

AGENDA
Mansfield Conservation Commission
Regular Meeting
Wednesday, March 20, 2013
Audrey P. Beck Building
CONFERENCE ROOM B
7:30 PM

1. Call to Order
2. Roll Call
3. Opportunity for Public Comment
4. Minutes
 - a. December 19, 2012
 - b. February 20, 2013
5. New Business
 - a. IWA Referral: None
 - b. Kessel report on March 19, 2013 Open Space Preservation Committee Meeting
 - c. Membership
 - d. Other
6. Continuing Business
 - a. Mansfield Tomorrow | Our Plan ▶ Our Future
 - b. Water Source Study for the Four Corners Area/Environmental Impact Evaluation (EIE)
 - 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. Other
7. Communications
 - a. Minutes
 - Open Space (2/19/13)
 - PZC (2/19/13 & 3/4/13)
 - IWA (3/4/13)
 - b. Inland Wetlands Agent Monthly Business Report
 - c. Winter 2012 Habitat
 - d. January/February CT Wildlife
 - e. Other
8. Other
9. Future Agendas
10. Adjournment

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Town of Mansfield
CONSERVATION COMMISSION
Meeting of 20 February 2013
Conference B, Audrey P. Beck Building
(draft) MINUTES

Members present: Aline Booth (Alt.), Joan Buck (Alt.), Peter Drzewiecki, Neil Facchinetti, Quentin Kessel, Scott Lehmann, John Silander. *Members absent:* Robert Dahn. *Others present:* Grant Meitzler (Wetlands Agent), Linda Painter (Town Planner), Jennifer Kaufman (Mansfield Tomorrow Project Manager), Michael Looney (Milone & MacBroom); Ken Feathers, Jim Morrow, Vicky Wetherell (Open Space Preservation Committee (OSPC)).

1. The meeting was called to order at 7:33p by Chair Quentin Kessel.
2. The draft minutes of the 16 January 2013 meeting were approved as written; consideration of the draft minutes of 19 December 2012 was inadvertently omitted from the agenda and will be deferred until the March meeting.
3. **Mansfield Tomorrow project.** Jennifer Kaufman introduced Michael Looney, who will be working on the zoning portion of the Mansfield Tomorrow project and came to this meeting for a conservation perspective on zoning and permitting in Mansfield. He asked how zoning regulations and process might be improved. Among the comments and suggestions made in the ensuing discussion were these:
 - Silander expressed the Commission's disappointment that zoning regulations advertised as promoting conservation of landscapes through clustering had failed to deliver anything resembling clustered development. The chief effect of the "Open-Space Subdivision" option has been to allow developers to cut costs by substituting common driveways for town roads. Booth recalled that misgivings about the reliability of community septic systems had discouraged serious consideration of clustered housing in areas without water and sewer. She wondered whether the reliability of these systems is still an issue.
 - Silander noted that review of proposed subdivisions often seems uninformed by larger conservation objectives, such as ensuring corridors for wildlife. Feathers observed that the new pre-review process, which invites comments on subdivision plans as they evolve, may help address this problem. He suggested that the process might be improved if the Town were clearer about what it expects from developers. Wetherell noted that pre-review is something OSPC and the Commission have wanted for a long time. In her view, the two subdivision plans that have gone through this process are much better than what would have emerged from the old procedure of commenting at a public hearing on the developer's application.
 - Kessel observed that 2-acre zoning was implemented to protect water resources but that there may be better ways to achieve this objective. Places like Denmark and Germany have real clustering with prohibitions against developing farmland, though there are legal and cultural barriers to replicating such controls on land use here.
 - Wetherell looked into the future of Mansfield and saw subdivisions on all currently undeveloped land that is not reserved for farming, open space, or parks. Preserving what's left of the town's rural character will require positive action; vision statements are not enough. She stressed the importance of preserving prime farmland in Pleasant Valley and elsewhere, if Mansfield's future is to include farming. Feathers added that as farmland disappears, it becomes more difficult for the remaining farms to make it

economically, as farmers often depend upon land they don't own for hay and silage. He also pointed out that preserving land for agriculture and open space is a better tax deal for the town than subdividing it; unlike town residents, land doesn't demand services.

- Silander pointed to objectives in the current Plan of Conservation and Development that should be retained in the new plan, such as preserving scenic views and large tracts of forest.
- Kaufman reported that the town's acquisition of open space has, with input from the Open Space Preservation Committee, become much more focused on promoting larger objectives, such as maintaining wildlife corridors and promoting trail systems.
- Lehmann wondered if logging could be regulated to protect wetlands. Erosion controls are routinely required in residential development, but there seems to be no oversight whatever of logging operations which potentially have a much greater impact on wetlands.

Mr. Looney left the meeting. Linda Painter reminded those present that the Mansfield Tomorrow project aims to reconsider, update, and bring together the Town's Strategic Plan and its Plan of Conservation and Development. Wetherell pointed out that the Strategic Plan lacks any strategy for protecting conservation lands. The Commission and the Committee agreed to discuss at their regular March meetings what needs to be done to address such deficiencies in existing planning documents, leaving open the possibility of a joint special meeting the following week to produce a joint resolution. Kaufman, Painter, and the OSPC contingent then left the meeting.

4. Alternates Aline Booth and Joan Buck were designated **voting members** for the rest of the meeting.

5. **IWA referrals.**

a. **W1511 (Homework Properties, 85 & 87 Old Turnpike Rd.)** A 2-lot subdivision is proposed for the north side of Old Turnpike Rd., shortly before it becomes unpaved going east. A tiny wetland lies west of the driveway shown on the plan for the western lot; the septic system on this lot is about 50 ft from wetland soils, although no wetland is designated in this area. After some discussion the Commission agreed unanimously (**motion: Booth, Buck**) that (1) the proposed development appears to have no significant wetlands impact and (2) the developer's design and placement of structures should respect the fact that the property is situated on a Scenic Road in an Historic District.

b. **W1513 (Bruder, 3 Boulder La.)** A 21 ft diameter above-ground swimming pool is proposed on a flat terrace behind the house, about 50 ft from a large wetland, to which land slopes fairly steeply from the edge of the terrace. Disturbance should be minimal; sod is to be removed and replaced with a gravel pad, on which the pool will sit. The Commission agreed unanimously (**motion: Facchinetti, Lehmann**) that this project appears to involve no significant wetlands impact, assuming that the pool is 21 ft in diameter and remains 50 ft from the wetland.

