

AGENDA
Mansfield Conservation Commission
Wednesday, May 21, 2014
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**
 - a. March 19, 2014
5. **New Business**
 - a. IWA Referrals: W1530 – Rodriguez & Pelletier – 353 Warrenton Rd – addition
 - b. Memo to the Mansfield Town Council concerning open space and the UConn Master Planning effort
 - c. Environmental Impact Evaluations: New Residence Hall and Science/Engineering Building at UConn
 - d. Other
6. **Continuing Business**
 - a. Review of Town-Owned Easements
 - b. Mansfield Tomorrow | Our Plan ▶ Our Future
 - c. Swan Lake Discharge Mirror Lake Dredging and other UConn Drainage Issues
 - d. UConn Agronomy Farm Irrigation Project
 - e. Eagleville Brook Impervious Surface TMDL Project
 - f. UConn Hazardous Waste Transfer Station
 - g. Ponde Place Student Housing Project
 - h. CL&P "Interstate Reliability Project"
 - i. Protecting Dark Skies in the Last Green Valley
 - j. Water Issues
 - k. Other
7. **Communications**
 - a. Minutes
 - Open Space: 4/15/14
 - PZC: 5/5/14
 - IWA: 5/5/14
 - b. Wetlands Agent Month Business Report
 - c. March/April 2014 CT Wildlife
 - d. Spring 2014 The Habitat
 - e. Spring 2014 CLEARscapes
 - f. Other
8. **Other**
9. **Future Agendas**
10. **Adjournment**

Town of Mansfield
CONSERVATION COMMISSION
Special Meeting of 19 March 2014
Conference B, Audrey P. Beck Building
(draft) MINUTES

Members present: Aline Booth (Alt.), Joan Buck (Alt.), Neil Facchinetti, Quentin Kessel, Scott Lehmann, John Silander, Michael Soares. *Members absent:* Robert Dahn, Peter Drzewiecki. *Others present:* Linda Painter (Town Planner).

1. The meeting was called to order at 7:30p by Chair Quentin Kessel. Alternates Booth and Buck were designated voting members for this meeting.
2. The draft minutes of the regular meeting of 20 November 2013 and the special meeting of 08 January 2014 were approved as written. {The regular meetings scheduled for 18 December 2013, 15 January 2014, and 19 February 2014 were cancelled.}
3. **Jacobson Property.** DEEP has notified the Town that the Jacobson property on the north side of Gurleyville Rd just west of the Fenton River is for sale, should the Town be interested in acquiring it for open space. It may not be sub-dividable – Gurleyville Rd frontage is meager – and there may be environmental issues related to an old gravel pit and rifle range.
4. **Mansfield Tomorrow.** The Commission has been asked to comment on the draft Plan of Conservation and Development issuing from the Mansfield Tomorrow study. Kessel distributed copies of comments from the Open Space Preservation Committee (2 pages, 03/18/14). Most of the subsequent discussion focused on Chapter 3 (“Natural systems”) and Chapter 4 (“Open Space, Parks and Working Lands”). Comments and questions:
 -
 - Kessel expressed some disappointment that agriculture is treated in several different chapters, so that someone interested in this subject has to read here and there to see what goals, policies, and actions bearing on it are proposed in the Plan. Painter noted that this is a consequence of organizing the study around overlapping categories like natural systems, sustainability, transportation, housing, economic development, etc. Agriculture contributes greatly to rural character, can impact water resources for good or ill, is part of the local economy, is affected by zoning and housing policies, etc.
 - Buck was pleased with the presentation of material in Chapters 3 and 4, which she thought provided a detailed, readable, and informative review of natural systems, concerns about them, and actions to address these concerns. There was general agreement that these chapters are well done.
 - Kessel suggested an expanded account of the “Goals” for “surface water resources” in the table on p.3.1 and modifying the first of the associated “Policies for Decision Makers” to “Protect aquatic habitats, including wetlands and vernal pools”.
 - Kessel asked why the qualification “not under town ownership” appears in first of the “Challenges,” p.3.2: “Preservation of healthy natural systems on land not under town ownership.” Painter explained that this merely identifies a challenge to achieving the general goal of preserving healthy natural systems in town: what the Town can do to protect healthy natural systems is more limited on private or state land than on its own land.
 - To the “Examples of resources and ecosystem services,” p.3.3, Kessel suggested adding

the role of forests in building soils.

- Kessel thought that the interconnectivity of water resources should be mentioned in “Section 3, Water Resources,” p.3.7. (Cf. Robert Thorsen’s Op-ed “Private Property Rights Trumped by Nature,” *Hartford Courant*, 3/06/14.)
- According to Kessel, there are more than two stream-segments that should be identified as “impaired” in “d) Water Quality,” p.3.11.
- Lehmann wondered why responsibility for promoting good forest management and stewardship was assigned to “a subcommittee of either the Open Space Preservation Committee or the Agriculture Committee,” p.3.24, rather than to some wider group. Painter said the PZC didn’t want to multiply committees beyond necessity.
- Soares suggested that the definition of “working lands” come sooner than p.4.5, since the phrase appears in the title of Chapter 4.
- Lehmann noted that the second bulleted policy decision – “Protect land with conservation easements instead of purchase, if possible”– associated with “Mansfield continues to pursue protection of key open space and working lands,” p.4.2, is not supported by any subsequent text and wondered about its rationale. Painter thought it probably reflected concern about the best use of limited financial resources. Soares suggested rewording the bullet to something like “Protect land with conservation easements or purchase, as appropriate.”
- Lehmann observed that Schoolhouse Brook Park does not appear in Table 4.1, though it is mentioned in Table 4.2 (as the site of Bicentennial Pond) and in Table 4.4.
- Kessel indicated that some of the maps in Chapters 3 and 4 are not accurate.
- Kessel suggested that funds for open space acquisition be included in the capital improvement budget, p.11.11.
- Lehmann commented that, unlike previous planning documents of this sort, which are weak on how the Town might actually achieve desired ends, the draft Plan is forthright about the failure of 2-acre zoning to preserve rural character (p.6.14) and suggests alternatives that could be more effective, such as mandating real clustering in subdivisions through natural resource protection zoning (NRPZ), p.6.35, and requiring larger (3-5 acre) lots with more frontage outside village areas, p.6.36.
- Facchinetti was pleased to see some recognition of the potential negative environmental impacts of agriculture (e.g., “Support and promote environmentally sensitive farming practices,” D.10, p.4.24; “Landscape practices by private homeowners and by agricultural and forest enterprises – fertilizers, herbicides, pesticides, animal waste – can also be a source of non-point pollution,” p.5.11).

It was suggested that Commission members might profitably read more of the draft Plan, particularly Chapter 10 (“Future Land Use, Community Design, and Zoning”) and Chapter 11 (“Stewardship and Implementation”).

5. Adjourned at 9:13p.

Scott Lehmann, Secretary, 21 March 2014.

Memorandum:

April 30, 2014

To: Inland Wetland Agency
From: Grant Meitzler, Inland Wetland Agent
Re: New Business for May 5, 2014 meeting

New Application:

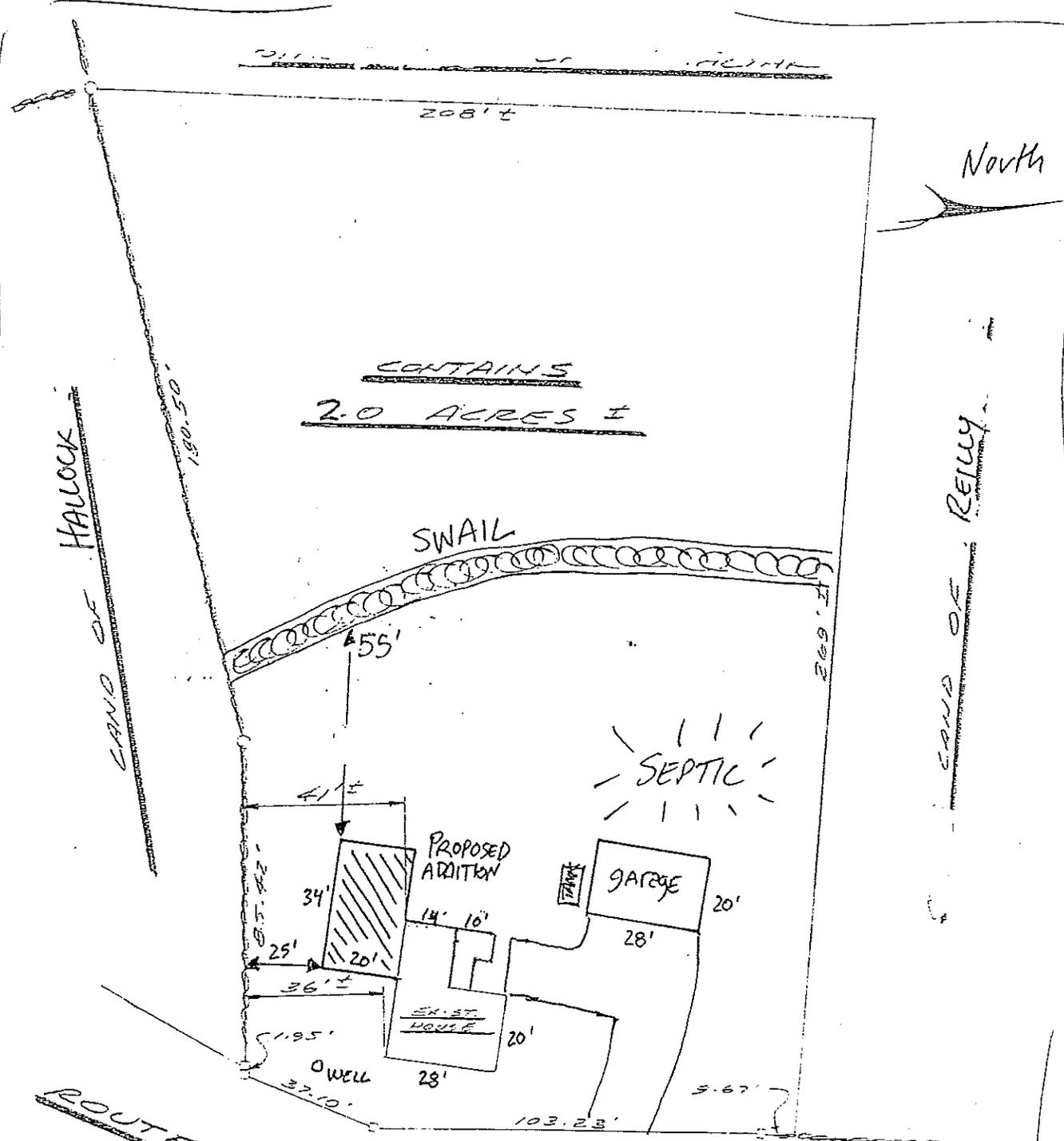
W1530 - Rodriguez & Pelletier - 353 Warrenville Rd - addition

	yes	no
	-----	-----
fee paid	x	
notice to neighbors	x	
map dated	4.28.2014	

This proposal is for a 20'x 34' house addition to the existing house at 353 Warrenville Road. No work in wetlands is proposed.

The addition is 55' away from a swale running across the rear lawn and is within the 150' upland review area.

Receipt and referral to the Conservation Commission for their review is appropriate.



CONTAINS
2.0 ACRES ±

North

LAND OF HALLOCK

LAND OF RELY

SWAIL

SEPTIC

PROPOSED ADDITION

GARAGE

EXIST. HOUSE

WELL

ROUTE 89

PERMIT PLAN

PREPARED FOR

MICHAEL RODRIGUEZ APRIL 28, 2014



MANFIELD, CONNECTICUT

SCALE: 1" = 40'

APPLICATION FOR PERMIT
MANSFIELD INLAND WETLANDS AGENCY
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268
TEL: 860-429-3334 OR 860-429-3330
FAX: 860-429-6863

FOR OFFICE USE ONLY

File # W1530
Fee Paid \$185
Date Received 4-29-14

Applicants are referred to the Mansfield Inland Wetlands and Watercourses Regulations for complete requirements, and are obligated to follow them. For assistance, please contact Grant Meitzler, 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 Michael Rodriguez & Melissa Pelletier

Mailing Address 353 Warrenville Rd.

Mansfield Center CT Zip 06250

Telephone-Home 860.477.0090 Telephone-Business 860.455.9233

Title and Brief Description of Project

Family room addition w/ full basement and second
story bathroom + closet.

Location of Project 353 Warrenville Rd. Mansfield, CT

Intended Start Date upon approval; early summer 2014

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

Name SOME

Mailing Address _____

Zip _____

Telephone-Home _____ Telephone-Business _____

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 - page 6.)

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

- Addition off south side of house (full basement, 1st floor family room, 2nd story master bath + closet space). 20'x34' proposed.
- About 55' from rear of addition to nearest watercourse (swail) in backyard. Plan to fill old dug well near corner of project. No plans to disturb wetlands/watercourses. Area drains to the south & west (fairly flat land for project). No alternatives, only area able to attach to existing structure. Normal construction equipment (excavator, dump trucks). Planning to work in dry season of early summer. The watercourse will be protected by recommended advice per town officials. I have no knowledge of a previous wetlands application.

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

Planned 20'x34' addition in the area adjacent to a swail. Closest point from planned structure is around 55 feet to watercourse during the wet season of spring.

3) Describe the type of materials you are using for the project: concrete, wood, asphalt shingles.

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

b) include volume of material to be filled or excavated about 250 yds. excavated for full foundation.

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 will take whatever measures are recommended to me by the wetlands officials.

Part D - Site Description

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

flat, well drained. Sandy loam full of round rocks.

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.

none, only place to affect a new area to the existing structure.

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 – page 6.)

2) Applicant's map date and date of last revision 4/28/14

3) Zone Classification Single Family Dwelling

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) List the names and addresses of abutting property owners

Name	Address
<u>Michael & Shirley Reilly</u>	<u>365 Warrenville Rd. Mansfield Ctr. CT 06250</u>
<u>Jenny B. Cassells</u>	<u>420 Mulberry Rd. Mansfield CT</u>
<u>Corinne J. MacFarlane</u>	<u>394 Mulberry Rd. Mansfield, CT</u>
<u>Kathryn A. Hallock</u>	<u>5200 Wellfleet Dr. South Sarasota, FL 34241</u>

2) **Written Notice to Abutters.** You must notify abutting property owners 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. (This is not needed for exemptions).

Part I - Additional Notices, if necessary

- 1) Notice to Windham Water Works is attached. If this application is in the public watershed for the Windham Water Works (WWW), you must notify the WWW 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.
- 2) 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.
- 3) The Statewide Reporting Form (attached) 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

Submit the appropriate filing fee. (Consult Wetlands Agent for the fee schedule available in the Mansfield Inland Wetlands and Watercourses Regulations.)

___ \$1,000. ___ \$750. ___ \$500. ___ \$250. ___ \$125. ___ \$100. ___ \$50. ___ \$25.

___ \$60 State DEP Fee

Note: The Agency may require you to provide additional information about the regulated area which is the subject of the application, 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.

The undersigned applicant hereby consents 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 granted by the Agency.


Applicant's Signature

4/28/14
Date

TOWN OF MANSFIELD
DEPARTMENT OF PLANNING AND DEVELOPMENT

LINDA M. PAINTER, AICP, DIRECTOR

Memo to: Planning and Zoning Commission
From: Linda M. Painter, AICP, Director of Planning and Development 
Date: May 15, 2014
Subject: University of Connecticut: New Residence Hall and Engineering Building Environmental Impact Evaluations

Background

The University of Connecticut held public scoping meetings in February 20, 2014 on proposals for two new buildings at the university: a five-story, ±118,000 square foot Engineering and Science Building and an 8-9 story, 650 to 800 bed residence hall (±200,000-250,000 square feet) for freshman STEM students. The Planning and Zoning Commission and Town Council provided comments during the scoping process; copies of the letters submitted on each project area attached for your information.

Based on comments received during the scoping process, the University has prepared Environmental Impact Evaluations (EIEs) for each project. These reports assess the potential impacts of these projects on a variety of factors and where necessary, identify mitigation measures to address significant impacts. Links to full versions of the reports can be found on the following website: <http://www.envpolicy.uconn.edu/eie.html>. To assist the Commission in its review, I have attached copies of the summary tables of environmental impacts and mitigation measures for each project and identified key issues/concerns for the Commissions' consideration.

Engineering and Science Building

The proposed Engineering and Science Building will be located off of Glenbrook Road on the site of the Old Central Warehouse Building, which is slated to be demolished this summer. Adjacent buildings include the Student Health Services building and Central Utility Plant to the south, the Pharmacy/Biology Building to the west, the Pathobiology Building to the south and the Chemistry Building to the east. As this site is surrounded by existing development, the environmental impacts are significantly less than that of an undeveloped site. Based on review of the EIE, key areas of potential concern relate to Traffic and Transportation, Water Supply, and Stormwater:

- *Traffic and Transportation.* The EIE projects that this new building will create a demand for approximately 182 new students and 11 new faculty/staff, which would be considered as potential additional trips to campus. While a detailed traffic analysis was not completed, the EIE estimates that there would be an increase of approximately 332 vehicles to the local roadway network, including 30 vehicles during morning peak and 27 vehicles during the afternoon peak. Using the distribution analysis employed as part of the recent OSTA permit for the Innovation Partnership Building, traffic volume at key intersections would increase by between 1% and 3%, which is considered to be a minor increase.

It should also be noted that the methodology used to estimate the projected number of new trips assumed that 25% of the new students added would be commuter students, which for this purpose is defined as a student that does not live on campus. As many 'commuter students' live within close proximity to campus and can walk, bike or take the bus to campus, the number of vehicular trips generated by these commuter students could be much lower than projected.

To address the nominal increase in traffic, the EIE proposes the following mitigation measures:

- Broadly promoting ride-share/carpooling programs university-wide;
- Increasing public transportation options both on-campus and through regional partnerships;
- Pricing residential parking permits to decrease demand; and
- Ensuring that adhering to lawful parking on and off-campus can be properly enforced.

Based on the above information, formal comments on the EIE should include the following:

- Encouraging the University to implement the recommended mitigation measures prior to opening the building;
 - Identifying current measures the Town employs to address illegal parking off-campus; and
 - Continuing to encourage preparation of a comprehensive, multi-modal transportation plan as part of the ongoing Master Plan effort.
 - Emphasizing the need for construction traffic to use state roads.
- *Water Supply.* The EIE identifies projected water demand for the new building and water saving features that will be incorporated such as use of reclaimed water for toilets, a measure that will reduce the building's total average daily demand for water from 4,800 GPD to 2,800 GPD, of which 920 GPD would be attributable to new faculty and students. The EIE also notes that while the increase in water demand is fairly small, "it could marginally exacerbate the existing deficiency in the system relative to peak day demand until the CWC connection is available. . ."

Additionally, there are two other buildings projected to open in the same timeframe: the new residence hall and the Innovation Partnership Building at the Technology Park. Cumulative average daily demand for all three buildings would total 58,400 GPD (not including reductions in water demand from use of reclaimed water in the buildings). While actual water demand could be met on peak days for these buildings by drawing on stored water supplies (6.5 million gallons), the University could not demonstrate required margin of safety on peak days if the three buildings were completed and opened prior to the completion of the CWC connection project.

The CWC project is anticipated to be completed prior to opening of this building; however, the EIE has proposed an alternative solution to the peak day demand issue if the CWC project has not been completed prior to building opening. To assist in meeting peak day demand and demonstrating adequate margin of safety, UCONN would seek approval from regulatory agencies to allow intermittent use of Fenton River Well D even during low-streamflow conditions. This alternative was identified in the University's 2011 Water Supply Plan as a short-term option to increase supply for existing users and committed projects as pump tests indicated that Well D has the least effect on streamflow due to its distance from the river.

Provided the full capacity of stored water is available on peak days, actual use of the Fenton River Well D would not occur. Use of the well would only be needed if for some reason the University did not have access to the entirety of its stored water supplies.

Presently, use of all of the Fenton River wells is limited or ceased entirely during drought conditions, which generally occur June through October, although there have also been times where low streamflow conditions have continued into November and December. With regard to the proposed intermittent use of Well D, the EIE specifically states that *"To ensure that operating Well D on a limited basis does not negatively impact on streamflow, the University would monitor streamflow within Well D's zone of influence while Well D was active."*

In its April 26, 2011 comments on the draft Water Supply Plan, the PZC and Town Council included the following comment with regard to the use of Fenton River Well D:

"While the plan clearly and appropriately identifies a need for an additional source of water for future projects, the plan's shorter term supply assumptions rely on the construction of the Reclaimed Water Facility (scheduled for 2011/2012) and the potential year-round use of Fenton River Well D. The Reclaimed Water Facility has not yet commenced construction and the use of Fenton River Well D during droughts has not been approved. To address the needs of existing users and committed projects, it is essential that construction begin this year on the Reclaimed Water Facility and that the University continue pursuing the potential year round use of Fenton River Well D."

Based on the above information, formal comments on the EIE should address the following:

- Strongly advocating for streamflow monitoring in appropriate locations to ensure that any use of Well D during periods of drought does not negatively impact streamflow, along with provisions to cease use of the well if impacts are identified and the corresponding restrictions to water usage that would be implemented if well production were ceased.
 - Conditioning opening of the building on receiving approval of the change to wellfield operations to allow intermittent use of Well D from regulatory agencies if the CWC project has not been completed.
 - Continuing to promote water conservation through mandatory water usage restrictions during droughts, improvements to facilities that reduce water consumption, connecting additional buildings to the Reclaimed Water Facility, and operational changes.
- **Stormwater.** The proposed building is located within the Eagleville Brook watershed that was the subject of a Total Maximum Daily Load study in 2007. This study recommends reductions in impervious cover and use of stormwater management techniques that offset the negative impacts of impervious cover on water quality. The proposed project would result in a reduction in impervious surfaces of approximately 3,000 square feet.

The proposed site along with portions of the adjacent Quad was previously identified as the site of a potential bioretention basin. However, due to subsurface utilities, the underground utility tunnel and presence of subsurface building areas underneath the adjacent Quad, the ability to

implement stormwater management techniques that allow for natural infiltration of water (such as bioretention basins) in the areas surrounding the building are limited. Additionally, the high water table will necessitate the diversion of groundwater into the existing storm sewer system that discharges to Eagleville Brook.

The EIE indicates that the feasibility of bioretention basins both in the Quad and elsewhere on campus within the Eagleville Brook watershed will be addressed as part of the campus-wide master plan.

Based on the above information, formal comments on the EIE should address the following:

- Strongly encouraging the University to prepare a stormwater master plan as part of the campus-wide master planning effort that emphasizes the use of Low Impact Development (LID) stormwater management practices and reductions to effective impervious cover. This approach should be used throughout the campus and not just within the Eagleville Brook watershed.

In addition to comments provided on the above issues, any formal comments submitted by the Town should include suggested corrections to the following sections:

- **Section 3.2.4-Stormwater.** Correct second to last sentence of first paragraph of Existing Conditions to remove reference to Dairy Mart and specify property address rather than business name.
- **Section 3.2.8-Public Health and Safety.** Replace the language in the third paragraph relating to Mansfield fire services with the paragraph contained in the EIE for the STEM Residence Hall. The information contained in this document is outdated and incorrect; Mansfield no longer has three separate volunteer fire departments.

STEM Residence Hall

The proposed STEM residence hall will be located off of Alumni Drive. Adjacent buildings include Hilltop Residence Halls (Hale and Ellsworth to the west, Putnam Refectory and Garrigus Suites to the south and the Sherman Family Sports Complex to the east. As this site is surrounded by existing development, the environmental impacts are significantly less than that of an undeveloped site. Based on review of the EIE, key areas of potential concern relate to Wetlands, Slopes, Traffic and Transportation, Water Supply, and Stormwater:

- **Wetlands.** While there were no mapped wetlands identified during the scoping process, further site and soil analysis has identified a small isolated, wooded wetland within the proposed development area. The wetland is approximately 935 square feet and is thought to be a relic of a larger wetland system that existed prior to the land alterations for the surrounding development. Construction of the proposed building would require filling of the wetland. The functions and values of the wetland were evaluated based on U.S. Army Core of Engineers criteria. The evaluation found that due to its small size, disturbed condition, surrounding development and isolation from other wetland resources, the wetland does not provide principal wetland functions or values. As such, filling of the wetland is not anticipated to have a significant adverse impact on existing wildlife.

- *Steep Slopes.* The site on which the building will be located has fairly steep slopes in the northern and southern areas of the building (11% and 10% respectively) as well as a 21% slope to the east of the building dropping down to the sports complex. As such, significant erosion and sedimentation controls will be needed during construction, including regular monitoring and repairs.

Formal comments on the EIE should include recommendations for installation of appropriate erosion and sedimentation controls and establishment of a specific monitoring program to ensure those controls are functioning as designed.

- *Traffic and Transportation.* As the proposed residence hall will be limited to first year students who do not qualify for a parking permit under current policy, anticipated traffic impacts in the first year of operation are expected to be associated primarily with employees and move-in/move-out days. However, as students move out of this residence hall into other on-campus housing and obtain enough credits to qualify for a parking permit, there is the possibility of additional on-campus parking demand and related traffic. It is estimated that approximately 2/3 of the additional students housed on-campus could seek parking. Assuming an 800 bed facility, parking demand could increase by 533 vehicles. The University does not issue permits in excess of capacity and can control the number of permits issued.

To address the nominal increase in traffic, the EIE proposes the following mitigation measures:

- Broadly promoting ride-share/carpooling programs university-wide;
- Increasing public transportation options both on-campus and through regional partnerships;
- Pricing residential parking permits to decrease demand; and
- Ensuring that adhering to lawful parking on and off-campus can be properly enforced.

Based on the above information, formal comments on the EIE should include the following:

- Encouraging the University to implement the recommended mitigation measures prior to opening the building;
 - Identifying current measures the Town employs to address illegal parking off-campus; and
 - Continuing to encourage preparation of a comprehensive, multi-modal transportation plan as part of the ongoing Master Plan effort.
 - Emphasizing the need for construction traffic to use state roads.
- *Water Supply.* The EIE identifies projected water demand for the new building and water saving features that will be incorporated such as use of reclaimed water for toilets, a measure that will reduce the building's total average daily demand for water from 28,800 GPD to ±23,800 GPD. As noted with the Engineering and Science Building, the projected increase in water demand from the three new buildings that will open in the 2016-2017 would exceed the current system capacity needed on peak days to meet demands and maintain required margin of safety.

The same comments provided for the Engineering and Science Building should be included in comments on the residence hall with regard to proposed mitigation measures.

- *Stormwater.* The proposed building is located within the Eagleville Brook watershed that was the subject of a Total Maximum Daily Load study in 2007. This study recommends reductions in impervious cover and use of stormwater management techniques that offset the negative impacts of impervious cover on water quality. While considered an infill site due to the surrounding uses, the construction of the residence hall will be on previously undeveloped land. As such, it will result in an increase in impervious surfaces, which could increase runoff rates and volumes and introduce new pollutants. To avoid and mitigate impacts of the additional impervious cover, the EIE identifies several mitigation measures, including the use of Low Impact Development (LID) stormwater management practices that disconnect impervious surfaces from conventional stormwater systems that discharge directly to the brook and use of bioretention basins. Additionally, a green roof is proposed for a portion of the building. Peak runoff will be handled through new underground detention systems that include pretreatment of stormwater before entering the detention system and use of perforated piping to facilitate infiltration where soil and groundwater conditions allow.

Based on the above information, formal comments on the EIE should address the following:

- Encouraging the use of permeable materials for new parking areas and plazas associated with the residence hall.
- Strongly encouraging the University to prepare a stormwater master plan as part of the campus-wide master planning effort that emphasizes the use of Low Impact Development (LID) stormwater management practices and reductions to effective impervious cover. This approach should be used throughout the campus and not just within the Eagleville Brook watershed.

Summary

If the Commission concurs with the above recommendations, the following motion would be in order:

_____ MOVES, _____ seconds to authorize the PZC Chair to submit recommended comments on the proposed Engineering and Science Building and STEM residence hall to the Town Council based on the recommendations contained in the memo from Linda Painter dated May 15, 2014. If the Town Council agrees with the recommendations, the Chair is authorized to co-sign letters to the University submitting the formal comments, including any additional comments identified by the Council provided such comments are not contradictory to the Commission's recommendations.

TOWN OF MANSFIELD



Elizabeth C. Paterson, Mayor

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
(860) 429-3330
Fax: (860) 429-6864

March 19, 2014

Mr. Jason Coite
UConn Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, Connecticut 06269

Subject: Proposed Engineering and Science Building

Dear Mr. Coite:

The Mansfield Town Council and Planning and Zoning Commission (PZC) offer the following comments and recommendations with regard to the proposed Engineering and Science Building:

- *Master Plan and Impact Study.* A campus master plan and Next Generation Connecticut impact study should be completed prior to construction of any buildings related to the NextGen initiative other than the currently proposed engineering/science building and STEM residence hall. This study should include a comprehensive, multi-modal transportation plan for the build-out of the campus that considers impacts to the local transportation network, including off-campus improvements for vehicular, pedestrian, bike and transit circulation.
- *Traffic Analysis.* A traffic study that evaluates the potential impacts of the proposed buildings on the local road network, in addition to the state road network, should be done to confirm the conclusion that no significant impacts on the local road network are anticipated. This analysis should identify any necessary mitigation measures and be made available to the Town for review and comment prior to submission to OSTA.
- *Stormwater/Eagleville Brook.* The University should identify specific measures to employ for each project to reduce impacts on the Eagleville Brook watershed.

If you have any questions regarding these comments, please contact Linda Painter, Director of Planning and Development.

