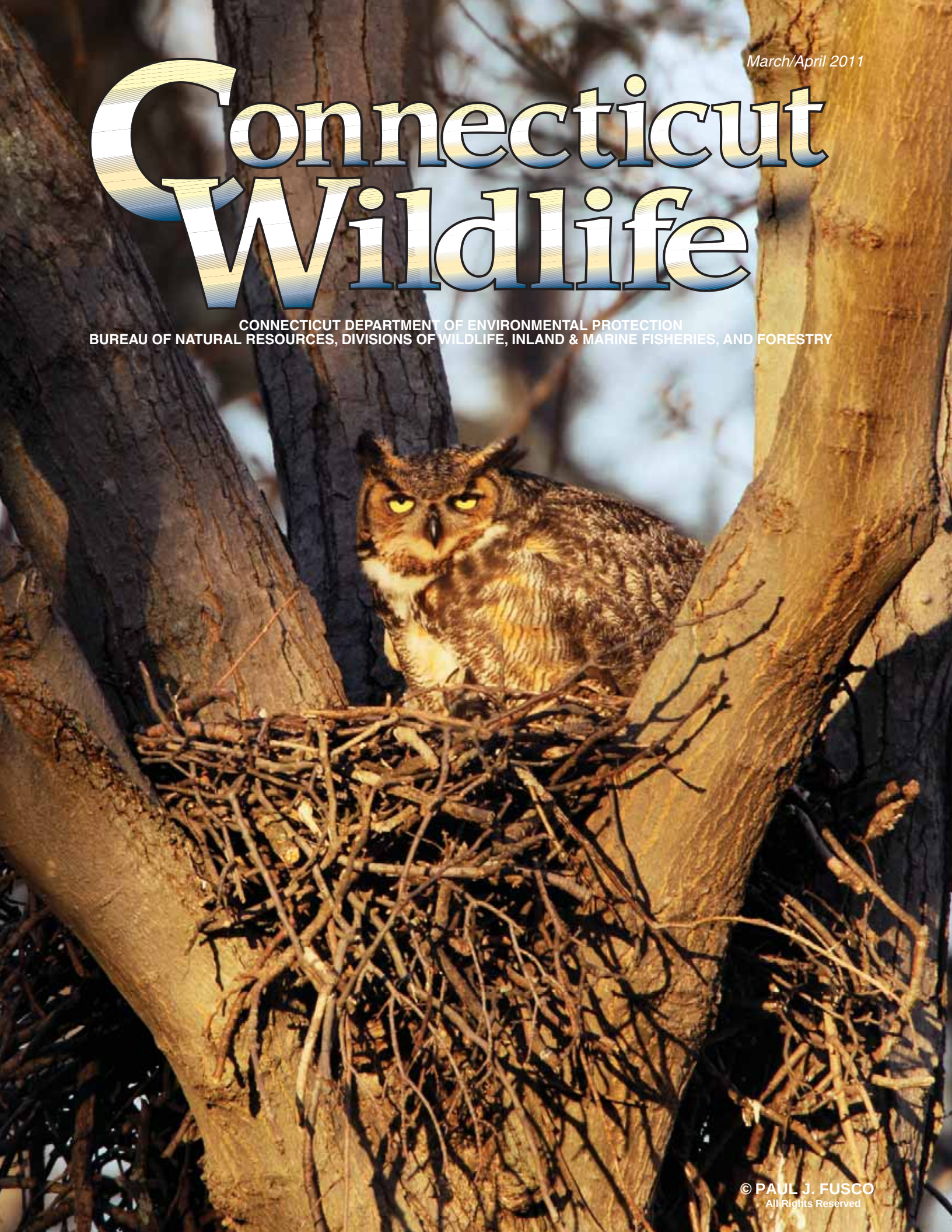
March/April 2011

Connecticut Wildlife

CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF NATURAL RESOURCES, DIVISIONS OF WILDLIFE, INLAND & MARINE FISHERIES, AND FORESTRY



From the Director's Desk

As wildlife professionals, and stewards of Connecticut's Public Trust resources, we take management actions every day, either by 'improving' habitats, removing individual or groups of animals, or taking no action. Taking no action is still a conscious decision that has consequences that will affect the future of wildlife populations, locally and regionally. That said, we often find ourselves in the difficult position of taking actions that will benefit one group to the detriment of another, and by extension will be subject to criticism. One such example is our recent decision to remove deer from Charles Island off the coast of Milford to preserve a nesting colony for several rare bird species.

In this instance, there are several factors at play. First and foremost is the relationship between deer, vegetation, and heron and egret nesting sites. We've been monitoring the island's deer population for the past few years and have found it to be unstable, with wild fluctuations in the number of deer over time. For instance, 23 deer were counted on the island in December 2009, equating to more than 1,000 deer per square mile, some 50 times the number of deer recommended for maintaining a healthy forest ecosystem. A short four months later, in April 2010, staff returned to the island looking for deer carcasses. Four of the 11 carcasses found during the survey were of the 23 live deer of the previous count. Examination of bone marrow samples indicated that the deer died of severe malnutrition (e.g., starvation). Additional dead deer were observed throughout 2010.

In terms of the vegetative community, there were several disturbing observations. Deer browsing has eliminated all native plants in the understory. Virtually all understory growth has been replaced with invasive, non-native Japanese barberry, a thorny shrub that deer find unpalatable. Overbrowsing by deer also has created gaps in vegetation, allowing other invasive, non-native plants to become established. In just two years, this has led to the loss of mid-story nesting habitat, and birds, such as the glossy ibis, were forced to abandon the island for nesting in 2010. Most of the canopy trees on the island have become cloaked in non-native oriental bittersweet, which adds tremendous weight to the overstory and greatly increases the surface area in the upper reaches of the trees, magnifying the effects of winter winds much like the sail of a boat. These combined effects have caused several of the canopy trees forming the rookery to topple. With the elimination of the understory, there are no young trees to replace the canopy trees lost to winter storms. Exacerbating all of this is the presence of a soil fungus that attacks the roots of canopy trees, further destabilizing island ecology.

Relocating deer to another location is fraught with complications. For one, deer populations throughout the state are doing extremely well; too well in some instances. We constantly receive requests for more aggressive approaches to reducing deer densities in New Haven and Fairfield Counties as the number of deer in these areas exceeds both their biological and cultural carrying capacities. As such, there is no place to relocate these animals without exacerbating deer overabundance and creating new problems in other neighborhoods. Under the best of circumstances, post-release survival of relocated deer is low. The prognosis for survival is dire when deer health is compromised by malnutrition. Given these constraints, relocation is not a viable option.

Recognizing all of these complicating factors, the Department developed a management plan that involves removal of deer and non-native invasive plants, re-planting of native vegetation (primarily trees), erecting exclosures around newly-planted stock, and annual monitoring, management, and maintenance. This plan to restore the island ecosystem will take several years, but in the end we're confident the nesting colony will be restored.

Understandably, many people struggle with the notion of euthanizing deer. But as resource managers, we are faced with needing to take an action – either allow the rookery of state-threatened herons and egrets and a designated Natural Area Preserve to be lost or remove the deer and restore the island ecosystem. In this case, we believe the choice is clear.

Rick Jacobson, Director – Wildlife Division

Cover: *A great horned owl sits on its nest. See the article on page 12 to learn more about Connecticut's largest owl*

Photo courtesy of Paul J. Fusco

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The Federal Aid in Wildlife Restoration Program was initiated by sportsmen and conservationists to provide states with funding for wildlife management and research programs, habitat acquisition, wildlife management area development, and hunter education programs. Connecticut Wildlife *contains articles reporting on Wildlife Division projects funded entirely or in part with federal aid monies.*

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Study Shows Rehabilitated Fawns Have Poor Survival

Written by Andrew LaBonte, DEP Wildlife Division

A. LABONTE, DEER MANAGEMENT PROGRAM (2)

In conjunction with the Connecticut Agricultural Experiment Station and with cooperation from three fawn rehabilitators, the Wildlife Division initiated a research project during summer 2010 to assess tameness, survival, and movements of rehabilitated fawns exposed to two different release techniques.

At the same time that white-tailed deer are giving birth in early summer, the Wildlife Division is receiving phone calls about "injured or orphaned" fawns. However, very few of these fawns are actually in trouble. Fawns are nearly odorless when they are born. To protect her young and not leave a scent, a white-tail doe will leave the fawn alone during the first three weeks of its life, only to return to nurse it periodically throughout the day. People who find fawns are encouraged to leave them alone and not touch them.

On occasion, fawns that are picked up as "orphaned or injured" have been raised by state-licensed rehabilitators and released back into the wild at the end of summer. Over the years, many fawns have been raised and released with little known about their tendency for dispersal or their survival after release. In conjunction with the Connecticut Agricultural Experiment Station and with cooperation from three fawn rehabilitators, the Wildlife Division initiated a research project during summer 2010 to assess tameness, survival, and movements of rehabilitated fawns exposed to two different release techniques.

When fawns were ready for release, seven were subjected to a "soft release" (pen door remained open to allow fawns to use food and water) and 12 fawns were subjected to a "hard release" (relocated to a large forested tract of state forest with no food or water provided). All fawns were ear-tagged, weighed, radio-collared, and evaluated for tameness prior to release. Tameness was evaluated again at 24 hours, one week, and three weeks post release. Fawns were monitored daily for 60 days and then two or three times per week thereafter. If the mortality sensor on a fawn's radio collar was activated, the animal was located and the cause of death was determined.

Weight of fawns ranged from 19 to 65 pounds at the time of release and had little effect on survival rates. All fawns at the hard release site died within 36 days (average = 14.4 days), while all fawns at the soft release site died within 85 days (average = 45.8 days). Sources of mortality included coyote (8), pneumonia (2), motor vehicle (2), bobcat (1), hunter harvested (1), illegally killed (1), and undetermined (4). Fawns at the hard release site had unknowingly contracted pneumonia prior to being released, which increased their vulnerability to predation by coyotes. Additionally, few of the animals showed any fear of humans and tameness indices changed little over time.

Regardless of release technique, animals exhibited high fidelity to release sites. Average distance deer were found from the soft release site was 209 yards, while average distance from the hard release site was 367 yards. Distance found from the release site did increase over time, indicating that if fawns had survived for a longer period of time they might have dispersed greater distances.

Based on these preliminary results, weight, tameness, and release technique had little effect on survival of rehabilitated fawns. This project is expected to continue through the 2011 fawning season.