6. **UConn Agronomy Farm.** Rep. Greg Haddad has filed a bill in the General Assembly "to require groundwater and residential drinking water testing and the disclosure of pesticide, fungicide and herbicide use at state-owned agricultural research fields." The Commission agreed unanimously to the following **motion (Drzewiecki, Kessel)**:

The Commission asks the Town Council to support Representative Haddad's Proposed Bill 5480 "to require groundwater and residential drinking water testing and the disclosure of pesticide, fungicide and herbicide use at state-owned agricultural research

fields.” The potential for groundwater contamination from chemical applications at the UConn Agronomy Farm has been of concern to the Commission for several years.

7. UConn Hazardous Waste Transfer Station. The Committee charged with recommending a site for UConn’s Hazardous Waste Transfer Station (currently located behind Horsebarn Hill) has recommended moving it to the proposed Tech Park on the North Campus. The Committee’s 2nd-choice location is W-lot; the current location is its 3rd-choice.

8. Adjourned at 9:20p. Next meeting: 7:30p, Wednesday, 20 March 2013.

Scott Lehmann, Secretary, 22 February 2013.

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Town of Mansfield
CONSERVATION COMMISSION
Meeting of 19 December 2012
Conference B, Audrey P. Beck Building
(draft) MINUTES

Members present: Aline Booth (Alt.), Joan Buck (Alt.), Neil Facchinetti, Quentin Kessel, Scott Lehmann, John Silander. *Members absent:* Robert Dahn, Peter Drzewiecki. *Others present:* Grant Meitzler (Wetlands Agent), Michael Soares.

1. The meeting was called to order at 7:34p by Chair Quentin Kessel. Alternates Aline Booth and Joan Buck were designated voting members for this meeting. Frank Trainor has had to resign for personal reasons. Michael Soares, a consultant for land trusts who has a background in geology and environmental education, was introduced as a prospective member of the Commission. {At the end of the meeting, Mr. Soares indicated that he was interested in joining the Commission.}

2. The draft minutes of the regular monthly meeting on 14 November 2012 and the special meeting of 27 November 2012 were approved as written.

3. IWA referrals.

a. W1508 (Shafer, 45 Echo Rd). Additions are proposed on all sides of this house on Echo Lake, including a new garage on the north side, screened porch & deck on the west (lake) side, and four-season room on the south side. The garage will require a foundation; the other additions will be on concrete pylons. The house is quite close to the lake; the new porch would be 47 ft from it. After some discussion, the Commission agreed unanimously (motion: Silander, Buck) to comment that:

The Commission is concerned about the potential for significant negative impacts on Echo Lake from (1) sedimentation during construction (grading would be required on the slope that drops from west side of the house to the lake a short distance away) and (2) nutrient loading from septic leaching (increasing the living space of this house by one or two rooms may increase the amount of sewage generated, and Echo Lake is a low-nutrient pond that is particularly sensitive to nutrient loading).

b. W1509 (Cone, 260 Coventry Rd). A 30x40 ft addition to a garage, which houses the Cone's Christmas Tree shop, is proposed to increase retail space for seasonal use. The addition would rest on a concrete slab. While it would be farther from the brook along Coventry Rd. than the existing garage, runoff from the site down a steep slope to the SW could potentially deliver sediment to the brook during construction. The Commission agreed unanimously (motion: Silander, Booth) that:

The wetlands impact of this project appears to be minimal *provided* sedimentation and erosion controls sufficient to prevent soil from washing into the brook during heavy rain are in place during construction and thereafter until the area is stabilized.

4. Luciano letter. The Commission received a copy of a letter from Tulay Luciano to Sen. Don Williams urging passage of legislation declaring UConn to be a water company and, accordingly, subject to state regulations that limit what water companies may do with their land. Such legislation was approved in 2003 by the Environment Committee but died when the Committee

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on Higher Education nixed it at the behest of UConn. Facchinetti asked whether water-company status for UConn would limit the authority of the water board that has been proposed to oversee new water supplies for UConn and Mansfield. Kessel thought not: water companies and water boards have different functions. After wandering into tangential issues (see item 5), the Commission agreed unanimously (motion: Buck, Silander) to urge, in light of concerns that new water sources might permit UConn to abandon the well-fields it now uses, the Town Council to look carefully at Ms. Luciano's letter and the bills to which she refers.

5. Water Supply EIE. (a) Buck asked whether a regional water coordinating commission must approve any water supply plan, as alleged at the public hearing on the UConn Water Supply EIE. Kessel replied that it's supposed to work this way but that at present there is no regional commission for this area and that the Department of Energy and Environmental Protection has no money to set one up. (b) Kessel reported that Simsbury, Canton, and other towns in the Metropolitan District Commission (MDC) service area will object to MDC's proposal to supply water to UConn, since it involves an interbasin transfer of water. (c) The Town is requesting that all comments on the EIE from Town Commissions and Committees be included in the hearing record; the Commission's comment is attached.

6. Frank Trainor. The Commission agreed to send to the Town Council (via Town Manager Matt Hart) a tribute to long-time member Frank Trainor, so that his service to the Commission and the Town might be more widely recognized:

The Conservation Commission regrets that Frank Trainor has had to resign for personal reasons after twenty years of service. During his twenty years of service on the Commission, he made many valuable contributions to the Town. Frank is truly "a gentleman and a scholar," and his knowledge of conservation matters, especially his expertise on water issues, will be sorely missed. He is known internationally for his scholarly research on freshwater algae and remains active in the field. Frank taught at UConn for 40 years, and has received a number of distinguished awards, including a Fulbright Scholarship for research in Sweden, UConn's Distinguished Faculty Award for Excellence in Teaching, and an honorary degree from Providence College.

7. Hazardous Waste Transfer Station. Kessel reported that maps for UConn's Tech Park show a site there for a relocated Hazardous Waste Transfer Station. However, the committee in charge of recommending a site has yet to announce any siting decision. Silander wondered why the university is planning a Tech Park on undeveloped land when it could instead use the Mansfield Training School (MTS) property (where some tech enterprises are now located). Kessel suggested that renovating or replacing old buildings may be too expensive. He also noted that the Transfer Station could not be relocated to the MTS property, since federal regulations require that such facilities be on property contiguous to that on which the waste is generated.