Sincerely,

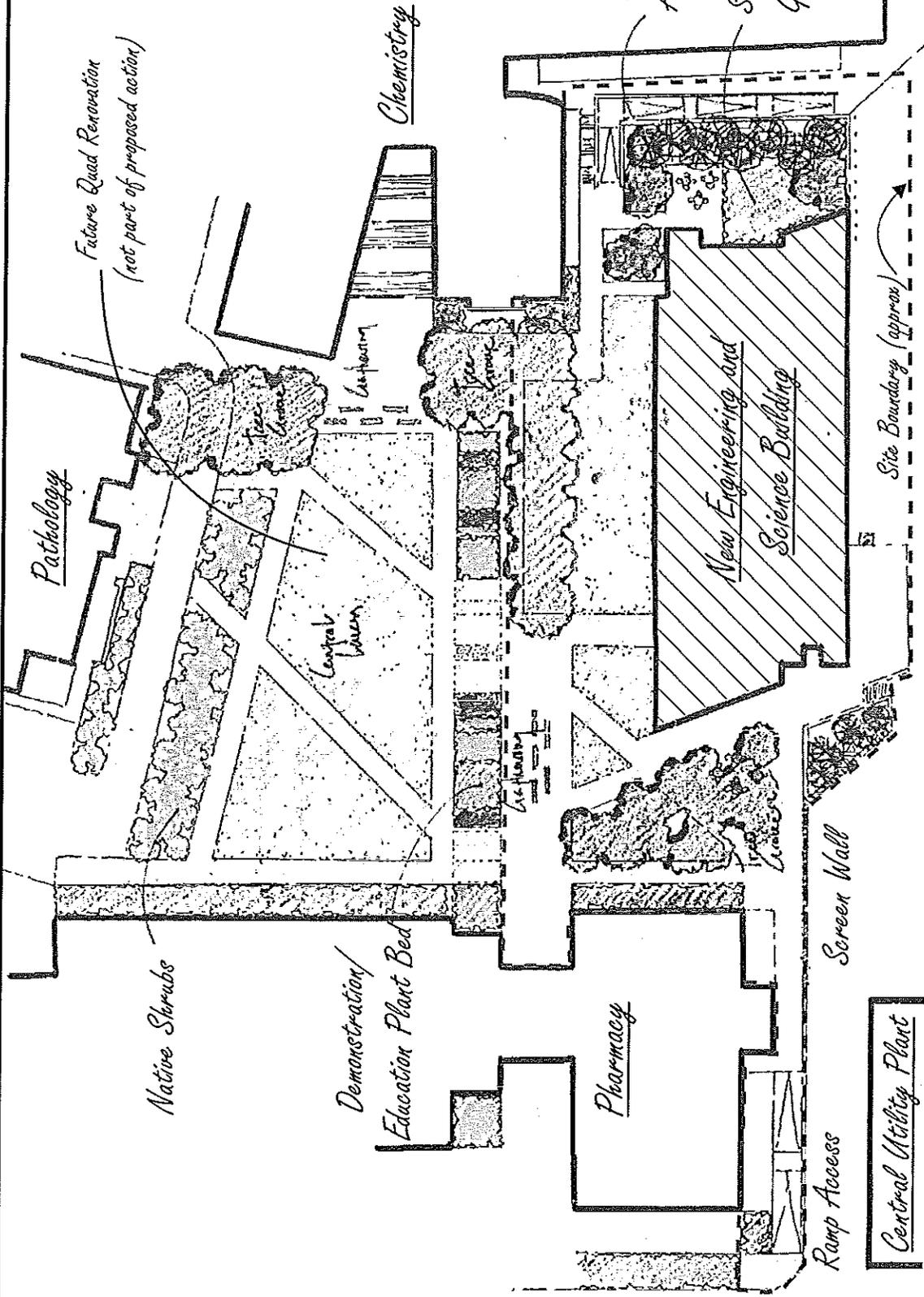
Elizabeth C. Paterson
Elizabeth C. Paterson
Mayor

JoAnn Goodwin
JoAnn Goodwin
Chair, Mansfield PZC

Cc: Town Council
Planning and Zoning Commission



True North



Project No:	15.0166402.00
Drawn by:	KDC
Checked by:	PGD
Date:	March 2014
Figure No:	3

Concept Plan

New Engineering and Science Building
University of Connecticut
Glenbrook Road
Storrs, Connecticut

Plan by:	Dirtworks and Mitchell Giurgola Architects, LLP January 30, 2014
	GZA GeoEnvironmental, Inc. Springfield, MA / Hartford, CT

Impacts

As the NESB is proposed to reach 5 stories in height, 3 stories higher than the current building (OCW), the upper floors of the NESB will likely be visible from North Eagleville Road and Glenbrook Road.

The Site is located within the university campus proper and will be visible regularly by staff, students, and visitors alike. The NESB has been designed to be consistent with the look of a modern university research building (Figure 13)

Mitigation

There would be no significant impact to aesthetics, therefore no mitigations are warranted.

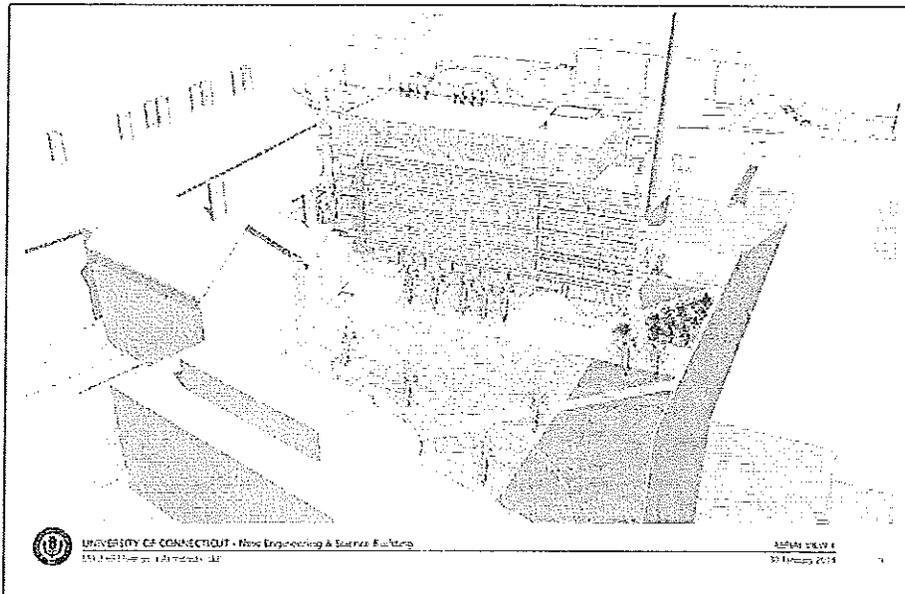


FIGURE 13. OBLIQUE RENDERING OF PROPOSED NESB LOOKING SOUTHEAST

3.2.10 Cultural Resources

Existing Conditions

CEPA requires that State actions that have the potential for affecting cultural resources (archaeological or historical) be evaluated and mitigated for if significant impacts would occur.

The OCW is a 2-story brick and concrete warehouse building built circa 1958. This building is not on the State or Federal Register of Historic Places.

TABLE ES-1. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental Element	Impacts	Mitigation
Climate, Topography, Geology & Soils	Disturbance of fill soils, minor grading required	Installation of erosion control measures as required by Construction General Permit
Surface and Groundwater	Reduction of 3,000 SF of Impervious Cover	Not warranted. Net positive impact.
	Direct discharge of groundwater to Eagleville Brook	
Wetlands	No wetlands on or near Site.	Not warranted
Floodplains	Technically within 100-year floodplain but Eagleville Brook piped underground.	Not warranted but DEEP Flood Management Certification required.
Flora and Fauna	No significant impact. Area densely developed.	Not warranted.
State Protected Species	None at or near site per DEEP.	Not warranted.
Air Quality	No direct significant impact. Tie into existing CUP. Insignificant increase in emissions from new emergency generator for Student Health Services Building.	Not warranted.
	Student Health Services Building emergency generator to be replaced with a larger emission source.	Generator to be Tier 4 compliant
Noise & Vibration	Temporary increase in noise and vibration during construction.	Prohibit blasting.
Light/Shadow	Slight increase in shadow and lighting demand in Quad.	Not warranted.
Traffic and Transportation	Nominal increase in parking demand traffic generation.	Broadly promote ride-share/carpooling; Increase public transportation options; Price residential parking permits to discourage demand; Ensuring that adhering to lawful parking on and off-campus can be properly enforced.
Water Supply	Approximately 1,600 GPD in additional demand.	Reclaimed water will be used for NESB toilets to reduce the stated GPD. Reduction of 680± GPD expected for net demand increase of 920±. Continue to promote water conservation and obtain approvals to use Fenton Well D even during low stream flow as proposed in the 2011 Water Supply Plan in order to mitigate peak day demand conflicts in the event the CWC water not yet available at the time NESB is complete.

Environmental Element	Impacts	Mitigation
Stormwater	Approximately 3,000 SF less of impervious area compared to existing Direct discharge of groundwater to Eagleville Brook	Not warranted. Positive impact.
Utilities	Utilities present at or near site.	Not warranted.
Solid & Hazardous Waste	Additional solid waste and some hazardous waste generated.	Managed in accordance with current University practices.
Public Health & Safety	No significant change in emergency service needs.	Not warranted.
Aesthetics	Improved aesthetic of Quad area and removal of dated OCW.	Not warranted.
Cultural Resources	No cultural resources affected. Site is disturbed.	Not warranted.
Socioeconomics	Positive economic benefit.	Not warranted.
Consistency with Plans	Proposed land use is consistent with State Plan of Conservation & Development. Project identified in University 2006 Master Plan.	Not warranted.

TOWN OF MANSFIELD



Elizabeth C. Paterson, Mayor

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
(860) 429-3330
Fax: (860) 429-6863

March 19, 2014

Mr. Jason Coite
UConn Office of Environmental Policy
31 LeDoyt Road, U-3055
Storrs, Connecticut 06269

Subject: Proposed STEM Residence Hall

Dear Mr. Coite:

The Mansfield Town Council and Planning and Zoning Commission (PZC) offer the following comments and recommendations with regard to the proposed STEM residence hall off Alumni Drive:

- *Master Plan and Impact Study.* A campus master plan and Next Generation Connecticut impact study should be completed prior to construction of any buildings related to the NextGen initiative other than the proposed residence hall and the engineering/science building. This study should include a comprehensive, multi-modal transportation plan for the build-out of the campus that considers impacts to the local transportation network, including off-campus improvements for vehicular, pedestrian, bike and transit circulation.
- *Traffic Analysis.* A traffic study that evaluates the potential impacts of the proposed buildings on the local road network, in addition to the state road network, should be done to confirm the conclusion that no significant impacts on the local road network are anticipated. This analysis should identify any necessary mitigation measures and be made available to the Town for review and comment prior to submission to OSTA.
- *Stormwater/Eagleville Brook.* The University should identify specific measures to employ for each project to reduce impacts on the Eagleville Brook watershed.

If you have any questions regarding these comments, please contact Linda Painter, Director of Planning and Development.

Sincerely,

Elizabeth C. Paterson
Mayor

JoAnn Goodwin
Chair, Mansfield PZC

Cc: Town Council
Planning and Zoning Commission

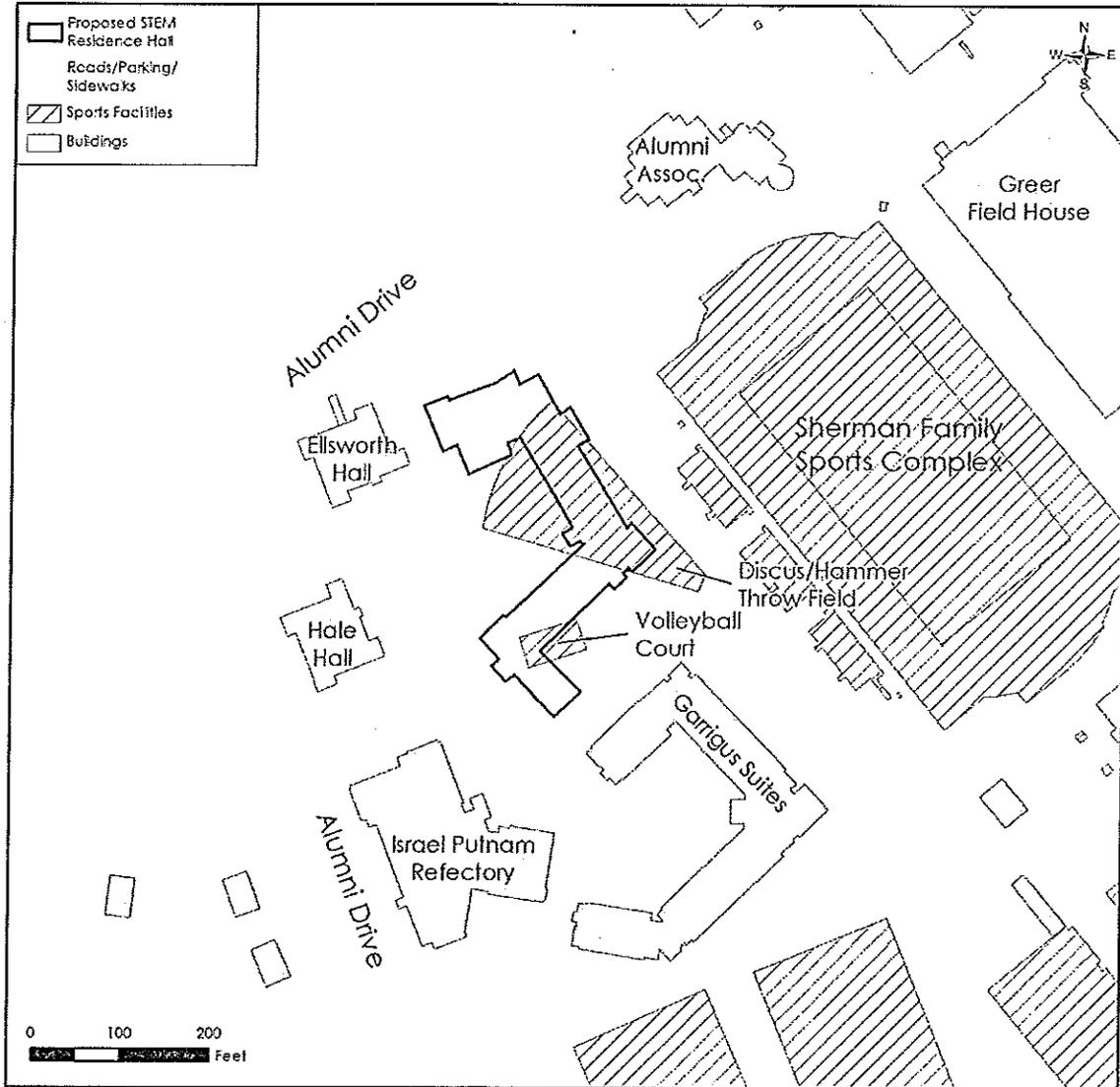


Figure ES-2. Footprint of Proposed STEM Residence Hall

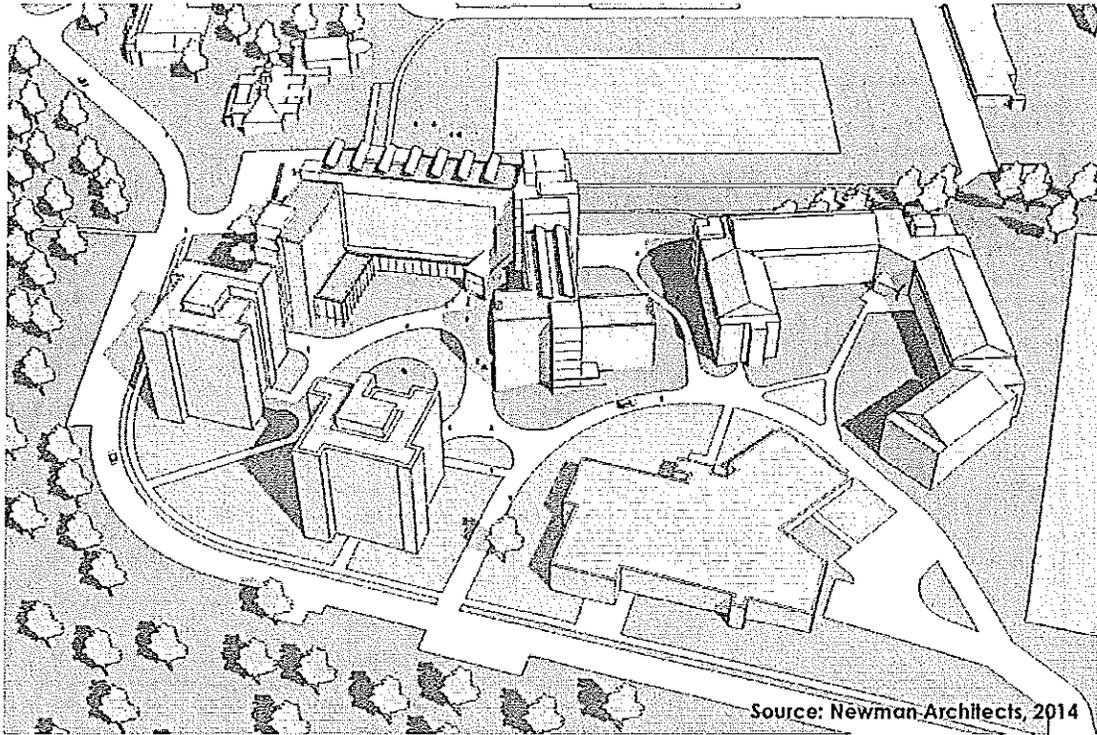


Figure ES-3. Proposed STEM Residence Hall Architectural Rendering Facing East

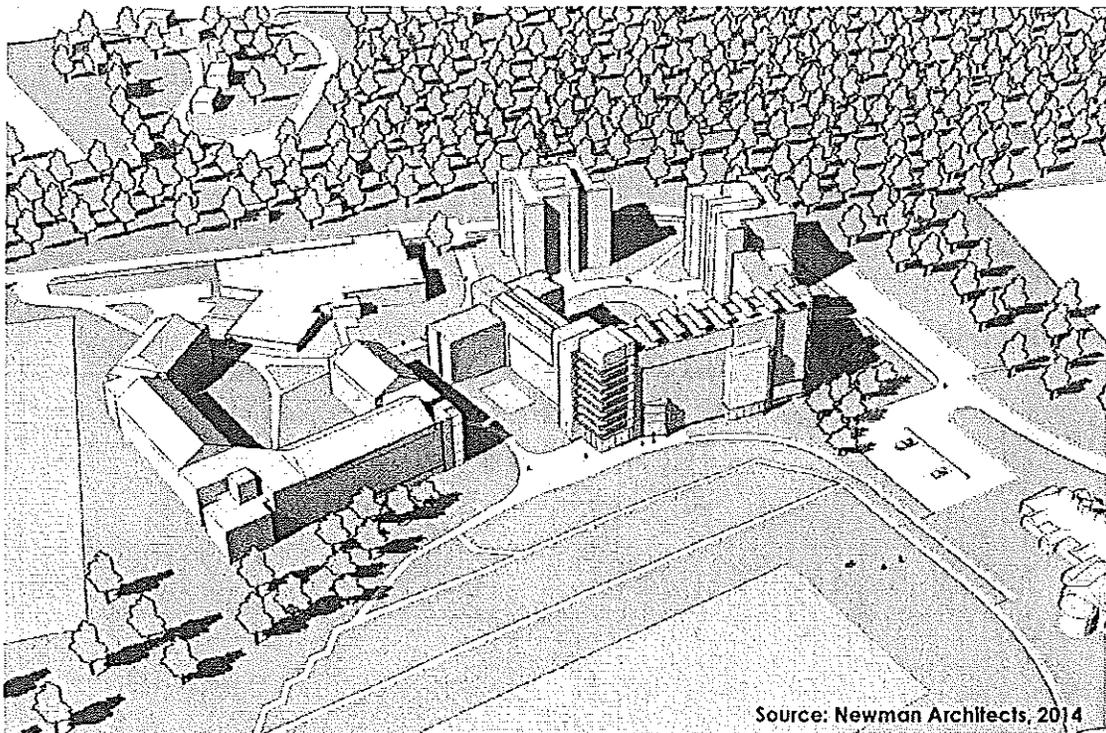


Figure ES-4. Proposed STEM Residence Hall Architectural Rendering Facing West

Table ES-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Traffic, Parking, and Circulation	<ul style="list-style-type: none"> No disruption of existing roads/parking Minimal new vehicle trips Potential for secondary effects associated with demand for additional parking and vehicles on-campus due to additional students 	<ul style="list-style-type: none"> Potential for adverse effects will be assessed in the OSTA process and upcoming Master Plan and Master Plan EIE which will provide a comprehensive assessment of traffic, parking, and circulation in the context of campus growth
Air Quality	<ul style="list-style-type: none"> New stationary sources – boiler, emergency generator, chiller Potential emissions below de minimis levels established by USEPA 	<ul style="list-style-type: none"> Stationary sources to be included in UConn air quality permit
Noise	<ul style="list-style-type: none"> Consistent with residential setting 	<ul style="list-style-type: none"> None
Water Resources	<ul style="list-style-type: none"> Will be consistent with Eagleville Brook TMDL and Watershed Plan No floodplains 	<ul style="list-style-type: none"> The stormwater management system for the new residential hall will be consistent with the guidelines contained in the CTDEEP <i>Connecticut Stormwater Quality Manual</i> (as amended). LID measures such as disconnected impervious areas and bioretention A green roof area is proposed for a portion of the STEM Residence Hall building to further reduce effective impervious cover and stormwater runoff from the project site, as well as to enhance stormwater quality. New underground detention systems are proposed to manage peak rates of runoff from the project site, including the STEM Residence Hall and the areas currently served by the existing underground detention system associated with Garrigus Suites
Wetlands, Watercourses, and Natural Communities	<ul style="list-style-type: none"> No threatened/endangered species ±935 SF of low functional value wetland to be directly impacted 	<ul style="list-style-type: none"> Adherence to the conditions of the <i>CTDEEP General Permit for Water Resource Construction Activities</i> and U.S. Army Corps of Engineers Connecticut General Permit
Cultural Resources	<ul style="list-style-type: none"> Outside National Register Historic District SHPO determined no impact to historic or archaeological resources 	<ul style="list-style-type: none"> None
Visual and Aesthetic Character	<ul style="list-style-type: none"> Consistent with current visual setting 	<ul style="list-style-type: none"> None
Geology, Topography, and Soils	<ul style="list-style-type: none"> No unique features or farmland soils 	<ul style="list-style-type: none"> None

Table ES-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Utilities and Services	<ul style="list-style-type: none"> • Adequate capacity exists for Electrical, Natural Gas, Sanitary Sewer, Telecommunications, and Stormwater/Drainage in the vicinity of the site along Alumni Drive. • The University will meet its overall peak water demands, including for the STEM Residence Hall, by augmenting its supply with the additional supply to be provided pursuant to an executed agreement to interconnect with the Connecticut Water Company (CWC). Should the proposed STEM Residence Hall be completed prior to the additional water supply being available from CWC, sufficient water supply exists within the University system to meet annual average daily demand and peak month's (typically, September) average daily demand for the STEM Residence Hall. However, additional supply would be required in order to meet the peak day demand, including maintaining a system-wide 15% margin of safety. • The proposed building and associated site improvements would replace existing turf areas, thus increasing impervious surfaces on the site. These site alterations would reduce canopy interception, evapotranspiration, and infiltration; generate increased runoff rates and volumes (i.e., increased runoff coefficient); and introduce new potential sources of stormwater pollutants. 	<ul style="list-style-type: none"> • The building construction will incorporate best practices of sustainability with a minimum goal of Leadership in Energy & Environmental Design (LEED) Silver. The project design will also address the guidelines and requirements of the Connecticut High Performance Building Standards, as well as strategies and recommendations promoted by the UConn <i>Climate Action Plan</i> and other ongoing energy efficiency and sustainability initiatives at the Storrs campus. • Reclaimed water will be used for toilet/urinal flushing and cooling. Water savings from reclaimed water use for toilet flushing is estimated at up to approximately 5,000 gpd during the academic year. • Should the STEM Residence Hall be completed prior to completion of the CWC interconnection, potential mitigation would consist of a) connecting the STEM Residence Hall (as well as the NESB and IPB) to the reclaimed water utility to reduce potable demand, b) continue to promote water conservation throughout the system and c) take steps to ensure that margin of safety could be demonstrated by having Fenton Well D approved for intermittent use during the time that peak demand was expected. • The stormwater management system for the new residential hall will be consistent with the guidelines contained in the CTDEEP <i>Connecticut Stormwater Quality Manual</i> (as amended). • LID measures such as disconnected impervious areas and bioretention • A green roof area is proposed for a portion of the STEM Residence Hall building to further reduce effective impervious cover and stormwater runoff from the project site, as well as to enhance stormwater quality. • New underground detention systems are proposed to manage peak rates of runoff from the project site, including the STEM Residence Hall and the areas currently served by the existing underground detention system associated with Garrigus Suites.
Public Health and Safety	<ul style="list-style-type: none"> • Public Health & Safety services in place for residential students 	<ul style="list-style-type: none"> • None

Table ES-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Solid Waste and Hazardous Substances	<ul style="list-style-type: none"> • Typical residential waste stream 	<ul style="list-style-type: none"> • None
Socioeconomics	<ul style="list-style-type: none"> • Anticipated socioeconomic benefit 	<ul style="list-style-type: none"> • None
Land Use Planning	<ul style="list-style-type: none"> • Consistent with campus, local, regional, and state plans 	<ul style="list-style-type: none"> • None
Construction Period		
Traffic, Parking, and Circulation	<ul style="list-style-type: none"> • Minor, temporary disruptions to traffic in the immediate area of construction 	<ul style="list-style-type: none"> • Use of construction-phase traffic management measures to maintain efficient traffic operations during the construction period including construction phasing to minimize disruptions to traffic, signage, and detours.
Air Quality	<ul style="list-style-type: none"> • Construction activities may result in short-term impacts to ambient air quality due to direct emissions from construction equipment and fugitive dust emissions 	<ul style="list-style-type: none"> • Contractors will be required to comply with air pollution control requirements in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents. • Ensure proper operation and maintenance of construction equipment. • Limit idling of construction vehicles and equipment to three minutes. • Implement traffic management measures during construction. • Implement appropriate controls to prevent the generation and mobilization of dust.
Noise	<ul style="list-style-type: none"> • Heavy construction equipment associated with site development may result in temporary increases in noise levels in the immediate area of construction 	<ul style="list-style-type: none"> • Contractors will be required to comply with noise control requirements in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents. • Ensure proper operation and maintenance of construction equipment. • Construction contractors should make every reasonable effort to limit construction noise impacts.
Stormwater and Water Quality	<ul style="list-style-type: none"> • Exposure of soil increases potential for erosion and sedimentation 	<ul style="list-style-type: none"> • Use of appropriate erosion and sediment controls during construction, consistent with the <i>2002 Connecticut Guidelines for Soil Erosion and Sediment Control</i> (as amended) and the August 21, 2013 <i>General Permit for Stormwater and Dewatering Wastewaters from Construction Activities</i>.
Hazardous Materials and Solid Waste	<ul style="list-style-type: none"> • Temporary on-site storage and use of fuels and other materials 	<ul style="list-style-type: none"> • Contractors will be required to comply with requirements for construction-related



Table ES-1. Summary of Impacts and Proposed Mitigation

Resource Category	Impacts	Proposed Mitigation
Hazardous Materials and Solid Waste (continued)	<p>associated with construction vehicles and equipment</p> <ul style="list-style-type: none">• Generation of solid waste including construction and demolition debris	<p>hazardous materials and solid waste in UConn <i>Environmental, Health, and Safety Policies, Regulations, and Rules for Construction, Service, and Maintenance Contractors</i>, including reference to such requirements in contract documents.</p> <ul style="list-style-type: none">• Hazardous or regulated materials or subsurface contamination encountered during construction will be characterized and disposed of in accordance with applicable state and federal regulations.• Construction-related solid waste will be handled and disposed of in a manner that meets current regulations and University standards. Construction and demolition debris will be managed in accordance with applicable state and federal regulations and the University's contractor policies.

Mansfield Open Space Preservation Committee
DRAFT Minutes of April 15, 2014 meeting

Members present: Jim Morrow (chair), Quentin Kessel, Ken Feathers, Vicky Wetherell. Jennifer Kaufman (staff). Guests: Sue Harrington and Tom Harrington (Parks Advisory Committee).

1. Meeting was called to order at 7:35.
2. Vicky was appointed acting secretary.
3. Minutes of the March 24 special meeting were approved.

Old Business

3. *Mansfield Tomorrow* The committee reviewed the revised Goals, Strategies and Actions for Chapter 3, Natural Systems.

New Business

4. *Field Work* The trail on the Troyer property needs to be marked and cleared. A work party will be scheduled.
5. *Preservation* The committee discussed ways to encourage permanent land preservation as an item in the UConn Master Plan that is being developed.
6. Meeting adjourned at 9: 10.

PAGE
BREAK

DRAFT MINUTES
MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting
MONDAY, May 5, 2014
Council Chamber, Audrey P. Beck Municipal Building

Members present: B. Ryan (Vice Chairman), B. Chandy, R. Hall, K. Holt, G. Lewis,
P. Plante (7:24 – 7:55 p.m.), B. Pociask (7:24 – 8:08 p.m.), K. Rawn,
Members absent: J. Goodwin
Alternates present: P. Aho, V. Ward, S. Westa
Staff Present: Linda Painter, Director of Planning and Development;
Curt Hirsch, Zoning Agent
Jennifer Kaufman, Natural Resources and Sustainability Coordinator

Vice Chairman Ryan called the meeting to order at 7:24 p.m., and appointed Ward to act.

Approval of Minutes:

a. April 21, 2014 Meeting

Hall MOVED, Ward seconded, to approve the 04-21-14 minutes as written. MOTION PASSED UNANIMOUSLY. Aho and Westa noted for the record that they listened to the recording.

b. April 29, 2014 Special Meeting

Chandy MOVED, Hall seconded, to approve the 04-29-14 minutes as written. MOTION PASSED with Chandy, Hall, Holt, and Rawn, in favor and all others disqualified.

Zoning Agent's Report: Noted.

Old Business:

a. Pre-Application Discussion Requests

Draft Policies and Procedures – Postponed to May 19th

b. Application to Amend the Zoning Map; Storrs Center Alliance, LLC, applicant, (File #1246-19)

Lewis MOVED, Holt seconded, to approve the March 13, 2014 application of Storrs Center Alliance LLC, (File #1246-19) to amend the Zoning Map for the Storrs Center Special Design District as submitted to the Commission and presented at Public Hearing on April 21, 2014. The map amendment shall become effective on June 1, 2014.

In approving this application the Planning and Zoning Commission has considered all Public Hearing testimony and communications. Approval of the proposed zoning map amendment to the Storrs Center Special Design District is granted for the following reasons:

1. The proposal was complete and contained all information needed to review and decide the application. The information required by Article Ten, Sections S.3.c.i, S.3.c.ii (items 2 and 4), S.3.c.iii, S.3.c.iv, S.3.c.v, and S.3.c.vi was not needed to review and decide the application and is therefore waived in accordance with the authority provided in Article Ten, Section S.3.h.
2. The proposed changes to the parking requirements for multi-family residential and medical office uses promote the public health, safety, welfare and property values by eliminating the need to construct parking spaces in excess of what is actually needed to support the project. Additionally, should parking demand increase in the future, the surface lot proposed to the east of the Transportation Center could be replaced with a parking structure, consistent with the approved master plan for Storrs Center.
3. The proposed amendment promotes goals, objectives, and recommendations contained in Mansfield's 2006 Plan of Conservation and Development, specifically Goal 1, objectives c and e.

