

**AGENDA**  
**Regular Meeting**  
Mansfield Conservation Commission  
Wednesday, June 17, 2015  
Audrey P. Beck Building  
Conference Room B  
7:30 p.m.

**1. Call to Order**

**2. Roll Call**

**3. Opportunity for Public Comment**

**4. Minutes**

- May 20 2015 Regular Meeting

**5. New Business**

a. IWA Referrals:

- W1550 – W. St. Martin, 601 Storrs Road-Pond Clean Out
- W1551 – M. McDonald, 93 Candide Lane-Above Ground Pool
- W1552 – L. and L. Wasiele, 357 Gurleyville Road-Addition

b. PZC Referrals:

- PZC #1335- Willard J. Stearns & Sons, Inc., Browns Road and Coventry Road

c. Recreational Trails Program Grant 2015-Bicentennial Pond Universal Access Trail

d. Review and Discussion of "Continuing Business" Item List

e. Other

**6. Continuing Business**

- Review of Monitoring Procedures for Town-Owned Easements
- Mansfield Tomorrow | Our Plan ▶ Our Future
- UConn's Master Planning Effort
- Town of Coventry/ Mansfield Control of Fanwort in Eagleville Lake
- Swan Lake Discharge Mirror Lake Dredging and other UConn Drainage Issues
- UConn Agronomy Farm Irrigation Project
- Eagleville Brook Impervious Surface TMDL Project
- UConn Mass Accumulation Area
- Ponde Place Student Housing Project
- CL&P "Interstate Reliability Project"
- Protecting Dark Skies in the Last Green Valley
- Water Issues
- Other

**7. Communications**

• Minutes

- Open Space: 5/19/15
- PZC: 6/1/15
- IWA: 6/1/15

- 6/2/15 Permit from DEEP Re: CT Water Company Public Water System to UConn and Mansfield
- Article Re: Southern Bog Lemming
- 6/8/15 Letter from Jennifer Kaufman to Jason Coite, Re: Storrs Center Phase 3

- 5/20/15 Letter from CT DPH to UConn re: Fenton Well D CT Wildlife March/April 2015
- CACIWC: The Habitat Spring 2015
- 6/5/15 Letter from CAA Re: Windham Airport

**8. Other**

**9. Future Agendas**

**10. Adjournment**

Town of Mansfield  
**CONSERVATION COMMISSION**  
Meeting of 20 May 2015  
Conference B, Audrey P. Beck Building  
**(draft) MINUTES**

*Members present:* Aline Booth (Alt.), Neil Facchinetti, Quentin Kessel, Scott Lehmann, Grant Meitzler, John Silander, Michael Soares. *Members absent:* Joan Buck (Alt.), Robert Dahn. *Others present:* Jennifer Kaufman (Wetlands Agent); Chris & Lindsey Niarhakos, Edward Pelletier (Datum Engineering), Gerald Hardisty (Ces Engineering); Mary & Ross Harper, Matt Willis, Esq., Donald Aubrey (Towne Engineering).

**1.** The meeting was **called to order** at 7:30p by Chair Quentin Kessel. Alternate Booth was designated a voting member for this meeting.

**2. Public comment.** All of the public comment period was devoted to wetlands application W1548 (Niarhakos, 101 East Rd). This application, a modification of W1545, concerns a proposed 3-lot subdivision of a 14.6 acre parcel of land on East Rd: the existing house at 101 East Rd would be on Lot 1, while new homes could be built on Lots 2 and 3 downhill from it along the road. The parcel, formerly owned by Frank Trainor, was acquired from his estate by Chris and Lindsey Niarhakos. Lot 3 abuts property owned by Mary and Ross Harper.

Ed Pelletier of Datum Engineering displayed a large map of (& site plan for) the parcel and reviewed the application. A large wetland straddles the boundary between Lots 2 and 3, extending to the rear boundary of the parcel and beyond. No activity is proposed in wetlands, but nearly all development would be within the 150 ft regulated area. A conservation easement would cover 24% of the parcel: a strip about 150 ft deep along the rear boundary of the parcel, plus smaller 50 ft deep strips along the road. The major changes from W1545 are: (1) House sites on Lots 2 and 3 are closer to East Rd; (2) Lot 3's septic system is located closer to the house to minimize potential impact on the Harpers' well and property; (3) Runoff from impervious surfaces on Lots 2 and 3 would be directed away via shallow swales to shallow 30 x 80 ft depressions toward the rear of these lots for ground-water recharge.

Matt Willis, attorney for the Harpers, explained that their property has been damaged by surface water runoff in the past and that they fear development of Lots 2 and 3 will make things worse. Consequent to logging on the parcel 15 years ago, their driveway washed out three times. They have had to move their septic system and to deal with water in the basement.

Don Aubrey (former Mansfield Town Engineer, now of Towne Engineering), who has been retained by the Harpers, displayed a map of the parcel showing surface water flows and a chart with water-table data. He noted that the parcel has a history of water problems, recalling that the Town put in drains on East Rd after Trainor complained to him about runoff from UConn cornfields uphill. Mr. Aubrey reported that groundwater in standpipes on the parcel was within 5-8 inches of the surface for long periods of time this spring, raising doubts that septic systems on Lots 2 and 3 would function properly during similar periods of high groundwater. Failure of Lot 3's septic system would threaten the Harpers' well. He also doubted that the proposed swales and detention basins would do much good, noting that a swale along the top boundary of the parcel (probably constructed by Trainor to divert runoff from UConn land) had been overtopped by heavy rain. Collecting water in Lot 3's detention basin could even make matters worse, as it lies directly upslope from the Harpers' house. Even if the swales and basins are not overtopped by storm-water, we don't know where runoff that seeps from them into the ground will go and where it might emerge.

Silander asked if Lot 3's basin could be moved farther back beyond the Harpers' house.

Pelletier replied that that could be done.

Pelletier and Gerald Hardisty emphasized that the proposed swales and detention basins are designed to mitigate the impact of developing Lots 2 and 3 (by capturing and retaining runoff from impervious surfaces), not to rectify pre-existing water problems on the Harpers' property. Aubrey's position is that the hydrology of the parcel is not well enough understood to be reasonably sure that this development would in fact be neutral and not exacerbate these problems for the Harpers.

The discussion ended at 8:30p and the assembled members of the public left the meeting.

3. The draft **minutes** of the 15 April meeting were approved as written.

4. **IWA referrals.** {Lehmann visited these sites on the 5/13/15 IWA Field Trip. His report is attached}

a. **W1548 (Niarhakos, 101 East Rd).** See item 2. above for description and discussion, much of which is not clearly related to impact on wetlands. Lehmann remarked that seeing skunk cabbages growing on Lot 2 outside the delineated wetland didn't increase his confidence in the accuracy of wetlands mapping on this parcel. After some discussion, the Commission unanimously agreed (**motion:** Lehmann, Silander) to comment as follows:

The Commission is uneasy about the potential wetlands impact of the proposed development. Nearly all of the proposed work on Lots 2 and 3, including engineered septic systems and swales to divert surface water to settling basins, is within the regulated area. Moreover, development of Lot 3 may worsen surface and groundwater problems for abutters Mary & Ross Harper. Don Aubrey of Towne Engineering, whose experience with the parcel dates from his tenure as Mansfield's Town Engineer, has described the hydrology of the area as unusual and not amenable to standard modeling. Wetland plants (observed on the IWA Field Trip) growing outside the mapped wetland testify to inaccurate mapping or unusual hydrology. The length of the watershed yields significant surface and ground water flows, especially after heavy rain, that are a challenge to the Harpers' septic system, basement and yard. The Commission is concerned that the swale and recharge areas proposed for Lots 2 and 3 may concentrate such flows, to the further detriment of the Harpers' property.

b. **W1549 (Jensen Mobile Home Park, Rte. 44).** The applicants tidied up a portion of their property by pushing an estimated 9 yards of earth, stones, stumps, broken pavement, and trash off the edge of a terrace into a wetland. Pursuant to a complaint from a neighbor, Kaufman investigated. At her request, stumps and trash were removed and the applicants have requested a wetlands permit for remediation. They propose seed the slope of fill (about 6 ft high by 100 ft long) with grass covered with straw. There was general agreement that this would not suffice to prevent further damage to the wetland: the slope is steep, shaded, unconsolidated, and vulnerable to erosion. Lehmann asked whether the applicants would be fined for filling a wetland without a permit, but was told that the Town has no ordinance authorizing such fines. After some discussion, the Commission unanimously agreed (**motion:** Soares, Silander) to comment that:

The applicant's unauthorized movement of earth and stones into the wetland has significantly impacted it, and the remediation proposed is not adequate to prevent further damage from erosion. The applicant should consult a professional landscaper about how to stabilize the slope and submit a proposal for doing so, perhaps with shade-tolerant shrubs and netting, that will work. A Jersey barrier or berm should be placed on top to protect the wetland from similar assaults in the future. Finally, the Commission is troubled that the Town apparently

lacks an ordinance authorizing fines to deter violations of wetlands regulations. Had the applicant applied for a permit to dump 9 yards of fill into the wetland, stabilizing it afterward, the permit would (we trust) have been denied. Yet in asking only that the applicant stabilize the slope after the deed is done, the Town is in effect granting such a permit. This is bizarre, and unfair to those who play by the rules.

**5. UConn Agronomy Farm.** Rep. Greg Haddad has sent Facchinetti the final report on monitoring ground- and well-water in the Storrs Heights area for pesticides used in turf management research at the Agronomy Farm. The report indicates that none of the pesticides disclosed by UConn had been found in wells monitored. Haddad's accompanying e-mail {attached} was cautiously hopeful that the legislature would act to require that integrated pest management be used to the greatest possible extent on state lands.

**6. Plan of Conservation and Development.** Kessel reported that Town Planner Linda Painter has endorsed nearly all of the Commission's comments the draft PoCD.

**7. Adjourned** at 9:30p. Next meeting: 7:30p, Wednesday, 17 June 2015.

Scott Lehmann, Secretary, 21 May 2015.

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#### **Attachment 1: IWA Field Trip, 13 May 2015**

**W1549** (Jensen Mobile Home Park, Rte 44). A pile of earth and rocks on a terrace above a wetland was leveled by bulldozing the material over the edge of the terrace into the wetland.

Unconsolidated fill now sits at its angle of repose, sloping about 6 ft (vertically) down to the wetland. It's hard to say how much fill was shoved over the edge; one of Jensen's people estimated it to be 7 or 8 yards. There is now a silt fence in the wetland around the sloping material, installed after the deed was done. Wetland plants are visible between the fence and the sloped fill (others are doubtless now buried under the fill). I don't know what W1549 proposes. Jensen's certainly couldn't have gotten approval for dumping fill into the wetland in the first place.

**W1548** (Niarhakos, 101 East Rd). This is a revised application for a 3-lot subdivision of property on East Rd formerly owned by Frank Trainor. Here is what the Commission said about the initial application (W1545) from the 17 Dec 14 minutes:

"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 Harper property is downhill on East Rd, adjacent to Lot 3.

The revised application W1548 goes some way toward addressing concerns 1) & 2). It moves house sites on Lots 2 and 3 slightly closer to the road, places the reserve leaching field on Lot 3 between the house and the leaching field, and proposes to direct some surface runoff on Lots 2

and 3 via shallow swales into ponds toward the rear of the lots.

On the field trip, we walked in to see the location of the proposed ponds on Lots 2 and 3. There's been no rain to speak of this spring, and we did not encounter any areas with standing water. I did notice wetlands plants outside the marked wetlands boundary at the site of the proposed pond on Lot 2, so I suspect that a more detailed mapping of soils would alter the delineation of wetlands.

Scott Lehmann, 14 May 2015

**Attachment 2:** Haddad e-mail of 19 May 2015

Neil,

Here is the final report on the testing that occurred as a result of the legislation. As was previously reported, no pesticides were detected.

You might also report that several bills that would regulate pesticide use on state property are currently being considered by the legislature. Sen. Kennedy has taken the lead in negotiating with Sen. Chapin, the Ranking Member on the committee and is fighting to pass the strongest bill possible. It looks like that will mandate that integrated pest management be used to the greatest extent possible on state land. Some versions of the bill that I have seen would have exempted the research farm. I have vigorously and successfully argued against the exemption. I'm monitoring the bills carefully to ensure that the exemption doesn't make its way into any bill. UConn hasn't opposed me on this and were actually helpful in working with Sen. Chapin who wanted the exemption in the legislation.

Thanks,

Gregory Haddad  
State Representative



# Department of Planning and Development

**Date:** May 28, 2015  
**To:** Mansfield Inland Wetlands Agency  
**From:** Jennifer Kaufman, Inland Wetlands Agent  
**Subject:** Receipt of New Application for Wetlands License  
601 Storrs Road (IWA File #W1550)  
William St. Martin  
Description of work: dredging an existing pond

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## Project Description

The applicant proposes to dredge an existing 4000 square foot pond and remove approximately 580 cubic yards of material. The excavated material will be stockpiled and distributed on site. The property is located within the Schoolhouse Brook Watershed and is within an area indicated on the CT DEEP Natural Diversity Database Map. Because the proposed activity is in the wetland, the applicant has been directed to send a copy of the application to the CT DEEP for review.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply Watershed.

## Application Fees and Notifications

- The applicant has paid the required application fee
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.
- Natural Diversity Database has been checked and state and/or federal listed species or significant natural communities may be located on the property.

## Receipt Motion

\_\_\_\_\_ MOVES, \_\_\_\_\_ seconds to receive the application submitted by William St. Martin (IWA File #W1550) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for dredging an existing pond on property located at 601 Storrs Road



## Department of Planning and Development

as shown on a map dated 5/24/2015 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

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 # WI 550  
W \_\_\_\_\_  
Fee Paid 185.00  
Official Date of Receipt 5-26-15

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 William St. Martin

Mailing Address 601 Storrs Rd

Mansfield CT Zip 06250

Phone 860 634-3521 Email stmartnbill55@gmail.com

**Title and Brief Description of Project**

Existing Road Clean out

Location of Project 601 Storrs Rd Mansfield CT

Intended Start Date mid August 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) \_\_\_\_\_

**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) Clear out an existing 4000 sq ft Pond with excavator

B) Stockpile Material from Pond with excavator

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) 4000 sq ft

b) ~~4000~~ 3000 SF of Stock Pile Area

3) Describe the type of materials you are using for the project: SAND, Stone, Silt fence, Hay bales

- a) include **type** of material used as fill or to be excavated Pond Material, Sand
- b) include **volume** of material to be filled or excavated 580 Cyd of Pond Material excavated

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).

use of Silt fence

**Part D - Site Description**

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

Hilly

**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.

\_\_\_\_\_  
There is none  
\_\_\_\_\_  
\_\_\_\_\_

**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 5/24/2015
- 3) Zone Classification RAR-90
- 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 <http://www.mainstreetmaps.com/CT/Mansfield/>

**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.

William A. Titman  
Signature

5-26-15  
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.

William A. Titman  
Signature

5-26-15  
Date

**EROSION CONTROL NOTES**  
**GENERAL REQUIREMENTS FOR EROSION CONTROL:**

1. EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.

2. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT SOIL EROSION AND TO CONTROL THE RATE OF EROSION.

3. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT THE EROSION OF SOIL FROM THE CONSTRUCTION SITE.

4. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT THE EROSION OF SOIL FROM THE CONSTRUCTION SITE.

5. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT THE EROSION OF SOIL FROM THE CONSTRUCTION SITE.

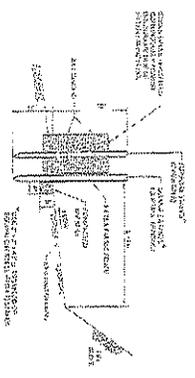
6. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT THE EROSION OF SOIL FROM THE CONSTRUCTION SITE.

7. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT THE EROSION OF SOIL FROM THE CONSTRUCTION SITE.

8. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT THE EROSION OF SOIL FROM THE CONSTRUCTION SITE.

9. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT THE EROSION OF SOIL FROM THE CONSTRUCTION SITE.

10. EROSION CONTROL MEASURES SHALL BE DESIGNED TO PREVENT THE EROSION OF SOIL FROM THE CONSTRUCTION SITE.

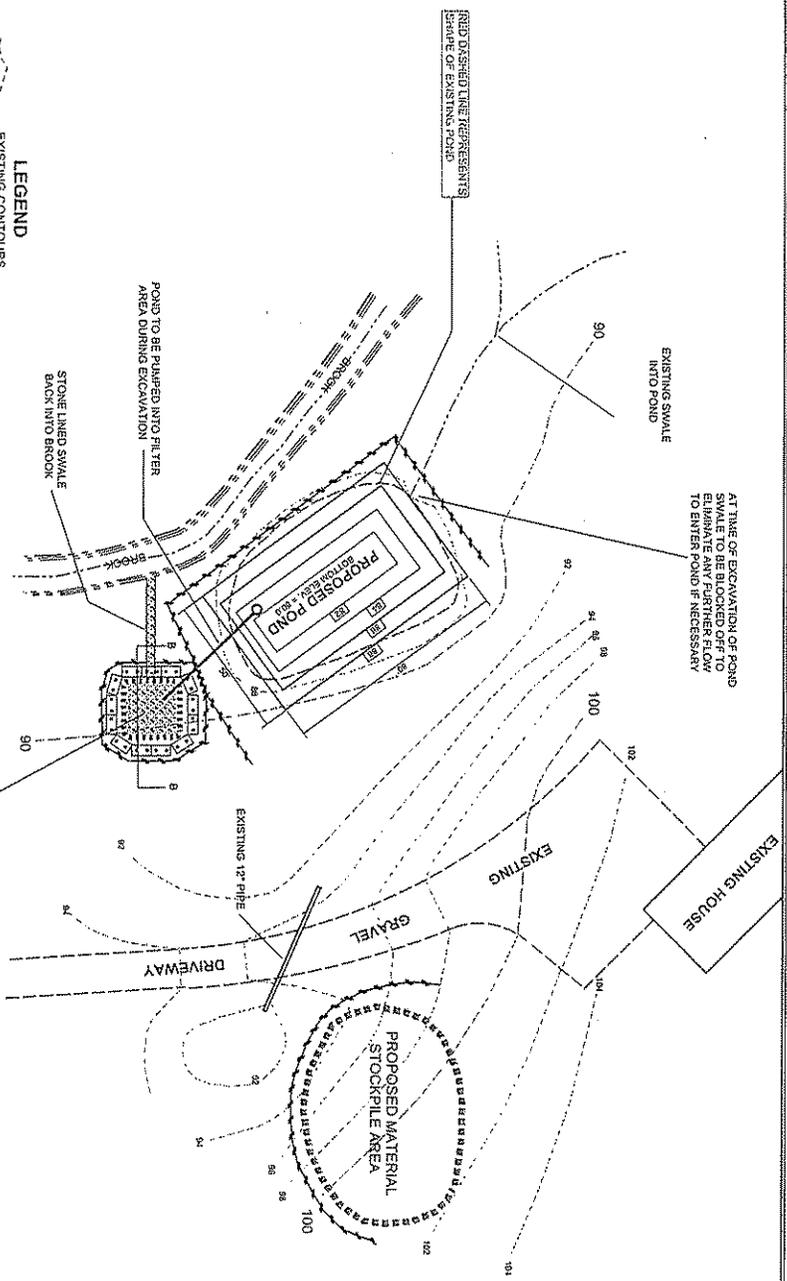
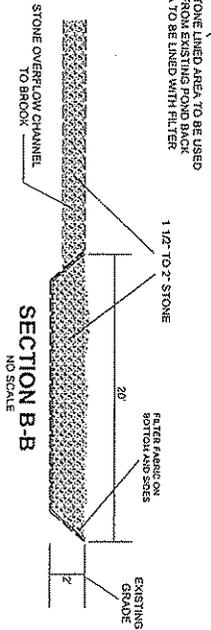
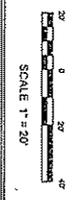


- LEGEND**
- EXISTING CONTOURS
  - - - PROPOSED CONTOURS
  - ==== SILTFENCE BARRIER
  - ===== BROOK
  - HAYBALES
  - STOCKPILE AREA



**PROPOSED POND IMPROVEMENTS**

PLAN PREPARED FOR  
**WILLIAM & JOY ST. MARTIN**  
 601 STORRS ROAD - MANSFIELD, CONNECTICUT



DATE - MAY 24, 2015

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# Department of Planning and Development

**Date:** May 28, 2015  
**To:** Mansfield Inland Wetlands Agency  
**From:** Jennifer Kaufman, Inland Wetlands Agent  
**Subject:** Receipt of New Application for Wetlands License  
93 Candide Lane (IWA File #1551)  
Mark McDonald  
Description of work: Installation of above-ground pool

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## Project Description

The applicant proposes to install a 25-foot above-ground pool approximately 36 feet from the edge of wetlands. The west side of the property will be graded using approximately 30 cubic yards of fill.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply Watershed.

## Application Fees and Notifications

- The applicant has paid the required application fee
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.

## Receipt Motion

\_\_\_\_\_ MOVES, \_\_\_\_\_ seconds to receive the application submitted by Mark McDonald (IWA File #1551) under the Wetlands and Watercourses Regulations of the Town of Mansfield for Installation of above-ground pool on property located at 93 Candide Lane as shown on a map dated 5/14/2015 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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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 # W1551  
W \_\_\_\_\_  
Fee Paid 9185  
Official Date of Receipt 5-27-15

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 MARK McDONALD

Mailing Address 93 CANDIDE LANE

STORRS Zip 06268

Phone 860 614 6119 Email MARK.MCDONALD

**Title and Brief Description of Project**

ADDING AN ABOVE-GROUND POOL (25' DIAMETER)

TO PROPERTY

Location of Project 93 CANDIDE LANE, BY BACK DECK

Intended Start Date JUNE 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 Mark date 5/26/2015

Applicant's interest in the land: (if other than owner) \_\_\_\_\_

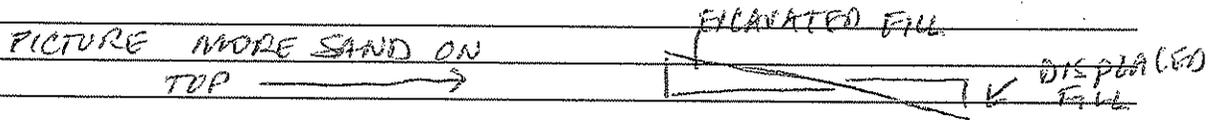
**Part C - Project Description (attach extra pages, if necessary)**

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

I WILL BE LEVELING A PAD FOR A 2.5' ABOVE GROUND POOL. ON THE WEST SIDE OF THE POOL, I WILL BE DIGGING APPROXIMATELY 18", MOVING THE FILL TO THE EAST EDGE OF THE PAD. I WILL BE ADDING CLEAN FILL TO BRING THE ENTIRE AREA LEVEL IN THE FORM OF SAND. I APPROXIMATE LESS THAN 30 CUBIC YARDS TO COMPLETE THIS. THIS IS A ROUGH ILLUSTRATION OF THE SIDE VIEW:



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

MY LAND IS ADJACENT TO THE WATERCOURSE. THE POOL AREA IS APPROXIMATELY 450 SQ FEET. THERE WILL BE NO DISTURBANCE TO THE WATERCOURSE.

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

SAND

- a) include **type** of material used as fill or to be excavated SAND
- b) include **volume** of material to be filled or excavated LESS THAN 30 CU YARDS

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).

I PLAN ON BUILDING A RETAINING WALL AND EVENTUALLY DECKING AROUND THE WEST/NORTH SIDES OF THE POOL.

**Part D - Site Description**

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

HILLY. LOTS OF ROCKS.

HOPEFULLY, NOT SHELF. WELL DRAINED

**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.

THERE WILL BE MINIMAL IMPACT

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**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 5/14/2015 ?

3) Zone Classification WETLANDS

4) Is your property in a flood zone?  Yes  No  Don't Know DON'T BELIEVE IT IS...

**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 <http://www.mainstreetmaps.com/CT/Mansfield/>

**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

5/26/2015  
\_\_\_\_\_  
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

inspected 12/5/75

MARK MEDBAND  
93 CANDIDE LANE  
STARS CT 02160

BBD 614-6119

5-27-15  
REVISED

STAKE

CASE

1250 gal tank

POW

NEW

Lot 26

PLANNING

STARS CT

DRIVE WAY

well

CANDIDE LANE

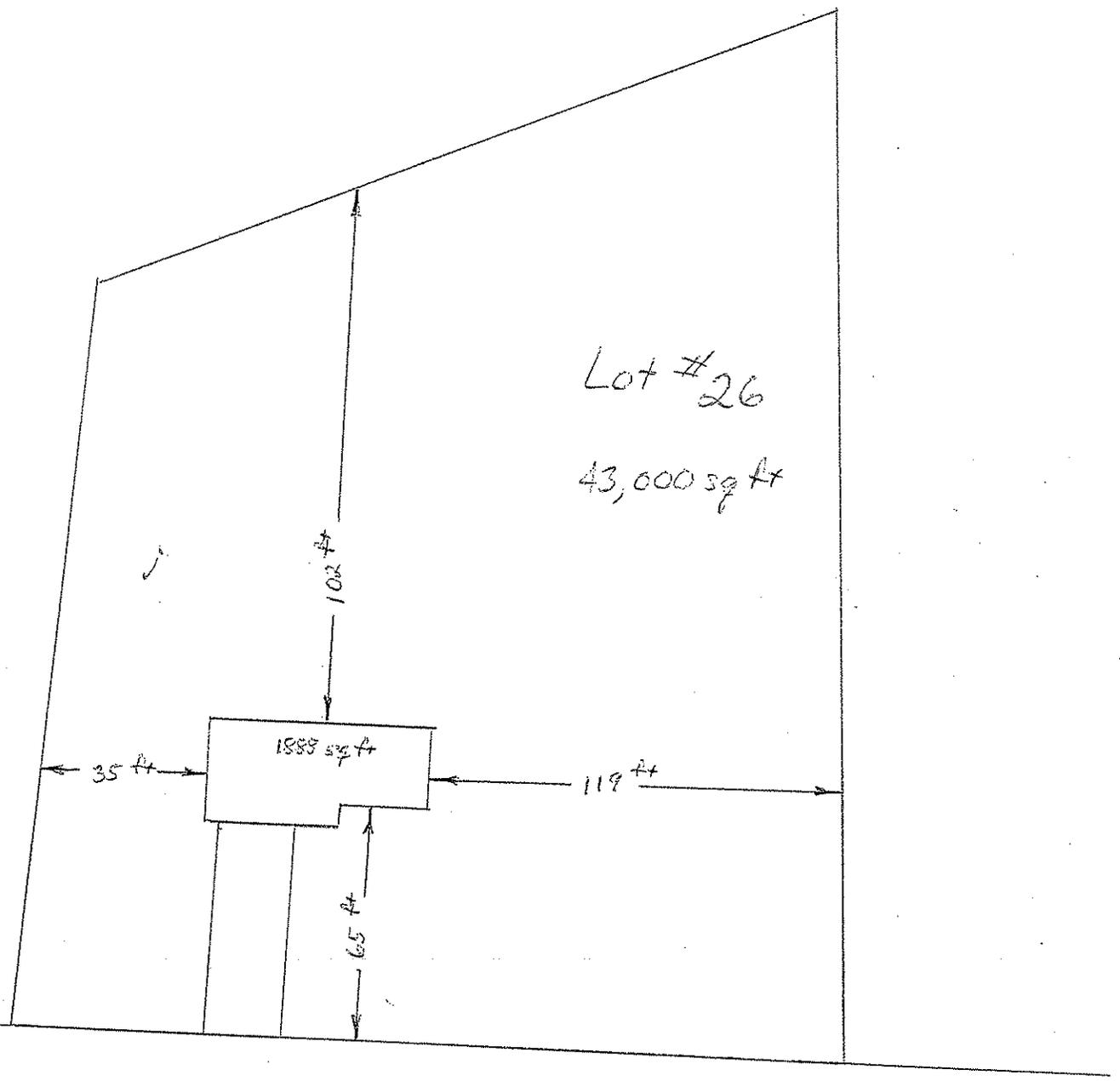
inspected 10/27/88  
per plans

NORTH

Brown Rd

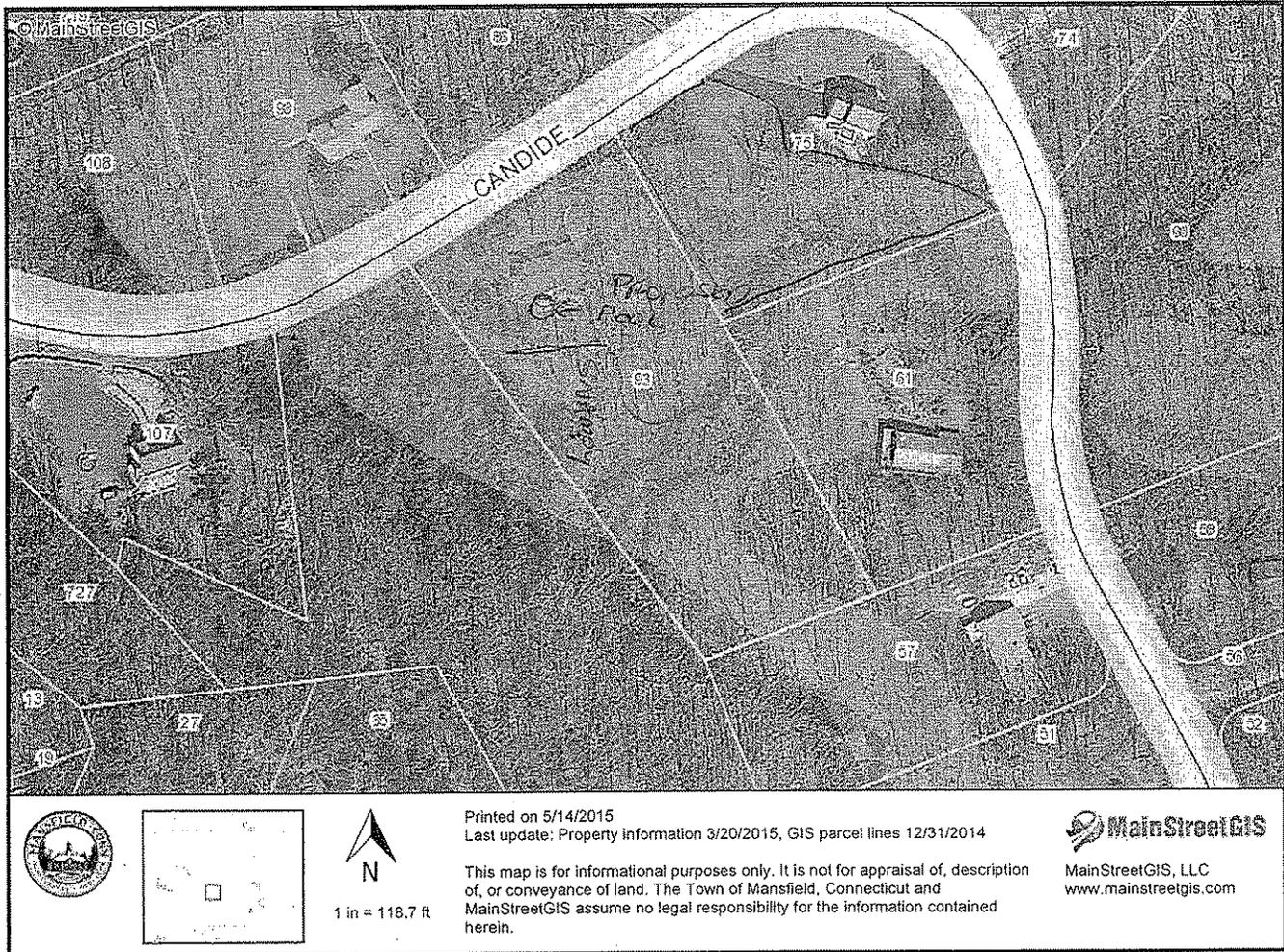
B + B

Home Builders  
Inc.



Lot #26  
43,000 sq ft

Candide Lane



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# Department of Planning and Development

**Date:** May 28, 2015  
**To:** Mansfield Inland Wetlands Agency  
**From:** Jennifer Kaufman, Inland Wetlands Agent  
**Subject:** Receipt of New Application for Wetlands License  
357 Gurleyville Road (IWA File #W1552)  
Larry and Laurie Wasiele  
Description of work: one-bedroom addition

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## Project Description

The applicants propose to add a one bedroom addition on a 19 foot and seven inch by 20 foot foundation approximately 50 feet from the edge of wetlands. Approximately 147 cubic yards of material will be excavated and removed from the site.

- The project includes work in wetlands.
- The project includes work in the 150 foot upland review area.
- The project is located in a Public Water Supply Watershed.

## Application Fees and Notifications

- The applicant has paid the required application fee
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.

## Receipt Motion

\_\_\_\_\_ MOVES, \_\_\_\_\_ seconds to receive the application submitted by Larry and Laurie Wasiele (IWA File #W1552) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for a one-bedroom addition on property located at 357 Gurleyville Road as shown on a map dated 5/28/2015 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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**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

Add a 19'7" x 20' Foundation for a one story bedroom.

Excavated material will be removed and not stored on property. (Approx 147 Cu.yrds)

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

Nothing in the watercourse

400 Sq. Ft. Bedroom 60' from center of intermittent brook

3) Describe the type of materials you are using for the project: concrete foundation wood construction

a) include **type** of material used as fill or to be excavated gravel fill

b) include **volume** of material to be filled or excavated 147 cu yds taken away

back fill with gravel

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).

Silt fence

**Part D - Site Description**

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

Slight hill

**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.

*There is no practical alternative*

**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 Too High up hill*

**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 <http://www.mainstreetmaps.com/CT/Mansfield/>

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**Part J - Other Impacts To Adjoining Towns, if applicable**

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- 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.)

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**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.

*James E. Davie*  
Signature

*May 2015*  
(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.

