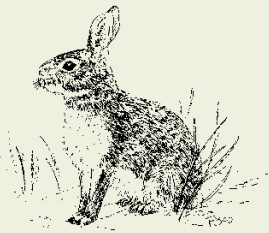

New England Cottontail Initiative

An update of activities being conducted to benefit this declining species

New England Cottontails Newly Documented at Zemko Pond Wildlife Management Area!



*If you build
it, they will
come-*

Welcome to the latest edition of the New England cottontail newsletter. The long cold winter is finally over and, with a nod to the recent Easter holiday, we would like to update you on activities related to New England Cottontail conservation.

New England Cottontail now at Zemko Pond WMA

We are excited to report that pellet samples collected at Zemko Pond WMA in February 2012 have been confirmed as New England Cottontail! This site had no documentation of NEC prior to a 2010 project, which created over 3 acres of new habitat adjacent to existing field edge thickets and forest habitat. This is great news and bodes well for many other project sites!

State Land Projects

The Wildlife Division continues to forge ahead with habitat projects on State Forests and Wildlife Management Areas. On December 12, 2014, the 2nd phase of the Pachaug SF project was completed, resulting in an additional 46 acres cut. This brings the total treatment area to 111 acres, and, the project site is adjacent to an 89-acre cut done 7

years ago, which is now prime NEC habitat. In Camp Columbia SF, 13.8 acres of a 20.8-acre project have recently been completed. This adds to approximately 12 acres of existing suitable habitat. An inventory and cutting plan have been completed for Spignesi WMA (Scotland-Canterbury Focus Area). The 57-acre project will be bid out shortly and is scheduled to be implemented late fall/early winter, 2015. All 3 of these sites are known to have NEC either onsite or in close proximity. Staff are also moving forward with a 42-acre project at Aldo Leopold WMA (Lower Housatonic Focus Area); meetings have been held with town officials, including the conservation commission and wetlands officer. The Wildlife Division continues working with our State Foresters to integrate NEC enhancement practices into their Forest Management Plans. Given that project funding grants will not always be available, both biologists and foresters recognize that sustainable forestry is the best long-term approach to creating and maintaining habitat for NEC and other early-successional species.

Stay tuned for more updates on current and future state lands projects!



Private Land Efforts Continue

The Wildlife Division continues to work collaboratively with The Natural Resources Conservation Service; providing technical assistance on projects and helping with contract development for the Working Lands for Wildlife (WLFW) program. This very successful program continues to attract private landowners interested in creating cottontail habitat on their property. For more information about pursuing a project on your property, please contact the NRCS or the DEEP. You can find NRCS local service office contact information at <http://www.nrcs.usda.gov/wps/portal/nrcs/main/ct/contact/local/>, and DEEP contact information is available at the end of this newsletter.



The Connecticut Land Conservation Conference

This year's conference, held on March 21, offered a 90-minute workshop on Land Trust involvement with NEC habitat restoration. In addition to state biologist Judy Wilson, we were fortunate to have talks by Beth Sullivan of the Avalonia Land Conservancy, Deb and Rich Martin from Litchfield Hills Audubon Society, as well Jeremy Clark, a private consulting forester and NRCS Technical Services Provider. Beth, Deb and Rich gave wonderful presentations, sharing their experiences working on landscape-level habitat management projects. We would like to thank them for providing their first-hand accounts, and unique perspectives.

Community Outreach—Spreading the Word about State Forest Management

State Forester Emery Gluck has been spreading the word about the Ten-Year Management Plan currently being developed for Nehantic State Forest, located in multiple towns in south-central Connecticut. The goals of the plan are to promote biological diversity, maintain or improve aquatic system integrity and to promote healthy and sustainable forests. Wildlife is one of the key considerations in developing the plan, and, for a State Forest located in a Focus Area, NEC becomes an important species to target in the plan. Emery has taken the time to meet with each of the towns with State Forest property, and has graciously invited our own NEC biologist to present at these meetings; informing and educating local conservation commissions and the public about the importance of young forest habitat in general, and the opportunities to help reverse NEC population declines. Other conservation entities have also given presentations, further reinforcing, from a variety of perspectives, the importance of properly managing forestland, and the methods and techniques used to do so. We think this is a great opportunity to outreach to a large number of people in multiple communities, all of whom will be able to see the implementation and results right in their own towns.

Workshops and Outreach Events

In addition to the Land Conservation Conference and Forestry community outreach, staff also participated in one radio interview, presentations at a re-

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tirement community and a local Rod and Gun Club, as well as a cooperative event with Great Mountain Forest. Staff also provided a poster for UConn's 2015 Connecticut Conference on Natural Resources

Research Update

It's been quite some time since we have provided an update! The past few years DEEP biologists have focused on estimating density and documenting state-wide distribution of NEC and EC, monitoring success of habitat restoration sites, assessing the effects of removing EC from patches occupied by both EC and NEC, providing rabbits to the captive breeding program, and quantifying microhabitat use and vulnerability of NEC and EC to hunting with beagles.

Distribution: Species distribution data was collected from road-kill specimens, hunter-harvest donations, live-trapping efforts, and fecal pellet collection. DNA extracted from tissue samples or from fecal pellets can be analyzed to determine species and gender of rabbit. In 2014, NEC were documented in 2 new Connecticut towns (Bethel and Windham). Since October 2000, NEC has been documented in 47 of 169 (28%) towns in Connecticut.

Populations Estimate: Live trapping was used to collect population demographic data at 4 study sites. Size, density and composition of rabbit populations were estimated using 3 mark-recapture techniques. Densities ranged from 0.6 to 2.4 rabbits per acre. Currently, we are exploring estimating population size using DNA extracted

from fecal pellets; advances in technology now allow the number of unique individuals in a population to be derived from fecal pellet DNA.