Wildlife Division Michael Gregonis holds one of the rehabilitated fawns before it was released back in the wild. Note the yellow ear tag and radio collar.

Mixed Results for First Year of Forest Interior Bird Studies

Written by Geoffrey Krukar, DEP Wildlife Division

The Wildlife Division initiated a study in 2010 aimed at gathering much needed information about forest interior bird species in Connecticut (see the May/June 2010 issue of *Connecticut Wildlife*). The major objectives of this study were to determine the current distribution and abundance of forest interior birds, and to measure productivity of each species relative to habitat and landscape conditions. This suite of birds requires large tracts of contiguous forest and many of these species have suffered severe declines regionally as forests are being slowly fragmented by development.

Managing for forest interior birds is difficult because, despite previous survey attempts, their status and distribution have remained unclear in Connecticut. Forest interior birds are often missed by large scale monitoring programs, like the Breeding Bird Survey, that do not typically sample in the middle of large forests. To complicate matters further, little is known about specific habitat preferences and how they influence the productivity of these species.

The study focused on four target species: the cerulean, black-throated blue, black-throated-green, and worm-eating warblers. They were selected as focal species because the results of an analysis indicated that all four would be prevalent enough that changes in occupancy could be determined with only 80 survey points. In addition, the cerulean and worm-eating warblers were selected because they both require large patches of forest and are extremely unlikely to occur in smaller sites. The intention was to have them serve as "indicator" species. Essentially, if the forest was large enough and healthy enough to have either of these two species, then it should be able to support the other forest interior bird species as well.

Data Collection

Repeat surveys were conducted between mid-May and late June along 20 survey routes that were randomly distributed statewide in large forests. Each survey route was made up of four survey points. Approximately half of the 80 survey points were located along organized trails, while the other half were located in the middle of the forest. DEP staff and volunteers conducting the surveys were asked to record information about all bird species detected. Two additional visits were made to each site in July when the juvenile birds were off the nest. Surveyors walked line transects that overlapped the four survey points. Any observations of juvenile birds were recorded. Habitat measurements were collected around each point after all the bird surveys were completed.

Results

All four of the target species were found during the point count surveys. Black-throated warblers were found across the state and occurred on the most survey routes (8 for black-throated blue and 11 for black-throated green). Worm-eating warblers were found along six survey routes, but the bird was noticeably absent from all the routes in northern Connecticut. Only one site, located in northwestern Connecticut, had any cerulean warblers.

Most of the bird species, including all four target species, did not show any significant difference in abundance between points along trails and those not along trails. Interestingly, the four species that did exhibit a significant difference (blue jay, hairy woodpecker, pine warbler, and tufted titmouse) were actually more abundant along trails where human disturbance is presumed to be higher.

Productivity sampling was successful, yielding 65 broods of juvenile birds. These data will be used to generate an index of productivity to allow for comparisons between sites. Coupled with the habitat measurements that were collected, this information can be used to provide meaningful recommendations to forest managers.

Future Work

Another year of surveys is planned for 2011. Changes to the survey design are being considered to increase the detections for the four target species, especially the cerulean warbler. Other potential changes may be to focus on more common forest bird species, increasing the number of survey routes, and mist-netting for juvenile birds.

If you have considerable experience identifying forest bird species and would like to get involved with this project, please contact Geoffrey Krukar at 860-675-8130 or by E-mail to geoffrey.krukar@ct.gov. A mandatory training session for volunteers will be held in April.

P. J. FUSCO

The black-throated blue warbler requires large tracts of uninterrupted forest to successfully rear young. It is one of four forest interior birds being studied to determine current distribution and abundance, along with the productivity of each species relative to habitat and landscape conditions.

State Wildlife Grants

Outlook Good for Spring Turkey Hunting Season

The spring wild turkey hunting season has always been popular with Connecticut hunters. This year is no exception as anticipation runs high for another successful season. Several changes were implemented last year to provide additional hunting opportunities, which were well received by sportsmen.

The 2011 season will start on April 27 and end on May 28. Private land hunters will be able to harvest three birds, while state land hunters can harvest two birds. Regulation changes increased the spring season by one week and now allow hunters to purchase both private and state land permits. Hunting licenses and turkey permits can be purchased on the DEP's Web site (www.ct.gov/dep/sportsmen-licensing) and at most town clerks, some sporting goods stores, and DEP offices. Hunters are required to have a 2011 firearms hunting license or a small game and deer archery permit to apply for a spring turkey permit. (*See page 7 to learn about receiving a credit toward the purchase of a 2011 license if you paid a higher price for a 2010 license and permits between October 1, 2009, and April 14, 2010.*)

Season Outlook

Hunters should expect to see a good number of jakes (males less than one year old) during the 2011 season because last summer's turkey brood survey indicated higher productivity. Connecticut had experienced lower productivity in previous years, causing some declines in the overall statewide wild turkey population and making the spring hunt more challenging during those years.

Safety Comes First

With the upcoming arrival of the spring turkey season, now is the perfect time to practice and prepare. Spring turkey hunting requires a great deal of skill to be successful, and the best way to acquire these skills is to heed the advice of seasoned turkey hunters and to practice. Hunters also should make sure every field adventure is safe and enjoyable.

One way to prepare is to attend a turkey hunting safety seminar in early spring. The Wildlife Division's Conservation Education/Firearms Safety (CE/FS) Program, as well as several local sportsmen's clubs, sponsor training seminars every year, which cover hunting techniques, but also stress safety and ethical hunting. To find out about any upcoming turkey hunting seminars sponsored by the CE/FS Program, check the Calendar of Events section on the DEP Web site (www.ct.gov/dep/calendar).

Sign up for a Conservation Education/ Firearms Safety class today! Check the DEP Web site (www.ct.gov/dep/calendar) to view the list of available classes. Classes fill up quickly! You can also contact the Wildlife Division at 860-642-7239 or 860-675-8130.

P. J. FUSCO

Spring Turkey Junior Hunter Days, April 16 & 23

Spring turkey junior hunter training days provide junior hunters with an opportunity to learn safe and effective hunting practices from experienced hunters. Licensed junior hunters may hunt for turkeys when accompanied by a licensed adult hunter 18 years of age and older. The adult mentor may not carry a firearm. The junior hunter must have a valid spring turkey season permit for state or private land. Those hunting on private land also must have written consent from the landowner. The adult mentor may assist in calling turkeys. Hunting hours for Junior Hunter Training Days only are one-half hour before sunrise to 5:00 PM. Harvested turkeys must be tagged and reported. Consult www.ct.gov/dep/hunting to learn more about tagging and reporting requirements.

Hunting can be a safe and enjoyable activity. Thinking before you react will keep it that way. Remember, once the trigger is pulled, there is no calling back the shot.

From Hatchery to Stream: Trout Stocking for Opening Day

Written by Brian Eltz, DEP Inland Fisheries Division; Photos provided by DEP Inland Fisheries Division

Opening Day! To non-anglers, it's just the third Saturday in April. But to trout anglers, it is Christmas, New Year's Eve, and the Fourth of July all rolled into one! Opening Day of Connecticut's 2011 trout season begins at 6:00 AM on April 16. Nearly 100,000 anxious anglers will hit the water, eagerly anticipating the catch of the day or maybe even the catch of their lives.

The first day of trout season is not for those seeking solitude and respite in the far-off corners of nature. Local tackle stores are usually chock-full of last minute shoppers purchasing supplies the night before. In the morning, anglers can be seen standing shoulder-to-shoulder along a streambank or lake shore before the sun even peeks above the horizon.

For many, Opening Day is steeped in tradition. Some anglers will fish in popular fishing derbies. Some will attend fisherman's breakfasts to fuel-up for the day's "work" that lies ahead. Still others meet for an annual rendezvous with family and friends on the water. Many will stake claim to the exact Opening Day spot that they've fished for decades, much like salmon returning to their natal waters.

Trout Stocking

In preparation for this hugely-anticipated occasion, Inland Fisheries Division employees will stock 400,000 trout before Opening Day. Brook, brown, rainbow, and tiger trout (a brook trout x brown trout hybrid) will be swimming in waters across the state. Ten percent will be "trophy trout," with many measuring 14 inches long. Even better than that, an additional 2,000 will be broodstock, with many weighing more than 10 pounds! Catching any of these fine trout is satisfying, but successfully landing a trophy or broodstock may convey bragging rights for years to come!

Connecticut's trout are raised from eggs at three hatcheries located in Central Village, Burlington, and Kensington. Once the trout are about 18 months old (although broodstock trout may be over 4 years old), they are netted from hatchery ponds, loaded by hand into tanks on trucks, and then driven to far reaches of the state. The fish will be distributed into 100 lakes and ponds and 200 rivers and streams. In all, over 200 truckloads of trout will be distributed throughout Connecticut by both hatchery and fish management staff prior to Opening Day.

Once a hatchery truck reaches a stocking location on a stream or lake, trout are scooped out with large nets from tanks that can hold as many as 40 fish. In a few places, where the stocking truck can get right next to the water, trout slide down tubes right into the lake or pond. However, most of the time, heavy nets full of thrashing trout have to be carried down to the water and released quickly. Often this occurs through ice and snow or is hampered by

(Above) Stocking trout through the ice prior to Opening Day.

(Left) A broodstock brown trout being released into one of Connecticut's lakes.

rain and muddy roads. Scrambling down and climbing back up steep streambanks makes for some very tired workers by the end of the stocking run! But their dedication results in lots of fine trout awaiting you at your favorite waters on Opening Day.

Something for Everyone

From the most avid purists who pursue their quarry with hand-tied flies, to the beginners who are learning the art of fishing with bait, there is something for everyone when it comes to Opening Day in Connecticut. The Inland Fisheries Division is proud to offer a wide variety of angling options. While most waters have the general five-trout-per-day creel limit, there also are many specialized areas to fish, too.

"Trout Parks" are family-oriented waters. They receive frequent additions of new trout and have a reduced creel limit of two trout per day. These areas often have amenities like restrooms and picnic tables available.

"Trophy Trout Streams" are rivers stocked with a higher proportion of large trout over 12 inches long.

"Trout Management Lakes" have special regulations that protect some sizes of trout through special length regulations. This enables more anglers to do battle with these larger fish.

"Fishing in Neighborhoods" ponds are found in city parks. They receive frequent stockings, so there always is plenty of trout available. These ponds provide great fishing opportunities that are close to home for many people.