*James E. Davie*  
Signature

*May 2015*  
Date

GURLEYVILLE ROAD

115'

EXISTING

NEW

WASIELE

WASIELE

FEATHER

5'2"

16'2"

3'5"

6'6"

19'7"

1'09"

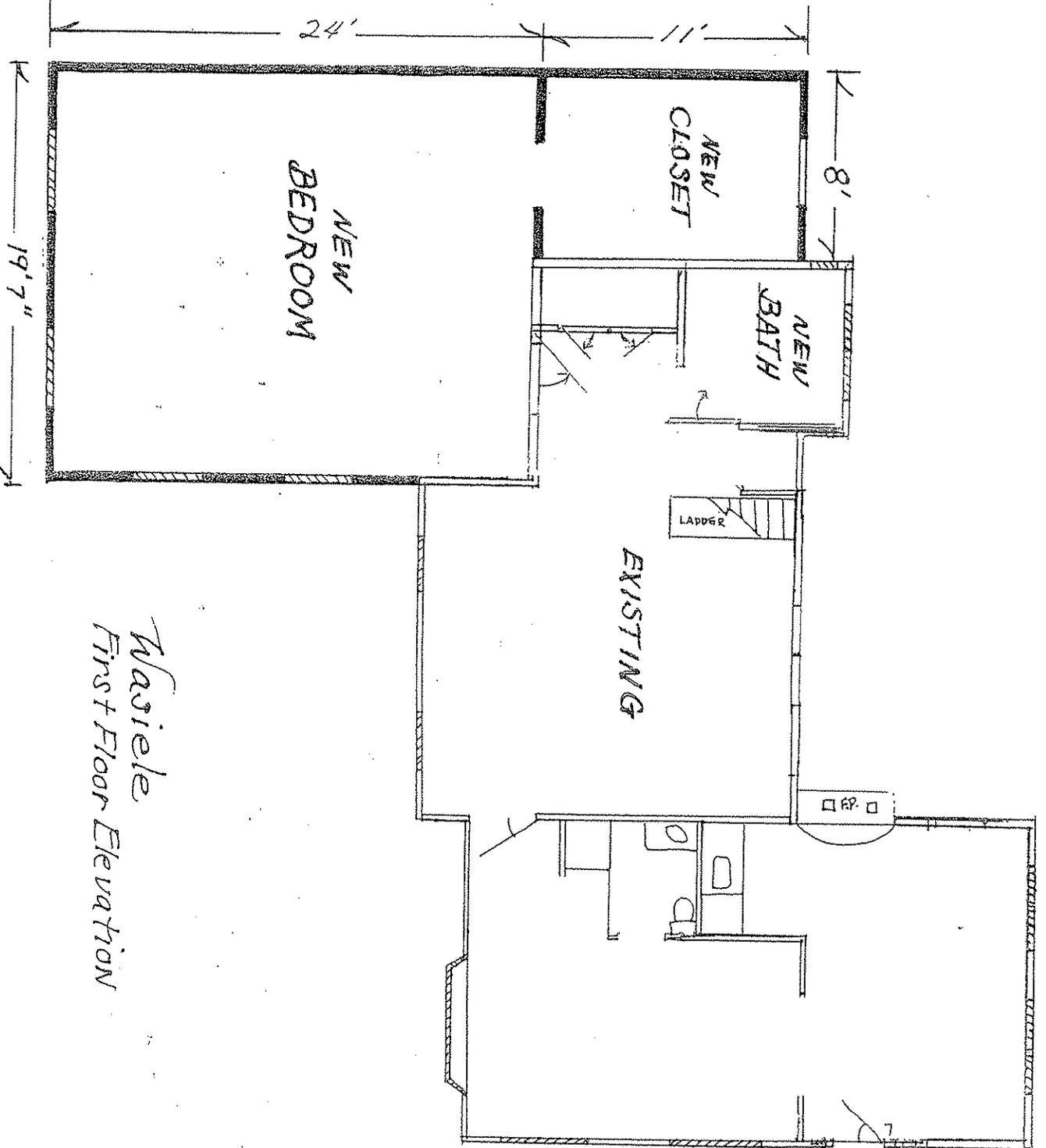
INTERMITTENT STREAM

255'

245'

SHEP

90'



*Masiele  
First Floor Elevation*



STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
DISTRICT II  
171 Salem Turnpike  
Norwich, Connecticut 06360  
Phone: (860) 823-3114



May 13, 2015

Mr. Michael J. Joyce, P.E.  
Milone & MacBroom, Inc.  
99 Realty Drive  
Cheshire, CT 06410

Dear Mr. Joyce:

Subject: UCONN Sewer Line Replacement  
Storrs Road (Route 195)  
In the Town of Mansfield

We have reviewed your plans for the above-noted subject entitled, "Sewer Line Replacement – Storrs Road – Mansfield, Connecticut" dated March 27, 2015, and have the following comments:

1. Due to a concern of icing conditions, the 6" PVC underdrain for the proposed retaining wall (number 1) will not be allowed to discharge directly on Storrs Road as shown. Please revise.
2. All signal equipment, signage, and pavement markings damaged as a result of the proposed work must be replaced as soon as possible at the conclusion of work within the right of way.
3. Revise plans to show limits of pavement restoration according to current ConnDOT standards. Excavations into a lane will require restoration from the curb to the center line of the roadway or the closest pavement seam. Excavations crossing the center line will require curb to curb restoration.

Please submit two sets of plans, 40 scale or larger, reflecting the above-noted comments. As regulated by Connecticut General Statute 13b-17, no work is to commence within the State right of way prior to the issuance of a D.O.T. Encroachment Permit. If you have any questions in regard to this matter, please contact Mr. Carlos Wimberly at (860) 823-3114.

Sincerely,

Andrew S. Morrill  
Special Services Section Manager  
Bureau of Highway Operations

cc: Mansfield Planning and Zoning ✓

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**TOWN OF MANSFIELD  
DEPARTMENT OF PLANNING AND DEVELOPMENT**

---

LINDA M. PAINTER, AICP, DIRECTOR

**Memo to:** Planning and Zoning Commission  
Conservation Commission  
Open Space Preservation Committee  
Agriculture Committee  
Francis Raiola, Fire Marshal  
Derek Dilaj, Assistant Town Engineer  
Geoffrey Havens, Eastern Highlands Health District

**From:** Linda M. Painter, AICP, Director of Planning and Development

**Date:** **June 10, 2015**

**Subject:** Willard J. Stearns & Sons Subdivision  
Subdivision Design Process Submission  
PZC File #1335

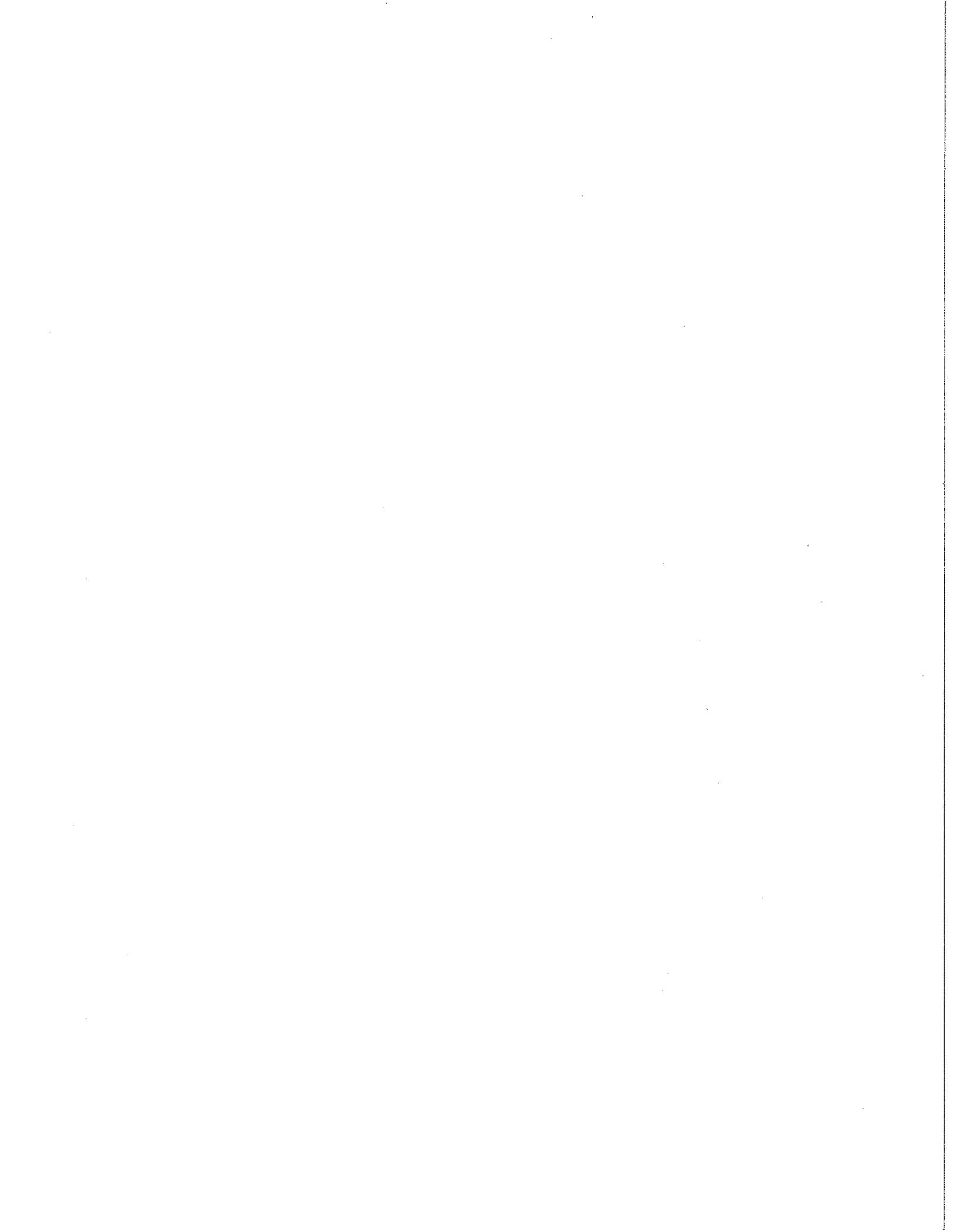
In March 2011, the PZC adopted a new design process that is mandatory for proposed subdivisions that include 4 or more lots or a street. In accordance with the requirements of Section 5.2 of the Subdivision Regulations, I have received a yield plan and conceptual layout plan for a proposed subdivision at the corner of Browns Road and Coventry Road from Gardner & Peterson Associates, LLC.

Pursuant to Section 5.2.a.2, these plans are to be reviewed by town staff and referred to the Conservation Commission and Open Space Preservation Committee for review and comment. Due to the location of the property, the proposed subdivision is also being referred to the Agriculture Committee. The PZC is required to be notified in writing and provided with an opportunity to review and comment.

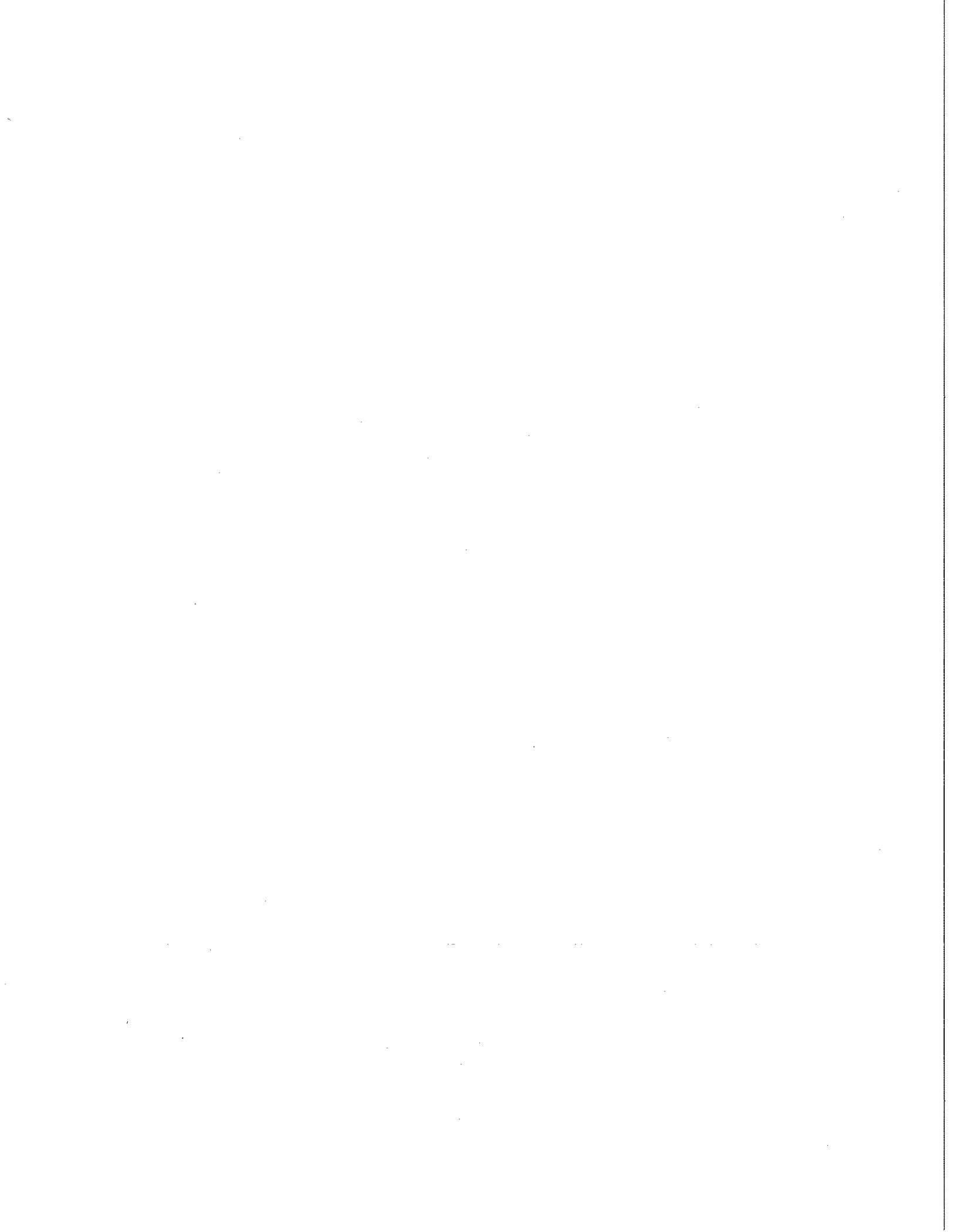
To meet the 45-day deadline for providing comments to the applicant, the following schedule has been identified:

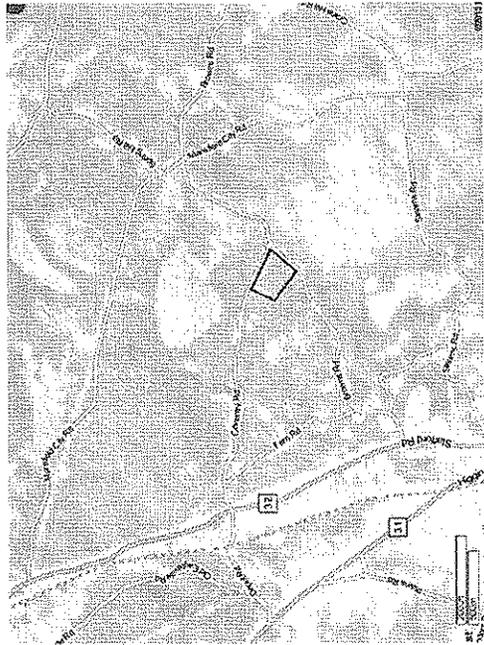
- PZC/IWA Field Trip: July 15, 2015
- PZC Discussion: July 20, 2015
- Comments issued to applicant: July 21, 2015

Please provide any comments on the proposed subdivision layout by July 15, 2015 so that I can include them in the packet for PZC review.

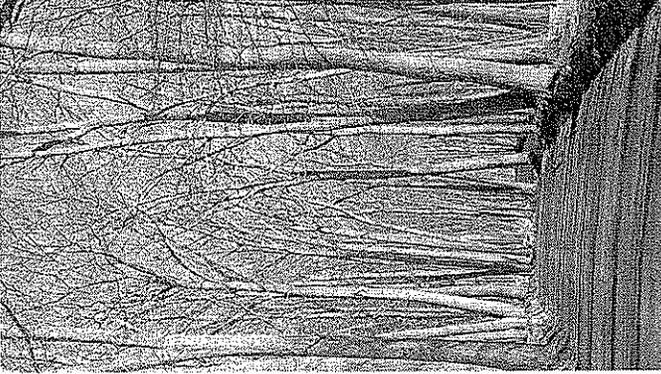








SITE LOCATION



## SITE ANALYSIS NEIGHBORHOOD INFLUENCES

For Willard J. Stearns & Sons, Inc.  
Coventry & Brown Roads  
Mansfield, CT

John Alexopoulos, RLA, ASLA  
March 23, 2015

March 30, 2015

Off-Site and Neighborhood Influences Analysis:  
Proposed Residential Subdivision, Coventry Road and Browns Road  
John Alexopoulos, Landscape Architect, CT Lic. # 510

Property of Willard J. Stearns and Sons, Inc., Mansfield, CT

Located the property on aerial photography as the month of December, 2014 through March of this year.

The property is located on Coventry Road and Browns Road. This 36.9 acre parcel 1938 within the Mansfield Rural Agricultural Zoning Ordinance. The surrounding area is mostly open fields with some residential lots. The existing Browns Road is a single lane road with a gravel shoulder. The proposed subdivision is located on the eastern side of Coventry Road, the east of several large family home lots are found on the north boundary (Chatham Drive) and three residences are found on the western side, Browns Road. The residence closest to the intersection of Coventry and Browns Roads is part of this proposed development. The other two residences are operated by a neighbor of this property.

About half of the eastern portion of the property was likely plowed in the past due for the wetland. The 1931 photograph shows the eastern portion of the property as open wetland. There is no evidence of old foundations or any other remains suggesting previous structures. The property is bounded by existing Browns Road to the west, Chatham Drive to the north, and Browns Road to the south. The site is shown as a large open area. Existing some open ground associated with the houses along Browns Road, this is especially the only open on the property. Most all of the remainder of the property including the wetland is wooded and recently logged and consists of a mix of second-growth forest. There is a small pond within the wetland closest to Coventry Road.

Coventry Road is classified as a local street while Browns Road is classified as a collector street. Coventry Road is improved for the eastern of the property. Coventry Road contains Browns Road. Browns Road is a gravel road with a gravel shoulder. Browns Road is located about 1.6 miles from the intersection of Browns Road and Browns Road. Browns Road is located about 1.6 miles from this property via Mansfield City Road and Spring Hill Road and Union School is about the same distance via Browns Road and Browns Road.

Significant Assets:

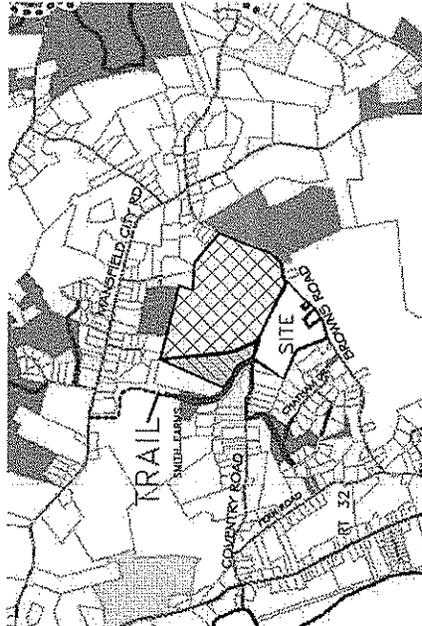
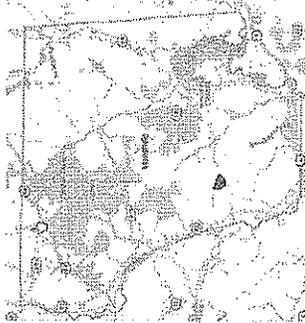
The site has several significant features:  
Wetland habitat that extends through the site from north to south  
Outside of the wetland soils and a small area of open field, about 75 per cent of the site is wooded with a small area including the open field is listed as forested land.

Fully exempt for nearly all of the site  
Rock outcroppings adjacent Browns Road  
Rock outcrop adjacent existing field and associated with larger oak trees  
Large trees along Coventry Road and on the western boundary.

Setback boundary of Coventry Road, a narrow road  
Notable views of the agricultural fields, some Browns Road and of Chatham Hill-  
Sight lines between small "woodlot" next to Browns Road and from the field  
Some fields are wooded, though not extensive within the property and mostly  
Open Space and potential farmland opposite Coventry Road and extending the  
length of this property.

Constraints:  
Wetland extending across the site from north to south and wetland adjacent Coventry  
Road. Access to a portion of property on the west side would be wetland crossing.  
Slopes with  
Off-Drop 15 or more per cent on the site along Browns Road  
Sight line clearance along Coventry Road due to existing large trees and due to  
alignments along Browns Road.  
Small areas of rock outcroppings adjacent Browns Road

SITE LOCATION



OFF SITE LAND USES

-  OPEN SPACE
-  FARMLAND PROTECTION
-  TRAIL

Considerations:

Limit the number of entrances into property from both Coventry Road or Browns Road because of driveway entrances have possible restricted sight lines on Coventry Road because of existing trees.

Limit the area for access from Browns Road due to slight line restrictions regarding possible driveway entrances. The existing barrier into the field appears to be a possible driveway entrance.

The trees will along Coventry Road. Where trees are required, they will remain in place and be maintained as near as possible to their original location.

Use the same number of entrances as shown on the plan or as indicated on the plan. Wetland protection through conservation easement or dedicated open space.

100% Site Considerations:  
The property is bounded by existing wetlands on three sides. Chatham Drive residence has about east properties on the western boundary, a stack home is immediately adjacent on the west boundary, and Browns Road and the three residences. This project is adjacent to Browns Road in several locations between and adjacent to Browns Road. Drive are close to this road so much of the western border is near and forested property.

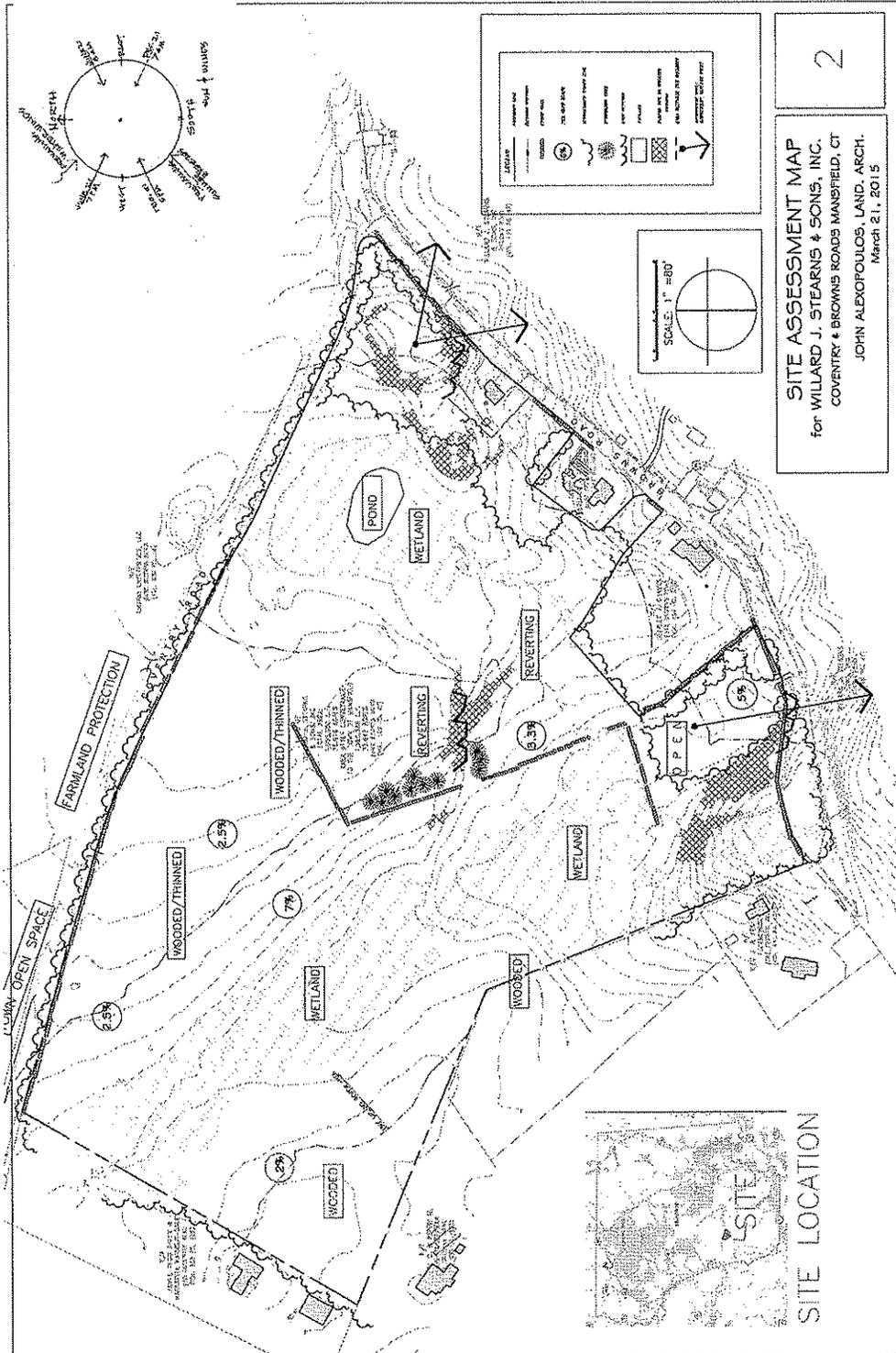
Across Browns Road is the extensive agricultural property, mostly hay fields, sweeping up to the height of level approaching Browns Road.

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Across Browns Road is the extensive agricultural property, mostly hay fields, sweeping up to the height of level approaching Browns Road.

The property is bounded by existing wetlands on three sides. Chatham Drive residence has about east properties on the western boundary, a stack home is immediately adjacent on the west boundary, and Browns Road and the three residences. This project is adjacent to Browns Road in several locations between and adjacent to Browns Road. Drive are close to this road so much of the western border is near and forested property.

**SITE AREA MAP**  
for WILLARD J. STEARNS & SONS, INC.  
COVENTRY & BROWNS ROADS MANSFIELD, CT  
JOHN ALEXOPOULOS, LAND ARCH.  
March 21, 2015



**March 20, 2015**

**Off-Site and Neighborhood Influences Analysis:**

**Proposed Residential Subdivision, Coventry Road and Browns Road**

John Alexopoulos, Landscape Architect CT Lic. # 550

**Property of Willard J. Stearns and Sons, Inc., Mansfield, CT**

I visited the property on several occasions in the months of December 2014 through March of this year.

The property is located on Coventry Road and Browns Road. The 36.9 acre parcel falls within the RAR90 Rural Agricultural Residence 90 zoning district. The surrounding properties are single family developments except for the agricultural lands across Browns Road. A single family home property is found on the western boundary whose driveway connects to Coventry Road, the rear of several single family home lots are found on the south boundary (Chatham Drive) and three residences are found on the eastern side, Browns Road. The residence closest to the intersection of Coventry and Browns Roads is part of this proposed development. The other two residences are separated by a segment of this property.

About half of the eastern portion of the property was likely pasturage in the past save for the wetlands. The 1934 photograph shows this easternmost portion of the property as open pastureland. There is no evidence of old foundations or any other remnant suggesting habitation or structures supporting agriculture. Most all of this portion consists of woods and emerging vegetation. There is a hayfield accessed through a barway along Browns Road. This field is about an acre in size. Excepting some open ground associated with the houses along Browns Road, this is essentially the only open on the property. Most all of the remainder of the property including the wetlands is wooded and recently logged and consists of mostly deciduous second growth trees. There is a small pond within the wetland closest to Coventry Road.

Coventry Road is classified as a local street while Browns Road is classified a collector street. Coventry Road is unpaved for the extent of the property. Coventry Road connects Browns Road with Route 32 some distance away. Brown's Road ends to the south at Route 32 some distance from where Coventry Road joins route 32. Browns Road connects to Mansfield City Road less than a mile to the east. Mansfield Middle School is just about 1.6 miles away from this property via Mansfield City Road and Spring Hill Road and Vinton School is about the same distance via Browns Road and Route 32.

**Significant Assets:**

The site has several significant features:

Wetland habitat that extends through the site from north to south  
Outside of the wetland soils and a small area of stone/ledge, about 75 per cent of the site has buildable soils. A small area including the open hayfield is listed as farmland soil.

Fully canopied for nearly all of the site

Rock outcroppings adjacent Browns Road

Rock outcrop adjacent reverting field and associated with larger oak trees

Group of hemlocks adjacent wall and wetland

Large trees along Coventry Road and on the western boundary

Scenic character of Coventry Road, a canopy road

Notable views of the agricultural fields across Browns Road and of

Chestnut Hill-- though restricted to small "overlooks" next to Browns Road and from the hayfield.

Some rubbles of stone walls -- though not extensive within the property and mostly on property boundaries

Open Space and preserved farmland opposite Coventry Road and extending the length of this property

**Constraints:**

Wetland extending across the site from north to south and wetland adjacent Coventry Road. Access to a portion of property on the west side needs a wetland crossing.

Stony soils

Limited area of slopes 15 per cent or over -- on the rise close to Browns Road

Sight line distances along Coventry Road due to existing large trees and due to alignment along Browns Road

Small areas of rock outcroppings adjacent Browns Road

**Considerations:**

Limit the number of entrances into property from both Coventry Road or Browns Road.

Potential driveway entrances have possible restricted sight lines on Coventry Road because of existing trees.

Limited areas for access from Browns Road due to sight line restrictions regarding slope and alignment. The existing barway into the hayfield appears to be a possible driveway access.

Buildable soils in the western portion require wetland crossing.

The stone wall along Coventry Road. Where curb cuts are required, any wall section needing removal should be relocated as near to the curb cut as possible.

Use the group of hemlock trees in the design layout.

Wetland protection through conservation easement or dedicated open space.

**Site Access:**

Access is by Coventry and Browns Road with constraints as noted above. There are no streets adjacent the property.

**Topography:**

The property generally slopes from Coventry Road south to the large north to south wetland. This wetland flows mostly gently until approaching the Browns Road property line where it is at its steepest. Across this large wetland, the southernmost piece of the property slopes at about two per cent north into the wetland. At the highest point near the intersection of Coventry Road and Browns Road the elevation is about 530 feet while the lowest point on the property is in the southeast corner near Browns Road is about an elevation of 467 feet. The elevation difference is about 63 feet.

Most of the buildable portions of the site range from nearly level in the large area adjacent Coventry Road to about seven per cent near the larger wetland. Steeper slopes, some of which are fifteen per cent or greater are mainly associated with the area close to Browns Road.

**Vegetation:**

The 1934 aerial photograph of the property shows a portion of the site related to Browns Road that is primarily open land, likely pasture. A variety of tree and shrub species are found throughout the property and are second growth. The area between the large wetland and Coventry Road has been recently logged of mostly oak and the trees remaining are mostly oak mixed with some ash and hickory. There are scattered young pine in this area. There is a high understory on most of the property with very young saplings beneath. Trees in the logged area are mostly oak and generally don't exceed 8" to 10" diameter at breast height (dbh). Larger trees are found on the edges of the open field as well as behind the existing houses and along the outcrop near the rear of one of the Browns Road residences. The wetlands are wooded with typical undergrowth and somewhat larger trees. Most of the site has a limited shrub or small tree understory. Large trees remain along Coventry Road, with dbh exceeding well over 12" for the most part. There is one relatively large grouping of hemlocks associated with the wall in the center of the property. The areas that were pastured and closer to Browns Road are reverting to forest with both shrubs and trees present. Invasive species are mostly found in this area and near the existing houses along Browns Road. Invasive species are multiflora rose, autumn olive, barberry and bittersweet.

**Stone Walls:**

Stone walls are found along both roads and approximately in the middle of the property. All of these walls are rubbly. The wall along Coventry Road is nearly continuous until reaching the smaller wetland adjacent to the road. This wall has lost what would have been a top layer. There are old barway gaps here and there in these walls.

**Views:**Into site --

There are no extensive views or vistas of great or unusual significance from Coventry Road. Views into the site from Browns Road are restricted because of slope, existing houses and vegetation.

Within site --

Relatively limited except due to logging and the absence of understory vegetation, much of the front portion of the property from the large wetland to Coventry Road can be seen.

Off site --

There are no undesirable views off-site.

Significant potential views of the agricultural fields to the east and Chestnut Hill are possible but from limited vantage points near Browns Road and on the highest points of elevation of the property as well as from the hayfield.

**Existing Open Space:**

There is adjacent Town of Mansfield Open Space across Coventry Road to the north. There is a trail that ascends from Chatham II and Fern Road and reaches Coventry Road some distance from the property, proceeds along Coventry Road and turns left onto the Smith Farms driveway.

**Aquifer Recharge Area or Flood Hazard:**

The property does not lie within an aquifer recharge or flood hazard area.

**Soils:**

Indicated from the Tolland County Soil Survey as either Leicester-Ridgebury-Whitman wetland soils complex, Woodbridge moderately drained upland soils association and Hollis near Browns Road. All soils are stony. The Woodbridge soils are buildable soils and can be used as pasture. These soils drain very slowly in the spring and after heavy periods of summer rains. The area of the hayfield and about another acre or so above it are listed as farmland soils. The Hollis soils group is found adjacent Browns Road and behind the three residences where the rock outcroppings associated with the high points of the property are found. There are large boulders found throughout the property.

**Species endangered, threatened or of special concern:**

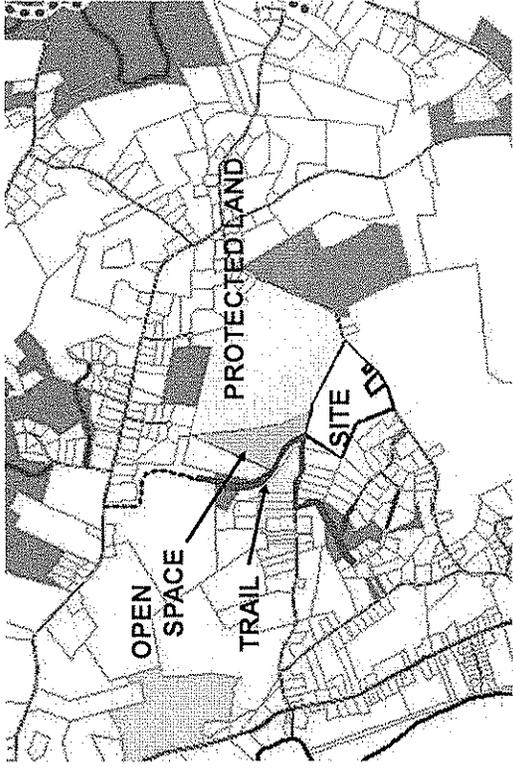
No species indicated within the property area or adjacent the property according to the State of Connecticut Natural History Database (DEEP Dec. 2014).

**Solar access:**

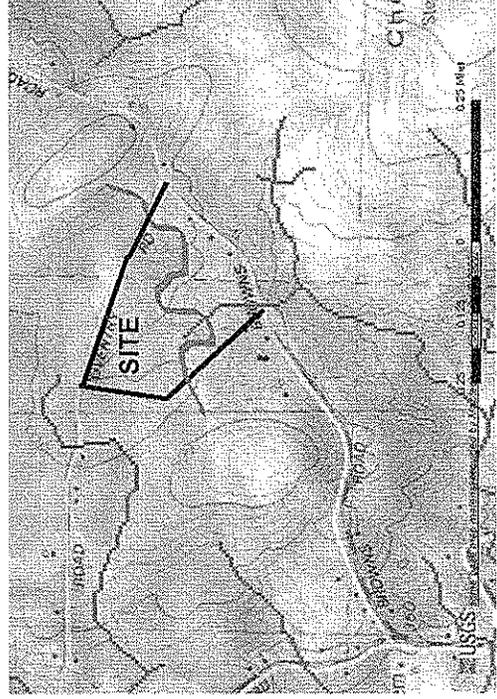
Residences can be oriented such that there is a maximum potential for solar gain and some attenuation of winter winds. There are no slopes on most of this property where orientation is dictated by slope aspect. It is possible that one or two house sites could be located adjacent Browns Road affording a southern aspect.

