



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

Naturalist Notes: Fall Bird Migration By Mary Grande, DFW Wildlife Outreach Coordinator

As late summer wanes into fall, nature's transitions fascinate me. Hot, humid nights full of effervescent frog calls are swapped for cool, still, evenings buzzing with lazily chanting katydids. Forest and field alike are spangled with the bright blooms of goldenrod, while maple and tupelo trees blaze into scarlet foliage. To me, the most interesting change is the subtle, progressive quiet that blankets the landscape as birds finish their nesting period and enter migration time. Back in June, the woods were ringing with songs: "Drink your teeeea!" "Tea-cher, Tea-CHER, TEA-CHER!" "Where are you?...Here I am!" Each of these singers, the eastern towhee, ovenbird, and red-eyed vireo, have since left Rhode Island to embark for the southern U.S., the Caribbean, and the Amazon rainforest, respectively.



"Come Bird With Me" program is a big hit with participants of all ages. Photo courtesy of M. Grande

We Rhode Islanders like to hunker down with our bread and milk during the winter, but most of our birds have very different plans. Species from hummingbirds to hawks undergo some sort of migration and do so in various ways. For example, hawks migrate during the day, while many Neotropical songbirds migrate at night. Shorebirds, like sanderlings, congregate in droves at specific "staging sites" to rest and refuel before the next big leg of the journey.

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Searching For Alternative Baits To Horseshoe Crab By Natalie Ameral, DFW Fisheries Specialist



Juvenile horseshoe crab. Photo Courtesy of E. Schneider

Tourists and snowbirds are not the only ones who flock to Rhode Island to enjoy the long sandy beaches and warm sunny days of summer. The horseshoe crab (*Limulus polyphemus*), one of Rhode Island's most prehistoric-looking residents, makes its annual appearance to spawn and lay eggs from April through July. Commercial fishermen looking to harvest horseshoe crabs as bait for eel and whelk traps make the most of this opportunity. Out of

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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.



Janet Coit, Director
Rhode Island Department of
Environmental Management

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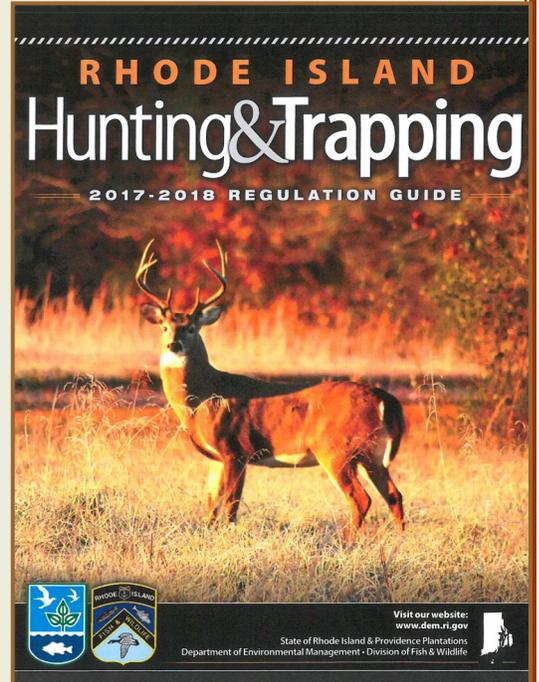
Wild Rhode Island is also available on the web at: www.dem.ri.gov

To report an environmental emergency or violation please call the RIDEM Division of Law Enforcement (401) 222-3070

The 2017-2018 Hunting & Trapping Regulations Guide Is Now Available!

Get all the information you need about this year's hunting season dates, significant regulation changes, Division of Fish & Wildlife programs and much more. The guide is available at locations where hunting licenses are sold; at the DEM headquarters at 235 Promenade Street, Providence; at the Great Swamp Field Headquarters in West Kingston; and at <http://www.eregulations.com>, as well as at www.dem.ri.gov.

This publication is not just for hunters and trappers; this year's guide also includes an article on Prudence Island Management Area, Chronic Wasting Disease, changes to the black duck hunting



regulations, a species profile on harlequin ducks, a piece written by the Environmental Police, and an article about the bobcat population in Rhode Island. Pick up a copy today to learn more about the projects and programs managed by the RIDEM Division of Fish & Wildlife. For more information please email Sarah.Riley@dem.ri.gov or call 401-789-0281.