Trout anglers looking for an early start to their season might want to try one of the state's 16 "Trout Management Areas" or any of nine "Class I Wild Trout Management Areas." All of these allow catch-and-release fishing prior to Opening Day. These waters have special seasons and regulations, with some even offering year-round fishing! Similarly, portions of six designated "Sea-run Trout Streams" are open year-round with a two trout per day and 15-inch minimum length rules.

Get Ready for Opening Day

Opening Day marks the turn of seasons in Connecticut. It will be here sooner than you think! Be sure to buy your 2011 fishing license, inspect your fishing gear, and consult the 2011 Connecticut Anglers Guide. To view the guide on-line, enter "Angler's Guide" in the search box at www.ct.gov/dep. While you're on the DEP homepage, check the "In the News" section on the left side of the screen for recent press releases. One release will include details of trout stocking sites where you can join the Inland Fisheries Division on April 16 and actually stock some trout yourself! Take advantage of Connecticut's Trout Stocking Program, which is one of the best in the Northeast! Good luck on Opening Day!

Opening day stocking and fishing at Southford Falls Pond Trout Park, located in Southford Falls State Park, Southbury.

Fees and Credits for Fishing and Hunting Licenses, Permits, and Tags

Legislation was approved and signed into law in April during the 2010 session of the Connecticut General Assembly reducing many of the fees for sportsmen's licenses and permits. This was followed in June by legislation authorizing a credit to be applied against the fee for any 2011 sportsmen's license, permit, or tag when purchase of a license, permit, or tag had been made at the higher prices in place between October 1, 2009, and April 14, 2010. The credit amount will be the difference between the higher amount paid during that time period and the amount set by the new fee structure established on April 14, 2010.

Credit redemption is not available from town clerks, retail vendors, or through DEP's Online Sportsmen Licensing System. You must purchase your 2011 license, permit, or tag by mail or in person at one of the following DEP facilities to obtain a credit:

- **Marine Headquarters, 333 Ferry Road, Old Lyme; 860-434-6043; Mon.-Fri. 8:00 AM-4:00 PM**
- **Eastern District Headquarters, 209 Hebron Road (Route 66), Marlborough; 860-295-9523; Mon.-Fri. 8:30 AM-4:00 PM**
- **Western District Headquarters, 230 Plymouth Road, Harwinton, 860-485-0226; Mon.-Fri. 8:30 AM-4:00 PM**
- **Franklin WMA, 391 Route 32, Franklin, 860-642-7239; Mon.-Fri. 8:30 AM-4:00 PM**
- **Sessions Woods WMA, 341 Milford Street (Route 69), Burlington, 860-675-8130; Mon.-Fri. 8:30 AM-4:00 PM**
- **DEP Main Office, 79 Elm St., Hartford, License & Revenue Office, 860-424-3105; Mon-Fri 9:00 AM-4:00 PM and the DEP Store, 860-424-3555; Mon.-Fri. 9:00 AM-3:30 PM**

Mail-in Option: A form to purchase your license, permit, or tags by mail when redeeming a credit is available on-line at www.ct.gov/dep/sportsmensfeereduction.

Restoring River Herring Runs in Connecticut

Written by Steve Gephard, DEP Inland Fisheries Division

We often mark the advent of spring with observations of robins, pussy willows, or daffodils. Annual milestones occur in our streams, too. A sure sign of the approaching spring is the run of alewives. The alewife (*Alosa pseudoharengus*) is an anadromous member of the herring family. Most herring live in the ocean but a handful have adopted anadromy – hatching in freshwater, then emigrating as juveniles to the ocean to mature. When they are ready to spawn, between two and four years, they migrate back to the same freshwater body in which they originated. In Connecticut, that annual migration begins in March (and usually is over by early June). But the show is not over! Another similar species, the blueback herring, typically enters the streams in May and continues to run well into June. Collectively, the alewife and blueback herring (*Alosa aestivalis*) are referred to as 'river herring' and both average between 10 and 12 inches long as adults.

The two species look remarkably alike. Both are laterally flattened fish with dazzlingly silver scales, a deeply forked tail, and large eyes. Both species travel in schools – you rarely see one or two alone. If the fish are "in," you are more likely to see 100 to 200, or 1,000.

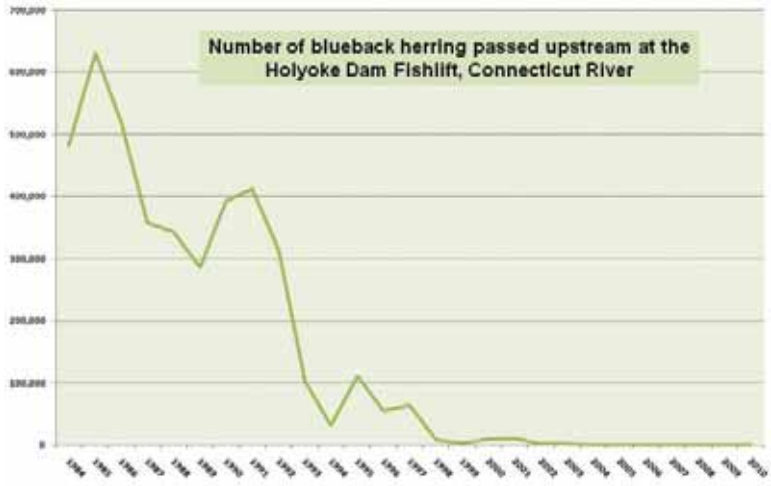
The spectacle of a strong river herring run is a sight to behold and ranks as one of our state's notable animal migrations. One day, there are no fish, and the next day, the stream may be packed with a dense school of swirling, splashing, surging silvery fish, so enthusiastic that they may literally swim right out of the water and onto dry land. The fact that they are typically chased by striped bass from below and osprey and herring gulls from above only adds to the excitement.

Alewives seek quiet areas like back coves of large rivers (e.g., Keeney Cove off the Connecticut River), lakes (e.g., Bride Lake in East Lyme), or old millponds behind dams (e.g., Moulson Pond in Lyme). Blueback herring, on the other hand, spawn in streams with moderate flows, like the Naugatuck, Quinnipiac, and Salmon Rivers. Often, both species spawn in the same streams, but use different areas. In the Connecticut River, alewives stop before reaching Massachusetts, but blueback herring accompany American shad, another anadromous species, all the way to Bellows Falls, Vermont, about 174 miles from Long Island Sound.

River herring are edible, but they are full of bones and generally considered too small to bother eating. Colonists used them to fertilize their fields and lobstermen and anglers have long used them for bait. Right up into the end of the twentieth century, some Connecticut residents caught these fish and pickled them for food. In the 1700s and 1800s, New England states exported huge numbers of salted river herring in barrels to sugar cane plantations in the South for the slaves to eat. Those same states then imported molasses from the plantations to be used for distilling rum. River herring were netted from the beach in many rivers, but nowhere was the harvest greater than at Rocky Hill and Wethersfield on the Connecticut River, where the fishery persisted right up to the 1960s.

B. GAHAGAN, UNIVERSITY OF CONNECTICUT

Alewives moving up a rapidly-flowing freshwater stream to spawn.



A Decline in Herring Populations

The main reason for the demise of river herring, however, was the construction of thousands of dams in the 1700s and 1800s to power mills. These dams blocked the fish from reaching their ancestral spawning grounds and the runs were decimated. Severe water pollution between 1920 and 1970 exacerbated the problem and, by the time the DEP was created in 1972, the river herring runs were already a fraction of their former size.

Runs began to rebuild through the 1970s and 1980s, and places like the mouth of the Farmington River, the Housatonic River below Derby Dam, and Whitford Brook in Mystic once again turned black with river herring. However, a new decline began in the late 1980s, and it became so severe that by 2002, the Department implemented an emergency closure of all river herring fisheries in the state. It now is illegal to take either herring species by any means. The cause of the recent decline is unclear, but it appears to be happening in the ocean because river herring runs along the entire East Coast are affected, not just from one or two rivers. It is known that recovered stocks of striped bass are eating more river herring than in past years, but there also is some evidence that river herring are being incidentally taken at sea by other fisheries. More research is needed to identify the causes and reverse the trend.

Want to Witness River Herring Runs?

It's not as easy as it used to be to observe river herring runs, and many occur at night. Following are a few suggestions of where to see the fish run in Connecticut (if you go during the day, be sure to bring along polarized sunglasses):

- **Mianus Pond Fishway - in April and May. Contact the Greenwich Conservation Commission about any public tours.**
- **Sasco Brook - in May, mostly at night. Located below the Boston Post Road Bridge (boundary between Westport and Fairfield). Try not to frighten the black-crowned night herons stalking the fish!**
- **Pequonnock River, Bridgeport - in April and May. Located between Glenwood Park and the Bunnells Pond Dam (by the Ice Palace.)**
- **Farmington River, Windsor - in May. Located near the Route 159 bridge and "Bart's."**
- **Salmon River, East Haddam - in May. Located below the Leesville Dam off Powerhouse Road.**
- **Latimer Brook Fishway, East Lyme - in April. Located between Flanders Four Corners and Interstate 95 to the east. Look right below the fishway.**
- **Poquetanuck Brook, Preston - in April and May. Located above the Route 2A bridge by the Brookside Restaurant.**

Remember—look but don't touch! You are not allowed to harvest any herring. The runs are under observation and any illegal take will be reported to the EnCon Police.

P. J. FUSCO

Although this osprey appears to have nabbed a menhaden for dinner, the similar-appearing river herring is an important prey item for this fish hawk

If humans no longer eat herring, who should care about them? Everyone should—herring are among the most important forage species in our coastal ecosystems, both saltwater and freshwater. Everything eats them: stripers, bluefish, ospreys, eagles, largemouth bass, smallmouth bass, otter, mink, seals, porpoises—the list goes on. If these fish crash, so do the populations of the many species that depend on them for food.

Restoring Runs with Fishways

But the news is not all bad. Many groups throughout Connecticut are partnering with the Inland Fisheries Division to restore runs of river herring in their communities by sponsoring projects to tear out dams or build fishways around dams. River herring are once again regaining access to their ancestral spawning grounds and populations are rebounding. In Greenwich, the Mianus Pond Fishway allowed a run of alewives to go from "dozens" to 90,000. In just four years, the annual run in Queach Brook in Branford went from 700 to 30,000, thanks to a fishway built by the Branford Land Trust and partners. Connecticut now has over 50 fishways built by land trusts, municipalities, watershed groups, fishing groups (e.g., Trout Unlimited), conservation groups (e.g., The Nature Conservancy and Save the Sound), private individuals, and—oh yes—the DEP. In December 2010, former Governor M. Jodi Rell and DEP Commissioner Amey Marrella announced a series of grants to fund projects that will soon allow river herring to get around 11 more dams. Further assistance is being provided by the Inland Fisheries Division, which transplants river herring from healthy runs to streams under restoration (where fishways are about to be built) to re-start runs that have died out.