**Off-Site Considerations:**

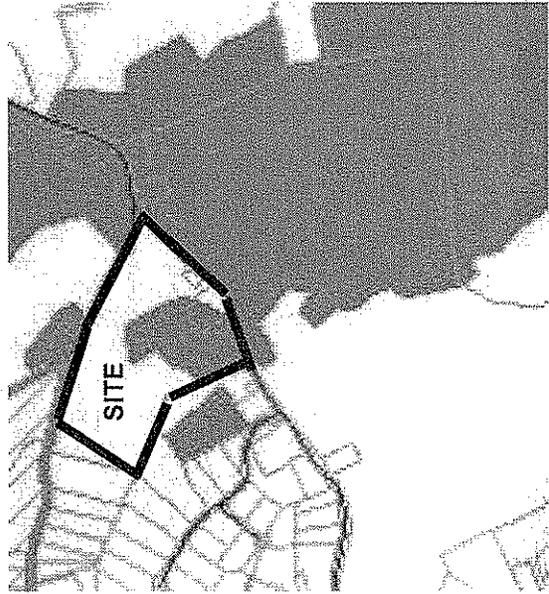
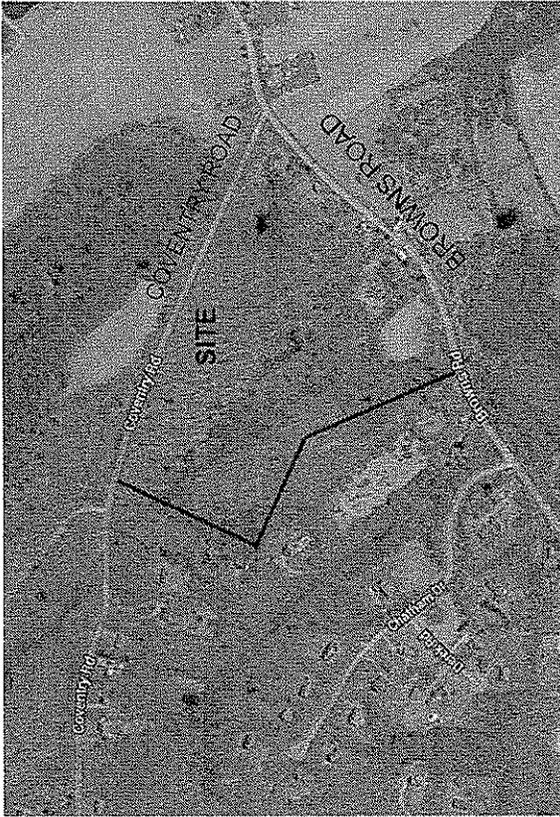
The property is bounded by existing residences on three sides. Chatham Drive residences have their rear properties on the southern boundary, a single home is immediately adjacent on the west boundary and along Browns Road are the three residences. This property connects to Browns Road in several locations between and aside these existing residences. Most houses on Chatham Drive are close to that road so much of the southern border is rear and forested property. Across Browns Road is the extensive agricultural property, mostly hay fields, sweeping up to the height of land approaching Stearns Road. Across Coventry Road is protected land, consisting of Mansfield Open Space and protected agricultural land. The Open Space is wooded and uses the Smith Farms driveway as the extension of the trail that comes from Chatham I and II. This trail enters Coventry road about a quarter mile from the Smith Farms driveway. The protected farmland is open pasturage.



EXISTING OPEN SPACE/ PROTECTED LANDS



1983 PASTUREWOODS EXTENT



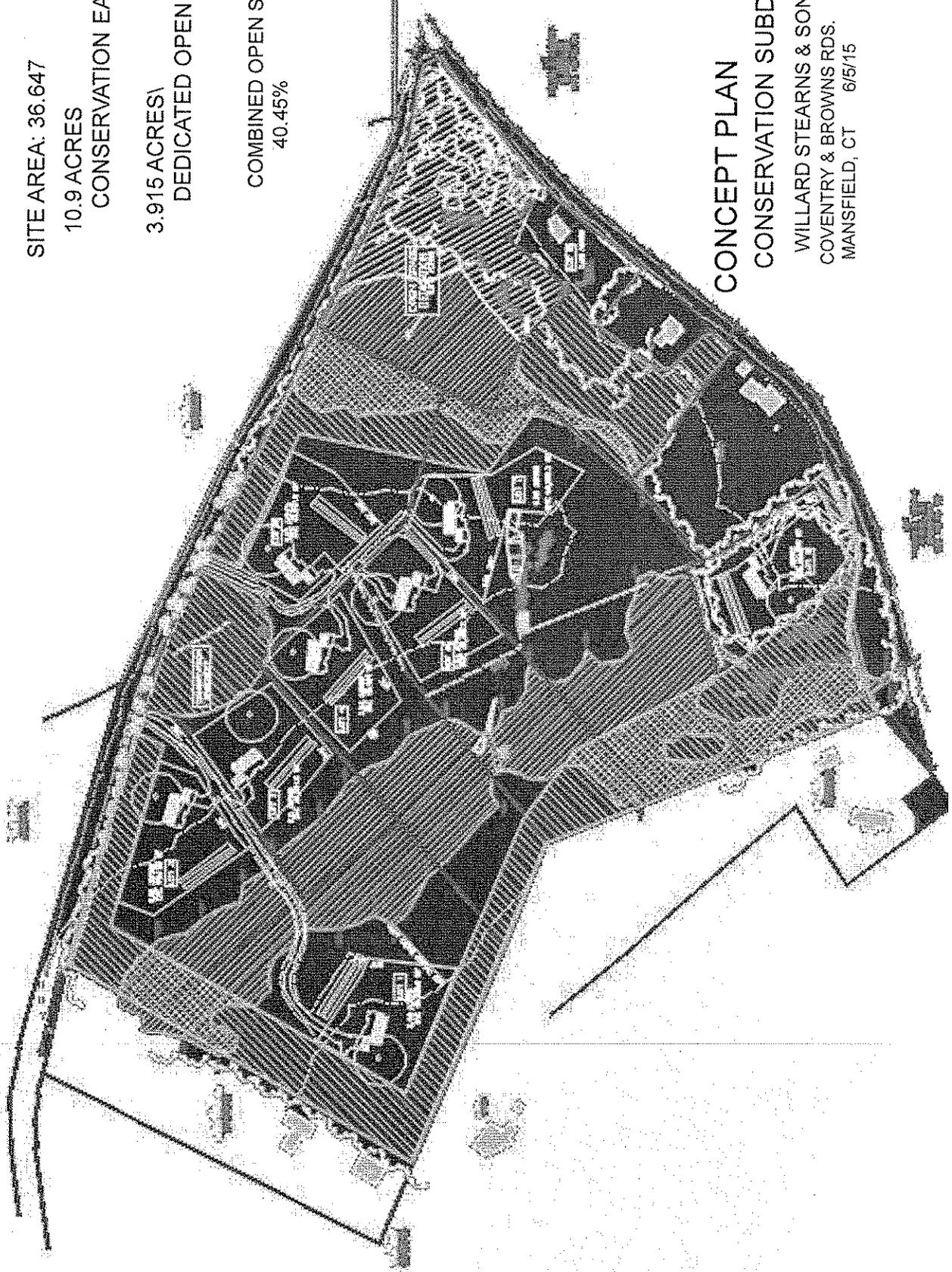
AGRICULTURAL LAND

SITE AREA: 36.647

10.9 ACRES  
CONSERVATION EASEMENT

3.915 ACRES  
DEDICATED OPEN SPACE

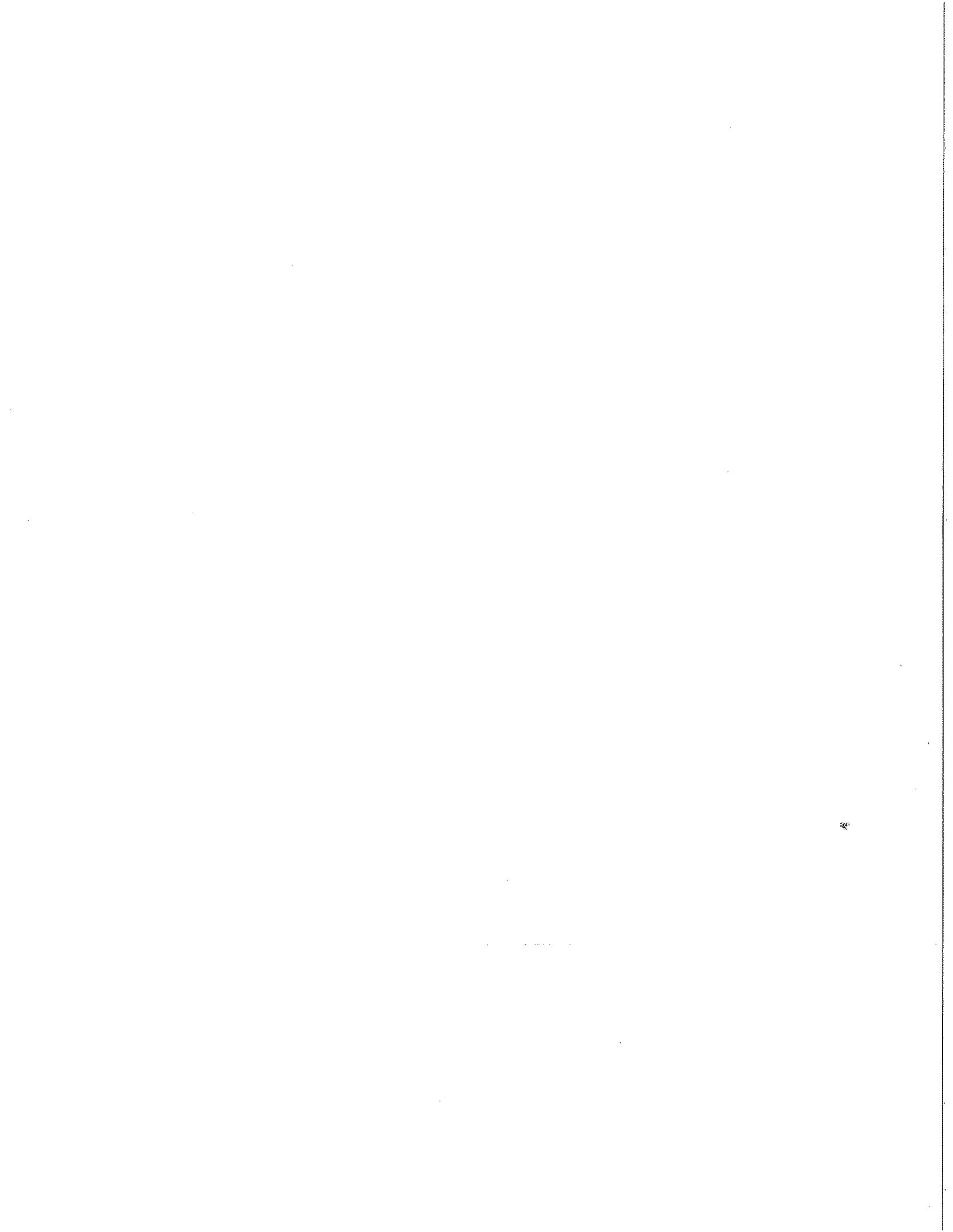
COMBINED OPEN SPACE  
40.45%



CONCEPT PLAN  
CONSERVATION SUBDIVISION

WILLARD STEARNS & SONS, INC.  
COVENTRY & BROWNS RDS.  
MANSFIELD, CT 6/5/15







**Town of Mansfield  
Agenda Item Summary**

**To:** Town Council  
**From:** Matt Hart, Town Manager  
**CC:** Maria Capriola, Assistant Town Manager; Linda Painter Director of Planning and Development; Curt Vincente, and Director of Parks and Recreation; Jennifer Kaufman, Natural Resources and Sustainability Coordinator  
**Date:** June 22, 2015  
**Re:** 2015 Recreational Trails Program Grant Universal Access Trail Bicentennial Pond (Re-Submittal)

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**Subject Matter/Background**

Bicentennial Pond Recreation Area, situated in Mansfield's 455-acre Schoolhouse Brook Park, is the site of numerous recreational and educational activities including:

- Swimming, hiking, mountain biking, picnicking and concerts
- Mansfield's municipal summer camp program (hosting approximately 750 children each summer)
- Outdoor classroom and physical activities for Mansfield Middle School (MMS), which is adjacent to the Bicentennial Pond Recreation Area
- Access to 8.54 miles of Town trails within in Schoolhouse Brook Park
- Access to the Nipmuck Trail, a state-designated greenway beginning in Mansfield and traveling north to the Nipmuck Forest in Union, CT on the Massachusetts border

Currently, there is a wheelchair accessible path to the beach and swimming area but no way for someone in a wheelchair to travel deeper into the park.

In 2011, the Town of Mansfield, in partnership with the Eastern Highland Health District and the Mansfield Middle School, received a grant to design improvements for wheelchair accessibility at the Schoolhouse Brook Park/ Bicentennial Pond Recreation Area. This past fall the Town, after going out to bid, contracted with the landscape architecture firm of Kent and Frost to design the trail and to develop construction specifications and a detailed cost estimate. As part of the design process, staff from the health district, middle school, parks and recreation, human services, and members of the Parks Advisory Committee walked the trail and reviewed the final design.

In 2013, the Town of Mansfield submitted a Recreational Trails Program Grant application for the construction of this trail. The project ranked highly but was not funded. For this reason, CT DEEP has recommended that the Town resubmit the application.

The proposed trail, which is designed to meet the accessibility codes outlined by the US National Parks Service, would be approximately 7/10 of a mile long. This trail would create a pond loop trail at Mansfield's most often used recreation area with connections to the existing 8.54 miles of park trails and the State's Blue Blazed Nipmuck Trail. The surface of the trail would consist of a compacted

layer of dense graded crushed stone, with additives to strengthen the surface. Several different trail options have been developed to meet the specific needs of the trail in different conditions (e.g. wet areas; protection of tree roots). The cost estimate also includes several new trail amenities including, interpretive signage, an outdoor ecology classroom area, two fishing platforms, a viewing area to showcase the dam and pond, and an area that better defines the trail entrance from the Middle School and the Bicentennial Pond parking lot. In addition, there would be a moderately sloped path leading from the pond to the playground. Detailed trail plans and cost estimate are attached.

The proposed wheelchair accessible trail is designed to afford access to natural areas around the pond that are currently inaccessible to those with limited mobility and in wheelchairs, improve access for MMS students for educational and physical education activities by creating outdoor classroom areas, and increase access to physical activity opportunities for the region.

### **Financial Impact**

In 2013, the total cost of the trail construction was \$289,643.43, (including a 20% contingency). After discussions with the Landscape Architect who completed the design and cost estimate in 2013, he recommends that the Town add 12% to the initial estimate, making the total cost with the 20% contingency \$324,400. Costs for project oversight, to be performed by staff, amount to \$10,000, bringing the total project cost to \$334,400. If received, the grant would fund \$267,520 or 80% of the total project. The Town would be responsible for \$66,800 or 20% of the project cost. Staff would plan to finance the Town's share from a combination of in-kind staff support, the Parks Improvement Fund and the Open Space Fund.

### **Recommendation**

If the Town Council supports the submittal of this grant application, the following resolution would be in order.

*Resolved, effective June 22, 2015, to submit an application in the amount of \$334,400, to be funded 80% by the State and 20% by the Town, to the Connecticut Department of Energy and Environmental Protection's Recreational Trails Program for the purpose of improving wheelchair accessibility, trail linkages, educational and physical activity opportunities at the Schoolhouse Brook Park/ Bicentennial Pond Recreation area.*

OPEN SPACE PRESERVATION COMMITTEE  
DRAFT Minutes of May 19, 2015 special meeting

Members present: Jim Morrow (chair), Quentin Kessel, Ken Feathers, Roberta Coughlin, Michael Soares, Vicky Wetherell, Jennifer Kaufman (staff).

Meeting was called to order at 7:35.

Vicky was appointed acting secretary.

Minutes of the April 14, 2015 special meeting was approved.

**Old Business**

*Mansfield Tomorrow POCD Review* The committee discussed comments submitted to the PZC recommending a Mixed Use designation for the Mansfield Apartments property and also comments concerning Scenic Road designations. The committee's comments about these items will be submitted to the Planning Department for the Public Hearing.

*Browns Road Coventry Road Subdivision* Jennifer updated the committee about the next step in the pre-application review process. A yield plan will be provided for review by staff and relevant committees.

*Outreach to Property Owners on the Nipmuck Trail* The committee reviewed a list of these owners, who will receive a joint letter about the trail from Ct. Forest and Parks Association, Joshua's Trust and the Town.

**Executive Session**

The committee voted to go into Executive Session at 8:25 and to come out of Executive Session at 8:40.

The meeting adjourned at 8:45.

PAGE  
BREAK

**DRAFT MINUTES**  
MANSFIELD PLANNING AND ZONING COMMISSION  
Regular Meeting  
Monday June 1, 2015  
Council Chamber, Audrey P. Beck Municipal Building

Members present: J. Goodwin, B. Chandy, G. Lewis, P. Plante, B. Pociask, K. Rawn, B. Ryan, V. Ward  
Members absent: R. Hall  
Alternates present: P. Aho, S. Westa  
Alternates absent: K. Holt  
Staff present: Linda Painter, Director of Planning and Development  
Jennifer Kaufman, Natural Resources and Sustainability Coordinator  
Curt Hirsch, Zoning Agent

Chairman Goodwin called the meeting to order at 7:17 p.m. and appointed alternate Aho to act.

**Approval of Minutes:**

May 18, 2015 Regular Meeting: Chandy MOVED, Rawn seconded, to approve the 5-18-15 meeting minutes as presented. MOTION PASSED. Chandy noted for the record that she listened to the recording. Plante and Pociask were disqualified.

**Zoning Agents Report:**

None

**Old Business:**

**a. Special Permit Application, Commercial Recreation Use with Restaurant, 95 Storrs Road; East Brook F LLC, East Brook T LLC, and East Brook W LLC; PZC File #432-6**

Goodwin disqualified herself and appointed Westa to act in her place.

Rawn MOVED, Chandy seconded, to approve with conditions the special permit application (File #432-6) of East Brook F LLC, East Brook T LLC and East Brook W LLC to allow conversion of retail space into a commercial recreation use and restaurant along with associated changes to building elevations and the adjacent parking/loading area on property owned by the applicants and located at 95 Storrs Road. This approval is based on the project as described in the application dated February 19, 2015, and as shown on an existing condition survey dated October 18, 2013 revised through May 2, 2015, plans dated February 16, 2015 revised through April 30, 2015 and as presented at a Public Hearing on May 4, 2015.

Through this approval, the Commission accepts the submission of the supplemental information provided through revised maps as noted above and a letter from John Everett, Project Architect dated April 30, 2015 and determines that no new hearing was warranted as the changes and corrections to the map were minor in nature and did not impact the overall site layout. Furthermore, the Commission determines that due to the limited area of work associated with the proposed change in use, the site plan information identified in the letter dated April 30, 2015 from John Everett, Project Architect, is not needed to determine consistency with the Zoning Regulations and the submission of that information is therefore waived in accordance with Article Five, Section B.4. The submission of a formal Erosion and Sedimentation Control Plan is also not required as the area of disturbance is less than the 1/2 acre threshold identified in Article VI, Section B.4.s.

This approval is granted because the application is considered to be in compliance with Article V, Section B and other provisions of the Mansfield Zoning Regulations, and is granted with the following conditions:

1. **Extent of Approval.** This approval is specifically limited to the above application and the applicant's submissions and the conditions cited in this motion. Unless modifications are specifically authorized, the proposed uses and site improvements shall be limited to those authorized by this approval. Furthermore, the approval of this special permit is not and shall not be construed to include approval, re-approval or acceptance of any site and building improvements shown on the existing conditions survey that were approved as part of the Michael's addition (PZC File #1307), which approval is currently on appeal. Any questions regarding authorized uses, required site improvements and conditions cited in this approval shall be reviewed with the Zoning Agent and Director of Planning and Development, and, as deemed necessary, the PZC.
2. **Permits.** No Zoning Permits shall be issued and no construction shall commence until the following conditions are met:
  - o All applicable state and federal permits have been obtained;
  - o Estimated wastewater calculations have been submitted to the Assistant Town Engineer; and
  - o A landscape plan for the Zen Garden has been approved by the Director of Planning and Development.
3. **Signs.** While depicted on the elevations, signs have not been approved as part of this Special Permit. Sign permits must be obtained; review for compliance with regulations will be completed at that time.
4. **Parking Study.** After the business has been operating for one year, the applicant shall complete a parking study to determine whether additional parking to support the use is required. If the Commission determines that additional parking is needed after review of the study, the applicant shall submit a plan for the construction of additional parking for approval by the Commission.
5. **Validity.** This permit shall not become valid until the applicant obtains the special permit form from the Planning Office and files it on the Land Records.

MOTION PASSED with all in favor except Goodwin who was disqualified.

Ward MOVED, Chandy seconded to add to the agenda under New Business, the appointment of a PZC member to the Sustainability Committee. MOTION to add to the agenda PASSED UNANIMOUSLY.

#### Public Hearings:

##### **Special Permit Application, Efficiency Unit, 5 Hillside Circle; Steven Sorrels, PZC File#1332**

Chairman Goodwin opened the Public Hearing at 7:25 p.m. Members present were Goodwin, Chandy, Lewis, Plante, Pociask, Rawn, Ryan, Ward and Alternates Aho and Westa. Aho was appointed to act. Painter read the legal notice as it appeared in The Chronicle on 5-19-15 and 5-27-15 and noted a 5/26/15 memo from Curt Hirsch, Zoning Agent; and a letter handed out this evening from John Manning of 7 Hillside Circle.

Applicant Steven Sorrels, 5 Hillside Circle, presented his application. He submitted the receipts of the neighborhood notification, but did not present a copy of his mailing.

John Manning, 7 Hillside Circle, read into the record his previously submitted letter, which was copied for members. He expressed concern about an efficiency unit for income purposes in a residential neighborhood.

Curt Hirsch, Zoning Agent, noted that income potential is listed in our regulations as an acceptable reason for creating an efficiency unit.

Chairman Goodwin noted no further comments or questions from the Commission or the Public. At 7:45 p.m. Plante MOVED, Pociask seconded, to continue the Public Hearing in order to receive a copy of the certified mailing sent to neighbors. MOTION PASSED UNANIMOUSLY.

#### **Continued Public Hearing:**

##### **Mansfield Tomorrow: Plan of Conservation and Development (December 2014 Public Hearing Draft)**

Chairman Goodwin opened the Continued Public Hearing at 7:46 p.m. Members present were Goodwin, Chandy, Lewis, Plante, Pociask, Rawn, Ryan, Ward and Alternates Aho and Westa. Aho was appointed to act.

Painter noted that since the public hearing was opened on May 18, 2015, the Commission has received the following correspondence regarding the draft Plan of Conservation and Development (POCD). Copies of certain documents received at the last meeting (identified with an asterisk\*) were distributed to the Commission electronically on May 27, 2015. Copies of the other correspondence received are attached to this memo.

- May 18, 2015 – Beverly Sims submitted a copy of the Environmental Review Team report for the Ponde place project and a one page summary with excerpts from that report\*
- May 18, 2015 – Package of documents from Alison Hilding\*, 17 Southwood Road, including:
  - March 16, 2011 letter from Alison Hilding to the PZC
  - March 30, 2011 letter from Alison Hilding to the PZC with attached petition
  - 1918 Public Acts, Chapter 281
  - 1919 Interlocutory Judgement
  - EPA website information on Green Power Equivalency Calculator Methodologies
  - CEQ website information on Preserved Land
  - EPA website information on Environmental Footprint Analysis
  - CEQ website information on Rivers, Streams and Floods
  - CEQ report on State Oversight of Alternative Sewage Treatment Systems
  - April 6, 2015 letter from Alison Hilding and Richard Sherman to Carlos Esguerra at CT DEEP
- May 18, 2015 – Letter from Richard Cowles, 50 Meadowood Road, submitted at hearing
- May 18, 2015 – Letter from Jake Friedman, 65 Northwood Road, submitted at hearing
- May 18, 2015 – Email from David Patenaude, 54 Ellington Road, Tolland (entered into hearing record)
- May 19, 2015 – Letter from Michael Kirk, Deputy Chief of Staff to the President, University of Connecticut (this is a signed copy of the letter; an unsigned copy was received via email on May 18th and entered into the record of the hearing)
- May 19, 2015 – Memo from Open Space Preservation Committee
- May 23, 2015 – Letter from Beverly Sims, 61 Northwood Road
- May 23, 2015 – Email from Roberta Coughlin
- May 26, 2015 – Letter from Honour Mary D’Amato, 55 Northwood Road
- May 26, 2015 – Memo from Vicky Wetherell
- May 27, 2015 – Letter from David and Carol Prewitt, 425 Middle Turnpike
- May 28, 2015- Memo from Linda Painter, Director of Planning and Development
- May 28, 2015 – Letter from Virginia N. Gorin, 222 Separatist Road
- Undated letter from William Okeson, 61 Northwood Road
- May 28, 2015 – Letter from Lisa Young, 41 Meadowood Road

- May 28, 2015 – Letter from Roseann Kellner Gottier, Conserving Tolland
- May 29, 2015 – June 1, 2015- Email chain between Patricia Suprenant and Linda Painter
- May 30, 2015 – Barbara Hurd, 329 North Eagleville Road
- May 31, 2015 – Email from Laurie Symonds, 22 Ellington Road, Tolland
- May 31, 2015 – Letter from Gregory F. Cichowski, 53 Old Turnpike Road
- June 1, 2015 – Email from Vicky Wetherell
- \*\*May 30, 2015 – Letter from Merrill Cook, 219 Separatist Road (received in the Clerk's Office on Monday, June 1, 2015 prior to the closing of the Public Hearing, and subsequently emailed to Commission members on June 2, 2015)
- \*\*May 27, 2015 – Letter from John Maloney, 5 Southwood Road (received in the Clerk's Office on Monday, June 1, 2015 prior to the closing of the Public Hearing, and subsequently emailed to Commission members on June 2, 2015)

Chairman Goodwin invited the public to speak.

Michael Soares, 99 Dog Lane, member of the Open Space Preservation Committee, Conservation Commission and the Water System Advisory Committee, speaking as a citizen, stated that he was appreciative of all the work that has been done on the plan and the inclusion of the public in the process. He stated that he would like to see the area of Mansfield Apartments (Storrs Road side of South Eagleville Road remain designated as Compact Residential or, if changed to Mixed Use Center, that the recommendations of the Open Space Preservation Committee with regard to design and compatibility with Moss Sanctuary be addressed; he requested that Goal 4.2, Strategy E, regarding potential future expansion of the Storrs Center Special Design District be clarified to specify the inholdings and expressed concern if the district were to be expanded outward; he expressed reservations with the way in which the scenic road ordinance is addressed in several sections of the plan and suggested adding language to integrate scenic roads, bike and pedestrian walkways and to eliminate references to delaying future scenic road designations.

Alison Hilding, 17 Southwood Road, discussed the cost of having students living in residential areas of Town, the high cost of having rentals, the loss of quality of life of the citizens living in the residential neighborhoods, and the detrimental impacts to quality of life and natural resources of allowing high density zoning in the South Eagleville Road/Hunting Lodge Road area of Storrs. Ms. Hilding submitted several documents in support of the neighborhood's longstanding concern and struggle with these issues.

Anthony Giorgio, The Keystone Companies, LLC, who owns land on Hunting Lodge Road, expressed his support for recommendations in Chapters 7 and 8 of the plan and discussed the background of his previously withdrawn application to develop the land. He reiterated that even if the land use designation in the POCD remains compact residential, any future development will require additional review and approval from the Commission and Inland Wetlands Agency; these approvals will include public hearing processes.

Alison Hilding, 17 Southwood Road, stated that there were two communications she was certain were submitted to the Planning Office, but she did not hear them recited: namely, Merrill Cook, 219 Separatist Road and John Maloney, 5 Southwood Road.

At 8:24 The Commission agreed to temporarily hold the public hearing open while staff and Ms. Hilding attempted to locate those communications.

**Continued Old Business:**

- c. **Special Permit Application, Efficiency Unit, 5 Hillside Circle; Steven Sorrels, PZC File#1332**  
Tabled pending continued Public Hearing on 6/15/15.
- d. **Special Permit Application, Efficiency Unit, 17 Olsen Drive; Adam Lambert, PZC File#1333**  
Tabled pending 6/15/15 Public Hearing
- e. **Gravel Permit Renewals**  
Tabled pending 6/15/15 Public Hearing

**New Business:**

- a. **Special Permit Application, Efficiency Unit, 10 Meadowood Road; Germaine Mama, PZC File#1334**  
Chandy MOVED, Ryan seconded, to receive the Special Permit application submitted by Germaine Mama, for an efficiency unit, on property located at 10 Meadowood Road, owned by the applicant, as shown on plans dated 5/27/15 and as described in other application submissions and to refer said application to the Staff for review and comments, and to set a Public Hearing for July 6, 2015. MOTION PASSED UNANIMOUSLY.
- b. **Appointment of PZC Member to the Sustainability Committee**  
Chairman Goodwin noted that Ward intends to resign as the PZC Representative to the Sustainability Committee and a new volunteer is needed. Member agreed to think about this appointment and discuss at the next meeting.

**Mansfield Tomorrow:**

No update provided.

**Reports from Officers and Committees:**

Re: CROG; Westa reported that a presentation on transportation issues in the region was made at the recent meeting.

Plante questioned the status of the Legal Opinion he requested at the May 4<sup>th</sup> meeting of the legality of the bylaw provision regarding implied resignation if a member has three consecutive, unexcused absences. Painter reported that she received a verbal opinion from the Town Attorney concurring that there is no recall provision for elected officials and that a member cannot be removed for failure to attend meetings.

**Communications and Bills:**

Noted.

**Continued Public Hearing:**

**Mansfield Tomorrow: Plan of Conservation and Development (December 2014 Public Hearing Draft)**

At 8:31 p.m. the Public Hearing resumed. At the time the meeting resumed, the documents had not been found, but it was noted that they may be in the locked mail room in the Town Clerk's Office. As noted in the list of communication in these minutes, these letters were located in the Town Clerk's office and confirmation was made that they were received prior to the close of the Public Hearing. Accordingly, they are part of this record.

Plante MOVED, Rawn seconded, to close the Public Hearing at 8:32 p.m. MOTION PASSED UNANIMOUSLY.

Continued Old Business:

- b. **Mansfield Tomorrow: Plan of Conservation and Development (December 2014 Public Hearing Draft)**  
Discussion tabled until 6/15/15.

Adjournment:

The Chair set a field trip for 6/10/15 at 3pm and declared the meeting adjourned at 8:36 p.m.

Respectfully submitted,

Vera S. Ward, Secretary

**DRAFT MINUTES**  
MANSFIELD INLAND WETLANDS AGENCY  
Regular Meeting  
Monday June 1, 2015  
Council Chamber, Audrey P. Beck Municipal Building

Members present: J. Goodwin, B. Chandy, G. Lewis (7:02), B. Pociask, P. Plante, K. Rawn, B. Ryan, V. Ward,  
Members absent: R. Hall  
Alternates present: P. Aho, S. Westa  
Alternates absent: K. Holt  
Staff present: Jennifer Kaufman, Inland Wetlands Agent

Chairman Goodwin called the meeting to order at 7:00 p.m. and appointed Aho to act. Westa was appointed to act until Lewis arrived at 7:02 p.m.

**Approval of Minutes:**

May 4, 2015 Regular Meeting: Rawn MOVED, Plante seconded, to approve the 5-4-15 meeting minutes as presented. MOTION PASSED UNANIMOUSLY. Chandy noted for the record that she listened to the recording.  
May 13, 2015 Field Trip: Aho MOVED, Ryan seconded, to approve the 5-13-15 Field Trip Minutes as presented. MOTION PASSED with Goodwin, Ryan and Aho in favor and all others disqualified.

**Communications:**

Noted.

**Old Business:**

**W1549 – Jensen’s Rolling Hills Mobile Park, Middle Turnpike-Site Restoration**

Ryan MOVED, Pociask seconded, to postpone action on the application submitted by Jensen’s Inc. (IWA File #1549) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for wetland restoration on property owned by the applicant, located at Jensen’s Rolling Hills Mobile Home Park, Middle Turnpike, as shown on a map dated 4/14/2015 to allow the applicant to submit a more detailed restoration plan. MOTION PASSED UNANIMOUSLY.

**New Business:**

**W1378 – Storrs Center, Phase 3, Storm Water Improvements**

Aho MOVED, Ryan seconded, that the proposed adjustment to Storrs Center Phase 3 noted on a map dated 5/14/15 is consistent with the original wetland permit (File # W1378) approved on October 1, 2007. MOTION PASSED UNANIMOUSLY.

**Public Hearing:**

**W1548 - C. & L. Niarhakos, 101 East Rd, Re-Subdivision Application**

Chairman Goodwin opened the Public Hearing at 7:08 p.m. Members present were Goodwin, Chandy, Lewis, Pociask, Rawn, Ryan, Ward and alternates Aho and Westa. Aho was appointed to act.

Wetlands Agent Kaufman read the Legal Notice as it appeared in The Chronicle on 5-19-15 and 5-27-15 and noted the following communications received and distributed to members: a 5-28-15 memo from Jennifer Kaufman, Wetlands Agent; and a 5-21-15 memo from Derek Dilaj, Assistant Town Engineer.

Edward Pelletier, Datum Engineering and Surveying, acting on behalf of the applicant, requested that this matter be tabled to allow the project engineer time to review the comments of the Assistant Town Engineer and revise the plans as necessary. He will make a full presentation at the next meeting.

Goodwin noted there were no comments from the Commission or the Public. At 7:13 p.m. Pociask MOVED, Ryan seconded, to continue the Public Hearing to the 7/6/15 meeting. MOTION PASSED UNANIMOUSLY.

**Old Business Continued:**

**W1548 - C. & L. Niarhakos, 101 East Rd, Re-Subdivision Application**

Item tabled pending continued Public Hearing on 7/6/15.

**New Business Continued:**

**W1550 – W. St. Martin, 601 Storrs Road-Pond Clean Out**

Ryan MOVED, Chandy seconded, to receive the application submitted by William St. Martin (IWA File #W1550) under the Wetlands and Watercourses Regulations of the Town of Mansfield for dredging an existing pond on property located at 601 Storrs Road, as shown on a map dated 5/14/2015 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

**W1551 – M. McDonald, 93 Candide Lane-Above Ground Pool**

Chandy MOVED, Ryan seconded, to receive the application submitted by Mark McDonald (IWA File #W1551) under the Wetlands and Watercourses Regulations of the Town of Mansfield for installation of above-ground pool on property located at 93 Candide Lane as shown on a map dated 5/14/2015 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

**W1552 – L. and L. Wasiele, 357 Gurleyville Road-Addition**

Rawn MOVED, Ryan seconded, to receive the application submitted by Larry and Laurie Wasiele (IWA File #W1552) under the Inland Wetlands and Watercourses Regulations of the Town of Mansfield for a one-bedroom addition, on property located at 357 Gurleyville Road, as shown on a map dated 5/28/2015 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

**Reports from Officers and Committees:**

No reports were offered.

**Other Communications and Bills:**

Noted.

**Adjournment:**

Chairman Goodwin set a Field Trip for 6/10/15 at 3:00 p.m. and declared the meeting adjourned at 7:15 p.m.

Respectfully submitted,

Vera Ward, Secretary



The Connecticut Water Company  
93 West Main Street, Clinton, CT 06413-0562  
Attn: David Radka [DRadka@ctwater.com](mailto:DRadka@ctwater.com)

The University of Connecticut  
31 LeDoyt Road, Unit 3055, Storrs, CT 06269-3055  
Attn: Jason Coite [Jason.Coite@uconn.edu](mailto:Jason.Coite@uconn.edu)

Application No.: DIV-201404187  
Towns: Ellington, Vernon, Tolland, Coventry, Mansfield  
Waters: Shenipsit Lake, Hockanum River, Willimantic River  
Permit type: Water Diversion  
Project: Interconnection and diversion of water from the Connecticut Water Company public water system in Tolland to the University of Connecticut and the Town of Mansfield

Dear Messrs. Radka and Coite:

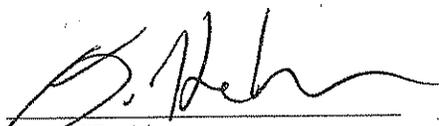
The Commissioner of Energy and Environmental Protection has approved your application to conduct certain regulated activities. Your attention is directed to the conditions of the enclosed permit. You should read your permit carefully. Construction and other work must conform to that which is authorized.