8. HUD planning grant. The Town has obtained a grant from the U.S. Department of Housing and Urban Development (HUD) to update the Plan of Conservation & Development and zoning regulations pursuant to it. These documents will be written by outside consultants using input from four working groups: Agriculture, Economic Development, Housing, and Zoning. Noting that Conservation seems to have been left out of the planning process, Kessel stressed the importance of getting people with a conservation perspective appointed to the working groups. Booth expressed interest in Zoning, Facchinetti in Housing, and Kessel, Lehmann, & Silander in Economic Development. The process begins in January and will continue for eighteen months.

9. **Agronomy Farm.** Facchinetti reported that the Storrs Heights Neighborhood Association is still trying to get UConn to divulge information on the nature of experimental chemicals being used at the Agronomy Farm.

10. **CL&P Interstate Reliability Project.** The Army Corps of Engineers has issued a "Finding of No Significant Impact" regarding CL&P's plan to run another 345kV transmission line through Mansfield Hollow. Its deliberations (concluding that the proposal was "non-contrversial") were apparently not informed by the objections the Town had communicated to the Connecticut Siting Council. Matt Hart has requested a public hearing on the Finding.

11. **Adjourned** at approximately 9:05p. Next meeting: 7:30p, Wednesday, 16 January 2013.

Scott Lehmann, Secretary, 21 December 2012.

Attachment: Comment on the Draft Water Supply EIE.

TO: Mansfield Town Council
FROM: Mansfield Conservation Commission
DATE: November 28, 2012

SUBJECT: Public Hearing on the Water Supply Environmental Impact Evaluation

Rank ordered by importance, The Mansfield Conservation (CC) makes the following recommendations and comments (ES-12 and 9-4 type page numbers referred to are those in the EIE, while the CDP designation is for the page numbers in the Draft 2013-2018 Conservation & Development Policies: A Plan for Connecticut):

1-A. From the point of view of conservation and best management practices, the WWW is clearly the best option. One reason for this is the State's environmentally-based hesitation to approve inter-basin transfers of water by water companies. In the case of the WWW, the inter-basin transfer would be from the Fenton/Mt. Hope/Natchaug River watersheds into the Willimantic River watershed (as is the current transfer of water from the University's Wells A,B,C, and D). The reason for this preference by the CC, is that all four of these rivers join to become the Shetucket River, i.e., this diversion results in only a detour of the water from its natural course, with the water pumped from the first watershed rejoining the Shetucket waterflow for which was destined in the first place. This position is consistent with the State's draft for the 2013-2018 Conservation & Development Policies: A Plan for Connecticut (CDP Growth Management Principles # 4 and #5, pp 17-22).

1-B. For the reasons in 1-A, the CC ranks the CWC as the second option and the MDC option a distant third. Other reasons include the capital costs of pipelines from more distant sources, the energy costs of pumping through the greater mileages of pipes, and the deterioration of water quality with the distance pumped. The MDC option is not consistent with many of the policies presented in the CDP Growth Management Principles #4 (CDP 17) and #5 (CDP 20). Nor is it consistent with the ecological and conservation practices utilized by a number of conservation organizations who attempt to base their planning activities on a watershed basis.

1-C. The CC is concerned with the seemingly uneven evaluations of the WWW, CWC, and MDC. There are several examples of this:

a) Under "Assessment of Feasibility": For WWW (9-1) "In the event that a new diversion permit could be obtained..." For MDC there is no mention of the much more serious diversion permit that will be required in their assessment (8-1).

b) Under the concluding "Findings": For WWW(9-40) "...A feasible alternative that may result in impact to downstream aquatic habitat under low stream flow conditions." This will be true for a relatively short reach of the Natchaug River (the already impaired portion between the WWW dam and the Shetucket River), but as the EIE notes, appropriate management of the Mansfield Dam could overcome this shortcoming. It is not clear to the CC that the difficulties of the dam management cannot be overcome, even if, as Jason Coite implied (the November 15, 2012 Four Corners Sewer and Water Committee meeting), "It might take an act of Congress." The CC does not understand the negativity associated with the WWW alternative.

The EIE is seemingly unaware of the Army Core of Engineers approval of a hydroelectric generator installation below the dam that should be providing electricity within a year. It is assumed there will be a constant flow through the associated turbine into the WWW reservoir. What will this flow be and how does it compare with WWW's current water usage and the additional amount that UConn needs?

Contrary to the findings statement for the WWW alternative, for the MDC proposal (8-62) the finding is that it "... will not result in significant environmental impact." Eileen Fielding, Executive Director of The Farmington River Watershed Association has expressed concern to the CC chair about this statement. The CC does not understand how the major inter-basin transfer of water proposed by the MDC would not have a significant environmental impact.

c) Another example of the apparent prejudice against the WWW in the EIE may be found in the Executive Summary (ES-8,9). Six cumulative Impacts are listed, including the interbasin transfer of water, but the WWW seems to be singled out because of the diminution of flow in a relatively short reach of Natchaug River, while the CWC and MDC are said to apparently be able to minimize their cumulative impacts – certainly the more serious interbasin transfer of water proposed by the MDC will be difficult to minimize!

2-A. The CC is concerned with the University (Jason Coite at the November 15, 2012 Four Corners Sewer and Water Committee meeting) apparently viewing as positive, the possibility of the University being able to shut down their current pumping operations along the Willimantic and Fenton Rivers. There are a number of reasons for this concern:

a) It would be contrary to one of the positive benefits of an outside water source listed in the EIE (ES-12): to "Provide additional redundancy and flexibility to the University of Connecticut water system."

b) The Town of Mansfield should not be at the mercy of a sole distributor for a commodity as valuable as drinking water is. The potential problems of such an arrangement are manifold, including the loss of the source (broken pipeline?) or contamination of the water, the financial implication of such a monopoly, and the general loss of control of the Town's water supply.

c) The possibility of shutting down the Willimantic and Fenton River well fields points out a shortcoming of the EIE. It does not investigate the consequence of shutting down one, or both, of the existing well fields, including secondary development.

2-B. In the event the University does choose to abandon its Willimantic and Fenton River

pumping stations, the Town should be permitted to operate them, perhaps utilizing the CWC, as the University does at present. The current arrangement is ironic, in that the University pumps its water from Mansfield aquifers and then limits what they are willing to apportion to the Town. The CC notes that as part of the EIE, a great effort was made to find suitable well sites at several locations in Mansfield, but none were found. It would make little sense to abandon the very productive current wells.

