

MEETING NOTICE AND AGENDA
MANSFIELD INLAND WETLANDS AGENCY

Special Meeting

Tuesday, January 20, 2015 ▪ 7:00 PM

Audrey P. Beck Municipal Building ▪ 4 South Eagleville Road ▪ Council Chambers

1. Call to Order
2. Roll Call
3. Review of Minutes
 - a. 12-15-2014 – Special Meeting Minutes
 - b. 1-14-2015 – Field Trip
4. Communications
 - a. Monthly Business Memorandum
 - b. Conservation Commission Minutes
5. Public Hearings

7:05 p.m.
W1545-Niarhakos, 101 East Road, 3-Lot Re-Subdivision
Memo from Wetlands Agent

7:10 p.m. Continued Public Hearing
W1542-Guyette, 140 Codfish Falls, 3 Lot Subdivision
Memo from Wetlands Agent
6. Old Business
 - a. W1545-Niarhakos, 101 East Road, 3-Lot Re-Subdivision
 - b. W1542-Guyette, 140 Codfish Falls, 3 Lot Subdivision
 - c. W1546 – Renwood Apartments, 20 Dartmouth Road – New Septic System for Building #20
Memo from Inland Wetlands Agent
 - d. Other
7. New Business
 - a. J-3 Request for Jurisdictional Ruling-166 Moulton Rd- Small Scale Waterwheel
Memo from Inland Wetlands Agent
8. Reports from Officers and Committees
9. Other Communications and Bills
10. Adjournment

Binu Chandy ▪ JoAnn Goodwin ▪ Roswell Hall III ▪ Katherine Holt ▪ Gregory Lewis ▪ Peter Plante
Barry Pociask ▪ Kenneth Rawn ▪ Bonnie Ryan ▪ Paul Aho (A) ▪ Vera Stearns Ward (A) ▪ Susan Westa (A)

PAGE
BREAK

DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Regular Meeting
Monday, December 15, 2014
Council Chambers, Audrey P. Beck Municipal Building

Members present: Chairman Goodwin, B. Chandy, R. Hall, K. Holt, G. Lewis, P. Plante, K. Rawn, B. Ryan
Members absent: B. Pociask
Alternates present: P. Aho, V. Ward, S. Westa (7:04)
Staff present: Jennifer Kaufman, Inland Wetlands Agent

Chairman Goodwin called the meeting to order at 7:00 p.m. and appointed Aho to act in Pociask's absence.

Review of Minutes:

- a. 12-01-14 - Regular Meeting- Hall MOVED, Ryan seconded, to approve the 12-01-14 minutes as written. MOTION PASSED UNANIMOUSLY.
- b. 12-10-2014 – Field Trip - Ryan MOVED, Aho seconded, to approve the 12-10-14 field trip minutes as written. MOTION PASSED with Goodwin, Holt, Ryan and Aho in favor; all others disqualified.

Old Business:

- a. **W1541- Mason Brook, LLC, 153 Moulton Road, 2- Lot Subdivision**
Holt MOVED, Chandy seconded, to recommend to the Planning and Zoning Commission that for the one lot subdivision request owned by Mason Brook, LLC and located at 153 Moulton Road as shown on a map dated 8/2014, that:
- The BAE be adjusted to be as far as possible from wetlands;
 - The DAE be reduced to the minimum required 40,000 square feet and the boundary moved further from wetlands; and
 - A note be placed on the subdivision plan indicating that any new regulated activity in the upland review area or in the wetlands or watercourse will require the owner to submit an inland wetlands application as required by the Town of Mansfield's Inland Wetlands and Watercourses Regulations.
- MOTION PASSED UNANIMOUSLY.
- b. **W1542-Guyette, 140 Codfish Falls, 3 Lot Subdivision**
Item tabled pending a 1/20/15 Public Hearing
- c. **W1543-Stearns, 40-100 Stearns Road, Gravel Removal Request**
Goodwin recused herself and Vice Chair Ryan took the seat and appointed Westa to act in her place. Holt MOVED, Hall seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Willard J. Stearns and Sons, Inc. (File #W1543) for Gravel Removal on property owned by the applicants and located at 40 -100 Stearns Road as shown on plans dated 10/28/2014 and as described in application submissions. This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:
1. Appropriate erosion and sedimentation controls shall be in place, maintained during gravel removal, and removed when disturbed areas are completely stabilized;
 2. The site shall be stabilized adequately until permanent seeding can take place;
 3. All tires on site shall be stored not less than 25 feet from the edge of wetlands; and
 4. Note #7, last sentence shall be corrected to read "...with the Town-MANSFIELD"

This approval is valid for five years (until December 15, 2019) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any

work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.

MOTION PASSED with all in favor except Goodwin who recused herself.

d. W1545-Niarhakos, 101 East Road, 3-Lot Re-Subdivision

Item tabled pending a 1/20/15 Public Hearing

New Business:

a. W1546 – Renwood Apartments, 20 Dartmouth Road – New Septic System for Building #20

Ryan MOVED, Holt seconded, to receive the application submitted by Renwood Apartments, LLC (IWA File #W1546) under the Wetlands and Watercourses Regulations of the Town of Mansfield for the construction of a new septic system on property located at 20 Dartmouth Road as shown on a map dated 10/27/2014 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

Other Communications and Bills:

Noted.

Adjournment:

The Chairman adjourned the meeting at 7:10 p.m.

Respectfully submitted,

Katherine Holt, Secretary

AGENDA
MANSFIELD INLAND WETLAND AGENCY
CONSERVATION COMMISSION

Special Joint Meeting – Field Trip
WEDNESDAY, January 14, 2015
3:00 pm

FIELD TRIP MINUTES

Members present: K. Holt, B. Ryan, P. Aho, V. Stearns,
Staff present: J. Kaufman, Inland Wetlands Agent

The field trip began at 3:00 p.m.

IWA File #W1546- Septic System- Renwood Apartments, LLC 20 Dartmouth Road

Members were met on site by Eric Peterson of Gardner and Peterson representing the applicant. No decisions were made.

The field trip adjourned at approximately 2:20 pm

Katherine Holt, Secretary



Town of Mansfield

Inland Wetlands Agency

Date: January 15, 2015
To: Mansfield Inland Wetlands Agency
From: Jennifer Kaufman, Inland Wetlands Agent
Subject: Monthly Business Report

Mansfield Auto Parts - Route 32

- Site monitored on January 14, 2015. The owners were as to move one car so it was at least 25 feet from the edge of wetlands and were reminded that all cars and debris that could cause significant impact to the wetlands needed to be at least 25 feet from the edge of wetlands.

Agent Approvals

- 131 Brookside Lane- 6 foot by 26 foot addition and a 8 foot by 25 foot covered porch.

UConn Water Main Replacement Birch and Hunting Lodge Roads

Agent Pociask requested information regarding the water main replacement activity on Birch Road and Hunting Lodge Roads and whether they needed a Mansfield Inland Wetlands License to complete this work. I communicated with Paul Ferri of UConn's Office of Environmental Policy in December. UConn was issued an Army Corps of Engineers Category 1 Permit as well as a CT DEEP general permit for construction in water resources at least a year ago. Mansfield's Regulations state that this would be an activity "regulated exclusively by the Commissioner of Environmental Protection" (see below).

Section 5.0 Activities Regulated Exclusively by the Commissioner of Environmental Protection

5.1 The Commissioner of Environmental Protection shall have exclusive jurisdiction over regulated activities in or affecting wetlands or watercourses, undertaken by any department, agency or instrumentality of the State of Connecticut, except any local or regional board of education, pursuant to Sections 22a-39 or 22a-45a of the Connecticut General Statutes.

Town of Mansfield
CONSERVATION COMMISSION
Meeting of 17 December 2014
Conference B, Audrey P. Beck Building
(draft) MINUTES

Members present: Neil Facchinetti, Quentin Kessel, Scott Lehmann, Grant Meitzler, John Silander, Michael Soares. *Members absent:* Aline Booth (Alt.), Joan Buck (Alt.), Robert Dahn. *Others present:* Joseph Boucher (Towne Engineering), Mary & Ross Harper, Jennifer Kaufman (Wetlands Agent)

1. The meeting was called to order at 7:31p by Kessel.

2. The draft minutes of the 19 November 2014 meeting were approved, after being amended to mention, in item 2, Meitzler's concern that the proposed 102 acre conservation easement in the new Tech Park be written so as to permit a utility corridor for the proposed sewer main serving 4 Corners.

3. IWA referrals.

α. W1545 (Niarhakos, 101 East Rd). The current owners of a 14.6 acre parcel on East Rd, formerly owned by Frank Trainor, propose a 3-lot subdivision: the existing house at 101 East Rd on lot 1, new houses on lots 2 and 3 downhill and to the east. Mary and Ross Harper of 129 East Rd are concerned about potential spillovers, particularly from lot 3, which abuts their own property: i) lot 3's septic leaching field is close to and uphill from their well, and ii) development is likely to increase runoff onto their property. They testified that the whole slope is quite wet from springs, probably fed by the wetland on the boundary of lots 2 and 3. Though their house has a footing drain, dampness in the basement is a problem.

Unfortunately, the developer's map does not delineate wetlands on the Harper property, so the wetlands impact (if any) of developing lot 3 is not clear. Joseph Boucher from Towne Engineering identified on the map old ditches dug to channel water away from developed areas. He also displayed photos of water running/seeping onto the Harper property from lot 3. After some discussion, the Commission agreed unanimously (**motion:** Kessel, Silander) to comment to the IWA & PZC as follows:

1) The proposed development strikes the Commission as overuse of a very wet area, requiring engineered septic systems which may have a significant impact on wetlands and on the Harpers' well. 2) Development is likely to impact the Harper property by increasing runoff. 3) The Town should learn the location of wetlands on the Harper property and assess surface water flow onto it. 4) On the developer's map, wetland appears to occupy more of the open space dedication than the 28% allowed.

The Harpers and Mr. Boucher left the meeting.

β. W1546 (Renwood Apts, 20 Dartmouth Rd). A septic system is proposed to serve a laundry in Bldg. 20; it would be 66 ft from a wetland at its closest point. The system would be located upslope from the wetland, and considerable re-contouring of the slope is called for. After some discussion, the Commission agreed unanimously (**motion:** Kessel, Lehmann) to comment to the IWA as follows:

1) The Commission does not have enough information to rule out a significant wetlands

impact from this project. The proposed septic system is 66 ft from, and upslope of, a wetland. No information about the extent and functionality of this wetland is included in the application. There may be a potential for significant nutrient loading: the proposed system is much larger than one for a typical single-family home. Will it handle only gray water, or will toilets be connected to it? 2) From the map, it appears that the system could be moved farther away from the wetland; why isn't it feasible to do so?

4. UConn Master Plan. Four Commission members – Buck, Kessel, Lehmann, & Soares – attended a 16 December presentation on the draft of a new Master Plan for UConn. The Town Manager is asking for comments on the draft Plan by 16 January 2015.

Kessel circulated a draft of such comments for the Commission's consideration. 1) The Plan needs a more explicit statement of commitment to preserving farm- and forest-land outside the developed campus. The Board of Trustees' 14 January 1977 statement to this effect should be quoted. 2) Agricultural land controlled by UConn contributes significantly to the Town's rural character and should be protected for this reason and others. 3) Trees on campus (often sacrificed in the past) also need protection. 4) Replacing student apartments across S. Eagleville Rd from the Town Hall and Community Center with a 4,000-seat hockey rink is a bad idea. It would be more efficient and less disruptive to site this facility in the athletic quarter of the campus.

There was general agreement that these points should be made. Concerning 1), Lehmann noted that the rationale for the Plan's emphasis on containing future development within already developed areas (by renovating old buildings and inbuilding new ones) would appear to be something like the Trustees' 1977 statement. There was speculation that UConn's Administration might resist an explicit commitment to preservation as limiting its options (which of course is the whole point).

Concerning 3), Silander reported that UConn now has an Arboretum Committee to guard against loss of specimen trees. Lehmann observed that large trees are valuable campus amenities, whether or not they are specimen trees, and that the draft Plan doesn't seem to give them much respect (e.g., it's hard to see how Whitney Rd could be extended to Hillside Rd, as the Plan proposes for 2020-25, without taking out some large trees.)

Kessel was authorized to refine his draft comments for submission to the Town Manager. He will welcome suggestions on wording from Commission members before and after he does so.

5. Fanwort control in Eagleville Lake. The Town has received a grant to help finance fanwort control in Eagleville Lake, but it needs to come up with \$7K of its own money. Kessel thinks getting \$7K from the Open Space Fund is a bad idea: the Town should budget for fanwort control, if it believes it's worth doing, not divert money *sub rosa* from open space acquisition. Kaufman would like some direction from the Commission about employing the herbicide Clipper to control the aquatic weed. If there are concerns, they should be addressed before she takes the proposal to the Council. Facchinetti distributed Massachusetts guidelines for using this chemical, which limit treatments to once in four years.

6. Mansfield Tomorrow. The new Plan of Conservation and Development will be presented to committees on 28 January 2015. Comments from the Commission are due by the end of February.

7. Adjourned at 9:38p. Next meeting: 7:30p, Wednesday, 21 January 2015.

Scott Lehmann, Secretary, 21 December 2014.



Town of Mansfield

Department of Planning and Development

Date: January 15, 2015
To: Mansfield Inland Wetlands Agency
From: Jennifer Kaufman, Inland Wetlands Agent
Subject: 101 East Road (File #W1545)
C. and L. Niarhakos.
Description of work: 3 Lot Subdivision
Map Date: 9/25/2014 revised through 12/23/2014

Notifications

- The applicant has paid the required application fee
- The applicant has submitted certified mail receipts for notices mailed to abutters
- The applicant has submitted certified mail receipts for notice mailed to Windham Water Works and proof of notice to the Connecticut DPH

Project Overview

The applicants propose to subdivide a 14.56-acre parcel into 3 lots. There is an existing single family dwelling located on the property and the applicants are proposing 2 new lots for single family dwellings. No activity will occur within the wetlands. At its closest point, the Building Area Envelope (BAE) of lot 2 is located 16 feet and the Development Area Envelope (DAE) is located 5 feet from the edge of wetlands. The limit of disturbance on lot 2 is 23 feet from the edge of wetlands. At its closest point, the BAE of lot 3 is 45 feet and the DAE is 30 feet from the edge of wetlands. The limit of disturbance on lot 3 is 80 feet from the edge of wetlands. In order to manage the site drainage, the applicants propose to install a grass swale. The limit of disturbance for the construction of the swale is 5 feet from the edge of wetlands.

There are two major forested wetlands on the site, which, according to the field survey completed by John Ianni, compose 28% of the property. The wetland located on the southwest of the property is associated with the existing house lot, and no new activities are proposed here. The wetland that extends from the UConn property south onto the existing property divides lots two and three. The abutting property owners to the east have expressed concern that the proposed subdivision will cause increased runoff onto their property. The wetlands on the abutting property have not been delineated so it is unclear whether the proposed development will impact the wetlands on this property.

The Conservation Commission reviewed the application at its December 17, 2014 meeting and had the follow comments:

“The proposed development strikes the Commission as overuse of a very wet area, requiring engineered septic systems which may have a significant impact on wetlands and on the Harpers’ well. 2) Development is likely to impact the Harper property by increasing runoff. 3) The Town should learn the location of wetlands on the Harper property and assess surface water flow onto it. 4) On the developer’s map, wetland appears to occupy more of the open space dedication than the 28% allowed.”

The plan does not indicate the size of the DAEs or the BAEs. IWA should consider advising PZC to have the applicant reduce both the BAE, DAE and keep any limit of disturbance as far from wetlands as possible while meeting the requirements in the subdivision regulations.

Recommendation

The applicants have been asked by Eastern Highlands Health District and the Assistant Town Engineer to make revisions to the plans. These revisions may change the BAEs, DAEs, and the limit of disturbance. Staff recommends that IWA open the public hearing as noticed and immediately continue the hearing to February 2nd to allow time for the applicant to submit revised plans for staff review. As the applicants revise the plans, the dimensions of the BAE and DAE should be indicated on the plan and be reduced so that they are as far from wetlands as possible. Further, any limits of disturbance should also be located as far from wetlands as possible. The applicants should demonstrate that they are not significantly impacting the wetlands on the property to the north. More information is required to determine this.



Town of Mansfield

Department of Planning and Development

Date: January 14, 2015
To: Mansfield Inland Wetlands Agency
From: Jennifer Kaufman, Inland Wetlands Agent
Subject: 140 Codfish Falls Road (File #W1542)
Steven Guyette
Description of work: 3-lot subdivision
Map Date: 9/25/2014, revised through 11/18/2015

Notifications

- The applicant has paid the required application fee
- The applicant has submitted certified mail receipts for notices mailed to abutters
- The applicant has submitted certified mail receipts for notice mailed to Windham Water Works and proof of notice to the Connecticut DPH

Project Overview

The applicant is proposing to subdivide a 55.21-acre parcel located on the northeast side of Codfish Falls Road into three lots (2 new lots and an existing lot). Because parcel has only enough frontage to develop 1 lot, the applicant has submitted a yield plan that shows a road leading to the 2 new proposed lots. In this scenario, 2400 square feet of wetlands would be filled. In lieu of this yield plan, the applicant is proposing that the new lots be accessed from a common driveway. To meet the Town of Mansfield's design guidelines for common driveways, the existing driveway will need to be widened and graded. Approximately 300 cubic yards of clean gravel will be deposited in the wetland and in adjacent upland review area, disturbing 180 square feet within the wetland and 0.26 acres (11,325 square feet) in the upland review area. The activity will occur in an area of wetlands that has been previously disturbed.

To mitigate the impact to wetlands the applicant has proposed a level spreader in the northeast portion of the driveway, which will disperse and slow stormwater runoff (and thus siltation) into the wetlands. It should be noted the level spreader is located in the upland review area. The applicant should construct the portion of the driveway, in immediate proximity of the wetland, from small diameter stone to allow for water infiltration during storm events and reduce siltation. In my opinion, filling of the wetlands proposed for the driveway widening will not cause significant impact to the overall function of this wetland system.

For Lot #1, there will be no activity in the wetlands. However, a portion of the driveway and house are within the upland review area, the closest area of disturbance is 115 feet from the edge of wetlands. The

Development Area Envelope is 45 feet from the edge of wetlands, which according to the applicant's soil scientist, exhibit both upland and wetland species, no standing water and no overland flow.

For lot #2 there is no proposed activity within the wetlands or the upland review area, however, according to a Wetland Report prepared for the applicant in October 2014, there is a vernal pool located on the property. At its closest point the Building Area Envelope 105 feet to the edge of wetlands. Because of this vernal pool, IWA will need to ensure that there is no activity within the watershed of this vernal pool especially within 100 feet over the long term.

Lot #3 contains the existing house. No activity has occurred with the Upland Review Area. The Development Area Envelope has been defined as 105 feet from the edge of the Vernal Pool.

Recommendation

1. To further protect the vernal pool, IWA should advise PZC to have the applicant place a conservation easement to ensure that the vernal pool is protected over the long term.
2. In the portion of the driveway that is located directly in the wetland, a uniform stone base should be used instead of processed gravel to reduce runoff and siltation of the wetland.
3. The following notes should be placed on the subdivision plan:
 - Any new regulated activity in the upland review area or in the wetlands or watercourse will require the owner to submit an inland wetlands application as required by the Town of Mansfield's Inland Wetlands and Watercourses Regulations.
 - No future disturbance shall occur within 100 feet of the vernal pool.
 - Plans for driveway construction shall be reviewed, approved, and monitored by the Assistant Engineer in conjunction with the Inland Wetland Agent to ensure that there is not significant impact to the wetlands.

**APPLICATION FOR PERMIT
MANSFIELD INLAND WETLANDS AGENCY
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR
FAX: 860-429-6863**

FOR OFFICE USE ONLY
File # _____
W _____ Fee _____
Paid _____
Official Date of Receipt _____

Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact the Inland Wetlands Agent at the telephone numbers above.

Please print or type or use similar format for computer; attach additional pages as necessary.

Part A - Applicant

Name Robert Henning

Mailing Address: 166 Moulton Rd., Storrs, CT

Zip 06268

Phone 860 429-1504

Email: robert.henning@uconn.edu

Title and Brief Description of Project

Small-scale waterwheel for generating electricity

Location of Project 166 Moulton Rd.