If you have not already done so, you should contact your local Planning and Zoning Office and the U. S. Army Corps of Engineers to determine local and federal permit requirements on your project, if any. Write the Corps' New England District, Regulatory Branch, 696 Virginia Road, Concord, MA 01742-2751; <http://www.nae.usace.army.mil/> or call 1-800-343-4789.

Section 22a-379 of the General Statutes requires the holder of a water diversion permit authorizing a consumptive use of waters of the state to pay an annual fee to the Commissioner of Energy and Environmental Protection. Each year, the department mails an invoice for payment to each permit holder. Payment of the invoice is due by July 1<sup>st</sup>.

If you have any questions concerning your permit, please contact the Inland Water Resources Division at (860) 424-3019.

6/2/15  
DATE

  
Doug Hoskins  
Environmental Analyst III

COPIES FURNISHED TO:

All Parties  
Mayor/First Selectman  
Conservation Commission  
Inland Wetland Agency

DEEP Inland Fisheries  
DPH Drinking Water Section  
U. S. Army Corps of Engineers  
Planning & Zoning Commission

Mark Sussman, Esq. [msussman@murthalaw.com](mailto:msussman@murthalaw.com)  
Patricia L. Boye-Williams, Esq. [pboyewilliams@murthalaw.com](mailto:pboyewilliams@murthalaw.com)  
W. Richard Smith, Jr., Esq. [wsmith@rc.com](mailto:wsmith@rc.com)  
David Murphy [DaveM@miloneandmacbroom.com](mailto:DaveM@miloneandmacbroom.com)



## **PERMIT**

Permittees: The Connecticut Water Company  
93 West Main Street, Clinton CT 06413-0562  
Attn: David Radka

The University of Connecticut  
31 LeDoyt Road, Unit 3055, Storrs, CT 06269-3055  
Attn: Jason Coite

Permit No: DIV-201404187

Town: Ellington, Vernon, Tolland, Coventry, Mansfield

Project: Interconnection and diversion of water from the Connecticut Water Company public water system in Tolland to the University of Connecticut and the Town of Mansfield

Waters: Shenipsit Lake, Hockanum River, Willimantic River

Pursuant to Connecticut General Statutes Section 22a-368, the Commissioner of Energy and Environmental Protection ("Commissioner") hereby grants a permit to The Connecticut Water Company and The University of Connecticut ("the Permittees") to conduct regulated activities associated with the interconnection and transfer of water from the Connecticut Water Company public water system in Tolland to the University of Connecticut and Mansfield. The purpose of said activities is to provide supplemental public water supplies to the University of Connecticut and the Town of Mansfield.

### **AUTHORIZED ACTIVITY**

Specifically, the permittees are authorized to: 1) transfer a maximum of 1.85 million gallons per day of potable water from The Company's Northern Operations Western System to Mansfield and the University of Connecticut's public water system Connecticut Water via a proposed regional 5.3 mile pipeline along Route 195, and 2) installation of a 0.5 mile water distribution main emanating from the aforementioned regional pipeline westerly along Route 44 from Mansfield Four Corners to the vicinity of the Jensen's Mobile Home Park. The location of the regional pipeline and the water distribution main authorized by this permit are referred to as "the Site".

The activities proposed will impact Shenipsit Lake, Hockanum River, and the Willimantic River.

All activities shall be conducted in accordance with plans entitled: "Water Systems and Proposed Improvements / Tolland-Mansfield Regional Pipeline and Interconnection / Tolland, Coventry &

Mansfield, CT," prepared by Milone & MacBroom, dated 12/6/2013, revised through 4/7/2014, submitted as a part of the application.

This authorization constitutes the licenses and approvals required by Section 22a-368 of the Connecticut General Statutes.

This authorization is subject to and does not derogate any present or future property rights or other rights or powers of the State of Connecticut, conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state, or local laws or regulations pertinent to the property or activity affected thereby.

*The permittees' failure to comply with the terms and conditions of this permit shall subject the permittees, including the permittees' agents or contractor(s) to enforcement actions and penalties as provided by law.*

This authorization is subject to the following conditions:

**CONDITIONS:**

- 1. Expiration.** This permit shall expire on May 29, 2040.
- 2. Construction Commencement and Completion.** If construction of any structures or facilities authorized herein is not completed within three years of issuance of this permit or within such other time as may be provided by this permit, or if any activity authorized herein is not commenced within three years of issuance of this permit or within such other time as may be provided by this permit, this permit shall expire three years after issuance or at the end of such time as may be authorized by the Commissioner.
- 3. Notification of Project Initiation.** The permittees shall notify the Commissioner in writing two weeks prior to: (A) commencing construction or modification of structures or facilities authorized herein; and (B) initiating the diversion authorized herein.
- 4. De minimis Alteration.** For Water Diversion Permits (CGS 22a-368) - The permittees may not make any alterations, except de minimis alterations, to any structure, facility, or activity authorized by this permit unless the permittees apply for and receives a modification of this permit in accordance with the provisions of section 22a-377(c)-2 of the Regulations of Connecticut State Agencies. Except as authorized by subdivision (5) of section 22a-377(b)-1(a) of the Regulations of Connecticut State Agencies, the permittee may not make any de minimis alterations to any structure, facility, or activity authorized by this permit without written permission from the Commissioner. A de minimis alteration means an alteration which does not significantly increase the quantity of water diverted or significantly change the capacity to divert water.

5. **Maintenance of Structures.** All structures, facilities, or activities constructed, maintained, or conducted pursuant hereto shall be consistent with the terms and conditions of this permit, and any structure, facility or activity not specifically authorized by this permit, or exempted pursuant to section 22a-377 of the General Statutes or section 22a-377(b)-1 of the Regulations of Connecticut State Agencies, or otherwise exempt pursuant to other General Statutes, shall constitute a violation hereof which may result in modification, revocation or suspension of this permit or in the institution of other legal proceedings to enforce its terms and conditions.

Unless the permittees maintain in optimal condition any structures or facilities authorized by this permit, the permittees shall remove such structures and facilities and restore the affected waters to their condition prior to construction of such structures or facilities.

6. **Accuracy of Documentation.** In issuing this permit, the Commissioner has relied on information provided by the permittees. If such information was false, incomplete, or misleading, this permit may be modified, suspended or revoked and the permittees may be subject to any other remedies or penalties provided by law.
7. **Best Management Practices & Notification of Adverse Impact.** In constructing or maintaining any structure or facility or conducting any activity authorized herein, or in removing any such structure or facility under condition 5 hereof, the permittees shall employ best management practices to control storm water discharges, to prevent erosion and sedimentation, and to otherwise prevent pollution of wetlands and other waters of the State. Best Management Practices include, but are not limited, to practices identified in the *Connecticut Guidelines for Soil Erosion and Sediment Control* as revised, 2004 *Connecticut Stormwater Quality Manual*, Department of Transportation's *ConnDOT Drainage Manual* as revised, and the Department of Transportation Standard Specifications as revised.

The permittees shall immediately inform the Commissioner of any adverse impact or hazard to the environment which occurs or is likely to occur as the direct result of the construction, maintenance, or conduct of structures, facilities, or activities authorized herein.

8. **Reporting of Violations.** The permittees shall, no later than 48 hours after the permittees learn of a violation of this permit, report same in writing to the Commissioner. Such report shall contain the following information:
- a. the provision(s) of this permit that has been violated;
  - b. the date and time the violation(s) was first observed and by whom;
  - c. the cause of the violation(s), if known
  - d. if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;

- e. if the violation(s) has not ceased, the anticipated date when it will be corrected;
- f. steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;
- g. the signatures of the permittee(s) and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with condition 12 of this permit.

9. **Material Storage in the Floodplain.** The storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood is prohibited. Any other material or equipment stored at the site below said elevation by the permittees or the permittees' contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.
10. **Permit Transfer.** This permit is not transferable without the prior written consent of the Commissioner.
11. **Contractor Notification.** The permittees shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The permittees' contractor(s) shall conduct all operations at the Site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this permit.
12. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the permittees or a responsible corporate officer of the permittees, a general partner of the permittees, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement in the submitted information may be punishable as a criminal offense in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b and in accordance with any other applicable statute."

13. **Submission of Documents.** Any document or notice required to be submitted to the Commissioner under this permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

Director, Inland Water Resources Division  
Department of Energy and Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127

The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval on any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means any calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.

14. **Rights.** This permit is subject to and does not derogate any rights or powers of the State of Connecticut, conveys no property rights or exclusive privileges, and is subject to all public and private rights and to all applicable federal, state, and local law. In constructing or maintaining any structure or facility or conducting any activity authorized herein, the permittees may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this State. The issuance of this permit shall not create any presumption that this permit should be renewed.

15. **Shenipsit Lake Stream Flow Release.**

- a. In order to mitigate potential fisheries impact resulting from the authorized diversion, the permittees shall maintain the current stream flow release of 3.24 cubic feet per second (cfs), with the current spring freshet release as defined in Table L-1 in Attachment L of their application dated April 23, 2014. Such stream flow releases shall be made from the Shenipsit Lake to the Hockanum River immediately downstream of the lake, and
- b. Within ten (10) years of the issuance of this permit, the permittees shall make stream flow releases from the Shenipsit Lake fully coincident with Class 3 releases as defined in section 26-141b-6(a)(3) and 26-141b-6(b) of the Regulations of Connecticut State Agencies (RCSA).
- c. The permittees may request from the commissioner an extension of time to comply with the releases as defined in section 26-141b-6(a)(3) RCSA. Any such request for a time extension shall be submitted in writing to the commissioner and shall include reasons for such a request, including but not limited to, engineering,

financial, permitting, or public health considerations. The commissioner shall have sole discretion to approve or deny such request.

- d. The permittees may request an alternative site specific release compatible with the standards of section 26-141b-6(f)(2) of the RCSA.
- e. In accordance with commitments made by the permittees in the application, the permittees shall not reduce managed stream flow releases from Shenipsit Lake due to an inadequate water supply margin of safety for the duration of this permit.

16. **Stream Discharge Record Keeping and Reporting.** The permittees shall monitor and record the daily discharge to the Hockanum River immediately downstream of the Shenipsit Lake. The permittees shall record the stage reading, the gate opening, the date and time of the reading and the converted flow value at the time of measurement. The permittees shall also record the number of hours elapsed since their discharge to the Hockanum River has fallen below the specified trigger thresholds as required in Condition #15. A copy of the daily discharge records shall be included in the Annual Report to the Commissioner required by Condition #23 of this permit.
17. **Metering.** The permittees shall measure the total amount of water transferred each day from The Connecticut Water Company water supply system to the Town of Mansfield and the University of Connecticut at the intersection of Route 195 and Towers Loop Road in Mansfield and shall for the duration of this authorization continuously operate and maintain any meters used in such measuring in good working order. In the event of meter malfunction or breakage, the permittees shall repair or replace such meter within 72 hours. The permittees shall submit for the Commissioner's approval a metering plan no later than 60 days prior to the initiation of the diversion.
18. **Meter Calibration.** The permittees shall biennially test and calibrate any distribution meter used for measuring the total amount of water transferred each day within two percent accuracy as shown through a post-calibration test. The permittees shall maintain a record of the accuracy and calibration test(s) along with supporting documentation and certifications. The permittees shall make a copy of said records available to the Commissioner or the Commissioner's designee immediately upon request.
19. **Daily Transfer Record.** The permittees shall maintain a daily record of the meter readings indicating the total volume of water in gallons transferred from The Connecticut Water Company water supply system to the Town of Mansfield and the University of Connecticut water supply system that day. The daily record shall also record the time of meter readings and denote and explain any instances in which the diversion of water exceeded the authorized withdrawal limitation(s) specified in this permit. A copy of the daily record of withdrawals shall be included in the Annual Report to the Commissioner required by Condition #23 of this permit.

20. **Leak Detection.** Within five years of the issuance of this permit, and every five years thereafter, the permittees shall complete a system wide comprehensive leak detection survey of the water distribution system and repair any leaks found. The leak detection survey shall follow standards and criteria contained within AWWA Manual M36 as may be amended or revised. A copy of all actions taken pursuant to the leak detection survey, including the number of miles of main surveyed, survey techniques and methodology, leaks found and repairs made shall be included in the Annual Report to the Commissioner required by Condition #23 of this permit.
21. **Long-range Water Conservation Plan.** The permittees shall implement their Long-range Water Conservation Plans, as described in the permittees' application, and in accordance with the permittees' Water Supply Plan as approved pursuant to CGS Section 25-32d and any amendments or updates thereto. The permittees shall maintain a summary of all actions taken each year pursuant to the Long-range Water Conservation Plan and a description of the estimated or actual water savings achieved. A copy of this summary shall be included in the Annual Report to the Commissioner required by Condition #23 of this permit.
22. **Record Keeping Requirements.** Except as provided below, or as otherwise specified in writing by the commissioner, all information required under this permit shall be retained at the permittees' principal place of business, or be readily available on request. The permittees shall maintain a copy of this permit on Site at all times during the construction of the pipeline. The permittees shall retain copies of all records and reports required by this permit; and records of all data used to compile these reports for a period of at least ten years from the date such data was generated or report created, whichever is later.
23. **Annual Reporting.** The permittees shall submit by February 28 of each year, for the duration of this authorization, an Annual Report for the preceding calendar year. The Annual Report shall be certified in accordance with Condition #12 of this permit and shall contain a compilation of the following:
  - a. A copy of the daily record of stream discharge as required by Condition #16 of this permit;
  - b. A copy of the records documenting the daily transfer of water from The Connecticut Water Company water system to The University of Connecticut water supply system as required by Condition #29 of this permit;
  - c. A copy of the leak detection report as required by Condition #20 of this permit;
  - d. A summary report from each permittee of all the actions taken pursuant to the Long-Range Water Conservation Plan and Water Conservation Plan and description of actual or estimated water savings achieved, as required by Condition #21 of this permit;
  - e. A copy of the list of the number and types of customers connected to the regional pipeline during the prior year as required by Condition #26; and

- f. Denotation and explanation of any instances of violation of the authorized withdrawal limitation(s) or any other condition of this authorization.

24. **Wood Turtle Conservation.** To limit the potential for impacts to Wood Turtles (a Connecticut species of special concern) at locations as indicated on Figure 4-3 of Attachment D-4 of the permittees' application, project construction activities should be restricted to the turtles' dormant period of November 1 to April 1 at said locations. If work must be done during the turtle's active period of April 1 to November 1 at said locations, the permittee shall adhere to the following precautionary measures:

- silt fencing shall be installed around the appropriate work area prior to construction,
- work crews shall be apprised of the species description and possible presence prior to construction,
- work crews shall search the work area for wood turtles each day prior to construction,
- any wood turtles encountered during the work shall be moved unharmed to an area immediately outside of the fenced work area and oriented in the same direction it was walking when found,
- all precautionary measures should be taken to avoid degradation to wetland habitats including any wet meadows and seasonal pools,
- work conducted in these habitats during the early morning and evening hours should occur with special care not to harm basking or foraging individuals,
- no heavy machinery or vehicles shall be parked in any turtle habitat and precautions shall be taken when the machinery is traveling to the work area to avoid turtles,
- work conducted during the early morning and evening hours shall occur with special care not to harm basking or foraging individuals, and
- all silt fencing shall be removed after work is completed when soils are stable so that reptile and amphibian movement between uplands and wetlands is not restricted.

Refer to the attached fact sheet for species and habitat description.

25. **Southern Bog Lemming Conservation.** Work crews shall be apprised of the species description, habitat and possible presence of the Southern Bog Lemming, at locations as indicated on Figure 4-3 of Attachment D-4 of the permittees' application, prior to construction. Refer to the attached fact sheet for species and habitat description.

26. **New Service Connections.** New service connections along the distribution pipeline route from Tolland, or more intensive use of an existing service connection along said route, from water supplied pursuant to this permit shall be limited to only those proposed land uses of an intensity allowed under local plans of conservation and development as of the

date of the Connecticut Office of Policy and Managements' notice of Environmental Impact Evaluation sufficiency (September 16, 2013). Connections for users of greater intensity will be allowed only if determination is made by State or local agencies, within their applicable authorities, including but not limited to the Public Utility Regulatory Authority pursuant to Section 16-10 Connecticut General Statutes, that such connection is necessary to address a demonstrated environmental, public health, public safety, economic, social, or general welfare concern. The permittees shall provide in the annual report as, required by Condition #23 of this permit, a list of the number and types of customers connected to the pipeline during the prior year.

Issued by the Commissioner of Energy and Environmental Protection on:

6/2/15  
Date

  
Robert Klee  
Commissioner

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*Synaptomys cooperi*  
**Southern Bog Lemming**

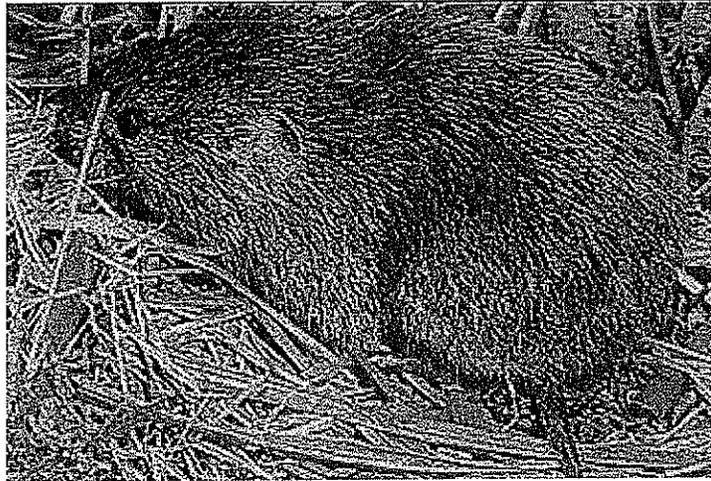


Photo by Roger W. Barbour: [www.enature.com](http://www.enature.com)

**General Characteristics:**

*S. cooperi*, a vole-like member of the *Muridae* family, is mostly brown with a white or silver ventral region. It is described as having a grizzled appearance and a short tail that is no longer than its hind leg. *S. cooperi* exhibits a well-defined squamosal crest, thick rostrum, small ears and feet with no hair on soles (Ellermann 1966).

Pelage in *S. cooperi* becomes darker and duller as it matures and has been noted to be softer, longer and lighter in color during winter (Linzey 1983). The following ranges of body measurements of *S. cooperi* are taken from Krupa 1995: total length: 110-140mm; tail length: 18-24 mm; hind foot length: 16-20 mm; ear height: 10-13mm and weight: 20-45 g. Males and females do not significantly differ in size (Linzey 1983).

Though often confused with close relative the Northern Bog Lemming (*Synaptomys borealis*) and with true voles, *S. cooperi* has slightly grooved upper incisors that distinguish it. *S. borealis* can also be distinguished by the rust colored hair at the ear base, which is not present in *S. cooperi* (National Wildlife Federation 2002). A difference in number of triangles of dentine also distinguish these species; *S. cooperi* has four, while *S. borealis* only has three (Kurta 1995).

**Distribution:**

*Synaptomys cooperi* is distributed throughout the Midwestern and Eastern United States, through southeastern Canada, Nova Scotia and Cape Breton Island. It can be found as far west as western Minnesota, south to northeastern Arkansas and southwestern North Carolina, and east to the Atlantic Ocean. *S. cooperi* can be found throughout Wisconsin (Kurta 1995 and Linzey 1983).

**Fossil record:**

Records show a distribution extending further south than present distribution. Fossils from the Pleistocene have been found near Dallas and into Mexico. From this evidence it is thought that *S. cooperi* took over the distribution that was once occupied by *S. borealis* before it moved North where it is currently found (Patton 1963 and Linzey 1983).

### **Reproduction:**

Although breeding can occur in all seasons, in the Great Lakes region it is restricted to March through October due to food availability. An average litter of 3, but a range of 1-8, neonates are born after a gestation period of 23-26 days (Linzey 1983). Approximately three weeks after birth, young are weaned from the mother's milk and she mates with another male. Subsequent litters will be cared for in the same nests as previous (Linzey 1983). This reproductive behavior allows for 2 or 3 litters each breeding season (Kurta 1995). The young are born with little fur, closed eyes, folded ear pinnae and weighing an average of 4 grams. By the second day, ear pinnae will be unfolded, lower incisors break through after 6-8 days and eyes of young open after 10-11 days (Linzey 1983). Southern bog lemmings can live over two years in captivity, but rarely live more than one year in the wild (Kurta 1995).

### **Ecology:**

In contradiction to the common name "bog lemming", *Synaptomys cooperi* found in the Great Lakes region occupy mostly grassy meadows. In Canadian parts of its range, *S. cooperi* can be found in deciduous and coniferous forests. They will also occupy sphagnum bogs where available; especially near Atlantic coast; and wet meadows, fields and clear cut areas where they are not; especially in parts of range found in the Appalachian Mountains (Linzey 1983). They also occupy wet forest areas with cedar, tamarack and spruce (Kurta 1995).

Feeding primarily on vegetation, *S. cooperi* consumes grasses, moss, roots, fruit, bark and leaf litter found in its habitat. Slugs, snails and fungus are occasionally eaten as well (Kurta 1995).

Home ranges of *S. cooperi* are estimated at 0.11 for males and 0.14 for females, but may vary depending on habitat (Lowell 1959).

High predation rates by various owls, housecats, badgers, weasels and foxes may account for a decreased distribution area (Kurta 1995). Along with predators, *S. cooperi* must compete in some areas with the meadow vole (*Microtus pennsylvanicus*), which is more aggressive and has been found to invade the preferred habitat and food sources of the Southern bog lemming. A trend of deforestation and cooler climates may have contributed to the expansion of *M. pennsylvanicus* in southeastern Kentucky, which may explain a decrease in the population of *S. cooperi* in areas where the meadow vole occurs (Krupa and Haskins 1996).

### **Behavior:**

When feeding *S. cooperi* obtains the fleshy part of a plant by biting at the bottom until the plant falls and the top part can be consumed. This method results in numerous even-sized "cuttings" that are left behind. Runways are built to connect feeding, nest and waste sites. In addition to cuttings and runways, bright green scat may indicate the presence of *S. cooperi* (Kurta 1995).

Active primarily at night, the Southern bog lemming is also out in the afternoon and evening. The Southern bog lemming is not found to hibernate (Linzey 1983).

Observation in captive and research settings have found that *S. cooperi* is mostly docile and handled with ease. Its passive behavior has been found to occur in the field as well. During both interspecific and intraspecific competition, *S. cooperi* has exhibited submissive behavior, often resulting in dispersal (Linzey 1983).

### Remarks:

Seen as rare and elusive, *S. cooperi* may suffer from declining populations due to competitive exclusion by *Microtus pennsylvanicus* in much of its range. Deforestation and a change to grasslands in the Eastern part of its distribution are also working against *S. cooperi* because this habitat favors *M. pennsylvanicus* (Krupa and Haskins 1996). However, areas that have been clear cut favor *S. cooperi*. This competition may not be seen in populations of *S. cooperi* in the Midwest because they are thought to have coevolved with *Microtus ochrogaster* and exhibit habitat partitioning (Linzey 1983).

### Literature Cited:

- Ellermann, J.R. 1966. The Families and Genera of Living Rodents. Trustees of the British Museum, London. 558-559.
- Getz, L.L. 1960. Home Range of Bog Lemming. *American Society of Mammalogists*. 41:404.
- Krupa, J.J. and K.E. Haskins. 1996. Invasion of the meadow vole (*Microtus pennsylvanicus*) in southeastern Kentucky and its possible impact on the southern bog lemming (*Synaptomys cooperi*). *The American Midland Naturalist*. 135: 14-22.
- Kurta, A. 1995. Mammals of the Great Lakes Region. University of Michigan Press. Ann Arbor, MI. 180-183.
- Linzey, A. 1983. Mammalian Species: *Synaptomys cooperi*. *American Society of Mammalogists*. 210:1-5.
- National Wildlife Federation. 2002 "Southern Bog Lemming: *Synaptomys cooperi*" <<http://www.enature.com/fieldguide/showSpeciesSH.asp?curGroupID=5&shapeID=1037&curPageNum=18&recnum=MA0427>>. Accessed October 25, 2003.
- Patton, T. 1963. Fossil remains of southern bog lemming in Pleistocene deposits of Texas. *Journal of Mammalogy*. 44:275-276.

Reference written by Sarah Johnston, Biol 378: Edited by Chris Yahnke.  
Page last updated 4-29-04.

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Mansfield  
Community  
Center

Town of Mansfield  
Parks and Recreation  
Department



Jennifer Kaufman  
Natural Resources and  
Sustainability Coordinator

10 South Eagleville Road  
Storrs/Mansfield, Connecticut 06268  
Tel: (860) 429-3015x6204 Fax: (860) 429-9773  
Email: KaufmanJS@MansfieldCT.org  
Website: [www.MansfieldCT.org](http://www.MansfieldCT.org)

June 8, 2015

Jason Coite  
Environmental Compliance Manager  
Office of Environmental Policy  
University of Connecticut  
31 LeDoyt Road, Unit 3055  
Storrs, CT 06269-3055

Dear Jason:

The Storrs Center will soon begin Phase 3 of construction. There are approximately 5 hazardous trees that will need to be removed in order to construct pedestrian trail that connect to the existing trail network located in Joshua's Trust's Whetten Woods. In addition, approximately 10 trees located on the edge of the Storrs Center and Town property have been identified as hazards to human health by Mansfield's Tree Warden and will be removed by the developers as part of this phase of construction.

It is the Town of Mansfield's understanding that these are permitted activities under section 4.1 (b) and (h) of the Reservation of Conservation Restriction, held by the University of Connecticut on this land filed on 5/14/2012 in volume 727, page 236 in the Mansfield Land Records.

The tree removal will take place on or around the week of June 15, 2015. The University is welcome to have their tree warden walk the site prior to removal to ensure that he or she concurs with the assessment of the Mansfield Tree Warden. Please contact me via email or at 860-429-3015x6204 if you feel as site visit by your tree warden is necessary, if you have questions, or require further information.

I have attached a map with the approximate locations of the trees that will be removed.

Sincerely,

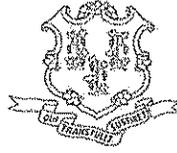
Jennifer Kaufman

Copy: Robert Sitkowski, Attorney, University of Connecticut  
Linda Painter, Director of Planning and Development  
Cynthia VanZelm, Executive Director, Mansfield Downtown Partnership  
Curt Vincente, Director of Parks and Recreation  
Matthew W. Hart, Town Manager  
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DEPARTMENT OF PUBLIC HEALTH

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May 20, 2015

Mr. Stanley Nolan  
University of Connecticut  
25 Ledoyt Road  
Unit 3252  
Storrs, CT 06269-3252

PUBLIC WATER SYSTEM: University of Connecticut - Main Campus  
Mansfield, CT  
CLASSIFICATION TYPE: Community  
PWSID: CT0780021

**SUBJECT: Evaluation of a Groundwater Under the Direct Influence (GWUDI) of Surface Water Study for Fenton Well D**

Dear Mr. Nolan:

The GWUDI demonstration report that has been prepared on your behalf by Milone & MacBroom, Inc., and submitted for the above referenced well has been reviewed. The demonstration study was performed at the subject well as result of a violation cited during the last sanitary to determine whether or not the source of supply is under the direct influence of surface water. The demonstration study consisted of the following:

- Collection and analysis of four quarterly MPA samples from Fenton Well D.
- Collection and analysis of weekly water samples for total coliform bacteria, E. coli bacteria, physical parameters, and measurements of conductivity and temperature from the source of supply.
- Weekly sampling and analysis of physical parameters and measurements of conductivity and temperature from the surface water body located within 200 feet of the subject wells, which is an unnamed wetland area of significant size.

**Discussion of Results:**

The report submitted contains the summary of the study, graphs and tables of color, turbidity, pH, temperature, and conductivity readings for both Fenton Well D and the unnamed wetland, and summary of four quarterly MPA test results collected from Fenton Well D. Permission was granted from Connecticut Department of Energy and Environmental Protection (CT DEEP) in order to run Well D for a full year, even during low flow conditions, for the sake of a complete GWUDI evaluation.

The quarterly MPA test results for Fenton Well D (Appendix E) indicated that none of the seven bio-indicators identified in the Drinking Water Section Guidance for the Determination of Groundwater



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Page 2

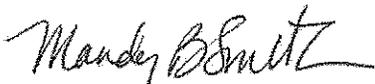
Under the Direct Influence of Surface Water were found. Iron bacteria were present in the first quarterly MPA sample and may have contributed to a higher detection limit of 2.4 per 100 gallons for that specific sample. The weekly well water samples test results were clean except for a single detection of total coliform bacteria in July 2014. The weekly water samples test results show that there is no consistent correlation between the well water and surface water in terms of temperature, color, turbidity, pH, and conductivity. All quarterly EPA MPA risk rating was rated "Low" risk.

**Conclusions:**

1. The data and information submitted were analyzed in accordance with the Department of Public Health Drinking Water Section Guidance for the Determination of Groundwater Under the Direct Influence of Surface Water (May 2005).
2. Considering that the MPA test results show a "Low" risk factor for all quarterly sampling events, this office concurs with the assessment specified in the report that UCONN Fenton Well D is not under the direct influence of surface water.
3. This evaluation does not preclude any further assessments of the impact of surface water on the source of supply should future events change existing conditions.

If you have any questions, please contact me at (860) 509-7333.

Sincerely,



Mandy B. Smith  
Sanitary Engineer 3  
Drinking Water Section

TC/mbs

cc: Mr. Robert L. Miller, Director of Health, Eastern Highlands Health District  
Paul J. Radicchi, Certified Operator, NEWUS  
Scott Bighinatti, Consultant, Milone & MacBroom, Inc.

# The Habitat

A newsletter of the Connecticut Association of  
Conservation & Inland Wetlands Commissions, Inc.

Spring 2015

volume 27 number 2



## CALL TO ACTION! For Land Conservation

**Call to Action** for four critical conservation issues that need your immediate attention.

1. **Community Investment Act (CIA):** Open Space Funds proposed to be eliminated.
2. **Substitute Bill 347:** Will reduce “match funds” needed for state open space grants.
3. **State Parks Services:** \$2 million budget cut; services reduced.
4. **Council on Environmental Quality (CEQ):** Funding eliminated.

### THE COMMUNITY INVESTMENT ACT (CIA)

Enacted in 2005, the CIA has provided funding for state land use programs for open space conservation, farmland preservation/dairy production, historic properties preservation and affordable housing development, supporting over 1,100 projects, in 165 towns for a total of \$133 million invested in our communities. (Compiled by a statewide CIA coalition).

**Governor’s Bill No. 6825, Section 5.** Sweeps \$10 million into general fund from DEEP CIA 2014-2015 account for “municipal open space grants.” Possibly threatening funding for the current grant round.

**S.B. 946 Section 29(b): An Act Concerning Revenue Items to Implement the Governor’s Budget.** Proposes complete sweep of the Community Investment Act account from January 1, 2016 through June 30, 2017 into the General Fund. Will undermine the administration, function and viability of the OSWA program.

Funded by a surcharge on local recording fees, CIA is the only *consistent* source of funding for the state’s Open Space and Watershed Land Acquisition Grant Program (OSWA) – the state’s matching grant program for land trusts, towns and water companies seeking to conserve open space. Since its inception, the CIA has provided \$17,340,039 to support the acquisition of 4,447 acres and 16 community gardens. (DEEP 2013 Annual Report to the Environment Committee). The 2014 OSWA grants would permanently protect another 2,250 additional acres in 25 municipalities. CIA also funds three staff positions; the sweep of the CIA

account will undermine the administration, function and viability of the OSWA program.

The magnitude of these proposed cuts is unprecedented, not only putting a halt to investments slated for projects under all four of the programs for which the CIA was

*Action, continued on page 10*

<b>Inside★</b>	CACIWC News	2
	Case Law: 22a-19 Intervention	3
	Project Green Lawn	6
	CEQ Report 2015	9
	Permanent Protection Conservation Land	13
	CLCC Legislative Agenda	14

### Call to Action: Four Critical Conservation Issues Need Your Immediate Attention

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2. **Substitute Bill 347** Will reduce “match funds” needed for state open space grants.
3. **State Parks Services** \$2 million budget cut; services reduced.
4. **Council on Environmental Quality (CEQ)** Funding eliminated.

Please make contact with your legislators—NOW! Use own words to support or oppose the legislation described here. To contact your legislator Google, “[Find Your Legislator](#)” to link to your legislator’s contact info. [Use Contact button to submit email.](#) Thank You!

# CACIWC

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[www.caciwc.org](http://www.caciwc.org)

During the first few months of 2015, the CACIWC Board of Directors has been working to identify new educational topics, workshops, and training programs for all of you who serve as our member commissions and staff. We have been reviewing the results of your membership surveys in order to ensure that CACIWC is aware of any new or ongoing challenges to your efforts in protecting Connecticut wetlands and other important local habitats. The CACIWC board has also been closely following proposed legislation and state budget negotiations to monitor for any threats to the long-term protection of lands of high conservation value throughout our state.

### 38th Annual Meeting and Environmental Conference

The Board of Directors has reviewed the valuable comments and suggestions submitted on our 2014 annual meeting survey. If you did not have an opportunity to complete the 2014 meeting survey you can still contact us with your comments and at [AnnualMtg@caciwc.org](mailto:AnnualMtg@caciwc.org). We welcome any suggestions for workshop topics and speakers that you would like us to recruit for our upcoming 38th Annual Meeting and Environmental Conference, scheduled for Saturday, November 14, 2015; please save the date! Please send your ideas to us at [AnnualMtg@caciwc.org](mailto:AnnualMtg@caciwc.org), along with any other suggestions. Watch for additional conference news in upcoming issues of *The Habitat* and on our [www.caciwc.org](http://www.caciwc.org) website.

### Membership Surveys

As previously mentioned, the CACIWC Board of Directors has been reviewing comments on the conservation commission and inland wetlands membership surveys that we have received during 2014. Your responses to this survey will make valuable contributions to the development our new strategic plan and help us prepare new education and outreach programs. If your commission has still not done so, please complete and mail in your survey that can be located and downloaded from the home page of our website: [www.caciwc.org](http://www.caciwc.org).

### Improved Membership Communication

One proposed new goal of our revised strategic plan is improved membership communication, including expanding ways to quickly send you important messages on emerging topics of interest, including grants and funding, legislative issues, and education and training opportunities. These improved communications will include an expanded listserv and website-based systems. You will be receiving requests for updated email listings from both board members as well as our Membership Coordinator & Database Manager Janice Fournier.

### Next Generation of Conservationists

An important goal of our strategic plan is the development and promotion of our next generation of Connecticut

*CACIWC news, continued on page 15*

# Inland Wetland Case Law clarifying the “Nature” of Factual Allegations required under P.A. 13-186 for a “22a-19 Intervention” pursuant to Connecticut’s Environmental Protection Act of 1971.

by Attorney Elizabeth L. Heins, Branse & Willis, LLC

Connecticut’s 1971 Environmental Protection Act, codified as sections 22a-14 to 22a-20 of the Connecticut General Statutes [CGS], contains a provision that allows anyone to intervene in an administrative, licensing or other proceeding, or in the judicial review of such proceeding, that has a potential to harm the environment. This provision is in section 22a-19 of the CGS, and is often referred to as a “22a-19 intervention.” Inland Wetlands and Watercourses Commissions [Commissions] may be faced with a 22a-19 intervention.

A 22a-19 intervention can be thought of as having two phases: 1. becoming an intervenor [Phase One], and 2. proving that the proceeding or action involves *conduct which has, or is reasonably likely to have, the effect of unreasonably polluting, impairing or destroying the public trust in the...water...of the state* [Phase Two]. Case law holds that one does not have to prove the allegations in order to become an intervenor; one may become an intervenor—Phase One—even if the allegations ultimately turn out to be unfounded—Phase Two.