Problems in the ocean still need to be sorted out to help restore river herring to their glory, but these fish passage projects are helping maintain that wonderful spring tradition of "bucky runs" to Connecticut's streams.

SPORT FISH RESTORATION

Open House at Rainbow Dam Fishway in Windsor

An Open House is planned at the Rainbow Dam Fishway, in Windsor, on June 4, 2011, from 10:00 AM-3:30 PM. Visit the largest fishway in Connecticut, a concrete structure that circumvents a 59-foot high hydroelectric dam and allows migratory fish to continue up the Farmington River to spawn. This is the one day during the year the public is allowed inside the gates, down the stairs, and into the counting house to watch migrating fish through the viewing window. If you're lucky, you'll see shad, trout, suckers, bass, sea lamprey, and maybe even an adult salmon! Take I-91 to exit 40; go west on Rt. 20 to the Hamilton Road South exit; turn left, then right onto Rainbow Road; the area is 1/4-mile on the left (look for signs).

Cooperation from Canada to Ecuador to Determine Why Chimney Swifts Are Declining

Written by Shannon Kearney-McGee, DEP Wildlife Division

Connecticut's chimney swifts have been the focus of increased research and monitoring for the past five years. These birds have had a rate of decline of approximately seven percent range-wide since 2002. This decline rivals many of Connecticut's state-listed birds. This rate of decline, along with a lack of information, earned the chimney swift a new spot on the International Union for the Conservation of Nature (IUCN) Bird Life International Red List as "near threatened." The IUCN Red List of threatened species is widely considered to be the most objective and authoritative system for classifying species in terms of the risk of extinction. Information on a species' population size, population trends, and range size are used to determine its Red List category. Although chimney swifts are often observed in Connecticut, where they prefer to nest remains unanswered and more birds continue to disappear each year.

The potential reasons for the decline of chimney swifts include: 1) reduction in nesting and roosting opportunities as a result of new building practices; 2) reduction of suitable flying insects for food; 3) stress from major weather events, such as hurricanes, during migration; and 4) unknown threats on their wintering grounds in South America. Monitoring and research has begun to address the first two causes of decline.

Adopt a Chimney!

Are you interested in helping the Wildlife Division understand what is happening to chimney swifts while they spend the summer in Connecticut? Volunteers are needed to monitor active nests and roosting sites from April through August. Each volunteer will be assigned a historically active chimney site at which to count birds at least once a week during the half hour surrounding sunset or sunrise.

If you would like to assist with this project or know of any chimneys with nesting or roosting swifts, please contact Shannon Kearney (shannon.kearney@ct.gov; 860-675-8130) at the Sessions Woods Wildlife Management Area.

Regionally organized surveys in the eastern United States from 2008 to 2010 were designed to understand whether suitable nesting locations in chimneys were limiting birds. Results from these surveys in Connecticut indicated nesting was a relatively rare phenomenon across the entire landscape despite a myriad of seemingly suitable nesting opportunities. Random survey locations in Connecticut indicated that at least 25% of the chimneys appeared to be available for nesting swifts. In these same locations, however, chimneys are becoming unavailable due to chimney capping at a rate of 16% over the past two years.

These surveys and public reports indicated that birds were not evenly distributed across the state, but were being observed mostly in urban locales along river corridors. Results from surveys focusing on places where chimneys swifts are often observed indicated that, even in known hotspots, only zero to four percent of chimneys were occupied by nesting swifts. These low rates were surprising because 86% of survey sites had swifts flying in the general vicinity. In addition, analysis of observations indicated that surrounding habitat did not influence nesting status, although swifts were more likely to be observed flying in urban locations. So, the question remains as to why swifts are observed flying, but not nesting.

Which Chimneys Are Preferred?

There could be some aspect of the maintenance, use, or structure of chimneys, or maybe even the placement that makes some chimneys less desirable for nesting. This past fall, staff and volunteers began an intensive effort in one location where chimney swifts are known to occur to determine which chimneys had birds in them. This effort should shed light on the required characteristics of chimneys, thus helping researchers refine estimates of how many chimneys are truly available for nesting birds.

International Cooperation

This past year was the first season of monitoring to investigate what the birds might be eating. This research is being done in cooperation with biologists in Canada. Canadian researchers at the University of Trent have determined that the onset of the population crash for chimney swifts was associated with a major reduction in the amount of beetle and bug prey and an increased reliance on fly prey. To understand whether or not swifts in Connecticut are consuming beetles and bugs or less nutritious flies, researchers enlisted homeowners with swifts in their chimneys to collect guano during the 2010 nesting season. These samples are being analyzed to determine what the birds were eating while nesting. If the birds are consuming more flies than beetles, nesting adults may be less able to raise their young successfully, indicating that the food supply in Connecticut may be contributing to the decline of swifts.

Although chimney swifts are observed in Connecticut, where they prefer to nest remains unanswered and more birds continue to disappear each year.

If nesting habitat and food are not driving the chimney swift decline, other possible causes, like conditions at the wintering grounds and weather, are more difficult to monitor and manage. Roost and nest monitoring may be used as an index of population decline in relation to weather events, but specific monitoring plans have not been finalized. However, because of online educational information, researchers were made aware of a large roosting colony of about 1,000 swifts in Ecuador this past fall. Interestingly, the observer was concerned for the safety of chimney swifts in Ecuador because of the potential threat from vampire bat eradication efforts! There has been an active eradication program of vampire bats in coastal Ecuador, and there is the potential for farmers to misidentify the swifts as bats. There is no quantitative information on how this activity may be threatening chimney swifts, but identifying the threat is the first step towards understanding its effect and possibly using education to lessen its impact.

State Wildlife Grants

Mast Was Plentiful for Wildlife in 2010

Written by Michael Gregonis, DEP Wildlife Division

Every year, established survey plots on various state properties are visited by Wildlife Division staff to assess the production of mast, mainly acorns, in forest areas. Mast is the dry fruit from woody plants. Examples include samara from maple, elm and ash; various pine seeds; and nuts from oak, hickory, beech, witch hazel and black walnut. Mast is the primary fall and winter food for many forest wildlife species. In some areas, acorns may comprise more than 50% of the fall diets of white-tailed deer and wild turkey.

Information from mast surveys is used to predict productivity in some wildlife populations, as well as the potential deer harvest. Past research has shown that in years with high acorn abundance, survival and the production of young increase for some wildlife species (e.g., tree squirrels). Information reported on annual deer hunter surveys indicates that in years of high acorn abundance, the deer harvest generally decreases. This reduction in the harvest can be attributed to deer moving less frequently from feeding areas to bedding areas and foraging for shorter periods of time, making them less likely to be harvested. Acorn mast is important to many wildlife species, often causing populations to fluctuate and impacting their vulnerability to hunting pressure.

Mast is the primary fall and winter food for many forest wildlife species. In some areas, acorns may comprise more than 50% of the fall diets of deer and wild turkey.

At 11 of the 12 survey sites, 25 trees from the white oak group (e.g., white, chestnut, and swamp oak) and 25 trees from the red oak group (e.g., red, black, pin, and scarlet oak) were selected for sampling. At one site, only 25 trees were selected from the red oak group because an insufficient number of white oaks were available for sampling. All survey trees are numbered, and the white oak group is marked with white paint, while the red oak group is marked with red paint. Marking the trees with paint and a metal numbered tag assists with locating each tree on an annual basis.

P. J. FUSCO

Acorn mast is important to many wildlife species, often causing populations to fluctuate and impacting their vulnerability to hunting pressure.

Surveys are conducted from August 15 through September 1. The crown of each marked tree is scanned for 30 seconds with binoculars to detect the presence or absence of acorns. All trees are assessed to determine the proportion of sample trees that have mast, providing an index of productivity (see table). A productivity scale of 0 (scarce) to 6 (abundant) was used to rank mast abundance at both the regional (management zone) and statewide level. The statewide index for the 2010 field mast survey was 4.4, whereas during 2008 and 2009 the index was 2.4 and 3.2, respectively. 2010's index indicates that statewide acorn abundance was moderate to abundant. On a regional basis, acorn abundance ranged from a high of 6.0 in Deer and Turkey Management Zone 3, to a low of 2.8 in zone 9. The remainder of the management zones had mast indices that fell into the moderate to abundant category.

Connecticut Hard Mast Survey, 2010

Zone	Site Location	Percent Acorn Abundance White	Red	Total Percent Acorn Abundance	Research Mast Index
1	Housatonic WMA	28	84	56	3.4
2	Sessions WMA	60	84	72	4.3
3	Scantic River SP	N/A	100	100	6.0
4	Belding WMA	92	100	96	5.8
5	Yale Forest	84	84	84	5.0
6	Aldo Leopold WMA	96	100	98	5.9
7	Sleeping Giant SP	20	84	52	3.1
8	Cockaponset SF	16	84	50	3.0
9	Hurd SP	24	68	46	2.8
10	Franklin WMA	92	92	92	5.5
11	Huntington SP	56	84	70	4.2
12	Barn Island WMA	36	100	68	4.1
				Average	4.4

Connecticut's Tiger of the Night - The Great Horned Owl

Article and photography by Paul Fusco, DEP Wildlife Division

More often heard than seen, the great horned owl is one of Connecticut's largest avian predators. Its size and strength easily surpass that of our large buteo hawks, the red-tailed and red-shouldered. Its ferocity has been likened to that of a tiger. Only the eagle is a more formidable raptor.

Known as the traditional "hoot-owl," the great horned is most often heard vocalizing as it sets up its territory and as courtship progresses into the nesting season. The voice is a deep, low-pitched series of three to seven hoots – *hoo, hoo-oo, hoo, hoo, hoo* – which resonates through the night forest.

Males hoot from a number of different perches within their claimed territory. Other nearby males may be heard answering the hoots as territorial boundaries become established. Territories and nest sites are claimed by early winter and nesting begins shortly after.

Great horned owls do not build their own nests. They use existing nests that were previously built by hawks, ospreys, crows, or herons. Because they are early nesters, owls will have nesting well underway by the time red-tailed hawks or other birds come back to reclaim their old nest. Great horneds also may use tree hollows, bare rock ledges, or man-made structures for nests. They rarely will use the same nest as they did the previous year.