4. The proposed amendment is consistent with the approved Municipal Development Plan for the Storrs Center Project.
5. The proposed amendment is consistent with Section 8-2 of the Connecticut General Statutes.
6. The proposed amendment is consistent with the statement of regulatory intent and purpose contained in Article I and the approval considerations contained in Article XIII of the Mansfield Zoning Regulations.

After much discussion, the Vice Chairman declared this item to be temporarily set aside, while the Director of Planning worked on wording for an amendment to the above motion (File #1246-19).

New Business:

- a. **Review of Proposed Site Signage for OMS Development, 1659 Storrs Road, (File #1319)**

****At 7:55 p.m. Plante left and Westa was appointed to act.****

After discussion with Curt Hirsch, Zoning Agent, Holt MOVED, Rawn seconded, to approve the sign as proposed, File #1319, as dated in a 5/5/14 submission. MOTION PASSED UNANIMOUSLY.

Rawn MOVED, Ward seconded, that the canopy as proposed is not consistent with Article 10, Section R of the Design Guidelines. MOTION PASSED with all in favor except Lewis who was opposed.

Old Business Continued:

- b. **Application to Amend the Zoning Map; Storrs Center Alliance, LLC, applicant, (File #1246-19)**

Lewis MOVED to make a friendly amendment to the motion, seconded by Holt, to add to the end of the previously moved motion, the following:

This approval is conditioned upon the following:

If parking demand and availability become a concern in the future, the Director of Planning and Development shall require the Master Developer to update the master parking study.

The updated parking study shall be reviewed by the PZC as an amendment to the master plan. The PZC shall have the right to retain a third party consultant to conduct a peer review of the study as part of their review of the master plan amendment. The cost of the PZC's consultant shall be the responsibility of the developer.

If the updated parking study demonstrates the need for additional parking, the developer shall be responsible for constructing the additional parking at their own expense.

The Amended MOTION PASSED UNANIMOUSLY.

The entire motion reads as follows:

"To approve the March 13, 2014 application of Storrs Center Alliance LLC, (File #1246-19) to amend the Zoning Map for the Storrs Center Special Design District as submitted to the Commission and presented at Public Hearing on April 21, 2014. The map amendment shall become effective on June 1, 2014.

In approving this application the Planning and Zoning Commission has considered all Public Hearing testimony and communications. Approval of the proposed zoning map amendment to the Storrs Center Special Design District is granted for the following reasons:

1. The proposal was complete and contained all information needed to review and decide the application. The information required by Article Ten, Sections S.3.c.i, S.3.c.ii (items 2 and 4), S.3.c.iii, S.3.c.iv, S.3.c.v, and S.3.c.vi was not needed to review and decide the application and is therefore waived in accordance with the authority provided in Article Ten, Section S.3.h.

2. The proposed changes to the parking requirements for multi-family residential and medical office uses promote the public health, safety, welfare and property values by eliminating the need to construct parking spaces in excess of what is actually needed to support the project. Additionally, should parking demand increase in the future, the surface lot proposed to the east of the Transportation Center could be replaced with a parking structure, consistent with the approved master plan for Storrs Center.
3. The proposed amendment promotes goals, objectives, and recommendations contained in Mansfield's 2006 Plan of Conservation and Development, specifically Goal 1, objectives c and e.
4. The proposed amendment is consistent with the approved Municipal Development Plan for the Storrs Center Project.
5. The proposed amendment is consistent with Section 8-2 of the Connecticut General Statutes.
6. The proposed amendment is consistent with the statement of regulatory intent and purpose contained in Article I and the approval considerations contained in Article XIII of the Mansfield Zoning Regulations.

This approval is conditioned upon the following:

If parking demand and availability become a concern in the future, the Director of Planning and Development shall require the Master Developer to update the master parking study.

The updated parking study shall be reviewed by the PZC as an amendment to the master plan. The PZC shall have the right to retain a third party consultant to conduct a peer review of the study as part of their review of the master plan amendment. The cost of the PZC's consultant shall be the responsibility of the developer.

If the updated parking study demonstrates the need for additional parking, the developer shall be responsible for constructing the additional parking at their own expense."

** At 8:08 p.m. Pociask left and Aho was appointed to act in his place. **

New Business Continued:

Interpretation of Regulations: Subdivision Plan Requirements

Linda Painter reviewed her interpretation of the regulations regarding the requirements for a subdivision involving one lot being carved out of a larger parcel intending to remain as undeveloped. The consensus of the Commission was that they agreed with her interpretation.

Mansfield Tomorrow | Our Plan ▶ Our Future:

The Commission discussed Chapter 7 (Goals 1-3): Goals, Policies Strategies and Actions. It was noted that there will be a Special Meeting on May 12, 2014 in Room B at 7:30 p.m.

Reports from Officers and Committees: None noted.

Communications and Bills: None.

Adjournment: The Vice Chairman declared the meeting adjourned at 9:43 p.m.

Respectfully submitted,

Katherine Holt, Secretary

PAGE
BREAK

DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Regular Meeting
Monday, May 5, 2014
Council Chambers, Audrey P. Beck Municipal Building

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

Vice Chairman Ryan called the meeting to order at 7:01 p.m. and appointed Ward to act in Goodwin's absence.

Minutes:

04-07-14 - Regular Meeting- Hall MOVED, Chandy seconded, to approve the 04-07-14 minutes as written. MOTION PASSED UNANIMOUSLY.

04-16-14 Field Trip Minutes- Holt MOVED, Ryan seconded, to approve the 04-16-14 field trip minutes as written. MOTION PASSED with Holt and Ryan in favor and all others disqualified.

Communications: Noted.

Old Business:

W1528 – R. Mott – 368 Warrenville Rd – New house to replace mobile home

Holt MOVED, Hall seconded, to postpone action on the application of **Robert Mott** (File #W 1528) on property of **Cathy Ann Clark**, located at 368 Warrenville Road, until the next regular meeting of the Inland Wetlands Agency on June 2, 2014, to allow time for the following comments to be incorporated on the submitted plan:

1. Replace retaining wall with fencing on posts;
2. Move two stockpiles at rear of lot towards the front as much as possible;;
3. Rotate the proposed house approximately 90 degrees keeping the front yard setback 43 feet back from the street line. This increases the distance to wetlands by about 20 feet, and the 43 feet maintains the required setback for a non-conforming lot.

The applicant is also advised that the separation distance between the pond and the indicated septic system area is only 40 feet. These changes are to be submitted for review by Wednesday, May 28, 2014. MOTION PASSED UNANIMOUSLY.

W1529 – C. Duers – 21 Hawthorne La – In ground pool

Holt MOVED, Pociask seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Christopher and Jessica Duers (File #W 1529) for installation of an in-ground pool behind an existing house, on property owned by the applicants and located at 21 Hawthorne Lane, as shown on plans dated 4/3/14, and as described in other application submissions.

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

1. Appropriate erosion and sedimentation controls shall be in place prior to construction and maintained during construction and removed when disturbed areas are completely stabilized;
2. All tree stumps shall be removed from the site;
3. Silt fence shall be placed along the downhill side of the work area to protect the wetlands, after the stumps have been removed. Additional silt fence shall be placed around stock piles of topsoil and excavated material.

This approval is valid for five years (until May 5, 2019), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this agency for further review and comment. MOTION PASSED UNANIMOUSLY.

New Business:

W1530 – Rodriguez & Pelletier – 353 Warrenville Rd – addition

Holt MOVED, Holt seconded, to receive the application submitted by Michael Rodriguez and Melissa Pelletier (File #1530) under the Wetlands and Watercourses Regulations of the Town of Mansfield for an addition to an existing single family home on property located at 353 Warrenville Road as shown on a map with a date of 4/28/14 and as described in application submissions, and to refer said application to staff and Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

Appointment of new Inland Wetlands Agent

Holt MOVED, Chandy seconded, to designate Jennifer Kaufman as the Inland Wetlands Agent for the Mansfield Inland Wetlands Agency effective May 24, 2014. MOTION PASSED UNANIMOUSLY.

Holt MOVED, Ward seconded to add a Proclamation in Honor of Grant Meitzler to the agenda under New Business. MOTION TO ADD TO THE AGENDA PASSED UNANIMOUSLY.

Proclamation in Honor of Grant Meitzler

MOVED by Holt, seconded by Plante, and read by Vice Chairman Ryan:

Mansfield Inland Wetlands Agency

Proclamation in Honor of Grant Meitzler, P.E.

Inland Wetlands Agent and Assistant Town Engineer

Whereas, Grant Meitzler has dedicated over 42 years of service to the Town of Mansfield, from his hiring on July 1, 1971 as a part-time Sanitarian and his subsequent promotions to Assistant Public Health Officer (1972), Senior Engineer Aide (1973), Assistant Town Engineer (1975) and interim Public Works Director (1979); and

Whereas, Mr. Meitzler has been instrumental in the adoption and implementation of Mansfield's Inland Wetlands regulations since the adoption of state statutes governing wetlands protection in 1974; and

Whereas, Mr. Meitzler has provided invaluable advice and guidance to the citizen volunteers on the Inland Wetlands Agency, Planning and Zoning Commission and Conservation Commission throughout his long tenure; and

Whereas, through a lifetime of commitment to his community, Mr. Meitzler has contributed greatly to the preservation and enhancement of Mansfield's cherished natural resources.

NOW, THEREFORE, BE IT RESOLVED, that we, the Mansfield Inland Wetlands Agency on behalf of the citizens of Mansfield, do hereby commend Assistant Town Engineer Grant Meitzler for his distinguished service to the Town of Mansfield. We thank you for your service and wish you the best of luck in your retirement!

AFFIRMED on this 5th day of May in the year 2014.

MOTION TO ADOPT PROCLAMATION PASSED UNANIMOUSLY.

Other Communications and Bills: Noted.

Adjournment: The Chairman set a field trip date for 5/14/14 at 3 p.m. and adjourned the meeting at 7:23 p.m.

Respectfully submitted,

Katherine Holt, Secretary

PAGE
BREAK

Memorandum:

April 30, 2014

To: Inland Wetland Agency
From: Grant Meitzler, Inland Wetland Agent
Re: Monthly Business

W1419 - Chernushek - hearing on Order

- 3.10.09: The hearing on the Order remains open and should continue until the permit application under consideration is acted upon.
(The Order was dropped on approval of the application required in the Order.)
- 4.30.09: Former rye grass seeding is beginning to show green. I spoke with Mr. Chernushek this afternoon who indicated health problems that delayed his starting but indicated he will be working this weekend. I will update on this Monday evening.
- 5.26.09: A light cover of grass growth has come in. Mr. Chernushek indicates health problems and two related deaths have delayed his start of work since the permit approval was granted. It appears that some light work has started. He has further indicated that he will start a vacation on June 22, 2009 to finish the work.
- 6.13.09: Work is underway.
- 6.21.09: Bulldozer work has been completed - finish work remains. The additional silt fencing has been placed along the northerly wetlands crossing, and the additional pipe under the southerly crossing has been installed. Remaining work includes finish grading along edges, spreading stockpiled topsoil, and establishing grass growth.
- 7.01.09: I spoke with Mr. Chernushek who indicated he expects work to be completed by September 1, 2009. (Site photo attached).
- 9.03.09: Mr. Chernushek has been working on levelling and grading. The formerly seeded areas have become fairly thick growth surrounding the central wet areas. He has further indicated that with the combination of weather and the slower moving of earth with the payloader compared to the earlier rented bulldozer has led him to contact contractors for earth moving estimates which have not yet been received. The site is not yet finished but has remained quite stable.
- 9.12.09: I met with Mr. Chernushek today and discussed again what his plans are for stabilizing this work site.
- 10.01.09: Mr. Chernushek indicated he has not heard back from the contractor he had spoken with about removing material, and is in progress of contacting others. In discussion is removal of material from the site either within the 100 cubic yard limit or obtaining a permit for such removal.
- 10.28.09: Mr. Chernushek has indicated he has made arrangements with DeSiato Sand & Gravel to remove 750 cubic yards of material. Staff is in the process of clarifying permit requirements.

W1445 - Chernushek - application for gravel removal from site

- 11.30.09: Packet of information representing submissions by Mr. Chernushek, Mr. DeSiato and myself is in this agenda packet as Mr. Chernushek's request for modification.
- 12.29.09: Preparation of required information for PZC special permit application is in progress. Tabling any action until the February 1, 2010 meeting is recommended.
- 1.12.10: 65 day extension of time received.
- 2.18.10: No new information has been received.

- 2.25.10: This application has been **withdrawn**.
- 6.30.10: As viewed from the adjacent property, the upstream and downstream areas have grown to a decent protected surface. I did not see indication of sediment movement.
- 10.26.10: A sale of the East portion of the Chernushek property has been in negotiation.
- 12.27.10: The property exchange has been completed. The owner is now the neighboring property owner Bernie Brodin. He has indicated his intention to stabilize the area as weather permits.
- 4.25.11: Mr. Brodin indicates he is starting with grading and spreading hay and seed to stabilize disturbed areas.

Mansfield Auto Parts - Route 32

- 3.12.13: Inspection - no vehicles are within 25' of wetlands.
- 4.25.13: Inspection - no vehicles are within 25' of wetlands.
- 5.17.13: Inspection - no vehicles are within 25' of wetlands.
- 6.06.13: Inspection - no vehicles are within 25' of wetlands.
- 7.10.13: Inspection - no vehicles are within 25' of wetlands.
- 7.22.13: Inspection - no vehicles are within 25' of wetlands.
- 8.13.13: Inspection - no vehicles are within 25' of wetlands.
- 9.20.13: Inspection - no vehicles are within 25' of wetlands.
- 10-10-13: Inspection - no vehicles are within 25' of wetlands.
- 11.15.13: Inspection - no vehicles are within 25' of wetlands.
- 12.20.13: Inspection - no vehicles are within 25' of wetlands.
- 1.13.14: Inspection - no vehicles are within 25' of wetlands.
- 2.26.14: Inspection - no vehicles seen within 25' of wetlands.
Snow accumulation makes rear lot partially inaccessible.
- 4.01.14: Inspection - no vehicles are within 25' of wetlands.
- 4.30.14: Inspection - no vehicles are within 25' of wetlands.

Agent Approvals:

- 3-20-2014: 14 Juniper Lane - enclosed deck addition about 100'
From Mount Hope River wetlands
- 4.22.2014: Freedom Green - porch addition, 9 Pequot

March/April 2014

Connecticut Wildlife

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





From the Commissioner's Desk

Rob Klee, Commissioner, CT Department of Energy and Environmental Protection

As someone drawn to the outdoors, I have always enjoyed hiking Connecticut's trails, kayaking our waterways, and observing the diversity of our wildlife. Now, as the new Commissioner of the Department of Energy and Environmental Protection (DEEP), I head a state agency with a wide range of responsibilities, including protection of our open spaces, natural resources, and wildlife. This is something that DEEP takes very seriously.

Our state is small and heavily populated in many places. Yet, few other states can match us for scenic beauty, open spaces, and opportunities for first-rate outdoor experiences, such as hiking, boating, observing birds and other wildlife, fishing, and hunting. We have 107 state parks, 106 wildlife management areas, and 32 state forests, as well as thousands of acres of land protected by municipalities and local land trusts. This means "the great outdoors" is just a short and convenient drive away from anywhere.

One of the biggest challenges facing our agency is how to protect all that we have – not just for us but for future generations as well. To accomplish this we aim to reach into the future and engage young people in the world of nature to foster the development of the next generation of environmental stewards.

To meet this challenge, DEEP has innovative programs to lure families back outside – and away from all of today's electronic gear. As the father of two young boys ages six and four, I know just how hard that can be – and how difficult it is to break through the busy schedule many families keep.

Here is a look at just two of the programs we have for families. We hope you will make it a point to participate and get your children outside – and please be sure to take some of their friends along with you when you do:

- *The Great Park Pursuit is part of our nationally recognized No Child Left Inside® initiative. The Great Park Pursuit kicks-off on Saturday, May 10, at Chatfield Hollow State Park, Killingworth, and will end with a day of activities and a family campout on June 21 at the University of Connecticut in Storrs. There also will be activities at a different state park on the five Saturdays in between. More details and registration information is available at www.NoChildLeftInside.org.*
- *The "Youth Fishing Passport" program introduces young people to a lifetime of excellent fishing opportunities across Connecticut. The "Youth Fishing Passport" is available free-of-charge and is a ticket for youngsters to access fishing information and fishing related activities, as well as promoting a sense of environmental stewardship at an early age. Information about the benefits of the Passport program can be found at www.ct.gov/deep/YFP.*

In addition, don't forget that Connecticut has a network of "greenways" that provide an attractive place in virtually every city and town for families to get out for a stroll, hike, or bike ride. DEEP also has some fun and educational nature centers, such as the ones at Hammonasset Beach State Park (Madison), Sherwood Island (Westport), and Sessions Woods (Burlington).

As an avid reader of Connecticut Wildlife, I know that you value the outdoors. Please do all you can to pass that on to young people in your life.

Cover:

The American woodcock is known for its aerial courtship displays in spring and loud, nasal "peent" calls. Connecticut's population has been declining. Look for a quick update on woodcock research and habitat management on page 22.

Photo courtesy of Paul J. Fusco

Connecticut Wildlife

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Wildlife Diversity, Birds, Furbearers, Outreach and Education, Habitat
Management, Conservation Education/Firearms Safety, Connecticut
Wildlife magazine

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Habitat and Mosquito Management, Conservation Education/Firearms
Safety

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E-mail: deep.ctwildlife@ct.gov Phone: 860-675-8130



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



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Meet DEEP Commissioner Rob Klee

On March 12, 2014, Rob Klee officially became Commissioner of the Connecticut Department of Energy and Environmental Protection (DEEP). Commissioner Klee previously served as Chief of Staff for former Commissioner Dan Esty, who, after almost three years at the helm of DEEP, resumed his tenured position at Yale Law School in New Haven in early 2014.

As Chief of Staff, Commissioner Klee was involved in the inner workings of the department – from Human Resources, budgeting, and technology, to setting policy and direction for environmental regulation and the operation of our state parks and forests. He was also directly involved in the integration of the energy and environmental sides of the department and the buildout of a new cheaper, cleaner, and more reliable energy agenda when Governor Malloy and this General Assembly took action to create the new Department of Energy and Environmental Protection or “DEEP.”

During his position as Chief of Staff, Commissioner Klee developed a real understanding of the department, and an appreciation for the importance of work being conducted by the DEEP staff. He has welcomed the chance to work with a staff that he believes is a collection of smart, motivated, and passionate people who care about the mission of DEEP.

Commissioner Klee had said that being Chief of Staff was the best job he had ever had. Now, the opportunity to serve as DEEP Commissioner is a dream come true for this Connecticut native who grew up with a real appreciation for the world

of nature – Connecticut’s forests, parks, beaches, and marshes along Long Island Sound have always been special to him.

Commissioner Klee carried that passion through his education. He has an undergraduate degree in geology and environmental science from Princeton, and he studied both science and law at Yale. In 1997, he enrolled as a graduate student at the School of Forestry, and, after receiving a master’s degree in environmental studies, went on to pursue a graduate degree, concentrating in industrial ecology. While enrolled as a doctoral student, Klee decided to pursue a law degree. He took a few years off from his Ph.D. program to enroll in the Yale Law School. His PhD research explored how our human industrial systems can better interact with natural systems. He chose an unusual place to study these interactions – Antarctica – where he analyzed how materials, energy, and waste are handled by the various international research stations on that continent. In fact, one news report picked up on the rather academic title of his thesis, “Materials

Flow Analysis of the Industrial Systems in Antarctica.” As a result, some have dubbed him “Dr. Trash.” This nickname may be appropriate because Commissioner Klee believes that transforming Connecticut’s waste management system in order to capture more of the economic value of materials in our waste stream is a major challenge facing our state, but also a great opportunity for improvement, innovation, and leadership.

Working together, Commissioner Klee feels confident that Connecticut can build on the successes enjoyed so far by putting the state’s environmental, conservation, and energy agendas under one roof – an approach that has made Connecticut a national model.

A Connecticut native, who was raised in Fairfield, Commissioner Klee now lives in New Haven with his wife, Anne, and two young sons, Alex and Jacob. They make it a point to visit many of Connecticut’s state parks and natural spaces, partaking in ice fishing, camping, hiking, canoeing, and swimming.



DEEP Commissioner Rob Klee (left) and students from Helen Street School and Ridge Hill School in Hamden stock trout at one of our designated Community Fishing Waters – Lake Wintergreen in Hamden.

M. BEAUCHENE, DEEP INLAND FISHERIES DIVISION

The opportunity to serve as DEEP Commissioner is a dream come true for Connecticut native Rob Klee who grew up with an appreciation for the world of nature.

Keeping a Salamander-friendly Yard

Written by William Conway, Skidmore College Student Intern for the DEEP Wildlife Division

During this Year of the Salamander, make an effort to create a welcoming habitat for salamanders right in your yard.

Salamanders have been disappearing at alarming rates in recent years. The decline of these amphibians can be attributed to a number of human activities, including habitat destruction and increased chemical pollution. Homeowners and landowners can take several measures to ensure that salamanders find hospitable conditions in yards or nearby wetlands.

If you are tired of the pressures of keeping a perfectly manicured yard, fostering salamander habitat can serve as your environmentally friendly excuse to not rake leaves and also have a lawn that is not “putting green” pristine. Salamanders, along with other amphibians and reptiles, rely on leaf litter for cover and moisture. Simply allowing fallen leaves

Studies have shown that broad spectrum herbicides containing glyphosate are highly toxic to salamanders.

to run their natural course of decomposition can create nutrient rich leaf litter in your yard. This leaf litter will provide the ideal habitat for a plethora of insects and earthworms, supplying salamanders with an important food source. Along with providing food and shelter, leaf litter can increase the soil’s water retention abilities by up to 50%, creating the damp environment salamanders thrive in. Leaf litter also will function as an important salamander-friendly replacement for synthetic lawn fertilizers.

Salamanders are direct recipients of toxic runoff from widely-used lawn care chemicals. The combination of having permeable skin and living in low-lying wetlands makes salamanders highly vulnerable to the threats of pollution. Synthetic lawn fertilizers and herbicides used by households contribute to nonpoint source pollution that enters waterways and destroys salamander habitat. Studies have shown that broad spectrum herbicides containing glyphosate are highly toxic to salamanders at levels below the Environmental Protection Agency’s standards

for safe drinking water. When homeowners use these herbicides or other popular lawn care chemicals, salamander habitat is immediately compromised.

Compost and leaf matter are organic alternatives for supplying lawns with necessary nutrients. To reduce run-off from entering low-lying salamander habitat, the installation of impervious surfaces, such as concrete walkways, should be avoided. Lastly, if you happen to live near a stream or river, native vegetation planted along stream and riverbanks can absorb runoff before it enters the waterway. Increased streamside vegetation also provides the shade necessary to protect salamander eggs from ultraviolet rays.

Leaving a lawn unkempt and strewn with leaves, logs, and branches will attract salamanders, but homeowners can be even more proactive in their approach to creating salamander habitat by building a brush shelter. Brush shelters are intentional ecosystems erected to attract a variety of local wildlife. To construct a brush shelter, start by stacking and criss-crossing logs for a base. The log foundation will provide the necessary moisture, coverage, and insects for salamander habitat. On top of the logs, weave branches, sticks, and twigs together, creating a dome like structure. The frame of the brush shelter is then covered with leaf litter, and some-

times conifer branches for extra warmth in winter. The resulting mass is a protective, thriving environment with a variety of interesting features to attract everything from salamanders to rabbits and birds.

In spring, many salamanders will migrate to temporary pools formed by the accumulation of rainfall and snowmelt in low-lying areas to breed (also known as vernal pools). What may look like an unattractive, muddy stain on spring’s vibrancy is, in reality, a key ecological phenomenon in the reproduction of salamanders. If a vernal pool occurs in your yard, allow the pool to live out its temporary existence and welcome a new generation of salamanders into your new, salamander-friendly yard.



Leaf litter and fallen logs are important components of salamander habitat.



Temporary pools, also known as vernal pools, are the life-blood for most salamanders in Connecticut.

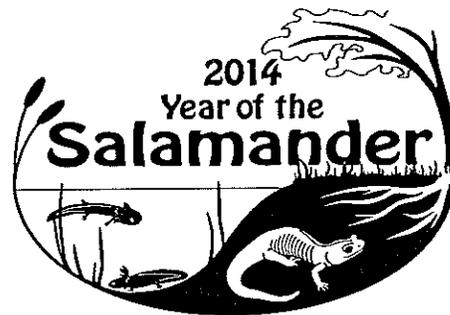
F. J. FUSCO (2)

Salamander Art Contest for Kids!

As part of the Year of the Salamander, the DEEP Wildlife Division and the Friends of Sessions Woods are sponsoring a salamander art contest for children in kindergarten through fifth grade (open to Connecticut residents only). Children interested in entering the contest are asked to draw, paint, or sketch a salamander species native to Connecticut. Entries will be judged in three age groups: K-1st grade, 2nd-3rd grade, and 4th-5th grade. First, second, third, and "most creative prizes" will be awarded in each age group. The Connecticut Science Center has graciously donated a Family Pass package for each first place winner. The Friends of Sessions Woods Paul Petersen Memorial Fund and Connecticut's Beardley Zoo also have donated prizes. First place winners will have their artwork

published in *Connecticut Wildlife*.

All of the artwork entered in the contest will be on display at the Sessions Woods Conservation Education Center, in Burlington, at a special "Salamander Day," scheduled for Sunday, July 20, from 1:00-4:00 PM. Educational programs on salamanders, live salamanders, and kid's crafts are all planned for Salamander Day. An entry form, art contest guidelines, and the list of native salamanders (with photographs) that can be illustrated are available on DEEP's Year of the Salamander webpage at www.ct.gov/deep/salamanders. This information also can be obtained by contacting the DEEP Wildlife Division's Sessions Woods office at 860-675-8130 (Mon-Fri, 8:30 AM-4:30 PM). All entries must be postmarked by May 30, 2014.



Celebrate Salamanders!
Learn all about Connecticut's salamanders and find out about upcoming salamander events on the DEEP website at www.ct.gov/deep/salamanders.

Tweet to Unite Wildlife Enthusiasts for Wildlife Conservation

Many species that we traditionally think of as common are declining across Connecticut. When was the last time you saw bats flying in the sky or found a box turtle while walking through the woods? These once common species are now rare sights. Our wildlife is a defining feature of Connecticut – we all have an enormous role to play in keeping these species common for generations to come. You can assist by reporting the wildlife that you see.

Students in UCONN's Wildlife and Fisheries Conservation Center are creating new social media content focused on Connecticut's wildlife. These students, in partnership with the DEEP Wildlife Division, have created a new Twitter page, https://twitter.com/CT_SWAP, to celebrate Connecticut's wildlife and encourage public participation in helping to update Connecticut's State Wildlife Action Plan (CT SWAP). The focus of this page is to inspire nature lovers to be on the lookout for species of greatest conservation need (SGCN). Followers will receive

up-to-date information on local wildlife species and information about the revision of Connecticut's Wildlife Action Plan.

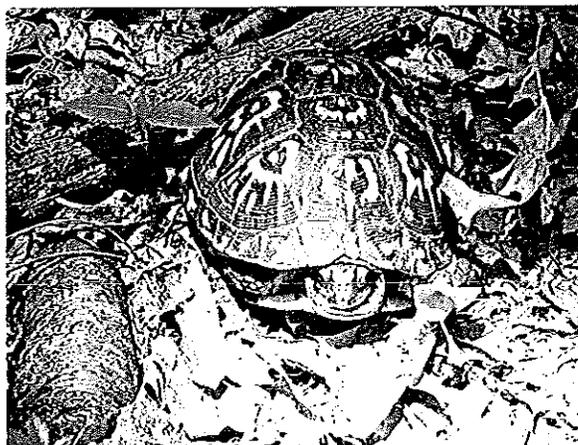
Twitter users will be able to post wildlife-related questions, and can directly contribute to wildlife conservation by posting photos of their sightings of SGCN species in the state. Photos can be tweeted @CT_SWAP with #CTSGCN. See a new species in your yard, tweet it with #CTSGCN. Find a rare species when hiking in a state park, tweet it with #CTSGCN. Sightings that are paired with time and location data will inform conservation planning for SGCNs.

If you are not already following the Wildlife Division on Facebook, "like" the page today (www.facebook.com/CTFishandWildlife). UCONN students will be publishing content on the CT Fish and Wildlife Facebook page throughout the next

year that will include regularly updated descriptions and pictures of SGCN species and information on how you can get involved with local wildlife conservation.

The ultimate goal is to keep common species common! Learn about SGCN species, keep an eye out for SGCN species while enjoying the outdoors, and start tweeting your wildlife observations today!

To learn more about the UCONN class project, visit <http://wfcc.uconn.edu/ConnecticutsStateWildlifeActionPlan.php>.



Kelly O'Connor
@kmoconnor8

Follow

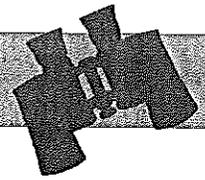
@CT_SWAP Eastern Box Turtle sighted at West Rock Ridge State Park in August 2013 #CTSGCN #turtles

4:30 PM - 13 Mar 2014

✈ 📷 📍

What Is SGCN?

A species of greatest conservation need (SGCN) is identified based on a variety of criteria. It may already be listed as threatened or endangered at either the state or federal level, or it may be vulnerable to population decline. The species may occur in small, localized populations that are endemic to the region, or it may be a "responsibility species," whose center of distribution falls within the state. DEEP consults with a wide variety of experts during the SGCN selection process. Learn more about SGCN by visiting <http://1.usa.gov/NbihaQ>.