Intended Start Date March 4, 2015

Part B - Property Owner (if applicant is the owner, just write "same")

Name same

Mailing Address _____

Zip _____

Phone _____

Email _____

Owner's written consent to the filing of this application, if owner is not the applicant:

Signature _____

date _____

Applicant's interest in the land: (if other than owner) N/A

Part C - Project Description (attach extra pages, if necessary)

- 1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application)

Please include a description of all activity or construction or disturbance:

- a) in the wetland/watercourse
b) in the area *adjacent* to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is *off* your property

- a) A free-standing waterwheel is to be placed in the main watercourse of Mason Brook just below the remnants of a 3-foot high dam made out of rocks that is believed to have once been associated with a blacksmith's shop on the property. The old dam is approximately 150 ft east and downstream from where Moulton Rd. crosses Mason Brook. Water from just above the old dam will be diverted through a 12-in diameter feeder pipe to about 20 feet below the old dam where the waterwheel would be located on an existing flat portion of the streambed.

- b) N/A

- 2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):

- a) in the wetland/watercourse
b) in the area *adjacent* to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is *off* your property

- a) Some repositioning of rocks at the top of the dam, over an area of about 2 square yards, would help promote water flow into the feeder pipe. Some other rocks over another area of about 2 square yards will need to be repositioned for the course of the feeder pipe.

- b) N/A

- 3) Describe the type of materials you are using for the project: _

The waterwheel is to be approximately 6 ft in diameter with six or more catchbasins and a metal support structure that consisting of two vertical arms in parallel that support an axle located about 3 ft high from the base. The flat base of the support structure is 13 x 21 inches. Two 3-ft stabilizing arms bolted to the base and parallel to the stream bed will prevent the structure from tipping over during high water events. The feeder pipe or sluice will consist of some combination of flexible black plastic or steel or aluminum. Power output by a low-voltage DC generator will be used to help heat a woodworking shop located nearby, and to power a light mounted on the waterwheel.

- a) include *type* of material used as fill or to be excavated N/A

- b) include *volume* of material to be filled or excavated N/A

- 4) Describe measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas (silt fence, staked hay bales or other Erosion and Sedimentation control measures).

Rocks will be placed around the base of the waterwheel to prevent erosion of the stream bed and to prevent any destabilization of the support structure.

Construction of the nearby barn required obtaining a wetlands permit about 8 years ago.

Part D - Site Description

Describe the general character of the land. (Hilly? Flat? Wooded? Well drained? etc.)

Mason Brook is a seasonal brook that drains overflow water from a natural basin formed by hills east of Rt 195. About 1 mile further downstream from the proposed waterwheel, Mason Brook empties into the Fenton River. Mason Brook has 8-ft high banks at the proposed location of the waterwheel. The waterwheel will be inactive during some periods during the year, particularly late summer when the water flow in Mason Brook reduces to a trickle or stops altogether.

Part E - Alternatives

Have you considered any alternatives to your proposal that would meet your needs and might have less impact on the wetland/watercourse? Please list these alternatives.

I considered locating the waterwheel above the old dam and within 50 feet of Moulton Rd. but this did not seem feasible due to the lack of sufficient drop in the height of the stream bed in that area, which would therefore require more extensive piping in the culvert area underneath Moulton Rd. that would risk blocking water flow during serious rain storms.

Part F - Map/Site Plan (all applications)

1) Attach to the application a map or site plan showing **existing conditions** and the **proposed project** in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. **(See guidelines at end of application)**

2) Applicant's map date and date of last revision _____

3) Zone Classification _____

4) Is your property in a flood zone? Yes No Don't Know

Part G - Major Applications Requiring Full Review and a Public Hearing

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. **Postal receipts of your notice to abutters must accompany your application.** To generate an abutters list go to

Part I - Additional Notices, if necessary

Notice to Windham Water Works and CT Department of Public Health is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW and the Department of Public Health of your project within 7 days of sending the application to Mansfield--sending it by certified mail, return receipt requested. Contact the Mansfield Inland Wetlands Agent to find out if you are in this watershed.

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

Part J - Other Impacts To Adjoining Towns, if applicable

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? ___ Yes No ___ Don't Know

- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? ___ Yes No ___ Don't Know

- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? ___ Yes No ___ Don't Know

Part K - Additional Information from the Applicant

Set forth (or attach) any other information which would assist the Agency in evaluating your application. *(Please provide extra copies of any lengthy documents or reports, and extra copies of maps larger than 8.5" x 11", which are not easily copied.)*

Part L - Filing Fee

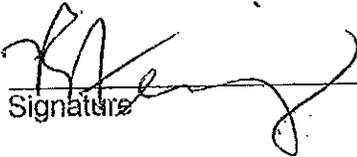
Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

Note: The Agency may require additional information about the upland review area or about wetlands or watercourses affected by the regulated activity. If the Agency, upon review of your application, finds the activity proposed may involve a "significant activity" as defined in the Regulations, additional information and/or a public hearing may be required.

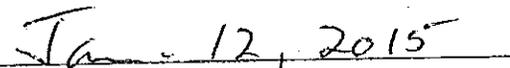
Certification

I hereby certify that:

- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.



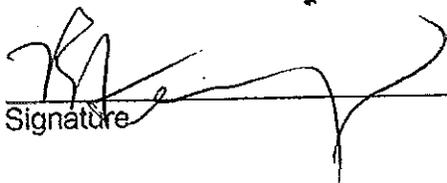
Signature



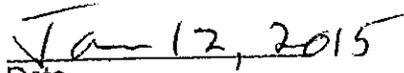
Date

Authorization to Enter Property

The undersigned hereby consent to necessary and proper inspections of the above-mentioned property by members and agents of the Inland Wetlands Agency at reasonable times, both before and after the permit in question has been issued by the Agency.



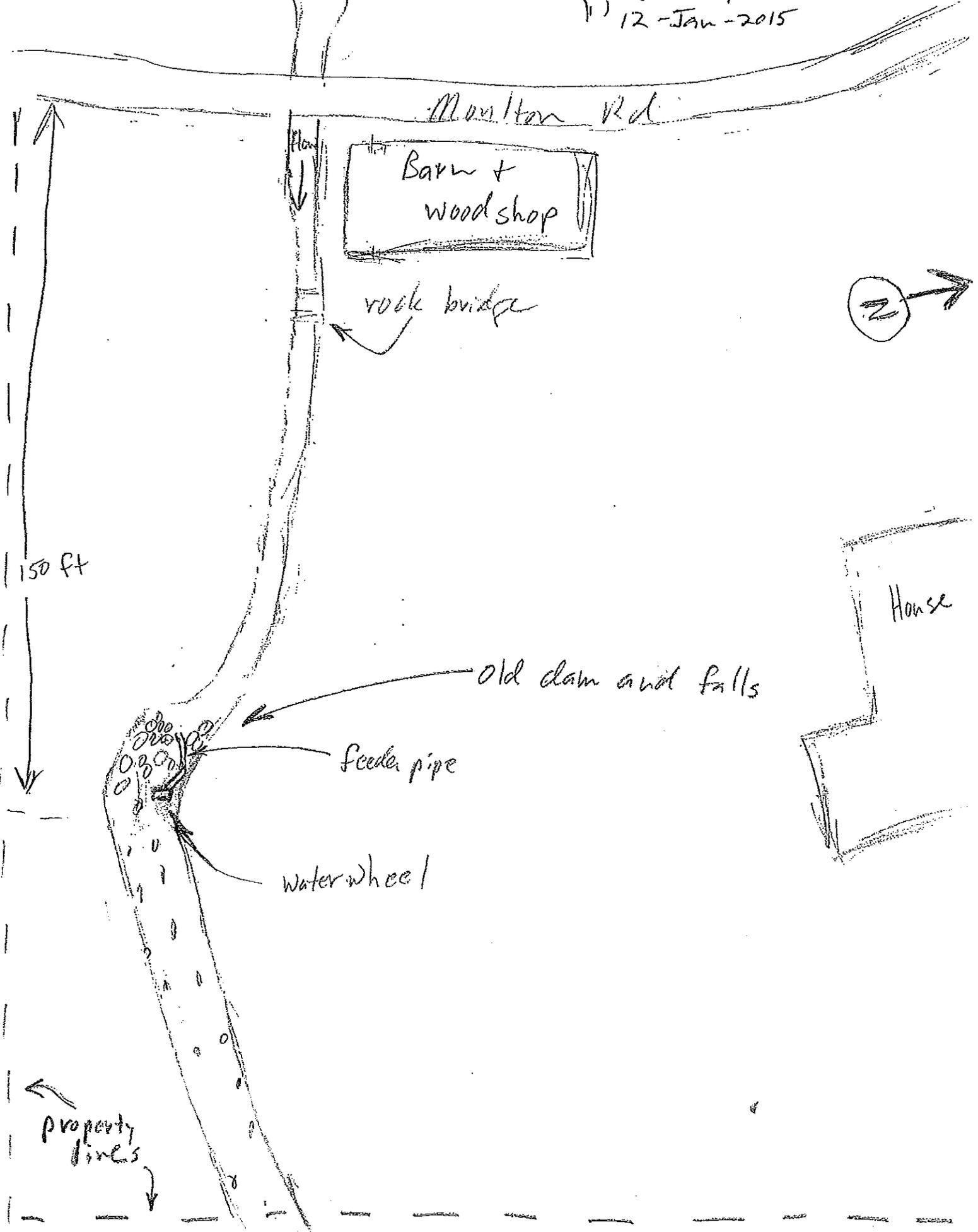
Signature



Date

Small-scale waterwheel

Henning, 166 Montan Rd
12-Jan-2015



Montan Rd

Barn +
woodshop

rock bridge

2

House

old dam and falls

feeder pipe

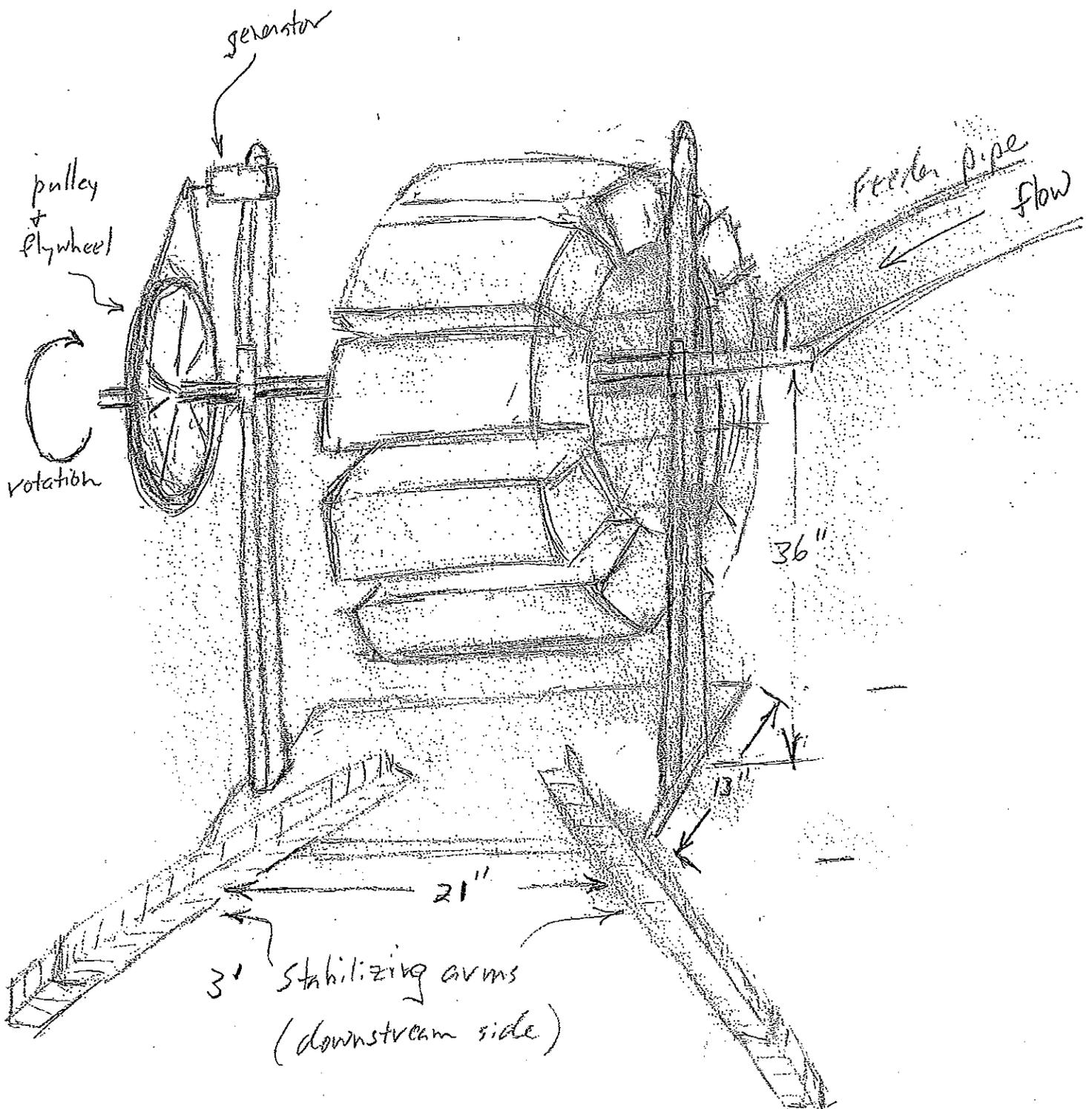
waterwheel

150 ft

property lines

Small-scale waterwheel

Henning
12-Jan-2015



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Town of Mansfield

Department of Planning and Development

Date: January 15, 2015
To: Mansfield Inland Wetlands Agency
From: Jennifer Kaufman, Inland Wetlands Agent
Subject: 20 Dartmouth Road (File #W1546)
Renwood Apartments, LLC
Description of work: construction of a new septic system
Map Date: 10/27/2015

Notifications

- The applicant has paid the required application fee
- The applicant has submitted certified mail receipts for notices mailed to abutters

Project Overview

The applicant proposes to construct a new septic system for a new laundry facility containing 4 washing machines. This septic system is under the jurisdiction of CT DEEP. At its closest point, grading for the septic system will take place 45 feet from the edge of wetlands. However the septic system itself will be located 66 feet from the edge of wetlands. The applicant estimates that there will be 15,000 square feet of disturbance and approximately 970 cubic yards of clean fill will be deposited within the upland review area.

The plans show silt fence and hay bales at the limit of disturbance and all soil will be stockpiled outside of the upland review area. In order to build the septic system, a number of trees will need to be removed. The applicant should remove the tree debris and stumps from the site or place them no closer than 50 feet from the edge of wetlands. In my opinion, the activity will not cause significant negative impact to the overall function of the wetlands.

Please note that my December 11, 2014 receipt motion memo, I indicated that the Natural Diversity Database (NDDB) had been checked and that no state and/or federal listed species or significant natural communities were identified on the property. This is incorrect. According to the NDDB, state and/or federal listed species or significant natural communities have identified on the property and the applicant noted that in their application. The applicants have requested a NDDB review and CT DEEP strongly recommends that the activity take place between October 1 and April 1 when the species of concern is not active.

Suggested Motion

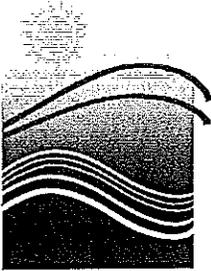
If the IWA agrees with my analysis, the following motion is in order:

_____ MOVES, _____ seconds to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Renwood Apartments, LLC (File #W1546) for the construction of a new septic system on property owned by the applicants and located at 20 Dartmouth Road as shown on plans dated 10/27/2014 and as described in application submissions.

This action is based on a finding of no anticipated significant impact on the wetlands, and is conditioned on the following provisions being met:

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. All tree debris and stumps shall be removed from the site or placed them no closer than 50 feet from the edge of wetlands; and
3. All construction activity shall occur between October 1 and April 1. If this is not feasible then all recommendations pursuant to the CT DEEP NDDB Determination No.: 201411747, dated December 19, 2014, shall be followed to protect the species of concern.

This approval is valid for five years (until January 20, 2020) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.



Connecticut Department of

ENERGY &
ENVIRONMENTAL
PROTECTION

December 19, 2014

Mr. Eric Peterson
Gardner & Peterson Associates, LLC
178 Hartford Turnpike
Tolland, CT 06084
epeterson@gardnerpeterson.com

Project: New Septic System at Renwood Apartments, 74-84 Baxter Road, Mansfield, Connecticut
NDDDB Determination No.: 201411747

Dear Eric,

I have reviewed Natural Diversity Data Base maps and files regarding the area delineated on the map provided for the proposed new septic system at Renwood Apartments at 74-84 Baxter Road in Mansfield, Connecticut. According to our information there are extant populations of State Special Concern *Glyptemys insculpta* (wood turtle) in the area where this work will occur. If possible, conduct project activities between October 1 and April 1 in order to avoid impacting active turtles. If any work will occur when these turtles are active (April 1st to September 30th) I would recommend the following protection strategies be implemented in order to protect these turtles:

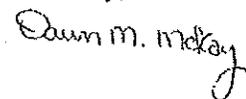
- Silt fencing should be installed around the work area prior to construction;
- After silt fencing is installed and prior to construction, a sweep of the work area should be conducted to look for turtles;
- Workers should be apprised of the possible presence of turtles, and provided a description of the species
(http://www.ct.gov/dep/cwp/view.asp?a=2723&q=473472&depNav_GID=1655);
- Any turtles that are discovered should be moved, unharmed, to an area immediately outside of the fenced area, and position in the same direction that it was walking;
- No vehicles or heavy machinery should be parked in any turtle habitat;
- Work conducted during early morning and evening hours should occur with special care not to harm basking or foraging individuals; and
- All silt fencing should be removed after work is completed and soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

Thank you for implementing these protection measures for box turtle. I have attached a "Wood Turtle" fact sheet for your files. This determination is good for one year. Please re-submit an NDDDB Request for Review if the scope of work changes or if work has not begun on this project by December 19, 2015.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits.

Please contact me if you have further questions at (860) 424-3592, or dawn.mckay@ct.gov. Thank you for consulting the Natural Diversity Data Base.

Sincerely,



Dawn M. McKay
Environmental Analyst 3

WILDLIFE IN CONNECTICUT

STATE SPECIES OF SPECIAL CONCERN

Wood Turtle

Glyptemys insculpta

Background

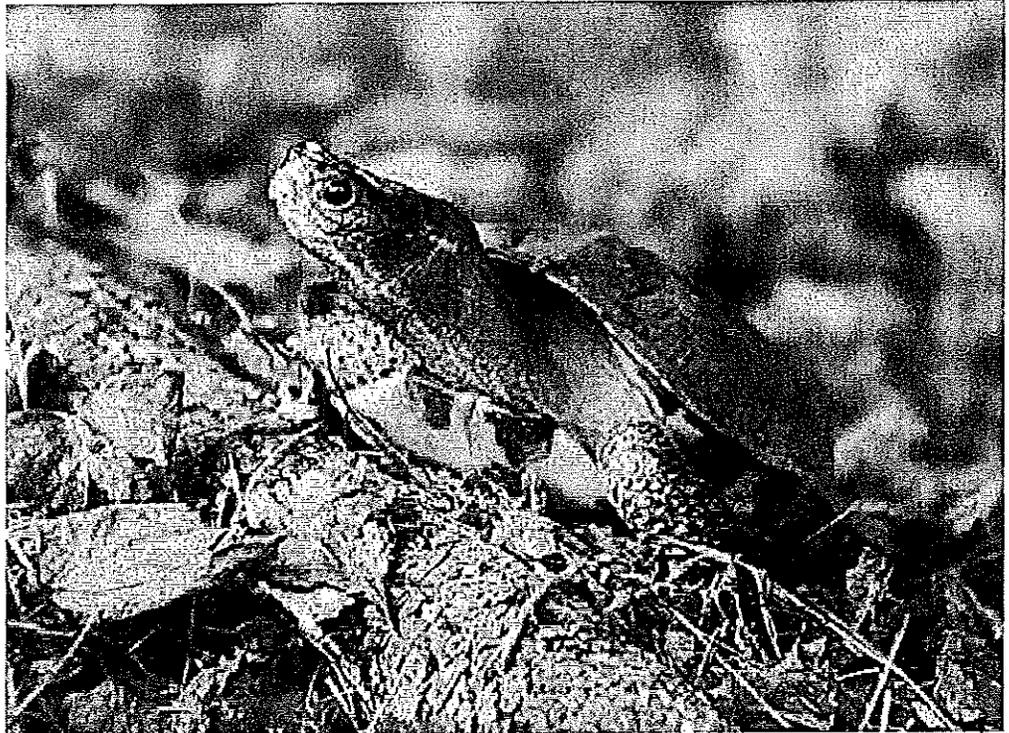
Wood turtles may be found throughout Connecticut, but they have become increasingly rare due to their complex habitat needs. Wood turtles also have become more scarce in Fairfield County due to the fragmentation of suitable habitat by urban development.