In Connecticut, usually one or two eggs are laid. The eggs take 28 to 30 days to hatch, usually in mid- to late winter. They are asynchronous, in that one egg will hatch two or three days before the other. Thus, one chick will be bigger and more dominant.

The young owls leave the nest in six to eight weeks. As they grow, the young gradually crowd the nest, causing them to begin to "branch," or walk out of the nest, onto surrounding branches before they have the ability to fly.

Great horned owls frequently perch close to the trunk of a tree where their plumage blends into the bark.

Description

Great horned owls are large, bulky, and powerful. Their plumage is heavily mottled gray/brown and buff, with fine barring on the underside. They have a rusty orange facial disk and a white throat patch. The large feet and talons have the strength to kill prey that may be larger than the owl. Females are bigger and heavier than males.

Great horned owls have large heads with broad ear tufts. The large yellow eyes are set wide apart and positioned frontally, giving the birds binocular vision, which helps with judging distance and accuracy when hunting. The eyes have limited movement, so the birds must move their head to look in different directions. Flexible neck vertebrae allow the owls to rotate their head 180 degrees to look in any direction without moving their body.

The wingbeats of the great horned owl are powerful, steady, and stiff. The owl has broad, rounded wings and a short tail. Owls have serrations on their flight feathers which soften the rush of air through the wings as they fly, making their flight silent and stealthy.

Distribution

Great horned owls are the most widespread owl in the Western Hemisphere. They are basically nonmigratory, but may disperse from their territories after breeding, and then return for the following breeding season. Although found throughout Connecticut in a variety of habitats, great horned owls are most common in the mature upland forests of the western and central parts of the state.

Behavior

The great horned owl is an aggressive and ruthless hunter at night. During the day, it stays hidden out of sight with perfectly camouflaged plumage, blending into tree trunks and shadowy evergreens.

Perhaps the best time to see a great horned owl is at dusk. The bird comes out of hiding just after sunset and before the last light of the sky is lost. It will fly up to a hunting perch, frequently in a treetop or other high point along a forest edge or within a clearing, as it begins to scan for prey.

The loud and raucous calls of crows will sometimes alert a person to the presence of a great horned owl. The owls are often harassed when found by crows during the day. At night, however, the tables are turned as roosting crows may get raided by a hungry great horned owl. In fact, great horned owls are the most significant predator of crows.

As one of the most opportunistic predators in Connecticut, the great horned owl will take any animal it can catch. It will take animals that walk or crawl on the ground, birds and bats from roosts or out of the air, and fish out of the water. The owl will even regularly prey on such unappetizing morsels as skunks and sometimes even porcupines.

Their chief prey is small to medium sized mammals, with a large percentage of them being rodents, rabbits, and skunks. They also will take house cats. The birds they are known to kill include ducks, turkeys, hawks, herons, and songbirds. Other owl species normally will not

Before they are old enough to fly, young owls will normally "branch" from the nest by climbing out of the nest onto surrounding branches.

be found within a great horned's territory as great horned owls have been known to kill and eat smaller owls, including barred owls. When prey is plentiful, an owl will only eat the head and brains of its victim, leaving the carcass for scavengers.

Stealth is the primary technique employed when hunting. Silent flight and radar-like hearing allow an owl to take unsuspecting victims, including ducks that may be sleeping on the water. When all is said and done, there are few nocturnal creatures that can carry out their activities without fear of the great horned owl.

Conservation and Management

Great horned owls are adaptable and widespread, and they use a great variety of food resources. They have benefitted from forest regeneration and maturation, as well as from laws protecting raptors and other birds. The creation of edge habitat that results from forest fragmentation has likely benefitted great horned owls.

In Connecticut, wildlife managers have found that great horned owls will kill nestling ospreys. In other parts of the country, there have been localized problems of owls preying on endangered species, which have included peregrine falcons, barn owls, spotted owls, and sea turtle hatchlings. In the past, the great horned owl was considered a harmful species by many because of its potential for preying on poultry and game animals. Today, however, the great horned owl is widely recognized for the positive role it plays in controlling destructive rodents and other problem species.

Paugussett State Forest - Sweetest of Them All?

Article and photography by Jerry Milne, DEP Division of Forestry

Paugussett State Forest in Newtown may be the sweetest woods in Connecticut. That's because the Division of Forestry has been actively managing a sugarbush as a demonstration area. A sugarbush is a stand of sugar maples that is tapped for maple syrup. It gets its name from the Dutch word "bosch," meaning "woods."

Tubing has replaced buckets for collecting sap in most sugaring operations.

Sugarbush Features

There are several characteristics that make for a good sugarbush. Obviously, the most important criterion is to have a forest made up mostly of sugar maples, although red maples also can be tapped. In addition, the site should be on a gentle slope to allow for the use of tubing and gravity to collect the sap. Even better would be an east-facing slope, allowing the sun to warm the trees early in the day, causing the sap to flow sooner. Moist, fertile soils that provide good growing conditions for sugar maples are needed, and access to a nearby road for sap collection also is helpful.

When the first management plan for Paugussett State Forest was written in the 1980s, a six-acre area that met all of the criteria for a sugarbush was identified. It presented the perfect opportunity to show landowners how to manage their own woodlots to produce maple syrup, while also allowing the public to cut firewood and the Division of Forestry to generate revenue.

A refractometer is used to measure sap sugar content. Some trees are consistently sweeter than others and should be favored as crop trees.

This particular grove originated when a pasture was abandoned around 1960, and the sugar maples along the bordering stone walls seeded in. At first, thousands of maple saplings per acre covered the ground. Over the years, as they grew and competed for sunlight, the numbers were reduced to a few hundred trees per acre that were growing slowly. Because the trees were relatively small (the average trunk was six inches in diameter) when the potential area was identified, it presented an ideal time to create a sugarbush of well-spaced, high quality, productive trees.

Developing the Sugarbush

The first step was to identify the potential crop trees. These would be the tallest maples with the widest and healthiest crowns. The trunks would have the fewest defects and forks, and they would be spaced about 25 to 30 feet apart. When these trees were at least 12 inches in diameter (measured at chest height), they would be big enough to tap.

The second step was to measure the sugar content of the sap of these selected trees and compare it to the others. If the sap was as sweet or sweeter, it became a crop tree.

The Rule of 86

Just as people vary in height, the sugar content of sap can vary widely from tree to tree. Sugar concentration can range from as low as one percent to well over five percent, with most trees averaging between two and two-and-a-half percent. Maple syrup producers are familiar with the "Rule of 86" (86 divided by the sap sugar concentration gives the number of gallons of sap needed to make one gallon of syrup). For example, to produce one gallon of syrup, it takes 43 gallons of 2.0% sap compared to only 24.5 gallons of 3.5% sap. That's quite a difference in time and energy needed to produce the same amount of syrup.

Sugar content is measured by placing a drop of sap on a refractometer; the more sugar in the sap, the higher the reading.

Competing Trees Sold for Firewood

After the crop trees were identified, the trees that competed with them for growing space were marked for removal. Trees whose crowns touched the crop trees were targeted. These trees were sold to the public through the Division of Forestry's firewood cutting program. In this program, DEP foresters mark the trees to be removed, and the individual pays $60 for a permit

Trees that compete with crops trees in a sugarbush are marked for removal and sold to the public through the Division of Forestry's firewood cutting program.

to cut two cords of firewood. (To learn more about the DEP's firewood cutting program on state forests, go to www.ct.gov/dep/forestry, and click on "firewood.")

After several years of thinnings (and many cords of wood sold), the growth rate of the trees had doubled. This was verified by counting the growth rings. Currently, the trees have eight annual rings per inch, meaning that in eight years, the tree's trunk grew in diameter by two inches. After 16 years, many of the original crop trees were big enough to be tapped. The sugarbush has been leased to a commercial maple syrup producer for many years. Originally, there were enough crop trees to accommodate 50 taps. Now, there are over 400 taps.

Several years ago, the Maple Syrup Producers Association of Connecticut held a field meeting at Paugussett State Forest where sugarmakers learned how to manage their own sugarbushes. Statewide, the Division of Forestry leases a few areas on state forests to large scale maple syrup makers. Suitable sites are limited, and they are carefully chosen to not conflict with other uses of the forests.

Visit the Sugarbush

The Paugussett State Forest sugarbush is located near the entrance to the forest, at the end of Echo Valley Road in Newtown. You also can reach the sugarbush by hiking the Lillinonah Trail, part of the Blue Trail system maintained by volunteers from the Connecticut Forest and Park Association (www.ctwoodlands.org). The trail runs right past the area.

For More Information

If you think your woodlot has potential for a sugarbush, call the Division of Forestry at 860-424-3630 to arrange for a visit from one of the DEP Service Foresters.

Maybe you don't have your own woodlot, but have access to sugar maples, perhaps roadside trees or some in the backyard. To learn more about making maple syrup, contact the Maple Syrup Producers Association of Connecticut (www.ctmaple.org). The DEP Goodwin Conservation Center in Hampton also offers maple sugaring classes (www.ct.gov/dep/goodwin). You also should obtain a copy of the North American Maple Syrup Producers Manual, produced by the Ohio State University Extension Service (www.estore.osu-extension.org).

The sugarbush before thinning. The flattening of a tree's crown on one side, shown on the tree to the left, indicates too much competition from adjacent trees.

The sugarbush after thinning. The crowns of the crop trees have been opened up on two or three sides. They now will grow twice as fast.

Forest Fire Danger Updates Available on DEP Web Site

Connecticut traditionally experiences high forest fire danger from mid-March through May. The Division of Forestry constantly monitors forest fire danger levels to help protect Connecticut's 1.8 million acres of forested land. Throughout the spring forest fire season, DEP posts daily advisories on forest fire danger levels on its Web site (www.ct.gov/dep/forestfiredanger). Advisories also are sent to DEP field staff, municipalities, fire departments, and the media. Forest fire danger levels are classified as low, moderate, high, very high, or extreme.

Connecticut's 'Prehistoric' Fish

By Tom Savoy and Penny Howell, DEP Marine Fisheries Division; Photos provided by DEP Marine Fisheries Division

Shortnose sturgeon migrate throughout the Connecticut River, moving to the river mouth in spring and northward in summer. The species' distinctive scutes are visible running along its back and sides. The leading edge of the pectoral fin calcifies somewhat and a thin section of a piece of this fin is used to age the fish.