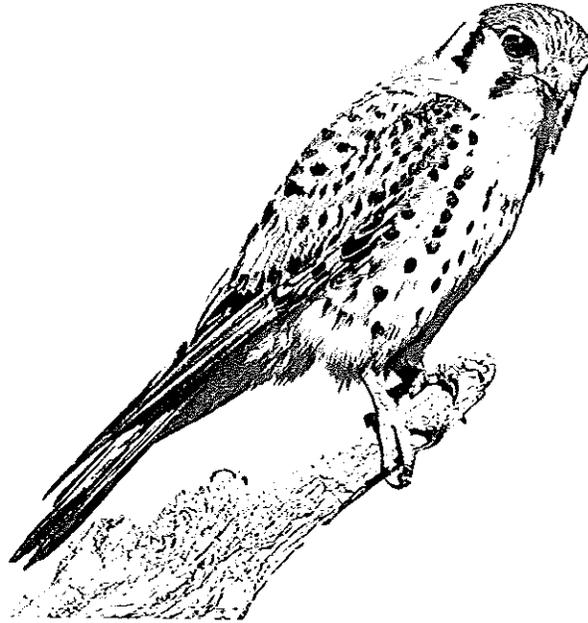
Topsmead State Forest

Topsmead State Forest, nestled in the Litchfield Hills, is the perfect location for viewing grassland birds. This 634-acre state forest contains mixed hardwoods, large agricultural fields, two small ponds, and old, unmanaged Christmas tree plantings. Grassland birds, in general, require large fields for nesting and raising their young. The large hayfields at Topsmead are actively hayed by two local farmers under the Wildlife Division's Agricultural Agreement Program. Farmers leasing land under this program are required to follow a land use plan that specifies what may be planted, when hay can be cut, and the requirements for maintaining old fields.

A viewing blind, which looks like a small barn, is located in an isolated corner of a large hayfield to provide visitors the opportunity to observe grassland birds. Birds one can expect to see from the viewing blind are bobolinks, meadowlarks, field sparrows, kestrels, bluebirds, and red-tailed hawks. At dawn or dusk, there also is a good chance to see a fox or coyote hunting for small mammals in the field or deer grazing along the edge. Visitors also may observe indigo buntings, song sparrows, common yellowthroats, and catbirds.

Topsmead State Forest is the former summer estate of Miss Edith Morton Chase, daughter of Henry Sabin Chase and Alice Morton Chase. Henry Sabin Chase was the first President of Chase Brass and Copper Company in Waterbury. In 1917, Miss Chase received approximately 16 acres on Jefferson Hill in Litchfield from her father. Here she built a rustic cabin, which was replaced with a more substantial summer home – an English Tudor style house which was completed in 1925.

Miss Chase built up her financial inheritance and subsequently her real estate holdings. One of her most significant acquisitions was the 1927 purchase



American kestrels can be seen hunting over the fields at Topsmead State Forest.

of the Buell Farm, which was renamed Topsmead Farm to reflect its location at the "top of the meadow." The farm produced food used on the estate. In addition to vegetable and flower gardens, there were beef cattle, poultry, sheep, pigs, and, at one time, draft horses.

Upon her death in 1972, Edith Chase left her beloved country estate to the people of Connecticut and wanted it to be known as Topsmead State Forest. In her will, Miss Chase requested that Topsmead "be kept in a state of natural beauty." Therefore, Miss Chase left an endowment to be used toward maintaining and operating the buildings and grounds as they were upon her death.

The house is open for free guided tours from June through October on the second and fourth weekends of each month. Reservations are not required. Visitors may picnic informally on the grounds, residence lawns included. Open fires or grills are not allowed.

Numerous trails and unpaved lanes are available for easy walking. In addition, the Edith M. Chase Ecology Trail offers a 7/10-mile walk with interpretive signs.

Approximately 200 acres are open to hunting during the following seasons: small game, waterfowl, spring turkey, fall archery, fall firearms turkey, muzzleloader deer, and no-lottery deer A and B seasons. More specific details on season dates are available in the current Connecticut Hunting and Trapping Guide, which can be obtained from DEEP offices, outdoor equipment vendors, and on the DEEP website at www.ct.gov/deep/hunting.

Directions:

From Route 8: Take exit 42. Go west on Route 118 for 2.0 miles. Turn left onto Clark Road to the stop sign. Take a right at the stop sign, then the first left onto Buell Road. The first right off Buell Rd. is the entrance to Topsmead.

From Litchfield Center: Take Route 118 east for 1.5 miles. Take a right onto East Litchfield Road. Take the first right onto Buell Road. Topsmead will be the first road on the right.

There are no parking fees at Topsmead State Forest. Gates open at 8:00 AM and close at sunset all year round.

Record Number of Eagles Counted During Midwinter Survey

Written by Kate Moran, DEEP Wildlife Division

During winter when rivers and lakes in more northern latitudes freeze over, bald eagles migrate to points south where they can find open water and fish to feed upon. The lower Connecticut, Thames, and Housatonic Rivers provide just such winter feeding grounds for these fish-eating raptors, as well as an exciting watchable wildlife opportunity for residents in our state. Winter also is a perfect time to take inventory of these birds because they are concentrated around open water, making it easier to count them.

The annual Midwinter Bald Eagle Survey was completed in Connecticut

during January 2014. This survey is part of an annual nationwide effort initiated in 1979 by the National Wildlife Federation. The survey is currently coordinated by the U.S. Army Corps of Engineers in partnership with the Biological Resources Division of the U.S. Geological Survey. Data collected over the years has contributed to establishing a nationwide population index, species distribution, and long-term population trends throughout the contiguous 48 states. Connecticut has participated in the program since its inception, when 20 eagles were documented in the state. Since that time, there has been a steady

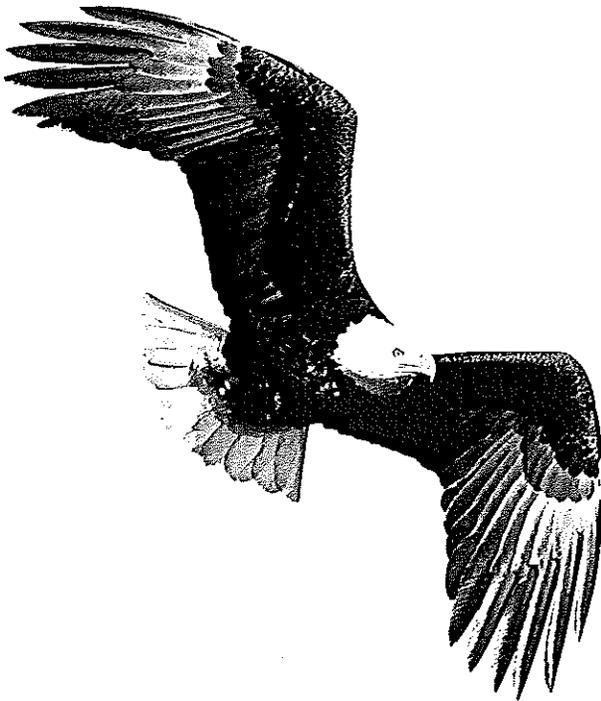
2014 Midwinter Eagle Survey Results

Watershed	Bald Eagles
Connecticut	83
Housatonic	30
South Central Coast	5
Thames	25
Total Statewide	143

increase in Connecticut's wintering eagle population. Midwinter Eagle Survey data and information from surveys conducted in past years and in other states are available at <http://ocid.nacse.org/nbii/eagles/>.

CT's Survey Results

This year, despite dense fog and a mix of rain and snow that fell across the state on the day of the survey, a hearty band of 228 volunteers counted a record high of 143 bald eagles (104 adults and 39 juveniles). The last record high was set in 1996 when 128 eagles were counted. The Wildlife Division would like to thank all who participated in the survey, particularly members of the Bald Eagle Study Group and the volunteers coordinated by Ranger Bill Reid of The Last Green Valley National Heritage Corridor.



Chimney Swift Conservation Night, May 19

Willibrew is for the birds! Join us for the second annual Chimney Swift Conservation Night on Monday, May 19, 2014, at the Willimantic Brewing Company (Main St. Café), at 967 Main Street, in Willimantic. This year, the event is happening at the height of the spring arrival of chimney swifts. In past years, close to 1,000 birds have been observed descending into the nearby Nathan Hale roost. Join swift researchers from DEEP and UCONN for a wonderful meal, specialty brews, including "Flying Cigar Ale," and the amazing spectacle of hundreds, perhaps thousands, of chimney swifts "tornadoing" into two of the state's largest summer roosts. Come see the Windham Town Hall roost and the Nathan Hale roost spectacles and learn why Willimantic is so important to chimney swifts. In addition to learning all about swifts and enjoying a great dining experience, master brewer David Wollner will again be tapping the now famous "Flying Cigar

Ale." A portion of the proceeds from each one sold will again be generously donated to the chimney swift conservation effort. So, come and enjoy a lovely night at the Willimantic Brewing Co. and help raise money for a great cause.

DEEP and UCONN researchers will be at the Brewing Co. starting at 5:30 PM. "Showtime" for the swifts is typically 20 minutes before sundown to 30 minutes after sundown (approximately 8:00 PM). Make sure you leave enough time to enjoy a truly fabulous menu before the spectacle. Guided tours to the Nathan Hale roost and the adjacent Town Hall roost will occur around 7:40 PM. For those who want to eat a meal before observing the swifts, reservations are recommended (call 860-423-6777). Remember, the swifts will be there all summer, so once you see them initially, you will certainly want to come back and see them again!

Connecticut State Parks – The Roaring 20s

Written by Alan Levere, State Parks Division

From the beginning, the 1920s held the promise of tremendous growth. The opening of Hammonasset Beach State Park marked a change in park practice from simply buying land to availing it to public use. It was a philosophical change that took the Park Commission five years to embrace, but one that has been with us

ever since. Hammonasset and its public amenities set a new standard for parks, and while it was being nurtured, many other locations were blooming as well.

Waramaug: A Lake in the Woods

One of the prize locations in north-west Connecticut was Lake Waramaug.

This multi-town, 641-acre scenic beauty posed a challenge because much of its nine-mile shore was too steep for park purposes. By good fortune, in June 1920, the Commission was able to acquire 75 predominantly level acres along the lake's north-western arm. Especially enticing was the 3,200 feet of shoreline and, even though a road ran between the

property and the lake shore, the offer was too good to pass up.

Within months of its acquisition, public recognition swelled and Lake Waramaug became a popular camping destination. The cabin on the premises was available for rental and regularly booked at \$15 per week. Soon, the parking area had to be enlarged as parked cars spilled out onto local roads. The unexpected success at Lake Waramaug was welcome and served to highlight the new decade's hunger for scenic, well-run locations.

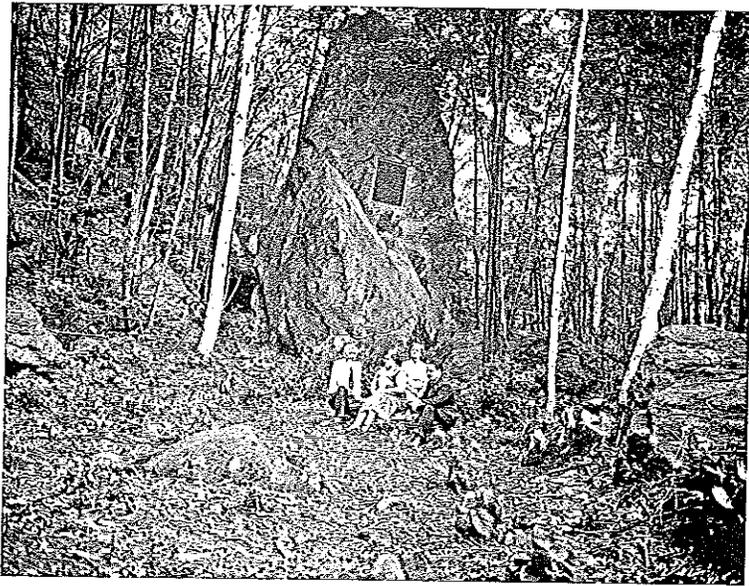
Wharton Brook: Motorists Haven

It seems odd to think so today, but at the beginning of the 1920s, the Commissioners were trying to figure out if individual automobile use would continue to grow, stabilize, or diminish. As it became clear that personal transportation would flourish, the Commission accommodated "automobilists" with wayside parks. The 70-acre Wharton Brook State Park in North Haven was the first of these. Its free amenities included a night of camping, picnic groves, and a lunch pavilion. Snacks, ice cream, soda, and a public telephone were available for a fee. The courteous attendants allowed no tipping and the park was an immediate success. Wharton Brook's remarkable popularity is seen in 1920s park attendance figures – only Hammonasset Beach had more visitors in the decade.

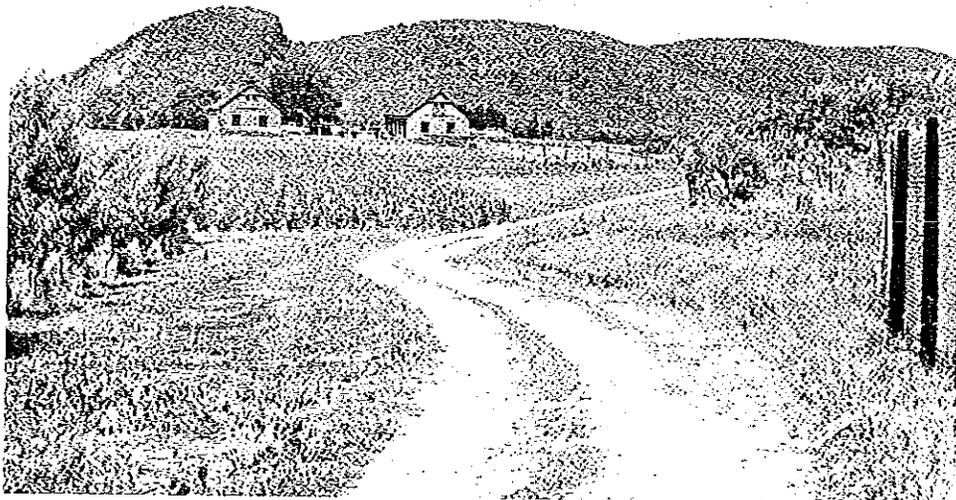
Mount Carmel: A Special Place

Mount Carmel in Hamden is the official name for Connecticut's only east-west running trap rock ridge. Viewed from the south it looks like a person laying down, hence the local name of "Sleeping Giant." A landmark in the community, the area was once the place of carriage roads, summer homes, and diverse hiking trails.

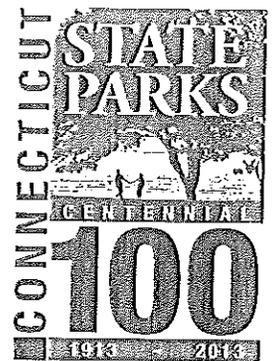
The preservation story began in 1912 when one landowner, seeking income from his hilltop holdings, leased the Giant's head to a quarry company. In early 1924, neighboring landowners, troubled that the whole Giant could be lost and incensed by the continued



Mr. Harley F. Roberts, President of the Black Rock Forest, Inc., was the enthusiastic person to whom the State is primarily indebted for this fine addition to its park system. A stone monument to his memory and honor still stands today.



The popular Sleeping Giant State Park was the only new park added in 1924. It was important because it had been on the Park Commission's mind since the first meeting in September 1913. The white mark on the Giant's head indicates the location of the historic quarry.



destruction of the Giant's head, formed and incorporated the Sleeping Giant Park Association (SGPA). They raised funds and purchased property so quickly that within six months they donated 204 acres to the Park Commission, the first of their many land gifts for this cause.

The quarry at the Giant's head, however, stayed successful until its demise in 1933 during the Great Depression. When the last of the rock dust settled and the land records were finalized in late 1935, this generous gift from SGPA secured the now complete Sleeping Giant for generations to come.

Black Rock: A Generous Gift

In the mid-1920s, the 3,000-acre Peoples State Forest in Barkhamsted – paid for by donations from individuals, school children, and organizations – was presented to the State of Connecticut as a gift. Not to be outdone, residents of Watertown who had attended the presentation liked the idea and began the process that would lead to their own gift two years later.

The State Park Commission summarized the story of Black Rock in the pages of their biennial reports to the Governor:

"The citizens of Watertown ... organized Black Rock Forest, Inc., and with funds raised entirely by subscription have been able to purchase and convey to the State more than a thousand acres of land, an area of 254 acres of which should be developed as a State Park."

In September 1926, Black Rock Forest, Inc., officially donated their first land gift, which became Black Rock State Park. Within a few years, the public valued the location so highly that by the end of the decade it had become the fourth most popular park in the system.

A Culture Clash

One minor social issue came to a head in the state parks at the end of the 1920s. Nearly all the 1920s beach photographs depict the norm for beachwear – the body was covered up except for the extremities. The idea of an exposed midriff, or even the back below the neck, was just too cutting edge. Then, as now, visitors were willing to push the limits and, thus, the daring issue of having your back exposed via open, or "sun back," bathing attire was brought to the forefront.

The Commissioners realized there would be inevitable change in beach

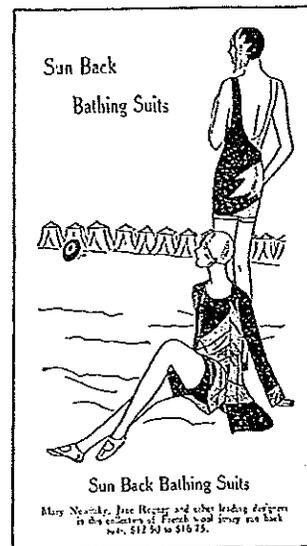
fashion over time. But, a venture beyond the accepted norm brought raised eyebrows and complaining mothers. So, with the introduction of "Sun Back" bathing suits in 1929, this new, risqué style brought complaints from the public. One person protested if Connecticut 'was going to allow that, then my friends and their families were not coming to this beach anymore; they would be ashamed to be seen there.'

To remedy the situation, park managers posted a sign which stated such beachwear was not allowed in State Parks. Though there was no rule cited and no signature of authority, those pressing the issue knew they had reached the limit. The rest of the summer passed without incident, the norms gradually changed over time, and the issue never arose again.

A Decade in Review

Before the decade ended, other signature park properties were added to the system: Kent Falls was donated by A.C. White of Litchfield; 140 acres at Squantz Pond in New Fairfield were acquired; and the Housatonic River valley, which 10 years prior had no state thruway, boasted parks at Housatonic Meadows (Sharon) and Indian Well (Shelton).

Historic property preservation got underway as well. The addition of the Nathaniel Lyon home in Eastford, Wolf Den in Pomfret, and



Baring your back on the beach in 1929 was a bit much for some; but styles and attitudes change and, by the 1930s, new fashions were accepted without complaint. And, there were plenty of watchers to monitor progress. Statewide park attendance of 104,000 visitors in 1920 had burgeoned to 1.2 million by the end of 1929.

Fort Shantok in Montville demonstrated the Commissioners' early stated commitment to "preserve sites of historic interest."

By the conclusion of the 1920s, the Commissioners had learned much about park growth, selection, management, and budgets. They created a signature park in Madison and, in so doing, changed from preservationists to providers of recreation. However, all of the lessons learned in those 10 years could not prepare them for the social and economic tumult that they would face in the coming decade.

Follow the Connecticut State Park Centennial on the DEEP website at www.ct.gov/deep/Stateparks100.



Seven years after Lake Waramaug was acquired, the Park Commission took a cue from Hammonasset and opened a new, tree shaded pavilion along the shore. The collective improvements at the Lake helped make it the fifth most visited park of the decade.

Keeping Track of Connecticut's Endangered Sturgeon

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

Keeping track of scarce endangered species is difficult, especially when they travel long distances under water, as is the case for Atlantic and shortnose sturgeon. In recent years, researchers have attempted to solve this problem by surgically implanting acoustic transmitters into both of these endangered species. Acoustic receivers then detect a fish's unique ultrasonic signal as it swims by, and the accumulated movement information helps identify the fish's habitat needs as well as seasonal concentration zones critical to successful growth and survival. Because sturgeon are both relatively large and long-lived, the DEEP Marine Fisheries Division uses transmitters that last several years so that we can examine changes in movement patterns

over time. Beginning in 2006, acoustic receivers were deployed throughout Connecticut waters that are known or suspected to be important habitats used by sturgeon, adding to numerous other acoustic arrays along the U.S. East Coast. Some Connecticut receivers were put in Long Island Sound and others were deployed in the Connecticut River. Receivers in the Sound were hung on U.S. Coast Guard Navigation Aids (with a signed Memorandum of Agreement). Others were deployed with 50-pound anchors and surface buoys. The number of receivers in the annual acoustic array has varied over the years as we acquired additional equipment and, unfortunately, as losses of receivers increase (see sidebar).

Analysis of the newest telemetry data

for shortnose sturgeon confirmed results from earlier studies that documented annual movement of this species down the Connecticut River to its mouth in spring and summer, residence in the estuary at the mouth for 30 to 90 days, and then a return upriver to known freshwater concentration areas. New telemetry information indicated that some shortnose also make a fall movement back to the estuary region. More importantly, movements of some shortnose sturgeon out of the Connecticut River into Long Island Sound were observed, including one fish that left the Sound. Information collected by researchers at State University of New York at Stony Brook and Delaware State University and forwarded to the DEEP Marine Fisheries Division indicated that



One of the larger Atlantic sturgeon that has been surgically implanted with an ultrasonic transmitter by the DEEP Marine Fisheries Division. Note the sutured incision near the researchers fingers.



This Atlantic sturgeon is the typical size of ones surgically implanted with an ultrasonic transmitter. Each fish is gently supported in the water after surgery until it fully recovers and swims off on its own.

this particular shortnose traveled along the south shore of Long Island and into the Hudson River where it has remained since 2011.

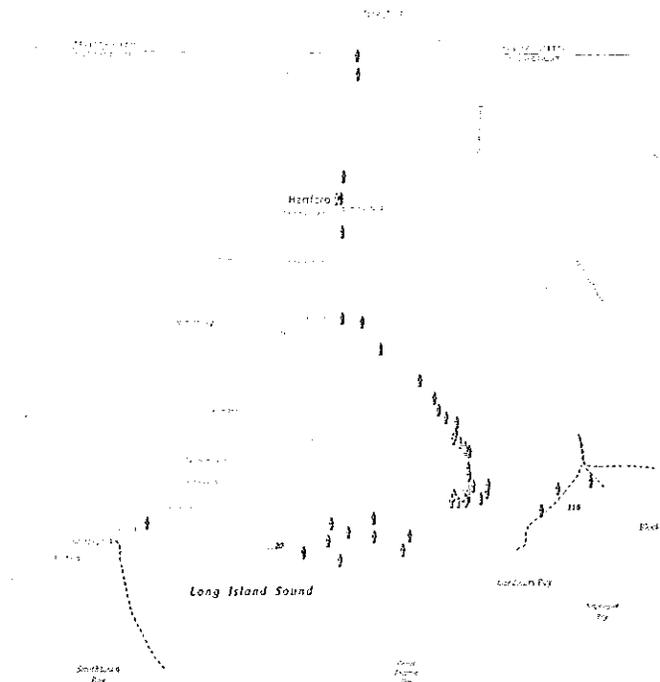
Movements of Atlantic sturgeon surgically implanted with acoustic transmitters confirmed a seasonal presence in Connecticut waters with fall/winter migration to warmer waters off the southern

United States. One sturgeon captured in Connecticut waters was tracked as far south as Cape Canaveral, Florida, a new southernmost range extension. New data from Atlantic sturgeon with transmitters also documented an extension of the seasonal presence of Atlantic sturgeon in Connecticut waters from the formerly described period of "May through

October" to some fish arriving as early as March and staying until December. Some individuals have returned for three consecutive years. Atlantic sturgeon have been documented moving up the Connecticut River, well beyond the salt wedge to Hartford and further north, in some cases. Telemetry efforts have documented the first known year-round presence of Atlantic sturgeon in Connecticut waters. Two tagged Atlantic sturgeon overwintered in the state, one in the estuary region of the Connecticut River and another at a known shortnose sturgeon concentration area upriver.

Published life history information indicates that once young Atlantic sturgeon leave their natal river at ages two through six, they remain in coastal waters until they are sexually mature at ages 12 to 20. When sexually mature, the sturgeon then return to their birth river and swim upstream to spawn.

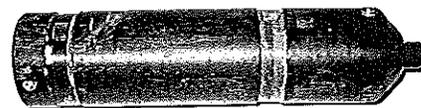
Lack of direct evidence had led us to speculate that the Connecticut River spawning population of Atlantic sturgeon was extinct. This new telemetry information raises some interesting questions: why do these juvenile fish move so far upstream; why do some overwinter here; and are these fish the last few members of the Connecticut River stock of Atlantic sturgeon?



This map depicts a typical annual acoustic array indicating approximate positions of acoustic receivers in Long Island Sound and the Connecticut River.

Have You Seen This?

Many Vemco VR2W Acoustic Receivers have gone missing over the last three years. They are expensive, and the data they store are even more valuable to this long-running program to restore endangered sturgeon species. Because the receivers and buoys can become heavily fouled with encrusting organisms or vegetation, possibly obscuring the DEEP research labeling, they may be hard to identify. Should you come across a receiver no longer attached to its mooring, please pick it up and contact us. You can leave an email message at deep.marine.fisheries@ct.gov, a phone message at 860-434-6043, or return the receiver in person to Marine Headquarters at 333 Ferry Road in Old Lyme. We would greatly appreciate getting any receivers back in whatever way is most convenient.



Vemco VR2W acoustic receiver and long-lived ultrasonic transmitter.

It is easy to report a lost receiver, but it also must be picked up. A person found a receiver washed up on the beach after Superstorm Sandy and went to great effort to notify the manufacturer after obtaining the phone number off the Internet. Vemco notified us about the receiver and provided contact information. Unfortunately, the individual did not pick up the receiver from the beach, so it had vanished again by the time we arrived two days later to pick it up.

Shrubland Buzzz - The Blue-winged Warbler

Article and photography by Paul Fusco, DEEP Wildlife Division

Light mist slowly breaks up as the sun rises above a nearby ridge. The strong sunlight of early May bathes an old field in golden light, warming the habitat and bringing it to life. Song sparrows, red-winged blackbirds, and bluebirds are joined by newly arriving neotropical songbirds that seem to be everywhere in the surrounding brushy edges and forest. Tanagers, orioles, and catbirds are all staking their claim to the best breeding territory. Among their calls is another sound, a buzzy song, that seems more akin to a grasshopper than to a bird. The sound comes from high in

a small black cherry tree at the edge of the field, where a little bright yellow bird can be seen. It has a puffy breast and its head is thrown back as it sings its buzzy song.

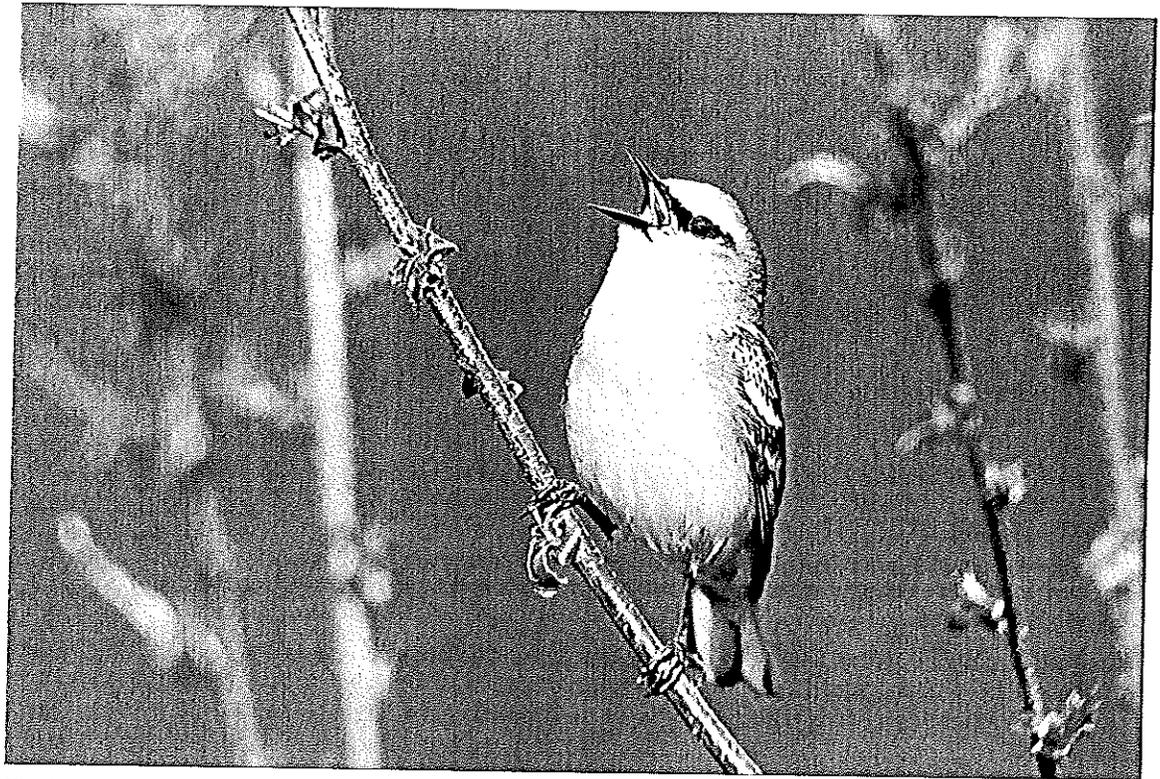
The bird is a male blue-winged warbler. Its song is a lazy *bee-buzzzzz, bee-buzzzzz*, with the first note being higher in pitch. Habitually found closer to the ground, the male often sings from a favored treetop perch, overlooking his territory.

Description

At 4.5 inches in length, the bird is small even by warbler standards. It has a bright yellow head and underparts, narrow black eye line, gray wings with two white wing bars, black bill, and dark legs. The bill is thin and sharply pointed. The sexes of the blue-winged warbler are similar but females are duller with less pronounced eye lines and wing bars. In flight, the blue-winged warbler flashes white patches in the outer tail feathers.

Habitat

Blue-winged warblers breed east of the Great Plains, from Missouri, Tennessee, and Virginia north to southern Minnesota and southern New England. While they



The buzzy song of the blue-winged warbler is a distinctive, insect-like *bee-buzzzzz, bee-buzzzzz*.

have been declining throughout most of their range, they may be expanding in parts of the Northeast. They winter in southern Mexico, Central America, and islands in the Caribbean. In Connecticut, the first blue-winged warblers typically arrive in mid- to late April. The last departures in fall happen by mid-September.

The blue-winged warbler favors shrubby second growth habitats. Habitat can be in the form of shrubland, old field, abandoned farmland, powerline rights-of-way, forest clearing, or forest edge, particularly those with a component of grasses and brushy edges.

Blue-winged warblers nest and forage close to the ground. Nests are built at the base of a clump of plant stems where the female lays from 2 to 7 eggs. The usual clutch size is 5. Young hatch after 11 or 12 days, and chicks fledge the nest after another 10 days.