PLEASE NOTE: There is an important correction to the Small Game Hunting dates printed on page 30 of the 2017-2018 Hunting and Trapping Regulations Guide. The opening date for pheasant, cottontail rabbit, gray squirrel, bobwhite quail, and red and gray fox is October 21, 2017. The printed Regulations Guide incorrectly lists these dates on page 30 as October 1, 2017.



Kid's Corner! *Presented by the Aquatic Resource Education Program*

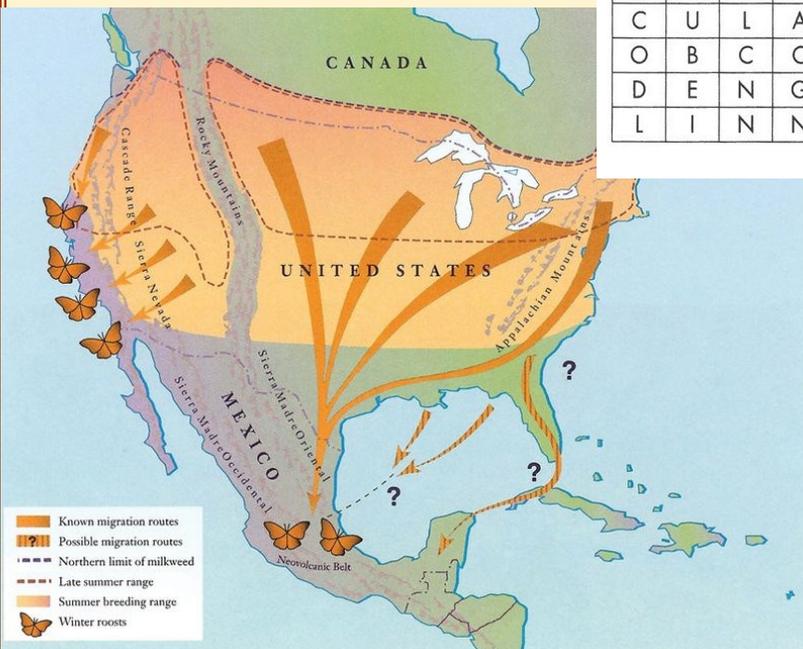
Each fall, the monarch butterflies begin an extraordinary journey south to over-winter in Mexico. The Monarch's journey, or migration, can range from 2,500 miles to 3,000 miles! Scientists have found that the monarchs follow three major migration routes with the largest number of Monarch butterflies, close to 100-150 million, starting their voyage in Canada and ending in the Oyamel Forests of Mexico where they hibernate for the winter.

The monarch butterfly undergoes a complete metamorphosis. The adult lays an egg on a milkweed plant and hatches into a caterpillar. The caterpillar feeds on the milkweed until it increases 200 times their size! It then goes into the pupa phase and creates a chrysalis. After about two weeks, the monarch butterfly adult emerges. Once the wings harden, the Monarch feeds on the nectar from flowers for energy.

The monarch butterfly has a unique life cycle as they make their journey North. While the monarch that lands in Mexico is the same butterfly that started in Canada, it is not so for the northward migration. In fact, the monarch leaves Mexico and has several stops before it reaches its destination. At each stop, the adult monarch locates milkweed, deposits the eggs and then dies. The egg then undergoes the life cycle and continues the journey North. Therefore, the butterfly that lands in Canada could be the fourth generation, depending on stops, of the monarch butterfly that left Mexico!

The monarch does stop here in Rhode Island and the caterpillars love to feed on milkweed. Unfortunately, there are invasive species that mimic milkweed and the monarchs accidentally lay their eggs on that plant. When the larvae are ready to eat, they cannot digest the other plant material. To help the monarchs, you can plant milkweed and other native plants at home.

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| <ol style="list-style-type: none"> 1. Butterfly 2. Monarch 3. Danaus 4. Metamorphosis 5. Egg 6. Larvae 7. Caterpillar 8. Chrysalis 9. Pupa 10. Asclepias | <ol style="list-style-type: none"> 11. Forest 12. Hibernation 13. Oyamel 14. Canada 15. Mexico 16. Linneo 17. Migration 18. Nectar 19. Plexippus 20. Sanctuaries |
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Fall Bird Migration continued from page 1

And some birds don't migrate at all. The chickadees, nuthatches, and woodpeckers that we see at our winter feeders, fluffing their feathers to tough out the cold, are year-round residents. These familiar feathered friends provide a much sparser soundscape in the fall woods:

"Chicka-dee-dee-deeee!" "Wha-wha-wha!" "Pik!"