3. A governing body, such as a Water Board, should be formed to establish and oversee the policies that will govern not only the existing water sources but the new supplier of water to the Town and the University. This board must have significant representation from not only the Town and the University, but from the Mansfield citizens, as well. In the event that the WWW is chosen, an expansion of their existing Water Board might suffice for this.

4. The EIE's assessment of alternatives is driven by water demand projections from UConn and the Town, but these projections not evaluated in this study. Considering numbers presented in earlier University Water Plans it may be dangerous to accept these numbers at face value. (In the late 1990s or early 2000s UConn's Water Plan numbers indicated little or no growth, while at the same time they were significantly increasing UConn's enrollment.) Some numbers are puzzling, such as the PDD with 15% MOS value for "Committed Water Supply Demand" in Table ES-3: if calculated in the same manner as the other values in this column, it would be 425,500 gpd instead of 730,000 gpd. More generally, the basis for the projections is not clear. Also unclear is whether any consideration has been given to managing demand (by demand pricing, requiring water conserving fixtures in new construction and renovation, etc.) rather than simply supplying whatever amount of water is demanded.

5. The CC is offended by the situation Mansfield finds itself in because of wording in the MDC charter (3-2). A very small portion of Mansfield is apparently more than 19 miles, but less than 20 miles from the State Capitol in Hartford; above the 20 mile limit, MDC could not supply water to Mansfield. As it is, the MDC can supply water to the inhabitants of Mansfield and to any state facility located within Mansfield. If it were to supply water only to Mansfield residents, the Town of Mansfield would be required to pay for the Hartford to Mansfield pipeline, but the cost of constructing the pipeline to a state facility (UConn) would be borne by the taxpayers of the State of Connecticut. It is unclear to the Mansfield CC how the costs might be apportioned if UConn chooses the MDC option, in spite of the MDC proposal's environmental shortcomings. Would UConn be able to continue to supply water to the Town of Mansfield without Mansfield having to pay for a share of the pipeline?



**Notice of Tentative Determination to Approve
NPDES Permit Renewal
Applicant: University of Connecticut
Application No. 201103700
City/Town: Mansfield**

The Commissioner of Energy and Environmental Protection hereby gives notice that a tentative determination has been made to approve the following application submitted under Section 22a-430 of the Connecticut General Statutes to renew a permit to discharge into the waters of the state.

Applicant's Name and Address: University of Connecticut, 31 LeDoyt Road, Box U-38 Storrs, CT 06268

Contact Name and Phone No.: Jason Coite 860-486-9305

Type of Permit and #: NPDES – CT0101320

Type of Facility: Domestic wastewater treatment

Facility Location: 31 LeDoyt Road

Facility design capacity: 3.0 million gallons per day

PROPOSED ACTIVITY/FACILITY

The applicant has previously received a permit from the Department of Energy and Environmental Protection ("Department") authorizing the discharge of up to an annual average daily design flow of 3.0 million gallons a day of advanced treated municipal wastewaters to the Willimantic River. The applicant has submitted an application to renew its existing permit. This renewal application is the subject of this notice.

THE DRAFT PERMIT

The Department has prepared a draft permit consistent with the tentative determination to approve University of Connecticut's renewal application. This draft is available on the public participation section of the Department's website. In accordance with Sections 22a-430-4(l) and 22a-430-4(r) of the Regulations of Connecticut State Agencies (RCSA), the draft permit contains effluent limitations that meet Connecticut's Water Quality Standards for the following: Ammonia, Aquatic Toxicity, Biochemical Oxygen Demand (5 day), chlorine, cyanides, dissolved oxygen, Escherichia coli, fecal coliform, flow, pH, total phosphorus, total suspended solids and zinc.

INFORMATION REQUESTS/PUBLIC COMMENT

Interested persons may obtain copies of the application from the applicant at the above address. The application and supporting documentation are available for inspection at the Department of Energy and

Environmental Protection, Water Protection and Land Reuse, 79 Elm Street, Hartford, CT from Monday Friday from 8-4 and at other times by appointment. Questions may be directed to Joseph Higgins of the Municipal Facilities Section at 860-424-3584.

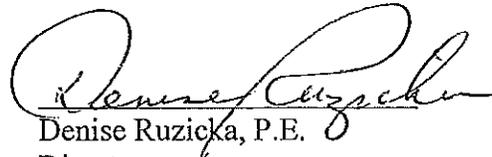
All interested persons are invited to express their views on the tentative determination concerning this application. Written comments on the application should be directed to Joseph Higgins, Planning and Standards Division, Water Protection and Land Reuse Bureau, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 06106-5127, no later than thirty (30) days from the publication date of this notice. Comments regarding this application may be submitted via electronic mail to: joseph.higgins@ct.gov.

PETITIONS FOR HEARING

The Commissioner may hold a public hearing prior to approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby and shall hold a hearing upon the receipt of a petition signed by at least twenty-five persons. Any petition for a hearing should include the application number noted above and also identify a contact person to receive notifications. A petition may also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. Original petitions must be *mailed or delivered* within the comment period noted above to: DEEP Office of Adjudications, 79 Elm Street, 3rd floor, Hartford, 06106-5127. Petitions cannot be sent by fax or email. For additional information go to www.ct.gov/deep/adjudications. If a hearing is held, notice of such hearing will be published at least thirty days before any hearing is held.

Dated:

MAR 01 2013



Denise Ruzicka, P.E.
Director
Planning and Standards Division
Bureau of Water Protection and Land Reuse

The Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer. Persons with a disability who may need information in an alternative format should contact the ADA Coordinator at 860-424-3194 or at DEEP.HRmed@CT.Gov. Persons who are limited English proficient who may need information in another language should contact the Title VI Coordinator at (860) 424-3035 or at DEEP.aoffice@ct.gov. Persons who are hearing impaired should call the State of Connecticut relay number 711. Discrimination complaints should be filed with the Title VI Coordinator.

Mansfield Open Space Preservation Committee
DRAFT Minutes of February 20, 2013 joint meeting with Conservation Commission

Members present: Jim Morrow (chair), Vicky Wetherell, Ken Feathers. Also Quentin Kessel (chair) and members of the Conservation Commission, and Jennifer Kaufman, Linda Painter (staff). Also attending: Michael Looney of Milone and MacBroom..