Insects and spiders make up the majority of the diet. The birds generally use

a slow gleaning (collecting) style to forage for food from leaves and small branches.

Two Close Relatives

A close relative of the blue-winged warbler is the golden-winged warbler. In Connecticut, most shrubland habitat has gradually matured from seemingly favoring golden-winged warbler (younger shrubland) to seemingly favoring blue-winged warbler (general shrubland). A gradual transition has taken place where blue-winged warblers have replaced golden-winged warblers. During that time, as the golden-winged warbler population declined, hybridization between the two species also has occurred. Hybrid offspring can be recognized as Brewster's warbler

Blue-winged vs. Golden-winged by Song

Blue-winged warbler:
Song is a lazy buzz followed by a single note on a lower pitch, *beee-buzzz, beee-bzzz*.

Golden-winged warbler:
Song is a buzzy note followed by 3 to 5 on a lower pitch, *beee-bzz-bzz-bzz*.



Golden-winged warbler

(more common) and Lawrence's warbler (less common). Due to hybridization and changes in habitat, the golden-winged warbler has been reduced to the point of possibly being extirpated from the state. It is listed as a state endangered species.

Conservation

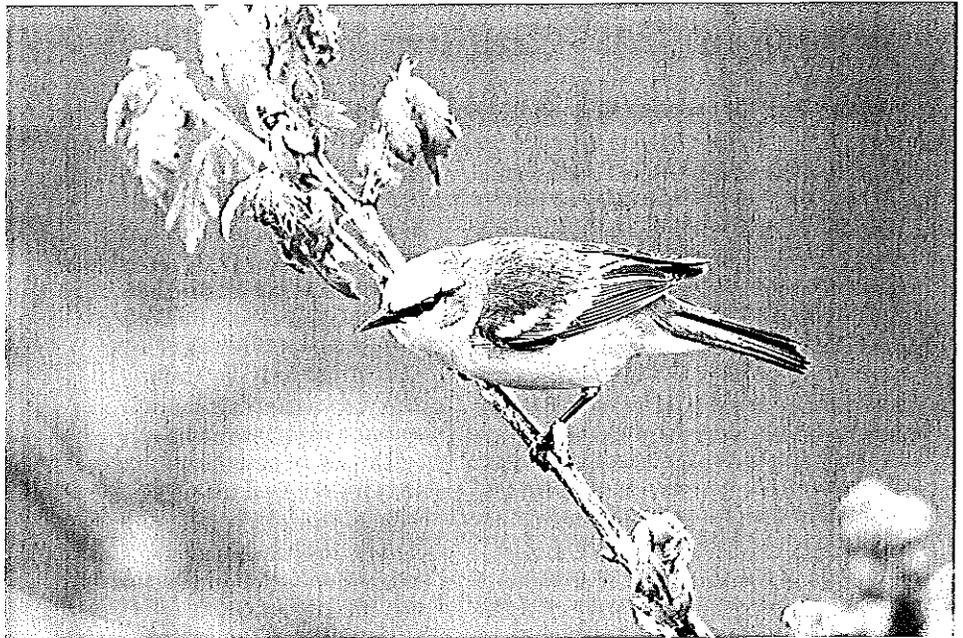
Throughout most of its range, the blue-winged warbler is considered uncommon and declining. However, in Connecticut, it is a statewide breeder, being fairly common and widespread in appropriate habitat.

That being said, blue-winged warblers are experiencing a serious long-term population decline in our state. Habitat loss and degradation due to succession, suburban sprawl, and manicured properties have had the biggest impacts. In our state, the declines have averaged a staggering 3.3% loss per year since 1966, based on data and analysis from the Breeding Bird Survey of the National Audubon Society and U.S. Geological Survey. That factors to be a population decline of 74% in Connecticut since 1966. In the United States, data show that the blue-winged warbler population decreased an average of 0.7% per year over the same time period. The good news is that blue-winged warblers have been increasing in parts of southern Ontario, Canada, where the population has grown by 6% to 7% per year.

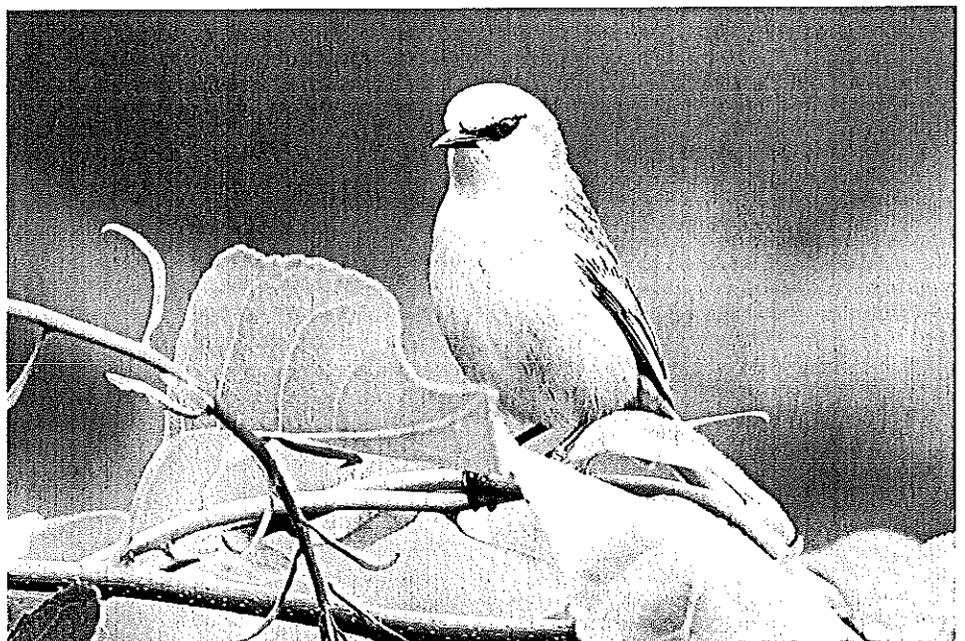
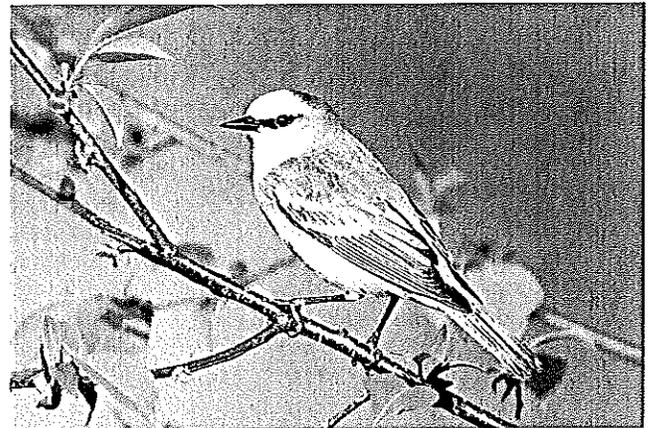
The changing landscape of habitat succession plays a large part in the fortunes of this species. Cutting back brushy habitat to maintain a manicured property negatively impacts this species, as does the inevitable natural progression of field to forest that has been happening in Connecticut throughout the last century. The takeover of old field habitat by the fast-growing, invasive exotic plant autumn olive also is a factor in the loss of otherwise suitable early successional habitat.

The DEEP Wildlife Division recognizes the perils faced by the blue-winged warbler. The loss of early successional habitat also has affected other species in a negative way, including brown thrasher, prairie warbler, golden-winged warbler, Eastern towhee, American woodcock, and New England cottontail, to name a few. The Wildlife Division, in cooperation with other partners, has initiated the Young Forest and Shrubland Initiative to maintain and/or create early successional habitat by periodically mowing, cutting, burning, and planting at a number of state-owned and privately-owned lands (www.ct.gov/deep/youngforest). These shrubland stewardship efforts have shown positive results for early successional habitat dependent species.

Concerned citizens have the opportunity to help shrubland species, including the blue-winged warbler, by making choices in their daily lives. Give support to agencies and organizations working to protect shrub habitats, purchase shade grown coffee (protects warbler wintering habitat), and maintain brushy and old field habitats on your property.



Blue-winged warblers feed by gleaning insects and spiders from leaves and small branches.



A shrubland generalist, the blue-winged warbler is in a long-term population decline, despite being found throughout Connecticut.

American Eel – Getting Here Is Only Half the Battle

Written by Brian Eltz and Tim Wildman, Inland Fisheries Division

Spring has sprung! While the debate continues over the accuracy of the groundhog's predictions, one of the most biologically unique harbingers of spring from the world of fish is well underway. Tiny American eels (*Anguilla rostrata*), also called "glass eels," begin to appear in our waters. They are almost completely transparent, only a few inches in length, and largely invisible to the untrained eye. Amazingly, during the past year, they have traveled over a thousand miles, from the Sargasso Sea through the open ocean, as transparent feather-like larvae or "leptocephali." Now residing in our coastal and inland waters, the eels (now at less than six inches) begin to obtain pigment and are called "elvers." They soon grow into "yellow eels" and will be residents of Connecticut's rivers, streams, lakes, ponds, and Long Island Sound for the next five to 30 years, before transforming into "silver eels" and returning to the Sargasso Sea to spawn.

Eels As Part of Our Native Fish Community

The American eel is a catadromous species, meaning it is hatched in saltwater, migrates into freshwater to feed and grow, and then migrates out of freshwater and back into saltwater to spawn once and die (a term called semelparity).

Eels in Danger:

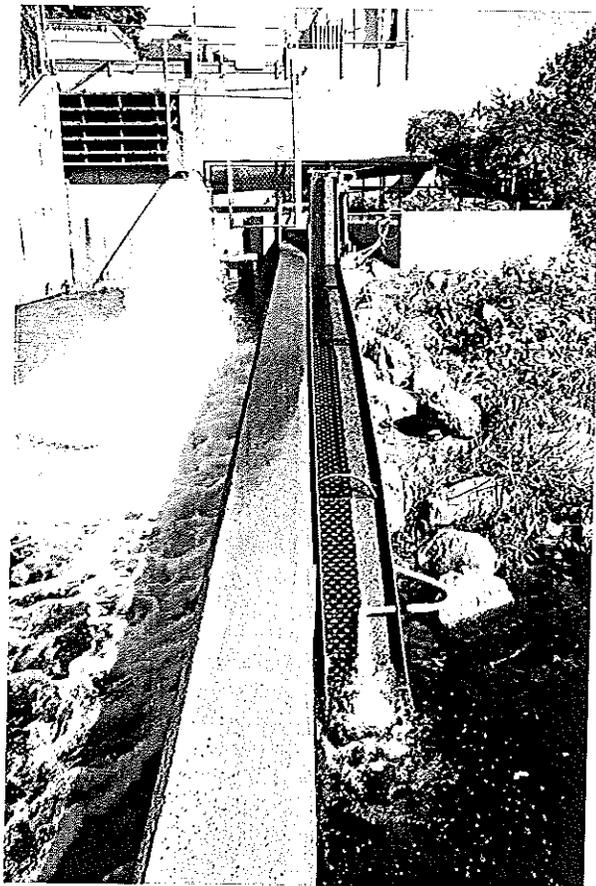
Declines in eel populations have recently been observed in North America. Potential causes are barriers to migration, habitat loss and alteration, hydroelectric turbine mortality, changes in oceanic conditions, over-fishing, parasitism, and pollution. Within the last 15 years, this overall decline has caused great concern among United States and Canadian fisheries agencies. Historically, management for American eels has been almost minimal, but in 1999 the Atlantic States Marine Fisheries Commission developed a Fishery Management Plan aimed at protecting and restoring the species in the United States. Additionally, the U.S. Fish and Wildlife Service recently reviewed the status of the American eel for listing as a federally endangered species (denied in 2007), and in 2007 Ontario put the American eel on its endangered species list. Canada declared it threatened in 2012. Elsewhere, the European eel (*Anguilla anguilla*) is now critically endangered and, in February 2013, Japan listed its own Japanese eel (*Anguilla japonica*) as endangered.

During its time as a resident of Connecticut's waters, the eel is a predator that feeds on aquatic insects, crayfish, amphibians, and small fish. The eel itself is a favorite food of larger predatory fish like black bass, striped bass, and trout, as well as various species of birds and especially humans.

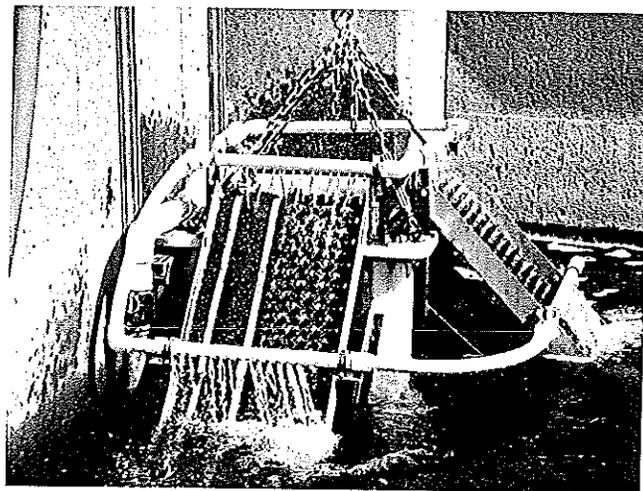
The sex of an eel is thought to be determined as the animal begins its migration into freshwater and is likely a function of how many other eels are around (density dependence). In an ideal situation, eels that are able to migrate miles and miles upstream and have relatively few other eels around them become female. Eels that remain in tidal waters or find themselves with a relatively large number of eel neighbors become males.

The average age at maturity for the American eel is from 5 to 12 years. In Connecticut, males typically reach maturity between 5 to 7 years and females between 9 to 12 years. Mature male eels are considerably smaller (11 to 15 inches) than the larger females (19 to 36 inches), and some females may even reach lengths close to 40 inches!

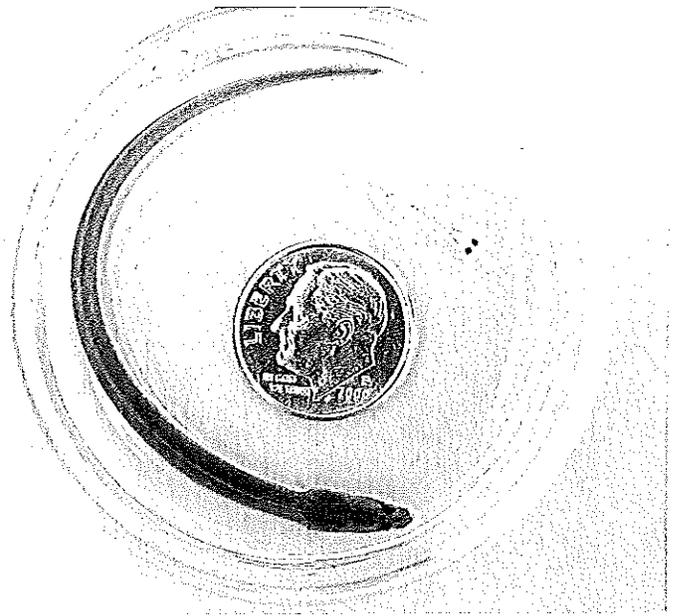
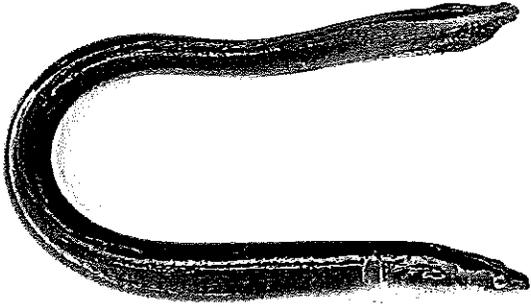
Sexually maturing American eels begin their seaward spawning migration from Connecticut waters during late summer (as early as late August) and early fall as rain induced high flow events occur and water temperatures decrease. However, before beginning their long, arduous journey to the Sargasso Sea, eels must transform from the yellow-phase (sedentary/feeding) to the silver-phase (migratory/non-feeding).



An Irish Elver Ramp in operation in Connecticut. A small amount of water flowing over a rough surface is all the eels need to climb up the pass. Eels slide into a screened trap once they reach the top of the ramp. They are removed each day and released into the river above the dam.



Believed to be the only eel lift in North America, the Greenville Dam Eel Lift is based on a lift design operating in New Zealand. While the basic concept between the two is similar, the eel lift is equipped with two short climbing ramps. It is unique because the whole apparatus is lifted upwards out of the water via an electric winch alongside a platform where staff can safely access the trap.



(Above) Typical adult yellow-phase eel from fresh water.
 (right) The recently-arrived transparent glass eel is smaller and less robust in comparison to the fully pigmented elver eel. The elver eel arrived in Connecticut as a glass eel last spring.

Dammed If You Do...

As a species that is dependent on swimming upstream to feed and grow and then back downstream to reproduce, dams and hydroelectric facilities can be major impediments. Direct effects of these impediments include: 1) limiting eels during their upstream migration by preventing them from reaching critical feeding and growing habitat; 2) possibly skewing naturally occurring sex ratios of eels, which can reduce overall egg production; and 3) causing delays, injuries, and even death during the downstream migration (that is, if they were even lucky enough to pass upstream many years before).

Barriers to upstream migration are known to prevent eels from entering habitat that supports the feeding and growing stages of eels. Lack of habitat can have a direct effect on the total of numbers of eels a freshwater system can support.

In addition, dams have the potential to shift (skew) the numbers of males and females found in nature. Typically, male eels tend to be found in areas with large numbers of eels, females in areas with few eels. Obstructions can concentrate eels in a small section of stream, which may alter sex ratios, creating more males than females. Also, before the construction of large dams, our biggest rivers (Housatonic, Connecticut, Thames) allowed eels to freely migrate vast distances upstream, dispersing along the way into areas with fewer eels. The result was the production of many, mostly large and highly fecund female eels (lots of eggs!). This may no longer be the case. The few eels that are able

to ascend above these large dams still become females, but the majority of the eels that cannot ascend these dams now live in high densities and likely become males. As the number of females in the population decreases, so does overall egg production and ultimately the number of new eels. Like most other animal species, population size often is directly related to the number of females that successfully reproduce.

Finally, dams and hydroelectric facilities may cause delays or mortalities on the seaward migration. During the spawning migration, eels will encounter the same manmade physical barriers and hydroelectric facilities they passed while migrating upstream as juveniles so many years before. Unfortunately, delays can prevent eels from reaching the Sargasso Sea on time, causing some to miss the spawn altogether. Worse yet, eels may become impinged on trash racks or pass through turbines at hydroelectric facilities. Turbine mortality varies from site to site, depending on intake position, turbine type, and whether or not there is an effective alternative for the eels to get-around the turbines. Generally, mortality for American eels migrating to sea is high (6%-37%) at turbines and can be up to 100% at some facilities.

Helping Eels

The Diadromous Fisheries Restoration and Enhancement Program of the DEEP Inland Fisheries Division is active in restoring safe and effective access for American eels to and from historical freshwater habitats. Small mill dams on small rivers, a hallmark of colonization, are generally no match for the young

motivated eel – their small size and unique body shape allow these elvers to climb vertically. As long as there is a wetted surface that is rough enough for climbing, eels can surmount these obstacles in fairly short order. Even though many small dams are passable, some still present passage issues.

Large, main stem dams constructed during the late nineteenth and twentieth centuries for hydroelectric generation and water supplies have mainly dry and smooth surfaces. This, coupled with their physical height, put a stop to inland eel migrations in these rivers. Areas of Connecticut that once had eels prior to colonization are now devoid of them and eels have become very abundant in the areas downstream of these dams.

Throughout the state, the Inland Fisheries Division has installed specially designed upstream eel pathways or passes at dams. The Division also is working with hydroelectric generators and water supply companies to increase the numbers of eels that safely pass upstream and, years later, downstream of the dams. Some of the work conducted in Connecticut and worldwide to reduce downstream losses of eels to turbines and trashracks include deterrents, barriers, and avoidance methods. Some of these methods consist of physical barriers (e.g. screens, bar racks, louvers), light barriers, electrical barriers, induced flows, complete shutdown of plants, and trap and transport programs. It is anticipated that conservation and habitat restoration programs like those in Connecticut will stabilize and eventually improve eel populations for the long-term.

Record Deer Harvest in 2013 by Bowhunters

Written by Andy LaBonte, DEEP Wildlife Division



Archery hunting is the preferred method of hunting in developed areas as it has no discharge restrictions from occupied dwellings and no minimum property size requirements. However, written permission from the landowner is required.

Historically, shotgun/rifle hunters have held their place at the top for number of permits purchased and number of deer harvested annually. Since 2009, when hunters were given the option to purchase licenses on-line at any time prior to or even during the hunting season, firearms and muzzleloader permit purchases have declined, while archery permit purchases have steadily increased.

Over the past decade, there has been a shift in favor of archers, not only in permits purchased but also in deer harvested. The 2013 archery harvest was the highest ever recorded and it exceeded the shotgun/rifle harvest for the first time. Connecticut lends itself well to archery hunting as the landscape is increasingly more fragmented by development, making it more difficult to use a firearm because of the 500-foot firearms discharge restriction from occupied dwellings. This safety restriction essentially closes 18 acres of land to firearms hunting in the vicinity of buildings. However, there is no discharge restriction for archery hunters, allowing them to hunt in closer proximity to residential development. Residential areas often provide ideal habitat for deer due to the excellent food availability and variable cover types found along the edges of residential landscapes, versus the monotype habitats that are often found in large, unbroken tracts of forest land.

Over the past decade, there has been a shift in favor of archers, not only in permits purchased but also in deer harvested. The 2013 archery harvest was the highest ever recorded and it exceeded the shotgun/rifle harvest for the first time.

Historically, archery hunting has been for the more elite hunter as it requires a greater skill set and the physical ability to hold a bow at full draw for a period of time. New allowances have been

established for the use of crossbows during the January deer season (starting in 2010) and statewide starting in 2013. These allowances have provided hunters who have less time to become proficient with compound or re-curve bows or have a physical limitation preventing them from using such bows, the opportunity to better participate in archery hunting.

In 2013, 3,178 archery permits were issued to hunters who had not previously purchased an archery permit during the previous three years. Archery hunter success has exceeded 34% for the past five years, while it has not reached even 30% for shotgun/rifle hunters in the past 10 years. It appears that the future of deer management in our state may end up relying heavily on archery hunters.

Deer hunting permits issued and harvest reported for Connecticut archery and shotgun/rifle hunting seasons, 2004-2013.

Year	Archery Permits	Shotgun/Rifle Permits	Total Permits ^a	Archery Harvest	Shotgun/Rifle Harvest	Total Harvest ^a
2004	12,063	29,155	61,415	3,334	7,816	13,541
2005	12,008	28,349	60,433	3,006	7,626	12,663
2006	12,392	28,473	61,410	3,157	6,778	11,591
2007	12,423	27,456	60,108	2,924	6,437	11,062
2008	13,333	29,450	64,060	3,608	7,208	12,682
2009 ^b	14,046	27,290	60,387	4,718	5,082	11,774
2010	13,276	24,357	54,244	4,670	5,200	12,183
2011	13,725	23,751	54,367	5,211	5,367	12,897
2012	14,341	22,760	54,272	5,413	5,783	13,421
2013	15,800	22,568	54,013	6,046	4,340	12,549

a = Includes archery, muzzleloader, shotgun/rifle, and landowner

b = Year when on-line license system became active

Sightings Wanted: Be on the Look-out for Piping Plovers with Leg Bands!

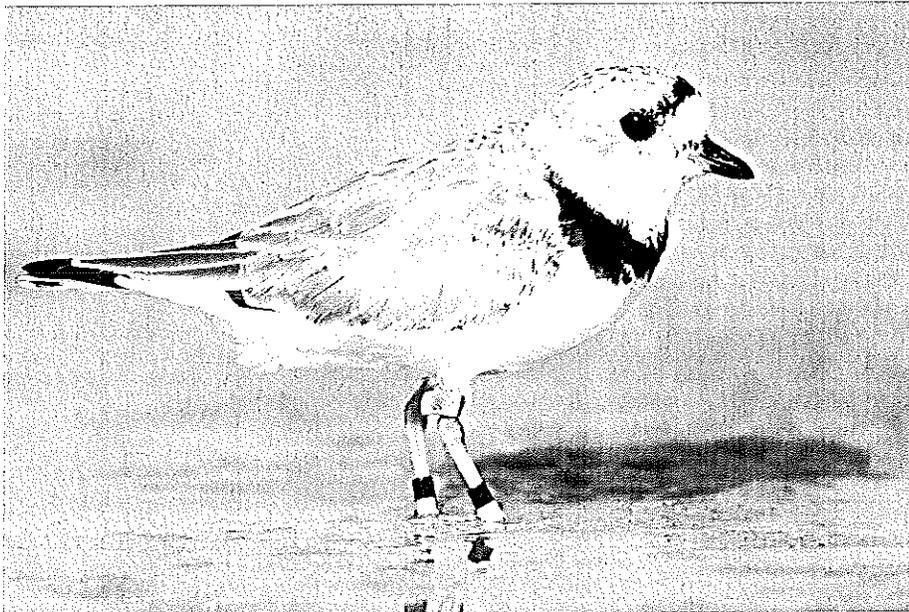
Written by Erica Clark, DEEP Wildlife Division

Is that piping plover wearing a colored leg band? Use your binoculars or spotting scope to find piping plovers with leg bands at Connecticut's beaches! These small, sand-colored birds use sandy beaches and mudflats from mid-March through September. Adult piping plovers have a dark neck band and dark bar on the forehead during the breeding season. They nest primarily on flat sandy beaches with limited vegetation. Eggs are laid on the sand in a small, self-made depression or "scrape." Newly hatched chicks begin feeding themselves within hours of hatching, eating small insects and aquatic worms alongside their parents.

Degradation and loss of habitat threatens piping plovers range wide. To best conserve a species such as the piping plover, biologists need to know where they spend their summers, where they migrate for the winter, and where they stop to rest in between. Having a better understanding of migratory pathways ensures that the bird is protected year-round.

The Atlantic Coast population of piping plovers occurs from the Maritime Provinces of eastern Canada south along the Atlantic Ocean to North Carolina. Biologists have hypothesized, but are not sure, that birds that breed in this area spend their winters in South Carolina, Florida, and along the Gulf Coast. Studies of plovers fitted with colored legs bands by researchers from Environment Canada and Virginia Tech, in conjunction with band resighting information provided by the birding community, have contributed significantly to knowledge about the life history of plovers, particularly during migration. The more leg bands that are resighted and reported, the more accurate and conclusive the data about where important stopover and winter locations exist for these shorebirds.

You can help researchers learn more about piping plovers by reporting any sightings of color-banded plovers. The bands are located on the upper (thigh) and lower legs and are color-coded to identify individual birds (see sidebar for observation and reporting tips). Research studies like this cannot succeed without your help, so be sure to bring your binoculars or spotting scope with you when you head to the beach – just make sure you stay a reasonable distance from the plovers so as not to disturb them.



P. J. FUSCO

How to Observe and Report Banded Piping Plovers

(Courtesy of U.S. Fish and Wildlife Service's South Carolina Field Office)

Be careful not to disturb the bird. A slow, quiet approach avoids harassment and allows the observer to carefully scan the band combination. Using a spotting scope facilitates accurate observations from a distance.

Please record:

1. Location where bird was seen (GPS coordinates are helpful).
2. Date when bird was seen.
3. Any observations of the bird's behavior (e.g., roosting, foraging).
4. Band combination:

- Band combinations should be recorded in the following sequence: upper left (UL; above the "knee"), lower left (LL; below the "knee"), upper right (UR), lower right (LR). "Right" and "left" are from the bird's perspective, not the observer's (just like a person's right and left legs).
- Band types include flags (band with tab sticking out), metal, and color bands.
- Some bands may have alpha-numeric codes printed on the band or flag (e.g., A1). The code, in addition to the color and location of the band or flag, should be documented. Both the color of the band and the code (e.g., white writing on a green band) should be noted.
- Some bands are split (a single band with two colors; e.g., orange/blue) or triple split (a single band with three colors; e.g., blue/orange/blue).
- Sometimes two bands of the same color are placed over each other, appearing like one tall band.
- Some piping plovers are banded on the upper legs only, and bands can be stacked (one above the other) on the upper leg.
- Record leg positions where bands are absent.
- Note if the color or type of any of the bands is uncertain or if some parts of a leg were not seen clearly.
- Understand that band colors can fade over time.

Color banded piping plovers can be reported to two institutions. Reporting your band sighting to one of these will result in the information being sent to the appropriate research group.

- Virginia Tech – vt.plover@gmail.com. For information on VT banding efforts, see http://fishwild.vt.edu/vtshorebirds/banded_birds.html.
- BandedBirds.org – <http://www.bandedbirds.org>.

Who Plants Trees in Connecticut's Cities and Towns?

Article and photo by Chris Donnelly, DEEP Division of Forestry

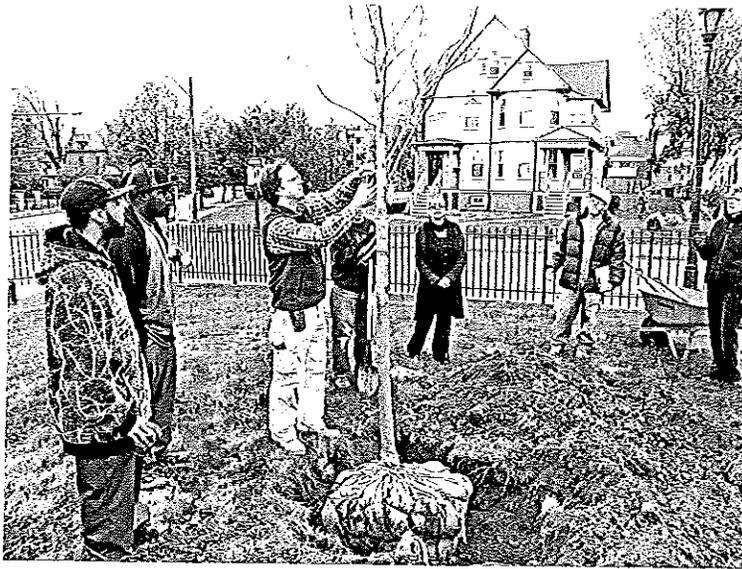
Tree planting leads the list of things people want to talk about when it comes to urban forestry and community tree programs. It is certainly not the only aspect of urban forestry, and urban foresters are quick to remind people that tree planting without corresponding maintenance is a recipe for disaster. However, the interest in tree planting remains. As it is said, anyone who plants a tree is investing in the future.