Many wildlife species undergo migrations: large-scale, patterned movements from one place to another. Birds migrate in response to resource availability, not just to avoid the cold winter weather. As day length shortens and temperatures drop in the northeast, birds have less time to forage and fewer insects, fruits, and flowers on which to feed. By moving to areas further south, birds gain access to better resources. What makes the fall migration so interesting is that the



Black-and-white warbler (*Mniotilta varia*) photographed while being banded at the Kingston Wildlife Research Station. Photo courtesy of M. Grande

science of migration is still fairly mysterious. Birds utilize the sun, stars, and Earth's magnetic field to find their way, but the exact workings of how birds know where and when to fly remain unknown. These migration destinations are ancient, cryptically ingrained in species' genetic codes for thousands upon thousands of years.

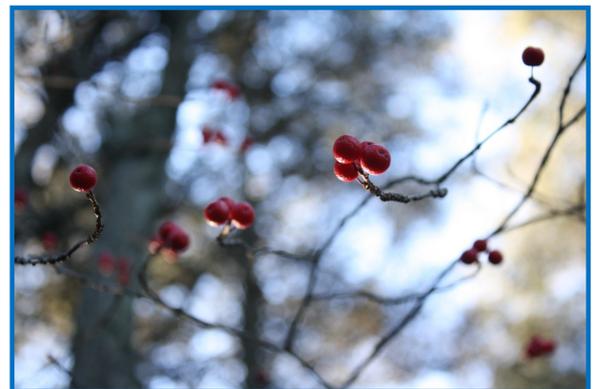
Migrating takes a lot of energy, and a good amount of fat storage is necessary for birds to survive their journey. Some birds migrate short distances, but others exert the energy to travel enormous distances. All birds put on fat to prepare for the winter, but long-distance migrants must be especially diligent in this quest. Migrating takes a lot of energy, and a good amount of fat storage is nec-



A willet (*Tringa semipalmata*) pictured here at Narrow River in Narragansett. Photo courtesy of M. Grande

essary to power birds for survival on their journey. Once the birds arrive at their destination, they will need to forage to replenish their bodies, and then undergo the same process to migrate back to their breeding grounds. For wildlife, life is a constant cycle of finding food to survive. To provide food for birds in your own yard, consider planting native, fruit-bearing shrubs, such as arrowwood (*Viburnum dentatum*), inkberry (*Ilex glabra*), and winterberry (*Ilex verticillata*).

While some folks may be sad to see our songbirds depart in the fall, others (yours truly included) are excited for the temperatures to drop



Winterberry (*Ilex verticillata*) provides an important food source for birds during migration. Photo courtesy of M. Grande.

Fall Bird Migration continued from page 4



Year-round residents, like this tufted titmouse (*Baeolophus bicolor*) may be seen at bird feeders all through the winter. Photo courtesy of M. Grande.

and the days to shorten, because the sea ducks are on their way! Many sea duck species, like common eider, harlequin, and surf scoter, take their “winter vacation” along Rhode Island’s coast. While we may not want to go swimming in Narragansett Bay during the late fall, the ducks find it much more inviting than their colder breeding grounds in northern Canada.

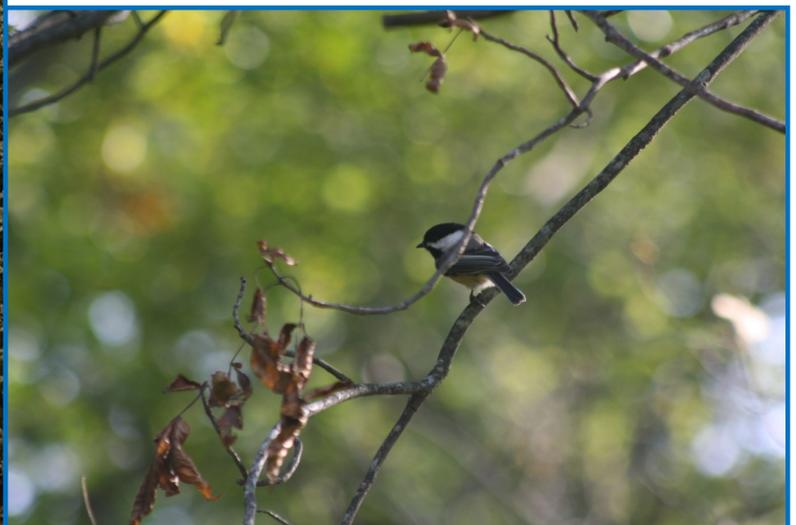
Waterfowl predictably follow four traditional migration corridors across North America, called flyways: Atlantic, Mississippi, Central, and Pacific. To ensure the preservation of these important migration routes, each flyway has a council and technical committee, the latter meeting annually to review data and to provide recommendations for hunting regulations, habitat management, and