Of the 200 or so species of finfish swimming in Connecticut waters, the sturgeons are among the most primitive and strange-looking fish. Sturgeons appeared in the fossil record around 200 million years ago, during the Mesozoic Pleistocene Era, making them among the most ancient of fishes with very little change in their appearance over millennia. Like some dinosaurs, they have scutes, or hard plates, instead of scales lining their sides and dorsal (top) surface. They have no true bones, no teeth, and a skeleton of cartilage.

Two species can be found in Connecticut waters. The Atlantic sturgeon is the larger of the two and is anadromous, meaning that it spends most of its time in coastal saltwater but swims to freshwater to lay eggs. This species can grow up to 12 feet in length and weigh hundreds of pounds. The smaller shortnose sturgeon is more of a freshwater resident as it does not move into the marine zone for extended periods of time. A remnant population of shortnose sturgeon occurs in the state in the Connecticut River. These fish are usually two to three feet in length, never exceeding four feet. Maturity is a slow process for both species: sturgeon take from 10 to 25 years to become sexually mature, and can live up to age 60. After reaching maturity, males breed every one to two years, but females usually breed every third to sixth year. Females spend multiple years with reduced feeding and growth and produce 40,000 (shortnose) to 3.8 million (Atlantic) eggs.

Abundant to Rare

American Colonial journals recorded accounts of huge Atlantic sturgeon being harvested commercially for food. In the late 1800s, sturgeon were second only to lobster among important coastal fisheries. Because of their delayed maturity and long reproductive cycle, over-harvesting of sturgeon for flesh and eggs (a.k.a. caviar) in the 1880s caused Atlantic sturgeon numbers to plummet. Life history characteristics, in combination with sensitivity to pollution and loss of access to spawning areas, have kept populations from recovering to pre-Colonial period numbers. A coastwide harvest moratorium was implemented in 1998, but it will take many more years to see any recovery.

The shortnose sturgeon is the only fish species in Connecticut waters which is classified as an endangered species throughout its range, having been recognized as such in 1967. The Atlantic sturgeon currently has no federal status, but it is listed as threatened in Connecticut waters. Action is expected in early 2011 on a federal petition to list the New York bight DPS (Distinct Population Segment) as endangered.

Research to Learn More

DEP Marine Fisheries Division biologists have been monitoring both sturgeon species in Connecticut waters since the 1980s. To aid in the protection of these unique fish, a variety of tags have been used, including exterior t-bar and surgically implanted ultrasonic tags. These tags have been placed on hundreds of individuals over the last 25 years to record information on movements and behavior. Recent developments include the use of Passive Integrated Transponder (PIT) tags, similar to those used by people to 'mark' their pets. Sturgeon also have had ultrasonic tags surgically implanted to record information on locations and movements of individuals. These studies have revealed that the Connecticut River population of shortnose sturgeon over-winters primarily north of Hartford and then migrates south to the estuarine (brackish) sections of the river near Essex and Old Saybrook with the spring freshet. Access to this region and the available food resources is important to the general health and well-being of this species. These fish slowly move northward over the summer when the lower river regains its salinity. Several key feeding areas have been identified where the fish congregate seasonally. Keeping disturbances away from these areas when the fish are present has paid off. Monitoring and tag return data have shown that the population in the river has increased from about 850 fish in the early 1990s to over 1,800 in 2002.

Studies of Atlantic sturgeon are more

challenging, not only due to the fish's larger size but also because the species migrates seasonally along the entire East Coast. Connecticut's spawning population is essentially extirpated. Spawning rivers along the East Coast with remnant populations of Atlantic sturgeon remain unclear, but the largest population appears to be in New York's Hudson River. Through research grants funded by The Nature Conservancy, U.S. Fish and Wildlife Service, and National Marine Fisheries Service, DEP biologists have captured and examined over 1,500 Atlantic sturgeon in Connecticut waters since 1984. Additionally, 84 Atlantic sturgeon have been implanted with ultrasonic tags in the last five years. Data from self-contained acoustic receivers placed in Long Island Sound are downloaded monthly to track the movements of the tagged fish. Early data showed that the mouth of the Connecticut River and the area surrounding Faulkners Island, off Guilford, are seasonal concentration zones critical to the fish's successful growth and survival. Over the years, cooperating scientists in other states have tracked Atlantic sturgeon tagged in Connecticut in waters off New York, New Hampshire, Delaware, Maryland, Virginia, North and South Carolina, and Georgia. Connecticut biologists have recorded similar data from an equal number of sturgeon from other states.

Atlantic sturgeon are found in Long Island Sound and the lower sections of Connecticut rivers from May through November. Note the protective scutes running along the fish's side and the finger-like barbels surrounding the mouth, which the sturgeon uses to 'feel' along the bottom for food. Two externally applied t-bar tags can be seen on this sturgeon (small, yellow "threads"); one above the left pectoral fins and one below the dorsal fin. DEP staff examined, measured, weighed, and tagged this sturgeon before releasing it.

Emerald Ash Borer Monitoring Underway in Spring

The Connecticut Cooperative Extension System (www.extension.uconn.edu) will lead an emerald ash borer monitoring effort this spring and summer, with funding and assistance from the Animal Plant & Health Inspection Service (USDA APHIS). The survey will cover approximately 75% of Connecticut to help monitor for the presence of this non-native, invasive insect. Purple traps will be placed on a two-mile by two-mile square grid in all counties except Windham and New London. Private and municipal landowners may be called upon to allow the placement of traps on their property. The traps will be hung by rope, preferably in or near ash trees. State and federal agency staff will periodically monitor the traps from April through August.

Federal agricultural officials confirmed the presence of the emerald ash borer in Saugerties, New York (about 25 miles from the Connecticut border), in July 2010. This destructive pest is an exotic wood-boring beetle from Asia that has killed more than 50 million ash trees, causing extensive environmental and economic damage throughout infested areas in the Northeastern United States and Canada. It has metallic green wing covers and a coppery red or purple abdomen. It is about one-half inch long, with a flattened back.

CT COOPERATIVE EXTENSION SYSTEM

Early detection is the best defense against further infestation. Possible emerald ash borer infestations should be reported to the Connecticut Agricultural Experiment Station at 203-974-8474, 203-974-8485, or CAES.StateEntomologist@ct.gov (digital photos of suspect insects are helpful). Suspect infestations also can be reported to APHIS via their Web site at www.aphis.usda.gov. More information on the emerald ash borer can be found on the DEP Web site (www.ct.gov/dep/forestry), or at www.emeraldashborer.info.

2011 Is the Year of the Turtle

Turtles are in trouble. Because of the issues surrounding turtles and the need to raise awareness, Partners in Amphibian and Reptile Conservation (PARC) has proclaimed 2011 as the Year of the Turtle. Through outreach efforts to researchers, educators, natural resource managers, and the public, the "Year of the Turtle" campaign aims to increase U.S. involvement in local-to-national turtle issues. State and federal wildlife agencies, along with several conservation and turtle organizations, are partnering with PARC to help spread the word about the plight of turtles. The DEP Wildlife Division also has made a commitment to inform Connecticut residents about the state's native turtles through monthly press releases, articles and species profiles (see page 19) in issues of *Connecticut Wildlife* magazine, a children's art contest, and related events.

The United States has more native turtle species than any other country; it is a turtle biodiversity hotspot. Currently, 328 species of turtles are known worldwide, with 57 species in the United States and Canada, and 12 species in Connecticut (bog, Eastern box, musk, painted, snapping, wood, and spotted turtles; northern diamondback terrapin; and loggerhead, leatherback, Atlantic green, and Atlantic ridley sea turtles).

Turtles (which include tortoises) occur in fresh water, salt water, and on land. Their shells make them some of the most distinctive animals on Earth. Turtles are typically slow creatures. This isn't limited to their speed; they also grow slowly. It may take 10-15 years before individuals of some species can reproduce. A thriving turtle population relies on turtles surviving many years, if not decades. But if a population loses adults and begins to decline, a slow recovery can be expected. Because of these "slow" characteristics, the primary threats to turtles are intensified.

The spotted turtle is one of 12 species of turtles found in Connecticut. It is considered to be of conservation concern throughout most of its range, including in our state. PHOTO BY P. J. FUSCO

Threats to U.S. Turtles

The bad news is that humans cause the largest harm to turtle populations, but the good news is that we have the power to make positive changes toward turtle survival. The largest threats to turtle populations include:

- Habitat loss and degradation;
- Overharvest of wild turtles for food, traditional medicines, and pets;
- Mortality from roads, agricultural machinery, fishing bycatch, and predators;
- Exotic invasive species and diseases;
- Loss of unique genetic makeup due to hybridization; and
- Climate change.

Conservation Action Can Help

Careful stewardship and conservation action can successfully slow or reduce the declining trend of turtles. Because turtles can respond well to population management and conservation, it is not too late to preserve our turtle heritage. Three basic approaches for species conservation include: 1) protecting rare species and their habitats; 2) managing common turtle species and their habitats so that they remain common; and 3) managing crisis situations, such as species in peril from acute hazards (e.g., oil spills).

Important progress is already being made in the United States. The freshwater turtle science and conservation community, in conjunction with state and federal wildlife agencies, recently developed recommendations for managing freshwater and land turtle populations. These recommendations include better monitoring and tracking of turtle harvests, as well as the need for more long-term population studies on wild turtles.

Stay tuned to future issues of *Connecticut Wildlife* to learn more about turtles during the "Year of the Turtle." You also can visit PARC's Web site at www.yearoftheturtle.org for more information, as well as the DEP Web site (www.ct.gov/dep/yearofturtle).

Adapted from the "State of the Turtle," written by Deanna Olson from the U.S. Forest Service, and A. Ross Kiester, from The Turtle Conservancy. This report can be viewed at www.yearoftheturtle.org.

What Is PARC?

Partners in Amphibian and Reptile Conservation (PARC) is an inclusive partnership dedicated to the conservation of the herpetofauna – reptiles and amphibians – and their habitats. Membership comes from all walks of life and includes individuals from state and federal agencies, conservation organizations, museums, pet trade industry, nature centers, zoos, energy industry, universities, herpetological organizations, research laboratories, forest industries, and environmental consultants. The diversity of its membership makes PARC the most comprehensive conservation effort ever undertaken for amphibians and reptiles. PARC is habitat focused, and centers on endangered and threatened species and keeping common native species common.

The Connecticut DEP has been a member of PARC since 1999.

Bog Turtle

State and Federally Endangered Species

Glyptemys muhlenbergii

P. J. FUSCO

Background

The state endangered bog turtle is the rarest turtle in Connecticut. Only small, isolated populations exist in the state and information on them is scant. Populations have been documented in five Connecticut towns, and unconfirmed sightings and single specimens have been reported from several other towns between the Housatonic and Connecticut Rivers. Illegal collection for the pet trade has further depleted local populations.