This article will walk through some recent changes in 22a-19 that affect Phase One. First, the prior standard will be laid out, and then Public Act 13-186 will be introduced. Next, the case of *Sard Custom Homes v. West Hartford Planning & Zoning Comm'n/Inland Wetlands & Watercourses Agency* will be outlined, and the new standard of Public Act 13-186 will be analyzed in the context of this case. Finally, this article will offer

recommendations for Commissions faced with a 22a-19 petition for intervention in light of the new standards.

Phase One of the 22a-19 intervention process is when the would-be intervenor files a *verified pleading* with the agency or commission, sometimes called the *petition for intervention*. “Verified” means that the would-be intervenor swears to the truth of the allegations in the petition. Prior to Public Act 13-186, there was a question of how much evidence had to be presented in the petition to become an intervenor. If the statute requires the intervenor to claim that the application is reasonably likely to unreasonably pollute the water, is it enough to merely assert that the conduct is likely to unreasonably pollute, impair or destroy the public trust in the water, and nothing more? The answer, according to Public Act 13-186, is no.

Public Act 13-186 added a paragraph to section 22a-19 that reads as follows:

“(a)(2) The verified pleading [Phase One] shall **contain specific factual allegations** setting forth the nature of the alleged unreasonable pollution, impairment or destruction of the public trust in air, water or other natural resources of the state and should be sufficient to allow the reviewing authority to determine from the verified pleading whether the intervention implicates an issue within the reviewing authority’s jurisdiction. For purposes of this section, “reviewing authority” means the board,

*Intervention, continued on page 4*

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commission or other decision-making authority in any administrative, licensing or other proceeding or the court in any judicial review.”

The would-be intervenor now must allege *specific facts* related to the nature of the alleged unreasonable pollution, impairment, or destruction. Mere conclusory allegations, mere speculation, is insufficient. This begs the question, how specific must the facts be? That is the issue in *Sard Custom Homes v. West Hartford Planning & Zoning Comm'n/Inland Wetlands & Watercourses Agency*.

In *Sard Custom Homes*, Sard Custom Homes, LLC [Sard] applied to a joint Planning & Zoning [PZC] and Inland Wetlands Commission [IWWC] for an inland wetlands permit, and to subdivide property owned by the American School for the Deaf. The joint PZC/IWWC denied the application in both its zoning and wetlands capacities. Sard appealed this decision to Superior Court. Ms. Rosalind S. Katz then filed a verified notice of intervention, pursuant to 22a-19 with the trial court. The petition had the following language:

- “a) The application violates the town’s Plan of Conservation and Development;
- b) The detention basin lacks sufficient capacity and efficacy to both prevent downstream flooding and remove contaminants from being deposited in the wetlands and Trout Brook;
- c) The reengineering of the steep slopes and the inadequate protections to the wetlands and the Trout Brook will result in sedimentation of both resources;
- d) The clear cutting of almost 86% of the approximate 5.53 acres site will remove the site’s natural filters resulting in increased storm water runoff and increased erosion which in turn will result in increased sedimentation, including pollutants, being deposited in the adjacent wetlands and Trout Brook.”

Sard argued that, under Public Act 13-186, this was not specific enough. Sard cited case law which allows the reviewing authority—Commission or Court—to deny an intervention if the “concern . . . does not rise above speculation.” Sard argued that the intervenor should have presented actual evidence.

The Superior Court disagreed with Sard, stating: “While it is correct that a commission or agency considering an inland wetlands application must **ultimately** determine during its deliberations whether there is any actual adverse impact to any wetlands or

Public Act No. 13-186: An Act Concerning Intervention in Permit Proceedings Pursuant to the Environmental Protection Act

Be it enacted by the Senate and House of Representatives in General Assembly convened:

Section 1. Subsection (a) of section 22a-19 of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2013*):

(a) (1) In any administrative, licensing or other proceeding, and in any judicial review thereof made available by law, the Attorney General, any political subdivision of the state, any instrumentality or agency of the state or of a political subdivision thereof, any person, partnership, corporation, association, organization or other legal entity may intervene as a party on the filing of a verified pleading asserting that the proceeding or action for judicial review involves conduct which has, or which is reasonably likely to have, the effect of unreasonably polluting, impairing or destroying the public trust in the air, water or other natural resources of the state.

(2) The verified pleading shall contain specific factual allegations setting forth the nature of the alleged unreasonable pollution, impairment or destruction of the public trust in air, water or other natural resources of the state and should be sufficient to allow the reviewing authority to determine from the verified pleading whether the intervention implicates an issue within the reviewing authority’s jurisdiction. For purposes of this section, “reviewing authority” means the board, commission or other decision-making authority in any administrative, licensing or other proceeding or the court in any judicial review. Approved June 24, 2013.

watercourses, this determination does not need to be made **at this stage.**”

The Court was explaining that Phase One did not require the Court to determine “actual adverse impact.” The factual evidence is necessary, but it should be presented in the second phase, after the petition for intervention is granted. In fact, once the intervention is granted, the burden is on the intervenor to prove actual or likely unreasonable pollution, impairment, or destruction; the intervenor does not have to present that evidence *in order to become* an intervenor.

The Court in *Sard Custom Homes* emphasized that Public Act 13-186 “requires the petition to ‘contain

*Intervention, continued from page 4*

specific allegations setting forth the *nature* of the alleged unreasonable pollution’...the legislature required allegations of the *nature* of the impact—not allegations of the ‘actual adverse impact.’”

The reviewing authority—the Court in *Sard Custom Homes*, often the Commission—in Phase One must determine whether the verified pleading, the petition for intervention, adequately sets out the nature of the alleged unreasonable pollution, impairment, or destruction. If the answer is no, then the intervention is not allowed; there is no Phase Two in that case. If the answer is yes, then the would-be intervenor becomes an actual intervenor, and now has a burden of proving the allegations in the petition for intervention.

Notably, Public Act 13-186 codifies previous case law. *Nizzardo* addresses the second clause of 22a-19 (a)(2): “...and should be sufficient to allow the reviewing authority to determine from the verified pleading whether the intervention implicates an issue within the reviewing authority’s jurisdiction.” The would-be intervenor must provide the specific factual allegations setting for the nature of the

alleged unreasonable pollution so that Commission may make the determination of whether the petition addresses a matter over which they have jurisdiction. Specificity is required, because if a 22a-19 verified pleading regarding air pollution is presented to an Inland Wetlands and Watercourse Commission, the Commission could not grant the intervention because the Commission only has jurisdiction over the wetlands and watercourses.

Between Public Act 13-186 and the *Sard* case, Commissions now have two end points on a spectrum. The mere conclusion that the application is likely to unreasonably pollute, impair or destroy the wetlands or watercourses is not enough. Specific facts that prove the actual adverse impact are not required at this point. The petition must set forth the nature of the alleged unreasonable pollution, impairment or destruction. The Commission must determine whether it has jurisdiction, and whether the petition has met this requirement. The stage is then set for Phase Two.

#### Footnotes

<sup>1</sup>*Red Hill Coalition, Inc. v Town Planning & Zoning Comm’n*, 212 Conn. 727, 734 (1989).

<sup>2</sup>258 Conn. L. Rptr. 697 (Conn. Super. 2014).

<sup>3</sup>emphasis added

<sup>4</sup>Note 2, *supra*.

<sup>5</sup>Although Ms. Katz intervened at the trial court level, not directly to the IWWC, the analysis is the same.

<sup>6</sup>Id.

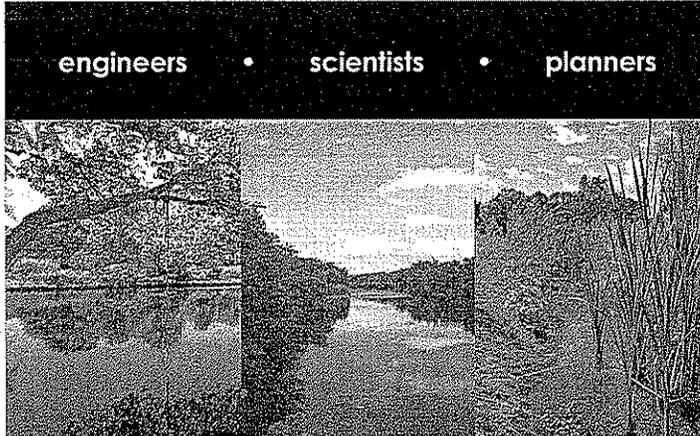
<sup>7</sup>Emphasis added

<sup>8</sup>See note 3, *supra*.

<sup>9</sup>*Nizzardo v. State Traffic Commission*, 259 Conn. 131 (2002).

<sup>10</sup>See figure 1.

<sup>11</sup>Again, this evidence is required in Phase Two after intervention is granted in order to prove the 22a-19 violation. 🍀



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# Project Green Lawn: A Sustained Public Awareness Campaign for Chemical Free Lawns

by Jane Brawerman, Executive Director, Connecticut River Coastal Conservation District

In 2005 the Connecticut River Coastal Conservation District collaborated with the City of Middletown and other community partners to initiate Project Green Lawn, a public awareness campaign to encourage residents and businesses to maintain safe, healthy lawns free of synthetic pesticides and fertilizers. Members of our working committee include children's advocates, environmental groups, members of the City's Recycling Commission and Conservation Commission and public health professionals.

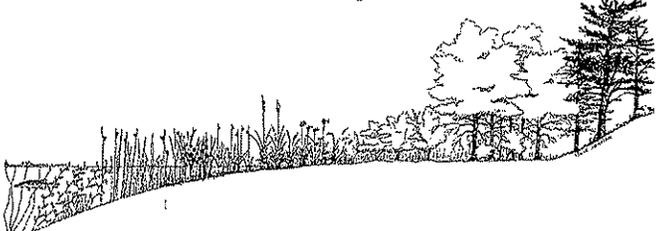
Since the program's beginnings, we have hosted a variety of public events and presentations to educate residents, businesses and institutions about the health and environmental risks of traditional lawn care chemicals and the benefits of organic lawn care, including how-to workshops focused on making the switch to organic methods; sponsored a half-day course for professionals on natural turf management; written articles for local newspapers and other groups; sent educational alerts

through the public schools about the health risks associated with exposure to lawn care chemicals, in particular to children; worked with the City of Middletown on several levels to improve organic lawn care efforts on municipal grounds, making some inroads; and submitted testimony to the legislature on pesticide issues and encouraged others to take action on legislative issues as well. One of our most successful outreach tools in support of our efforts has been the documentary film, *A Chemical Reaction*. We have held two screenings of the film in Middletown, both of which drew good crowds and generated quite a bit of discussion.

Following is a summarized version of the educational brochure that was published for the campaign, and updated in 2009. The brochure is available on the District website: [www.conservect.org/ctrivercoastal](http://www.conservect.org/ctrivercoastal). Please contact us at 860.346.3282 if you have questions or would like additional information, or if you are interested in initiating a similar campaign in your town.

*Green, continued on page 7*

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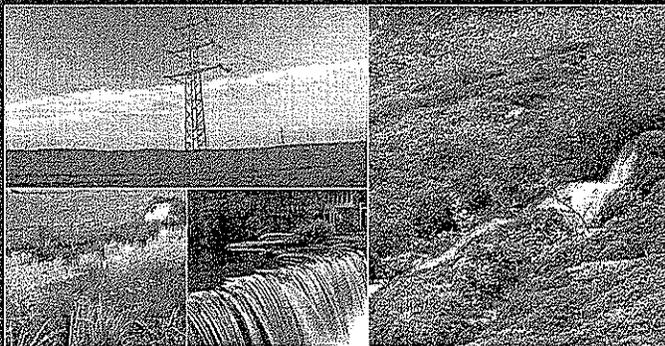
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Green, continued from page 6

## Everybody wants a lush green lawn—but at what cost?

Many people don't realize that lawns maintained with synthetic fertilizers and pesticides pose a serious health threat to people, pets and the environment. Lawns also decrease natural habitat vital to wildlife. Reducing the use of lawn care chemicals to foster healthier communities can be done individually, in our yards; in our parks, playing fields and other public places; and in our schools, where use of lawn care chemicals is currently banned by state law at day care centers and grades K-8.

### Why Chem-Free?

Lawn care chemicals—applied by homeowners or lawn care companies—contain potent toxins that kill organisms considered pests, such as dandelions and grubs. Scientific evidence shows that these chemicals also affect people, especially children, and pets. Exposure to certain lawn care pesticides has been associated with increased risks of a variety of health problems, including asthma, several types of child and adult cancers, and cancers in dogs.

The effects of harmful lawn care chemicals reach far beyond your family and yard. These chemicals can make their way into the environment through rain runoff, polluting streams and groundwater, and move through the food chain, becoming more concentrated.

Using herbicides and pesticides to tackle weeds and insects can actually be counter-productive to your lawn's health. These poisons also kill good organisms in the soil that help produce nutrients plants need to grow. This weakens the grass, fosters thatch and encourages disease.

### How to Have a Healthy Lawn and Yard

Fortunately, you can have an attractive and healthy lawn without using harmful synthetic chemicals. You can make simple changes, like mowing higher (3"), leaving your grass clippings on the lawn, using organic fertilizers, aerating to reduce soil compaction, and de-thatching, to make your lawn healthier and more vigorous naturally.

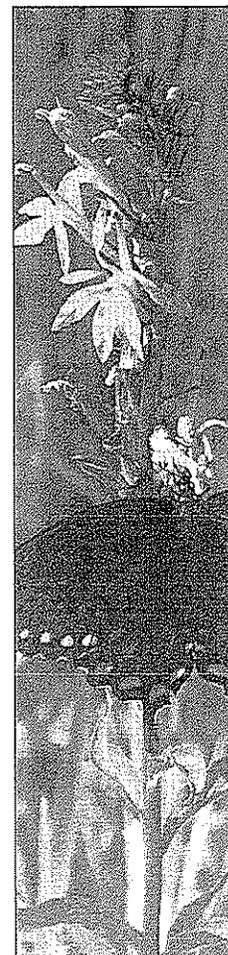
You can also reduce the size of your lawn by growing a variety of other plants to promote a healthy, diverse ecosystem in your yard. Grass, which requires lots of sun, water and good soil, is one of the highest maintenance plants we can grow. Instead, plant groupings of trees, shrubs, grasses and flowers that are compatible with existing environmental conditions; use ground covers that require less maintenance than grass; and, choose native plants adapted to our climate and conditions.

Finally, use safe alternatives to get rid of common pests. You can pull out dandelions at their weakest—when blooming; eliminate crabgrass by mowing high and using organic fertilizers; treat weeds in driveway or sidewalk cracks with white vinegar; and control grubs with alternatives like beneficial nematodes or Neem.

### What More Can You Do?

Are you concerned about others who use lawn care chemicals in your neighborhood or community? You can register with the state for advance warning of nearby spraying. For information, go to [www.ct.gov/deep](http://www.ct.gov/deep), and search on "pesticide management." You can also talk to neighbors and friends about the harmful effects of using pesticides—both on private property and in public areas like playing fields. Together, by simply changing our behavior, we can make our yards, streams, and local environment better.

*Project Green Lawn is a project of the City of Middletown Public Works Department, Resource Recycling Advisory Council and Conservation Commission, with support and assistance from the Connecticut River Coastal Conservation District and The Jonah Center for Earth and Art. Project Green Lawn has been supported by a generous grants from The Rockfall Foundation, Middletown, CT, and New England Grassroots Environment Fund.* ♻️



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2015 Legislative Bills Concerning  
Pesticide Application for Lawn Care  
(as of March 25, 2015)

For more information about these bills go to [cga.state.ct.us/](http://cga.state.ct.us/), click on Bill Info, Search on Basic Bill and Document Search, Use Quick Search at top of page.

**S.B. 366 An Act Extending the Ban on the Use of Lawn Care Pesticides to Schools that House Grades Nine Through Twelve and to State Facilities.**

To extend the ban on the use of lawn care pesticides to schools that house grades nine to twelve, inclusive, and to apply a similar prohibition to the application of lawn care pesticides on property that is under the custody, control or care of any state agency.

**S.B. 1063 An Act Concerning the Application of Pesticides on School Grounds and Certain Public Spaces, Authorizing the Use of Certain Microbials and Reestablishing the Pesticide Advisory Council.**

To authorize the use of certain microbials for the control of grubs, expand the current prohibition on the application of lawn care pesticides at schools to include grades nine through twelve, prohibit the application of lawn care pesticides on athletic fields and municipal greens and re-establish the Pesticide Advisory Council.

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## CEQ'S ANNUAL REPORT ON CONNECTICUT'S ENVIRONMENT:

### *Improvements in Air Quality and Long Island Sound; Major Worries for Land and Wildlife*

The following is from the Council's letter to Governor Dannel P. Malloy:

"The data show that restoring Connecticut's air and water quality and conserving its land and wildlife are multi-generational jobs that require unwavering financial and regulatory commitments.

Connecticut continued in 2014 to reap the benefits of past commitments and current practices in five notable areas:

- It was the best year in decades for air quality.
- More than 90 percent of Long Island Sound had adequate oxygen levels all year round, equaling 2013's record as the best in decades.
- Residents continued their trend of driving less and taking the bus more often.
- By using less gasoline, Connecticut residents continued their positive trend of reducing emissions of carbon dioxide, the pollutant that contributes to most of the observable climate change.
- Another path toward fewer emissions: Connecticut residents installed an unprecedented number of solar panels and purchased slightly more electricity from other renewable sources.

A lack of sustained commitment was evident in other indicators:

- Connecticut is so far off the track toward meeting its land conservation goals that success is in serious jeopardy. To get to the mandated goal for state parks, forests and wildlife management areas by 2023, the state will need to preserve more acres every year than it preserved in the last ten years combined. Water quality indicators show the dramatic effect of not preserving fields and forests.
- Some wildlife species, including turtles, are good indicators of ecological conditions. Unfortunately, many show discouraging trends.
- More than 1,200 violations of air, water and other pollution laws were detected by DEEP in 2014. While the Council no longer can assess overall rates of compliance, it is evident that full compliance remains a distant goal.

Connecticut residents set ambitious goals -- most of them decades ago -- for their air, water and wildlife. In some cases, progress slowed just as the goal line seemed within reach. In others (to continue the football analogy) the

field turned out to be a lot longer than it seemed initially. In all cases, the Council concludes, progress depends on consistent commitment."

Council Chair Susan Merrow, a resident of East Haddam, noted that this year's report adds some new measures, or "environmental indicators," that help the public to chart the fate of the state's water and wildlife.

"We added a new indicator that shows the level of dissolved nitrogen in the Sound," Merrow explained. "This is important because state residents have invested hundreds of millions of dollars to remove nitrogen from sewage treatment discharges, and we had read that in some areas of the country this effort has not always lead to less nitrogen in the waterbody itself. So we plotted the level of dissolved nitrogen in the Sound over ten years and -- good news! -- the nitrogen has been going down."

Merrow continued, "We added new data on the status of turtles and cave-dwelling bats, and there the news is not good. In fact, it is terrible, with two more turtle species and four bat species being proposed for listing as endangered, threatened or of special concern."

The Council on Environmental Quality submits Connecticut's annual report on the status of the environment to the Governor pursuant to state statutes. Additional responsibilities of the Council include review of construction projects of other state agencies, publication of the twice-monthly *Environmental Monitor*, and investigation of citizens' complaints and allegations of violations of environmental laws. The Council is a nine-member board that is independent of the Department of Energy and Environmental Protection (except for administrative functions). The chairman and four other members are appointed by the Governor, two members by the President Pro Tempore of the Senate and two by the Speaker of the House.

*Environmental Quality in Connecticut* -- the annual report on the state's environmental condition -- is a paperless publication available on the Council's website, [www.ct.gov/ceq/AnnualReport](http://www.ct.gov/ceq/AnnualReport). You can read it online or download a PDF version that can be printed.

Publication Date: March 17, 2015

Action, continued from page 1

created – land use programs with few, if any, other sources of funding -- but also setting a very dangerous and perhaps irreversible precedent for future sweeps of the fund.

**SUBSTITUTE BILL 347: AN ACT CONCERNING THE PERCENTAGE OF STATE AND FEDERAL FUNDS THAT MAY BE USED TO PURCHASE OPEN SPACE UNDER THE OPEN SPACE AND WATERSHED LAND ACQUISITION PROGRAM**

*“Be it enacted by the Senate and House of Representatives in General Assembly convened: Section 1. Subsection (c) of section 7-131g of the general statutes is repealed and the following is substituted in lieu thereof (Effective from passage):*

*(c) For purposes of this subsection, the fair market value of land or interest in land shall be determined by one or more appraisals satisfactory to the commissioner and shall not include incidental costs, including, but not limited to, surveying, development or closing costs. The commissioner may consider a portion of the fair market value of a donation of land by an entity receiving a grant as a portion of the matching funds required*

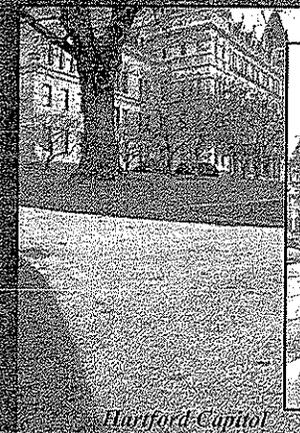
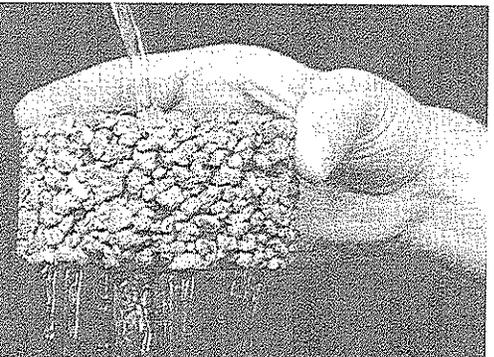
*under this subsection. A potential grantee may use funds made available by the state and federal government to fund not more than [seventy] ninety per cent of the total cost of any project funded under this program.”*

The 70% cap (Connecticut General Statutes Section 7-131g) on combining federal and state funds for projects funded through the state’s Open Space and Watershed Land Acquisition Grant Program (OSWA) is arbitrary, and creates an increasing additional hardship on local conservation partners already faced with the difficult task of raising sufficient funds to complete conservation projects. **Substitute Bill 347 proposes changing the cap to 90%.**

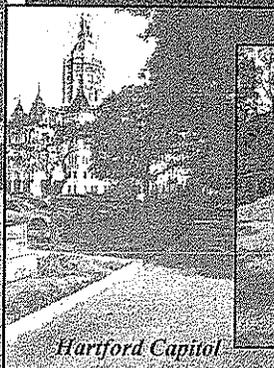
Reducing the required “match” for OSWA to 10% of the fair market value should be a significant incentive for land conservation particularly for municipalities and land trusts in areas of the state where municipal and private funds are difficult to raise due to the lack of wealth within a community or ability of a town to include funding in its budget or bonding.

Action, continued on page 11

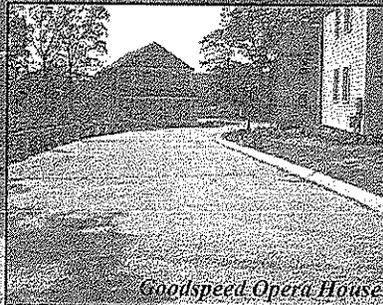
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Action, continued from page 10

**STATE PARKS BUDGET CUTS: \$4 MILLION CUT, \$2 MILLION IN 2015-16 AND \$2 MILLION IN 2016-17**

The \$2 million cut to State Parks in each of the next two seasons starting July 1, 2015, would further devastate the department's already burdened ability to manage public lands and would likely lead to the closure of several state parks around the state. Two years of reduced or no management will likely increase future management costs. In addition to their conservation and recreational values, Connecticut State Parks are investments worth protecting -- attracting 8 million annual visitors and generating over \$1 billion and 9,000 jobs for the state each year. For every \$1 spent on the State Parks, over \$38 is returned to Connecticut.

**COUNCIL ON ENVIRONMENTAL QUALITY (CEQ):**

**ELIMINATION OF FUNDING AND POSSIBLY INDEPENDENCE**

The budget proposes eliminating staffing for CEQ -- the state's independent, environmental watch-dog agency -- and transferring it into the Office for Legislative Affairs (without any commitment from OLA that the agency will be funded in its current form). Created in 1971, CEQ is the state's independent watch-dog agency that the public relies upon to monitor environmental progress, assess the efficacy of state environmental laws, policies and programs, and investigate alleged violations of environmental laws. CEQ's annual report to the Governor on Connecticut's Environment includes an annual critique on how the state, municipalities and private non-profits are doing in preserving valuable natural resource and agricultural lands, challenging us to increase the pace, quality, scale and permanency of land conservation in Connecticut. Acting through its volunteer council and just two staff, with limited support from DEEP for administrative purposes only, CEQ provides the public with these services efficiently, effectively and at minimal cost (less than \$185,000/year) to the state. There is likely no other state agency that does so much for so little. *Also see page 9, announcement of CEQ's 2015 Report.*

We thank the Connecticut Land Conservation Council (ctconservation.org) and the Connecticut Forest & Park Association (ctwoodlands.org) for the legislative information used in this **Call to Action**. This **Call to Action** was first issued to over 400 enthusiastic conservation leaders at the Connecticut Land Conservation Conference, March 21, 2015 at Wesleyan, Middletown, CT. 🌿

**Resources**

**National Pollinator Week June 15-21, 2015**

Watch for Connecticut's Proclamation. Start growing plants that are pollinator friendly this spring. Look here for ideas: *Pollinator-Friendly Plants for the Northeast United States*, includes 58 species, in color, in bloom, growth requirements and value to beneficial insects. [www.nrcs.usda.gov/Internet/FSE\\_PLANTMATERIALS/publications/nypmctn11164.pdf](http://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/nypmctn11164.pdf). 🌿

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# Membership 2014-2015 - We Appreciate Your Support!

As of March 1, 2015 the following Town Commissions have supported CACIWC through membership for the 2014-2015 fiscal year (July 1, 2014 to June 30, 2015). THANK YOU! If you do not see your Commission's name on the list, please encourage your Commission to join. If we are in error we apologize and would appreciate knowing by emailing Tom ODell at: [todell@snet.net](mailto:todell@snet.net) Member Commissions receive a copy of The Habitat for each commissioner and staff if dues have been paid.

CC = Conservation Commission  
CC/IW = Combined Commissions

IW = Inland Wetlands Commission  
Z/IW = Combined Zoning/Inland Wetlands

(SUS) = Sustaining level of Support

Andover	IW		Farmington	CC+IW	Orange	IW
Andover	CC		Franklin	IW	Oxford	CC+IW (SUS)
Ansonia	CC	(SUS)	Glastonbury	CC+IW (SUS)	Plainfield	IW
Ansonia	IW	(SUS)	Goshen	IW	Plainfield	CC
Ashford	IW		Goshen	CC	Plainville	CC
Ashford	CC		Granby	IW	Plainville	IW
Avon	IW		Granby	CC	Plymouth	CC+IW
Barkhamsted	IW		Greenwich	IW (SUS)	Pomfret	IW
Barkhamsted	CC		Greenwich	CC (SUS)	Pomfret	CC
Beacon Falls	IW	(SUS)	Griswold	CC+IW (SUS)	Preston	CC
Beacon Falls	CC	(SUS)	Groton	CC	Preston	IW
Bethany	IW	(SUS)	Groton	IW	Prospect	CC (SUS)
Bethany	CC	(SUS)	Groton City	CC+IW	Redding	CC+IW (SUS)
Bethel	IW		Guilford	IW	Ridgefield	Z+IW
Bethlehem	IW	(SUS)	Guilford	CC	Ridgefield	CC
Bethlehem	CC		Haddam	CC	Roxbury	IW
Bolton	IW		Hampton	CC	Roxbury	CC
Bolton	CC		Hampton	IW	Salem	CC+IW
Bozrah	CC+IW		Hartland	IW (SUS)	Shelton	CC
Branford	IW		Harwinton	IW	Sherman	IW
Branford	CC		Hebron	CC	Sherman	CC
Brookfield	CC		Kent	IW	South Windsor	CC+IW
Brookfield	IW		Kent	CC	Southbury	IW
Brooklyn	CC		Killingworth	IW	Southington	CC+IW (SUS)
Brooklyn	IW		Killingworth	CC	Sprague	IW (SUS)
Canaan	CC+IW		Lebanon	CC	Stonington	IW
Canterbury	IW		Lebanon	IW	Stonington	CC (SUS)
Canton	IW		Ledyard	IW	Thomaston	IW
Canton	CC		Lisbon	CC	Thompson	CC
Chaplin	IW		Lyme	CC+IW	Thompson	IW
Chaplin	CC		Madison	IW	Vernon	IW
Cheshire	IW		Madison	CC	Vernon	CC
Cheshire	CC		Manchester	CC	Wallingford	CC
Clinton	IW		Manchester	Z+IW	Wallingford	IW
Clinton	CC		Mansfield	Z+IW	Warren	CC+IW
Colchester	CC		Marlborough	CC	Washington	IW (SUS)
Coventry	IW		Milford	IW	Waterford	CC (SUS)
Coventry	CC		Milford	CC	Watertown	IW
Cromwell	CC		Monroe	CC+IW	Westbrook	IW
Cromwell	IW		Montville	IW	Weston	CC+IW
Darien	CC+IW (SUS)		Naugatuck	IW	Westport	CC+IW (SUS)
Deep River	CC+IW		New Canaan	CC	Wethersfield	IW
Durham	CC		New Canaan	Z+IW	Willington	CC
Durham	IW		New Fairfield	CC+IW (SUS)	Willington	IW
East Haddam	IW		New Hartford	IW	Wilton	CC
East Hartford	CC+IW		New Hartford	CC	Wilton	IW
East Lyme	IW		New London	CC+IW	Windsor	CC
East Lyme	CC		Newington	CC+IW	Windsor	IW
East Windsor	IW		Norfolk	CC	Windsor Locks	CC
Easton	CC+IW		North Branford	CC+IW	Windsor Locks	IW
Ellington	IW		North Stonington	IW	Woodbridge	IW
Ellington	CC		North Stonington	CC	Woodbridge	CC
Enfield	IW		Norwalk	IW (SUS)	Woodbury	CC
Enfield	CC		Old Lyme	IW	Woodbury	IW
Essex	IW		Old Saybrook	CC	Woodstock	IW
Essex	CC		Old Saybrook	IW	Woodstock	CC
Fairfield	CC+IW		Orange	CC		

# Permanent Protection of State Conservation Lands

## WHY ARE STATE CONSERVATION LANDS AT RISK?

Although Connecticut has over 255,000 acres of state parks, forests and open space classified as state conservation land, there are big loopholes that put these conservation lands at risk of being developed or used for unintended or inappropriate purposes.

Currently, the state's Conveyance Act allows the state legislature to convey or swap, sell or give away parcels of conservation land. In most instances, there is no legal protection to ensure the purposes for which the land was acquired are honored. There is typically nothing recorded in the deeds or town land records that either requires permanent protection, or clearly references the intended use or purpose of the land.

These legislative decisions for land swaps, made possible through the Conveyance Act, are often done behind closed doors with little public notice or comment. Past controversial land swaps, such as the proposed 2011 Haddam land swap, have spotlighted the flaws in the current process and created public distrust of the state's commitment to keep our conservation lands protected forever.

## WHY IS THIS IMPORTANT FOR CONNECTICUT?

State conservation lands have many proven economic benefits. For instance, a 2013 UConn study showed that Connecticut's State Parks net over \$1.2 billion in annual revenue for our economy. Besides the revenue produced through recreational activities and jobs, state conservation land was also found to increase local property values since people are willing to pay more to live near conservation land. Additionally, thousands of volunteers invest their own time and money to help maintain these lands.

Preservation of our state conservation lands is critical to a healthy and vital ecosystem in Connecticut. Our natural resources — our water, air, forests, and wildlife — are at risk without changes to close the loopholes to ensure real protection of these lands in perpetuity. A transparent process will help ensure public lands are protected for their agricultural, conservation, and recreational purposes instead of swapped for development.

## WHAT NEEDS TO BE DONE?

**Pass a constitutional amendment** — Connecticut should pass a constitutional amendment that mandates a new, transparent process for considering conveyances of public conservation, recreation and agricultural lands. A change to our State Constitution is the only way to ensure a conveyance process receives public input on every proposal and every parcel.

**Use existing authority** — While a constitutional protection is the best solution, the process for amending Connecticut's Constitution takes several years. Last year, the legislature gave specific authority to both Department of Agriculture (DoAG) and the Department of Energy & Environmental Protection (DEEP) to place conservation restrictions on public recreation and agricultural lands with high conservation value. Both agencies should actively use this authority to protect lands through conservation easements and deed restrictions as enabled in PA 14-169.

**Require a public hearing** — Legislation or a change to the Joint Rules is needed to require the final version of the land conveyance bill and any sale, transfer or conversion of state-owned lands held for agricultural, conservation or

*Editor's Note: Are your municipal conservation lands permanently protected? Can the Town Council or Board of Selectman convey or swap, sell or give away parcels of conservation land? Can they use conservation lands for development of town facilities? Can municipal conservation lands be converted to active (not passive) recreation lands?*

*Answering these questions requires research and documentation. Start by reading this 2015 Connecticut Environmental Briefing Paper by the Connecticut League of Conservation Voter's Education Fund ([www.conservationeducation.org](http://www.conservationeducation.org)). Then ask the town planner or town clerk to help you locate the deeds to municipal conservation lands in the town records. Do the deeds include descriptions of a conservation easement or restriction for the entire property? Does it specify how land is to be used and specify activities that are prohibited?*

*The CT Land Conservation Council, [ctconservation.org](http://ctconservation.org), has developed a model conservation easement and may be able to guide you in making sure your municipal conservation lands are permanently protected.*

*Protection, continued on page 14*

*Protection, continued from page 14*

recreational purposes to have a proper public hearing before the Environment Committee. Though the Environment Committee has jurisdiction over most matters that affect the DoAG or the DEEP, the Committee currently has no right to hold a public hearing on the conveyance of lands under the custody and control of these departments — this has to change.

Connecticut is fortunate to have beautiful open spaces with natural resources that allow us to live, play and

work. It is only right to involve the public when the state legislature looks to convey or swap, sell or give away, publicly-owned conservation lands.

In 2015, the General Assembly is considering legislation that will require notice, an appraisal and the opportunity for a public hearing in the town where the parcel is located prior to the exchange of state land controlled by DEEP or DoAG. ♣

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## Connecticut Land Conservation Council Legislative Agenda 2015

1. Ensure consistent and maximum funding for state land conservation programs (Open Space & Watershed Land Acquisition Program, Recreation and Natural Heritage Trust Program and Farmland Preservation Program).
2. Ensure that the level and integrity of the Community Investment Act fund are protected.
3. Pursue amendment to Connecticut General Statutes (C.G.S) Section 7-131g(c) to eliminate the 70% cap on federal/state matching grants for open space and agricultural land preservation.
4. Pursue policy and legislative reforms to ensure that there is a process to fully inform the public and provide an opportunity for public input before state conservation, recreation and agricultural lands (referred to herein as “public lands”) are exchanged, sold or otherwise conveyed, including:
  - (a) Require a public hearing before the Environment Committee when public lands are the subject of exchange or other conveyance;
  - (b) Expand the authority of the State Properties Review Board to include review of the land records and deed restrictions when evaluating a legislative conveyance;
  - (c) Encourage DEEP and the DoAg to place conservation restrictions on public lands in accordance with authority provided by P.A. 14-169; and,
  - (d) Support efforts to promote a Constitutional Amendment that mandates a transparent process for considering conveyances of public lands.
5. Pursue legislation requiring landowners transferring property subject to a conservation easement to provide notice to the holder of the easement no later than 30 days prior to closing.
6. Pursue amendment to C.G.S. Section 47-27(b) to clarify that it bars adverse possession and prescriptive easement claims when the land is subject to a conservation easement held by non-profit land holding organizations.
7. Support DEEP implementation of policies and initiatives required pursuant to P.A. 12-152 and P.A. 14-169, including revisions to the state Green Plan and the establishment of a statewide Public Use and Benefit Registry and associated database to inventory/track land protected by land trusts and municipalities.
8. Support funding and staff for DEEP for acquisition, management and inventorying of state lands.
9. Explore conservation tax incentives in the state income tax.
10. Explore new funding mechanisms for both land acquisition and stewardship, and land trust organizational capacity and effectiveness.