Monitoring Habitat Restoration Sites:

Vegetation and pellet surveys are conducted to monitor the effect of management practices and evaluate the response of cottontails to habitat restoration efforts. Vegetation surveys were conducted prior to implementing habitat restoration projects and will continue every other year after the projects are completed. In alternate years, pellet surveys are conducted to document use of sites by NEC and EC. Fourteen project sites are being monitored for vegetative response and presence of cottontails, and an additional 6 habitat restoration projects have been initiated and will be included in the survey. After 3 growing seasons, stem densities exceeded the minimum goal of 50,000 stems per ha at 6 of 8 sites. Herbicide efforts also have been successful at shifting the understory vegetation towards a native-species dominated understory (from 55% to 92% native species).

Removal of Eastern Cottontail: In 2012, research was initiated at 2 sites to assess the long term effect of removing EC, via live trapping, from patches occupied by both EC and NEC. The following field season (2013), 2 more sites were added to the study. Initial efforts suggest that $\geq 90\%$ of EC population must be removed to increase the proportion of NEC in a remaining rabbit population.

Captive Breeding Program: In 2014, 12 New England cottontails from Bethlehem were captured and transported to the Roger Williams Park Zoo for use in



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the captive breeding program . Several additional rabbits are being trapped for a newly established captive breeding program at the Queens Zoo in New York. Over the past 5 years Connecticut has contributed about 25 rabbits to the captive breeding programs.

Assessment of vulnerability of rabbit to hunting with beagles and use of micro-habitats for escape cover: A preliminary assessment of how EC and NEC respond to hunting was initiated in fall 2013. The study was conducted at a site occupied by both EC and NEC. Rabbits were marked with radio collars and dogs were equipped with a GPS unit to track their paths while chasing known marked rabbits. If the dogs chased the rabbit in 3 full circles, the dogs were called off. To assess relative vulnerability to hunting we assessed 2 variables: how often the dogs successfully chased the rabbit in 3 circles and how often the rabbit crossed or entered an opening (field or access road). Number of times that rabbits were successfully chased in 3 full circles was similar between NEC (30%) and EC (28%). EC were documented to enter or cross openings, while NEC tended to avoid these openings. Use of vegetation and structure for daytime resting sites or escape sites, while being chased by dogs, was similar between EC and NEC .

Have you checked out New-EnglandCottontail.org?

Need more detailed information on the New England Cottontail? Look no further than newenglandcottontail.org. This website covers all aspects of the entire Regional Cottontail Initiative;

here you can find information about cottontail biology, the latest media news stories, what's happening in each of the regional states, as well as pictures, signs, brochures, guidebooks, posters, and a slew of other resources. Make sure to take a look and don't forget to bookmark the page!

Other Species - the Plight of the Bobwhite Quail

Habitat loss can be implicated in the decline of most Greatest Conservation Need species. Bobwhite quail are one of those species. Bobwhites are relatively small game birds with short tails and mottled reddish-brown plumage. Adults are 6-7 inches high and weigh around 7 ounces. They are particularly easy to identify by the prominent throat patch and streak above the eye. These markings are white on the males and buff on females. Their distinctive 2 to 3 note 'bobwhite' breeding call of the male was once a common sound in early spring throughout Connecticut.

Historically, Connecticut is the northern extreme of bobwhite distribution. Connecticut did at one time have a thriving population. But, due to habitat loss bobwhite are likely extirpated as a breeding species in our state. Although bobwhite can be found in certain areas of the state, they are invariably escapees from field trials, where they are released for dog training purposes. We no longer support the expansive habitat necessary to sustain a breeding population of quail.

Bobwhite quail thrive in habitats composed of native grasses, forbs, and shrubs. High quality quail habitats are



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characterized by a mix of brushy woodlot edges, fencerows, old fields, pastures, meadows, and small crop fields. While quail prefer some overhead cover, the vegetation must be open enough to allow for quick flight from predators. Bobwhite quail also prefer and require areas with an interspersion of bare ground and vegetation. As with many species habitat preferences differ by season. In spring and summer, bobwhite quail need grasslands, drainage ditches and roadside and pond edges for nesting, feeding and roosting cover. In summer and fall, they require cropland for feeding, loafing, dusting and roosting. Bobwhite quail depend on dense, brushy areas for food during fall and winter and for escape and roosting cover year round.

As is the case for all early successional habitat obligates, active habitat management is critical for sustaining bobwhite populations. Although bobwhite can adapt to grasslands, agricultural crops, and woodlands if properly managed, too much of one results in lack of another and reduces habitat quality. Many modern land use practices simplify the landscape by producing too much of one plant community or land use type while excluding others.

Apart from the typical habitat loss issues that affect the suite of early successional habitat specialists (development, succession, etc), a lack of various land management practices such as disking and prescribed fire has resulted in habitat loss for quail as well. Disking and prescribed fire both produce annual plant communities that provide essential food and cover

resources for bobwhites and other grassland wildlife.

Contact Information

For more information, or to discuss a potential project, please contact the following:

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The following websites offer further information pertaining to New England cottontails:

www.ct.gov/deep/

youngforestinitiative

www.newenglandcottontail.org

www.ctnrnc.usda.gov/cottontail

www.fws.gov/northeast/indepth/rabbit

What do you think?

We hope you find this newsletter informative and we welcome all comments. To submit recommendations or to unsubscribe, please email: robin.adamcewicz@ct.gov