Range

Wood turtles can be found across the northeastern United States into parts of Canada. They range from Nova Scotia through New England, south into northern Virginia, and west through the Great Lakes region into Minnesota.

Description

The scientific name of the wood turtle, *Glyptemys insculpta*, refers to the deeply sculptured or chiseled pattern found on the carapace (top shell). This part of the shell is dark brown or black and may have an array of faint yellow lines radiating from the center of each chiseled, pyramid-like segment due to tannins and minerals accumulating between ridges. These segments of the carapace, as well as those of the plastron (bottom shell), are called scutes. The carapace also is keeled, with a noticeable ridge running from front to back. The plastron is yellow with large dark blotches in the outer corners of each scute. The black or dark brown head and upper limbs are contrasted by brighter pigments ranging from red and orange to a pale yellow on the throat and limb undersides. Orange hues are most typical for New England's wood turtles. The hind feet are only slightly webbed, and the tail is long and thick at the base. Adults weigh approximately 1.5 to 2.5 pounds and reach a length of 5 to 9 inches.



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Habitat and Diet

Wood turtles use aquatic and terrestrial habitats at different times of the year. Their habitats include rivers and large streams, riparian forests (adjacent to rivers), wetlands, hayfields, and other early successional habitats. Terrestrial habitat that is usually within 1,000 feet of a suitable stream or river is most likely used. Preferred stream conditions include moderate flow, sandy or gravelly bottoms, and muddy banks.

Wood turtles are omnivorous and opportunistic. They are not picky eaters and will readily consume slugs, worms, tadpoles, insects, algae, wild fruits, leaves, grass, moss, and carrion.

Life History

From late spring to early fall, wood turtles can be found roaming their aquatic or terrestrial habitats. However, once temperatures drop in autumn, the turtles retreat to rivers and large streams for hibernation. The winter

is spent underwater, often tucked away below undercut riverbanks within exposed tree roots. Dissolved oxygen is extracted from the water, allowing the turtle to remain submerged entirely until the arrival of spring. Once warmer weather sets in, the turtles will become increasingly more active, eventually leaving the water to begin foraging for food and searching for mates. Travel up or down stream is most likely, as turtles seldom stray very far from their riparian habitats.

Females nest in spring to early summer, depositing anywhere from 4 to 12 eggs into a nest dug out of soft soil, typically in sandy deposits along stream banks or other areas of loose soil. The eggs hatch in late summer or fall and the young turtles may either emerge or remain in the nest for winter hibernation. As soon as the young turtles hatch, they are on their own and receive no care from the adults.

Turtle eggs and hatchlings are heavily preyed upon by a wide variety of predators, ranging from raccoons to birds and snakes. High rates of nest predation and hatchling mortality, paired with the lengthy amount of time it takes for wood turtles to reach sexual maturity, present a challenge to maintaining sustainable populations. Wood turtles live upwards of 40 to 60 years, possibly more.

Conservation Concerns

Loss and fragmentation of habitat are the greatest threats to wood turtles. Many remaining populations in Connecticut are low in numbers and isolated from one another by human-dominated landscapes. Turtles forced to venture farther and farther from appropriate habitat

to find mates and nesting sites are more likely to be run over by cars, attacked by predators, or collected by people as pets.

Other sources of mortality include entanglements in litter and debris left behind by people, as well as strikes from mowing equipment used to maintain hayfields and other early successional habitats.

The wood turtle is imperiled throughout a large portion of its range and was placed under international trade regulatory protection through the Convention on International Trade in Endangered Species (CITES) in 1992. Wood turtles also have been included on the International Union for Conservation of Nature's (IUCN) Red List as a vulnerable species since 1996. They are listed as a species of special concern in Connecticut and protected by the Connecticut Endangered Species Act.

How You Can Help

- *Conserve riparian habitat. Maintaining a buffer strip of natural vegetation (minimum of 100 feet) along the banks of streams and rivers will protect wood turtle habitat and also help improve the water quality of the stream system. Stream banks that are manicured (cleared of natural shrubby and herbaceous vegetation) or armored by rip rap or stone walls will not be used by wood turtles or most other wildlife species.*
- *Do not litter. Wood turtles and other wildlife may accidentally ingest or become entangled in garbage and die.*
- *Leave turtles in the wild. They should never be kept as pets. Whether collected singly or for the pet trade, turtles that are removed from the wild are no longer able to be a reproducing member of a population. Every turtle removed reduces the ability of the population to maintain itself.*
- *Never release a captive turtle into the wild. It probably would not survive, may not be native to the area, and could introduce diseases to wild populations.*
- *As you drive, watch out for turtles crossing the road. Turtles found crossing roads in June and July are often pregnant females. They should not be collected but can be helped on their way. Without creating a traffic hazard or compromising safety, drivers are encouraged to avoid running over turtles that are crossing roads. Also, still keeping safety precautions in mind, you may elect to pick up turtles from the road and move them onto the side in the direction they are headed. Never relocate a turtle to another area that is far from where you found it.*
- *Learn more about turtles and their conservation concerns, and educate others.*
- *If you see a wood turtle, leave it in the wild, take a photograph, record the location where it was seen, and contact the Connecticut Department of Environmental Protection (DEP) Wildlife Division at dep.wildlife@ct.gov, or call 860-424-3011 to report your observation.*



State of Connecticut
Department of Environmental Protection
Bureau of Natural Resources
Wildlife Division
www.ct.gov/dep



Town of Mansfield

Department of Planning and Development

Date: January 15, 2015

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 166 Moulton Road (File #J-3)
Robert Henning
Description of work: small scale waterwheel
Map Date: 1/12/2015

Notifications

Request for a ruling-None Required

Project Overview

To generate electricity to heat a home workshop located on the property, the applicant proposes to install a six foot diameter, freestanding water wheel in Mason Brook. The waterwheel will be installed just below the remnants of a 3-foot high dam made out of rocks that is believed to have once been associated with a blacksmith shop on the property. The old dam is approximately 150 feet east of and downstream where Moulton Road crosses Mason Brook. Mason Brook is in the Fenton River Watershed.

Water from just above the old dam will be diverted through a 12 inch diameter feeder pipe to about 20 feet below the old dam where the waterwheel would be located on an existing flat portion of the stream bed. To prevent the structure from tipping over during high water events, the waterwheel will be placed on a 13x 21 inch flat base, with two 3 foot stabilizing arms bolted to the base and parallel to the stream. Power output by a low voltage DC generator will be used to help heat a woodworking shop located nearby, and to power a light mounted on the water wheel.

Rocks within the watercourse would be repositioned at the top of the dam, over an area of about 2 square yards to help promote water flow into the feeder pipe. Rocks along the stream bank would need to be positioned for the course of the feeder pipe.

Aside from the displacement of a few rocks, no material will be excavated from the watercourse. The only item to be deposited in the wetland is the waterwheel itself.

Pursuant to Section 4.1 D of Mansfield's Inland Wetlands and Watercourse Regulations (the Regulations), "uses incidental to the enjoyment and maintenance of residential property...Such incidental uses shall include maintenance of existing structures and landscaping, but shall not include removal or deposition of significant amounts of material from or onto a wetland or watercourse, or diversion or alteration of a watercourse," shall be permitted in inland wetlands and watercourses and upland review areas, as of right.

This is a very small scale waterwheel that will be used by the homeowner for powering a workshop where he undertakes a number hobby projects. The installation of the waterwheel will not involve removal or deposition of

significant material from or onto a wetland and the water will be allowed to flow through the waterwheel, thus not diverting or altering the water course. For these reasons, staff is seeking a ruling from the Inland Wetlands Agency that this is in fact a permitted as an as of right activity pursuant to 4.1.D of the Regulations and is therefore exempt from an inland wetlands license under the Regulations. The applicant has been advised to ensure that he obtains all other required local, state and federal permits.

Because this is a unique project and involves activity within the watercourse, I suggest that the IWA schedule a field trip to view the project before making this ruling.

Suggested motion

_____ MOVES, _____ seconds schedule a field trip to review the installation of a small-scale water wheel at 166 Moulton Road.

Receipt Motion

Alternatively, if the Agency believes that the waterwheel is a regulated activity, the following motion to receive an Inland Wetlands application for the waterwheel would be in order:

_____ MOVES, _____ seconds to receive the application submitted by the Town of Mansfield (IWA File #W1547) for the installation of a small-scale water wheel on land owned by Robert Henning located at 166 Moulton Road under the Wetlands and Watercourses Regulations of the Town of Mansfield, as shown on a map dated 1/12/2014 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

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NORTHEAST UTILITIES
SPECIFICATION FOR RIGHTS-OF-WAY VEGETATION MANAGEMENT

SECTION III
TECHNICAL REQUIREMENTS
2015

I. Scope

This specification covers the selective vegetation control of targeted undesirable tree, brush and vine species on Northeast Utilities transmission and distribution rights-of-way. Management of undesirable vegetation will be performed through the integrated use of manual, mechanical, chemical or other means as may be available to eliminate identified target species and remove potentially conflicting trees or tree parts from contact with the overhead conductors and/or electric facilities.

II. Objective

The primary purpose of rights-of-way vegetation control is to provide a clear and accessible area for the safe operation, review and maintenance of electric facilities located on the right-of-way. Reliability will be preserved through the removal of all potentially interfering tree, shrub and vine species that may, through normal growth, encroach within the minimum vegetation clearance distances (MVCD) between the vegetation and the overhead electric conductors or impede physical or visual access along the right-of-way. Vegetation species such as native grasses, forbs, ferns and low growing shrubs are considered desirable and shall be preserved and encouraged to grow.

III. General Requirements

A. Maintenance Zones

The type of maintenance will be dictated by voltage of the conductors, the construction type and the average width of the right-of-way on each project. The management of vegetation within the established cleared limits of the rights-of-way may be performed in one of two ways, a two zone management approach for higher voltage classes and/or wider rights-of-way and a single or one-zone approach for lower voltages and/or narrow rights-of-way. The voltage class will be defaulted to the highest voltage on the right-of-way if the right-of-way is shared by more than one circuit or line.

The two maintenance systems are as follows:

Two Zone System: for rights-of-way widths greater than 100 feet.

One Zone System: for rights-of-way 100 feet or less in width

1. Two-Zone Maintenance

Management of vegetation within right-of-way clearing limits shall be performed in accordance with the two-zone maintenance concept for transmission voltage lines and rights-of-way in excess of 100 feet in width. A wire or conductor zone and a border or side zone shall be developed and maintained in accordance with these specifications.

Wire Zone: The wire zone shall include the area directly beneath the overhead conductors extending outward a distance of 15 feet from the outermost conductor(s) (10 feet for NSTAR projects).

Where state listed invasive shrubs provide a border or barrier between properties, sensitive areas or at road intersections, these species may be retained to allow for privacy and or prevent unauthorized access into and along the right-of-way. Locations where these species may be retained must be approved by the NU representative and/or noted on the structure sheets.

For NSTAR projects include all vine species and Japanese knotweed (*Polygonum cuspidatum*) as additional species to control.

C. Sensitive Areas

Sensitive areas are those areas where the preferred maintenance method used for general areas cannot be used and must be modified or altered to obtain the desired control. Sensitive areas shall include but are not limited to:

- Residential areas (yards)
- Public water supply watersheds
- Public or private well locations
- Stream or river crossings
- Wetlands (wet)
- No chemical areas

Additional information provided in the contracts for each listed project will contain information where environmentally sensitive areas or areas where maintenance requirements must be modified due to location or property owner concerns will be noted in Section II – Special Conditions or listed on the structure sheets. All Contractors are required to adhere to any restrictions or requirements that have been identified on the structure sheets for each project.

All target species identified in Section III. B. shall be controlled in these areas when possible. Herbicide applications may be performed unless the easement or structure sheets specifically restrict the use of chemicals. In areas where herbicide use is restricted or where herbicide use should be excluded, all target vegetation shall be cut and diced or chipped.

Within areas bordering stream and river channels, vegetation management should focus on the removal of tall growing tree species and attempt to preserve to the extent possible shrub and other compatible vegetation species that will provide screening and shade to the watercourse.

Target vegetation that is located within or adjacent to landscaped and/or lawn areas will be cut and stump treated where applicable. No foliar applications shall be made in any landscaped area that will result in potential damage to landscaping plants or grass areas.

Within the sensitive areas, herbicide applications shall be restricted from the following areas:

CONNECTICUT

- Within 100 feet of a public water supply well
- Within 50 feet of a private well
- Within wet wetland areas (10 feet from standing water)
- Within 10 feet of a river, stream or other body of water

MASSACHUSETTS

- Within any identified Zone I public water source
- Within 400 feet of a public water supply well
- Within 100 feet of a Class A public surface water supply
- Within 100 feet of a tributary within the Zone A of a Class A public surface water supply
- Within 10 feet of a tributary that exists beyond 400 feet of any Class A public surface water supply
- Within 100 feet for 400 hundred feet upstream of both sides of a river of a Class B public surface water supply intake
- Within 50 feet of a private well
- Within wet wetland areas (10 feet from standing water)
- Within 10 feet of a river, stream or other body of water

FOLIAR APPLICATIONS

- ESCORT* High and low volume
- ARSENAL* High and low volume
- POWERLINE High and low volume
- VANQUISH High and low volume
- ACCORD/RODEO High and low volume
- GARLON 4 ULTRA High and low volume
- KRENITE S* High and low volume
- MILESTONE VM High and low volume
- VIEWPOINT High and low volume (CT only)
- POLARIS* High and low volume

BASAL APPLICATIONS

- GARLON 4 Low volume basal
- GARLON 4 ULTRA Low volume basal
- STALKER Low volume basal

CUT SURFACE APPLICATIONS

- ACCORD/RODEO* (50/50 with water)
- STALKER (with water - use labeled rates)
- ARSENAL* (with water - use labeled rates)
- POWERLINE (with water - use labeled rates)
- KRENITE S* (50/50 with water)
- PATHWAY
- GARLON 4# (in basal oil - use labeled rates)
- GARLON 4 ULTRA (in basal oil - use labeled rates)
- PATHFINDER
- POLARIS* (in accordance with labeled rates)

* Sensitive area approved herbicide for Massachusetts

Sensitive area approved herbicide for Massachusetts - application by sponge only

Foliar applications may employ a mixture containing two or more of the approved materials listed above. Basal applications shall employ a diluent labeled and approved for basal oil applications.

Note: Application mixtures will be specified within the contract requirements for NSTAR projects.

Applications shall cease in the event of precipitation and any work performed within two hours of significant rainfall shall be retreated. Efforts shall be made including the use of adjuvants to reduce or eliminate spray drift. Applications shall cease when wind speeds exceed 10 mph.

B. Manual Cutting

Manual cutting shall be employed when target stems exceed 12 feet in height, in sensitive areas where foliar or basal applications are not acceptable or may result in damage to landscaped areas and around any structure or guy areas. All stumps resulting from the cutting of hardwood trees and shrub species including pitch pine shall be treated with an approved cut-surface herbicide where these applications are not restricted. All stumps shall be cut as low as practical and not more than 3 inches in height. All slash shall be wind-rowed along the right-of-way edge or diced in general areas. In sensitive areas, slash shall be diced, chipped or removed from the right-of-way depending on the physical locations.

Cut cherry trees in active pasture areas will be removed from the pasture immediately after cutting during the growing season and diced in an appropriate area of the right-of-way outside of the active pastures. NOTE: wilted cherry leaves are highly toxic to most livestock.

Diced or piled slash shall not be left within access areas or within the cleared areas around structures and guys. Slash and debris shall also be kept out of water courses, stream and river banks and bodies of water

Clearance distances for Distribution projects will be listed in the Section II – Special Conditions by Operating Company

E. Tree Removal

Removal of trees within or along the right-of-way shall be performed in such a manner as to eliminate any potential for the felled tree to come within the minimum air-gap distances of the transmission lines. Minimum air gap distances (phase to ground) for the four transmission voltages on the NU system are as follows:

Voltage	Minimum Vegetation Clearance Distance
69kV	0.90 feet
115kV	1.54 feet
230kV	3.22 feet
345kV	3.39 feet

All trees that if felled would come close enough to the conductors than the minimum air-gap distances listed above shall be topped to remove that portion of the tree that could come within the minimum air gap distances and secured by ropes to avoid coming closer than the minimum air gap distances in a safe manner.

In areas where there currently exists large numbers of incompatible tree species within the wire zones (i.e. cedars) removal will be performed on a staggered basis and the amount or number of trees to be removed will focus on those areas where there exists the greatest potential risk of contact with the overhead facilities. Where possible and where reliability will not be compromised, the objective is to remove no more than 50% of the population of trees in any given year. The amount of trees to be removed may be greater in those areas where there exists a greater degree of non-compliant vegetation that constitutes a risk of violating the minimum vegetation clearance distances (MVCD's) to the energized conductors.

V. Skilled Contractor Personnel

The Contractor shall employ supervisory and field personnel who are thoroughly trained in selective woody vegetation control techniques including all methods and materials to perform the work as specified. **The ability to recognize and identify desirable and undesirable species is mandatory for all vegetation control personnel.** All persons applying herbicides shall possess a valid applicator's license or supervisory certification for the state in which herbicides are being applied. All contract employees shall perform work in accordance with regulations listed under OSHA 29 CFR 1910.269. Trimming shall be performed by personnel certified by the Contractor to perform this work and in accordance with ANSI Z-133.1.1994. Trimming shall comply with standards listed under ANSI A-300.

Contractors are required to certify that all personnel performing work in close proximity to transmission facilities are qualified to perform this work and ensure that all employees are trained and competent in the safe work practices around energized facilities.

The Contractor is required to know and understand all laws and regulations pertaining to the control of vegetation on right-of-ways, the use of herbicides and any restrictions to herbicide use for each state in which they are performing right-of-way vegetation control.

VI. Property Owner Notification

The required notification process and procedures will be outlined in the Section II's for each Company. In general, the contractor shall inform property owners and right-of-way abutters with homes or buildings located within 200 feet of the right-of-way or with maintained property to the edge of the right-of-way or within the right-of-way area, of the proposed work prior to the commencement of work. The amount of time required for this notification prior to the start of work varies by state and is addressed in the Section II. First class mailings, personal contact or notification by a door hanger are generally required. In Massachusetts, the Contractor shall also solicit private well information in the event public water supply is not present in the area where work is proposed. The Contractor shall also keep a listing of the contacts made and provide this list to the Owner's

All crew personnel shall be trained and knowledgeable in the proper actions for oil and pesticide spill containment and cleanup. All vehicles shall possess containment and cleanup equipment and materials at all times while performing this contract. All spills will be reported to the Owner's Representative in accordance with the procedure listed under Section VIII, E. Problems and Complaints (below) and all state and federal agencies shall be notified if any spill meets the requirements for reporting for these agencies.

Contractor personnel must ensure that they follow all regulations as they relate to work within or travel through wetland areas. Adverse impacts to wetland areas shall be avoided at all times and crews shall only employ manual control methods within designated wetlands and wet areas. Mechanized vehicles shall not be used in wetland or wet areas and care shall be taken to avoid travel through wetlands if conditions at the time of maintenance result in rutting or soil damage in these areas. All damaged areas shall be repaired immediately and the NU Representative shall be notified of any inadvertent entry and damage to wetlands.

Contractor personnel must also ensure that they follow all prescribed maintenance requirements in state-listed protected species habitats as provided by the Owner as part of the contract information.