restoration, and population management. Managing quality waterfowl habitat is a strong focus of the Division, as it is important to provide migrating birds with places to stopover and forage during their journey. Fall provides amazing opportunities for hunters and bird-watchers alike to view birds as they pass through Rhode Island on their way to warmer destinations. Looking for opportunities to view birds and learn about current conservation projects? The “Come Birding with Me!” program will be

back this season. To receive announcements about upcoming outreach programs, and about birds and other topics, email mary.grande@dem.ri.gov to join the outreach email list.



American kestrels (*Falco sparverius*) can sometimes be seen more commonly as they migrate through R.I. Photo courtesy of S. Riley



Some species, like this black-capped chickadee (*Poecile atricapillus*) may not migrate at all but may stay as a resident of R.I. year-round.

Photo courtesy of M. Grande

Horseshoe Alternative Bait continued from page 1

all the fishing techniques employed by commercial fishermen, it doesn't get much easier than walking through the sand at night to pick up crabs engaged in annual spawning activity.

The simplicity of this method to capture horseshoe crabs, as well as their lack of defense, makes this species much more susceptible to the dangers of overfishing. According to Rhode Island's 2016 Crustacean Sector Management Plan, the 2013 horseshoe crab assessment update exhibited lower abundances than the previous benchmark assessment in 2009. In order to protect this species, the Department of Environmental Management has employed strict daily possession limits as well as frequent reporting requirements. While these measures are meant to protect and conserve the horseshoe crab population, the Marine Fisheries Division also has a commitment to assist eel and whelk fishermen in replacing their precious bait source with something more sustainable.



Horseshoe crabs spawning.
Photo courtesy of S. Olszewski

The effects of dwindling horseshoe crab populations are felt and seen on the entire Atlantic coast, but more so in the New England region, the Atlantic States Marine Fisheries Commission (ASMFC) tasked their species-specific technical committee with collecting state-by-state data from eel and whelk fishermen. During October and November of 2014, the States of Rhode Island and Connecticut initiated an alternative bait study under the guidance of the ASMFC to evaluate an alternative bait manufactured by a company based in New Jersey. The alternative bait, which was a guarded recipe, was seemingly made up of processed blue crabs, unknown ingredients and some amount of horseshoe crabs. The 50 lb. slabs of alternative bait were shipped to New Bedford where they were then distributed to cooperating commercial whelk fishermen. The fishers deployed whelk pots alternating their preferred bait of choice with the manufactured bait provided to them by Marine Fisheries and the catch rates of whelk were compared for both legal and sub-legal catches. Analysis of the data shows no significant difference between the catch rates of

the two bait types. According to the participants, the alternative bait was much easier to store and handle, however, the price and availability were prohibitive to them switching from horseshoe crabs. For this reason, they indicated they would utilize the alternative bait only if supplies of horseshoe crabs were unavailable.

Two years later, the Commission's Horseshoe Crab Management Board tasked the Technical Committee Alternative Bait working group with evaluating the efficacy of alternative bait use on a more region-wide basis with the hopes of lowering harvest pressure on horseshoe crabs used for bait. The working group decided to obtain a better understanding of the bait types used by harvesters in each state through a voluntary survey.

The survey that was sent out in February 2017 aimed to ascertain what other types of bait are used by these fishermen. Among other qualitative and quantitative aspects, the technical committee wanted to learn how much of each bait type the fishermen were using, how much it costs them, and how long it lasts in a trap. At this time, the committee is still working on compiling the data and producing the report. Their goal is to make a recommendation on alternative baits that are equally as effective, while also being economically comparable.

To get a firsthand account of how the decreasing horseshoe crab populations have impacted eel and whelk fishermen, I decided to get in touch with individuals who were willing to share more than what was asked of them on the directed survey.