*We thank Connecticut Land Conservation Council for the use of their 2015 Conservation Agenda on their website [ctconservation.org](http://ctconservation.org). ♣*

conservationists. To help CACIWC achieve this goal, the CACIWC Board of Directors has returned for a third year to assess environmental and conservation projects entered in the Connecticut Science & Engineering Fair (CSEF) by middle and high school students throughout Connecticut. As I write this column, CACIWC Board Treasurer Charles Dimmick and I have just completed a week-long service as coordinating judges for the environmental science awards in this year's CSEF. The CACIWC Board will be continue to pursue efforts to increase interest in careers and volunteer activities that support conservation and wetlands protection among Connecticut students. Watch this column and our website for more information on these activities.

**Funding CACIWC Programs**

Membership Dues are an essential part of our operating budget. They support various CACIWC programs including our annual meeting, educational materials, and The Habitat. During the next few months you will be receiving a reminder and renewal form for the 2015-16 membership year, which begins on July 1, 2015. A copy of this form and additional information will be placed on our website: [www.caciwc.org](http://www.caciwc.org). Would you or your company like to provide additional support to CACIWC? The website also provides a description of additional individual and business membership categories. Our annual meeting and newsletter have become increasingly expensive activities to operate, so we will very much appreciate any additional contributions that you or your business can make to support CACIWC education and outreach efforts!

**Board of Directors Opportunity**

The officers and members the Board of Directors are now in the second year of their two-year term following the elections that took place at our November 16, 2013 annual meeting. Although we were able to fill a number of mid-year vacancies, several CACIWC board vacancies remain unfilled (please see the list in this issue of The Habitat and on [www.caciwc.org](http://www.caciwc.org)). If you are interested in serving as a county or alternate county representatives, or as one of the alternate at large representatives please contact us at [board@caciwc.org](mailto:board@caciwc.org).

**Working on CACIWC Programs**

While you would enjoy working on CACIWC issues, you may find yourself too busy to join the board of directors. We are forming several additional CACIWC advisory committees to help us with our education and outreach efforts, contribute to the development of new goals and objectives for our updated strategic plan, or participate in the ongoing review of legislative initiatives. Please let us know of your interest by contacting us at [board@caciwc.org](mailto:board@caciwc.org).

We always welcome comments and suggestions on ways to improve our education and outreach efforts. Please do not hesitate to contact us via email at [board@caciwc.org](mailto:board@caciwc.org) if you have questions or comments on any of the above items or if you have other questions of your board of directors. We thank you for your ongoing efforts to protect wetlands and other important natural resources within your town!

~ Alan J. Siniscalchi, President 🍀

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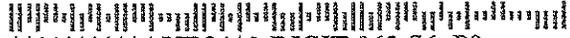
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### Connecticut's Wildlife Action Plan

DEEP is in the process of revising Connecticut's Wildlife Action Plan. Learn about revisions and contribute to the Plan by providing input for the future of fish and wildlife conservation in our state for the next 10 years.

Read the DRAFT Revisions and contribute your thoughts and recommendations. You are key to making the revised Wildlife Action Plan an effective tool for conserving Connecticut's diversity of wildlife resources for future generations. Go to [www.ct.gov/deep/cwp/view.asp?a=2723&q=325886&deepNav\\_GID=1719](http://www.ct.gov/deep/cwp/view.asp?a=2723&q=325886&deepNav_GID=1719).

### SAVE THE DATE!

**CACIWC's 38th Annual Meeting and  
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# Connecticut Wildlife

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



# Eye on the Wild

# Connecticut Wildlife

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## Why the Focus on Insects?

As you read through this issue of Connecticut Wildlife, you will probably notice that several of the articles focus on insects, and even mention insects as a source of food for wildlife. Sometimes, insects are the forgotten species. Maybe it's because they are typically so small and not always seen. Or, maybe it's because some insects are considered annoying pests. But, as you read through the articles, you will discover that insects play important roles in our ecosystem.

Two years ago, Connecticut residents were intrigued and excited about the emergence of the 17-year periodical cicada. The DEEP Wildlife Division provided funding for a monitoring effort that was coordinated by the Connecticut Agricultural Experiment Station. Lead researcher (and cicada expert) Chris Maier spent countless hours documenting and monitoring the emergence (with the help of several volunteer monitors). His final report (page 14) describes where these amazing insects were found in our state and how their range has declined.

In the cases of the emerald ash borer (page 6) and southern pine beetle (page 19), these two destructive insects are not native to Connecticut and pose a serious threat to the composition of our state's forest habitats. As native ash trees and now pitch pine succumb to these insect infestations, there will be serious consequences for the wildlife that depend on these trees. Efforts are underway to monitor and hopefully control the spread of these insects, but it is a huge task. Claire Rutledge, of the Connecticut Agricultural Experiment Station, details an interesting biocontrol project for the emerald ash borer that is currently going on in our state.

Two other non-native insects – the Asian bush mosquito and Asian tiger mosquito – are the topic of another article that highlights the importance of properly storing and covering scrap tires to prevent the proliferation of these pests (page 16). Both of these mosquitoes can transmit West Nile virus and other mosquito-borne disease pathogens. We all can play a role in reducing the number of mosquitoes around our homes just by taking a few small actions.

Recent research on chimney swifts (page 3) found that these birds may be declining – not necessarily because of a lack of appropriate chimneys for nesting – but possibly because of dietary shifts in their invertebrate foods due to pesticide use. More research is needed to understand what has changed in the diet of chimney swifts and other aerial insectivores.

You will continue to see more focus on insects in the near future. Scientists are concerned about the decline in native pollinators (like bees) and efforts are underway to figure out what is contributing to these declines and what can be done to help these animals. Monarch butterflies are also in the forefront as the population has suffered a steep decline. Much of the focus will be on providing habitat and encouraging the planting of milkweeds and other native butterfly plants. Look for more to come in future issues of Connecticut Wildlife, on our Facebook page ([www.facebook.com/CTFishandWildlife](http://www.facebook.com/CTFishandWildlife)), and on our website ([www.ct.gov/deep/wildlife](http://www.ct.gov/deep/wildlife)).

Kathy Herz, Editor

## Cover:

The DEEP Wildlife Division has been conducting a research project on black bears to determine the growth and movements of Connecticut's bear population. See article on page 22.

Photo by Paul J. Fusco

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# A Decade of Swift Conservation with the Wildlife Action Plan

Written by Shannon Kearney-McGee, DEEP Wildlife Division

Chimney swifts, also known as “flying cigars,” are a common sight in the skies of the Northeast throughout spring and summer. However, populations have declined steadily over the last several decades across their entire range.

In 2005, DEEP issued Connecticut’s Comprehensive Wildlife Conservation Strategy (now called Wildlife Action Plan) aimed at guiding the state’s conservation efforts over a decade. A main tenet of this document is to “keep common species common,” encouraging a proactive approach to managing wildlife species that may become threatened in the future. The chimney swift was a particularly interesting and accessible species to focus on in Connecticut because the state is in the core of this bird’s range with plenty of towns full of chimneys.

At the start of Wildlife Division investigations, it was assumed that chimneys were limiting swift populations. Initial efforts focused on this problem through a coordinated regional monitoring effort called “Chimney Watch.” This effort included a standardized inventory to assess local areas for their capacity to support chimney swift populations, as well as quantify the occupancy rates of each area. Essentially, we counted chimneys and then determined just how many chimneys were being used by swifts. Surprisingly, it was discovered that there are more than enough available chimneys for chimney swifts in the Northeast. What we clearly thought would be a simple conservation action – creating more chimneys for nesting – turned into a mystery. It was discovered that we need to look more closely at these birds’ whole life cycle to understand and stop their decline.

The biggest breakthrough came when the Wildlife Division coordinated with colleagues in Canada to confirm dietary shifts in response to pesticide use. This was discovered through identification of invertebrate remains in over 30 years of accumulated guano from a roost in Willimantic, Connecticut. Guano remains exhibited the same decrease in relative proportions of remains for *Coleoptera* (beetles) to *Hemiptera* (true bugs) species as was observed in Ontario, and this change coincided with the use of the pesticide DDT and the documented decline of swifts in the U.S. Geological Survey Breeding Bird Survey. With the research,

there now was indirect evidence that food may be part of the driving cause of the swift decline. Still far from a direct link, researchers are in need of good monitoring protocols to track the birds and their invertebrate food source, with the goal of prescribing measures to stop the swifts’ decline.

Through various trial and error efforts, researchers and citizen scientists have been refining protocols to monitor biological rates, like productivity and survival, with the ultimate plan of linking these metrics with information about invertebrate abundance and availability:

- Citizen scientists piloted nest monitoring efforts, but results were unreliable. It is clear that camera systems are required for accurate monitoring of nests.

- Roost monitoring has also proven to be an ineffective index of productivity, but counts of chimney swifts in June at consistent summer roosts will serve as a useful population index to detect trends over time.

- Preliminary efforts to mark-recapture birds have laid the framework for a process that could quantify survival rates and movement of swifts, but are hampered by difficult trapping conditions, trap savvy birds, and low sample size.

We still have not definitively solved or put a stop to the chimney swift decline, but we know more and can set some conservation actions. Chimneys are not limited in Connecticut, but if the capping of chimneys continues at the current rate, nesting chimneys may become scarce. We can use our knowledge of preferred chimney structural characteristics to focus conservation on these chimneys to keep swift roosts and nests common!

Chimney Swift Roost Watching events and public outreach at key roosting



JUDY GRUND, MASTER WILDLIFE CONSERVATIONIST

Chimney swift roost watching events and public outreach at key roosting locations have increased awareness and appreciation for swifts.

locations have increased awareness and appreciation for swifts. These efforts have resulted in conservation of multiple roost chimneys that were slated for demolition.

With the knowledge that the chimney swift decline is echoed by other aerial insectivore declines in the Northeast, a more comprehensive effort is warranted to understand what has changed in these birds’ diet and what can be done to keep all of these declining species common. Activities in the next decade should focus on the lack of knowledge about the aerial invertebrate/bird interface and, if warranted, what is causing the aerial invertebrate food shortage.

The Wildlife Action Plan is currently under revision and will best serve Connecticut’s wildlife with input from the public. You are encouraged to provide input via email at [deep.wildlifeactionplan@ct.gov](mailto:deep.wildlifeactionplan@ct.gov). Visit the DEEP website at [www.ct.gov/deep/wildlifeactionplan](http://www.ct.gov/deep/wildlifeactionplan) to learn more and also get involved.



# Nest Boxes Making a Difference for American Kestrels

Article and Photography by Min Huang, DEEP Wildlife Division

Due to the diligent and tireless work of several people throughout Connecticut, the American kestrel is making a comeback in our state. This bird's status will soon be downgraded from "threatened" to "species of special concern" on Connecticut's List of Endangered, Threatened and Special Concern Species List. There is hope that in five years, when the mandatory status update of the List is again upon us, that the kestrel can be removed from the list entirely.

Although kestrel habitat (open grassy or shrubby areas with short vegetation and natural tree cavities or nest boxes) is relatively limited in the state, the Northeast Kestrel Project, headed by Tom Sayers and John Stake, demonstrated that kestrels will occupy nest boxes in much closer proximity to one another than previously thought. In fact, in many instances, territory size for successful pairs is more than 70% less than that reported in the literature. This, in effect, greatly increases the amount of available habitat in the state for these pretty little falcons.

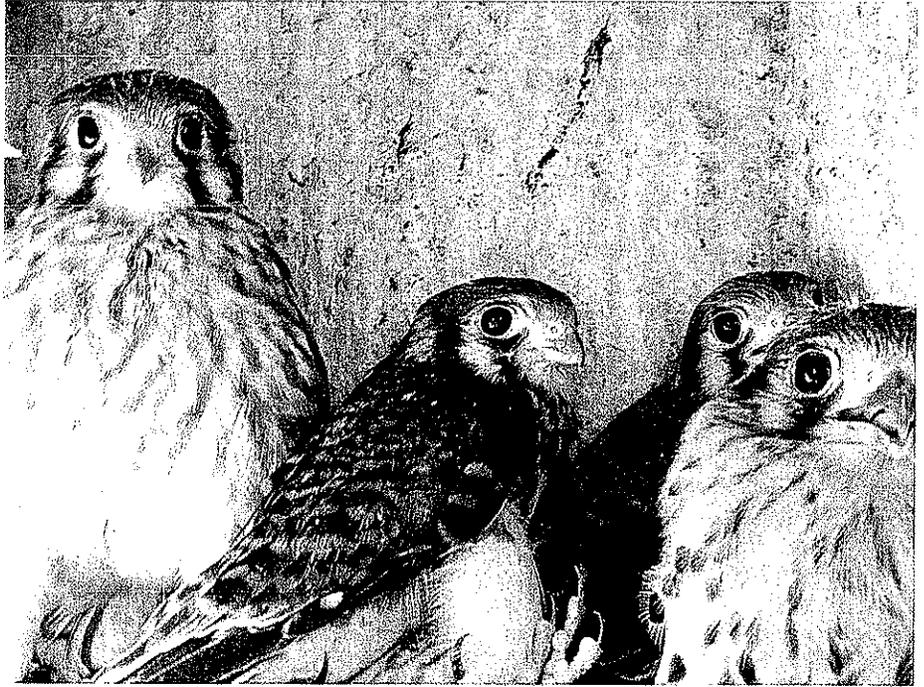
Another valuable nugget of information learned is that once kestrels become established in a locale and are successful, increasingly less European starling management is needed. In essence, once kestrels reach a critical mass or threshold, they seem to be able to fend off starlings on their own. This can greatly increase occupancy rates and, in turn, increase productivity.

## 2014 Breeding and Nesting Season

The 2014 kestrel breeding season in eastern Connecticut was another banner year. Within the Northeast Kestrel Project study area (Toiland County and eastern

## Conservation Concerns

According to Hawk Mountain Sanctuary, data from raptor migration counts, Breeding Bird Surveys, and Christmas Bird Counts indicate that American kestrel populations have declined in much of northeastern North America (including Connecticut) since 1974. Loss of habitat is the most likely cause of the kestrel decline in Connecticut. The number of farms in the state has been decreasing, many old agricultural fields are returning to forest, and suburban development has replaced suitable habitat.



This clutch of young kestrels is close to fledging from their nest box.

Hartford County), 71 nest boxes were available to breeding kestrels. A total of 31 pairs nested, resulting in a 42% occupancy rate. Of these, 25 successfully fledged young (81%). The 31 occupied boxes is an all-time high for the study area and the third consecutive increase from a low of 18 in 2011. A total of 97 young were banded out of the 25 successful boxes.

Andy Rezeznikiewicz of Connecticut Audubon in Pomfret monitors 25 boxes in Windham County and had four occupied boxes with a 75% fledgling success rate and 13 young produced. Several of the boxes were over-run by squirrels and starlings, reducing the occupancy rate.

Art Gingert and Mike Dudek manage and monitor a large number of nest boxes, predominantly in Litchfield and Hartford Counties. In 2014, 88 boxes were available for kestrels to use. Of those, 28 boxes were occupied by kestrel pairs, for an occupancy rate of 32%. Fledgling success was 61%. A total of 64 fledglings was produced, with all but two of the fledglings banded by bird banders.

All together, the three main contributors to kestrel production in the state had a total of 184 available nest boxes in the spring of 2014. Of these, 63 boxes were occupied by kestrel pairs (34% occupan-

cy rate). A total of 45 pairs successfully raised young, for a fledgling success rate of 71% and 174 fledglings produced. A minimum mean 30% fledgling survival rate translates to a minimum of 52 kestrels added to the population in 2014.

The 2014 nesting season results are, once again, testament to the tireless efforts of the three main kestrel projects and the fledgling (excuse the pun) stewardship program. The efforts of these volunteers are a shining example of how great conservation results can be realized with a concerted effort.

Plans are already in motion by the main contributors to expand the number of available nest boxes for the 2015 breeding season. There will likely be a 10% or more increase in availability throughout the scope of the three main project areas in the 2015 breeding season.

## Research

Within the Northeast Kestrel Project area, 2014 marked the final year of a radio telemetry project to assess fledgling survival rates, dispersal behavior, and habitat use. Fledgling survival rates over three years were in the range of about 30%, which is similar to most raptors. Most chick mortality occurs within two weeks of leaving the nest box, although

predation events occur throughout the period before migration.

In addition, 15 geo-locators were attached to adult females to obtain an understanding of migration timing, stopover hotspots, and wintering affiliations. The hope is to recapture these birds in spring 2015 to download the data from the geo-locators.

As part of the banding program, 53 adults and 97 fledglings were banded in 2014. Bird banders also had 13 recaptures of previously banded birds. As the number of recaptures increases over the years, researchers will get a better estimate of adult survival rates. The banding program also is providing critical information on occupancy of boxes – where certain kestrels nest and whether or not they return year after year to the same box. So far, the answer to the latter question seems to be no.

### ***Stewardship Program***

An article in the January/February 2014 issue of *Connecticut Wildlife* requested the help of citizens who might be interested in becoming American kestrel nest box stewards. Steward responsibilities include identification of possible kestrel habitat and routine monitoring of any nest boxes that might be put up in those areas. This effort requires dedication and intensive, regular monitoring to ensure the survival of young kestrels year after year.

Six citizens in eastern Connecticut, under the supervision of the Northeast Connecticut Kestrel Project, actively participated in the stewardship program during the 2014 breeding season: Ray Hardy, Dave Stevens, Randy Dill, Lance Magnuson, Scott McCall, and Gary Crump. Efforts by the dedicated stewards resulted in the installation of 10 new kestrel nest boxes. Of those new boxes, two boxes were successful, resulting in the fledging of eight young kestrels.

The results of this initial year of the stewardship program are promising. As volunteers learn more about the rigors of being a kestrel steward, success rates will increase and new kestrel hotspots will be created. In western Connecticut, at least two or three potential sites will receive stewardship nest boxes in 2015. In addition, Art Gingert will be installing a number of new nest boxes in that part of the state.

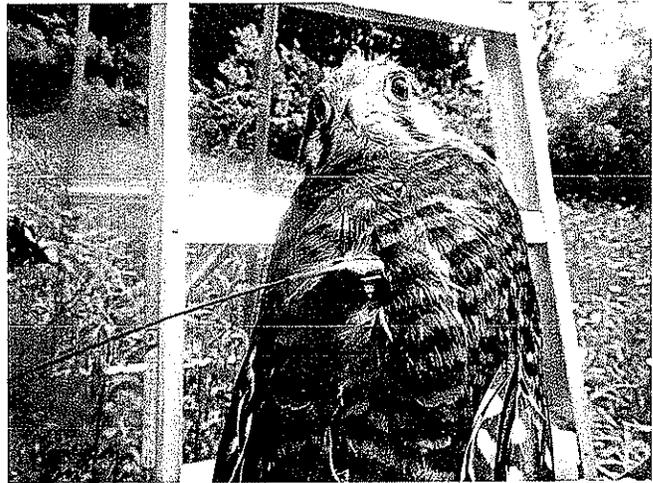
Collaborators continue to seek willing participants in the stewardship program. The more sites that can be “saturated” with kestrels, the more optimistic the long-term outlook will be!

### ***Become a Kestrel Nest Box Steward***

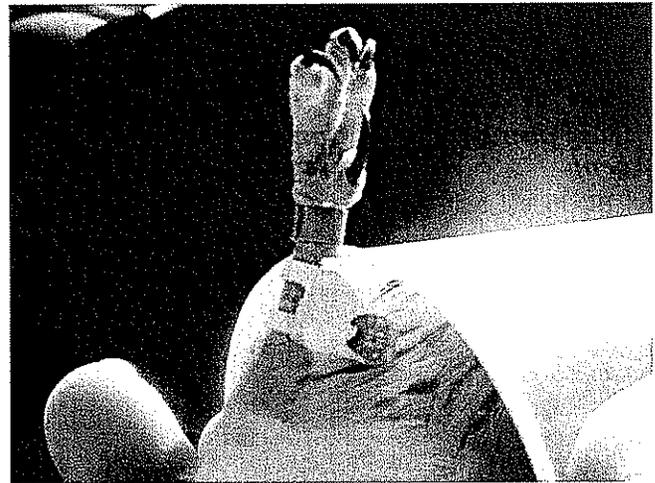
Citizen scientists are needed to identify potential areas of good kestrel habitat, as well as “adopt” and monitor kestrel nest boxes. Those ready to take on the commitment of being a Nest Box Steward should contact Art Gingert (for locations west of the Connecticut River; [artgingert@optonline.net](mailto:artgingert@optonline.net)) or Tom Sayers (for locations east of the Connecticut River; [sayers.tom@gmail.com](mailto:sayers.tom@gmail.com)).

What is involved with being a Nest Box Steward?

- Nest boxes must be monitored faithfully one to two times a week during late March to mid-May. Monitoring mostly involves visual checks to see if European starlings are using the boxes. You may need to use a stepladder or short extension ladder to check the inside of boxes.
- Any starlings that begin to use a kestrel box must be removed and euthanized. (As an exotic, invasive species, starlings are not protected by law.)
- Once you learn the habitat requirements for kestrels, you should be able to identify potential areas to place nest boxes. Kestrels need a minimum of 20 acres of open, grassland type habitat. Parcels with weedy, overgrown edges, hedgerows, or fences, or unmowed grassy sites are best. Ideally, nest boxes should be placed in the open, away from shrubs and small trees.
- Art, Tom, or another experienced kestrel researcher will be available to help you by visiting potential nest box sites you have identified. If the site is suitable and the landowner is willing to have a box or boxes installed on the property, poles and nest boxes will be provided and installed, and you will soon be on your way to assisting in the recovery of Connecticut’s American kestrels.
- Once kestrels become established in your boxes, Art or Tom will be available for advice and mentoring as needed, especially when the time comes to develop a schedule for banding the nestlings.



A fledgling kestrel with a radio transmitter attached. The radio telemetry project assessed fledgling survival rates, dispersal behavior, and habitat use.



Geo-locators were attached to adult female kestrels to obtain an understanding of migration timing, stopover hotspots, and wintering affiliations. The hope is to recapture these birds in spring 2015 to download the data from the geo-locators.

# Biological Control of Emerald Ash Borer in Connecticut

Written by Claire Rutledge, Connecticut Agricultural Experiment Station

The emerald ash borer (EAB) is an invasive beetle that kills all species of North American ash trees. First detected in Detroit, Michigan, in 2002, it has since spread widely. It was first detected in Connecticut in 2012.

This beetle has decimated ash tree populations; 99% of trees above two centimeters in diameter die within eight years of EAB infesting an area. Native species dependent on ash trees also are decimated, and the larger toll on the ecosystem is still being discovered. Due to the rapid spread of EAB, eradication is impossible. The impact of EAB on ash trees is likely to be as devastating as the impact of chestnut blight on American chestnut and Dutch-elm disease on American elm.

## Identifying Biological Control Agents

Biological control – the introduction of a natural enemy from the native region of the invading organism – is key to the long-term management of EAB. Shortly after EAB was identified, scientists from the U.S. Department of Agriculture Animal and Plant Health Inspection Service/Plant Protection and Quarantine (USDA APHIS/PPQ) went to EAB's home countries of China and South Korea to identify potential bio-

logical control agents. The primary focus of the search was parasitic wasps, or parasitoids. These small, stingless wasps lay their eggs within a host insect, and the larvae then consume the host from the inside. Parasitoids are often ideal biological control agents due to their fidelity to a single host and a high reproductive rate. Several wasp species were brought into quarantine in the United States for further testing to ensure host specificity and suitability to the various climatic zones of North America.

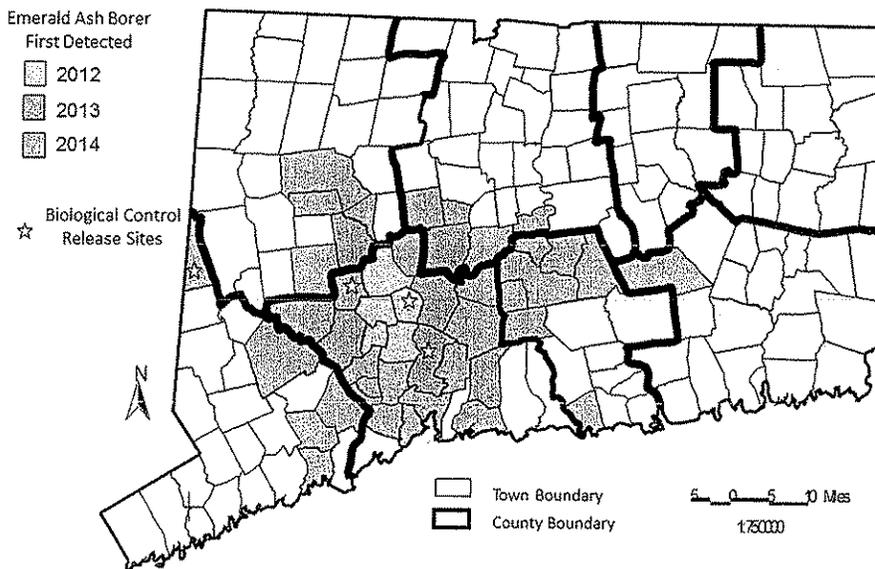
After seven years of testing by the USDA, three species of wasps were approved. The USDA began mass rearing the parasitoids in a custom-built facility in Brighton, Michigan. Two of these species are suited to Connecticut's chilly climate. The first wasp, *Tetrastichus planipennis*, attacks the larvae of EAB. The female drills through tree bark with her ovipositor (egg-laying tube) to place eggs within EAB larvae. One EAB larva can play host to up to 125 wasp larvae. After depleting the host, the wasp larvae emerge from the tree as adults, flying off to parasitize new EAB victims. *T. planipennis* have up to four generations a year, quickly



P. PICONE, DEEP WILDLIFE DIVISION HABITAT MANAGEMENT PROGRAM

Connecticut ash tree showing "blonding" damage from woodpeckers hunting for emerald ash borer larvae to eat.

## Current known distribution of emerald ash borer, and 2013-2014 parasitoid release sites.

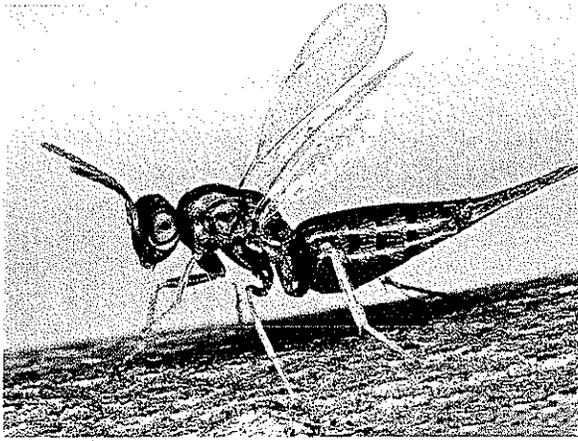


building in population to suppress EAB populations.

The other parasitoid being released in Connecticut is an egg parasitoid, *Oobius agrili*. This minute wasp completes its entire larval development within a single EAB egg, with each EAB egg producing one *O. agrili* adult. These wasps produce two generations a year, less than *T. planipennis*, but twice as many as EAB with its one- to two-year life cycle.

## Biological Control in Action

In summer 2013, the Connecticut Agricultural Experiment Station partnered with USDA APHIS to begin parasitoid releases in Connecticut. That year, we released 10,245 *T. planipennis* and 2,878 *O. agrili* over nine release dates in two different locations, Prospect and Middlebury. In 2014, two release sites (Hamden and Sherman) were added and 45,568 *T. planipennis* and 13,650 *O. agrili* were



An adult parasitoid, *Tetrastichus planipennis*.

released over 15 dates at these four sites. Releases will continue in summer 2015 with at least two additional sites.

For each release date, the parasitoids are shipped overnight in a cooler from the rearing facility in Michigan. The

enough to get through the mesh and head out to seek fresh EAB eggs to parasitize. These release techniques ensure that the parasitoids emerge in a natural habitat, undamaged by their trip through the mail and ready to go.

Determining the impact of the parasitoids on the EAB population will be a long-term process. First, it must be verified that the wasps have become established in their "new home" by recover-

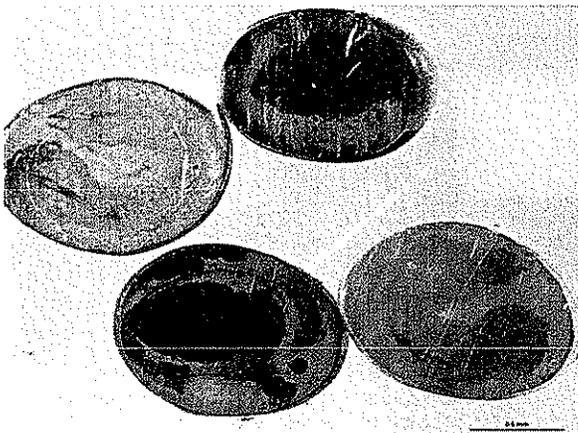
ing wasps that have overwintered. This is a tricky task given the small size of the wasps. Methods, such as setting out sentinel eggs and larvae, peeling trees to look for parasitized larvae, and placing out yellow-pan

*Biological control – the introduction of a natural enemy from the native region of the invading organism – is key to the long-term management of the emerald ash borer.*

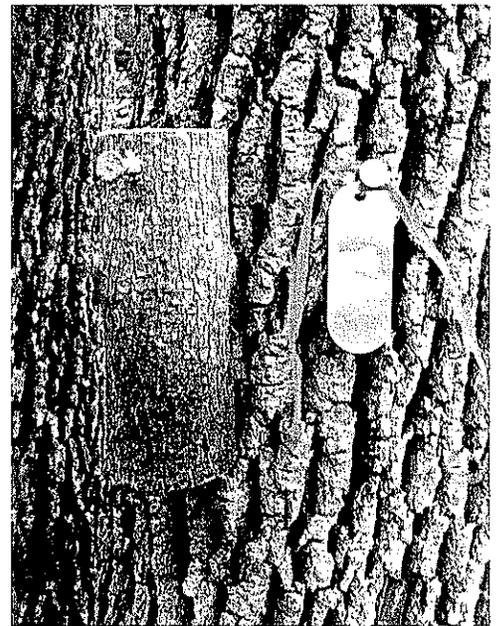
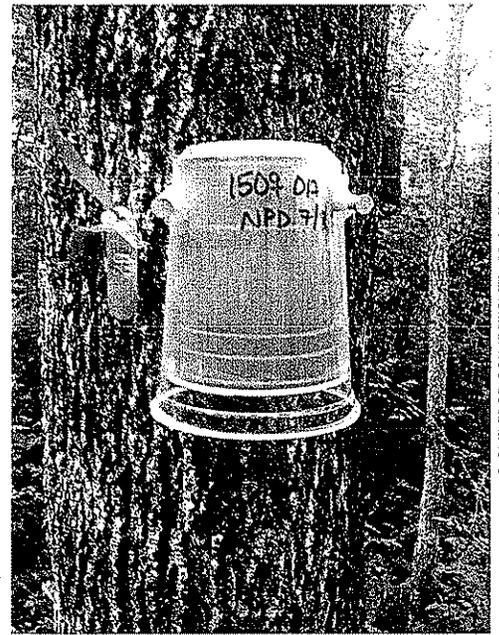
*T. planipennis* are reared in small ash bolts. The bolts are infested with EAB larvae, and then adult female parasitoids are allowed to parasitize the larvae. The bolts are shipped out and when nailed to ash trees, the parasitoids are in the bolt, ready to emerge and hunt for EAB larvae. The *O. agrilli* arrive in a device nicknamed the "Oobinator," which consists of two, nested plastic drink cups with a mesh bottom. The cup is filled with parasitized EAB eggs, which are protected from rain and predation until adult parasitoids emerge. The adults are tiny

traps that attract adult wasps, are used. Research conducted in Michigan, where the first releases were done in 2009, showed that the wasps readily established. At those sites, the percentage of trees with parasitized EAB, as well as the percentage of EAB in each tree that was parasitized, has been rising steadily each year. It will be several years until we know how well the wasps are performing in Connecticut.

Unfortunately, because EAB populations grow exponentially when they move into a new area, it is not expected that the parasitoids will be able to halt the first wave of ash tree deaths. The timeline is too short for the parasitoid populations to build-up to the levels needed to have an impact. However, once the first wave of destruction is accomplished, EAB populations will drop. They will have eaten themselves out of house and home. The parasitoids, being specialists, will continue to attack the remaining small populations of EAB, hopefully suppressing them to the extent that young ash trees will be able to survive, grow, and eventually



Emerald ash borer eggs. Two contain nearly mature parasitoids *Oobius agrilli*, and two contain EAB larvae ready to hatch.



(Top) "Oobinator" for the release of *Oobius agrilli*. Parasitized EAB eggs are in an inner cup protected from rain and predators. *O. agrilli* will emerge in one to two days of deployment. Note that trees are tagged for future reference

(Bottom) Release mechanism for *Tetrastichus planipennis*. Adult parasitoids will soon emerge from parasitized EAB larvae within the bolt.

replace the ash trees that were casualties of the initial EAB invasion.

More information about biological control of emerald ash borer can be found at [www.emeraldashborer.info](http://www.emeraldashborer.info) (look for the biological control tab).

# Recent Connecticut Deer Program Activities

Written by Andy LaBonte, DEEP Wildlife Division, and Bill Embacher, Wildlife Management Institute

*The DEEP Wildlife Division's Deer Program has been busy with a variety of projects and activities.*

## Chronic Wasting Disease Sampling

Chronic wasting disease (CWD) is a neurological disease found in deer and elk, similar to mad cow disease. However, there is no known relationship between CWD and any other neurological disease.

Currently, CWD has been detected in 22 states and two Canadian Provinces. The disease has not been documented in Connecticut or New England. However, in 2005, CWD was documented in captive and wild white-tailed deer herds in New York, not far from the Connecticut border.

In response to the detection of CWD to the west of Connecticut in New York, a surveillance program approved by the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS) was implemented from 2005-2011 to focus sampling efforts in western areas of Connecticut that were considered high and moderate risk. During this seven-year period, 4,384 testable samples were collected from deer harvested during Connecticut's



P. J. FUSCO

**Adult male deer have a two to four times higher prevalence rate of CWD than females. It is theorized that male breeding behavior increases risk exposure.**

archery, shotgun/rifle, and crop damage seasons and from vehicle-killed deer found throughout the state.

Funding provided by USDA-APHIS was eliminated from the federal budget in 2012, therefore no CWD testing was conducted in 2012 or 2013. However, a joint

partnership between Connecticut DEEP and the Stewart B. McKinney National Wildlife Refuge, with financial assistance from the U.S. Fish and Wildlife Service, National Wildlife Refuge System, allowed for CWD testing to be conducted in 2014. With the testing of over 32,000 deer in



R. HARDY, WILDLIFE DIVISION DEER MANAGEMENT PROGRAM



J. KILBURN, WILDLIFE DIVISION DEER MANAGEMENT PROGRAM

**Adult does typically give birth to one to two fawns each year, and as many as three fawns were recorded in one doe during the fawn study in Northwest Connecticut.**

**(Above) Seasonal Resource Assistant Danny Marino holds two fawns that were part of the Wildlife Division's fawn study.**

New York and no additional CWD cases being documented, the DEEP Wildlife Division no longer considers deer management zones 1, 6, and 11 (western Connecticut) to be high risk. Therefore, sampling during 2014 was stratified across all zones based on deer density. A total of 324 samples were collected during the 2014 hunting season. Samples have been sent out for testing and results should be available by the end of the summer.