Failure to adhere to the requirements of this section may result in contract suspension or cancellation.

VIII. Company Oversight

All projects will be managed by a Company employee or contracted Arborist (Owner's Representative) who will have the responsibility to oversee the daily work and conformance to the contract requirements and maintenance specifications.

The Owner's Representative shall perform routine inspections of all crews during the performance of the work. These inspections will include weekly crew evaluations and specifically review work for compliance with all contract requirements and specifications. Reviews will also focus on environmental issues and the performance of work in and around designated sensitive areas. Problems or deficiencies shall be addressed immediately with Contractor crews, Contractor supervision and NU's Transmission Vegetation Management. All problems noted with the work being performed will be documented and provided to the Contractor for correction. The Contractor shall provide written documentation on the proposal for problem resolution and corrective actions.

IX. Miscellaneous

A. Changes to Contract Requirements

In the event changes are requested in any portion of the contract such as delaying cutting to a period outside of the normal prep-cutting period or to request mowing in place of manual prep-cutting, the Contractor must first request such modifications in writing to the Manager – NU Transmission Vegetation Management. All requests for modifications must be made well in advance of the need for the proposed modification. Any requested modifications must state a reason as to why the revision is necessary and is in the best interest of the Contractor's and NU's needs. Modifications can only be implemented upon a written approval from the Manager – Transmission Vegetation Management.

B. Preparatory Cutting and Patrols

In order to ensure that there are no potential tree/conductor problems during the course of the maintenance period and prior to the completion of all work, it shall be necessary for the Contractor to perform a complete patrol of all areas to verify work needs and methods as well as review and identify any potential tree problems. Contractors shall use the form provided by NU for listing problem areas to be reviewed by the Owner's Representatives (Appendix 2).

The patrol and danger tree identification shall be completed before April 1st of each year. Also, all cutting - selective cutting areas, structure and access clearing and the cutting of vegetation in excess of 12 feet in height shall be performed and completed before June 1st of each year.

Contractor Supervision shall sign and date all completed time sheets and submit to the Owner's Representative by Tuesday of the week following the ending date on the time sheet. The Owner's Representative shall review and approve time sheet information and sign and date the time sheet verifying work is completed as required and all time sheet information is accurate.

G. Pesticide Application Records

Contractors are required to adhere to all state pesticide laws regarding the completion and retention of daily Pesticide application records for all herbicide applications. These records may be requested by NU if and when issues regarding applications are required.

H. Project Summary Reports

The Contractor shall submit summary information on the Northeast Utilities System Rights-of-Way Herbicide Application Summary Report form (Appendix 4) for each project worked that year. This includes the general maintenance year as well as the touch-up performed in subsequent years.

Information required on this form includes the total acreage treated using the various application methods and materials as well as the total volumes of herbicide mixtures applied, the total amounts of each individual herbicide product applied (along with corresponding acreage) and the total amounts of basal oil diluents used. The summary report shall also list the total man hours, man-days and calendar days required to complete the project. A man-day is considered an 8-hour day.

All Project Summary Reports are due before December 31st of the year in which the project was performed.

2015 Rights-of-Way Section III.doc

OPe332 3-98-
 NOTIFICATION LIST

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November/December 2014

Connecticut Wildlife

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



From the Director's Desk



We celebrated a remarkable person recently – Frank Wasylink, a volunteer Senior Instructor for Connecticut's Conservation Education/Firearms Safety (CE/FS) Program. Frank is unique in many wonderful ways. Most especially, he has a deep passion for wildlife and young people. Through the CE/FS Program, Frank has lived those passions to their fullest for over 20 years.

Of a cadre of more than 300 volunteers, Frank stands apart. He proudly volunteers to provide instruction in firearms safety, trapping, and archery, as well as sharing what it means to be an outstanding member of the hunting and trapping community. Certified as a CE/FS instructor in 1993 and then as a Senior Instructor in 1998, Frank serves as a mentor, not only to his students, but also to other instructors wishing to share their talents with aspiring trappers and hunters. And, what a mentor he is.

In September 2014, Frank, with the help of his teaching team, presented his 291st course. Among the graduates of that course was 11-year-old Andrew Pellerin. Not only was Andrew a wonderful student, he also was recognized as the 10,000th student to have graduated from a Frank Wasylink hunter/trapper education class. This was a milestone for both Andrew and Frank – for Andrew as entering a long and honored hunting tradition and for Frank as the first and only CE/FS instructor to reach the 10,000 student mark.

A dear friend and fellow instructor said of Frank, "He is the most dedicated guy I have ever met." No better praise than that can come from your peers and those you mentor.

One cannot help but marvel at the juxtaposition of the young, excited, and energized Andrew and the older, excited, and energized Frank. Together, they represent all that is good about our past and our future. How might each of us build on their excitement and energy?

Congratulations, Frank! We applaud you for all you have done and continue to do. And, thank you to his wife Sue and children, Chrissy, Aimee, Jenn, and Frank, Jr., for supporting Frank in this special endeavor.

Rick Jacobson, Director

Thanks are also extended to the members of the New Haven Raccoon Club, as well as to all of the fish and game clubs throughout Connecticut, for their continued support of the Conservation Education/Firearms Safety Program. Through your support, the following principles are conveyed: 1) ethical hunting; 2) the role of the hunter/trapper in wildlife management; and 3) firearms and archery safety.

Cover:

This winter, the Canada goose season in eastern Connecticut (NAP-H Unit) has been increased to 70 days with a three-bird daily bag limit through January 24, 2015. See the current Migratory Bird Hunting Guide for more information.

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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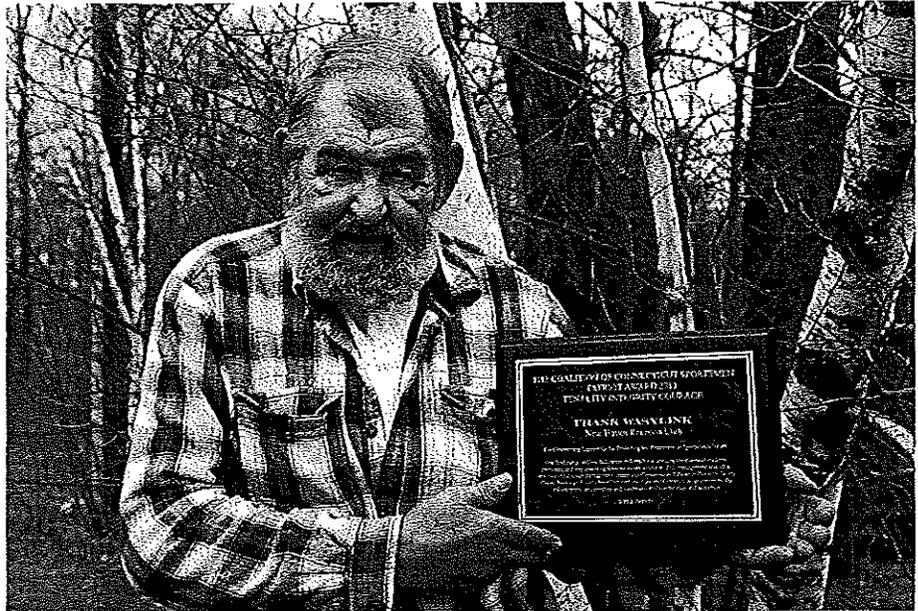
CE/FS Instructor Recognized for Milestone Accomplishment

Written by Tom Donlon, DEEP Wildlife Division

Each year, more than 5,000 students are certified in Connecticut's Conservation Education/Firearms Safety (CE/FS) Program. The program teaches safety in three disciplines: firearms hunting, bow hunting, and trapping. Classes are taught by a dedicated core of volunteer instructors. More than 300 experienced hunters and trappers donate their time and expertise to introduce students to the hunting and trapping tradition, focusing on the safety aspects associated with each discipline.

This past September, DEEP Commissioner Rob Klee visited a CE/FS firearms safety class at the New Haven Raccoon Club in Durham to recognize an unprecedented event for the program. Senior Instructor Frank Wasyluk was introduced by the Commissioner to young Andrew Pellerin, a student in his class, as his 10,000th student. Frank, joined by his wife and four children, was presented an award to recognize this significant milestone.

Frank Wasyluk was certified as a CE/FS instructor in 1993 and appointed a Senior Instructor in 1998. Throughout his involvement in the program, Frank has taught 292 classes as a volunteer. When



P. J. RUSCO

Frank Wasyluk, a volunteer Conservation Education/Firearms Safety instructor since 1993 (and a Senior Instructor since 1998), has received numerous awards and recognitions over the years for his contributions. Here, he displays a plaque he received recently. Another recent honor was marking the 10,000th student he has taught in his numerous classes.

asked if he had any idea of how many students he had taught, Frank replied "I knew it was a lot, but I never took the time to count. I had to get ready for the next class." Frank is the only instructor in Connecticut to achieve the milestone of teaching 10,000 students.

As a Senior Instructor, Frank's responsibilities go beyond just teaching classes. He also is charged with helping new instructors become certified and building instructor teams to teach the program. Frank has assisted dozens of new instructors to learn the ropes and has built a strong team at the Raccoon Club.

When receiving his award, Frank said "The credit doesn't just go to me. We have a great team here and none of our classes would be possible without the team." Frank cited David Paulus, Ray Volikas, Alexandra Kelleher, Craig Verrielli, and Joel Cramer (the instructor team present for the class). He also recognized the other instructors, including the ones he has taught with, as the reason the program is successful.

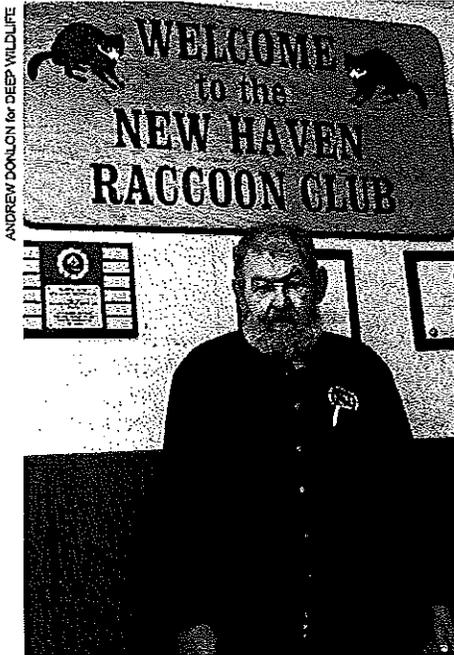
Frank noted that the CE/FS Program works because of the support it receives from sportsmen's clubs around the state. The New Haven Raccoon Club is an outstanding example of club support, having hosted more than 50 classes in the

last five years. DEEP Commissioner Klee presented club president Tommy Hinman with a certificate recognizing the New Haven Raccoon Club's support of the CE/FS Program.

"Frank embodies the volunteer spirit that all of our volunteers share," said Tom Donlon, a CE/FS Program Coordinator. "The instructors bring to the classes their passion for hunting and their desire to introduce new hunters to the tradition. Connecticut's dedicated corps of volunteers are the backbone of the CE/FS Program and the reason safe, ethical, and responsible hunters are brought into the sport."

Frank, like so many of Connecticut's instructors, sees volunteering to teach hunter safety classes as a way to "give back to the tradition of hunting that he has enjoyed for so many years." At each class, he invites students to get involved and share what they learn with others. "It's the only way we can continue the tradition of hunting as a safe and enjoyable activity," added Frank.

Congratulations to Frank Wasyluk for reaching this impressive milestone! The DEEP Wildlife Division appreciates Frank's countless hours of service as he continues to share his knowledge and love of hunting with 10,000 students and beyond.



ANDREW DONLON for DEEP WILDLIFE

Frank is a well-known and respected member of the New Haven Raccoon Club, which has hosted more than 50 CE/FS classes in the last five years.

Another Long-time Wildlife Division Staff Member Retires

On September 1, 2014, Program Specialist Mark Clavette retired after nearly 34 years with the DEEP Wildlife Division. Mark takes with him a vast amount of knowledge and experience that will be impossible to replace, and his accomplishments and contributions have been many. This is Mark's opportunity to put some of his legacy in his own words. The Wildlife Division staff thanks Mark for his years of dedicated service and we wish him all the best while he enjoys his retirement.

When did you begin working for the Wildlife Division and what different positions did you hold?

I started working with the Wildlife Division in November 1980 following a temporary ranger assignment with the U.S. Forest Service in Wyoming. My first job was as a seasonal deer check station operator, and then I was hired as a seasonal employee three more times to assist furbearer biologist, Joe Risigo. I was hired permanently as a Wildlife Biologist in May 1982, working under Assistant Director Peter Bogue. I was promoted to a Biologist 2 in 1985 and Program Specialist 1 in 1991.

Briefly describe some of your job responsibilities during your time with the Wildlife Division.

My job has left me with a variety of experiences and responsibilities. Initially, as a field biologist, those tasks were with land management, fur resource data collection, beaver trapping, and responding to nuisance wildlife assistance requests. My Hartford office tenure began as coordinator of the state's Pheasant Program and providing technical assistance to the public regarding hunting access programs, wildlife damage issues, land management projects, public access initiatives, and coordinating coop-



Mark Clavette readily shared his knowledge of wildlife and hunting with Connecticut residents in many venues, including the Environmental Conservation Police Division's Turn In Poachers (TIP) trailer.

erative access programs with a multitude of private sportsmen's organizations. Over the years, the position grew to include many administrative functions, including land acquisition, recruitment of personnel, development of agency regulations and legislation, and supervision of special permitting programs such as Nuisance Wildlife Control Operators, Wildlife Rehabilitation, and wildlife possession/importation. For the past 10 years, I also supervised the Conservation Education/Firearms Safety Program, Connecticut's equivalent of hunter/trapper education.

What were some of your major accomplishments?

I saw my job as an advocate for licensed hunters and trappers and a lot of my efforts were made to ensure that opportunities to enjoy their outdoor activities continued. Some of my most rewarding accomplishments included a successful defense of the Pheasant Program, resisting efforts to close areas to hunting, and opening up to public hunting thousands of acres of newly acquired lands and existing DEEP lands. I would also add my involvement in a variety of regulatory and legislative changes to benefit wildlife management and hunters. This included a recent comprehensive package of favorable changes adding the use of crossbow equipment for all bowhunters. More recently, a new federal aid project to purchase additional acreage for expanding existing Wildlife Management Areas has come to fruition and will ensure that wildlife-related recreation, including hunting, will be maintained as primary public uses. These accomplishments were the result of favorable relationships with our constituencies, including other DEEP Divisions.



Mark has a vast knowledge base of public hunting areas through his involvement with the Wildlife Division's pheasant program.

What was your favorite animal to work with?

People – especially hunters and trappers. I never thought I would come into this career and not work with individual wildlife species. It took me some time to realize that how you deal with people is the most important quality you can bring to a wildlife job. I have always enjoyed helping others truly appreciate all that Connecticut has to offer in the outdoors.

What part of your job will you miss the most?

I will miss the working relationships and friendships I have developed with DEEP staff. They often looked to me for guidance and I'd like to think that the historical knowledge and insight I provided was more than just part of the job.

What will you not miss?

I will not miss being a supervisor. This was the only part of my job that truly caused me the most stress. Although I feel that I was a good and capable supervisor, it wasn't something I really wanted to do. Being a person in leadership often forces you to do things that make people unhappy.

What do you think are the three major issues currently facing the Wildlife Division?

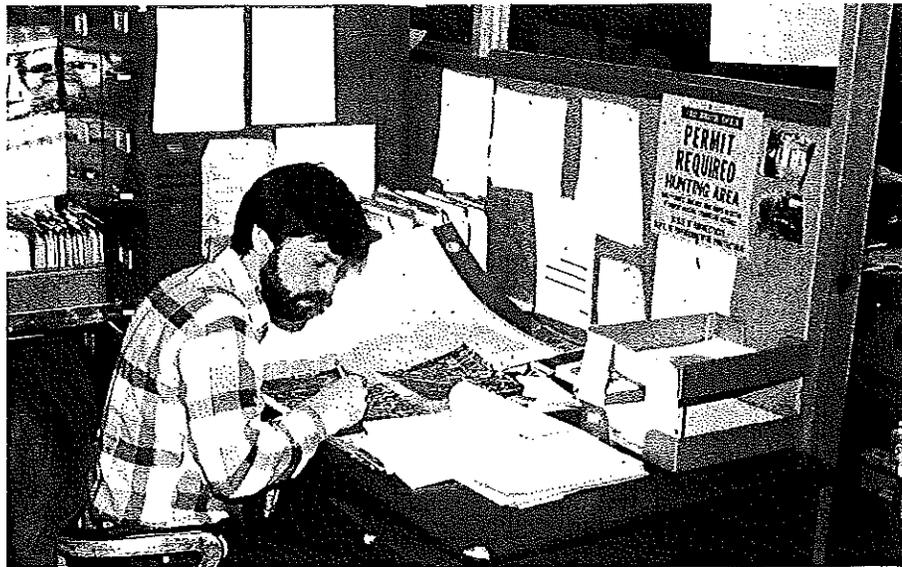
1. As is probably true with any state agency, the lack of financial and labor resources while attempting to meet changing public demand and expectation for services is challenging. Position vacancies in both the Wildlife Division and Environmental Conservation Police Division should be filled.

2. There is too much reliance on federal funding and user fees generated by licensed hunters and trappers to support the vast majority of wildlife programs and projects, all of which benefit the general public at large. There needs to be a continuing increase in general funded support and a mechanism by which all members of the public pay into professional wildlife management.

3. An increased reliance on justification for public hunting based solely on the need to manage wildlife. This is really troublesome and boxes hunters and trappers into a tight corner. I ask myself, "what happens when hunters are no longer needed for managing overabundant species?" I don't enjoy hunting because I am providing a management service. I hunt because it is part of my heritage and because I enjoy putting food on the table.

What major differences/changes have you seen since you first joined the Wildlife Division?

When I started, we were essentially a "Game Division," supporting projects and programs that enhanced wise use of harvestable species. A lot has changed since then and the Wildlife Division, as with every other agency nationwide, increased its responsibilities over a broader array of species and brought on staff to focus on "nongame" wildlife. Outside of the Wildlife Division, our co-workers in Environmental Conservation Police Division no longer focus entirely on game law enforcement and have taken on the greatest change in responsibilities as the sole



Coordinating public access and cooperative sportsmen's programs required Mark to have a great deal of interaction with a variety of constituents.

peacekeepers on all DEEP lands. Working with Conservation Officers, as they were once called, on a variety of fronts were some of the best days a biologist could ever have.

Has anything remained the same?

The only thing that hasn't changed is the passion that many of our staff has for the job they do, even under difficult times. Hunters and trappers should be proud to know that many of the professional staff share their same passion for the future.

What is the most memorable event that happened during your time with the Wildlife Division?

I would have to say the fatal shooting of Conservation Officer Jim Spignesi while he was searching for an illegal hunter in December 1998 in Scotland. As many of the public may not be aware, Jim was a respected and deeply admired deer biologist in the Wildlife Division for many years before he switched roles. He was my first supervisor, as well. That event will forever be ingrained in all of us. I take some solace in having a part in the effort to purchase the land upon which he was killed, as an addition to the Pudding Hill Wildlife Management Area, aptly renamed the James V. Spignesi WMA in his honor.

What advice do you have for your colleagues?

Be true to the real reason you decided to enter this field. Never forget that hunters and trappers are depending on you. Be sound scientific stewards, but remember the role that common sense should play in making important wildlife decisions!

What are your plans after retirement?

I was out in the woods for the opening of the fall archery deer/turkey season on September 15 and will hunt occasionally until December 31, ON MY OWN TIME! I also will be switching roles somewhat with my wife, Donna, as she picks up more work hours and I take care of some family needs at home. I plan to enjoy outdoors time with some previous retirees and help out more with hunter education classes as a newly-certified volunteer instructor.

Connecticut State Parks – The Next 42 Years

Written by Alan Levere, DEEP State Parks Division; photos from DEEP State Park archives

The Connecticut Department of Environmental Protection (DEP) began its existence on October 1, 1971. On that day, Connecticut's Park and Forest Commission, established in 1913, ceased to exist and the State Park Division within DEP was born. The change brought an emerging culture of environmental responsibility where individual parks were understood to be part of, and contributors to, their surrounding ecosystems. Though the changes would be slow, the wheels were set in motion.

