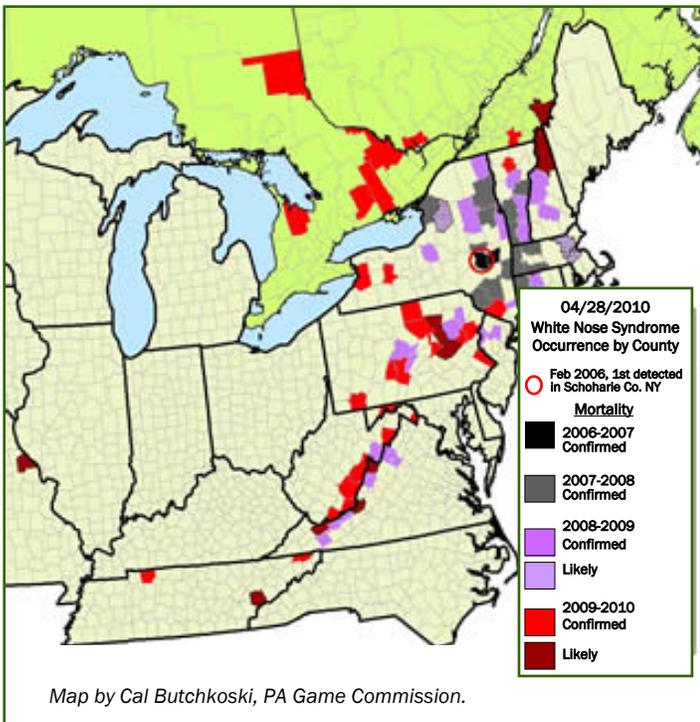
WNS is likely spread between bats through direct contact. Hibernating bats tend to cluster together in tight groups. It is also suspected that people moving between caves has promoted the spread of the disease. The fungus thrives in the low temperature environments in the caves and mines where bats hibernate. Not all infected bats exhibit the charac-



teristic white fungus. Those that survive the winter groom away the fungus but scarring will be evident on their wing membranes. Researchers have confirmed that the fungus persists in the substrates of WNS-affected caves and mines. Contaminated clothing, footwear, and equipment can spread the disease from one site to the next. Currently, there is no information to suggest that WNS poses a disease threat to humans.

Bats are true hibernators. During hibernation, bats do not eat and live strictly off the fat reserves accumulated during the previous summer and fall. Rhode Island does not have hibernacula in the form of caves or abandoned mines that support cave-hibernating bat species, but some of our summer resident “cave bat” species are known to spend the winter in other states such as Vermont. One species that does hibernate in Rhode Island is the Big Brown Bat (*Eptesicus fuscus*). It is a common, year-round resident species, often found in urban and suburban areas, that will hibernate individually or in small groups in man-made structures. Big Brown Bats also utilize caves and mines for hibernation and have been affected by the disease but to a lesser extent than other species. Several species of bats found in our area during the summer, migrate south in the fall and do not hibernate. The Red Bat (*Lasiurus borealis*), Hoary Bat (*Lasiurus cinereus*), and Silver-Haired Bat (*Lasionycteris noctivagans*) are migratory species that have not yet been documented to have been affected by the disease.

The U.S. Fish and Wildlife Service, along with a network of other federal and state agencies is currently working to develop and implement a national management plan with the goal of reducing the spread of WNS, initiating recovery actions for affected species, coordinating and supporting research activities, and promoting education and



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Species Spotlight: Whelk *by Mark Gibson*

The channeled and knobbed whelks, *Busycotypus canaliculatus* and *Busycon carica*, are gastropod mollusks common to Rhode Island waters and occur from Cape Cod south to Florida. These sea snails are relatively large predators of bivalves and carrion, occurring on sandy and mud substrates in the intertidal zone.

DESCRIPTION: Whelks grow in a spiral pattern by extending whorls of new shell around a central axis. Whelks have an operculum plate attached to a muscular crawling foot that is used to seal the opening of the shell when the animal retracts. Mobility based on laboratory and field studies is limited to 12 to 15 meters per day. Maximum size in the Rhode Island area is a shell length of about 20 to 21 cm, with knobbed whelks somewhat larger than channeled. Growth is irregular with some animals not showing any increase in size after long periods of time.