So, who plants trees in Connecticut? Especially, who plants trees in our public spaces, alongside streets and sidewalks, in town parks, and in front of schools – places where people see these trees, enjoy their shade, and end up feeling connected to their surroundings? Trees remind us that we live in New England. How do the trees get there? Will they continue to be planted?

First of all, cities and towns plant quite a few trees themselves. Most towns have a budget for tree management and maintenance, and apply some of this budget to tree planting. Subdivision regulations also help, as they often require the developer to commit to planting street trees as part of the approval process. However, these tree plantings are not enough to keep pace with removals and to keep our urban forests growing. What else is needed?

Municipal programs that are successful in getting trees planted mostly receive assistance from outside of municipal government. Volunteers are important, either as individuals or more likely as members of neighborhood associations, business improvement districts, or other organizations that bring people together. These volunteer groups work in close association with the tree warden who, by statute, has care and control over all trees in the public right-of-way, in whole or in part. The relationship is a good one. Many tree planters recall, with great fondness and in great detail, the specifics of the trees they have planted. This is true even for people who have planted hundreds of trees. Trees are meaningful.

The DEEP Division of Forestry plays



Knox Inc., Executive Director Ron Pitz prepares an elm tree for planting as part of Knox's 'Trees for Hartford Neighborhoods' program. Standing around Ron are volunteers from Knox and the city's Sheldon Charter Oak neighborhood. Knox partnered with Hartford in the planting of 1,000 trees this past year.

its part, as do entities such as United Illuminating Company and Connecticut Urban Forest Council, both of which have small grant programs. DEEP's contribution is primarily through its America the Beautiful grant program. Assistance of this sort is needed. When it comes to tree planting, energy and ideas are seldom in short supply. Organizing this energy and finding the resources to implement the ideas are usually more difficult. These small tree planting grants, often around \$1,000 to \$6,000, can help significantly in giving groups the backing they need while enabling the tree warden to work side-by-side with engaged community members. The number of successful projects of this sort are too numerous to list here – and there are more every year.

A quick look at information submitted by Connecticut's Tree City USA reveals some interesting findings. Tree City USA is an honor bestowed by the Arbor Day Foundation on municipalities for their commitment to tree programs. Municipalities must apply for this honor and gain the recommendation of the state forester to become a Tree City. There are 19 Tree City USAs currently in Connecticut, a number that has been slowly rising over the years.

Reports by the state's Tree Cities suggest that a typical community plants, on

average, about 200 trees annually, but these numbers vary widely. What is both interesting and exciting is that the number of trees planted in our largest communities (Bridgeport, New Haven, and Hartford) is much greater than in the smaller communities. Bridgeport reported planting 600 trees over this past year, New Haven 539, and Hartford 1,000. To put these numbers in perspective – for all of the Tree City USAs in the state, the average ratio of population to trees planted is 334 residents to one tree. In Bridgeport and New Haven, the ratio for the past year was about 240 to one, while in Hartford it was 125 to one. What are these large cities doing right?

This is an interesting question. It is clear that each of these cities has an incorporated, non-profit partner that works with the city in its planting program. These independent organizations contribute enormously. Because seeking out grants is part of the nature of independent non-profit organizations, these partners are able to bring in money as well as volunteers. They – both the non-profits and the volunteers they attract – are able to share with the city their vision and passion for a vibrant, green future. These non-profits – Groundwork Bridgeport, the Urban Resources Initiative in New Haven, and Knox Inc., in Hartford – add a social dimension to urban forestry and community tree planting that would be difficult for the cities to achieve on their own. Often, they are the bridge for connecting residents with the green component of their world. They employ youth and teach them how to plant trees; they organize neighborhood tree planting events; and they extend a city's ability to commit to tree projects beyond what it would be capable of doing on its own.

I encourage people to learn about how trees are planted in their community. Exhilaration, pride of ownership, and connectivity to nature are all part of planting a tree. The best way to have that experience is to go plant a tree!

Blue-spotted Salamander

Ambystoma laterale

Background and Range

The blue-spotted salamander is a striking member of the "mole" salamander family (Ambystomatidae). Connecticut is home to the pure diploid and hybridized complex blue-spotted salamander. The pure, naturally diploid blue-spotted salamander is an endangered species in Connecticut. It occurs in isolated areas where individuals do not have the chance to mate with the Jefferson salamander – a similar-looking member of the mole salamander family. The "complex" blue-spotted salamander is hybridized with the Jefferson salamander, resulting in an array of genetically variable individuals. It is a Connecticut species of special concern. Strict habitat management is needed to sustain both pure and complex blue-spotted salamander populations.

Blue-spotted salamanders occur in the Canadian Maritime Provinces to northern New Jersey and from southeastern Quebec to northern Illinois and Indiana. Disjunct populations have been found on Long Island, New York. In Connecticut, hybrids typically occur west of the Connecticut River due to overlapping populations with the Jefferson salamander. Pure diploid populations are isolated to a few locations near the Quinebaug Valley.

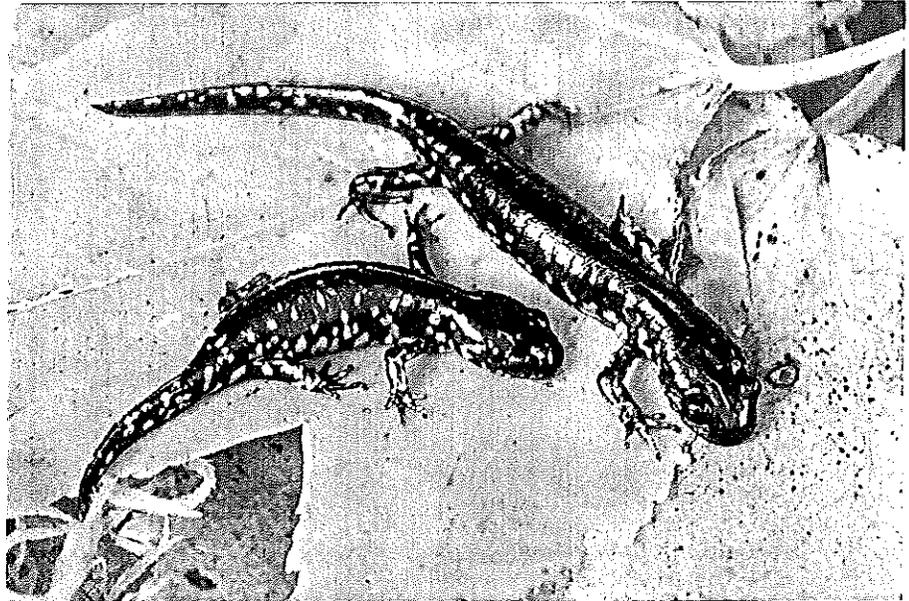
Description

This small to medium-sized salamander has a narrow head and dark black body with bright blue flecks. The long, laterally compressed tail makes up nearly half of the total body length, which ranges between 3 to 5 inches. Hybrids, however, may reach longer lengths. The blue-spotted salamander can be distinguished from the similar-looking young Jefferson salamander by its more narrow head and larger spots. At the larval stage, blue-spotted appear nearly identical to Jeffersons. Complex hybrids can have a wider range of marks, including more gray coloration, paler blue flecks, and a wider snout, which is associated more with the Jefferson salamander.

Habitat and Diet

Typical habitat consists of red maple swamps with nearby woodlands. The soil types hosting these amphibians vary from water-saturated loam to damp sand. Breeding areas include swamps and marshes with weak water flow that are often connected to other waterbodies. Temporary pools (also known as vernal pools) and floodplains with plentiful organic debris also comprise the breeding grounds for blue-spotted salamanders.

This salamander feeds on insects, slugs, worms, and other small invertebrates.



P. J. RUSCO

Life History

Breeding occurs in early spring. When the first warm rains arrive on a spring night, blue-spotted salamanders migrate in large numbers to temporary woodland breeding pools. Eggs are deposited singly or sometimes in clusters underneath leaves or at the base of tussocks, usually in a scattered pattern. After the eggs hatch, the larvae remain in the pool until metamorphosis occurs. Newly transformed salamanders will emerge from the wetland and disperse into the surrounding forest.

Pure diploid populations occur in an even male-female ratio. However, complex populations are female dominated.

Conservation Concerns

Blue-spotted salamanders are protected by Connecticut's Threatened and Endangered Species Act, and may not be collected or removed from the wild.

Populations are threatened by habitat loss and fragmentation, and increased urbanization. Certain populations are being impacted by a high number of roadkills during the breeding season. Change in the salinity content of breeding pools, through acid rain or runoff from road salts, can affect larvae and newly transformed salamanders.

What You Can Do

Aquatic breeding pools are crucial to many amphibians, including salamanders. Managing temporary pools, including buffer zones in the surrounding forest, is extremely important for conserving the amphibians dependent on these habitats.

Avoid the use of fertilizers, herbicides, and insecticides in your yard. If you need to use these products, purchase ones that are natural and organic.

Salamanders should never be collected from the wild. Awareness and education of these amphibians' life history and habits are invaluable tools for conservation. Additional information about salamanders is available on the DEEP website at www.ct.gov/deep/salamanders. If you locate a blue-spotted or Jefferson salamander population or the temporary breeding pools of these salamanders, contact the DEEP Wildlife Division at 860-675-8130 or deep.wildlife@ct.gov.

Jefferson Salamander

Ambystoma jeffersonianum

Background and Range

The Jefferson salamander is a large member of the "mole" salamander family (Ambystomatidae). It spends most of its life underground, but congregates in mass during breeding cycles. In Connecticut, "pure" diploid Jefferson salamanders are uncommon and have been documented as occurring only with hybrid "complex" individuals. This hybridization occurred with the similar-looking blue-spotted salamander as a result of post-ice age range overlap of both species.

This salamander ranges from eastern Illinois through Kentucky and Virginia and up to southwestern New England. Populations mostly occur in far western Connecticut in northern Fairfield and Litchfield Counties, although some exist along the trap rock ridge system of Central Connecticut. All occur west of the Connecticut River.

Description

Long toes, a long snout, and a fairly slender build help distinguish the Jefferson salamander from the other mole salamanders. It is grayish-pale blue to somewhat brown in color with varying amounts of bluish flecks along the sides. Older adults sometimes lack the blue flecks. The background color on the body, belly, and vent of the Jefferson salamander is paler than on the blue-spotted salamander, which has an almost black base coloring. The total length of the Jefferson salamander ranges from 4.5 to 7 inches; the laterally flattened tail is almost as long as the body. The larval stage resembles blue-spotted salamander larvae. Mole salamanders, like the Jefferson, have 5 toes on the rear feet but only 4 on the front.

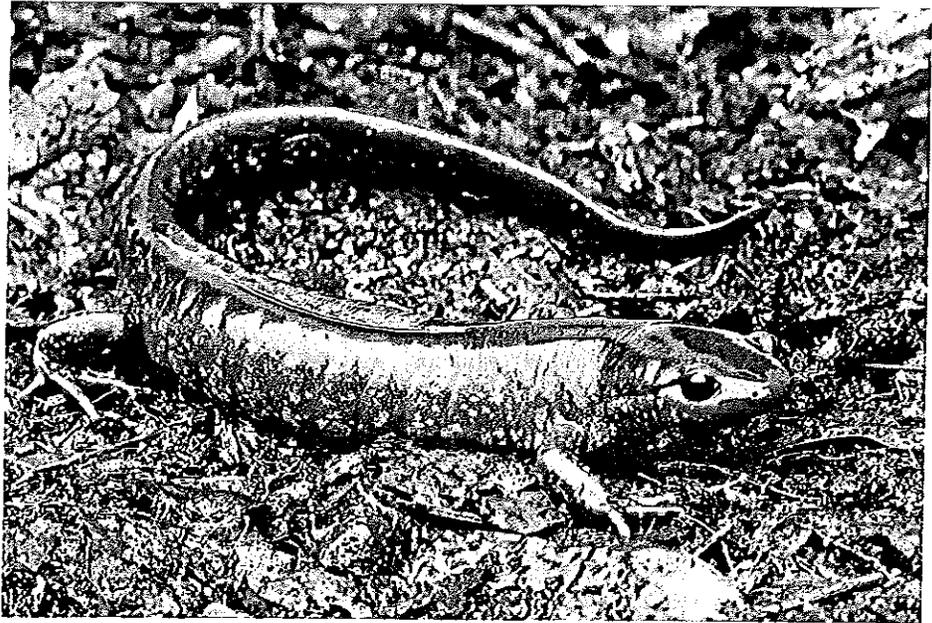
Habitat and Diet

Jefferson salamanders are predominantly found in or near deciduous forests where they prefer steep, rocky areas with cover, such as rotten logs or duff layers. They spend most of the year underground in burrows and are rarely encountered outside of the spring breeding season. Breeding sites are shallow, temporary woodland ponds (also known as vernal pools) with plenty of organic debris for attaching eggs. Most of these pools are filled by winter snowmelt or spring rains, and then dry up by late summer.

Jefferson salamanders feed on insects, slugs, worms, and other small aquatic and terrestrial invertebrates.

Life History

The Jefferson is one of the earliest amphibians to breed in spring. When the first warm rains arrive on a spring night, these salamanders migrate in large numbers to temporary woodland breeding pools. Females pick up previously deposited packages of sperm called spermatophores. Following fertilization, sausage-shaped masses of approximately 30 eggs each are attached to submerged twigs or debris. After the eggs hatch, the



P. J. FUSCO

larvae remain in the pool until metamorphosis occurs. Newly transformed salamanders will emerge from the wetland and disperse into the surrounding forest, seldom more than a mile from the breeding pool.

Conservation Concerns

Habitat protection is important for sustaining Jefferson salamander populations. This amphibian is highly sensitive to habitat disturbance, habitat fragmentation, and urbanization. Almost all remaining populations in Connecticut occur in undisturbed areas. The most vulnerable populations are those associated with the trap rock ridge system. If development continues in this salamander's habitat, local extinctions may occur. Because the Jefferson salamander requires extensive tracts of forest surrounding breeding pools, buffer zones are extremely important to the success of this species.

Certain populations are being impacted by a high number of roadkills during the breeding season.

The Jefferson salamander is undergoing a range-wide decline. It also is of conservation concern throughout its northeastern United States range, with many states affording the species special status and/or protection. As a special concern species in Connecticut, Jefferson salamanders may not be collected and removed from the wild.

Reducing Salamander Roadkills

Rare populations of Jefferson and blue-spotted salamanders are impacted by a high number of roadkills during the spring breeding season when these animals migrate in large numbers to their temporary breeding pools. Where appropriate, measures to minimize roadkills should be taken, especially where new development is planned near breeding pools. Such measures may include enlarging buffer zones around breeding pools, providing tunnels or culverts for salamanders to cross under roads, and locating new roads away from salamander migration routes.

CT Waterfowl Association Launches Mentoring Program

Written by Min Huang, DEEP Wildlife Division

Waterfowl hunters thrill to the sight of ducks streaking over decoys or to the excitement of geese hovering over a blind with wings locked! Unfortunately, less and less sportsmen are witnessing these spectacular sights as participation in waterfowl hunting is on a steep decline. The number of waterfowl hunters in Connecticut has declined precipitously from 14,000 in the 1980s to less than 5,000 now – a drop of 65%!

Connecticut is not alone. Waterfowl hunter numbers have



A new mentoring program seeks to pair up experienced waterfowl hunters with novice hunters.

Connecticut Waterfowl Association

The Connecticut Waterfowl Association (CWA) was founded in 1967 by a dedicated group of sportsmen who believed that waterfowling is an important part of Connecticut's heritage and that hunters should work to improve conservation efforts for wetlands and waterfowl in the state. The non-profit, all volunteer group has about 350 members statewide. In addition to assisting the DEEP's Wildlife Division and U.S. Fish and Wildlife Service with wetland improvement projects, the CWA conducts many other activities, including:



- A wood duck nest box program
- Sponsoring the National Junior Duck Stamp competition in Connecticut
- Dog training days;
- Funding a scholarship program that provides scholarships to deserving young students who are pursuing studies in wildlife biology, wildlife management, or other environmental studies
- An annual banquet that generates revenues to fund projects and has become a traditional annual gathering of waterfowlers from around the state

Additional information about CWA or becoming a member is on the CWA website at www.ctwaterfowlers.org.

declined substantially in recent years in most of the United States and Canada. A variety of factors have influenced this decline: changing population demographics, urbanization, and a growing "disconnect" between many people and the natural world. In Connecticut, difficulty accessing places to hunt waterfowl and having an experienced waterfowl hunter to introduce new hunters to the tradition can be added to the list. All of these issues are complex and difficult, or potentially impossible to solve.

One barrier to participation that can be addressed, however, is mentoring of novice waterfowlers. Waterfowl hunting can be more difficult than other types of hunting because of the substantial amount of equipment and specialized skills that are needed. Studies have shown that waterfowl hunting takes a great deal of mentoring. An overwhelming 91% of hunters indicated that they were mentored in becoming a waterfowl hunter by a parent, relative, or close friend. Additionally, over 80% of waterfowl hunters began their hunting careers pursuing species other than waterfowl.

So, what do you do if you do not have a parent, relative, or close friend that hunts waterfowl? The Connecticut Waterfowl Association (CWA) has developed a Waterfowl Hunter Mentoring

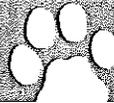
Program to help out hunters who have no one to mentor them. This program will pair up experienced volunteer mentors with novice hunters. It is anticipated that this effort will encourage new participants in this great sport who will come to appreciate and help conserve our waterfowl resources.

For the mentors, it provides an opportunity to give back to the resource they cherish.

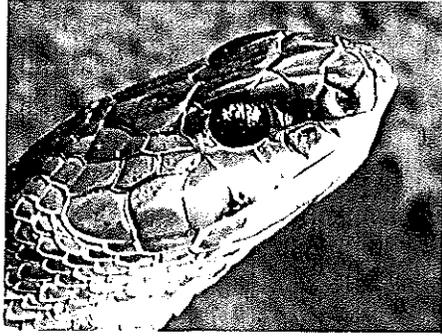
The DEEP Wildlife Division is pleased to be cooperating with the CWA on this important program. The CWA has partnered with the Wildlife Division on a variety of wetland improvement projects, providing some funding and a group of dedicated volunteers. The Waterfowl Hunter Mentoring Program should be another successful collaboration.

Those who would like additional information or are interested in participating as a mentor or mentee should visit CWA's website at www.ctwaterfowlers.org.

Information on the Waterfowl Hunter Mentoring Program is available at www.ctwaterfowlers.org.



D. QUINN for DEEP-WILDLIFE



Snake Fungal Disease - A Call for Public Participation

In recent years, a fungal disease causing lesions, which lead to facial deformities and sometimes death, has shown up in snake populations across the Midwest and eastern United States. Although the frequency and distribution of this fungal disease in Connecticut remains unknown, at least two species, the eastern milksnake and endangered timber rattlesnake, have been documented with fatal infections.

With the global decline of amphibians resulting from the chytrid fungus and the recent outbreak of white-nose syndrome (WNS) resulting in a regional decline in bat populations, immediate attention to snake fungal disease is paramount.

Anyone who observes snakes exhibiting any of the following clinical signs should immediately contact the DEEP Wildlife Division at 860-675-8130 (deep.wildlife@ct.gov).

- Scabs or crusty scales
- Subcutaneous nodules
- Separation of skin layers
- Abnormal molting
- Thickening or crusting of the skin
- Skin ulcers
- Swelling of the face
- Facial deformities

Snakes infected with snake fungal disease will often emerge from over-wintering sites much earlier in spring than uninfected individuals. Look for more details on snake fungal disease in future issues of *Connecticut Wildlife*.

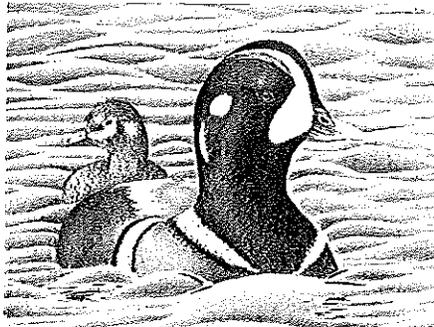
Correction:

The caption for the snake photos that accompanied the article "From Yard Work to Construction:" in the January/February 2014 issue of *Connecticut Wildlife* incorrectly identified the snakes as black ratsnakes. The top photo showed a northern black racer entangled in erosion control netting, while the bottom photo showed a milksnake.

2014 Connecticut Junior Duck Stamp Best of Show

Congratulations go to Susan Minkowski of Stratford, whose colored pencil illustration of harlequin ducks was chosen as the Best of Show in the 2014 Connecticut Junior Duck Stamp Competition. Susan is a student at the Bob Boroski School of Art in Shelton, and her conservation message was "intelligent use of our wild resources today will allow us to leave a legacy for future generations." Susan's artwork will be entered into the national Junior Duck Stamp Contest. The first place design from the national contest is used to create a Junior Duck Stamp for the following year. Junior Duck Stamps are sold by the U.S. Postal Service for \$5 each. Proceeds support conservation education and provide awards and scholarships for the students, teachers, and schools that participate in the program.

The Connecticut Junior Duck Stamp competition is sponsored by the Connecticut Waterfowl Association (ctwaterfowlers.org).

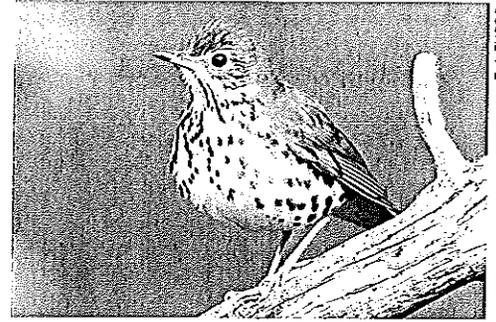


Woodcock Work Continues

American woodcock populations are indexed in Connecticut through singing-ground surveys coordinated by the U.S. Fish and Wildlife Service (USFWS). Ten additional survey routes are conducted by the DEEP Wildlife Division. Both indices continue to indicate a gradual, but steady decline in singing male woodcock. On USFWS survey routes, the average number of woodcock heard per route has declined from 1.04 in 2000 to 0.75 in 2013. On the 10 DEEP survey routes, the average number of birds heard has also declined, with 0.42 woodcock heard per route 2003 compared to 0.29 in 2013.

A Wildlife Division research project conducted in the first decade of the 2000s provided important information on woodcock habitat use and survival. This information was used at a habitat demonstration area at Roraback Wildlife Management Area (WMA) in Harwinton. The Division captured live woodcock at the demonstration area at Roraback WMA and attached radio transmitters so that biologists could assess changes in habitat use and survival of woodcock from before the habitat improvement work was conducted and again two years after the work was completed. In 2015, six years after the habitat improvements were completed, the Division plans to attach radio transmitters to woodcock to collect additional data.

The Division completed a woodcock management plan for the entire state in 2012. The overall goal of the plan is to increase American woodcock populations on state controlled lands and in woodcock focus areas. Specifically, the plan calls for a 50% increase in the number of singing males on state lands and within two woodcock focus areas.



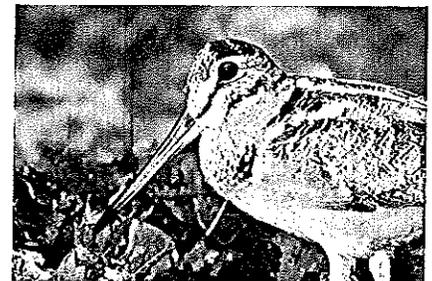
P. J. FUSCO

International Migratory Bird Day 2014

The theme for International Migratory Bird Day 2014, which will be celebrated on May 10, is "Why Birds Matter - The Benefits of Birds to Humans and Nature." Not everyone is aware of the diversity of birds around the world, the amazing migrations some take, and the phenomenal range of behaviors, plumages, and songs they exhibit. International Migratory Bird Day 2014 shares the many ways in which birds matter to the earth, to ecosystems, and of course, to us.

Some bird species provide practical solutions to problems, such as the need for insect and rodent control. Others disperse seeds, helping to revegetate disturbed areas. Others are pollinators, ensuring that we are graced with flowering plants, trees, and shrubs. Birds are inspirations for the arts and also provide enjoyment for those who spend time observing them.

Celebrate International Migratory Bird Day in 2014 by raising awareness of birds and why they matter. Learn more at www.birdday.org.



P. J. FUSCO

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 10.....**International Migratory Bird Day** – Celebrate this special day that highlights “Why Birds Matter – The Benefits of Birds to Humans and Nature.” See page 20 to learn more.
- May 10.....**Free Fishing Day!** Both Connecticut residents and non-residents can fish any public waters in the state without having a fishing license. Several fishing-related activities are planned for the day. Check the DEEP website for details (www.ct.gov/deep).
- May 16.....Endangered Species Day, which was initiated by the U.S. 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.endangered.org/campaigns/endangered-species-day/.
- May 19.....**Chimney Swift Conservation Night** at the Willimantic Brewing Company (see page 7 for more details).

Programs at the Sessions Woods Conservation Education Center

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

- May 24.....**Sessions Woods “Open Center Day,”** from 9:00 AM-3:00 PM. See below for more information.
- June 7.....**Trails Day Hike**, starting at 1:30 PM. Since 1993, the first Saturday of every June has been designated “National Trails Day. Sessions Woods will be participating this year with a hike on the beaver marsh trail to enjoy the outdoors and learn about the unique habitats at this wildlife management area. Participants will hike a mile to the marsh and can continue on for a three-mile loop or return the same way (2 miles total). Meet the hike leader at the flagpole in front of the Sessions Woods Conservation Education Center. Bring water, a snack, and wear proper walking shoes!
- June 8.....**Trails Day Hike with Wildlife Division Biologist Peter Picone**, starting at 1:30 PM. Peter will take participants on an interpretive hike along the beaver marsh trail and a portion of the Tunxis Blue Trail, and will talk about wildlife and wildlife habitat along the way. Come learn about the seasonal importance of native trees, shrubs, wildflowers, and grasses to wildlife.
- July 16.....**Butterfly Walk**, starting at 10:00 AM. Visit the flowers and fields at Sessions Woods to identify the local butterfly fauna with Wildlife Division Natural Resources Educator Laura Rogers-Castro. Participants will learn the basics to butterfly identification, including tips on distinguishing the various butterfly families. This program will begin in the classroom area located in the exhibit room of the Education Center.

Hunting Season Dates

April 30-May 31 Spring Turkey Hunting Season

Consult the 2014 Connecticut Hunting & Trapping Guide and the 2014 Anglers 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 or www.ct.gov/deep/fishing). Go to www.ct.gov/deep/sportsmenlicensing to purchase Connecticut hunting, trapping, and fishing licenses, as well as required deer, turkey, and migratory bird permits and stamps. The system accepts payment by VISA or MasterCard.

Open Center Day at Sessions Woods

The Sessions Woods Conservation Education Center will be open Saturday, May 24, from 9:00 AM to 3:00 PM as part of the No Child Left Inside “Open Center Day.” There will be a full day of activities for families and other participants. Pre-opening, there will be a bird identification walk at 8:00 AM led by Paul Fusco. At 10:00 AM, Hillary Clifton will share “Survivor Skills” on a short walk that will include map reading basics; making a mini survival kit; and packing your “pack” wisely. Local artist Judy Bird will provide a salamander art activity for children at 1:00 PM. The Conservation Education/Firearms Safety program will offer archery opportunities from 11:00 AM-1:00 PM. Master Wildlife Conservationists will help staff the exhibit area to answer wildlife questions; lead a wildlife trackmaking activity; and increase awareness about furbearing animals.

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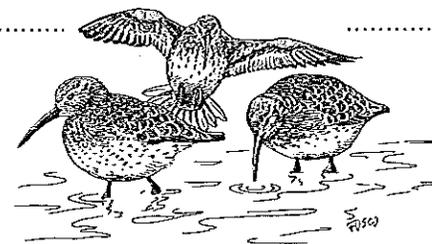
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The Habitat

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



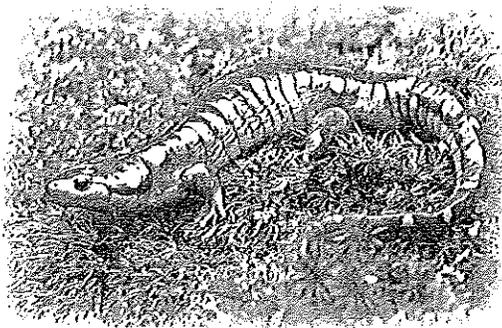
Spring 2014

volume 26 number 2

Increasing Salamander Conservation

2014 Proclaimed the Year of the Salamander

2014 has been proclaimed the Year of the Salamander by Partners in Amphibian and Reptile Conservation (PARC) to raise awareness for salamander conservation. The Connecticut Department of Energy and Environmental Protection (DEEP) Wildlife Division is participating in this effort by shining a spotlight on Connecticut's 12 native salamander species throughout the year. Other state and federal wildlife agencies, along with several conservation organizations, are also partnering with PARC to foster appreciation and understanding of salamanders.



One of the surest signs of spring is the mass migration of spotted salamanders. These underground dwellers emerge from winter dormancy with the season's first warm rains, and then travel to their breeding pools. Photo credit: Paul J. Fusco, DEEP Wildlife Division.

"We are committed to sharing the wonderful story of the state's native salamander species as we celebrate the Year of the Salamander," said Rick Jacobson, Director of the DEEP Wildlife Division.

Lizard or Salamander?

Maybe you have found a salamander while raking leaves, or when turning over rocks and logs, or while exploring

the woods as a child. Many who come upon a salamander think they have found a lizard. At first glance, salamanders and lizards look alike – small animals with four legs, a tail, and a similar body shape. However, up close, salamanders and lizards are very different. First of all, these two animals live in different habitats. Salamanders prefer cool, moist places, while lizards prefer dry, warmer places. A lizard's body is covered with tough scales, while a salamander's body is smooth and slippery. Most salamanders do not have claws on their feet, while lizards do. Although lizards and salamanders look alike, they are not closely related. Lizards

are reptiles and are more closely related to snakes and turtles. Salamanders are amphibians, the same as frogs and toads.

- Blue-spotted Salamander - *(endangered)*
- Common Mudpuppy
- Four-toed Salamander
- Jefferson Salamander - *(special concern)*
- Marbled Salamander
- Northern Dusky Salamander
- Northern Redback Salamander
- Northern Slimy Salamander - *(threatened)*
- Northern Spring Salamander - *(threatened)*
- Northern Two-lined Salamander
- Red-spotted Newt
- Spotted Salamander

Why Are Salamanders Special?