Horseshoe Alternative Bait continued from page 6

One of our local whelk fishermen had this to say: “As far as alternative baits, I've tried everything from green crabs to spider crabs, mussels to clam guts. Shark, lobster carcasses, blue crab, and slipper shells. None even come close to female horseshoe crabs, in fact, where I fish, there really is no alternative. Even male [horseshoe crabs] will hurt the harvest.”

A local seafood dealer who sells bait to many eel and whelk fishermen in the state reported similar behavior. According to this source, the four most-used alternative baits are “green crabs, herring, clam bellies, and mussels.”

While awaiting the results of the survey and any recommendations the technical committee may put forward, the state of Rhode Island remains highly receptive to any input from the fishing community as well as our conservation counterparts.

For more information on the State's Horseshoe Crab or Whelk fisheries please contact the RIDEM Division of Marine Fisheries at (401) 423-1923.

Squirrel Stew Recipe

Squirrel stew is a traditional dish thought to have originated in the American South sometime in the 19th century. The use of squirrel in cooking is not as common as it once was in New England, but it does date back to Rhode Island's earliest hunting roots. This year, Rhode Island's gray squirrel season extends from October 21, 2017– February 28, 2018, and is open long after the more common hunting seasons have ended. This allows for more hunting opportunities, and a chance to try this underappreciated and too-often overlooked food source. Those who try squirrel are often surprised by how much they enjoy it; try this squirrel stew recipe for yourself and see what you think!

- ◆ 4 grey squirrels, cleaned, quartered (about one squirrel per person, serves 4)
- ◆ 1/3 cup flour
- ◆ Salt and pepper
- ◆ Olive oil
- ◆ 1 medium onion, chopped
- ◆ 1 stalk celery, sliced
- ◆ 1 clove garlic, minced
- ◆ 2 carrots, sliced
- ◆ 2 medium potatoes, diced
- ◆ 1 cup dry white wine (or chicken stock, or combination)
- ◆ 1 tbsp. tomato paste
- ◆ 2 bay leaves
- ◆ 2 stalks fresh thyme



Heat olive oil in Dutch oven over medium-high heat. Sprinkle squirrel pieces generously with salt and pepper. Coat each piece with flour, shaking off excess. Brown squirrel pieces in oil, three to four minutes per side. Remove from Dutch oven and set aside. Add a tablespoon or two of oil to Dutch oven if pan is dry. Over medium heat, sauté onion and celery until soft, four to five minutes. Add garlic, sauté one minute. Add wine, tomato paste, bay leaves, fresh thyme, and squirrel pieces. Bring to a boil, cover, and simmer for 45 minutes, adding chicken stock, wine, or water if liquid is reduced to below the level of the meat. After 45 minutes, add sliced carrots and potatoes, cook one hour or until meat is tender (meat should come easily off bones), vegetables are cooked, and sauce is thickened. Remove bay leaves and stems of thyme. Remove squirrel pieces from Dutch oven, cool slightly, and debone, leaving meat in large pieces if possible. Add a tablespoon or two of butter to the sauce and vegetables in the pan. Correct seasoning if necessary. Return squirrel meat to pan and serve hot.

FALL CALENDAR OF EVENTS

FLOURECENT ORANGE IS REQUIRED FOR ALL OTHER USERS (IN ADDITION TO HUNTERS) OF STATE MANAGEMENT AREAS FROM THE SECOND SATURDAY IN SEPTEMBER (9/9/17) THROUGH THE LAST DAY OF FEBRUARY (2/28/17) AND FROM THE THIRD SATURDAY IN APRIL (4/21/18) THROUGH THE LAST DAY OF MAY (5/31/18)

NOVEMBER

23rd: Sea Duck season opens and extends through January 21, 2018

23rd: Thanksgiving Day!

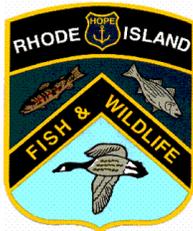
December

1st: Winter trout season opens, creel limit 2. See Freshwater Fishing abstract for more details

9th—24th: Last season mourning dove hunting season

For information on hunting and fishing programs, contact the RIDEM/DFW Hunter Education or Aquatic Resource Education office at 401-539-0019 or go to <http://www.dem.ri.gov/programs/fish-wildlife/wildlifehuntered/index.php>

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