1. Meeting was called to order at 7:30 by Quentin Kessel.

2. No OSPC minutes were approved.

3. Mansfield Tomorrow Project

Michael Looney explained his role as consultant to assist with updating zoning, subdivision regulations and the permitting process. He requested comments from those attending about the current regulations and processes as well as recommendations for improving these items. After numerous comments and discussion, the joint meeting adjourned at 8:55. OSPC did not have a separate meeting afterward.

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MINUTES
MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting
Tuesday, February 19, 2013
Council Chamber, Audrey P. Beck Municipal Building

Members present: J. Goodwin (Chairman), B. Chandy, R. Hall, K. Holt, G. Lewis, P. Plante B. Pociask, K. Rawn
B. Ryan
Alternates present: A. Marcellino, V. Ward, S. Westa
Staff Present: Linda Painter, Director of Planning and Development

Chairman Goodwin called the meeting to order at 7:03 p.m.

Minutes:

2-4-13 Meeting Minutes- Chandy MOVED, Hall seconded, to approve the 2/4/13 meeting minutes as written. MOTION PASSED UNANIMOUSLY. Hall and Ryan noted for the record that they listened to the recording of the meeting.

2-13-13 Field Trip Minutes- Ryan MOVED, Holt seconded, to approve the 2/13/13 field trip minutes as written. MOTION PASSED with Goodwin, Ryan and Holt in favor and all others disqualified.

Zoning Agent's Report:

Noted.

Public Hearings:

Subdivision Application, Beacon Hill Estates, Section II, Mansfield City Road, west of Beacon Hill Road; Eagleville Development Group, LLC, applicant: PZC File #1214-3

Members Holt, Plante and Pociask disqualified themselves. Chairman Goodwin opened the continued Public Hearing at 7:05 p.m. Members present were Goodwin, Chandy, Hall, Lewis, K. Rawn, B. Ryan, and alternates Marcellino, Ward and Westa all of whom were appointed to act. Linda Painter, Director of Planning and Development noted a 2-13-13 memo from Jeff Polhemus, EHHD received and distributed to members.

Ed Pelletier, Datum Engineering and Surveying reviewed the changes to the plans dated 2-13-13 in regards to the septic/well locations as per EHHD comments, and noted no other changes were made.

Douglas Hamilton, 43 Beacon Hill Drive, expressed concern for the public safety for the current residents of the drive and stated that he does not feel that Beacon Hill Drive is a "thru road".

Chairman Goodwin noted that there were no additional comments from the public or the Commission. At 7:16 p.m. Rawn MOVED, Ryan seconded, to close the Public Hearing. MOTION PASSED with all in favor except Holt, Pociask and Plante who were disqualified.

Subdivision Application, 29 North Windham Road; J. Sauve, applicant: PZC File #1311

Pociask MOVED, Chandy seconded, to postpone the continued Public Hearing until March 4, 2013 as per the applicants request. MOTION PASSED UNANIMOUSLY.

Old Business:

a. **Special Permit Application, 54 residential apartments, 73 Meadowbrook Lane, Whispering Glen-Lakeway Farms, L.P., owner/applicant: PZC File #1284-2.**

Holt and Pociask disqualified themselves and Chairman Goodwin appointed Westa and Marcellino to act. Hall noted that he listened to the recordings of the last meeting. Lewis MOVED, Hall seconded, to approve with conditions the special permit application (File #1284-2) of Lakeway Farms L.P. for A 50-unit multi-family development in a DMR zone. This approval is based on the project as described in the application and subsequent information submitted by the applicant, and as shown on plans dated December 11, 2011 as revised to January 10, 2013 and as presented at Public Hearings on November 5, 2012, January 7 and January 22, 2013.

Based on the provisions of Article X, Sections A.4.d, A.6.f, A.6.g, Section R and other provisions of Mansfield's Zoning Regulations, this approval accepts the applicants building layout with respect to setbacks from front and side property lines, location of parking and proposed minimum separation between buildings of thirty(30) to fifty (50) feet as shown on the plans. The proposed setbacks with associated landscaping enhance the overall design of the project and do not detrimentally affect abutting properties.

This approval is granted because the application is considered to be in compliance with Article V, Section B, Article X, Section A.6 and other provisions of the Mansfield Zoning Regulations, and is granted with the following conditions:

1. **Extent of Approval.** This approval is specifically tied to the applicant's submissions and the conditions cited in this motion. Unless modifications are specifically authorized, the proposed uses and site improvements shall be limited to those authorized by this approval. Any questions regarding authorized uses, required site improvements and conditions cited in this approval shall be reviewed with the Zoning Agent and Director of Planning and Development, and, as deemed necessary, the PZC.
2. **Permits.** No Zoning Permits shall be issued and no construction shall commence, until final plans have been approved by the Windham Water Works (water supply), Windham Engineering Department (sewer), Mansfield Public Works Department (encroachment, driveway, drainage permits) and all permits required by the Connecticut Department of Energy and Environmental Protection.
3. **Phasing.** This approval authorizes work to proceed in three (3) phases. Within each phase all site improvements for the subject phase shall be completed before any Certificate of Compliance is issued.
4. **Sidewalk.** The proposed sidewalk that extends along the front of the property and westward to connect to Sunny Acres Park shall be completed or a financial guarantee provided prior to the issuance of any Certificates of Compliance or Occupancy for units in Phase 2. A financial guarantee provided in the form of a cash bond, passbook or statement savings account or letter of credit may be approved by the PZC Chairman with the assistance of staff provided the form of such financial guarantee and the financial institution or other entity issuing any Letter of Credit is acceptable to the Town Attorney and Director of Finance. Use of a surety bond shall require Commission approval.

The amount of such financial guarantee shall not exceed the actual construction cost for the balance of public improvements yet to be constructed as determined by the PZC Chairman based on the recommendation of the Town Engineer plus a contingency amount not to exceed 10% of such costs.

5. **Dedications.** Prior to the issuance of any Certificate of Compliance, a right of way dedication along Meadowbrook Lane and the conservation easement shall be submitted by the developer, approved by

the PZC Chairman with staff assistance and filed on the Land Records. The easement shall utilize the Town's model format with exceptions for trail/recreational improvements and sewer lines that pass through the easement area.