REPRODUCTION: Females are generally larger than males and reproduction is through copulation with internal fertilization. Fertilized eggs are laid inside strings of capsules that are tethered to the ocean bottom. Embryo development occurs inside the egg capsules. Upon hatching, whelks emerge as miniature adults; there is no larval pelagic stage. Multiple mating and paternity may occur to increase genetic diversity.

Large female size, skewed sex ratios and observations of male sex features imposed in females suggested that knobbed whelks were protandric hermaphrodites that began as males but transformed to females at larger sizes. Further research however indicated that they have genetically distinct sexes, 50:50 sex ratios at birth, and that the observed sex reversals were likely due to environmental factors. Exposure to tributyltin compounds (TBT) in marine antifouling paints has been implicated in these physical irregularities and the failure of depleted stocks to recover in Europe and Asia.

NATURAL HISTORY: *Busycon* whelks from the family Melongenidae are known locally as conchs and snails but differ from true conchs (family Strombidae) primarily in that whelks have a more northern, cooler water distribution and are carnivorous while the conchs are more tropical and herbivorous. Conchs also have a planktonic larval stage after egg hatch that aids in dispersal and recolonization. Other large marine gastropods of note that support fisheries world-wide include; the buccinid whelks (Buccinidae) of Europe, Canada, and Asia, the volute snails (Volutidae) of South America, murex snails (Muricidae) in the Mediterranean and Central America, and the abalone



Photo: S. Olszewski

Channeled whelk (left) and knobbed whelk (right).

(Haliotidae) from around the Pacific rim.

WHELK IN RHODE ISLAND: Whelks are active in Rhode Island from May to November with maximum commercial catch rates occurring in the spring and fall. The channeled whelk is taken with baited traps while the knobbed whelk does not trap well but can be taken in trawls. According to National Marine Fisheries Service (NMFS) statistics, Rhode Island whelk landings were 41 metric tons of meat weight in 1950 and increased over time to a peak in 1986 at 158 metric tons. After several years of high landings, the fishery declined rapidly and from 1994 to 2003, reported landings were less than 10 metric tons. Current landings are 50-70 tons and are almost exclusively (96%) channeled whelk. Value of whelks from 1950 to 1976 was steady at about \$1.25 per pound of meat in standard 2008 dollars. It then increased sharply from \$1.27 to \$3.24 from 1976 to 1983. From 2004 to 2008, value has fluctuated around \$3.00 per pound.

A commercial fishery for whelks has existed in Rhode Island for many years. Until September of 2009, it was not regulated nor the subject of a stock assessment. The fishery in the region has been regarded as opportunistic with fishermen moving in and out in response to whelk abundance,

economics, and the status of other fisheries. The Rhode Island fishery in the 1930s and 1940s consisted of three to four boats setting pots while demand was low. By the 1960s, three processing plants were in operation

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Whelk egg capsules.



Photo: USFWS

Species Spotlight: Whelk *by Mark Gibson*

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and 18 boats were fishing pots. Two decades later the fishery was in decline and down to 10 fishers. In August of 2006, industry representatives concerned with increasing fishing effort brought forward management proposals. These were debated but ultimately not acted on by the Department.

Recently, with high value and restrictions in other fisheries, interest in whelks has grown again. During the past four years between 74 and 94 individuals have landed 100

pounds or more of whelks. Concerns were again raised by industry about excessive trap effort, growing exploitation of small whelks, and inadequate marking of pot gear. In response, the Department of Environmental Management, with advice from the Marine Fisheries Council, implemented a 2.5 inch minimum shell width for whelk in September of 2009. This measure was considered to be an interim step while additional data on the fishery and stock status was obtained.

Lessons in Conservation *by Kimberly Sullivan*

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heat, water, and electricity.

Through hard work and ingenuity the Rose Island Lighthouse Foundation has created a model for water and energy conservation at the lighthouse and groups of all ages are allowed to observe how the lighthouse obtains water and electricity. Water is collected using an elaborate drainage system that drains rainwater off the roof into three collection basins on the island. Electricity is generated by a small windmill which charges batteries used for lighting and other electrical needs. The principles of reduce, reuse, and recycle are also employed to conserve water and electricity, including measures such as toilets that only require one gallon of water to flush, saving gray water (water from washing hands and dishes) to water the garden, energy efficient light bulbs, and thermal shower bags that are warmed by the sun in the outdoor garden shower.