Continued Park System Growth

As if in deference to the earliest park visionaries, the first park properties acquired under the new DEP were based around water.

The 1973 gift of 40 acres in New Milford became the first park in the new DEP fold. This rocky real estate, which abutted and overlooked the north shore of the 1,300-acre Lake Lillinonah, came to be known as Lovers Leap State Park.

As with so many parks, the initial land is the seed that germinates, sometimes over decades, into the extensive park acreage the public comes to enjoy. That was the case at Lovers Leap, which expanded from its original gift to 160 acres, and similarly in two soon-to-follow

locations – the many-segmented, multi-town Scantic River State Park and the 20-mile, six town, Hop River State Park Trail, which were both added in 1979.

No one, however, could foresee that as the 1970s concluded, there would be little expansion of the park system until the summer of 1992. It would be the leanest time of state park acquisition in State Park's first 100 years. Nonetheless, the park system could boast nine new parks embracing over 1,000 acres at the close of the 1970s.

While purchases may have been lean for those 13 years, Park staff was unusually busy accommodating the explosive growth in visitor attendance. Indeed, from 1979 to 1992, approximately 100 million visitors, or one fifth of all attendance ever tallied in the first century of Connecticut State Parks, came through the gates.

State Parks slowly got their acquisition legs back under them, beginning in 1992 with the transfer from the Department of Transportation of the Air Line Trail railroad bed. From there, State Parks embarked on a path of new additions that would total 13 in the next two decades and bring the total to 107 state parks at the time of the Park Centennial in 2013.

New park properties in the 1990s included the 225-acre Stillwater Pond

State Park in Torrington, the 218-acre Mono Pond State Park in Columbia, and the 300-acre Trout Brook Valley in Easton. And though Connecticut River properties had always been sought after for State Parks, the river's tributaries, major coves, and tidal wetlands have also been desired.

Someplace Special Along the Salmon River

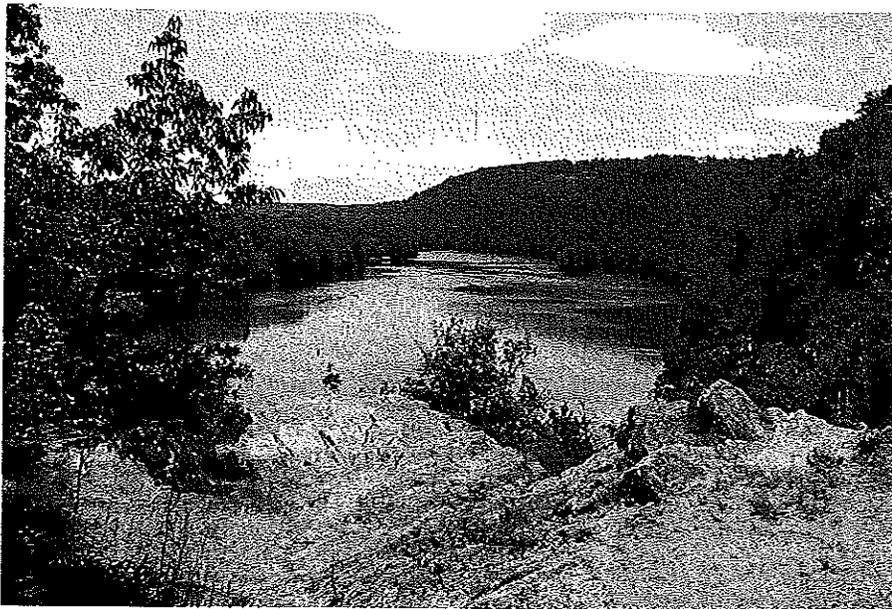
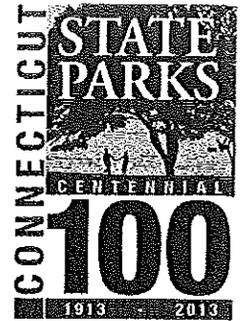
The opportunity to protect one such important cove along the lower Connecticut River Valley finally arrived in late 1998 when the 300-acre Echo Farm in East Haddam was becoming available. The farm featured 6,000 feet of frontage on the Salmon River and scenic vistas from its highest vantage points. Echo Farm was a premium parcel and, amid rumors of dense residential and/or commercial development, the State of Connecticut acquired the parcel. Today, the parcel is known as Machimoodus State Park, a designation the pre-European locals had bestowed upon it for the occasional, and still present, booming noises that emanate from the vicinity.

Ten years later, in 2008, upstream of and contiguous to Machimoodus, the site of the former Sunrise Resort became available. Generations had known this classic waterside vacation location as one of the best of several in the East Haddam area. But, as with so many of the local resorts, changes in summer recreation patterns slowly closed the window on a way of life that had existed on the site since 1916. The acquisition of the Sunrise Resort property in December 2008 added 143 acres to the neighboring 300 acres at Machimoodus State Park and an additional nine tenths of a mile of riverfront protection along the Salmon River.

In addition to State Park's ongoing objectives of protecting and providing access to Connecticut's waters and landscapes, another priority – historic preservation – rose to the forefront whenever the opportunity was presented.

Enter Fort Trumbull State Park

Hidden along New London's Thames River waterfront, the snug coastal site



Discussions about the acquisition of Lovers Leap began in 1944, but money was never set aside for purchase. The generosity of Catherine Hurd, prior to her passing, proved to be a boon to the citizens of the state as she left her rocky hilltop estate to the people of Connecticut for use as a state park.

of Fort Trumbull was little known even to most of its neighbors. For years, the fort was home to sensitive military research, which did not allow for public visitation. That changed in 1992 when the Naval Undersea Warfare Center moved from the fort to Newport, Rhode Island, and opened the way for a state-sponsored initiative to obtain, cleanup, and open the site. After years of restorations and enhancements, the renovated fort and its grounds opened to the public in 2000. Its addition to the park system added 15 scenic and historic acres and round-the-clock coastal access for saltwater fishing.



The sole new state park acquired in the 1980s brought 692 acres in Lebanon into the park system. Known as Red Cedar Lake State Park at the onset, the name was changed in 2000 to Mooween State Park in deference to Camp Mooween, which had been a beloved summer retreat from 1921 to 1960. The old road to the former camp is now a well-defined forested path that leads visitors into the depths of this park.

help the public understand the significance of a location has long been a natural part of state park historic properties. Telling the story of Gillette Castle and Dinosaur State Parks has been integral practically from the start. However, the environmental education which we take for granted today was difficult to initiate.

Inklings of environmental interpretive programs began in the 1960s, but only to keep youthful summer campers at Hammonasset Beach State Park occupied over the course of their long stay. Those well-received programs caught on and, enhanced by the environmental awareness of the DEP era, their success inspired other shore front parks to do the same. Slowly, interpretive efforts grew to encompass trailside education, school group programs, and summer camps. Meigs Point Nature Center, now a tradition at Hammonasset Beach, started coastal environmental education; the nature center at Rocky Neck followed, and

An Equestrian Experiment

Decades after the first State Park Police patrolled the beaches of Hammonasset on horseback in the 1920s, the idea of a horse patrol, which had slipped into history by the 1930s, was rekindled and reestablished in the early 1980s.

It was, however, only through sheer determination that Conservation Officers along the shore were able to bring the plan to fruition. Though adding horses was approved by the Park offices, no funds were provided. Nonetheless, excitement spread in the community and when horses, their tack, bedding, and even a trailer were generously donated by the public, the program became a reality at Rocky Neck State Park and later at Hammonasset Beach State Park.

Three horses constituted the ranks of the early mounted patrol. Ralph, a quarter horse, whose arrival in late 1982 got the 1983 program underway, was later joined by Sam, another quarter horse. The Morgan horse rounded out the trio.

The elevated point of view from horseback boosted the officer's ability to see over crowds and improve parking lot surveillance. During the years that the horse patrol was active, both parks were able to document a sharp decrease in



Four-legged Ralph and Officer John Johnston attract an admirer at Rocky Neck State Park. Locating lost children, decreasing parking lot vandalism, and boosting the officer's public relations were the hallmarks of the 1980s Mounted Horse Patrol.

"vehicular vandalism."

As the 1990s approached and the horses aged into retirement, so did the program. But, for the greater part of the decade it brought smiles to the faces of parents and delight to the world of many children.

Interpreting the Park Environment

Having park interpreters on site to

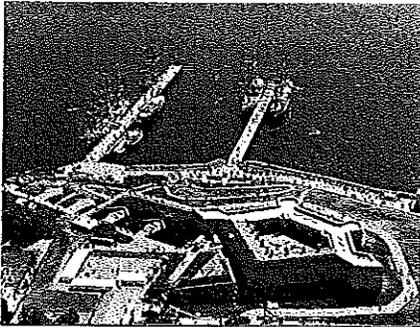
Sherwood Island joined in the 1990s as buildings and staff became available.

Wildlife in the Parks

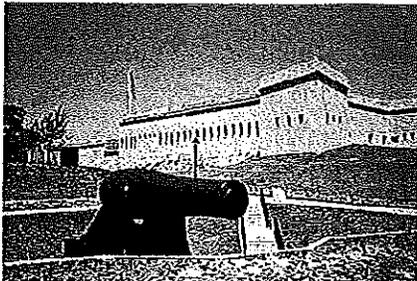
Dating from 1971, when State Parks became part of DEP, the increased environmental well-being across the state and within State Parks has led to a growth in both the range and the diversity of Connecticut's wildlife. Today, in a state where human and wildlife population densities



A trail near the border of the abutting Machimoodus and Sunrise State Parks typifies the look and feel of the area which, in many places, is returning to its natural habitat unseen at the location for over 90 years.



Constructed from 1839 to 1852, Fort Trumbull is unique in the "Third System" forts for the Egyptian Revival features incorporated into its design. (Two earlier fort systems had been outdated.) The Fort never saw action in battle and by the end of the Civil War advances in fire power had rendered all Third System forts vulnerable. This 2000 photo shows the fort cleaned of its Cold War era office complexes and research buildings.

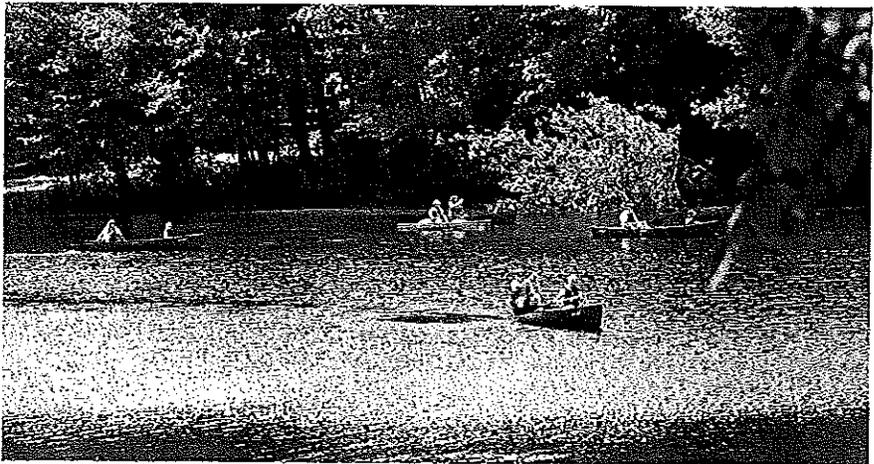


Opened in 2000, Fort Trumbull State Park today features the refurbished pre-Civil War granite-block fort, a world class, state-of-the-art visitor and interpretive center, and public-access saltwater fishing piers.

continue to increase, wildlife sightings in state parks are increasingly common. However, state parks were not always quite so healthy.

In 1954, when trees in parks and forests were being devastated by gypsy moths, it was a simple decision for the head of State Parks to combat the defoliation by aerial spraying of DDT. Fortunately, the long-term impacts of such actions have been realized and the recovery in the quality of air, land, and water following protective environmental laws has benefited more than just the people of the state.

At off-peak hours in today's state parks, it is not uncommon to experience



The Salmon River today remains quietly attractive for outdoor recreation as it has been for nearly a century. This image was captured during late spring State Park Division No Child Left Inside® program.

large and small mammals, aquatic life, and bird populations so diverse that visitors come from hundreds of miles away to glimpse, hear, and photograph the multitude of species.

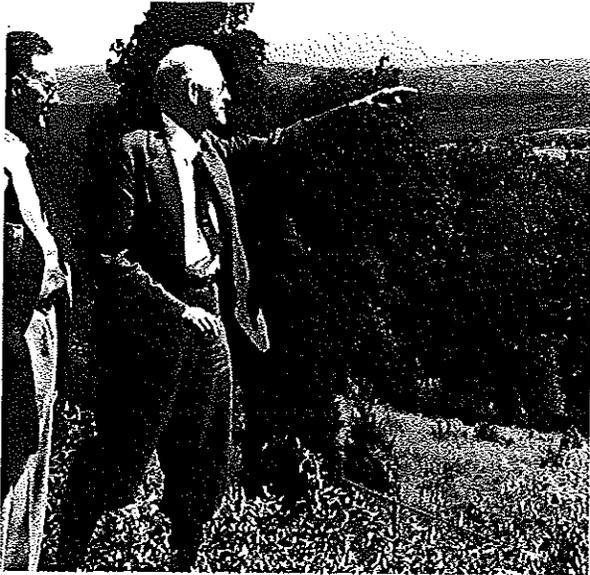
Friends of State Parks

The 100-year commitment to recreating in and preserving today's parks and forests has been made easier because of our "Friends." By any measure, State Parks' oldest friend and ally in this commitment has been the Connecticut Forest and Park Association (CFPA). Already 18 years old when the Park Commission began in 1913, CFPA remains the standard by which other Friends organizations are measured.

Sustaining a state park system has proven to be a heavy workload. Fortunately, as the years have passed, more Friends have helped parks flourish along the way. After the Sleeping Giant State Park Association initiated the concept of befriending a specific park location in 1924, six additional groups formed over the next 70 years to support their local state park lands. In 1994, those original seven organizations provided the foundation for the successful formation of a

This logo represents the statewide Friends of Connecticut State Parks, which continues to enhance our Parks through a combination of visitor education and political advocacy across the state.





Albert Turner is seen later in his career, with his ever present pipe in hand and inimitable knickers, proposing the location of the next state park.

of eight million such visitors every year. And despite the challenges that Mother Nature and millions of visitors sometimes impose, it is only through the hard work and perseverance of park supervisors, maintainers, and other DEEP staff that the state parks remain pleasing destinations to enjoy year round.

December 22, 2014, marks 100 years since the original purchase of the five-acre, bankrupt beachfront property in Westport, the park system's first. With the vision of an expansive statewide park system,

architect of the Connecticut State Park System. In early 1914, as he sat with the burden of constructing a park system to last the ages Turner wrote:

"I tried to imagine the changes of the next thirty years, and still future thirties ... [and] I have formed the personal opinion that tomorrow will see State Parks in Connecticut as necessary as State Highways are today."

Turner's vision of a park system reflected the open Connecticut landscape of the 1870s and 1880s. Today, those who walk the beaches of Hammonasset at sunrise can share the view of open space Turner knew in the days of his youth; the view he defined early in 1914 and which he spent the rest of his life helping Connecticut's State Park System achieve.

Turner's vision and its growth have changed little in the 70 years since his death. But, for nearly 30 years his dedicated work set the tone for a park system

statewide group – the Friends of Connecticut State Parks. By the time 2013 and the Connecticut State Park Centennial rolled around, our state could count 23 Friends groups that, in their own special way, have helped their respective parks, and the park system in general, be better, richer places for the public to enjoy.

100 Years

Phenomenal accomplishments of acquisition and maintenance have been achieved by the end of the State Parks' first 100 years. The early Park Commission's vision of making special lands available for public use is continually being fulfilled. At the end of its first century, Connecticut State Parks can boast 107 locations encompassing 32,500 acres. It is said that everyone in the state's population of nearly 3.6 million people is within a 15-minute drive of a state park. This must be so, because in recent years attendance figures show an average



In 2009, the Friends of Sherwood Island State Park and the State Park Division celebrated the opening of a new nature center which interprets the park's natural history for visitors of all ages.



The late 2000s brought wintering harbor seals to state park shores. This individual was seen basking in the sunshine at Hammonasset Beach in Madison.

Connecticut's State Parks have grown to include a remarkably diverse assemblage of woodlands, waterfalls, meadows, and historic grounds that today are enjoyed in ways as diverse as the visitors who make use of them.

A Close Look

A close look by today's park visitors will yield the spirit of Albert Turner, the first State Park employee, the park system visionary, and the nationally respected

that has weathered 100 years, brought recreational delight to more than 450 million visitors, and created the standard by which Connecticut State Parks moves into its second century.

This is the final installment of a 10-piece Connecticut State Park Centennial series. I offer a sincere "thank you" to my colleagues at *Connecticut Wildlife* magazine for accommodating this lengthy story and for their excellent work in its production

– Al Levere, DEEP State Parks Division

Kensington State Fish Hatchery: *Central to Connecticut's Salmonid Fisheries Since 1930*

Article by Mike Beauchene and Al Sonski, DEEP Inland Fisheries Division. Photos by Mike Beauchene

Augmenting Connecticut's recreational freshwater fisheries is a long-standing tradition dating back to the mid-1800s. Adequate spawning habitat and conditions exist throughout the state, allowing many species, such as bass, pickerel, sunfish, perch, and bullhead, to maintain self-sustaining fishable populations. Trout, limited by the availability of spawning habitat, cannot produce on their own enough fish of size or quantity to meet the demand of the angling public. To help fill this gap, Connecticut, like many other states, raises trout to be released at a catchable size. Connecticut raises trout in two state fish hatcheries – in Burlington and Plainfield – each will be featured in upcoming editions of the magazine.

The Early Days (1930-1960)

As best we can determine, the property for the Kensington State Fish Hatchery was purchased from a private fishing club in 1929. At the time, there was only a single stream-fed pond where club members presumably fished for brook trout. With the new acquisition and ideal water quality to raise trout and salmon, the State Fish and Game Commission began to expand the capability of the property by

building the manager residence/hatchery office, meat house (fish were originally fed ground up meat instead of commercially produced fish feeds of today), and a workshop. Brook trout were the first coldwater species to be cultured with the small fish (fry and fingerlings) reared in hand-made troughs. Once the fish were large enough, they were moved to earthen ponds, which were dug in 1933 by the Works Progress Administration with horsepower provided by mule. Hand-dug wells and pipes made of banded wood (some still functioning today) offered a continuous supply of clean, cold, slightly alkaline water, perfect for raising trout and salmon. In addition, during this timeframe, some of the newly dug ponds at Kensington were used to support goals of the Pond Fish Restoration Program by rearing 180,000 calico bass (stocked for game fish forage) and 220,000 bullhead (stocked for human forage) annually.