All salamanders are carnivores. They eat insects, worms, small animals, and even other salamanders.

- As opposed to the often noisy frogs and toads, salamanders are completely silent.
- Salamanders have glands under their skin that produce mucus to keep the skin moist. Other glands make poisons that can be distasteful or harmful to predators.
- Most salamanders lay eggs in water or in moist places. The eggs are laid in a mass, string, or individually. The larvae that hatch from the eggs look similar to tadpoles. However, tadpoles have large round heads and the gills are not obvious, while larval salamanders have long, narrow heads and visible gills.

salamanders, continued on page 7

★ Inside

CACIWC News	2
Journey to the Legal Horizon	3
Supporting Native Pollinators	8
Membership	11
State Conservation Lands - Permanent?	16

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www.caciwc.org

The CACIWC Board of Directors has been working on your behalf during the first few months of 2014 in various ways including tracking legislative activity, evaluating our 2013 annual meeting, and continuing efforts to develop our new strategic plan. We have been reviewing the results of membership surveys received to date in order to ensure that CACIWC is aware of any new or ongoing challenges to your efforts in protecting Connecticut wetlands and other important habitats. The CACIWC board has been closely following the efforts of several committees of the Connecticut General Assembly who have been proposing legislation designed to protect lands of high conservation value throughout the state.

1. The Board of Directors has reviewed the many comments and suggestions submitted on our 2013 annual meeting survey. If you did not have an opportunity to complete the 2013 meeting survey you can still contact us with your comments and suggestions at AnnualMtg@caciwc.org. We welcome any suggestions for workshop topics and speakers that you would like us to recruit for our upcoming **37th Annual Meeting and Environmental Conference**, scheduled for **Saturday, November 15, 2014; please save the date!** Please send your ideas to us at AnnualMtg@caciwc.org, along with any other suggestions. Watch for additional conference news in upcoming issues of *The Habitat* and on our website.

2. As mentioned above, the CACIWC Board of Directors has been reviewing comments on the **conservation commission and inland wetlands membership surveys** that we have received to date. While we have recently received several newly completed surveys, many commissions have still not yet completed and submitted their survey form. Your responses to this survey will make valuable contributions to the development of our new **strategic plan** and help us develop 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.

3. An important goal of our strategic plan is the development and promotion of our next generation of Connecticut conservationists. To help CACIWC and the state achieve this goal, the CACIWC Board of Directors has returned for a second 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 service as

CACIWC news, continued on page 12



Journey to The Legal Horizon

by Attorney Janet Brooks

The Wetlands Law Trifecta: Agency Denial & Expert Evidence, Incomplete Application and Authority to Regulate

Three Levels Corporation v. Conservation Commission,

148 Conn. App. 91 (2014)

Attorney Janet P. Brooks

If you're a new wetlands agency member, this is a great case to give you an overview of the most troublesome legal issues facing wetlands agencies and applicants. For "old-timers" you can sharpen your ken and add some fact patterns that will work (incompleteness, authority to regulate) and won't work (denial not based on substantial evidence). Because this is a case from the Appellate Court¹ its legal holdings are bindings on all agencies. Thus, the case is worthy of careful examination.

In February the state Appellate Court issued a decision which includes the trifecta of wetlands law wrapped into one case: (1) permit denial based on expert opinion and another example of what is *not* substantial evidence, (2) the authority of an agency to deny an application based on incompleteness, and (3) the authority of an agency to regulate storm water discharges without regulations that incorporate specific standards for compliance. For lawyers or folks who like to remember concepts by case names, I would call this: (1) *River Bend*² lives on, (2) *Unistar*³ lives on, (3) *Prestige Builders*⁴ isn't what you think it is. For those who want the play-by-play analysis: (1) agency loses again unable to prove "actual adverse impact", (2) agency wins again when applicant fails to supplement application as reasonably requested, and (3) agency not required to adopt specific regulations for a specific activity before regulating that activity. For those who just want the score at the end of the game: agency wins this round, 2:1.

What the Wetlands Agency Did

The Redding wetlands agency considered an application for a ten-unit housing development on 14 acres with 1.75 acres of wetlands on property and adjacent

to floodplain wetlands and a river. The agency denied the application for four reasons. The agency found that there would be (1) insufficient pretreatment facilities for storm water prior to infiltration and discharge into the wetlands and the river which is likely to have a significant adverse environmental impact on the wetlands and river, (2) insufficient renovation of storm water and septic effluent which is likely to have a significant adverse environmental impact, and that (3) the applicant's failure to supply requested data (impact of

activities on the river, impact of pathogens from septic effluent on the wetlands, the relationship between various flood lines of the river and elevations of the septic systems) leaves the agency unable to determine whether those activities present a significant adverse impact to the wetlands or river and (4) no finding can be made that there are no feasible and prudent alternatives.

"The Appellate Court did not agree with the agency's conclusion, but based on the incompleteness of the record, upheld the agency denial."

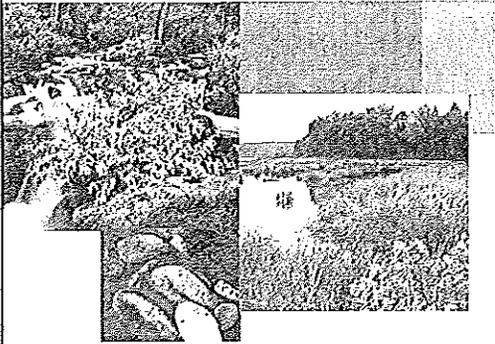
On Appeal

The Superior Court (trial court) sided entirely with the applicant, sustaining the appeal and remanding (sending back) the matter to the agency for impositions of reasonable conditions. At the Appellate Court, each side won and lost on some of the arguments. They break down into three arguments.

Expert Evidence

This issue is not going away. There is no retreat from the 2004 decision of the Connecticut Supreme Court in *River Bend*.⁵ Expert opinion constituting substantial evidence continues to elude some wetlands agencies. This case is another variation on the theme that an agency's denial must be based on expert opinion that identifies a specific adverse environmental impact that would result. When there are multiple experts testify-

legal horizon, continued on page 4



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legal horizon, continued from page 3

ing before an agency, this case affirms that the agency determines which expert is more credible. That said, the agency must look for statements of specific or actual adverse impact. Here's what the Appellate Court said was not substantial evidence, from the expert's statements: "It certainly, in my opinion, is not sufficient to avoid having *some type* of adverse impact on the wetlands due to sediment and erosion materials getting into the wetland, the pond and the riverine system."⁶ The town's expert noted that the "likelihood of that adverse impact 'is very strong.'" That left the Appellate Court wondering: the likelihood of *what* is very strong? As to the storm water basins, the town's expert stated that the basins will be hard and expensive to maintain. "If it's not maintained, and this is a hypothetical, then you would have adverse impact on the wetland system both from excessive runoff and from the lack of removal of the impurities . . ."⁷ The Appellate Court reviewed the evidence and found no evidence in the record supporting any likelihood of the failure of the basins. Additionally, the court concluded: "There also was no evidence *specifically indicating what effect, if any, a failure of the detention basin would have on the downslope wetlands.*"⁸ Please note: the Appellate used those italics in the quote. The purpose is to get your attention. The court referred to the expert's "numerous concerns and critiques," but concluded that the expert "did not identify any specific, actual harm that was likely to occur to the wetlands or Saugatuck River."⁹

If you weren't paying attention to the italicized portions of the decision, the Appellate sums it up for you: "The substantial evidence test is not met by a general statement by an expert that 'some type' of adverse impact is likely to result from the proposed regulated activities. . . Absent evidence that identifies and specifies the actual harm resulting therefrom, a commission cannot find that the proposed activities will, or are likely to, adversely impact wetlands or watercourses."¹⁰

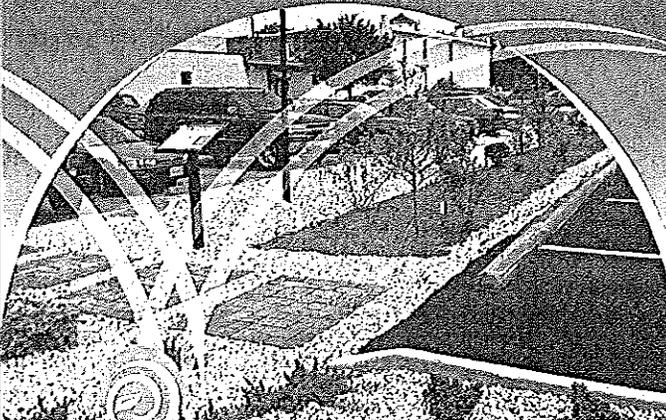
Conclusion: reasons #1 and #2 are not supported by substantial evidence. But that doesn't conclude this case.

Incomplete Application

The Court upheld the agency's authority to seek additional information from the applicant during the review process. The Court pointed to the municipal

legal horizon, continued on page 5

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legal horizon, continued from page 4

regulations which put the applicant on notice that the agency may request more information. The applicant claimed it was not provided with a description of what information was sought. The Appellate Court spent a good portion of the decision summarizing the evidence. It noted that the town's expert told the applicant that there was missing information on the impact of household cleaners, solvents, ammonia and medicine that enter a septic system. The town's expert described how the concentration of the various chemicals should be examined for renovation in the soil mantle. He compared the process to the one engaged in by the applicant for pathogens. The agency relied on the town's expert who summarized in a letter: "We do not know what the chemical impact of concentrating so many wastewater systems in a small area will be. On this proposed project, no definitive proof of its impact, or non-impact, has been provided."¹¹ From that comment, the agency concluded that there would be a significant adverse impact on the wetlands and river. The Appellate Court did not agree with the agency's conclusion, but based on the incompleteness of the record, upheld the agency denial. The Court concluded: "The record discloses evidence that the [applicant] failed to present information on the chemical impact of the proposed regulated activities sufficient for the commission to determine whether it would adversely impact the wetlands and Saugatuck River."¹² The lack of information does not establish an adverse impact, it provides a reasonable basis to determine that the application is incomplete. Based on earlier cases and the municipal regulations, the agency was authorized to deny an application due to incompleteness.

Conclusion: Reason #3 is a sufficient reason to deny the application.

Need for Regulations Addressing Storm Water

The applicant argued that the agency was not authorized to regulate pretreatment facilities for storm water impacts on wetlands and watercourses because it did not have "storm water regulations." The applicant made this argument relying on the *Prestige Builders*¹³ case. The court reaffirms that "a commission may not exercise authority over a particular activity unless and until it promulgates a regulation that encompasses the activity."¹⁴ The Court found numerous references in the municipal wetlands regulations that refer to "any activity" which causes a variety of impact. The Ap-

legal horizon, continued on page 6

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legal horizon, continued from page 5

pellate Court found no basis to conclude that specific regulations setting compliance standards were mandated. Moreover, the Court noted that the municipal regulations were based on the state DEEP model regulations, which do not set out standards for categories of activities. The municipal regulations allow the agency to regulate the activities to the extent they impact wetlands or watercourses. The regulations identify that storm water is likely to have a significant impact on those resources. The case law establishes that “applicable standards are established through expert testimony before a commission.”¹⁵

Conclusion: the agency is empowered through its regulations and the case law to regulate the effects of storm water without adopting specific standards for the activity.

Proving an actual adverse impact continues to be the major reason that agency denials are overturned. It is not sufficient to have an expert that agency members rely on. The expert’s statements have to “connect the dots.” There has to be an expert link between the reasonable likelihood of the existence of a condition and the conclusion that it is adverse. Here, there was not substantive evidence for either of those. The agency’s denial was upheld by the Appellate Court, but not for its decision on the merits – that the activities will cause adverse impacts on the resources, but because the application is incomplete. Finally, agencies can regulate storm water or other activities, based on broad regulations and develop the specific conditions through use of experts during the meeting/hearing process and the imposition of conditions in a permit.

Janet P. Brooks practices law in East Berlin. You can read her blog at: www.ctwetlandslaw.com and access prior training materials and articles at: www.attorneyjanetbrooks.com.

(Endnotes)

¹ The three-tier court system from lowest to highest levels: Superior Court, Appellate Court, Supreme Court

² *River Bend Associates, Inc. v. Conservation & Inland Wetlands Commission*, 269 Conn. 57 (2004)

³ *Unistar Properties, LLC v. Conservation & Inland Wetlands Commission*, 293 Conn. 93 (2005)

⁴ *Prestige Builders, LLC v. Inland Wetlands Commission*, 79 Conn. App. 710 (2003), cert. denied, 269 Conn. 909 (2004)

⁵ *River Bend Associates, Inc. v. Conservation & Inland Wetlands Commission*, 269 Conn. 57 (2004)

⁶ (Emphasis in original.) *Three Levels Corporation v. Conservation Commission*, 148 Conn. App. 91, 103-04 (2014)

⁷ *Three Levels Corporation v. Conservation Commission*, 148 Conn. App. 91, 104 (2014)

⁸ *Three Levels Corporation v. Conservation*

Commission, 148 Conn. App. 91, 111 (2014)

⁹ *Three Levels Corporation v. Conservation Commission*, 148 Conn. App. 91, 111-12 (2014)

¹⁰ *Three Levels Corporation v. Conservation Commission*, 148 Conn. App. 91, 112 (2014)

¹¹ *Three Levels Corporation v. Conservation Commission*, 148 Conn. App. 91, 124 (2014)

¹² *Three Levels Corporation v. Conservation Commission*, 148 Conn. App. 91, 128 (2014)

¹³ *Prestige Builders, LLC v. Inland Wetlands Commission*, 79 Conn. App. 710 (2003), cert. denied, 269 Conn. 909 (2004)

¹⁴ *Three Levels Corporation v. Conservation Commission*, 148 Conn. App. 91, 135 (2014)

¹⁵ *Three Levels Corporation v. Conservation Commission*, 148 Conn. App. 91, 136 (2014) ↩

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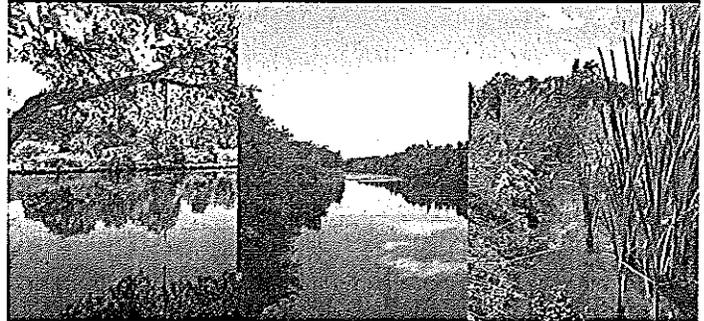
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salamanders, continued from page 1

Where Do Salamanders Live?

People rarely see most salamanders because, as adults, salamanders spend most of their time in forested areas, living under rocks and fallen logs or in underground burrows. The best time of year to see these creatures is in spring when they move to wet areas to lay their eggs. These wet areas include ponds, ditches, marshes, meadows and a special, but little known habitat, called a vernal pool. Generally a vernal pool is a low spot in a forest or meadow that fills with water during winter and spring and then dries out by late summer. It can be big or small. Because these pools are temporary, fish cannot survive in the pools, thus the eggs and hatching larvae are safe from fish predation.

Threats to Salamanders: The greatest threat faced by Connecticut's salamanders is the loss of habitat through development, fragmentation, degradation by pollution (i.e., overuse of fertilizers and pesticides), and the invasion of non-native plants. Several species of native salamanders are currently experiencing a long-term population decline, and four are on Connecticut's list of Endangered, Threatened and Special Concern Species. Many populations are localized and restricted to specific habitat types. Unfortunately, when these habitats are destroyed, the salamanders found there disappear too. Other than a few exceptions, salamanders do not relocate long distances to new habitats. Even if suitable habitat is located nearby, migration is very difficult due to the numerous roads that dissect across Connecticut. When these small, slow-moving creatures cross roads (particularly during spring migration to breeding pools), hundreds are killed by cars.

What You Can Do: Learn more about salamanders and take actions to conserve these special creatures. Following are some suggestions:

- Observe, but do not collect salamanders. Learn more about them and help others understand and appreciate these fascinating creatures. Good resources are the DEEP's *Connecticut Wildlife* magazine (www.ct.gov/deep/wildlifemagazine) and PARC's website at www.yearofthesalamander.org
- Discover vernal pools wetlands, and other important salamander habitats in your area. Promote stewardship, the preservation of open space, and wise land-use planning in your community. Limit or discontinue use of pesticides and herbicides around your home.
- Participate in a Year of the Salamander event or activity. Find out about events throughout the year

on the Wildlife Division's special webpage at www.ct.gov/deep/salamanders or by visiting our Facebook page at www.facebook.com/CTFishandWildlife.

The DEEP Wildlife Division and other conservation organizations will be holding salamander events throughout the year, including a Salamander Art Contest for Kids. Stay up-to-date on Year of the Salamander events and activities by regularly visiting the DEEP website at www.ct.gov/deep/salamanders or the Connecticut Fish and Wildlife Facebook page at www.facebook.com/CTFishandWildlife.

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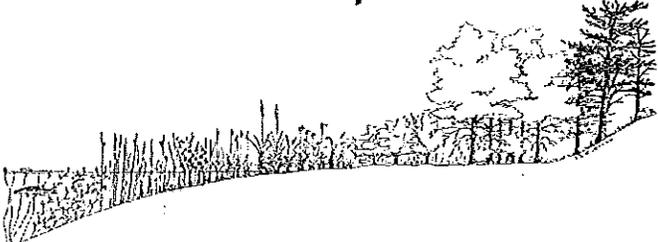
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How to Support Native Pollinators in 2014

by Kathleen Groll Connolly

This three-part series began with a discussion of why native plants are important not only in wild spaces, but in the built environment as well. In part 2, we looked at storm-worthy native trees for planting in parks, on streetscapes and in developments. This installment offers a wide array of perennial plants that will help support pollinators in the summer of 2014 and beyond.

T rue story: As I cleared the day's newspaper from my desk to work on this third and final installment of *The Habitat's* native plant series, an ironic headline caught my eye: "Migration of monarch butterflies continues to shrink."

According to an article by Michael Wines of the New York Times News Service, monarch butterflies were largely no-shows this year at their ancient overwintering destination in Mexico's Sierra Madre Mountains. He quotes a scientist who attributes the monarch's absence and plight partly to weather but primarily to *ongoing loss of habitat*.

The monarch butterfly may soon be gone altogether.

Monarchs are feeding "specialists." They require plants of the *Asclepias* genus, better known as milkweed or butterfly weed, to lay eggs and provide food for larvae. When open fields and forest edges are converted to lawns or parking lots, milkweed varieties often lose their toe hold.

Other native insects may be a little more eclectic in their tastes than the monarch, but finding their favorites can be challenging in an environment where commercial interests and public tastes emphasize plants that please people rather than pollinators.

As a result, our choices in flowering plants and shrubs are important. The three resources below are intended to help conservation commissions guide those choices:

- List 1 shows over 50 native perennials, ferns and grasses for southern New England that are found in the nursery trade at this time. Since deer are a major problem throughout our area, plants that have been mentioned as deer resistant by one or more sources have the symbol (DR). Plants noted by the Xerxes Society for their special value to

pollinators are marked with the symbol (P). For a list of trees, see the winter edition of *The Habitat*.

- List 2 offers wholesale and retail sources of regional native plants.
- List 3 offers books and web sites that assist with pollinator-friendly plant selection and bed design.

The key point of this series is that the time to choose native plants is now. To summarize: This choice continues the presence of native species, supports native pollinators which in turn support our own food production, and returns growing space to plants which once volunteered here but may have been crowded out by exotic invasives.

To borrow from the title of a popular book, "Why plant that when you can plant this?"

List 1: Perennials with native distribution in Connecticut, also present in nursery trade

Source: GoBotany.newenglandwild.org

(DR) = Deer resistance noted by one or more sources
(P) = High value to pollinators as noted in "Attracting Native Pollinators," Xerxes Society, 2011

Baptisia, yellow, *Baptisia tinctoria* (DR)
Beardtongue, *Penstemon digitalis* (P)
Bergamot, *Monarda fistulosa* (DR)(P)
Black cohosh, Bugbane, Fairy Candles, *Actaea racemosa* (DR)
Black-eyed Susan, *Rudbeckia hirta* (annual or biennial)
Blazing star or Gayfeather, *Liatris scariosa* var. *novae-angliae*(P)
Blue cohosh, *Caulophyllum thalictroides*
Blue flag iris, *Iris versicolor*
Blue-eye Grass, *Sisyrinchium angustifolium* (DR)
Boneset, common, *Eupatorium perfoliatum*
Butterfly weed, *Asclepias tuberosa* (DR)(P)
Cardinal-flower, red lobelia, *Lobelia cardinalis* (DR)
Columbine, *Aquilegia canadensis* (DR)
Common coral bells, *Heuchera americana*(DR)
Crane's bill, *Geranium maculatum* (DR)
Culver's root, *Veronicastrum virginicum* (P)
Downy Phlox, *Phlox pilosa*
Dutchman's breeches, Bleeding heart, *Dicentra cucullaria* (DR)

pollinators, continued on page 9

pollinators, continued from page 8

False Solomon's seal, *Maianthemum racemosum* (DR)

Foam flower, *Tiarella cordifolia*

Hyssop, *Agastache* spp., particularly *A.*

scrophulariifolia (DR) (P)

Golden Alexander, *Zizia aurea*

Goldenrod, *Solidago* spp., particularly *S. Canadensis*;

also: *S. caesia*, *S. sempervirens* (DR) (P)

Scullcap, *Scutellaria incana*

Jack-in-the-pulpit, *Arisaema triphyllum* (DR)

Joe-pye weed, *Eutrochium* spp., *E. purpureum*, *E.*

fistulosum, *E. dubium*, *E. maculatum* (P)

King Solomon's-seal, *Polygonatum biflorum* (DR)

Lupine, sundial, *Lupine perennis* (DR)(P)

Marsh-marigold, *Caltha palustris*

Meadow-rue, *Thalictrum dioicum* (DR)

Milkweed, *Asclepias* spp., *A. syriaca*, *A. tuberosa*,

A. incarnata, *A. viridiflora*, *A. verticillata*,

A. variegata, *A. quadrifolia*, *A. purpurascens*, *A.*

incarnata, *A. exaltata*, *A. amplexicaulis* (DR)(P)

Mountain-mint, *Pycnanthemum tenuifolium*(DR)

Asters, *Symphotrichum* spp. including *S.*

novae-angliae, *S. novi-belgii*, *S. cordifolium* (P)

Partridge pea, *Chamaecrista fasciculata* (annual,

planted from seed or self-seeding)

Pink corydalis, *Capnoides sempervirens*

Squirrel corn, Bleeding heart, *Dicentra canadensis* (DR)

Trout lily, *Erythronium americanum* (bulb)

White snakeroot, *Ageratina altissima*

White turtlehead, *Chelone glabra*

Wild ginger, *Asarum canadense* (DR)

Yarrow, *Achillea millefolium* (DR)(P)

Native Grasses (all considered deer-resistant)

Big bluestem, *Andropogon gerardii*

Canada reed grass, *Calamagrostis canadensis*

Little bluestem, *Schizachyrium scoparium*

Pink muhly grass, *Muhlenbergia capillaris*

Prarie dropseed, *Sporobolus heterolepsis*

Purple lovegrass, *Eragrostis spectabilis*

Sideoats Grama, *Bouteloua curtipendula*

Switchgrass, *Panicum virgatum*

Ferns (all considered deer-resistant)

Maidenhair fern, *Adiantum pedatum* (DR)

Marginal woodfern, *Dryopteris marginalis*(DR)

Christmas fern, *Polystichum acrostichoides* (DR)

Cinnamon fern, *Osmunda cinnamomea* (DR)

See also: Connecticut Botanical Society,

www.ct-botanical-society.org/ferns/

pollinators, continued on page 10

Sidebar: An Unexpected Benefit

When we recommend or specify native plants, some known benefits occur. But there may be a less-visible positive side-effect.

“When commissions promote the use of natives through incentives or specifications, it may help increase commercial production of natives,” says Dr. Jessica Lubell, assistant professor of horticulture at University of Connecticut. She specializes in researching the commercial adaptability of native shrubs.

This is important because it can be difficult to find natives in commerce. The horticulture and landscaping industries have a long history of importing plants from all over the world that are people-pleasers, independent of the plants’ ecological credentials.

Research underway by Dr. Lubell and others at UConn is directed at giving native plants the place they deserve in commerce. “I promote natives for their beauty and utility in the landscape, to attract wildlife and to create landscapes that integrate with surrounding flora,” she says.

Indeed, some natives—endangered, threatened or of special concern—are almost found *only* in nurseries and garden centers. The pussy willow (*Salix discolor*) recently made headlines for its near disappearance in some parts of New England’s forests and fields.

Other examples of common nursery plants that are now rare as native populations in Connecticut include balsam fir (*Abies balsamea*), eastern redbud (*Cercis canadensis*), inkberry (*Ilex glabra*), fragrant sumac (*Rhus aromatica*), sweet gum tree, (*Liquidambar styraciflua*), the ground cover *Waldsteinia* (aka *Geum fragarioides*, according to the Connecticut DEEP’s list of Endangered, Threatened & Special Concern Plants.

One important note is that many, if not most, natives in the nursery trade are “nativars,” or cultivars bred for characteristics that will improve their success as potted plants destined for ornamental landscapes. These plants may not be suitable for ecological restorations, which are usually grow from seed with genetic origins at the site or within a limited geographic radius.

“But it is important for decision makers to understand that these cultivars of native species are not a bad thing for ornamental landscapes and gardening.” She points out there is no definitive research showing that nativars are any more or less effective than the parent species at supporting wildlife.

pollinators, continued from page 9

List 2 - Sources of native plants:

- Blackledge River Nursery, Marlborough, CT
- Earthtones, Woodbury, CT
- Nasami Farm/New England Wildflower Society, Whately, MA
- New England Wetland Plants, Amherst, MA
- North Creek Nursery, Landenberg, PA
- Planter's Choice, Newtown, CT
- Pride's Nursery, Lebanon, CT
- Project Native, Housatonic, MA
- Summer Hill Nursery, Madison, CT
- Woodland Trails Nursery, Eastford, CT

Note: Please contact me if you have or know of a commercial native plant program that belongs on this list. Email: Kathy@SpeakingofLandscapes.com.

List 3 - Information:

Books to assist with design:

- Attracting Native Pollinators*, Xerxes Society, 2011
- Urban and Suburban Meadows*, Catherine Zimmerman, Matrix Media Press, 2010

Web sites that assist with selection and identification:

- Connecticut Botanical Society:**
www.ct-botanical-society.org/garden/index.html
- Go Botany:** GoBotany.NewEnglandWild.org
- Lady Bird Johnson Wildflower Center:**
<http://wildflower.org/>
- USDA Plants Database:** <http://plants.usda.gov/java/>

Tree and Shrub Lists:

- Connecticut Native Trees for Beautiful Landscapes:**
www.cipwg.uconn.edu/pdfs/CTNativeTree_List.pdf
- Connecticut Native Shrubs for Beautiful Landscapes:**
www.cipwg.uconn.edu/pdfs/CTNativeShrubList_Lubell.pdf
- Native Shrubs: Guide to Landscape Uses:**
www.cipwg.uconn.edu/pdfs/NativeLandUseGuide.pdf

Kathy Connolly is a landscape designer from Old Saybrook, as well as a writer and speaker on a variety of topics related to ecological design. See www.SpeakingofLandscapes.com or email Kathy@SpeakingofLandscapes.com.



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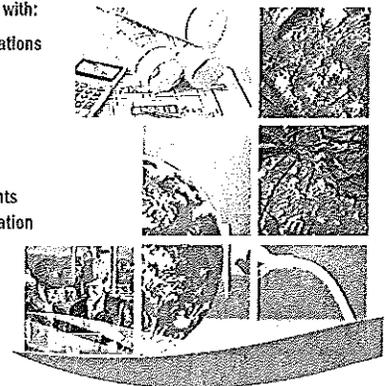
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As of March 1, 2014 the following Town Commissions have supported CACIWC through membership for the 2013-2014 fiscal year (July 1, 2013 to June 30, 2014). THANK YOU! If you do not see your Commission's name on the list, please encourage your Commission to join. If we are in error we apologize and would appreciate knowing by emailing Tom ODell at; todell@snet.net 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

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Andover	IW	Goshen	IW	Plymouth	CC+IW
Ashford	CC	Granby	CC	Pomfret	CC
Ashford	IW	Granby	IW	Pomfret	IW
Avon	IW	Greenwich	CC (SUS)	Portland	CC
Avon	CC	Greenwich	IW (SUS)	Portland	IW
Barkhamsted	CC	Griswold	CC+IW (SUS)	Preston	CC
Barkhamsted	IW	Groton	CC	Preston	IW
Beacon Falls	CC	Groton	IW	Putnam	CC+IW
Beacon Falls	IW	Groton City	CC+IW	Redding	CC+IW (SUS)
Berlin	CC	Guilford	CC	Ridgefield	Z+IW
Bethany	CC (SUS)	Guilford	IW	Ridgefield	CC
Bethany	IW (SUS)	Haddam	CC	Salisbury	IW (SUS)
Bethel	IW	Haddam	IW	Scotland	IW
Bolton	CC	Hamden	IW	Sharon	IW (SUS)
Bolton	IW	Hamden	CC	Shelton	CC
Branford	CC	Hampton	IW	Sherman	CC
Branford	IW	Hartland	IW	Sherman	IW
Bristol	CC+IW	Harwinton	IW	Simsbury	CC+IW
Brookfield	CC	Hebron	CC	South Windsor	IW
Brookfield	IW	Kent	CC	Southbury	IW
Burlington	IW	Kent	IW	Southington	CC+IW (SUS)
Canaan	CC+IW	Killingworth	CC	Sprague	IW (SUS)
Canterbury	IW	Killingworth	IW	Sterling	IW
Chaplin	IW	Lebanon	CC	Thomaston	IW
Chaplin	CC	Lebanon	IW	Thompson	CC
Cheshire	IW	Ledyard	CC	Thompson	IW
Cheshire	CC	Lisbon	CC	Tolland	CC (SUS)
Chester	CC	Lyme	CC+IW	Tolland	IW (SUS)
Chester	IW	Madison	CC	Trumbull	CC
Clinton	IW	Manchester	CC	Trumbull	IW
Colchester	CC	Manchester	Z+IW	Vernon	CC
Columbia	CC	Mansfield	Z+IW (SUS)	Vernon	IW
Columbia	IW	Meriden	IW	Wallingford	CC
Cornwall	CC	Middlebury	CC	Wallingford	IW
Cromwell	CC	Middlefield	IW	Warren	CC+IW
Cromwell	IW	Milford	CC	Washington	CC (SUS)
Darien	CC+IW (SUS)	Milford	IW	Washington	IW (SUS)
Deep River	CC+IW	Monroe	CC+IW	Waterford	CC (SUS)
Durham	CC	Naugatuck	IW	Watertown	IW
Durham	IW	New Canaan	Z+IW	West Hartford	CC
East Granby	CC+IW	New Canaan	CC	West Hartford	Z+IW
East Haddam	CC	New Fairfield	CC+IW (SUS)	Westbrook	CC (SUS)
East Haddam	IW	New Hartford	CC	Westbrook	IW
East Hampton	CC	New Hartford	IW (SUS)	Weston	CC+IW
East Hampton	IW	New Milford	CC	Westport	CC+IW (SUS)
East Lyme	CC	New Milford	IW	Wethersfield	IW
East Lyme	IW	Newington	CC+IW	Willington	CC
East Windsor	IW	Norfolk	CC	Willington	IW
Easton	CC+IW	Norfolk	IW	Wilton	CC
Ellington	CC	North Branford	CC+IW	Wilton	IW
Ellington	IW	North Stonington	CC	Windsor	CC
Enfield	CC	North Stonington	IW	Windsor	IW
Enfield	IW	Norwalk	IW (SUS)	Windsor Locks	CC
Essex	CC	Old Lyme	IW	Windsor Locks	IW
Essex	IW	Old Saybrook	CC	Woodbridge	CC
Fairfield	CC	Old Saybrook	IW	Woodbridge	IW
Fairfield	IW	Oxford	CC (SUS)	Woodbury	CC
Farmington	CC+IW	Oxford	IW (SUS)	Woodbury	IW
Franklin	IW	Plainfield	CC	Woodstock	CC
Glastonbury	CC+IW (SUS)	Plainfield	IW	Woodstock	IW

coordinating judges for the environmental science awards in this year's CSEF. The CACIWC Board will be conducting other activities to increase interest among Connecticut students in careers and volunteer activities that support conservation and wetlands protection. Watch this column and our website for more information on these activities!