The bog turtle was given protection in 1973 by CITES, the Convention on International Trade in Endangered Species. The turtle was added to the federal endangered species list on November 4, 1997. In Connecticut, it is against the law to remove any bog turtle, including eggs, from the wild.

Intensive development pressure in all portions of the bog turtle's range have caused the draining and filling of wetland habitat. Remaining wetlands have been isolated, resulting in the fragmentation of bog turtle populations. These small populations cannot mix with others and only breed within the population. The result is a loss of genetic variation, which reduces the population's ability to adapt to a changing environment. Bog turtles are extremely sensitive to changes in their environment, such as increased nutrification, altered drainage, vegetation changes, or pollution.

Range

Bog turtles currently occur in scattered colonies in western Connecticut, western Massachusetts, and through New York, south to northeast Maryland, southern Virginia, western North Carolina, and Georgia.

Description

The bog turtle is the smallest of the turtles found in Connecticut, measuring from three to three-and-a-half inches and weighing approximately four ounces. It has an orange or yellow head patch which is sometimes divided into two parts. The large scutes (shell segments) of the dark carapace (upper shell), have yellow or reddish hues. Males have a flatter carapace, concave plastron (bottom shell), and a long, thick tail. Females have a wider carapace, convex plastron, and a short, thin tail.

Habitat and Diet

Suitable bog turtle habitat consists of calcareous (containing calcium carbonate, calcium, or lime) wetlands, such as open sphagnum bogs, wet meadows, and wet pastures. In Connecticut, these special habitats only occur in the western part of the state. Bog turtles rely on an abundance of grassy or mossy cover and high humidity. Open, sunny areas where the turtles can bask to raise their body temperature also are important.

Bog turtles eat seeds, berries, insects, slugs, worms, crayfish, frogs, snakes, snails, and carrion.

Life History

Bog turtles breed in late April to early June after emerging from hibernation. Nests are usually in tussocks or on sphagnum moss in sunny areas of a bog. The two to five (usually 2-3) eggs are laid from June to July and are left on their own to develop and hatch. Incubation lasts for seven to eight weeks and hatching occurs from July to early September. In Connecticut, eggs may overwinter in the nest and hatch in spring when there is an abundant food supply. The nests are often preyed on by skunks and raccoons. The young are only one inch long at hatching and are often taken by a variety of birds and mammals. Bog turtles reach sexual maturity between nine and 15 years of age.

Interesting Facts

During winter, bog turtles hibernate underwater in deep areas of bogs in about six to 18 inches of mud. Immature turtles do not hibernate in deep mud until they are two to three years old. The turtles emerge from hibernation in late March through April and may migrate short distances to feeding and breeding sites.

Bog turtles feed during the daylight hours; however, they are seldom active during the hottest part of the day and are inactive on chilly mornings.

Adults are preyed on by raccoons, skunks, foxes, and dogs.

How You Can Help

According to Connecticut regulations, bog turtles may not be collected from the wild. They also should never be kept as pets. The pet trade has encouraged illegal capture of bog turtles in many areas of the country and can only effectively be stopped by reducing the demand for bog turtles as pets.

Another way to help bog turtles is to protect their bog habitats by not disturbing or damaging them.

Musk Turtle

Sternotherus oderatus

Both the scientific (*Sternotherus oderatus*) and common names of the musk turtle pay heed to the odor produced when this turtle is captured or disturbed. PHOTO BY P. J. FUSCO

Background and Range

Both the scientific and common names of the musk turtle pay heed to the odor produced when this turtle is captured or disturbed. The musk of this turtle and its relatives in the Kinosternidae family comes from a yellow fluid produced by two pairs of glands beneath the margin of the carapace (top shell).

Musk turtles occur throughout much of the eastern United States. Within Connecticut, musk turtles are found in low elevation areas, especially in the Housatonic and Thames River drainages. They are less widespread in north central Connecticut, with very localized populations.

Description

This small turtle, which measures 3 to 5 inches, has a tan, brown, gray, or black carapace that may bear dark flecks, a central longitudinal keel, and a thick coating of algae. Though variable, the carapace is usually smooth, oval, and steeply domed. Musk turtle hatchlings are dark and have a rough carapace with a prominent or possibly multiple keels. Like the snapping turtle, the musk turtle's plastron (bottom shell) is highly reduced. A good amount of the turtle's flesh is exposed around the limb and tail joints. The color of the plastron is often similar to that of the carapace and may have a dark coloration on the scutes (shell segments) with a light ivory color in between scutes.

The musk turtle's head is distinct from the heads of Connecticut's other turtles in that it is triangular in shape and large when compared to body size. A pair of yellow lines runs along each side of the head from the nostrils to over and under the eyes. These lines may become broken or fade completely with age. A set of short barbels (soft barb-like projections) can be found on the chin and another set on the throat. The musk turtle's feet are heavily webbed and clawed.

Several characteristics can be used to distinguish males from females: 1) Males have patches of rough scales on the inside of the hind legs that are used to grasp the female's carapace during mating; 2) More skin is in between the seams of the scutes on the male's plastron; 3) The tails of males are longer, thicker, and equipped with a spike at the tip; and 4) Males have larger heads than females.

Habitat and Diet

The most common habitat types for this highly aquatic turtle are rivers, streams, and reservoirs associated with river systems (including impoundments). Shallow, slow-moving streams and rivers with muddy bottoms and dense aquatic vegetation are preferred. Unlike most other species, the musk turtle actually benefits slightly from dam construction because this creates the slow moving, muddy water habitats in which these creatures thrive.

The diet of the musk turtle includes freshwater mussels, snails, crayfish, aquatic insects, worms, small fish, tadpoles, carrion, and aquatic vegetation.

Life History

One beneficial aspect of the musk turtle's biology is that it reaches sexual maturity in a relatively short amount of time compared to the Connecticut state-listed wood turtle (special concern), box turtle (special concern), and bog turtle (endangered). These imperiled species often take well over a decade before they can reproduce. Male musk turtles usually mature in only three years, while females take from four to seven years. Mating occurs underwater. This generally takes place from April through early May. Female musk turtles will leave the water to nest up to three times during May to June. Nest cavities are dug near the water's edge, often under a log, tree stump, or leaf litter. Approximately five to eight eggs are laid in the cavity and covered up. Hatchlings emerge in September and October.

Interesting Facts

When the colder weather of fall arrives and the water temperature drops below 50 degrees Fahrenheit, musk turtles head to their hibernacula beneath the mud, where they are safe from impending freezing temperatures. Following this period of winter dormancy, musk turtles become active again in spring. They can be found during the day basking in shallow water or on top of emerging rocks, logs, and angled tree trunks. These turtles are known to climb high up into the branches of shrubs and trees.

Musk turtles often are found walking along the bottom of a waterbody rather than swimming. They also camouflage themselves by burrowing slightly into the muck. The algae frequently found growing on their shells help the animals blend in among the plants and similar-looking algae-covered stones.

A largely nocturnal species, activity increases as the sun sets and continues into the night. The barbels on this turtle's chin and throat are sensory organs which allow the turtle to feel for prey resting on the bottom of the waterbody.

Musk turtles are rarely found on land, typically leaving the water or their elevated basking perches only to nest or find new aquatic habitats. They also are gregarious animals and are usually found together in numbers.

Numbers Up for the 2011 Midwinter Waterfowl Survey

Written by Min T. Huang, DEP Wildlife Division

Mallards have adapted well to co-existing with humans. Recent wintering numbers of mallards have been increasing. PHOTO BY P. J. FUSCO

Every year since 1955, the Wildlife Division has conducted the Midwinter Waterfowl Survey to obtain an index of long-term wintering waterfowl trends. The total number of ducks observed during the 2011 survey – 22,926 – was the highest since 1999, and the puddle duck count was the highest since 1985. Puddle ducks, which are typically found in fresh, shallow marshes and rivers, include the mallard, American black duck, American wigeon, and gadwall.

The Midwinter Waterfowl Survey is conducted in early January throughout the Atlantic Flyway. The Atlantic Flyway is a bird migration route that generally follows the Atlantic Coast of North America and the Appalachian Mountains. Most of the states that make up the Atlantic Flyway participate in the survey. The survey is conducted from a helicopter in Connecticut and a census is obtained from the coast, the three major river systems (Connecticut, Thames, and Housatonic) and selected inland lakes and reservoirs. The survey is a snapshot in time of waterfowl distribution throughout the Flyway.

The survey was conducted in Connecticut during the first week of January 2011. Survey conditions were excellent. Many of the inland lakes and ponds were frozen due to prolonged cold weather in the weeks prior to the survey. When inland water areas freeze, waterfowl concentrate along the coast and on the major river systems. Clear skies and light winds on the day of the survey led to unlimited visibility and good flying conditions.

Survey Results

Continuing the trend of 2010, counts of all puddle ducks in 2011 were above their five-year averages. The mallard count was the highest in over 15 years, as was the count for American black ducks. American wigeon and gadwall counts also were above their respective five-year averages. There has been a slow, but noticeable redistribution of puddle ducks on the coastline in recent years.

The scaup count was well above that of 2010 and the highest since 1999. Despite a relatively high count this year, scaup wintering numbers in Connecticut continue to be lower than historical counts. The decline in the continental scaup population continues to be of concern for biologists nationwide. Habitat changes on the scaup's breeding grounds may be a factor in the long-term decline of the population. Eiders were not observed in the survey, but the number of scoters observed was higher than in 2010. Mergansers were abundant and above the levels observed in 2010, but under the five-year average.

The common goldeneye count was much higher than last year. The vast majority of goldeneyes were counted from New Haven to Norwalk. Counts for buffleheads and long-tailed ducks were above those from last year and slightly above their five-year averages. Atlantic brant numbers were higher than in 2010 and above the recent average. Canada goose counts were once again high.

Rethinking the Survey

Winter surveys are costly and dangerous, and with the recent advent of breeding ground surveys for most hunted species, the continued utility of the winter survey is in question. Currently, regulatory decisions (promulgation of hunting seasons) for only two species, Atlantic brant and Eastern Population tundra swans, are set using midwinter survey data. Consequently, the U.S. Fish and Wildlife Service and the four Flyway Councils (Atlantic, Central, Mississippi, and Pacific) are conducting an analysis of the Midwinter Waterfowl Survey, and may replace the survey in the near future.