Photo: K. Sullivan

The Division's Aquatic Resource Education (ARE) Program has teamed up with the Island's education coordinator to host classes on Rose Island that focus on both the principals of recycling and marine ecology. The program includes a tour of the island conducted by educators from the Rose Island Lighthouse Foundation, followed by a lesson in marine ecology with beach seining provided by the ARE program. The ultimate goal

is to teach children different ways to conserve their natural resources and become stewards of the environment. If you would like more information about this and other opportunities for your group to learn about Rhode Island's aquatic resources, please contact Kimberly Sullivan at (401) 539-7333 or kimberly.sullivan@dem.ri.gov.

Surf Fishing Classes Are Coming Soon!



The Division of Fish and Wildlife's Aquatic Resource Education (ARE) Program will be hosting two evening surfcasting workshops. These workshops will go over the basics of salt water fishing, including equipment, knot tying, bait and lure fishing and casting.

The programs will be held on August 26, 2010 and September 23, 2010 from 6-9 p.m. at Camp Cronin. Families with children 10 and older are welcome. All equipment will be provided for a fun-filled educational experience.

Registration is required. Please call Kimberly Sullivan for more information at (401) 539-7333 or kimberly.sullivan@dem.ri.gov.

Attention Rhode Island Anglers—NEW LAW IN 2010!

In order to fish recreationally in Rhode Island marine waters, and offshore federal waters, anglers and spearfishers must have a RI Recreational Saltwater Fishing License, OR a Federal Registration, OR a license from a reciprocal state (e.g., CT, MA or NY).

RI Recreational Saltwater License

Available online at: www.saltwater.ri.gov and from certain bait & tackle shops beginning June 1, 2010

Fees: \$7.00 RI residents (annually)
\$10.00 Non-residents (annually)
\$5.00 7-Day license
Free for RI residents over 65 and RI active military.



Applies in all RI marine waters, all offshore federal waters, and in all neighboring state waters.

No license needed for children under 16, or for anglers on party & charter boats. For additional info go to: <http://www.dem.ri.gov/programs/bnatres/fishwild/saltwater.htm>

Golden Trout Contest and Free Fishing Days a Success! By Kimberly Sullivan

On a dismal and rainy Saturday morning, staff loaded fishing rods, tackle, fish and rain gear onto Fish and Wildlife trucks in hopes that Rhode Islanders would come out to fish for golden trout stocked at Shady Lea and Silver Spring Fishing areas. As mother nature unleashed intermittent rain showers, our Rhode Island residents did not disappoint and over a hundred men, women and children joined us for the first ever Free Fishing Event held by the RIDEM Division of Fish and Wildlife Hatchery Program on May 8, 2010.

Every year, RI DEM Fish and Wildlife invites new anglers to try fishing for a free weekend in June; however, this year the date was moved to early May when trout season is at its peak. 2010 marked the first year that the Hatchery Program decided to highlight the staff that work outside all year long by combining the Free Fishing Days with its first annual Free Fishing Event. Hatchery Manager, Peter Angelone, organized his staff from all three hatcheries to stock the Silver Spring Lake with trout over the week. To add to the fun, a new variety of trout, the Golden Trout was stocked exclusively at Silver Spring. While Fred Chiarini, Charles Lackey, and Jeremy Jamgochian handed nets of fish to children for them to stock, Allen Williams and Kenneth Fernstrom aided the participants in fishing for the golden trout. Fifteen golden trout were caught during the Saturday program, and over 50 were caught during the entirety of the 'Catch a Golden Trout' contest sponsored by the RIDEM Division of Fish and Wildlife's Aquatic Resource Education program. Pins and certificates were mailed to those who caught a golden trout and their names were put in a raffle to win a rod and reel combo.

Overall, the program was a success. Thank you to all of those that braved the inclement weather as well as to the hatchery staff that made the Free Fishing Days possible. We cannot wait for next year!