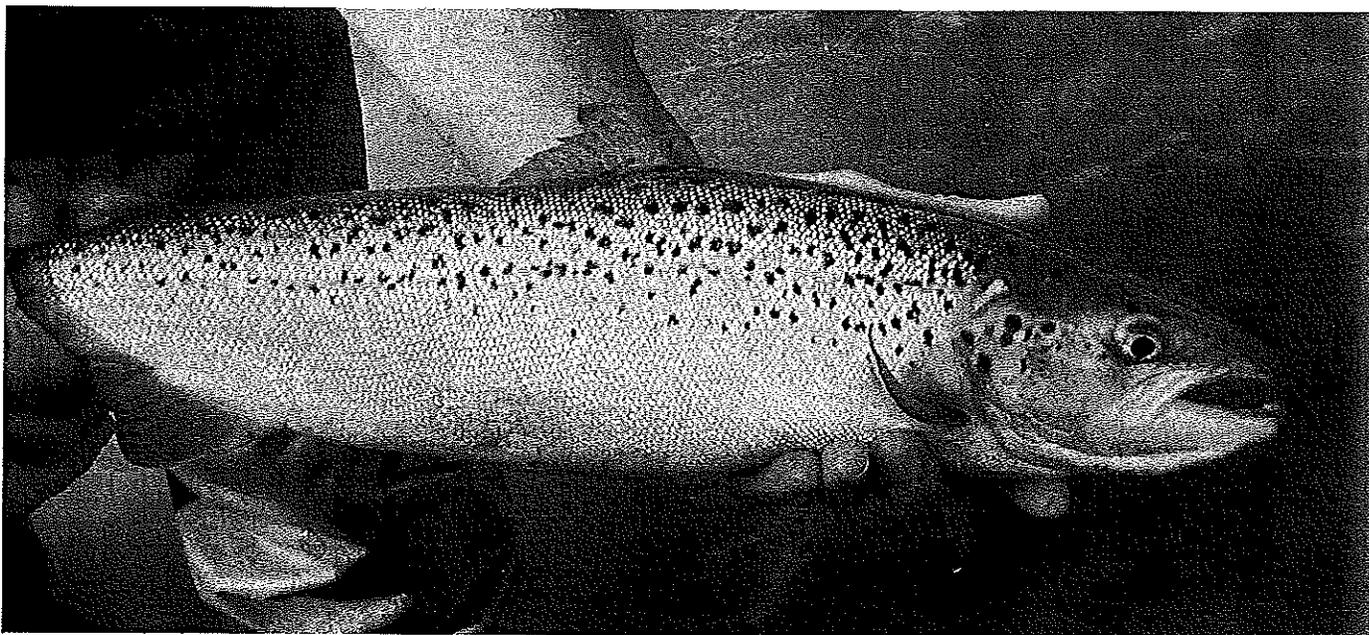
More Demand (1960-1980)

Fishing as a recreational activity was ever increasing. The recommendation in the 1959 Lake and Pond Survey Report published by the State Board of Fisheries and Game was "to add/reclaim as many trout

waters (lakes and ponds) as possible." The eggs of brown, rainbow, lake, and cutthroat trout, as well as coho salmon, arrived at Kensington, shipped from other sister fish and game agencies, as well as private hatchery suppliers. Rearing more fish created a demand for more water and more space. The first drilled wells and concrete bottom ponds at Kensington were established in the 1960s, increasing the capacity for the hatchery to produce trout.

Era of Salmon, Part 1: Goal to Restore (1984-2013)

To support federal restoration efforts in the Connecticut River system, Kensington was designated an Atlantic Salmon Hatchery in 1984. Several key renovations, including drilling the largest and highest yielding well, were completed and, from 1986 to 1996, the facility and staff focused exclusively on Atlantic salmon (all trout production ceased). Kensington was the epicenter of Atlantic salmon, with as many as 3.5 million eggs spawned and 850,000 fry stocked within the tributaries of the Connecticut River system. Beginning in 1992, surplus and spawned salmon have been made available annually in select waters to provide a unique recreational fishery.



The Connecticut River strain of Atlantic salmon is the southernmost population in the world – an important biological resource in the face of climate change. The salmon kept at Kensington are direct descendants of these returning fish. With the demise of the restoration program and the closing of federal and other state hatcheries, the salmon at Kensington are the only representatives of this strain left in existence.

Browns Return (1992 and on)

Kensington had space available following yearly stocking of Atlantic salmon fry. To increase trout production for various fisheries management efforts, brown trout (Bitterroot strain) returned to Kensington. Unfortunately, this strain did not prove viable and was discontinued in 1998. Beginning in 1996, eggs of the Seeforellen strain of brown trout, reported to be a long-lived fish capable of reaching large sizes, were brought to Kensington from Michigan and from adults trapped in Nepaug Reservoir, New Hartford. Currently, the hatchery produces Seeforellen browns to support fisheries management programs with 400,000 fry, 5,000 adults, and several hundred surplus broodstock annually. It also cultures and contributes 50,000 catchable size brown trout (Cortland strain) annually from eggs obtained at the Quinebaug State Fish Hatchery.

Era of Salmon, Part 2: The Legacy Program (2013 and on)

While all Atlantic salmon are the same species, unique strains or races can be developed when they home to their own river generation after generation and become "reproductively isolated" from salmon in other rivers. For over 45 years, biologists have been breeding adult salmon that have returned to the Connecticut River as part of the restoration program. Fish that were originally stocked in the river came from Maine, but over time the genetic identity of the strain shifted as the fish adapted to their new river. It is important to maintain this strain, not only to support Connecticut's Atlantic Salmon Legacy Program and the broodstock fisheries, but also to preserve this unique genetic resource, the importance of which may go beyond the boundaries of Connecticut.

To keep the Legacy Program viable, 250 age-four Atlantic salmon broodstock are required. These fish generate 500,000 to 700,000 eggs each year. From these eggs, 100,000 fry are released into the

Salmon River system and 150,000 fry into the Farmington River system. Surplus broodstock are still used to support the popular fishery in the Naugatuck and Shetucket Rivers, as well as in some lakes.

Future of Fisheries

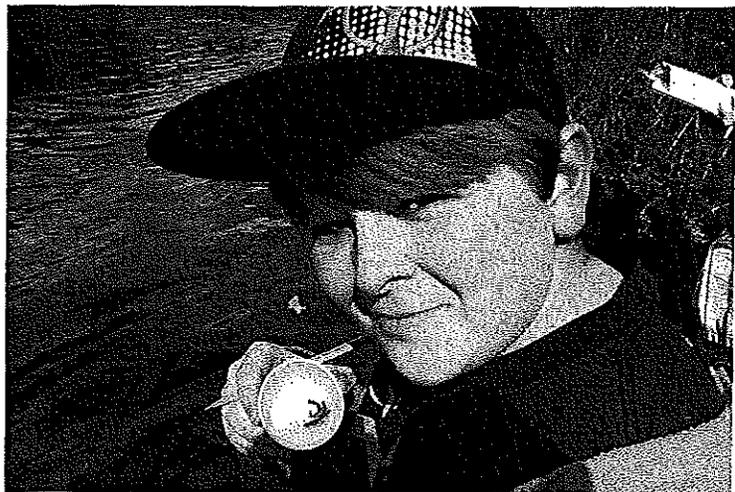
One of Kensington's greatest contributions is continued support of programs involving the classroom rearing of salmonids. Each year, 20,000 eyed eggs of each species are donated to support the long-term educational programs, Salmon-in-Schools (Atlantic salmon) and Trout in the Classroom (brown trout). These programs provide students with real life examples of habitat, water quality, food webs, and life cycles, while also instilling stewardship of natural resources, species conservation, and inter-connectiv-

ity of people and the natural world.

Today, like every day, hundreds of thousands of trout and salmon are under the watchful eye of Fish Hatchery Supervisor Al Sonski and Environmental Protection Maintainer Tom Fitzgerald. Quietly and unassumingly they manage this 46-acre facility, maintaining a world class reputation in Connecticut and throughout New England – a true gem hidden in plain sight.



The Kensington State Fish Hatchery is one of DEEP's best kept fisheries secrets. From a small bluff off of Hatchery Road, one can see a variety of small, uniformly brown outbuildings and a series of earthen ponds all spread across 46 well-kept acres. Since 1930, millions of fish have hatched and been distributed to waters across Connecticut and New England. For hatchery information, please call 860-829-8518.



Students exhibit tremendous pride on release days when their efforts to raise each fish from an egg are rewarded when watching their fish swim away. Two Atlantic salmon fry are released into the West Branch Farmington River.

Pulse of Darkness - The Long-eared Owl

Article and photography by Paul Fusco, DEEP Wildlife Division

One of Connecticut's seldom seen denizens is the long-eared owl. It may be found here year-round, but it is secretive, well-camouflaged, and strictly nocturnal, making it one of the toughest birds to encounter in our state. It also is listed as a state endangered species because of its rarity and limited breeding occurrences.

Long-eared owls are normally found in dense conifer stands during the breeding season. In winter, thick stands of pine, spruce, and cedar are used for roosting. If suitable conifers are not available, the owls will make use of dense climbing vine tangles, including grapevine and bitter-sweet, that afford them protection from predators and the elements. The owls will often roost close to a tree trunk in dense cover. Favored roosting spots are dark and quiet. On cold winter days,



A long-eared owl starts its nighttime hunting forays from a woodland edge at twilight. An expert "mouser," the majority of this owl's diet is small rodents that are sometimes caught in complete darkness.

long-eared owls may be found sleeping in the warm sun.

Long-eareds are medium-sized, and somewhat resemble their much larger great horned owl cousins. They are slender with bold crosshatched lengthwise streaking on the chest and belly. They have a rusty-colored facial disk, bright yellow eyes, and elongated ear tufts. The back is primarily dark brown, patterned with finely marked spots and reticulation. Long-eared owls have long wings and their flight is erratically buoyant and moth-like.

The characteristic ear tufts of a long-eared owl are held high when the bird becomes alarmed. When disturbed, the owl compresses its body feathers and elongates its posture to make itself appear to be a broken tree limb or to blend into the bark of a tree trunk. The owl freezes in place, sitting motionless until the threat passes. Cryptic plumage makes it very difficult for an observer or a predator to locate the owl. Long-eared owls are known to fall victim to larger birds of prey, including great horned owls and goshawks.

Long-eared owls rarely build their own nests, instead they usually use an old nest from a crow, hawk, heron, or squirrel that may be located in thick conifer cover or in deciduous trees. Here, the female will lay three to eight pure white eggs; most commonly four or five eggs. The eggs are incubated for about three weeks. Young owls begin to branch from the nest when about four to five weeks old. They will be capable of strong flight after they reach the age of eight or nine weeks.

Habitat

Hunting areas for long-eared owls are forest openings, fields, marshes, or agricultural habitats that have an abundance of small mammals or birds. Long-eared owls become active at dusk and will hunt throughout the night before



The "ears" of long-eared owls are not really ears at all. They are actually elongated feather tufts above the eyes that help them blend into their surroundings.

returning to heavy cover by daybreak to roost for the day. They hunt near forest edges and brushy fields, and in marshes with extensive open areas. The owls prey chiefly upon small mammals, including meadow voles, shrews, and white-footed mice. At times, they will take small birds, such as sparrows. They have an acute sense of hearing that enables them to hunt fields and catch mice and voles in complete darkness. The percentage of rodents in the diet is overwhelming, making long-eared owls one of our most beneficial raptors.

In late fall and winter, long-eared owls in Connecticut tend to move toward the coast from northern forest breeding areas, which may be as far away as Canada. They will show up near the coast for what will be the coldest and most stressful part of the year, from November through mid-April. The moderating influences of the shoreline help the owls make it through the winter. Favorable locations have habitat components of thick cover for roosting and nearby open habitat for hunting. Some areas with a good prey base have been known to harbor over a dozen individuals in a communal roost, although it is rare to encounter so many in one place in Connecticut.

The largest and best quality shoreline habitats left in our state are on public properties, including state and municipal parks, wildlife management areas, and national wildlife refuges. Dense brushy thickets with components of conifers, vines, and thick woody growth along the coast are critical for long-eared owls.

Winter is an especially vulnerable time for these birds. Roosting areas are sensitive to disturbance. If disturbance becomes frequent or intrusive, the owls may abandon an otherwise safe place, forcing them into a situation where it may be difficult to survive. Observers should always be mindful of proper owl viewing ethics to minimize disturbance to day-roosting owls, including the long-eared.

Conservation

Long-eared owls have a circumpolar range. They are found in Europe, Asia, and some parts of Africa, as well as in North America. Their North American distribution is extensive, as they are found coast to coast from mid-latitude Canada to Baja California in the west and Virginia in the east. Wintering birds may be found as far south as northern Mexico.

Range-wide, long-eared owls are generally considered to be a fairly common species with low conservation concern. In Connecticut, it is a different story. Long-eared owls were formerly a common breeding species in the state where they nested in thick conifer stands and low brush thickets along the



Long-eared owls become gregarious in winter, often roosting communally in dense conifer groves or, less frequently, in vine tangles. Note the crosshatched lengthwise streaking on the chest and belly, and the rust-colored facial disk.

coast. These owls have been declining in Connecticut since the early 1900s and, today, the species is considered to be an uncommon winter visitor and an endangered breeder. Declines are due in large part to the loss and degradation of habitat. Undisturbed open field and brushy habitats with nearby dense conifer stands have been lost to development and forest succession, resulting in a reduction of available habitat. There is still much to be learned about the breeding distribution and population dynamics of long-eared owls in Connecticut. The one certainty is that the protection of good quality habitat is essential for these owls to maintain their presence in our state.

2014 Was a Banner Year for Nesting Piping Plovers

Written by Rebecca Foster, DEEP Wildlife Division; photos by Paul Fusco, DEEP Wildlife Division

The piping plover and least tern nesting season in Connecticut came to a close with the arrival of autumn. With the impending winter ahead, most plovers and terns have completed their lengthy migrations and are feeding at their wintering grounds from the southern United States down to the Caribbean.

The piping plover is a small shorebird that nests on sandy beaches along our shoreline. It is listed as a threatened species on both the state and federal level. The DEEP Wildlife Division actively manages piping plovers and their nesting habitat in the state. When quality nesting habitat, territories, and nests are located, the Wildlife Division places stake and string "psychological" fencing around the areas, complete with bright yellow signs that say "Please Stay Away." This prevents beachgoers from accidentally stepping on well-camouflaged nests and chicks, while also providing the nesting pair with a buffer from disturbance.

Piping plovers scrape a shallow depression in the sand in which they lay three to four tan and brown spotted eggs. After the fourth egg is laid, an "exclosure" may be installed around the nest. The exclosure, which is a large metal cage with fine netting covering the top, is effective in preventing predators from eating plover eggs. After 27-30 days, tiny precocial (feathered and able to move freely) chicks will hatch.

DEEP staff and many dedicated volunteer monitors intensively observe the chicks for a month or more to determine the number of young that reach the age at which they can successfully fly (also called fledging). High piping plover fledge counts indicate a successful nesting season because more individuals are added to a population than are naturally lost.

2014 Results

The number of piping plover pairs returning to Connecticut to breed was the higher this year than last – 51 pairs compared to 45 in 2013. Over the last seven years, the number of plover pairs nesting in Connecticut has remained steady or increased slightly, averaging 47 pairs. This year, a new record number of plover chicks fledged in Connecticut – 116 – surpassing the previous high of 101 in 2008!

A number of factors likely contributed to this high level of fledging success. Overall, nest and chick losses due to inclement weather or wash-outs from high tides were low. Only seven nests statewide were washed over by high tides, and one of these was still able to hatch eggs. No "heat waves" or significant storms were reported during the peak plover nesting window and food availability seemed adequate.

Another important element contributing to piping plover success was the assistance

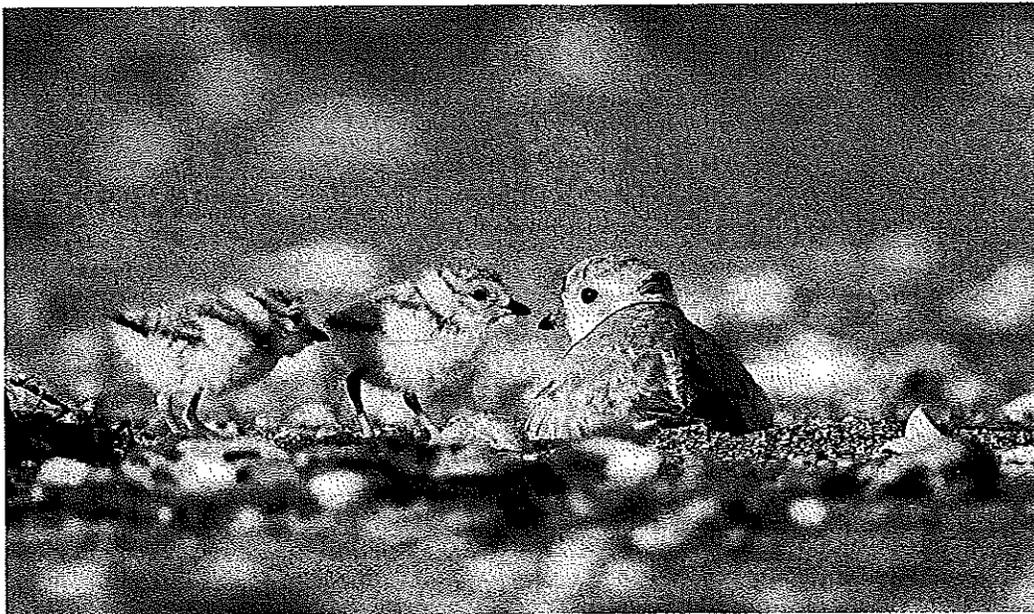
of more than 400 people who monitor and protect Connecticut's threatened shorebirds. Partner groups include the U.S. Fish and Wildlife Service (USFWS), Audubon Connecticut, Connecticut Audubon Society, Audubon Alliance for Coastal Waterbirds, The Nature Conservancy, and the Bridgeport Wildlife Guards, as well as municipalities, private landowners, and many other volunteers, like the Master Wildlife Conservationists. These volunteer monitors not only watch the nesting shorebirds and notify DEEP of urgent management concerns, but also educate hundreds of beachgoers about the plight of piping plovers and least terns (see article on page 16 to learn more). Nesting birds benefitted immensely from the increased level of public education, as well as the significant monitoring presence on nesting beaches and quick responses to address issues.

Historical nesting beaches continued to be the most productive for piping plovers in Connecticut; Old Saybrook, Milford, and West Haven again supported the greatest number of nesting plover pairs. In 2014, plovers nested on or attempted to nest on a few unexpected beaches as well.

Predators and Exclosures

Even with the overall successes of the nesting season, predators had a substantial negative effect on piping plover hatching and fledging rates at a few sites that historically have been productive. For example, all three attempted nests on a nesting beach in Stratford were lost to fox predation. Predator-related losses also were recorded at Groton, West Haven, and Old Lyme beaches. Predator pressure continues to be evaluated at these locations.

The use of nest exclosures has consistently proven to increase plover hatching success throughout the region. However, recently it has been observed that predators are "keying in" on the large metal cages. This happens when predators learn to associate the exclosure with a food source (i.e., eggs or adults), either from experience or observation of other predators. In areas where this is happening, the use of exclosures will be limited. This



This year, a new record number of piping plover chicks fledged in Connecticut – 116 – surpassing the previous high of 101 in 2008!

year, biologists observed piping plovers "refusing" exclosures on three occasions. "Refusal" means that after an exclosure is installed around a nest, the adults refuse to enter the cage and resume incubation. After a waiting period (determined by scientists to allow maximum opportunity for the birds to return but also minimizes exposure of the eggs to the elements), the exclosures were unassembled and quickly removed. In all three documented cases, the plovers immediately resumed incubation once the exclosure was removed.

Exclosures will continue to be used during the 2015 nesting season as an important management tool. However, exclosure use will be site-specific and based on predator history and the individual plover acceptance of the exclosure.

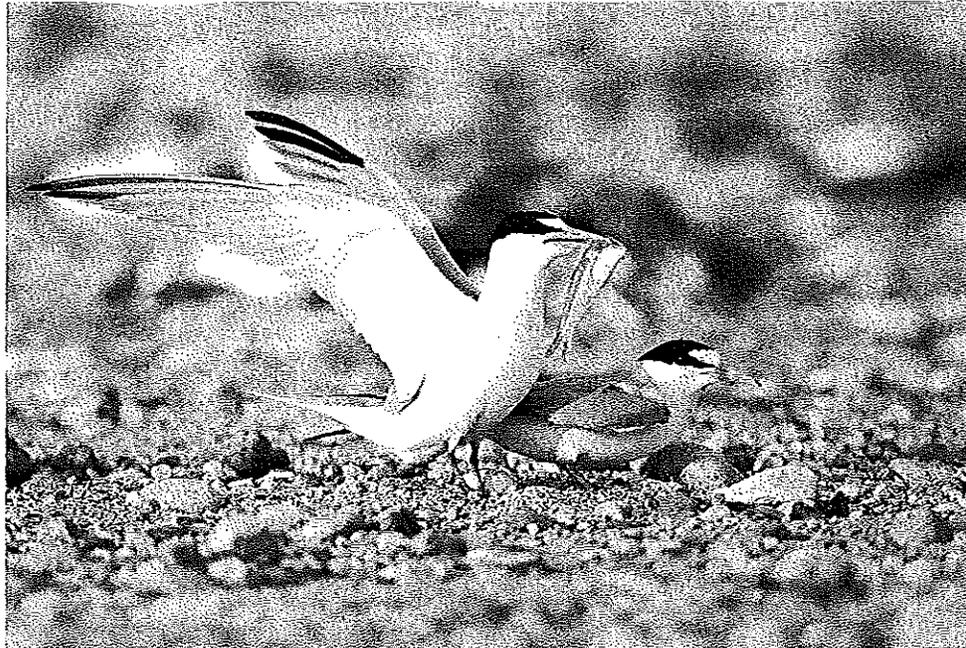
Interesting Observations

This season, monitors made a number of unusual piping plover behavioral observations. For example, an exclosure was placed around a nest in which one pair of plovers laid four eggs. The birds returned to the nest and resumed incubation. On a subsequent visit, five eggs were counted in this same nest. While not unheard of, scientific literature states that five-egg nests are rare. In this instance, only four of the eggs hatched.