4. **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 2014-15 membership year, which begins on July 1, 2014. A copy of this form and additional information will be placed on our website: 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!

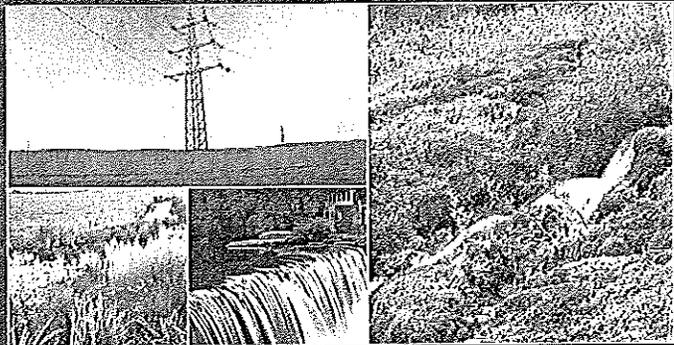
5. The officers and members of the Board of Directors are now several months into the first year of their two-year term following the elections that took place at our November 16, 2013 annual meeting. Although we were able to fill a number of vacancies, the New London County director and several other CACIWC board vacancies remain unfilled (please see the list in this issue of *The Habitat* and on www.caciwc.org). Please submit your name to us at board@caciwc.org if you are interested in serving as the New London County representative, one of the vacant alternate county representatives, or as one of the alternate-at-large representative positions.

6. 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. Let us know of areas of interest by contacting us at board@caciwc.org.

We are very pleased to continue to receive 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 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 conserve natural resources within your town!

~ Alan J. Siniscalchi, President

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preserved, continued from page 16

could result in the sudden “preservation” and subsequent development of those lands. Such dramatic occurrences can and should be avoided in order to secure the sustainability of Connecticut’s impressive and valuable network of conservation lands.

Recent History

Public Act 12-152, An Act Concerning the State’s Open Space Plan, includes provisions that could, if implemented, help prevent the imprudent transfer of state lands that have significant conservation value, especially those under the care of agencies other than DEEP. Under the Act, DEEP is to develop strategies “for protecting in perpetuity lands of high conservation value” and establish a process by which all state agencies may identify such lands. When implemented, that law also should lead to more permanent protection of state forest and park land. Again, however, few if any of the cases discussed above would have been affected by those provisions even if they had been implemented.

Recommendations

These recommendations are aimed at getting information to the front end of the decision-making process for land transfers and at preserving “preserved” lands in perpetuity.

1. A clear and unified process: The General Assembly and all state agencies should follow a unified procedure prior to proposing the transfer or re-purposing of state conservation lands. This procedure should include the completion of a form by DEEP that includes brief information about a property’s history, conservation purposes, natural resources and general management plans. Such information should be made public at the earliest possible stage of the process. The intent of such a procedure would be to document at the earliest stages whether a parcel is just “unused property” or is in fact important to a conservation purpose.

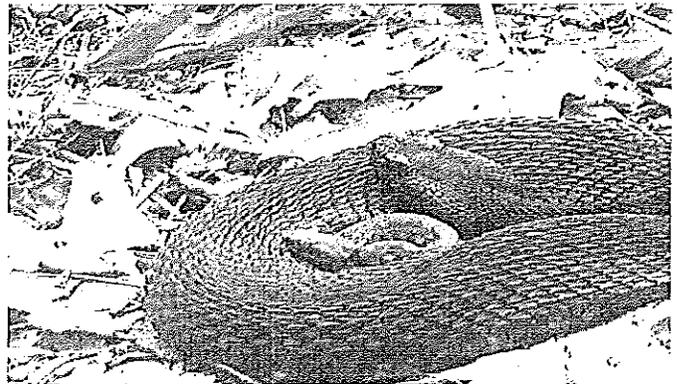
The unified procedure should have specific minimum requirements, including the information described above as well as information about the parcel’s ecological relationship to surrounding lands and the landscape of the community. Another factor for evaluation should be the property’s potential contribution to climate change resiliency – that is, the ability to absorb and accommodate the landward movement of coastal ecosystems as temperature and sea level rise.

preserved, continued on page 14

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preserved, continued from page 13

In the event that the DEEP has insufficient resources to complete the requested forms, the law should allow the landowner to pay a DEEP-approved contractor to complete the form for approval and submission by DEEP.

2. Plans and data: DEEP should have a conceptual management plan for each property, or at the least a public “data sheet” describing the property’s purposes, natural resources and general purposes. DEEP does in fact have management plans for many parks, forests and wildlife areas, but in the interim, for those which do not there should be data available for quick consultation by all parties.

By having management plans (or at least public data sheets) ready, the Council suggests, DEEP should be able to save significant amounts of staff time when swap proposals are made. In fact, the ready availability of management plans probably would dissuade many landowners from proposing exchanges in the first place, as they could see that the conservation lands in question are valuable to the state and are not just vacant or underutilized land.

3. Preserve for perpetuity: All future acquisitions of land for conservation purposes should be implemented in a way that ensures their permanent protection. There are several options, some of which would require legislation.

Note: When DEEP awards a grant to a municipality or nonprofit organization to acquire land, it requires the land to be subject to a permanent conservation easement, but no parallel requirement applies to state acquisitions.

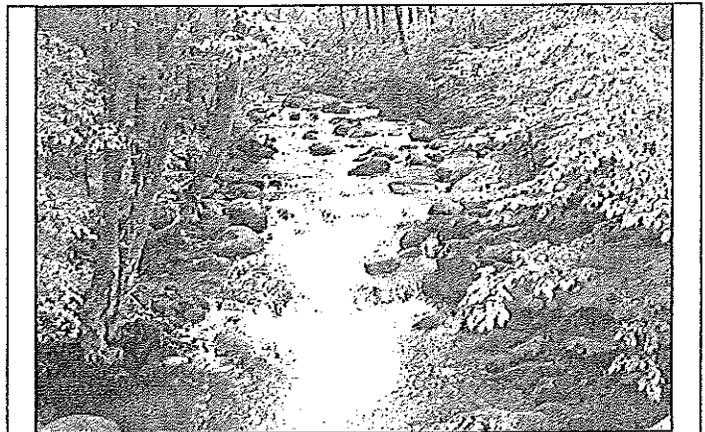
4. Lands of high conservation value: DEEP should implement the provisions of Public Act 12-152 that require DEEP to develop a method for evaluating state lands (under the custody of any agency) to determine those of high conservation value. Lands already designated as state park, state forest, state wildlife management area or similar designations should be classified as lands of high conservation value by default (that is, without the necessity of additional analysis).

5. Legislation: The General Assembly should adopt legislation, as needed, to implement Numbers 1 and 3, above and to permanently protect lands of high conservation value as determined pursuant to Number 4, above.

6. State Constitution: The General Assembly should start the process for amending the Constitution of the State of Connecticut to state that (to borrow from, as a starting point, the Constitution of the State of New York), “the legislature shall provide for the acquisition of lands and waters... and the dedication of properties so acquired or now owned, which because of their natural beauty, wilderness character, or geological, ecological or historical significance, shall be preserved and administered for the use and enjoyment of the people. Properties so dedicated shall constitute the state nature and historical preserve and they shall not be taken or otherwise disposed of except by law enacted by two successive regular sessions of the legislature.”

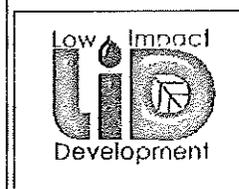
7. Public notice and conservation easements: The General Assembly should adopt legislation to guide the release or modification of any conservation easement that has been granted to a municipality. At a minimum, there should be a requirement for public notice and opportunity for public comment.

8. State Forests and P.A. 490: The General Assembly should adopt legislation that requires State Forest land to be classified automatically as forest
preserved, continued on page 15



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land under P.A. 490, thereby removing the need for DEEP to spend limited resources completing the P.A. 490 classification process.

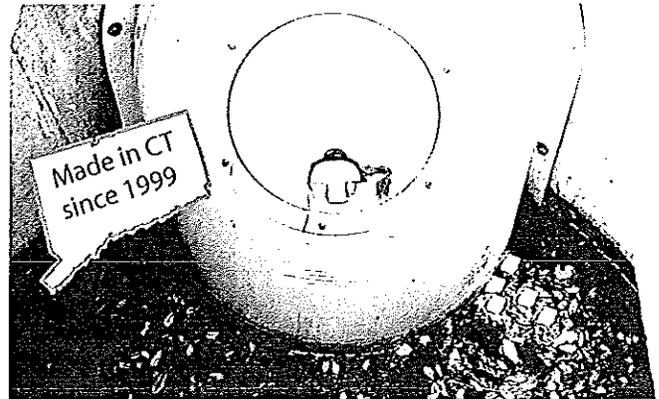
9. Municipalities will help: DEEP should enlist willing municipal conservation commissions to help document the extent and legal status of "protected open space" within their boundaries, perhaps using the data of the Protected Open Space Mapping project as the starting point. DEEP should consider offering incentives, such as bonus points on grant applications, to participating municipalities. ↙

Support Senate Bill 70!

An Act Concerning the grant of property interests in property held by the Departments of Agriculture and Energy and Environmental Protection and the establishment of a public use and benefit land registry.

CACIWC supports Senate Bill 70 as it addresses many of the changes needed to permanently protect state lands and urges you to contact your legislators and ask them to support Senate Bill 70. ↙

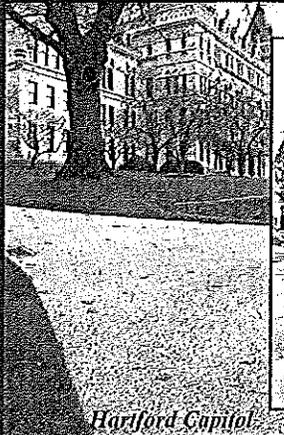
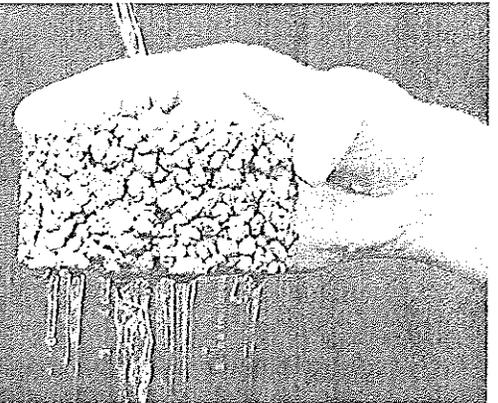
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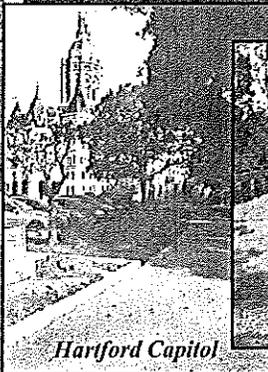
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Preserved, But Maybe Not

The Impermanence of State Conservation Lands

A Special Report of the Council on Environmental Quality January 2014

Summary

The General Assembly and the Department of Energy and Environmental Protection have been asked to consider proposals during the past three years to transfer, exchange or re-purpose hundreds of acres of state parks, forests and wildlife management areas. Most of those proposals were not completed, but analysis of the cases reveals procedural deficiencies that routinely put state conservation lands in jeopardy of being "un-preserved." The two biggest deficiencies are the lack of accurate information at the beginning stages of the decision-making process and the lack of truly permanent protections for most lands that Connecticut residents typically think are preserved.

The Council offers nine recommendations to improve the long-term protection of state conservation lands and the process for evaluating transfer proposals. Adoption of these recommendations will: 1. get information to the front end of the decision-making process, and 2. preserve state parks, forests and other "preserved" lands in perpetuity.

When Connecticut residents visit a beautiful state park or wildlife area they often are contented by the knowledge that the land is set aside for forests, wildlife and all people for all time. Except usually it isn't.

Recent proposals to exchange or convey state parks, forests and wildlife areas totaling hundreds of acres have highlighted weaknesses in the protections granted to Connecticut's conservation lands. These weaknesses

preserved, continued on page 13

In This Issue

- Outreach**
- Rain Garden National App
- Climate Change & CIRCA
- Research**
- LID on Storrs Campus
- Program Updates**
- CT ECO Lidar Maps
- Tree Warden School
- Geospatial Training

CLEARSCAPES



A Newsletter of the Center for Land Use Education and Research at the University of Connecticut.

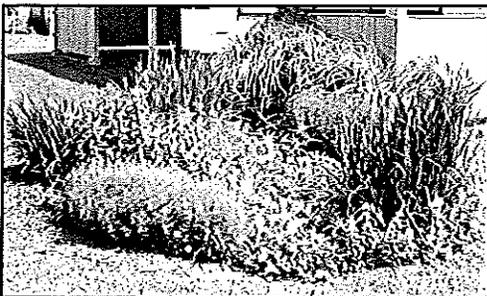
Outreach

Rain Garden Smartphone App Goes National

The popular NEMO Rain Garden smart-phone “app” will now be expanded to cover at least a dozen more states around the nation, thanks to a grant from the USDA Water Program. The app, developed last year as a fun and portable helper for those wishing to build gardens that reduce runoff, elicited a number of enquiries from around the country, which ultimately resulted in the effort to obtain funding for a “national” version.

The creators of the app, CT NEMO Director Mike Dietz and National Programs Coordinator Dave Dickson, are already working with an advisory group of interested colleagues from other states on the collection of location-specific soil, plant,

... continued on pg 4

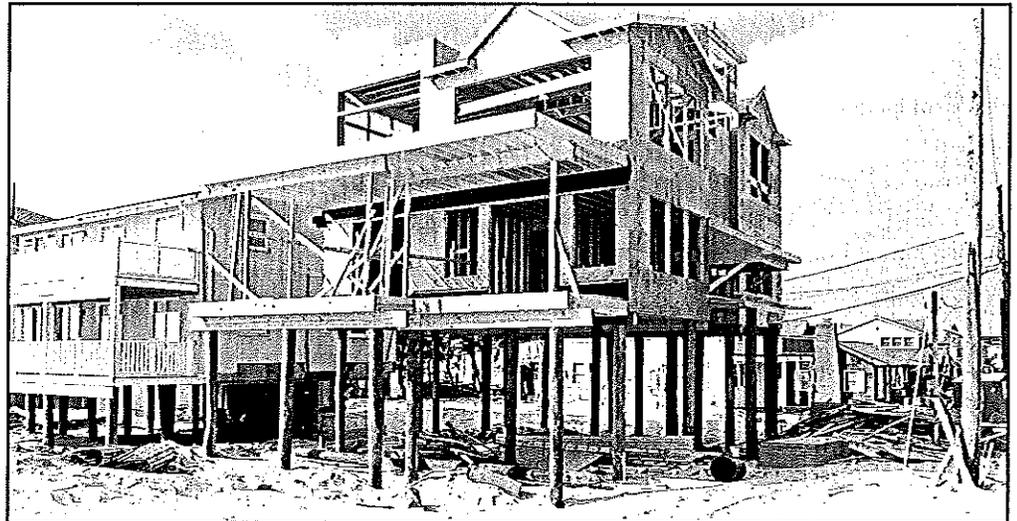


Adapting to Climate Change: CIRCA 2014

January saw the announcement of a new institute at UConn dedicated to providing answers and assistance to Connecticut communities as they strive to adapt to the impacts of climate change. The **Connecticut Institute for Resilience and Climate Adaptation**, or CIRCA, is a partnership of UConn and CT DEEP. The Institute was created by the state Legislature in direct response to a number of legislative fact-finding efforts initiated after the state was pummeled in recent years by Irene, Sandy, and the October ice storm.

CIRCA has three main (but overlapping) areas of applied research: environment, climate and coasts; energy and infrastructure, and; human dimensions (legal, social, financial). As noted, CIRCA also has a considerable emphasis on outreach to the state’s municipalities, and CLEAR is very much involved. While much of the research will come from Marine Sciences, Civil Engineering and the social sciences, the CIRCA outreach effort is largely based on expanding ongoing activities of CLEAR-

... continued on pg 4



Signs of recovery from Hurricane Sandy in the form of new construction, elevated to the new standards, are seen in Beach Haven, NJ. Photo by Liz Roll/FEMA



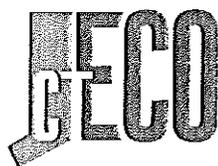
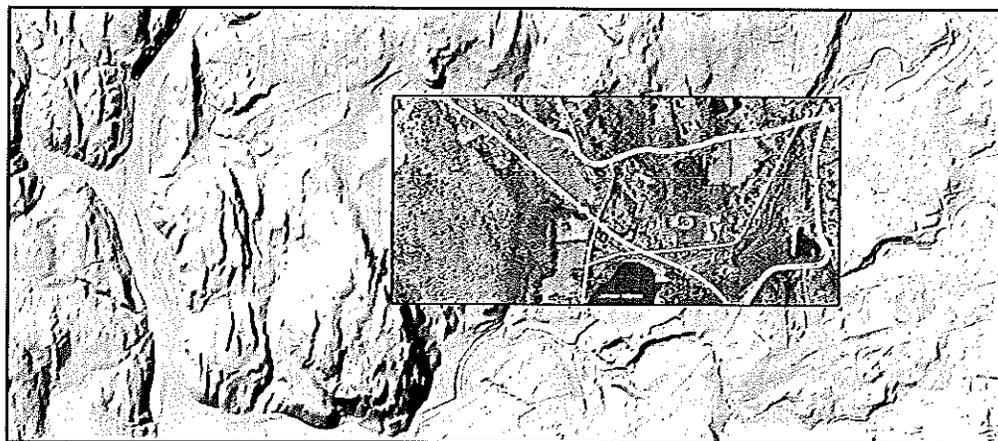
Program Updates

▶ CT ECO Helps to Organize Connecticut's High-Tech Elevation Data

Light Detection and Ranging, or Lidar, is a remote sensing technique that uses lasers to collect elevation data about the earth's surface. Lidar has a wide range of applications for natural resource management and engineering, but is increasingly being used in other disciplines like archeology. Connecticut is in the unique (and unenviable) situation that, instead of one seamless Lidar dataset, there are eight datasets that each cover parts of the state—and even then, not all of Connecticut is covered.

Thanks to a lot of hard work by CLEAR's Emily Wilson, this confusing patchwork of datasets is now explained in map and detailed form on the CT ECO Lidar help page. CT ECO is the **Connecticut**

Environmental Conditions Online website, a partnership between the University of Connecticut CLEAR and the Connecticut Department of Energy and Environmental Protection (DEEP) to share Connecticut's natural resource geographic information with the public.



Lidar shaded relief of the Moodus, CT area (Salmon River on left). A portion of a terrain map is superimposed to highlight the fine detail of the lidar image.

The Lidar help page includes an interactive map with informational pop-ups and the ability to zoom in to a location and determine which data set or sets, if any, occur there. Also available are links to documents and metadata. Although this site will mostly be of help to GIS professionals, CT ECO

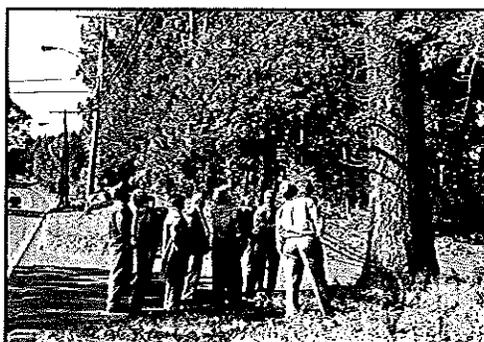
will soon be hosting map services of Lidar-derived maps (like hillshade, slope and aspect) that will be available in easy-to-use viewers designed for everyone. Contact Emily Wilson at emily.wilson@uconn.edu or call 860-345-5226 for more information, or visit the CT ECO website at cteco.uconn.edu. ☺

▶ New Law Mandates Tree Warden School for all Towns

The Connecticut tradition of tree wardens dates back well over a century, when in 1901 the Connecticut legislature passed a law mandating the appointment of a "tree warden" in all municipalities. Tree wardens are town officials that have care and control over all municipal and public trees and shrubs in a community. The 1901 law still guides the roles and responsibilities of the tree warden, but in 2013 the state legislature revised the law to require that each city and town appoint a "qualified" person. *Qualified*, in this case, means that the tree warden or deputy warden must either be a Connecticut Licensed Arborist, or have successfully

completed the Tree Warden School.

The Tree Warden School was created in 1998 by Bob Ricard of UConn Extension, in cooperation with the Tree Wardens'



Students participating in a tree risk assessment class at the Tree Warden School.

Association of Connecticut, Inc. Over 300 tree wardens, deputy tree wardens, community forestry volunteers, arborists, landscape architects, and elected and appointed officials have completed the program. Per the revisions to the state law, anyone who took the course during or prior to 2013 will be regarded as meeting the qualifications of the new law, but for those others there is Tree Warden School. Tree Warden School is conducted each fall, and we are proud to now have it under the CLEAR banner.

For information visit the Tree Warden section of the CLEAR website or contact Robert Ricard at 860-570-9257 or email robert.ricard@uconn.edu. ☺

By the Numbers

Nigerian Professors Take CLEAR GIS Course to Help Track Parasitic Disease

In December 2013 the Geospatial Training Program (GTP) was host to two researchers from the Nigerian Defense Academy (Nigeria's equivalent of West Point), who traveled 5200 miles from home to attend the GTP's 3-day *Introduction to GIS* training course. Dr. Maikaje, a specialist in protozoology, and Dr. Umar, who specializes in molecular parasitology, are conducting epidemiological studies about the incidence of trypanosomiasis, a parasitic disease more commonly known as 'sleeping sickness' that affects both animals and humans. They are also studying liver fluke, a parasite carried by



CLEAR's Cary Chadwick and Emily Wilson at their GIS class with Drs Maikaje and Umar.

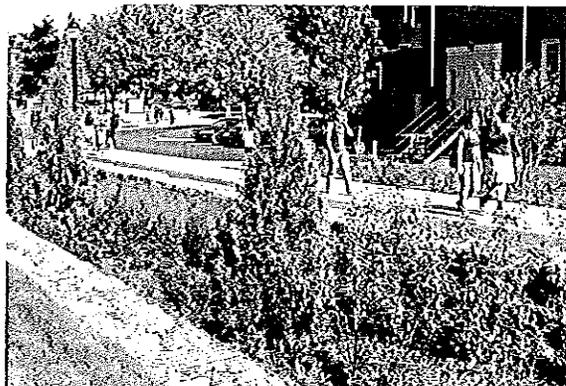
snails that live in fresh water supplies frequented by cattle and other animals. They took the course to enable them to map field sampling stations and environmental factors in an attempt to decipher why different species of host snails are found in some areas and not others. We are happy to report that they did not freeze to death (although it was close). In fact, they were model students, great guests, and are continuing correspondence with GTP's Cary Chadwick. Contact Cary Chadwick at cary.chadwick@uconn.edu or call 860-345-5216 for more information about the Geospatial Training Program. ☺

LID on Campus As Green Infrastructure Blossoms on the UConn Campus, NEMO Keeps Track

In the last 5 years the main campus of UConn has become somewhat of a showcase for the innovative stormwater practices known as "low impact development" (LID) or "green infrastructure". These practices are designed to accept and infiltrate stormwater, thereby reducing the flooding, erosion, and water pollution frequently caused by runoff. The campus now sports green roofs, pervious asphalt parking lots, plazas and walkways made of pervious concrete pavers, and many vegetated depressions both large (called "bioretention") and small (called rain gardens).

have been "disconnected" from directly draining into campus streams. The resultant spreadsheet is large enough to wallpaper your dining room with, but the output is in the form of just two numbers. What are they, you ask? See the *By the Numbers* box, right column, for the answers.

Our new "Do It Yourself IC-TMDL" website has a detailed photo gallery of LID throughout Connecticut, including the UConn campus, as well as a virtual tour of campus practices. Visit nemo.uconn.edu/ic-guide, and go to Step 3. ☺



Students walk by a large bioretention basin behind Oak Hall, Storrs, CT.

During this same period, UConn has gotten very good at tracking its many green initiatives, culminating in the University being ranked #1 by the Sierra Club last year in a list of the ten most environmentally active schools in the country. But stormwater reduction is somewhat trickier to keep track of than, say, electrical or water usage, which are routinely metered. Enter Dr. Mike Dietz, Director of the CT NEMO Program, who has devised a system that combines technical information on each LID practice with daily rainfall data to derive cumulative estimates of both the amount of stormwater put back into the ground, and the area of impervious surfaces that

165

towns represented by people trained by the Geospatial Technology Program in the past 3 years (out of 169)

148

towns represented by people trained by the Land Use Academy in the past 3 years (out of 169)

21,528

different individuals visiting the CLEAR website in 2013

31,800

visits to the CLEAR website in 2013

24,762

different individuals visiting the CT ECO website in 2013

43,960

visits to the CT ECO website in 2013

39.9 million

gallons of stormwater treated by UConn LID practices through 2013

7.3 football fields

the area of impervious surfaces "disconnected" from campus streams by LID

Outreach continued...

Rain Garden Smartphone App Goes National continued from pg 1...

and rainfall information. With this in place, a smartphone user only has to let their phone's GPS do its thing to get rain garden guidance and information specific to his or her location.

In fact, the expansion of the app is already well underway. The latest version now reaches to the Mid-Atlantic coast, covering the states of New Jersey, Maryland and Delaware. The new version is a collaboration with Rutgers University Extension Water Program, the Maryland Department of Natural Resources, University of Maryland Sea Grant Extension, and University of Delaware Extension.

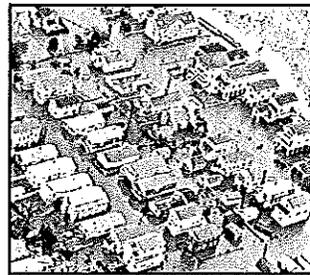
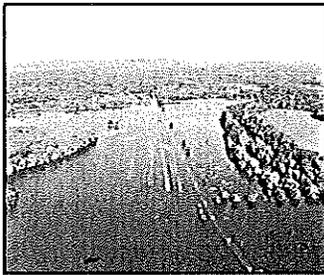
The grant will also fund a new app to grow the National NEMO Low Impact Development (LID) Atlas, an interactive web map with information on almost 1000 LID practices around the country. The app will allow users to upload information about a new green roof, pervious parking lot or rain garden (for example) directly from their phone to the Atlas, including pictures and locational information. Previously, entries could only be made



through a web form accessible to a comparatively short list of registered users, which included NEMO Network projects, several regions of the EPA, and some state agencies. "The Atlas is a great resource and we're hoping that

the new Atlas App will create a burst of new entries. We're shooting for 10,000 – the more the better!" says Dave.

Learn about and download the Rain Garden App at s.uconn.edu/rgapp. Visit the National LID Atlas at lidmap.uconn.edu. €



Hurricane Irene and Sandy left their mark on Connecticut communities, as seen in these photos. (Left to right) Irene floods tobacco fields in the Windsor Locks area; damaged homes along the East Haven shore; a coastal community after Sandy. *Photos courtesy of the CT National Guard.*

Adapting to Climate Change: CIRCA 2014 continued from pg 1...

related faculty in the Department of Extension and Connecticut Sea Grant. This includes Land Use Educator Bruce Hyde and Sea Grant Educator Juliana Barrett, who have been teaming up in recent years on projects focused on coastal communities impacted by Irene and Sandy. It also includes Joel Stocker, a CLEAR Geospatial Specialist who has been working with Sea Grant and CT DEEP to track changes in the Connecticut coastline over time. On the energy side of resiliency, Extension Professor Tom Worthley has been working with Civil Engineering and the Natural Resources and the Environment Department on *Stormwise* (stormwise.uconn.edu), a

new outreach program focused on improving the stability and resiliency of forest edges where they intersect power lines.

The first outreach program under the CIRCA umbrella, the **Climate Adaptation Academy**, a one-day workshop for local officials loosely patterned after CLEAR's long-running Land Use Academy, was held on May 3rd. Watch for a recap and reviews in future CLEAR publications, websites and blog. Visit the Climate Adaptation Academy website at clear.uconn.edu/climate. Contact Juliana Barrett at juliana.barrett@uconn.edu or call 860-405-9106. Visit the CIRCA website at circa.uconn.edu. €

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The University of Connecticut Center for Land Use Education and Research (CLEAR) provides information, education and assistance to land use decision makers, in support of balancing growth and natural resource protection. CLEAR is a partnership of the Department of Extension and the Department of Natural Resources and the Environment at the College of Agriculture and Natural Resources, and the CT Sea Grant College Program. Support for CLEAR comes from the University of Connecticut and from state and federal grants.

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