Photo: D. Carrodeguas



Photo: J. Pagliarini

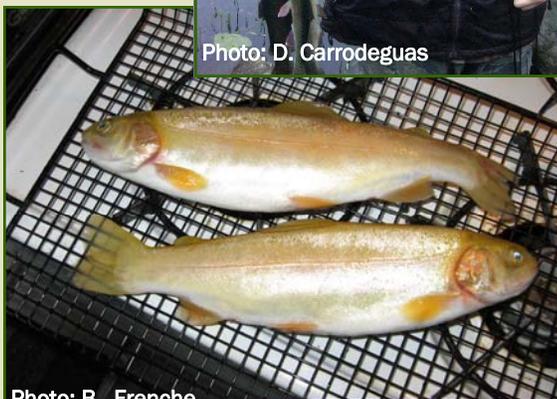


Photo: B. Frenche



Photo: D. Carrodeguas



Photo: B. Frenche



Photo: D. Anderson



Photo: D. Bailey

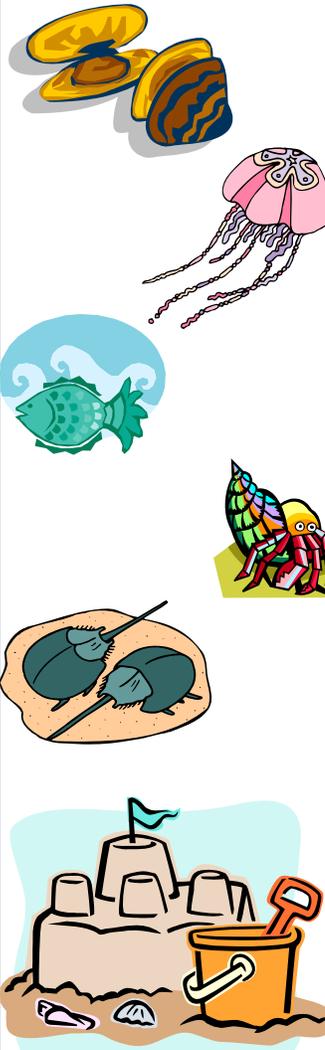
Kids Corner! Presented by the Aquatic Resource Education Program

It's summertime and that means it is time to hit the beach and surf the waves! As you bask in the sun and swim in the ocean, take some time to explore the sand and nearby tidepools, you'll be surprised at what you will find lurking in the sand. Can you find the names of some of the creatures you might find while you are exploring your sandy spot or rocky tide pool in the Word Search below?

(hint: look forward, backward and diagonally)

Find These Names:

- SPONGE
- SCALLOPS
- 
- HERMIT CRABS
- HORSESHOE
- SHRIMP 
- SEA SQUIRTS
- SALT
- PERIWINKLES
- CRABS
- WHELK-
- SEA URCHIN
- CRABS
- JELLYFISH
- MERMAID'S
- EGG CASES
- KELP 
- QUAHOG
- SAND CASTLE
- SEASTAR 
- MUSSELS
- SAND
- WATER
- WAVES
- FISH
- RAZOR CLAM
- SEAWEED
- TRASH 
- OYSTERS 
- EELGRASS
- SEA GLASS



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White-Nose Syndrome in Bats *by Charles Brown*

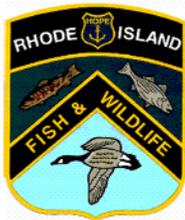
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outreach. More information about WNS is available on the USFWS website at: www.fws.gov/northeast/white_nose.html.

This summer, the Division of Fish and Wildlife will begin monitoring bats for the presence of WNS. The Division would also like to know of any locations of summer bat roosts in Rhode Island to gather base line information on summer maternal colonies for purposes of monitoring population numbers. Summer roost sites can include barns, churches, and other man-made structures and usually house Little Brown Bats (*Myotis lucifugus*) and Big Brown Bats (*Eptesicus fuscus*). Biologists would like to evaluate the approximate size of bat maternity roosts by counting bats as they emerge from the roost site in the evening. If you have a summer bat roost in a barn or other structure or know of any such sites contact the Division of Fish and Wildlife at 789-0281.

If you find a sick, injured, or dead bat in your home or elsewhere do not handle it with bare hands. If you must handle a bat use leather gloves to pick it up and place it into a bag or other container. If a live bat is discovered inside your home, particularly in a bedroom or where someone has been sleeping do not release or dispose of it before contacting the R.I. Department of Health at 222-2577. The DOH may want the bat submitted for rabies testing. If you are bitten by a bat contact the DOH immediately. A small percentage of bats tested each year have the rabies virus. If you suspect a pet may have had contact with the bat contact your local animal control officer.

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