6. **Removal of Material.** Any excess material removed from the site shall be deposited in appropriate locations that comply with municipal zoning and inland wetland requirements.
7. **Erosion and Sedimentation Controls.** Prior to the commencement of any site work and the issuance of any Zoning Permit, a financial guarantee in the amount of \$5,000 shall be submitted to and approved by the PZC Chairman with staff assistance. The form of the financial guarantee shall be subject to the same terms as described in the sidewalk condition listed above. This financial guarantee will help address any drainage and erosion and sedimentation problems that are not appropriately addressed by the developer.
8. **Final Plans.** Final plans shall incorporate the following revisions:
 - a. The individual unit driveways along Meadowbrook Lane shall be eliminated. Vehicular access to these units shall be provided via either the common entry drive or the loop drive.
 - b. Due to the change in the driveway configuration for the units along Meadowbrook, revised building footprints and elevations may be needed. These units must face Meadowbrook Lane and efforts should be made to reduce the building height and massing to be consistent with the pattern of homes that face Meadowbrook.
 - c. A note shall be added to the architectural plans that the maximum height of any unit is 40 feet, as measured from the average elevation of the proposed finished grade along the wall of a building to the highest point of such building.
 - d. The elevations for the type "B" units shall be revised to break-up the roof massing.
 - e. Windows shall be added to all blank side elevations that are visible from Meadowbrook Lane or common areas.
 - f. Architectural plans shall be updated to include notes on materials and color selections.
 - g. All site lighting fixtures shall be full cut-off, dark sky compliant and consistent with the requirements of Article X, Section R.4.d and e. The applicant is encouraged to use higher efficiency light sources wherever possible.
 - h. The plans shall be revised to address comments in the January 16, 2013 memo from Assistant Town Engineer Grant Meitzler.
 - i. The plans shall be revised to address the recommendations contained in the January 15, 2013 Open Space Preservation Committee memo regarding trail design/construction and removal of debris.
 - j. A note shall be added to the plans stating that the developer will coordinate with the Mansfield Housing Authority and other state and regional agencies that promote affordable housing opportunities to market the affordable units to low and moderate income families.
 - k. An updated stormwater and landscape management plan shall be submitted by the developer to limit the use of fertilizers, pesticides and other chemicals that may be associated with the maintenance of landscape areas and the use of sand, salts and chemicals that may be associated with the maintenance of roadways and walkways. The plan shall also address ongoing maintenance of perennial plantings and incorporate the Best Management Practices identified in the notes on Sheet 4 of the approved plans.
 - l. A note shall be added to the plans stating that due to the parking configuration and lack of space to provide additional parking if needed in the future, leases shall allow a maximum of two vehicles per unit.

9. **Validity.** This permit shall not become valid until the applicant obtains the special permit form from the Planning Office and files it on the Land Records.

MOTION PASSED with all in favor except Goodwin who was opposed and Holt and Pociask disqualified themselves.

b. **Subdivision Application, Beacon Hill Estates, Section II, Mansfield City Road, west of Beacon Hill Road; Eagleville Development Group, LLC, applicant: PZC File #1214-3**

After a brief discussion, Chandy volunteered to work with staff on a motion for the 3/4/13 meeting.

c. **Subdivision Application, 29 North Windham Road; J. Sauve, applicant: PZC File #1311**

Item tabled pending continued Public Hearing on 3/4/13.

d. **New Subdivision Application, 85 & 87 Old Turnpike Road; Homework Properties, LLC; Owner & Applicant: PZC File #1315**

Item tabled pending Public Hearing on 3/4/13.

New Business:

a. **Request to do work in conservation easement area, Dunham Pond Estates, PZC file # 1252**

Holt MOVED, Hall seconded, that the Dunham Pond Association be granted permission to 'drop' the trees identified in a 1/31/13 request from Mr. Allinson and shown in the submitted photographs, provided that no wood be removed from the easement area as part of this maintenance work. MOTION PASSED UNANIMOUSLY.

b. **Draft Memo to Town Council on Infrastructure Needs**

The consensus of the Commission was to support the Chairman signing and forwarding this memo to the Town Council.

**Holt MOVED, Ryan seconded to add to New Business, discussion on the Revised OPM Mapping. MOTION PASSED UNANIMOUSLY.

c. **Revised OPM Mapping**

Painter reviewed the changes in detail and after discussion, it was the consensus of the Commission that no further comments to OPM are deemed necessary.

Reports from Officers and Committees:

Chandy gave an update regarding Town Gown emphasizing the changes to "Spring Weekend".

Communications and Bills:

None noted.

Executive Session:

Holt MOVED, Hall seconded, to enter into Executive Session at 8:12 p.m. MOTION PASSED UNANIMOUSLY.

Present were Goodwin, Chandy, Hall, Holt, Lewis, Plante, Pociask, Rawn, Ryan, Marcellino, Ward, Westa and Linda Painter, Director of Planning and Development.

Pociask MOVED, Holt seconded, to end the Executive Session at 8:17 p.m. MOTION PASSED UNANIMOUSLY.

Adjournment: The Chairman declared the meeting adjourned at 8:18 p.m.

Respectfully submitted,

Katherine Holt, Secretary

DRAFT MINUTES
MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting
Monday, March 4, 2013
Council Chamber, Audrey P. Beck Municipal Building

Members present: J. Goodwin (Chairman), B. Chandy, K. Holt, G. Lewis, P. Plante B. Pociask K. Rawn,
B. Ryan
Members absent: R. Hall,
Alternates present: A. Marcellino, S. Westa
Alternates absent: V. Ward
Staff Present: Linda Painter, Director of Planning and Development

Chairman Goodwin called the meeting to order at 7:10 p.m.

Minutes:

2-19-13 Meeting Minutes- Plante MOVED, Pociask seconded, to approve the 2/19/13 meeting minutes as written. MOTION PASSED UNANIMOUSLY.

2-19-13 Special Meeting Minutes- Plante MOVED, Pociask seconded, to approve the 2/19/13 Special Meeting minutes as written. MOTION PASSED UNANIMOUSLY.

Zoning Agent's Report:

Request for Signage at E.O. Smith

By consensus the PZC agreed with Hirsch's assessment about the visibility of the signs, and authorized him to relay to the Superintendent that the display of banners as proposed in the 2/14/13 letter from the Boosters does not require any zoning approval or permit.