Another interesting observation was piping plover responses to high tide events inundating their nests. Most seasons, it is common for the higher tides to wash over a number of plover nests that are located on low-lying sandy beaches. In three such cases this year, plovers dug new nests further back from the high tide line and rolled their eggs into the new nests. All three pairs continued to incubate their eggs. Two of the nests failed to hatch, but one nest successfully hatched two of four eggs. Monitors and staff will continue to note atypical behaviors and incidents at nesting beaches.

Least Tern Numbers Low

DEEP also intensively manages and monitors another state threatened shorebird, the least tern. Least terns are colonial nesting birds that use the same sandy beaches as piping plovers. Similar to plover management, least tern management involves the use of wooden fencing and educational signage for protection



Overall, least tern productivity in 2014 was disappointing. Only 258 pairs attempted to nest statewide and 75 young fledged. One theory explaining the lack of success may be a possible shortage of food for young chicks.

of nesting colonies. In addition, large sections of heavy-duty metal fencing may be used on the most productive sites. The fencing encompasses an entire tern colony and prevents predators, like skunks and foxes, from preying on the terns' ground nests. The use of metal fencing is limited as installation is both difficult and labor intensive. In 2014, metal "tern fencing" was only used at one site.

Overall, least tern productivity in 2014 was disappointing. Only 258 pairs attempted to nest statewide and 75 young fledged. One theory explaining the lack of success may be a possible shortage of food for young chicks. While results from this year's fisheries surveys are still being analyzed, early indications are that some populations of small baitfish, which are food sources for chicks, still seem to be recovering from very low numbers in 2013.

While the poor least tern productivity over the last few years in Connecticut is alarming, biologists have looked at population numbers in neighboring coastal states (Massachusetts, Rhode Island, and Long Island, New York) to try to put Connecticut's situation into perspective. When considering least terns from a regional standpoint, the pooled number of pairs has stayed fairly consistent. Birds do not take state lines into account when they decide where to nest. Biologists are encouraged that regional populations

have remained stable.

Locations in Connecticut with the largest numbers of nesting least terns included Old Lyme, Milford, Westbrook, and Waterford. The greatest fledging success was recorded at a site in Old Lyme with 30 fledges, followed by a site in Waterford with 28 fledges, and a site in Westbrook with seven fledges. DEEP will continue to manage the least tern population in Connecticut and work with conservation partners throughout the region to determine the factors limiting tern nesting and fledging success.

Looking Ahead to 2015

The Wildlife Division will be ready in 2015 to use all of the tools, data, and manpower available to effectively manage imperiled shorebird populations in our state. Anyone who wishes to become a USFWS piping plover/least tern volunteer monitor should contact the Audubon Alliance for Coastal Waterbirds at ctwaterbirds@gmail.com. More information about the shorebird monitoring program is available on the Audubon Alliance website at www.ctwaterbirds.blogspot.com.

THANK YOU!

The Wildlife Division would like to thank the incredibly dedicated group of conservationists that made 2014 such a success for the piping plover!

Increasing Awareness About Beach-nesting Birds One Pledge at a Time

By Corrie Folsom-O'Keefe, Important Bird Area Program Coordinator, Audubon Connecticut

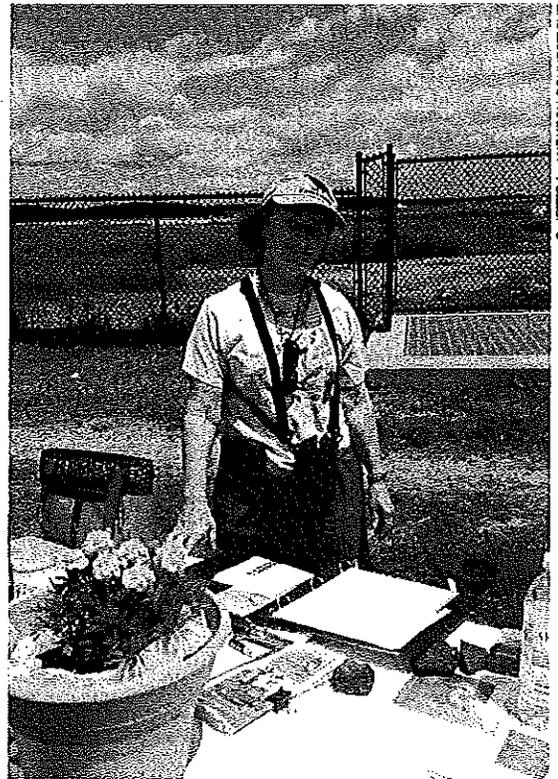
Connecticut beaches provide important nesting habitat for the federally and state threatened piping plover and the state threatened least tern and American oystercatcher. These species arrive in Connecticut from late March through early May and lay their camouflaged eggs in small scrapes in the sand. Young piping plovers are precocial; upon hatching they are mobile and can feed themselves but rely on the adults for protection from the elements and predators. Least terns chicks are fed by the adults until they are capable of flight. American oystercatcher chicks may stay with adults for up to a year while learning to use their strong bills to feed on mollusks. Disturbance by unaware beachgoers can have a real impact on the breeding success of these species. If beachgoers tread into nesting areas, eggs and chicks may get stepped on or adults may leave their young unattended. Dogs being walked on beaches during the nesting season has a similar effect, as these birds see dogs as predators, even when leashed. Birds scared off of nests by dogs will take longer to return to a nest than when disturbed by humans alone. Lastly, trash left on beaches attracts predators, reducing the survival of eggs and chicks.

This past summer, to increase awareness of beach-nesting birds, the Audubon Alliance for Coastal Waterbirds, in partnership with DEEP and the Stewart B. McKinney National Wildlife Refuge and with support from the EPA's Long Island Sound Futures Fund, launched the "Be a Good Egg Program" in Connecticut. The program, which originated in North Carolina, establishes information stations staffed by volunteers at beaches where birds are nesting. The volunteers play a key role in increasing community awareness about beach-nesting birds, the threats they face, and the small actions people can take to help the birds successfully reproduce. Visitors to the beach are asked to take the "Be a Good Egg" Pledge, which is to 1) stay out of the string fencing areas where birds are nesting, 2) keep dogs off the beach during the breeding season, and 3) pick up trash that attracts predators.

Thirty-three volunteers, with assistance from Audubon and Stewart B. McKinney staff, worked tables at Sandy Point Important Bird Area (IBA) in West Haven, West Beach in Westbrook, and Long Beach in Stratford (part of the Great Stratford Meadows IBA) every other weekend from Memorial Day to Labor Day. Sandy Point and Long Beach are important nesting areas for shorebirds, while the Westbrook Barrier Islands IBA, just off shore from West Beach, is a significant nesting area for American oystercatchers. The Wildlife Guards, 13 high school students employed for eight weeks this past summer as beach-nesting bird stewards at Bridgeport's Pleasure Beach, also shared their knowledge about beach-nesting birds with visitors.

Over the course of the summer, volunteers put in 186 person hours and engaged nearly 900 beachgoers. Over 600 people took the "Be a Good Egg" Pledge and volunteers reported seeing visitors picking up trash from the beach. So much can be gained from simply making people more aware about beach-nesting birds. Many people visit the beach every day and see the bird nesting signs and string fencing, but they are not necessarily thinking about the birds and instead are thinking about swimming or fishing. But, when you engage them face-to-face, they become more aware, understand what the string fencing protects, and are more likely to stay out of nesting areas. The beach visitors become familiar with the birds and want to give them the opportunity to breed, while enjoying the beach themselves. If you would like to take the pledge, visit: <https://docs.google.com/forms/d/1ITJL3aOZ1A9qeWBEE-g4-GYOS-WgSQbaVikBztGeygc/viewform?c=0&w=1>.

Those interested in volunteering



"Be a Good Egg" volunteer Deborah Johnson stands ready to share information about beach-nesting birds with visitors to Sandy Point in West Haven.

for the "Be a Good Egg" Program at Sandy Point or Westbrook next summer should contact Corrie Folsom-O'Keefe (cfolsom-okeefe@audubon.org) or Kris Vagos (kristina_vagos@fws.gov), respectively.

THANK YOU!

We would like to thank the many volunteers from a number of organizations, including the Friends of the Westbrook Barrier Islands, the West Haven Watershed Restoration Committee, the New Haven Bird Club, Menunkatuck Audubon Society, and the Hartford Audubon Society, who helped make the "Be a Good Egg" Program a success. We would also like to thank the city of West Haven and the towns of Westbrook and Stratford for supporting this valuable program.

Connecticut Wildlife Action Plan -- Horseshoe Crabs

Written by Penny Howell, DEEP Marine Fisheries Division

DEEP is updating the Connecticut Wildlife Action Plan for 2015-2025 – a strategic plan to conserve wildlife and their habitats for the future. We are highlighting some of the efforts made under the original Plan approved in 2005 (previously known as the Comprehensive Wildlife Conservation Strategy). Learn more at www.ct.gov/deep/WildlifeActionPlan and www.facebook.com/CTFishandWildlife.

One species benefiting from actions detailed in the 2005 Plan is the horseshoe crab, a key species whose abundance every spring, while spawning eggs in the sand on Connecticut's beaches, is a visible measure of the productivity of Long Island Sound. These "crabs" – an inaccurate name for an animal whose taxonomy and anatomy predate dinosaurs – are a "jack-of-all-trades:"

- Their blood is extracted by pharmaceutical companies for use as the most effective way to detect bacteria in drugs and implanted medical devices.
- Their eggs are a highly nutritious food source for migratory shorebirds, like the red knot.
- They provide harvestable biomass for commercial bait.
- And, most importantly, their successful nesting is a clear measure of the ability of our beaches to provide viable wildlife habitats undamaged by human development.

For these reasons, DEEP efforts to conserve these iconic animals included funding through State Wildlife Grants for a study from 2008-2011 to identify optimal spawning habitat along the Connecticut shore. This study allowed a UConn Master's candidate to develop a model which quantified preferred horseshoe crab spawning grounds and classified the entire Connecticut coastline based on characteristics such as beach gradient, substrate, and wave exposure. Model results identified 35% of Connecticut's coast as "high use" spawning ground,



DEEP efforts to conserve horseshoe crabs included a study, funded through State Wildlife Grants from 2008-2011, to identify optimal spawning habitat along the Connecticut shore.

and another 20% as "medium use," indicating that our state's generous supply of excellent habitat plays a vital role in sustaining the horseshoe population.

You can provide input on future horseshoe crab conservation or the conservation of other species, by sending

your comments on Connecticut's Wildlife Action Plan to the DEEP Wildlife Division at deep.wildlifeactionplan@ct.gov. Visit the DEEP website to review revisions and drafts of the Plan at www.ct.gov/deep/WildlifeActionPlan.

How You Can Help with Connecticut's Wildlife Action Plan

Connecticut's Wildlife Action Plan is reviewed and revised every 10 years to make sure it reflects current needs and priorities for species of greatest conservation need and their habitats. The current revision will be completed by September 30, 2015. Participation by conservation partners, academic institutions, municipalities, and the public is a key to making the Wildlife Action Plan an effective tool for conserving Connecticut's wildlife diversity for future generations.

Read the original 2005 Plan, as well as updated and revised portions of the Plan. All of these documents can be found on the DEEP website at www.ct.gov/deep/WildlifeActionPlan. Then submit your comments to deep.wildlifeactionplan@ct.gov. Share your wildlife observations on Twitter @CT_SWAP and #CTSGCN, or on Facebook at www.facebook.com/CTFishandWildlife.



The Sound's Fall Feast

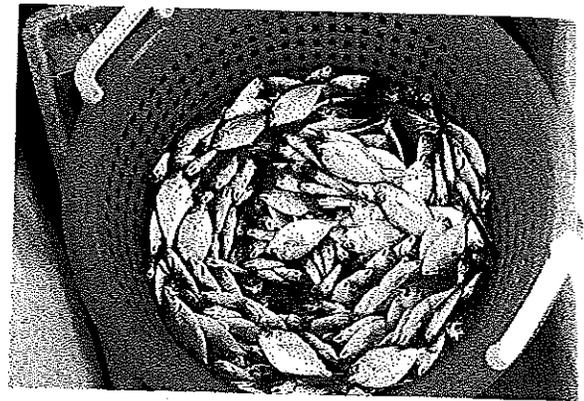
Written by Penny Howell, DEEP Marine Fisheries Division; photos by DEEP Marine Fisheries Division

As we prepare for fall harvests and holiday feasts, many of the animals that live in and around Long Island Sound are doing the same. Sea birds, shorebirds, and the migratory and resident fish feast on the Sound's production of food in late summer and fall in preparation for the cold months ahead. Seals also will be swimming south from more northern waters into the Sound to enjoy a relatively warm winter here and a nearby buffet of fish species. Keeping track of the abundance of forage available in the Sound is tricky because the "all-you-can-eat fish buffet" is a spread of the more than 70 species regularly found in the Sound. The young of even large predators are prized food until they grow big enough to turn the tables; snapper bluefish are a good example.

The DEEP Marine Fisheries Division has developed two indices designed to measure the abundance of Long Island Sound's forage fish, not only to ensure that larger predators have enough to eat but also as a measure of the productivity and health of the Sound ecosystem. The forage base is often an early indication of detrimental or favorable environmental change. The two indices focus on 18 species which are very abundant, small in size, and well distributed throughout the Sound. The relative abundance of four of these species is measured in a September seine survey conducted at eight near-shore beach sites from Groton to Greenwich. The relative abundance of the remaining 14 species is measured in a fall (September-October) bottom trawl survey of open water throughout the Sound.

Together these two indices show that the forage base of the Sound has neither decreased nor increased since the early 1990s. However, abundance has not been steady, resulting in a forage rollercoaster with some very high and some very low years and little coherence between the two indices over time. This bust and boom pattern is common in many estuaries. As a result, the predators most at risk, primarily sea birds and shorebirds that feed only on a limited number of species, can experience wide fluctuations in growth or reproductive success, which are magnifications of these fluctuations in forage abundance.

The two forage indices have been above average



A basket of butterfish captured in the Long Island Sound Trawl Survey.



Atlantic silversides captured in the Seine Survey.

in many recent years. However, 2013 was the lowest in the time series. Fortunately, it appears that years of very low abundance are single events; the time series of the two surveys has only dipped to a very low value briefly in the past, rebounding in the following year. So, the feasting should resume quickly.

Species Used in DEEP Forage Indices

Species are listed in rank order of abundance in Long Island Sound averaged over the time series from 1992 to 2013 (YOY = young-of-year; fish less than one year old).

Open Water Forage Species

- Butterfish (YOY)
- Long-finned squid
- Scup (YOY)
- Bluefish (YOY)
- Weakfish (YOY)
- Red hake
- Atlantic herring
- Silver hake
- Spotted hake
- Alewife

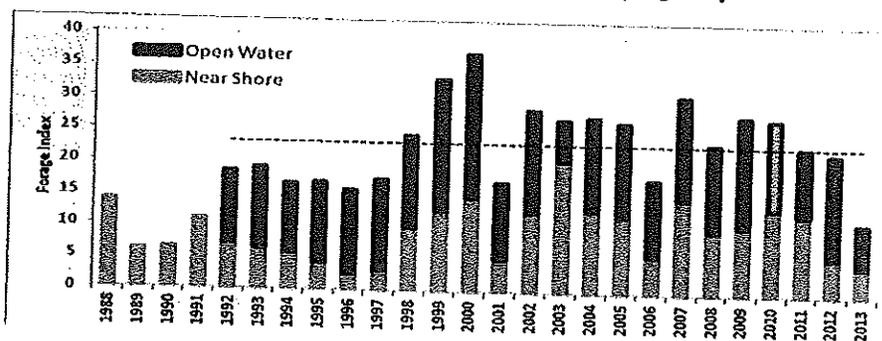
- Atlantic menhaden
- American shad
- Hickory shad
- Blueback herring

Near Shore Forage Species

- Atlantic silversides
- Mummichog
- Striped killfish
- Sheepshead minnow

CT DEEP Forage Indices

Fall abundance of forage species in near shore and open deeper waters of Long Island Sound. The dashed line shows the average combined index value. Note that the 2010 Open Water Index is only estimated due to incomplete sampling that year.



Red-spotted Newt

Notophthalmus v. viridescens

Background and Range

The red-spotted newt (also commonly referred to as the eastern newt) is a widespread and familiar species in many areas of Connecticut. Newts have four distinct life stages: egg, aquatic larvae, terrestrial juvenile (or "eft") and aquatic adult. Their life cycle is one of the most complex of all the salamanders; starting as an egg, hatching into a aquatic larvae with external gills, then migrating to terrestrial habitats as juveniles where gills are replaced with lungs, and returning a few years later to their aquatic habitats as adults which retain lungs.

In Connecticut, the newt is found statewide, but more prominently west of the Connecticut River. The red-spotted newt has many subspecies and an extensive range throughout the eastern United States.

Description

The adult red-spotted newt has smooth skin that is overall greenish in color with small black dots scattered on the back and a row of several black-bordered reddish-orange spots on each side of the back. Male newts have black rough patches on the inside of their thighs and on the bottom tip of their hind toes during the breeding season. Adult newts are usually 3 to 5 inches in length. The juvenile, or eft, stage of the red-spotted newt is bright orange in color with small black dots scattered on the back and a row of larger, black-bordered orange spots on each side of the back. The skin is rough and dry compared to the moist and smooth skin of adults and larvae. The red eft stage can last from 1 to 3 years. The larvae have olive-colored skin, faint spots, a reddish-brown tail, and feathery external gills.

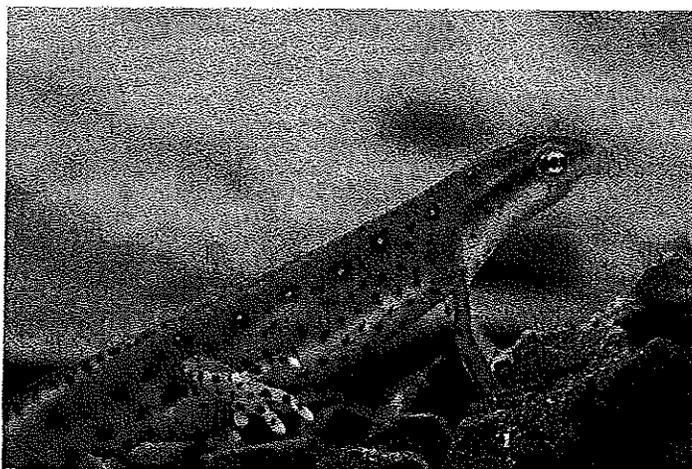
Habitat and Diet

Adult and larval newts inhabit a wide variety of aquatic habitats. They prefer sunny, weed-filled, slow-moving, and shallow bodies of water. A few known habitat types are slow meandering rivers, lakes and reservoir margins, pasture ponds, bogs, mill ponds, drainage ditches, vernal pools, and wooded swamps. Efts are found in deciduous and coniferous woodlands, pastures, and meadows. Soils of these woodlands vary from dry to soggy and waterlogged. Red-spotted newts require large areas of forested habitat adjacent to their breeding sites to support the multi-year terrestrial eft stage.