### Fawn Study

The Wildlife Division's Deer Program continued the third year of the Northwest Connecticut fawn mortality study this past spring.

Researchers captured 22 fawns in Sharon and Salisbury between May 19 and June 15, 2014. Fawns were fitted with expandable radio collars, enabling researchers to track movements and sources of mortality. Nine fawns were killed by predators (4 bobcat, 4 bear, 1 unknown); three were killed by poachers; one fawn was killed by haying activities; and three collars have stopped working. Survival rate was 50% after 90 days, and 26% as of March 2015 (5 surviving fawns), not including the collars no longer transmitting.

Researchers are currently capturing adult does in Cornwall and Canaan and fitting them with radio collars and vaginal implant transmitters in preparation for the final fawning season in deer management zone 1.

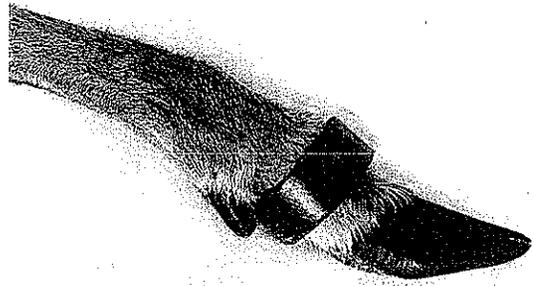
### Unfavorable Fashion Trends

There has been an increasing trend in the white-tailed deer community. Over the past few years, Wildlife Division biologists have observed deer making fashion statements using foreign objects, such as

PVC couplings and discarded weed-whacker spools. It is unclear as to where deer have been acquiring such impeding jewelry, but the consequences have all been quite similar; once a deer steps in one of these foreign objects, there is no way of removing them. In many cases, the objects become tighter, either as the deer grows if it acquired the object at a younger age or as the object simply causes irritation and swelling begins to occur, causing the deer to limp from discomfort.

Recently, the Wildlife Division received reports from a few residents in Branford about a deer with what appeared to be a plastic truck tire from a child's toy stuck on its hoof. In early March, Division biologists coordinated capture efforts at one resident's home where the deer had been observed frequently. The deer was successfully immobilized and the plastic tire was removed.

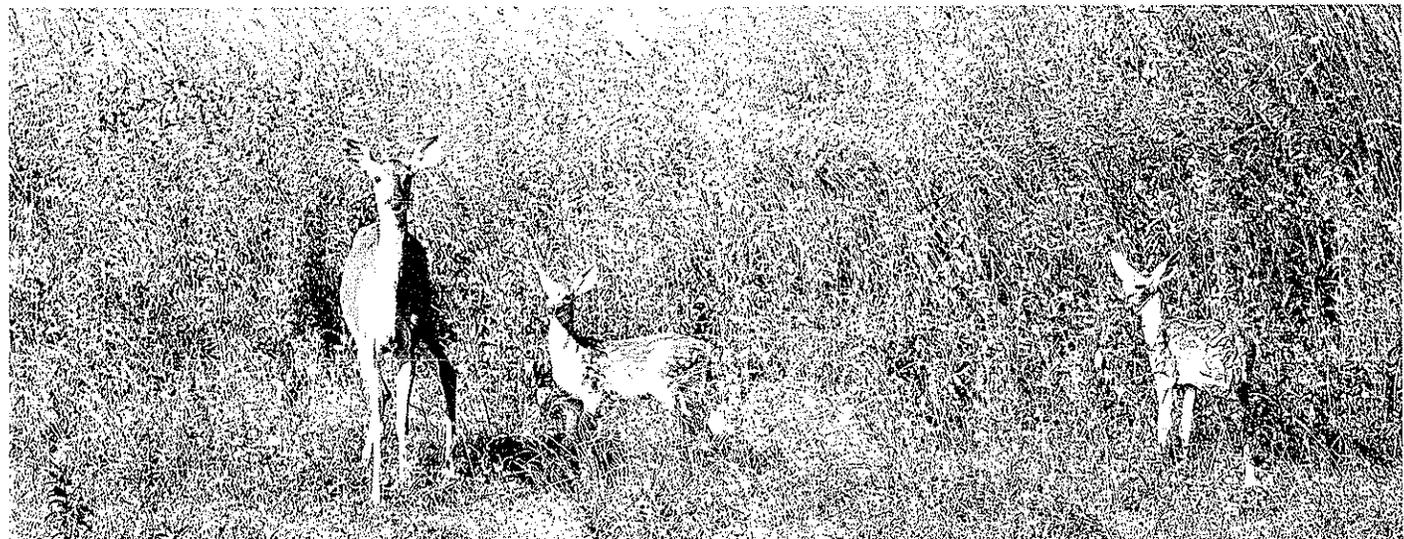
These unfortunate occurrences likely occur more than one would think and often go undetected, usually resulting in injury and/or death of the affected animals. The best and most effective way to avoid such situations is the proper disposal of man-made items that can be hazardous to wildlife. These items include but are not limited to fishing line and tackle; plastic six pack rings; balloons and attached string; plastic bags, bottles, and containers; and more. It



(Top) A PVC coupling was found on a deer harvested during the 2014 hunting season.

(Bottom) A plastic truck tire that was stuck on this deer's hoof was removed by Wildlife Division biologists during winter 2015.

can take a great deal of effort to coordinate the capture of affected animals and the subsequent removal of harmful items. But, the residents who reach out on the animal's behalf are always appreciative of the efforts, making a successful end to the ordeal and providing a rewarding experience for all who participated.



B. EMBACHER, WILDLIFE DIVISION DEER MANAGEMENT PROGRAM (2)

P. J. FUSCO

# Monitoring the Pulse of River and Stream Fish Communities

Article and photography by Mike Beauchene, DEEP Inland Fisheries Division

Metaphorically, the phrase, “a canary in a coal mine” represents an auspicious future, one where the outcome could be troublesome. To the biologist, this phrase represents the foundation of biological monitoring – inferring environmental condition based on living organisms. As the canary was more sensitive to methane and carbon monoxide than the miner, watching the behavior of the bird provided the miner with an early warning system. If the bird perished, then it could be assumed that the surrounding atmosphere was toxic. For the miner, a hasty exit was in order.

Fish community evaluation has been on-going since the late 1800s when Commissioners of the State Board of Fisheries and Game noted that many of Connecticut’s once prolific trout streams were barren, having fallen prey to the negative effects of damming, deforestation, and other anthropogenic stressors.

Connecticut has a long history of monitoring fish populations. Lake and pond surveys conducted in the early to mid-1900s involved using a seine net to capture fish and determine population structure. With the advent of electrofishing – the controlled use of small amounts of electricity to induce



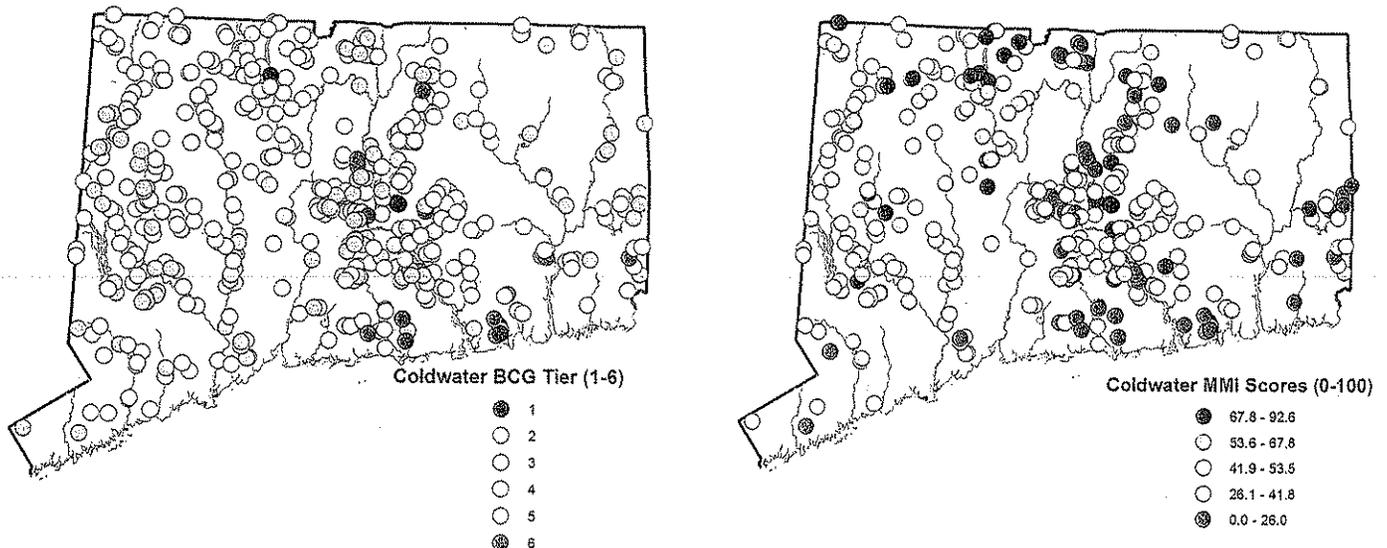
Electrofishing is a widely used method for the non-lethal collection of fish community data.

swimming towards the electric probe – collection of fishes became much more efficient.

The Federal Clean Water Act (1972) requires states to monitor, assess, and report on the condition of life within its

aquatic habitats. Since the early 1970s, DEEP has been evaluating Connecticut’s rivers and streams using the aquatic insect community. Due to their small size, ease of collection, and the fact that Connecticut has several hundred aquatic

Figure 1. Fish community data collected during 2011-2012, evaluated using the Connecticut coldwater biological condition gradient model (left) and the Connecticut coldwater multi-metric index (right). Darker blue colors represent intact fish communities and darker red represents altered fish communities.



*Similar to other evaluative indexes used in society, like the Gross Domestic Product Index, Unemployment Index, Dow Jones Index, or personal health related indices, such as body mass index or cholesterol levels, biological indices and calculations enable the fisheries manager to make informed management decisions based on the structure and composition of the fish community.*

insect species whose pollution tolerance ranges from intolerant to tolerant, these organisms are the perfect “canary” for water quality.

To improve evaluation of aquatic life in Connecticut rivers and streams, the DEEP’s Inland Fisheries Division and the Water Quality Monitoring Program within the Bureau of Water Protection and Land Reuse worked collaboratively to develop two complementary models: dual multi-metric indices (MMI) and the Biological Condition Gradient (BCG).

Both models are valuable tools for resource assessment and management as they provide information about the fish community sampled at various locations. Each model evaluates resident fish communities of coldwater and cool-water flowing water habitats (brooks, streams, and rivers) by using data generated by the collection, identification, and measurement of all the fish within a pre-determined sample area. The models differ in the type of output provided and how the output can be used for effective natural resource management.

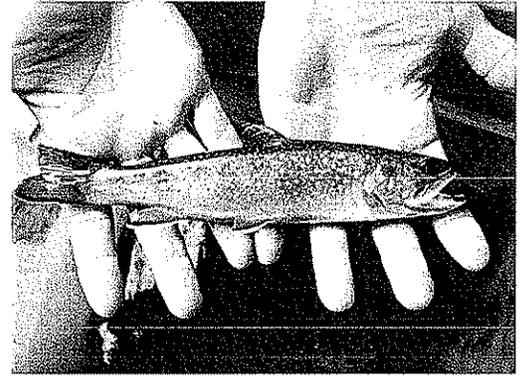
Connecticut’s dual MMIs are a series of independent, non-correlated calculations (metrics). The calculated value for each metric is scored (0-100), with the average of all metrics representing the final community score. MMI scores help determine if the fish community is functionally intact – meaning, having a balance of feeding groups with obligate stream dwellers present.

Connecticut’s BCG model is anchored by Tier 1, the “native” or “natural” condition and, as such, subsequent Tier assignments reflect the degree of deviation from natural. BCG tier assignments identify places where fish communities are relatively “pristine,” as well as those significantly altered.

The MMI and BCG models both assess fish community structure, but differ in how data are evaluated. As an example, BCG and MMI scores were calculated for each fish community sample collected during the summers of 2011 and 2012 (Figure 1). In both graphics, dark blue is the upper end of the scale and red the lower end. Both

show that the northwest corner of the state is represented with predominantly “blue” colors and central Connecticut with predominantly “red” colors. However, the MMI model produces more dark blue dots than the BCG. As each model treats the same fish community data slightly different, more informed decisions can be made by evaluating the output from both models.

Connecticut’s landscape and, by default, its fish communities have experienced great change over the past 300 years. Restoration efforts in the late 1800s were based on angling success and direct observation, and included re-introduction of native fishes and the stocking of non-native fishes to fill empty habitat. With today’s objective decision-making tools – the MMI and BCG – we are able to evaluate the effectiveness of various restoration and con-

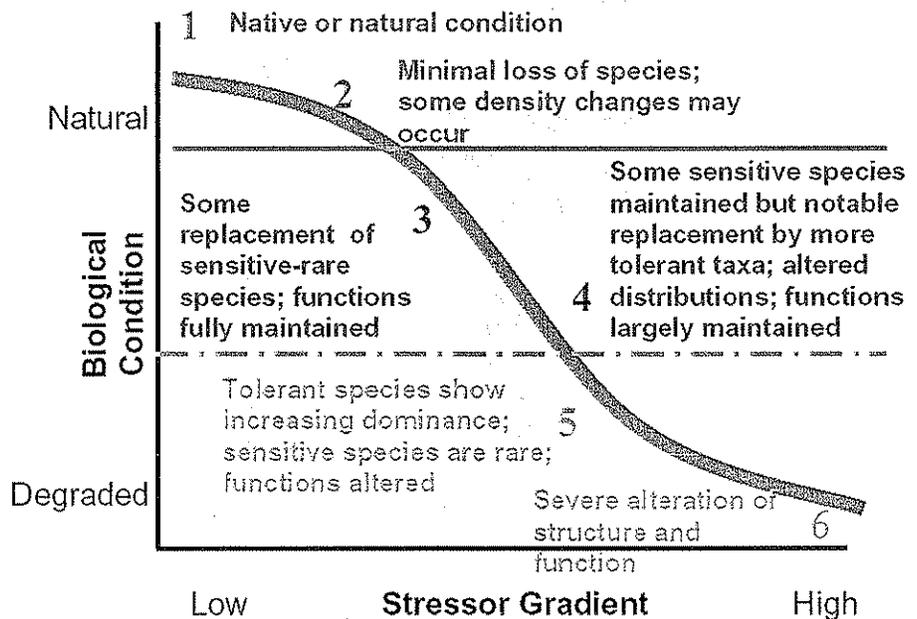


*The presence of trout in a body of water is a discrete ecological fact that nevertheless signifies certain things. It signifies a particular complex of biotic and chemical and physical factors, a standard of richness and purity, without which that troutly presence is impossible.*

– “Wild Thoughts from Wild Places,” David Quammen.

servation projects, such as water quality improvement, habitat restoration, fish passage via dam removal, stream flow regulation, and water temperature modification. The models also are valuable in prioritizing conservation efforts by providing identification of the “best” of what Connecticut has to offer.

## *The Biological Condition Gradient Model*



The Biological Condition Gradient (BCG) is a conceptual model, based on the premise that biological communities form a continuous gradient from completely natural (Tier 1) to severely dysfunctional (Tier 6). The BCG can be applied to any type of biological community and provides a common framework for regional comparisons of biological communities.

# Bringing Dead Wood Back to Life - The Pileated Woodpecker

Article and photography by Paul Fusco, DEEP Wildlife Division

The spectacular pileated woodpecker is Connecticut's largest member of the *Picidae* family. As big as a crow and black with a flaming red crest, the pileated woodpecker is unmistakable. When observed pounding away at a dead tree with wood chips flying, it is a stunning and memorable sight. It becomes easy to see how the pileated woodpecker got the nickname of "woodbutcher."

Pileated woodpeckers are non-migratory and found in Connecticut year-round. Within their large home range, they are able to communicate with one another by vocalizing and drumming on dead trees. Their loud, "jungle-bird" call rings through the forest, providing the landscape with a quality of wildness.

Typical calls include a series of 10 or more "cuk, cuk" calls. The loud "kek, kek, kek" call is a rapid series of six or more notes at the same pitch, followed by the last note being lower in pitch.

This is long distance call that allows pairs to communicate and also sound an alarm. The pileated's call may be similar to that of the northern flicker, but much deeper and louder.

## Description

A long neck, long tail, and long bill give the pileated woodpecker a streamlined appearance. The bill is heavy, thick, and chisel-like. The pileated woodpecker uses strong legs and feet to grip the sides of trees, and stiff tail feathers to brace itself.

At first glance, the plumage is solid black, but when wings are raised the white underwing linings become visible. A white stripe extends up both sides of the neck to the bill, and there is a black stripe through the eyes. A white wing patch flashes at the base of the primaries when the bird is in flight. When the bird is at rest, the white patch is small but visible at the base of the primaries on the folded wings. Both males and females have a bright flame-red crest. Females have a black forehead and lack the red mustache mark of the male.

Pileateds are strong fliers with slow, deep wingbeats. They have an undulating flight pattern similar to other woodpeckers but not as pronounced.

## Habitat

Look for pileated woodpeckers in mature deciduous and mixed coniferous forests that have a component of large trees. These large, older trees are a habitat requirement. In Connecticut, pileated woodpeckers also may be found in suburban backyards that have mature trees with nearby woodlands. This woodpecker is most common in northwestern and western parts of the state as these areas have extensive tracts of mature forest. A typical home range or territory may be up to 1,000 acres in size.

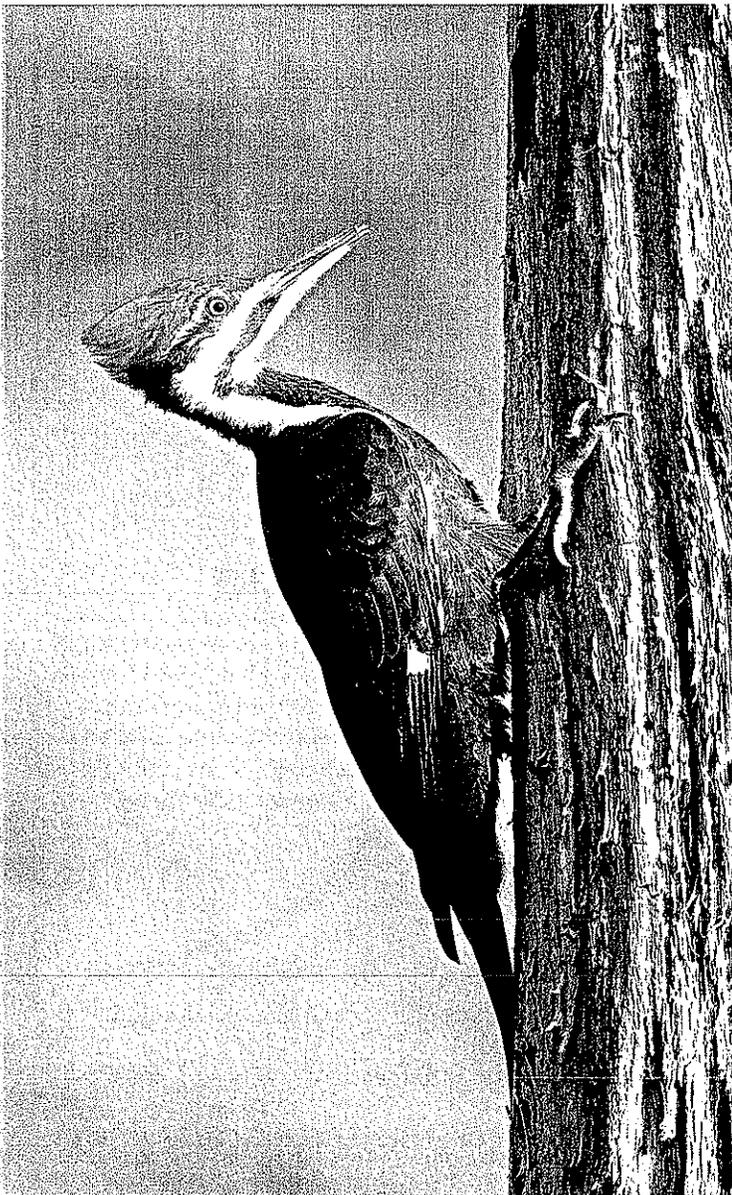
Large oval or rectangular tree holes are the distinctive sign of this bird's presence in the forest. Newly-excavated holes will have fresh wood chips at the base of the tree. Some holes in live trees show sap bleeds.

Nest cavities are excavated in large tree limbs or standing snag trees, usually in a shaded location and anywhere from 10 to 80 feet off the ground. The same nest cavity may be used in successive years. A typical nest cavity is approximately 8 inches in diameter and up to 30 inches deep, and the entrance hole is usually 3.5 to 5 inches wide. A normal clutch is 3 to 5 white eggs, which are incubated for about 18 days. Young fledge after 26 to 28 days, and may stay with the adults for up to 3 months.

## Behavior

Often foraging low to the ground, pileated woodpeckers may be seen at close range as they chisel into fallen logs looking for carpenter ants, which are their favorite food. They also will consume other ants, wood boring beetles and their larvae, termites, budworms, caterpillars, and other insects. Fruits, including berries, acorns, and beechnuts, also may make up part of their diet. Pileateds will occasionally come to backyard feeders for suet.

When chopping on logs, a pileated woodpecker's long neck is reared back giving maximum power to the heavy bill when it strikes. Hammering is forceful and deliberate, enabling the woodpecker to excavate huge, deep holes in trees, both dead and alive. Pileateds will use their long, barbed tongue to probe deep



With a blazing red crest, the pileated woodpecker is an unmistakable bird in Connecticut's forest habitats.

into crevices and bore tunnels to retrieve food.

Woodpeckers do not have the ability to communicate by singing as songbirds do. Instead, they vocalize with non-musical calls or they drum. Drumming is done to attract a mate and claim a territory. By rapidly pecking on a resonant object, such as a hollow tree limb, woodpeckers create a pattern of sound. Patterns vary by species and may have differences in tempo, rhythm, and length. Drumming is most commonly heard in spring when birds are trying to attract mates and establish territories.

In pileated woodpeckers, drumming is a rapid, rolling, and powerful burst of pecking that accelerates, then trails off at the end. Both sexes will drum, although males drum more frequently and vigorously. Drumming bursts may last for about 3 seconds with 1 or 2 bursts per minute. Bursts may be done up to 7 times in a row.

### *Conservation*

Pileated woodpecker population dynamics show an unmistakable link to the availability of mature forest habitat. Over the years, this large woodpecker has undergone radical changes in population. Historically, populations declined with the clearing of the great Eastern forests and the advent of agriculture through the late 1800s. As farmland was abandoned and forests regrew into the 1930s, the pileated woodpecker rebounded. In more recent years, as forests have matured, there has been a dramatic increase in populations. North American Breeding Bird Survey (BBS) data indicate an increase of 33% in North America between 1966 and 1993. The rate of increase has slowed since that time. In Connecticut, forest habitat maturation continues at a rate of 2-3% per year.

The biggest conservation concern is the potential for habitat loss and conversion away from mature forest ecosystems. While this may be applicable in other parts of the woodpecker's range, the population is stable or slightly increasing in Connecticut due, in large part, to our extensive forests that continue to provide decaying material.

Other possible concerns include forest fragmentation, monoculture/even-aged forestry practices, removal of downed wood, and, to a smaller extent, deliberate killing and irresponsible use of toxic chemicals. Large standing dead trees and fallen logs are important habitat components for these birds. Forest management practices in Connecticut have standards for leaving a certain number of snags per acre in managed forests. Forest fragmentation and removal of downed wood have implications that may impact moisture balance of the forest floor, resulting in a drier environment and making it less suitable for the food organisms that the woodpecker relies on.

By consuming large amounts of wood-boring pests, pileated woodpeckers provide a beneficial service to the health of our forests. They also provide benefits to a wide range of other wildlife species that use their holes. Old nest and roost holes are used by owls, ducks, bluebirds, bats, squirrels, and fisher, just to name a few. This impressive bird that brings a sense of wildness to our forests is one of Connecticut's great avian residents.



A fledgling pileated woodpecker peers out of its nest hole. The red moustache is a field mark that indicates this bird is a male.

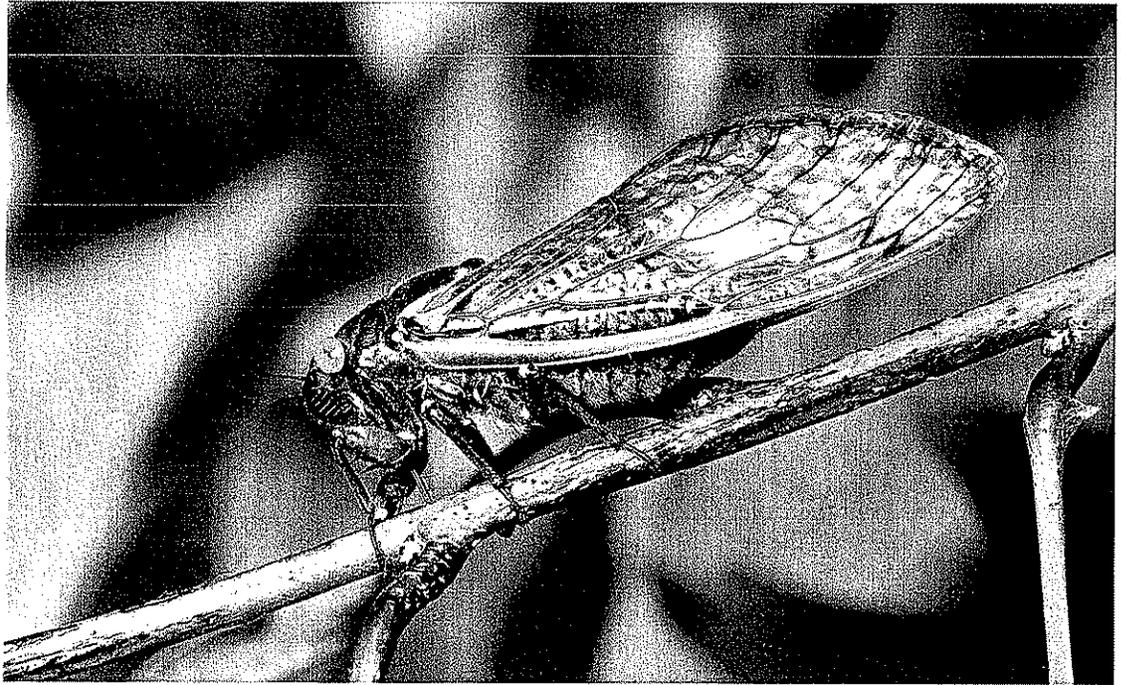


When a pileated woodpecker hammers away at a tree, the wood chips frequently go flying in all directions.

# Mapping Populations of 17-Year Periodical Cicadas

Written by Chris Maier, Connecticut Agricultural Experiment Station

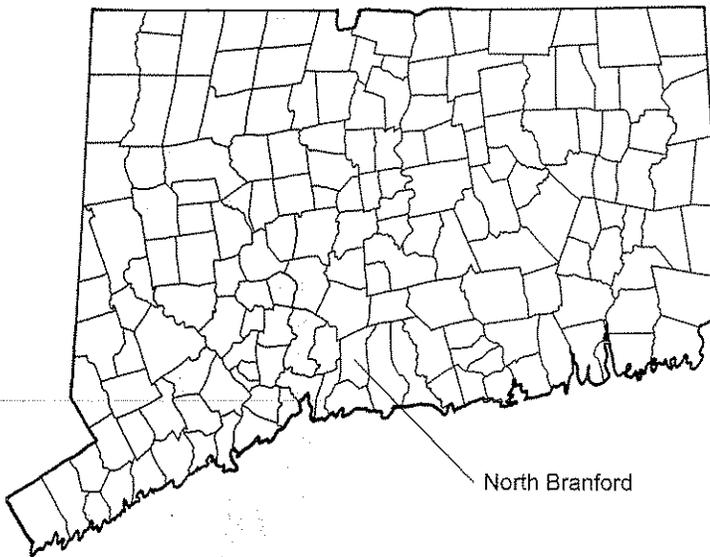
In the eastern United States, the synchronous mass emergence, lengthy life cycle, and large male choruses of 17-year periodical cicadas have intrigued scientists and laypeople for centuries. These unusual insects live underground for most of their life cycle, but every 17 years their nymphs emerge from the soil, climb vegetation, and transform into short-lived adults. The males attract mates by producing sound with special organs, or tymbals, located at the base of the abdomen. Over a few weeks, the adults mate, the females lay eggs in small branches, and then both sexes die. In late July and August, tiny nymphs hatch from the eggs and enter the soil to feed upon xylem fluid in the roots of woody plants. In spring 2013, Connecticut citizens were treated to one of these mass emergences of 17-year periodical cicadas.



P. J. FUSCO

An adult of the 17-year periodical cicada, *Magicada septendecim*. This cicada had a mass emergence in late spring 2013.

## Distribution of Periodical Cicadas 2013



Towns (in yellow) in which periodical cicadas emerged in 2013. In all, cicadas appeared in a total of 20 towns, with *Magicada septendecim* in all and with *M. septendecula* (a newly-discovered population) only in North Branford.

Connecticut has the easternmost populations of brood II of the 17-year periodical cicada, *Magicada septendecim*. These populations have been surveyed either informally or formally since 1911. In the 1911 survey, W.E. Britton of the Connecticut Agricultural Experiment Station reported cicadas in 25 towns, but he did not verify records or deposit voucher specimens for every positive town.

In 1945, R. G. Cooper, who also worked at the Experiment Station, made maps of the locations of populations; but, he did not formally publish his results. The first formal attempt to map the one species of periodical cicada known from Connecticut was made by Chris Maier (the author) in 1978 and 1979. He deposited voucher specimens for each recorded population at the Connecticut Agricultural Experiment Station in New Haven. Again, in 1996, Maier repeated the effort, finding that cicadas occurred in 22 towns (2 new ones) but that they had disappeared from 5 others where development was prevalent. This last study and, to a lesser extent, the previous ones were used as guides to assist in finding populations in 2013.

During the last few decades, there has been increasing concern that populations of periodical cicadas are declining or disappearing. Indeed, in 1979 when Maier examined 75 sites that had populations in 1945, he found that 5.3% of the populations had disappeared. With declines suspected and disappearances documented, the DEEP Wildlife Division decided it would be valuable to obtain baseline data on the locations of extant populations in 2013 by recording the coordinates where populations occur with hand-held GPS units and by estimating abundance.

### Methods

This project formally began with a workshop for survey

volunteers held at the Wildlife Division's Sessions Woods Conservation Education Center in Burlington on May 13, 2013. The workshop was conducted by the author, with assistance from Wildlife Division biologist Laura Saucier. The workshop covered the biology of periodical cicadas and procedures for documenting cicada populations. Maps, a handout of survey procedures, various collecting supplies, and survey routes were distributed at the workshop. Use of a GPS unit was briefly reviewed and the song of *M. septendecim* was played to assist in accurately recording the whereabouts of cicada populations. In all, 16 people attended the workshop; the number of volunteers that eventually contributed one or more records during the survey was 13.

Whenever possible, surveyors collected voucher specimens of nymphal exuviae ("cast skins"), nymphs, or adults to document a positive site where a GPS reading had been taken. Some distributional records were based on the male calling song alone. Abundance was estimated by using four categories: 1) cicadas absent (no nymphal exuviae, adults, or singing); 2) low (scattered or single exuviae or adults, or isolated singing males); (3) moderate (exuviae or adults easily found, or light chorusing); and 4) high (exuviae and adults very common, or loud chorusing). The principal investigator visited most of the sites where cicadas were reported to ensure accuracy of reporting. Voucher specimens of periodical cicadas are deposited in the insect collection in the Department of Entomology at the Connecticut Agricultural Experiment Station, New Haven, Connecticut.

### Results and Discussion

Periodical cicadas of brood II were concentrated in central and south-central Connecticut. Populations, especially large ones, were clustered in three or possibly four regions of the state. The largest northern cluster was closely associated with the trap-rock ridge system that ran approximately from Rattlesnake Mountain in Farmington to the Hanging Hills in Meriden and Southington. The largest southern cluster of populations was mostly on the Totoket Mountain and adjacent ridge systems between Durham and Branford. Minor centers with at least two high populations were near the ridge with Sleeping Giant and in an area near the Killingworth-Madison border.

Based on searches of forested areas north of Farmington and along the eastern border of the 2013 emergence, the range of periodical cicadas has decreased from that recorded in 1911 and in 1996. In all, the survey team recorded periodical cicadas in 20 towns, two less than in 1996. Because survey methods differed between 1996 and 2013, it is not possible to determine if the populations are truly gone from North Haven and Cromwell where they were documented in 1996. Populations in these two towns were extremely small in 1996 (a few exuviae; no male singing).

The principal investigator documented cicadas at 154 locations, and the volunteers at 67 sites. Some of the 221 records, however, may be the same or may simply be ones at the edge of the large populations that were recorded. Notably, several large populations that were not recorded in 1996 or earlier were found in Cheshire, Guilford, Hamden, Madison, Meriden, and Wallingford. Finally, the survey team compiled 134 negative records.

Perhaps, the most significant find in 2013 (although not formally a part of this study) was the discovery of a second species of periodical cicada in Connecticut. This species, known as *Magicicada septendecula*, usually is the least common of the three 17-year species and is smaller than *M. septendecim*. The



C. MAIER, CONNECTICUT AGRICULTURAL EXPERIMENT STATION

A nymph of the 17-year periodical cicada emerging from the ground.

new cicada species was found while the author was servicing traps to capture longhorned beetles near Lake Gaillard in North Branford. At least two chorusing centers of *M. septendecula* occurred on Totoket Mountain on the property of the South Central Connecticut Regional Water Authority. These finds are the northeasternmost ones for this uncommon species. In June, males of this species sang mainly in trees of pignut hickory, *Carya glabra*. This species is currently in the process of being listed as endangered in Connecticut.

The principal problems encountered during this survey were the inclement weather (many days with heavy rain) and inconsistency of volunteers in following the survey protocol. The protocol for evaluating population size, in particular, was not strictly followed by several volunteers; but, it is not surprising due to their inexperience. Follow-up visits by the author to many sites recorded by volunteers helped to improve the accuracy of the survey, not only for distributional records, but also for assessments of population size.

### Acknowledgments

The DEEP Wildlife Division provided funding for this project. The author greatly appreciates the efforts of the volunteer surveyors: Kate Abbott, Susan Andrie, Laura Rogers-Castro, Paul Fusco, Katherine Herz, Connor Hilbie, Rachael Hyland, Josh Kelly, Cindy King, Andy Kiszewski, Kate Moran, Laura Saucier, and Karen Zyko.

The author also thanks the South Central Connecticut Regional Water Authority, the New Britain Water Company, and many fruitgrowers for allowing access to their property.

# Discarded Tires and Mosquitoes:

## A Quality of Life and Public Health Perspective

Written by Roger Wolfe, DEEP Wildlife Division

Improperly stored or discarded scrap tires are not only unsightly, but also can be unhealthy when they provide ample habitat for mosquitoes and other pests.

Of the nearly 3,000 species of mosquitoes worldwide, 176 species are known to occur in the United States. Currently, Connecticut has 52 mosquito species; two of these are exotic (non-native) species which allegedly were imported into the United States in shipments of used tires. The good news is that only about half of our mosquito species are of public health importance. However, the sporadic hordes that we encounter or even that one mosquito buzzing in your bedroom at night can affect your quality of life.