Please DO NOT Feed Waterfowl

More and more puddle ducks are being observed in urban sanctuaries during the Midwinter Waterfowl Survey where, in many instances, supplemental feeding by the public is occurring. The Wildlife Division discourages citizens from feeding waterfowl for a number of reasons, including increased risk of disease transmission and potential for poor nutrition. The Division has published a brochure, "Do Not Feed Waterfowl," that outlines the potential hazards of feeding waterfowl. It is available on the DEP Web site (www.ct.gov/dep/wildlife).

Connecticut Midwinter Waterfowl Survey

*Results for Major Species**

Species	2011	2010	Five-year Avg.
Atlantic Brant	1,600	1,000	1,300
Black Duck	3,500	3,200	2,200
Bufflehead	1,200	1,100	800
Canada Goose	3,800	4,800	3,400
Canvasback	100	0	100
Mallard	2,600	2,500	1,400
Merganser	1,100	900	1,200
Mute Swan	700	700	800
Long-tailed Duck	600	200	200
Common Goldeneye	1,000	400	700
Scaup	5,400	800	2,000

** rounded to nearest hundred*

FROM THE FIELD

CT Forest Products Now Marketed Under "Connecticut Grown" Label

Goods, such as furniture, flooring, lumber and fencing, made from wood harvested in Connecticut forests will now bear the popular "Connecticut Grown" marketing label. This initiative appeals to the growing number of consumers who choose to buy locally grown materials and is a boost for the state's forest products industry and the jobs it creates.

The Connecticut Grown Program was developed in 1986, when the green and blue logo was created to identify agricultural products grown in the state. Over the past two decades, a strong marketing and outreach effort has established Connecticut Grown as a well-known and popular program.

Connecticut's foresters are committed to managing forests responsibly to ensure a continual source of valuable products for future generations by applying long-term forest stewardship principles. Supporting the forestry industry by purchasing Connecticut Grown products is one way to give back to the local economy, and through the Connecticut Grown logo, consumers will know that the forest products came from local wood grown in Connecticut's forests.

Expansion of the Connecticut Grown program to include products from Connecticut forests is the result of an agreement between the DEP and the Department of Agriculture. To be given permission to attach the Connecticut Grown labeling to their products, companies must participate in a rigorous certification process to ensure that the label is only used on forestry products made from Connecticut lumber, similar to what exists for agricultural products.

Connecticut's Forests: With 1.7 million acres, or about 60% of its land area, in forest, Connecticut is one of the most heavily forested states in the nation. Ironically, Connecticut also is one of the most densely populated states. The state's forests and trees add immensely to the quality of life for residents. Not only do they produce locally grown forest products, they filter the air, safeguard private and public drinking water sources, provide essential wildlife habitat, and moderate summer and winter temperatures near homes. To learn more about Connecticut Grown expanding to include forestry products, contact the Division of Forestry at 860-424-3630.

Programs at the Sessions Woods Conservation Education Center

Programs are a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. Please pre-register by calling 860-675-8130 (Mon.-Fri., 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed! Sessions Woods is located at 341 Milford St. (Route 69) in Burlington.

March 20, Medicinal Mushrooms, from 9:30 -11:30 AM. Join the Connecticut Valley Mycological Society during their annual meeting at Sessions Woods for a presentation on medicinal mushrooms. Author Gary Marley from Maine will be the speaker for the event. Refreshments will be served at 9:30 AM, followed by the speaker at 10:00 AM.

April 10, Friends of Sessions Woods Annual Meeting with a program on "Turtles," starting at 1:00 PM. The annual meeting is open to all! In honor of the "Year of the Turtle," The Children's Museum Education Director and Master Wildlife Conservationist Cindy King will present an informative program on "turtles." Cindy will bring live turtles for the audience to view as she provides information on this diverse and unique group of reptiles. A potluck dessert extravaganza will precede the presentation at 12:30 p.m. Please bring a dessert to share.

May 14, Charcoal to Iron: An Interpretive Hike, starting at 1:30 PM. Join Master Wildlife Conservationist Shirley Sutton for a hiking talk, featuring Sessions Woods and the importance of the charcoal industry. Shirley is an avid educator about the history of Connecticut's past land use. She has presented programs on the "Leatherman" and "Native Americans in Northwest Connecticut." This program will include a slide presentation indoors and an outdoors hike to view signs of past land use.

May 25, Plants and their Wildlife Value, from 10:00 AM-12:00 PM. Join Jack Hamill on an interpretive walk to identify plants and shrubs and their use to wildlife as food or shelter. A mile or so in length, this program will traverse mild terrain. Please wear appropriate outdoor gear and meet in the exhibit room.

June 4, Trails Day Educational Walk at Sessions Woods, starting at 1:30 PM. Sessions Woods will be participating in National Trails Day with an educational walk to learn about wildlife and wildlife habitat on a one-mile hike to the beaver marsh. Participants can return the same way or continue on their own to complete a three-mile loop of the property. Meet leader Laura Rogers-Castro at the flagpole in front of the Conservation Education Center.

July 9, Butterflies of Sessions Woods, starting at 10:00 AM. Visit the flowers and fields at Sessions Woods to identify the local butterfly fauna with Wildlife Division Natural Resources Educator Laura Rogers-Castro. Participants will learn the basics to butterfly identification, including tips on distinguishing the various butterfly families.

Paul Fusco's Photographs on Display at Session Woods

Wildlife Division photographer, Paul Fusco, whose stunning photographs are found throughout *Connecticut Wildlife* magazine, recently captured a series of images of an amazing predator-prey encounter while visiting Yellowstone National Park in Wyoming. Paul was fortunate to witness and photograph a desperate struggle for survival as a majestic, but injured, bull elk tried to elude a pack of wolves. Unfortunately, the wolves prevailed and the elk met its demise.

The photographic "story" will be on display in the Sessions Woods Conservation Education Center through the month of April 2011. The Center is open on Mondays through Fridays, from 8:30 AM until 4:00 PM. You may also view the exhibit if you attend the Friends of Sessions Woods Annual Meeting and "Turtle" presentation on April 10 or any other public program scheduled at Sessions Woods.

Save the Date! The 2nd Connecticut Hunting &Fishing Appreciation Day will be held on Saturday, September 24, 2011*, at the Sessions Woods Wildlife Management Area in Burlington. Stay tuned to* Connecticut Wildlife *and the DEP Web site (www.ct.gov/dep/wildlife) for updates.*

Calendar of Events

Late March..... Remove bird feeders from your yard to avoid attracting hungry bears that are emerging from their winter dens. Whenever a bear visits a bird feeder, take the feeder down immediately. To learn more about what to do if you encounter a black bear, visit the DEP's Web site at www.ct.gov/dep/wildlife.

March 13-20 ..... **National Wildlife Week**, sponsored by the National Wildlife Federation. The National Wildlife Week Web site (www.nwf.org/nationalwildlifeweek) offers resources for kids, teens, parents, and educators.

Late April-August .... Respect fenced and posted shorebird and waterbird nesting areas when visiting the Connecticut coastline. Also keep dogs and cats off shoreline beaches to avoid disturbing nesting birds.

April 22 ..... **Earth Day** — Visit the DEP Web site for more information and a listing of Earth Day events (www.ct.gov/dep/earthday).

May 14..... **International Migratory Bird Day** — The theme for the 2011 annual celebration, "Go Wild, Go Birding!" focuses on involving youths and adults in learning about birds, birdwatching, and bird conservation. To learn more about this special day, visit www.birdday.org.

June 4..... **Rainbow Dam Fishway Open House** in Windsor, from 10:00 AM-3:30 PM (see page 9 for more information).

Programs at the Kellogg Environmental Center

The DEP's Kellogg Environmental Center is located at 500 Hawthorne Avenue, in Derby. Call 203-734-2513 for more information. Visit the Calendar Events section of the DEP Web site for a complete listing of programs offered at the center.

April 9 ..... **Get Your Fishing On**, from 1:00-4:00 PM. Learn about water, habitats, fish, and fishing through activities, DVDs, and demonstrations. The program, for both kids and adults, will cover the basics of fishing through hands-on use of equipment. Participants will learn how to identify fish and understand habitat needs, follow rules and regulations, and enjoy the outdoors.

May 17..... **Singing Leaves: The Stories and Songs of the Crickets and Katydids**, starting at 7:30 PM. This 50-minute presentation by John Himmelman introduces the audience to the creators of the insect songs we have all heard since childhood. John Himmelman is the author and co-recording artist for "Guide to Night-singing Insects of the Northeast" and "Cricket Radio." His book is illustrated by local artist Michael DiGiorgio. A field guide will be available for purchase and signing. A donation of $4.00/adult and $2/student or child is requested. Registration is requested but not required.

June 21..... **Here Come the Birds**, starting at 7:30 PM. Teresa Kramer, Director of Canton Raptor Care, will give a presentation on raptors and will be bringing five live birds of prey, including a screech owl, great horned owl, kestrel, and red-tailed hawk. A donation of $4.00/adult and $2/student or child is requested. Registration is requested but not required.

Hunting and Fishing Season Dates

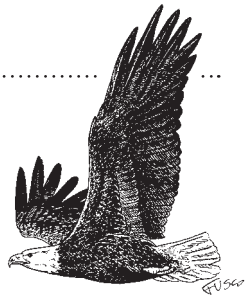
Jan. 1- June 1 ..... Application period for deer lottery permits, either online (www.ct.gov/dep/hunting) or by mail. To apply, you must possess a 2011 hunting license. There is no fee to apply for the deer lottery. Applications must be postmarked by the June 1 deadline.

April 16 ..... Opening day of trout season.

April 16 & 23..... Spring Turkey Junior Hunter Training Days to provide junior hunters with an opportunity to learn safe and effective hunting practices from experiences hunters. Visit the DEP Web site (www.ct.gov/dep/hunting) to learn more.

April 27-May 28 ..... Spring Turkey Hunting Season

..... Consult the 2011 Connecticut Hunting and Trapping Guide and 2011 Angler's Guide for specific season dates and details. Printed guides will be available in April at more than 350 locations statewide -- including town halls, bait and tackle shops, DEP facilities, and commercial marinas and campgrounds. The guides also are available on the DEP Web site (www.ct.gov/dep/hunting or www.ct.gov/dep/fishing). Go to www.ct.gov/dep/sportsmenlicensing to purchase Connecticut hunting, trapping, and fishing licenses. The system accepts payment by VISA or MasterCard.



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P. J. FUSCO

An increasingly common sight on Connecticut's shoreline is that of a harbor seal basking in the sun on a winter day.