Old Business:

a. Subdivision Application, Beacon Hill Estates, Section II, Mansfield City Road, west of Beacon Hill Road; Eagleville Development Group, LLC, applicant: PZC File #1214-3

Plante, Pociask and Holt disqualified themselves. Marcellino was seated.

Chandy MOVED, Ryan seconded, to approve with conditions the subdivision application (File #1214-3) of Eagleville Development Group for Beacon Hill Estates Section 2, on property owned by the applicant located off Mansfield City Road in an RAR-90 zone, as submitted to the Commission and shown on plans dated July 15, 2012 and revised through January 18, 2013 and as presented at public hearings on January 7, 2013, February 4, 2013 and February 19, 2013.

Pursuant to Sections 7.4, 7.5 and 7.6 of the Subdivision Regulations, this approval accepts the applicants proposed lot layout and hereby authorizes the necessary reductions in lot area (Lots 24 through 29, 31 through 34 and 38 through 40), frontage (Lots 24-28 and 30-40) and setbacks as depicted through the proposed Building Area Envelopes (Lots 29, 31, 32, 33, 34, 38, 39, and 40). These reductions facilitate the preservation of an intricate stone wall complex located between the main wetland and Mansfield City Road and result in a greater proportion of the property being preserved as open space than could be accomplished using a conventional design.

Pursuant to Section 7.10 of the Subdivision Regulations, this approval accepts the use of a common driveway to serve lots 35, 36 and 37. The use of a common driveway in this location significantly reduces the impacts to the wetland that bisects the property that would be incurred if a cul-de-sac street were to be required in this location.

This approval is granted because the application as hereby approved is considered to be in compliance with the Mansfield Zoning and Subdivision Regulations and is granted with the following conditions:

1. This subdivision approval is conditioned upon the completion of all required subdivision improvements as described in the application submissions and the approval or the acceptance of a financial guarantee for such improvements by the Town as described below. This Conditional Approval shall be noted on the subdivision plan and specifically noticed on the Land Records. Unless otherwise extended, the Conditional Approval shall expire on March 3, 2018. Upon completion of the required improvements or acceptance of a financial guarantee, a final approval shall be issued and recorded on the Land Records.
2. The approved reductions in lot area, frontage, and setbacks shall be specifically noted on the plans. Unless the Commission specifically authorizes revisions, the depicted building envelopes shall serve as the setback lines for all future structures and site improvements, pursuant to Article VIII of the Zoning Regulations. This condition shall be specifically noticed on the Land Records.
3. No lots within the Beacon Hill Estates Section 2 subdivision shall be sold until all subdivision improvements that are the responsibility of the subdivider (road, emergency access, drainage, trail improvements, street trees, removal of invasive species, common driveway etc.) are completed and accepted by the Town of Mansfield or a financial guarantee in an amount approved by the Assistant Town Engineer and Director of Planning and Development has been accepted. The amount of the financial guarantee must cover the estimated cost of remaining construction plus 15% contingency. The financial guarantee must comply with the requirements of Article VI, Section C of the Zoning Regulations and shall include an appropriate signed agreement approved by the PZC Chair with staff assistance. Use of a surety bond to fulfill this condition will require special approval from the Commission.

To address this condition, the applicant shall submit a construction cost estimate at the time a financial guarantee is proposed that includes all improvements that are the responsibility of the subdivider. No Certificates of Compliance for new homes shall be issued until all required improvements that are the responsibility of the subdivider are completed and accepted by the town. Prior to release of the financial guarantee, the subdivider shall provide a maintenance security equal to 10% of the total cost of construction to guarantee for a period of one year all the improvements required as part of this approval.

4. Prior to the commencement of any site work, a financial guarantee for erosion and sedimentation controls in the amount of \$10,000 shall be submitted by the applicant and approved by the PZC Chair with staff assistance. The form of the financial guarantee shall be subject to the same terms as described in the condition above. The subdivision plans shall be revised to incorporate this condition.
5. No Certificates of Compliance for Lots 35, 36 and/or 37 shall be issued until the common driveway has been completed and a common driveway easement that addresses maintenance and liability issues has been approved by the PZC Chair with assistance from staff and the Town Attorney and recorded on the Land Records. The common driveway work shall be completed by the developer in conjunction with road and drainage work.
6. The proposed drainage outlet improvements shall be constructed and stabilized in conjunction with initial site work. Drainage facilities shall be completed and cleared of any accumulated sediment, and adjacent areas shall be fully-stabilized before acceptance by the town. Additionally, in association with the required one-year maintenance bond for subdivision improvements, the applicant shall be

responsible for maintaining drainage facilities and removing any accumulated sediment prior to the release of the maintenance bond.

7. To help ensure that proposed erosion and sediment control measures are appropriately installed and maintained, bi-weekly erosion and sedimentation-monitoring reports shall be submitted to the Zoning Agent and Wetlands Agent until all road drainage, driveway and other subdivider-required work is completed and disturbed areas are stabilized.
8. Pursuant to the open space provisions of Section 13, this approval accepts the applicant's open space dedication proposals, including the dedication of specific areas to the Town, use of conservation easements, removal of invasive species in the wetland areas and construction of all depicted trail improvements, including proposed split-rail fences along some trail segments. Final plans shall include fence details and a note that small Trail Entry signs approved by the Mansfield Natural Resources and Sustainability Coordinator shall be installed at the intersections of the trails with the common driveway, Wyllys Farm Road, Mansfield City Road and the connection to the existing trail in Section 1. Any necessary drainage improvements shall be incorporated. All open space and trail improvements shall be completed in accordance with the requirements of condition 3.
9. Conservation easement documents based on the Town's model format shall be approved by the Director of Planning and Development and Town Attorney and filed on the Land Records in association with final plans. Easements shall be incorporated into notes on the final plan, noticed in the Land Records and incorporated in the deeds for the subject lots.
10. Final plans shall be revised to address the following:
 - a. Correct labeling of BAE boundaries (replace BE with BAE)
 - b. Correct sheet mis-references (ie see sheet 3 for special notes on sheet 3, etc)
 - c. Amend Note 13 to include language pertaining to relocation of stone walls required for construction of road and maintenance access
 - d. Amend Sheet 4 to identify where stones removed for the maintenance access will be reused
 - e. Extension of the wood chip trail north along the entire frontage of the property on Mansfield City Road to the northeast corner of the property
 - f. Revisions pursuant to the Inland Wetlands Agency's March 4, 2013 license approval
 - g. Detailed planting/seeding specifications for the retention basin
 - h. Incorporation of map notes and revisions cited in conditions 1, 2, 4, 8 and 9
11. Final plans shall be signed and sealed by the responsible surveyor, engineer, soils scientist and landscape architect.
12. The final plans shall not be signed and filed on the Land Records until all Connecticut Department of Energy and Environmental Protection permit requirements have been addressed.
13. The Planning and Zoning Commission, for good cause, shall have the right to declare this approval null and void if the following deadlines are not met (unless a ninety or one hundred and eighty-day filing extension has been granted):
 - a. All final maps, including submittal in digital format, right-of-way deeds for roadway and trails, conservation easements, common driveway easement, open space deeds, and a Notice on the Land Records to address conditions #1 and 2 (with any associated mortgage releases) shall be submitted to the Planning Office no later than fifteen days after the appeal period provided for in Section 8-8 of the State Statutes or, in the case of an appeal, no later than fifteen days of any judgment in favor of the applicant;