Mosquitoes have a life cycle known as "complete metamorphosis." That is, they have a distinct egg, larvae, pupae, and adult stage. They can be broadly categorized into two groups: 1) those which lay eggs, either individually or clustered in an "egg raft," that float on a stagnant water surface, and 2) those that lay individual eggs on a moist surface, such as mud and wet leaf litter, or above the waterline in a tree hole or used tire casings. When the eggs of these "floodwater" mosquitoes are flooded by melting snow, heavy rain, or high lunar tides along the coast, they hatch and grow through their aquatic larval and pupal stages before emerging as adults. This process can take as long



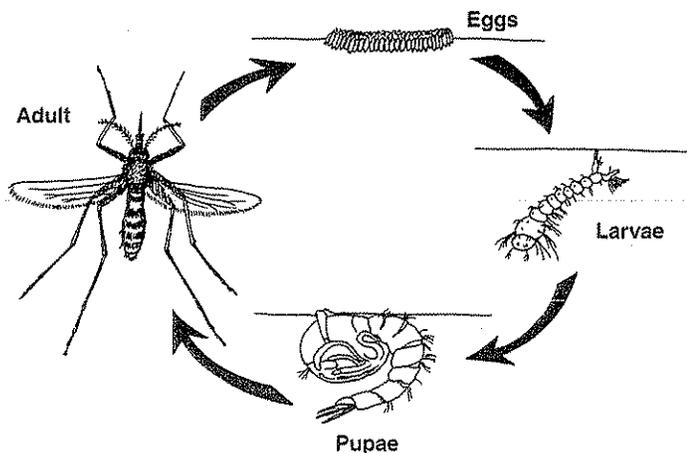
Scrap tires that are not covered and stored properly collect rain water and can produce hordes of mosquitoes.

as a month and a half in early spring or as little as five to seven days during summer.

Mosquitoes can be found in almost any natural and artificial still-water environment. Tire casings readily mimic natural tree cavities, providing an effective incubator for mosquito larvae, free from predators. While both male and female mosquitoes feed on plant nectar for nutrition, only the females feed on us for a blood meal to obtain protein for egg production. A female mosquito that has not had a blood meal can lay about a dozen eggs. However, with a blood meal, that same mosquito can lay up to 250 eggs at one time. Depending on the species, this can occur only once in an adult female's lifetime (called univoltine) or several times per season (called multi-voltine). This latter strategy increases the risk of the mosquito picking up a pathogen and passing it on to a bird, mammal, or other host. Furthermore, some species are particular in their feeding preference (i.e., amphibians or birds), while others are not as selective, feeding on both birds and mammals. This also increases the risk of picking up and transmitting pathogens, such as West Nile virus (WNV) or eastern equine encephalitis (EEE).

Connecticut's two exotic mosquitoes, the Asian bush mosquito (*Ochlerotatus japonicus*) and Asian tiger mosquito (*Aedes albopictus*), were most likely imported into the United States in shipments of tires and quickly expanded their range by means of the used tire trade. Both species are native to Japan, Korea, Taiwan, and parts of Asia. They are aggressive mammal-feeders and have been shown to displace native mosquito species from their natural habitats, including rock pools, tree holes, and artificial containers such as scrap tires. The Asian tiger mosquito

### Mosquito Life Cycle



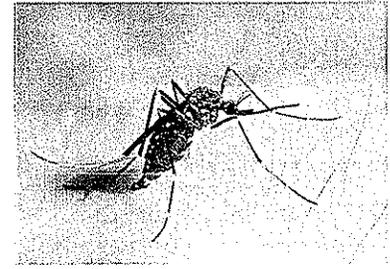


Natural cavities, like tree holes, can provide homes for several species of mosquitoes.

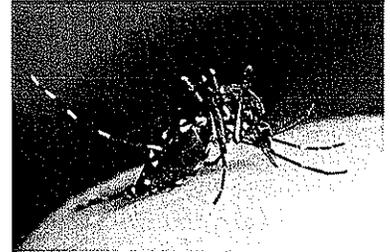
was first discovered in the United States in Texas in 1985 and has spread its range throughout the eastern half of the country as far north as Maine. This mosquito is now considered the number one pest species in several states. It also is an effective vector of WNV, malaria, dengue, and dengue hemorrhagic fever. More recently, Chikungunya virus, another debilitating mosquito-borne disease, was discovered for the first time in the western hemisphere in 2013 on St. Martin in the Caribbean and has since spread throughout the region, resulting in over 738,000 human cases of this disease. Several cases of Chikungunya have been documented in Connecticut from travelers returning from the Caribbean, demonstrating how quickly and easily certain vector-borne diseases can spread. In addition, the long-term effects of climate change will likely increase the northward expansion of some of the more southern mosquito species, some being effective vectors of disease.

### *Improperly stored or discarded scrap tires provide ample habitat for mosquitoes and other pests.*

The Connecticut Mosquito Management Program is a multi-agency collaboration of the Department of Energy and Environmental Protection, Connecticut Agricultural Experiment Station, Department of Public Health, Department of Agriculture, and the University of Connecticut. The Program is founded on surveillance and testing of mosquito populations; monitoring of human and veterinary disease cases; educating the public on source reduction of mosquito-breeding habitats and personal protective measures against mosquito bites; focused wetland restoration and management; and judicious use of registered mosquito pesticides. The Connecti-



Asian bush mosquito (*Ochlerotatus japonicus*)



Asian tiger mosquito (*Aedes albopictus*)

cut General Statutes (Sections 22a-45b and 19a-213) allow for the elimination or prevention of mosquitoes and natural or

man-made mosquito-breeding habitats as is necessary to abate a threat of disease to humans or animals from insect vectors.

In 1999, and again in 2005, a survey was conducted of abandoned tire piles and tire facilities around the state to document the presence and extent of Asian bush and Asian tiger mosquitoes. A number of scrap yards, abandoned tire piles, and collection facilities were found to be producing mosquitoes. Often, the facilities piled uncovered used tires for a period of time before having them hauled to other locations, demonstrating how frequently and easily scrap tires (and the mosquito eggs they may be harboring) can be moved from place to place. Scrap tires should be disposed of promptly and properly through a licensed tire hauler. It is illegal in most states, including Connecticut, to landfill scrap tires or dispose of them improperly. At a minimum, tires should be stored under cover (i.e., roof, awning, trailer, storage container) or stacked and covered with plywood or other flat cover to prevent rainwater from entering (if covered with a tarp, make sure that doesn't collect rainwater as well). If used, for example, on a farm to hold down tarps, only tire sidewalls should be used or the tires should have holes punched or drilled in them to prevent rainwater from accumulating.

Although not readily apparent, discarded tires play a role in public health as a source of mosquitoes, and their importation and interstate movement can have significant impacts on the health, ecology, and economy of our state and country.

### ***More information on mosquitoes and their control:***

Connecticut Mosquito Management Program: [www.ct.gov/mosquito](http://www.ct.gov/mosquito)

American Mosquito Control Association: [www.mosquito.org](http://www.mosquito.org)

Northeastern Mosquito Control Association: [www.nmca.org](http://www.nmca.org)

National Centers for Disease Control and Prevention: [www.cdc.gov](http://www.cdc.gov)

# Atlantic Sturgeon of the Connecticut River?

Written by Tom Savoy, DEEP Marine Fisheries Division, photos by DEEP Marine Fisheries Division staff

Connecticut was once host to at least a couple spawning stocks of the now federally endangered Atlantic sturgeon. Speculation remains as to how many stocks (1, 2, or 3) since it is possible that the Connecticut, Housatonic, and Thames River systems each had their own populations. However, it also was long thought that Atlantic sturgeon native to Connecticut waters were completely gone 100 years ago or more, victims of overfishing, dam construction, and water pollution.

In a previous article in *Connecticut Wildlife* (March/April 2014), we had reported on interesting movements of immature Atlantic sturgeon in Connecticut waters based on collections and acoustic detections of fish with implanted ultrasonic transmitters. Genetic materials from some of the sturgeon collected were analyzed and demonstrated presence of Atlantic sturgeon from several states (NY, MD, DE, VA, and GA) in Connecticut waters as these fish migrate long distances along the Atlantic coast. Other information gathered more recently has led to speculation that maybe a few native Atlantic sturgeon remained.

Telemetry studies confirmed a seasonal presence in Connecticut waters but these fish migrated to warmer waters off

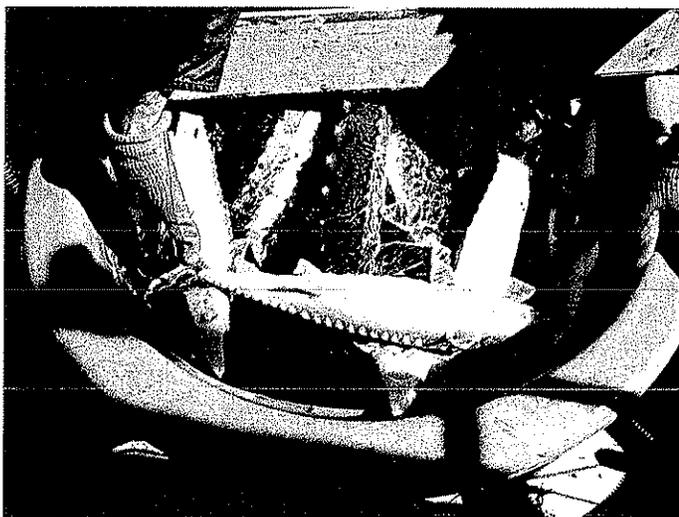


Immature Atlantic sturgeon (size 6 inches fork length) collected in May 2014.

the southern United States in fall and winter. More recent information showed that some Atlantic sturgeon lingered longer in our waters than previously thought, so their seasonal presence formerly described as "May through October" needed to accommodate some fish arriving as early as March and some staying until December. Individual fish have been observed returning to Connecticut waters for three, four, and five consecutive years. Researchers have seen sturgeon moving well up the Connecticut River beyond the salt wedge, some moving far up river to the Hartford area and beyond. Telemetry efforts also documented the first known year round presence of Atlantic sturgeon in Connecticut waters with a couple of fish overwintering within the river.

Some astute television news watchers (or followers of DEEP's Connecticut Fish and Wildlife Facebook page) may remember the report of a six-foot Atlantic sturgeon washing up on a beach along the Connecticut River in Lyme in late April 2014. While the Department could not make any assumptions about the significance of the one fish given that Atlantic sturgeon make extensive travels along the entire East Coast of the United States, the timing and location of the fish were interesting. Wandering juveniles and adult sturgeon do not confirm presence of a spawning stock. Age zero or one-year-old fish need to be found to know that successful spawning has occurred.

And so the mystery unfolded . . . one immature six-inch sturgeon was collected in October 2010. Genetic testing of a tissue clip confirmed that it was an Atlantic sturgeon. While



Fall 2014 collection of several immature Atlantic sturgeon.

extremely interesting, the collection of a single, age one fish can raise more questions than provide answers. Was it a native fish? Did someone dump it in the water from somewhere else?

Then, in May and June of 2014, a total of eight small Atlantic sturgeon were collected in the lower Connecticut River while Marine Fisheries Division biologists were conducting studies of the smaller shortnose sturgeon. The shortnose sturgeon is also endangered but it has an increasing spawning stock in the Connecticut River. All of the young Atlantic sturgeon were uniquely tagged with PIT tags (similar to the microchips that people place in their pets) and a piece of fin was clipped for future genetic analysis.

Most of the Atlantic sturgeon were collected as single fish each day the Marine Fisheries Division was out sampling with a skiff trawl; one red letter day produced three. Then one day in late September, 21 of 32 sturgeon collected were small Atlantic sturgeon. Over the next five weeks, 31 additional fish were collected for a total of 62 small, immature Atlantic sturgeon collected in 2014. Four of these small fish were recaptures of fish captured and tagged earlier in the year, documenting survival and growth rates.

A final, necessary step before declaring spawning of Atlantic sturgeon in the Connecticut River is an analysis of the genetic material collected and a determination of whether these fish are genetically different from other known river stocks (i.e., the Hudson River to our west and south, and the Kennebunk system to our north). However, prospects are good that the Connecticut River will be put back on the map of spawning grounds for this endangered species.



An Atlantic sturgeon recovered from a beach in the Connecticut River in March 2014 (size 6.2 feet fork length).

## Destructive Southern Pine Beetle Found in Connecticut

The southern pine beetle, a destructive insect native to the Southeastern United States, has been confirmed in Connecticut. This beetle is capable of infesting and killing large stands of pine trees. Connecticut's native white pine (a "soft" pine) is potentially not at risk, but pitch pine and other "hard" pines are. The potential loss of pitch pine to an infestation of southern pine beetle is of grave concern. This native tree was once abundant in our state, but due to development of its preferred habitat (the sand-plain ecosystem), it now remains in scattered patches. Unique and highly-valued pitch pine habitat is critical for rare and endangered species dependent on pine-oak sandy barrens.

The southern pine beetle is not a species of federal regulatory concern, which is different from the emerald ash borer and Asian longhorned beetle. The extensive regulatory restrictions associated with these non-native, invasive insects do not apply to the southern pine beetle. The DEEP Division of Forestry and Connecticut Agricultural Experiment Station (CAES) want to limit the spread and discourage any population increase of this detrimental insect.

Currently, CAES is in the process of ascertaining how widespread this insect is in the state by encouraging any reports of infestation, and through trapping and field surveys. Sensitive habitats, such as extensive stands of pitch pine, will

be a high priority for monitoring. As southern pine beetles are found, this information will be shared so that natural resource professionals can be aware of their presence.

The experience of foresters in the Southeastern United States will be of great value in providing guidance relative to forest management for southern pine beetle. Generally speaking, managing a stand for the health of individual trees appears to be the best way to keep this destructive insect in check. Thinning to release pitch pine crowns from competition might best protect stands from outbreak attacks.

### *Report Suspected Infestations*

Infested pine trees attempt to push out attacking beetles with a flow of resin. Attacked trees become covered with small popcorn-like blobs of dried resin. If the attack is successful, beetles lay eggs under the bark and larvae then feed on the circulatory system of the tree, killing it in one to two years.

The CAES is encouraging Connecticut residents to be on the lookout for the popcorn resin on pine trees. Any suspected finds should be reported to the CAES at 203-974-8474 or [ctstateentomologist@ct.gov](mailto:ctstateentomologist@ct.gov).

More information on the southern pine beetle is available at [www.ct.gov/deep/forestry](http://www.ct.gov/deep/forestry) and [www.ct.gov/cases](http://www.ct.gov/cases).

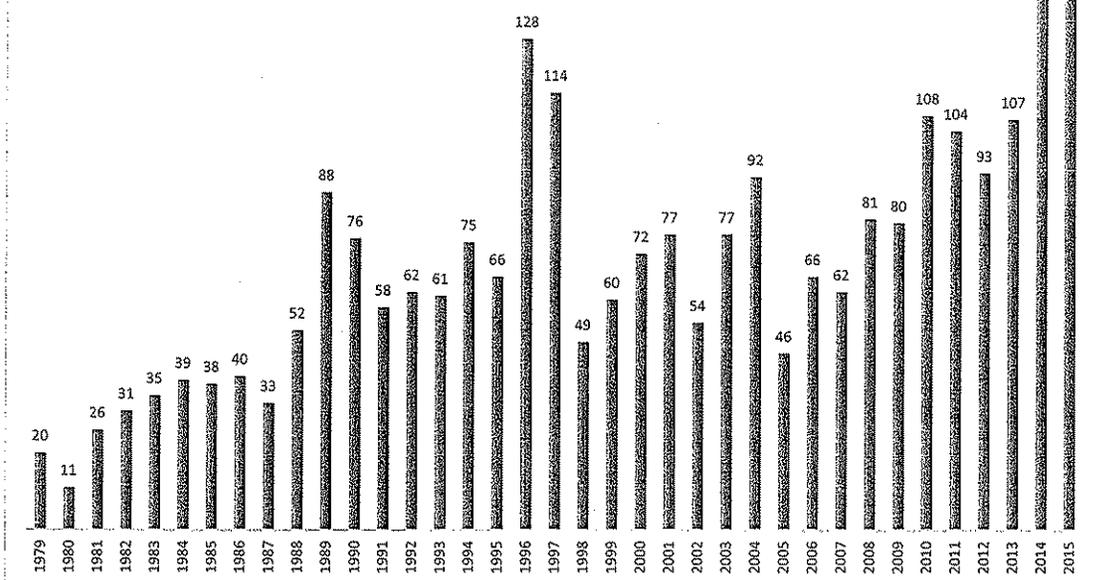
# 2015 a Banner Year for the Midwinter Bald Eagle Survey

Dozens of volunteer observers headed out into the cold on Saturday, January 10, 2015, to look for eagles during the annual Midwinter Bald Eagle Survey. Volunteers checked various lake and river locations along standard survey routes to record the number of bald eagles observed during a specified period of time.

Temperatures were cold, but the skies were clear and no snow was falling. However, most lakes were almost completely covered with ice. Despite the ice conditions, more eagles were observed in 2015 than in any other Connecticut Midwinter Eagle Survey (surveys began in 1979). A total of 146 eagles were observed, which included 85 adults, 57 immature eagles, and four of unknown age. In 2014, 143 eagles were counted.

The DEEP Wildlife Division would like to thank all of the volunteers who braved the cold to search for eagles dur-

## Results for the Midwinter Bald Eagle Survey in Connecticut from 1982-2015.



ing the survey.

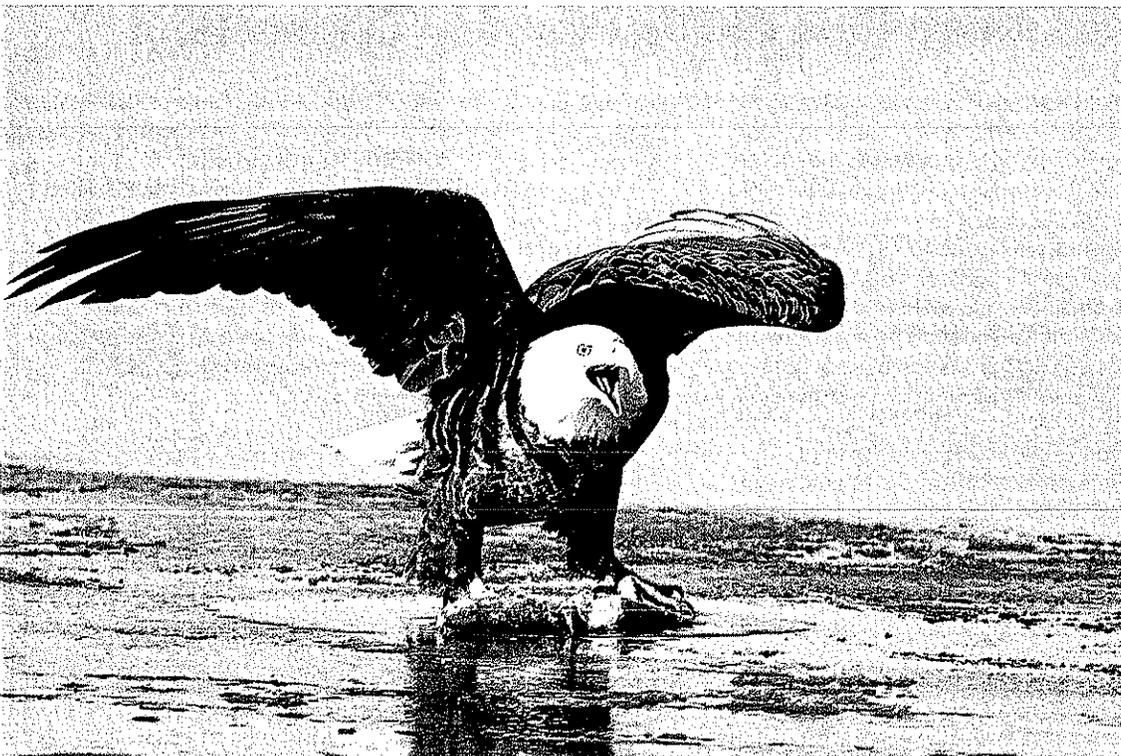
### 2015 Nesting Season

The adult bald eagles counted in the Midwinter Eagle Survey headed back to their breeding territories in February. While most winter visitors left Connecticut to breed, some stayed behind to nest.

Since 1992, eagles have nested in the state and, as their population continues to rebound, our rivers, lakes, and shorelines host an increasing number of nesting pairs of eagles. Twenty years ago, Connecticut had one active nesting territory. This year, we are monitoring 40 active territories in all corners of the state. DEEP works

with a network of volunteers to monitor progress as the birds mate and lay eggs, and then as the eagle chicks hatch and grow.

Mid- to late spring is a particularly sensitive time for bald eagles. Temperatures are warming, but spring weather can be volatile. Increased human traffic can flush the parents, and time away from the nest can be hazardous for developing eggs and eaglets. If you see nesting eagles, observe them from a distance and enjoy watching a great wildlife success story unfold.



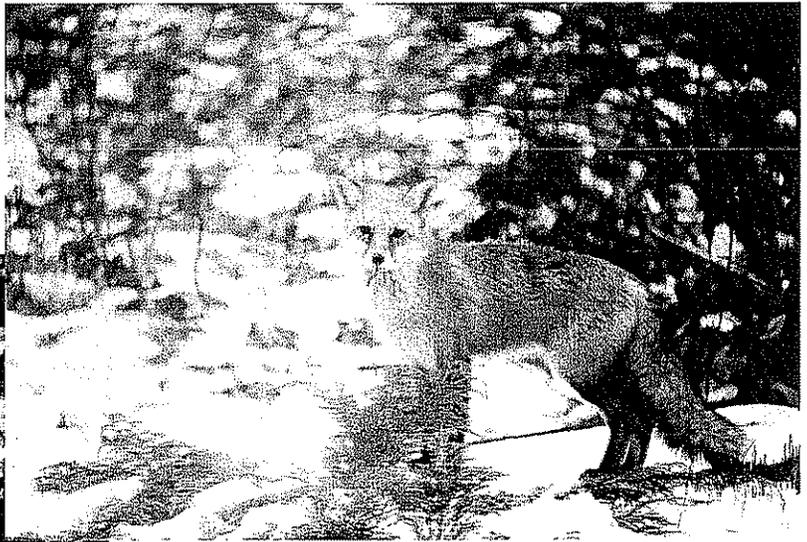
Wintering eagles tend to congregate along Connecticut's major rivers in places where the water remains ice-free.

Do you have an interesting wildlife observation to report?

Please send your story with photos to: Wildlife Observations, Wildlife Division, P.O. Box 1550, Burlington, CT 06013, or email: [deep.ctwildlife@ct.gov](mailto:deep.ctwildlife@ct.gov)

## *Foxes on the Patio!*

Homeowners Fred and Myrna Blum spotted these red foxes on their patio in January. Fred, an avid amateur photographer, grabbed his camera and started taking pictures through the sliding glass door, so as not to scare them off. "While we have had deer, bobcat, and bear in the backyard, this is the first time we have seen anything larger this close to the house. Normally, we see a lot of chipmunks and squirrels right on the patio, but nothing else has ever come right up to the back door!" The pair stuck around for about 10 or 15 minutes. "They looked at us while we looked



at them, then they seemed to play a little bit before heading off into the woods behind our house." While generally solitary creatures, it is not unusual for foxes to be seen in pairs during winter. They are common in suburban areas, such as this neighborhood, where they feed on small rodents, squirrels, and amphibians, as well as eggs, fruits, nuts, and garbage.

## *The Backstory: A Lesson from Above*

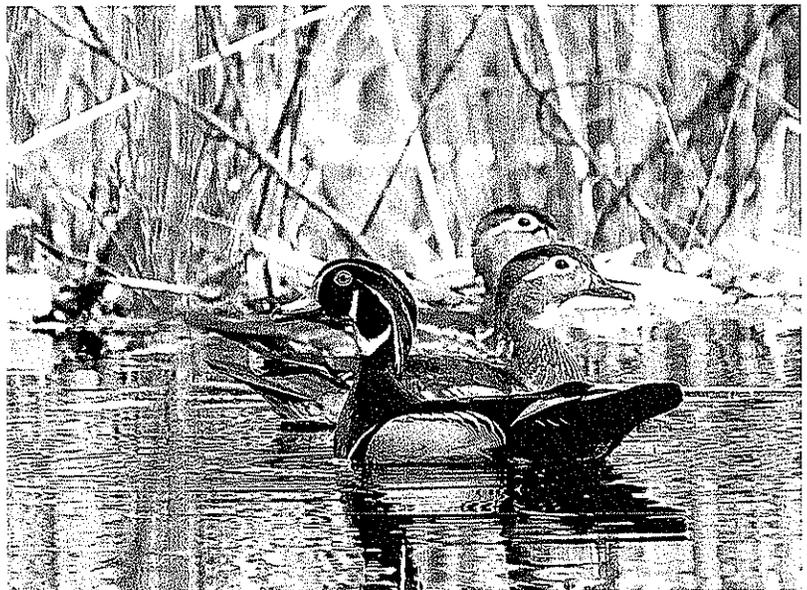
The snow on the ground is long gone and I am carefully working my way toward the far end of the swamp. I am a wildlife photographer that is hoping to get some photographs of a nesting pair of wood ducks. These particular ducks I know well. I had spent quite a bit of time with them last year watching them raise their young. They are shy and elusive. Give them the slightest hint you are around and they will disappear into the reeds. An hour will go by before they chance a return. So, there I sit, waiting, chastising myself for making a careless move. That's all it took.

The wood duck . . . *Aix sponsa*. Your attention is initially drawn to the spectacular colors of the adult male. Green, blue, orange, black, white, the chestnut breast, and those red eyes. The female, although not as colorful as the male, also has unique markings. The beauty of these birds would be enough, but much more sets them apart from other ducks. My first lesson occurred when I was trying to sneak up on this pair. So proud of myself as I quietly moved through the swamp, convinced they would never see me coming. Something caused me to look up. High above, sitting on the branch of a dead tree, was a male wood duck staring down at the foolish human below.

It turns out that, not only do they perch in trees from time to time, but they also nest in tree cavities about five to 15 feet above the ground. When the eggs hatch, the ducklings jump out of the nest and make their way to water. At this point, the common routine of raising ducklings takes over. The young are virtually on their own and the next stage of their life is a dangerous one. When I first saw the female's brood, there were seven ducklings following her around the swamp. Four weeks later I could only find three. Danger can come from any direction, whether it is an owl swooping down, a fox from the shore, or a snapping turtle from below. The survivors will move on and start their own families. Nature's plan I guess.

The next time you are ambling toward a hidden pond or working the edges of a local swamp, take notice. With a little luck, you might just get the chance to witness an inspiring bit of nature. And don't forget . . . look up in those trees.

Article and photography by J. H. Clery, Wildlife Photographer (Check out his blog at [jhclerynaturephotography.wordpress.com](http://jhclerynaturephotography.wordpress.com))





## Black Bear Research

The Wildlife Division is currently monitoring 35 radio-collared female black bears, with increased emphasis on “suburban bears” that reside in such towns as Bristol, Plainville, Avon, Torrington, and Canton. With the help of radio telemetry equipment, biologists located the winter dens of these collared females from January through early April. The adult females were given an immobilizing drug so that each bear and any yearlings or cubs could be examined and data collected. Most of the collars on the bears are GPS-equipped, meaning that the collars obtain and



Wildlife Resource Assistant Scott Reinhardt uses telemetry equipment to pinpoint the location of a female black bear outfitted with a radio-transmitting collar.



store thousands of locations where these bears have travelled over the previous year. During this field work, biologists are able to retrieve the collars and download the stored data, as well as replace them with collars that have fresh batteries.

Data from these den visits help biologists predict the growth of Connecticut’s bear population and also determine the expansion of the population. Habitat selection by bears is also being examined.

## Northern Long-eared Bat Gets ESA Protection

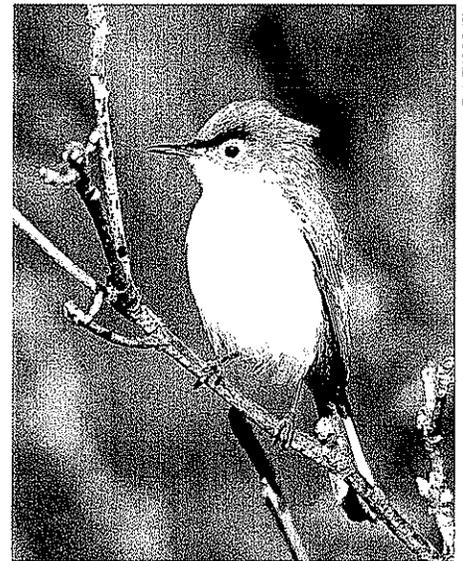
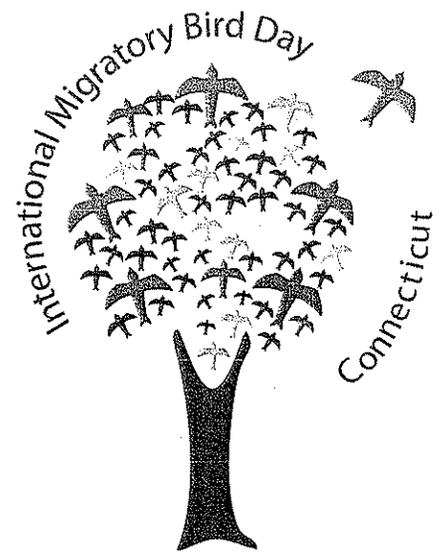
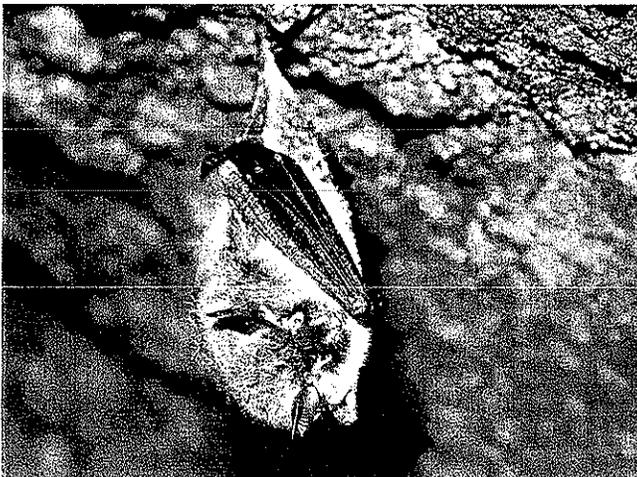
The U.S. Fish and Wildlife Service (USFWS) is protecting the northern long-eared bat as a threatened species under the federal Endangered Species Act (ESA), primarily due to the threat posed by white-nose syndrome, a fungal disease that has devastated many bat populations.

In the United States, the northern long-eared bat is found from Maine to North Carolina (including Connecticut) on the Atlantic Coast, westward to eastern Oklahoma and north through the Dakotas, reaching into eastern Montana and Wyoming. Throughout the bat’s range, states and local stakeholders have been some of the leading partners in both conserving the long-eared bat and addressing the challenge presented by white-nose syndrome.

In making this decision, the USFWS reviewed the best available scientific information on the northern long-eared bat, including information gathered from more than 100,000 public comments. This species is being listed because white-nose syndrome is spreading and decimating its populations. Along with this listing, the USFWS issued an interim special rule that eliminates unnecessary

regulatory requirements for landowners, land managers, government agencies, and others in the range of the northern long-eared bat. The rule provides appropriate protection within the area where the disease occurs for the remaining individuals during their most sensitive life stages, but otherwise eliminates unnecessary regulation.

For more information on the final rule listing the northern long-eared bat as threatened, and the interim rule, go to [www.fws.gov/midwest/nleeb](http://www.fws.gov/midwest/nleeb).



P. J. FUSCO (3)

Blue-gray gnatcatcher

## International Migratory Bird Day 2015

The theme for International Migratory Bird Day (IMBD) 2015, which was celebrated on May 9, is “Restore Habitat, Restore Birds.” Loss and degradation of habitat are primary threats to bird populations. The theme considers threats, such as urbanization and climate change, and suggests ways for people to get involved in habitat restoration projects at home, in communities, and further afield. The IMBD website ([www.migratorybirdday.org](http://www.migratorybirdday.org)) contains a variety of resources, such as fact sheets, games, activities, PowerPoint presentations, curriculum, and more.

The 2015 IMBD poster provides a colorful view of a few of the habitats migratory birds seek for nesting, wintering, or as stopover sites during migration. This beautifully illustrated poster can be ordered from the IMBD website for \$8.00 a piece (bulk orders are also available).

# Conservation Calendar

- Late April-August.....Respect fenced and posted shorebird and waterbird nesting areas when visiting the Connecticut coastline. Also, keep dogs and cats off shoreline beaches to avoid disturbing nesting birds.
- May 9.....**International Migratory Bird Day** – Celebrate this special day that highlights "Restore Habitat, Restore Birds." See page 22 to learn more.
- May 15.....Endangered Species Day, which was initiated by Congress in 2006, is an opportunity for people of all ages to learn about the importance of protecting endangered species and the everyday actions they can take to protect our nation's disappearing wildlife and last remaining open spaces. Learn more at [www.endangeredspecies.org](http://www.endangeredspecies.org).

## 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 emailing [laura.rogers-castro@ct.gov](mailto:laura.rogers-castro@ct.gov) or calling 860-424-3011 (Mon.-Fri., 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed! Sessions Woods is located at 341 Milford St. (Route 69) in Burlington.

- May 23.....**Open Center Day**, from 9:00 AM-3:00 PM. The Sessions Woods Conservation Education Center will be open as part of the No Child Left Inside "Open Center Day." There will be a full day of outdoor activities for families and other participants. Check the DEEP website ([www.ct.gov/deep/wildlife](http://www.ct.gov/deep/wildlife)) or the Connecticut Fish and Wildlife Facebook page ([www.Facebook.com/CTFishandWildlife](http://www.Facebook.com/CTFishandWildlife)) for a full list of activities.
- June 6.....**Trails Day Hikes**: Since 1993, the first Saturday of every June has been designated "National Trails Day." Sessions Woods will host two hikes designed for participants to learn about the unique habitats at this wildlife management area. The first hike is a 5.5-mile excursion that begins at 9:00 AM and is being led by Jan Gatzura and Jeff O'Donnell. The second hike, beginning at 1:30 PM, is 3 miles roundtrip and will be led by Karen Geitz and Wildlife Division biologist Peter Picone. Meet the hike leaders in front of the Education Center. Bring water, a snack, and wear proper walking shoes.
- July 18.....**Butterfly Walk**, starting at 1:30 PM. Wildlife Division Natural Resource Educator Laura Rogers-Castro will provide participants with a lesson on the basics of butterfly identification, including tips on distinguishing the various butterfly families. Following a brief indoor program, Laura will guide the group on a walk to identify the local butterfly fauna at Sessions Woods. Meet in the classroom located in the exhibit room of the Education Center.

## Hunting & Fishing Season Dates

- April 29-May 30 ..... Spring Turkey Hunting Season
- Jun. 21 & Aug. 15.... **Free Fishing License Days**: Anyone can fish for free provided they have obtained a one-day free fishing license. These licenses will be available approximately three weeks prior to each date through the DEEP's convenient online licensing system ([www.ct.gov/deep/sportsmenlicensing](http://www.ct.gov/deep/sportsmenlicensing)) – now mobile friendly!

Consult the 2015 Connecticut Hunting & Trapping Guide and 2015 Angler's 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](http://www.ct.gov/deep/hunting) and [www.ct.gov/deep/fishing](http://www.ct.gov/deep/fishing)). Go to [www.ct.gov/deep/sportsmenlicensing](http://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.



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Pileated woodpeckers will often search for food in downed logs within the forest. They will chip away at the log to find carpenter ants, wood boring beetles, and other invertebrates.