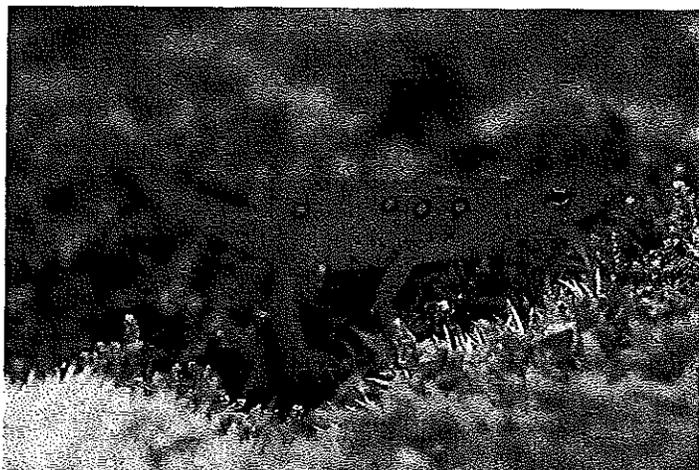
Adult newts feed on insects, leeches, crustaceans, mollusks, and small amphibians and fish. The eft will consume insects, spiders, mites, worms, and tiny mollusks, while larvae will consume aquatic microinvertebrates.

Life History

Adult newts can be active even before ice surfaces melt. Primarily, they are active February through October. Breeding occurs in late winter into early spring. After an elaborate underwater courtship, where the male holds his tail above his body and waves it in the water. After external fertilization, the female deposits a few hundred eggs over several days, attaching them to submerged aquatic vegetation or fallen leaves in the water.



D. QUINN for DEEP-WILDLIFE



P. J. FUSCO

Above: Adult red-spotted newt

Below: Juvenile red-spotted newt, otherwise known as red eft.

Larval newts will hatch in 3 to 8 weeks, complete with external gills. Larvae will undergo metamorphosis to terrestrial efts in 2 to 5 months. The brilliantly colored efts will remain in nearby upland habitat for the next 1 to 3 years of their lives. Efts will often come out from cover on rainy summer days. During the latter eft stage, the tail will begin to flatten out, the coloration will change to green, and the newly-transformed eft will return to water to breed and live out its life as an adult newt.

Interesting Facts

This salamander secretes poisonous toxins on its skin to make it distasteful to predators, and the eft's bright coloration serves as a warning. However, some animals, like the ribbon snake, find ways around the toxins or are immune altogether and will prey on newts.

Courtship in newts is fascinating. The male will lure and entice the female with his many red spots and wiggling tail, which releases pheromones (specialized chemicals). The male, with his hind legs, will grasp the female just behind her forelimbs and then rub his chin along her snout just prior to external fertilization. Competition occurs in this species and "mating balls" can often be observed as multiple males fight over a female.

Mudpuppy

Necturus maculosus

Background and Range

The distribution of mudpuppy populations is poorly understood in Connecticut and throughout most of New England. The earliest confirmed record of a mudpuppy in Connecticut was from Middletown in 1875. In Connecticut, mudpuppies are found in the Connecticut and Housatonic Rivers, associated tributary streams, and riparian zones south from the Massachusetts border. The origin of the mudpuppy in Connecticut is still under debate and will require further scientific research to resolve whether it is a native species or was introduced into Connecticut waters.

The native range of the mudpuppy is believed to include sporadic populations from the southeastern United States north to New York, Vermont, and Quebec, and west to North Dakota.

Description

The mudpuppy is the largest and only fully aquatic salamander found in Connecticut. It measures between 8 and 17 inches in length, and resembles a large larval salamander at maturity, as it never loses its external gills. The mudpuppy is recognized by red to maroon-colored bushy gills; a gray-green and mottled back with blue-black spots and a gray belly; a broad flattened head and squarish snout; tiny eyes; a fin-like tail; and four toes on each foot. Larvae have a dark mid-back stripe bordered by a yellow band on each side. Larval coloration is maintained for up to three years.

Habitat and Diet

The mudpuppy occurs in a wide range of water conditions, including rivers and drainage ditches. In Connecticut, it is mainly found in deeper waters of the Connecticut and Housatonic Rivers and associated drainages.

Mudpuppies feed on fish and their eggs, crayfish, aquatic insects and larvae, mollusks, snails, worms, spiders, plant

What You Can Do

If you happen to catch a mudpuppy while fishing, release it immediately back into the surrounding water system. Do not release it somewhere else.

Work within your community to help keep Connecticut's water resources free of siltation and pollution.

Spread the word about salamanders! Knowledge is often the best tool for conserving these important amphibians.

Additional information about salamanders is available on the DEEP website at www.ct.gov/deep/salamanders.



The mudpuppy is the largest and only fully aquatic salamander found in Connecticut. It measures between 8 and 17 inches in length, and resembles a large larval salamander at maturity, as it never loses its external gills.

material, and an occasional salamander. They are eaten by fish, turtles, herons, and water snakes.

Life History

Male mudpuppies seek out and mate with females in fall. By the following spring/summer, approximately 50 to over 100 eggs are deposited singly by the female under large logs or rocks. The actual dates of egg laying and development are dependent on water temperature. Development periods have ranged from one to two months. Females often remain with the eggs until they hatch. Larvae remain in the vicinity of the nest site for 6 to 8 weeks.

Interesting Facts

Mudpuppies attain sexual maturity in their sixth year at a length of 8 inches. They have been known to live up to 30 years in captivity. In the wild, an average life span of 11 years is more common.

Mudpuppies living in water bodies with lower oxygen have longer, larger gills than mudpuppies found in clear, highly oxygenated water.

Though primarily nocturnal, mudpuppies will come out during the day in dark or murky bodies of water. They are well camouflaged and walk along the bottom of the waterbody, but can swim in quick, short bursts. They are active throughout winter in deep water and are sometimes caught by ice fishermen.

The mudpuppy gets its name from a grunting sound it can make, which resembles the bark of a dog. Though it has lungs, the mudpuppy breathes primarily through its gills and uses its lungs to adjust its buoyancy.

Devastating Effects of Emerald Ash Borer Now Evident

Written by Jerry Milne, DEEP Division of Forestry

The emerald ash borer (EAB), an insect native to northeast Asia, was first observed in Michigan in 2002 and has since spread to almost 30 states and Canada. It has killed an estimated 50 million ash trees. EAB has the potential to wipe out the entire *Fraxinus* (ash) species with unknown ecological consequences. EAB was first discovered in Connecticut in 2012 in Prospect. Since then, it has spread to other parts of New Haven, Litchfield, Fairfield, Hartford, Middlesex, and New London Counties. It is not known how long EAB was in our state before it was first detected, but its effects on our ash trees are becoming evident.

White ash is estimated to comprise about three percent of Connecticut's trees overall. It usually grows on rich, moist but well-drained sites, where it can grow in much higher concentrations. White ash also is commonly found on roadsides and in yards. Literally, hundreds of thousands of ash trees could die in Connecticut within five years after infestation.

What to Look For

Some of the obvious symptoms include dieback of canopies and the stripping of bark by woodpeckers looking to eat the borers (called "blonding"). A closer look at the bark of infested trees will reveal "D-shaped" holes created by adult beetles when they exit the tree to feed on leaves. These holes can be hard to find because they are so small and ash bark can be very irregular. In addition, there will be serpentine tunnels just under the bark where EAB larvae feed on the tree's phloem (vessels that transport nutrients up and down the tree). It is this feeding by the larvae that kills the trees, not the nibbling of the leaves by the adults.

What Is Being Done

The DEEP Division of Forestry, Connecticut Agricultural Experiment Station (CAES), University of Connecticut, U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS), and U.S. Forest Service have spent thousands of hours assessing the occurrence of EAB. Hundreds of ash trees were cut down and debarked by hand looking for the insect's serpentine tunnels. Hundreds of purple traps were installed along roadsides to capture EAB adults. On Connecticut State Forests, the strategy

is to lower the percentage of white ash in our woodlands. This will reduce the amount of feeding material for EAB and slow its population buildup. In Naugatuck State Forest, at the epicenter of the initial EAB infestation, over 200 ash trees were recently sold to a logger before they died. By acting quickly, the Division of Forestry was able to salvage some economic value from the trees before they became worthless. When still alive, ash wood is valuable for lumber for many products, including baseball bats, furniture, and flooring.

Quarantines are in effect on moving all hardwood firewood, ash lumber and logs, and other ash wood products within Connecticut and out-of-state. Because the EAB situation is so dynamic, the CAES website (www.ct.gov/caes) is the best place to go to find the most recent information about quarantines. The purpose of the quarantines is not to eliminate EAB but to slow the spread to allow landowners and communities to plan for the impact and buy time to allow biological controls to take effect.

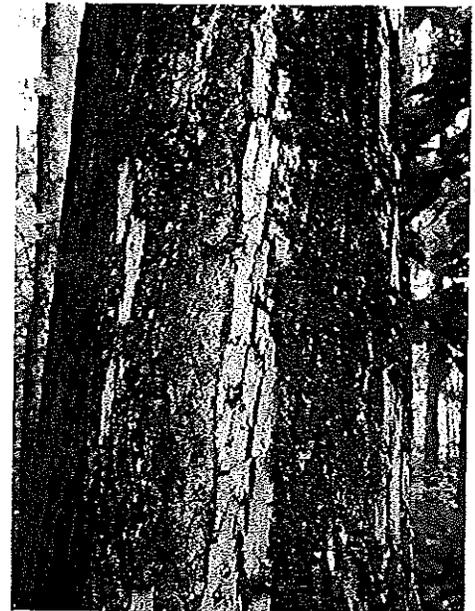
CAES is using state-of-the-art techniques by releasing two kinds of non-stinging wasps that kill EAB by parasitizing larvae or eggs. They are specific to EAB and control the population in their native China. The wasps were released under strict protocols set up by USDA/APHIS. Their effectiveness is being evaluated by CAES's Dr. Claire Rutledge.

What You Can Do

Don't Move Firewood! EAB was able to hopscotch around the country not by flying (it can only fly one mile a year), but by hitchhiking, primarily in firewood that people bring to vacation cabins and campgrounds. If you buy firewood, know where it came from. Everyone in Connecticut who transports firewood (not just commercial dealers) must have a document indicating where it originated and its destination. Certificates of transport and other information about firewood regulations can be downloaded from www.ct.gov/deep/forestry.

If you own woodlands and are unsure of how EAB could affect you, contact a DEEP Service Forester at 860-424-3630. You also can contact a private Connecticut Certified Forester (a list of Certified Foresters is at www.ct.gov/deep/forestry).

Those with ash trees in their yards can



G. MILNE, DEEP FORESTRY (2)



(Top) Woodpeckers have stripped the outer bark of this ash tree (called blonding), revealing D-shaped exit holes created by an adult emerald ash borer when it exited the tree to feed on leaves. (Bottom) A closer look at a D-shaped exit hole.

call a Connecticut Licensed Arborist for advice. The Connecticut Tree Protective Association maintains a list of its members who are licensed arborists (www.ctpa.org). There are insecticides that can protect ash trees from EAB. But, trees with more than 50% canopy dieback are unlikely to recover, even if treated.

Municipalities with questions about ash trees along roadsides and in public spaces can call DEEP's Urban Forestry Program (860-424-3178). EAB is the most devastating threat to our forests since Dutch elm disease and chestnut blight, and it will spread quickly. More information can be found at www.emeraldashborerinfo.org; www.ct.gov/deep/forestry; and www.ct.gov/caes.

From the Woods to the Web: Hunters Providing Valuable Data

Written by Andy LaBonte, DEEP Wildlife Division

State wildlife agencies are responsible for monitoring population trends, estimating annual harvests, and establishing hunting regulations for game species. Harvest data are used to model population dynamics and for evaluating the need for changes in bag limits or regulations. Wildlife managers use numerous methods to obtain data, such as mandatory in-person check stations, mail questionnaires, surveys, mail-in harvest cards, toll-free telephone services, and online reporting.

Since the passage of Connecticut's Deer Management Act in 1975, biological data had been collected by Wildlife Division staff at select check stations throughout the state. To be most efficient with data collection, biological data were typically collected during the shotgun/rifle season. The data included sex, age, dressed body weight, number of antler points, and antler beam diameters of yearling bucks. Although the information was helpful in assessing the health of Connecticut's deer population in the past, other more cost-effective means of data collection now exist with advancement of the internet.

With the replacement of physical check stations with online and telephone reporting in 2013, the Wildlife Division has been relying on hunters to provide the critical information. When hunters harvest a deer, they are required to report that harvest through the DEEP's online or telephone reporting system. This requirement enables wildlife managers to collect much of the same information that was collected at check stations, along with other various types of information that were not previously collected. Additionally, information is now collected for the entire hunting season and not just during a peak days.

The biggest change from this new procedure is that the data collection process has moved from the managers' hands to the hands of the hunters, making it imperative that hunters report their harvest and also provide accurate information. Hunters should take pride in the fact that they are playing a key role in the success of deer management in our state.

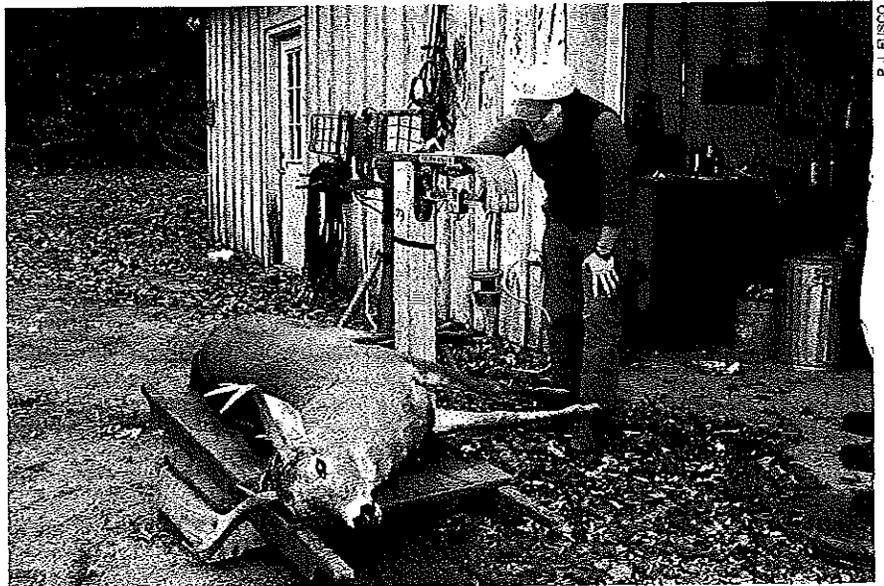
The Wildlife Division recently conducted a survey of all state and provincial deer biologists to assess 1) changes in how harvest data have been collected over time; 2) regional differences in the



Hunters should take pride in the fact that they are playing a key role in the success of deer management in the state. Successful hunters are able to report their harvest on-line from a cell phone while they are still in the woods. It doesn't get more convenient than that.

type of data collected and methods used to collect data; 3) use and value of hunter-provided data; and 4) types of methods used to develop population estimates. We also are in the process of conducting a survey of Connecticut hunters to assess hunter opinions about deer harvest

reporting, hunter harvest data collection, and satisfaction with deer management in Connecticut. The surveys will help with any necessary changes to future harvest reporting systems in Connecticut and across the country. Survey results will be detailed in a future issue of the magazine.



P. J. FUSCO

Hunters used to be required to bring their deer to check stations where Wildlife Division staff would collect biological data, such as sex, age, dressed body weight, number of antler points, and antler beam diameters of yearling bucks.

Conservation Calendar

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 Millford St. (Route 69) in Burlington.

Jan. 17.....**The Bobcat: CT's Secretive Wild Cat**, starting at 1:30 PM. Wildlife Division Natural Resource Educator Laura Rogers-Castro will provide an introduction to the bobcat, Connecticut's only wild cat. This PowerPoint presentation will include information on the natural history of bobcats, including diet, breeding habits, and habitat requirements. Participants also will learn how to identify bobcat tracks. This program is suitable for ages 10 and older.

Hunting Season Dates

- Sept. 15-Dec. 31 Deer and turkey bowhunting season on private land and state land bowhunting only areas
Dec. 10-23 Muzzleloader Deer Hunting Season on state land
Dec. 10-31 Muzzleloader Deer Hunting Season on private land
Dec. 24-31 Second portion of the turkey bowhunting season on state land
Jan. 26-Feb. 14 Special late Canada goose hunting season in the south zone only (the portion east of the Quinnipiac River)

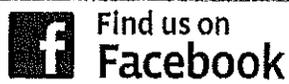
Consult the 2014 Connecticut Hunting & Trapping Guide and the 2014-2015 Migratory Bird Hunting Guide for specific season dates and details. Printed guides can be found at DEEP facilities, town halls, bait and tackle shops, and outdoor equipment stores. Guides also are available on the DEEP website (www.ct.gov/deep/hunting). Go to www.ct.gov/deep/sportsmenlicensing to purchase Connecticut hunting, trapping, and fishing licenses, as well as required deer, turkey, and migratory bird permits and stamps. The system accepts payment by VISA or MasterCard.

Special Note: Hunting and fishing license fees, as well as fees for various stamps, tags, and permits, have been reduced by 50% for 16 and 17-year olds. Check the DEEP website or the 2015 Connecticut Hunting & Trapping Guide and 2015 Connecticut Anglers Guide for specific details.

Shepaug Bald Eagle Observation Area to Open December 20, 2014

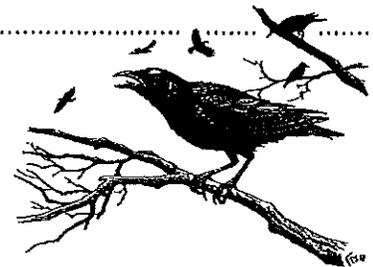
The Shepaug Bald Eagle Observation Area, in Southbury, opens for its 30th season beginning on December 20, 2014, running through Wednesday, March 4, 2015. The area is open for observations on Wednesdays, Saturdays, and Sundays between 9:00 AM and 1:00 PM. Although admission is free-of-charge, advance reservations are required and will be taken beginning on Tuesday, December 9, 2014. To make reservations for individuals, families, and groups, call toll-free at 800-368-8954 between 9:00 AM and 3:00 PM on Tuesdays through Fridays.

The Shepaug Bald Eagle Observation Area is one of the top eagle viewing locations in New England. It is a popular spot for eagles in winter when turbulence below the dam keeps the water from freezing, and the fish below the dam provide a ready food source. Specialists will be on-site with high-powered spotting scopes to help visitors see the eagles in action and to answer questions. Visitors are encouraged to dress warmly because the observation area is unheated, and to bring binoculars, if possible, given the limited number of on-site scopes. The Shepaug Eagle Observation Area is run by FirstLight Power Resources, a GDF SUEZ Energy North America company, which owns and operates several hydroelectric facilities along the Housatonic River.



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Northeast Utilities System

December 09, 2014

Inland Wetlands Agency
4 South Eagleville Road
Storrs 06268-

Dear Sirs:

This is to inform you of the scheduled maintenance activities by the Connecticut Light and Power Company (CL&P) on selected electric rights-of-way in your town in 2015.

At this time, we are scheduled to perform routine vegetation management in accordance with the enclosed specifications for rights-of-way vegetation control on the lines located on the enclosed maps.

The proposed maintenance will involve the selective treatment or removal of targeted vegetation species, primarily tall growing tree species as well as selected shrub and state listed invasive plant species. Our primary control method will include the use of federal and state approved herbicides to be applied in a foliar manner to the targeted vegetation during the growing season (June through October, 2015). In addition to chemical means, some locations will require selective cutting with or without the application of an approved herbicide to the cut stump to prevent resprouting of capable species (all hardwood trees and shrub species).

In addition to the foliar treatments in the summer, we are also planning on preparatory cutting (selective cutting) of tall trees and access roads beginning in January of this year. The pre-cutting of these lines will take place during the next four months and may resume after the foliar treatment period ends in October.

In wetlands locations, we have received the approval of the Connecticut Department of Energy and Environmental Protection (DEEP) to apply herbicides that are approved for use in wetland areas by the state DEEP and the U.S. Environmental Protection Agency (EPA). Applications of herbicides are only allowed to areas where there is no standing water. In the event the location contains standing water during the proposed application period, the spraying will be postponed.

At this time, we are schedule to perform routine vegetation management in accordance with the enclosed specifications for rights-of-way vegetation control on the lines located on the enclosed maps.

This letter serves as our notice of the proposed maintenance and I ask that if you have any questions on the proposed work or enclosed specifications that you contact me directly at (860) 665-3187.

MWC/aj
Enclosures

Sincerely,

Matthew W. Colebrook
Transmission Arborist
Connecticut Light & Power Company