- b. All monumentation (including delineation of open space and conservation areas with iron pins and the town's official markers every 50 to 100 feet on perimeter trees or cedar posts), with Surveyor's Certificate, and all required road, emergency access, drainage, invasive species removal, trail improvements, tree-planting, drainage basin-planting and common driveway work, shall be completed or bonded pursuant to the Commission's approval action and Section 14 of the Subdivision Regulations no later than fifteen days after the appeal period provided for in Section 8-8 of the State Statutes or, in the case of an appeal, no later than fifteen days of any judgment in favor of the applicant.

MOTION PASSED with all in favor except Pociask, Plante and Holt who were disqualified.

Public Hearings:

New Subdivision Application, 85 & 87 Old Turnpike Road; Homework Properties, LLC; Owner & Applicant: PZC File #1315

Chairman Goodwin opened the Public Hearing at 7:25 p.m. Members present were Goodwin, Chandy, Holt, Lewis, Plante, Pociask, Rawn, Ryan and alternates Marcellino and Westa. Westa was appointed to act. Linda Painter, Director of Planning and Development, read the legal notice as it appeared in The Chronicle on 2-19-13 and 2-27-13 and noted the following communications received and distributed to members: a memo from Linda Painter, Director of Planning and Development, dated January 3, 2013 and another memo from Linda Painter, dated February 28, 2013; a memo from Grant Meitzler, Assistant Town Engineer, dated February 27, 2013; an email from Elizabeth Wassmundt, 54 Old Turnpike Road, dated January 6, 2013; a letter from Rudy Favretti, 1066 Middle Turnpike, dated January 7, 2013; a letter from Denise Abercrombie and Jonathan Anderson, 185 Old Turnpike Road, dated February 18, 2013; a memo from Francis Raiola, Fire Marshal, dated February 21, 2013; a letter from Ronald Kelly, 29 Bundy Lane, undated; an email from Christopher Ward, dated March 4, 2013; an email from Anthony Kotula, undated; and a memo from Jeff Polhemus, Eastern Highlands Health District, dated February 27, 2013.

Ed Pelletier, of Datum Engineering & Surveying, distributed revised plans dated 3/4/13 and reviewed the revisions which addressed comments in staff memos. He noted that the plan does not require the modification or removal of any trees or stone walls along the road, which the Town has designated as a scenic road.

Elizabeth Wassmundt, 54 Old Turnpike Road, is opposed to the application. She states that the application is not in compliance with the Town of Mansfield Zoning Regulations, Subdivision Regulations, Four Corners Historic Village or the Scenic Road Ordinance. She asked that the developer consider withdrawing his application.

Ronald Kelly, 29 Bundy Lane, read his 1-16-13 letter of opposition into the record.

Chairman Goodwin noted that there were no additional comments from the public or the Commission. At 7:57 p.m. Holt MOVED, Rawn seconded, to close the Public Hearing. MOTION PASSED UNANIMOUSLY.

Subdivision Application, 29 North Windham Road; J. Sauve, applicant: PZC File #1311

Holt MOVED, Ryan seconded, to continue the Public Hearing until the 3-18-2013 meeting. MOTION PASSED UNANIMOUSLY.

Old Business:

- b. **Subdivision Application, 29 North Windham Road; J. Sauve, applicant: PZC File #1311**

Item tabled pending continued Public Hearing.

- c. **New Subdivision Application, 85 & 87 Old Turnpike Road; Homework Properties, LLC; Owner & Applicant: PZC File #1315**

Members discussed the application and the difference between a Historic Village and Historic District, the cul-de-sac yield plan and the applicant's request for a waiver on frontage requirements, the preservation of the historic house and its present condition, the significance of the scenic road and the potential impact of this proposal on the appearance of the road, the locations of the potential new houses on the proposed

lots, and the demolition of the garage/apartment. Members who did not attend the field trip stated that they would like to drive by to view the site. It was agreed by consensus to continue the discussion at the March 18, 2013 meeting.

New Business:

- a. **Approval Request: Revised Plans for Paideia Greek Theater Project Exhibit Building, 28 Dog Lane (File #1049-7)**
The Director of Planning and Development recommended tabling this item pending the receipt of revised plans.
- b. **Scenic Road Application, Browns Road west of Storrs Road/Route 195; Jonathan Sgro, Applicant, PZC File #1010-9**
Westa and Holt were disqualified. Marcellino was appointed to act. Ryan MOVED, Rawn seconded, to receive the application for designation of a scenic road (File #1010-9) submitted by Jonathan Sgro, for the eastern most one-half mile of Browns Road, as described in an application dated 2-25-13, and to refer said application to the Mansfield Town Council, Mansfield Traffic Authority and to property owners with street frontage along the proposed portions of the subject road for scenic road designation, for review and comment, and to set a Public Hearing for April 15, 2013 at 7:15 p.m. MOTION PASSED with all in favor except Westa and Holt who were disqualified.
- c. **2-Lot Subdivision Application, Storrs Center Phase 1C, East of Storrs Road and West of Village Street, PZC File #1246-11**
Pociask MOVED, Ryan seconded, to receive the subdivision application (File #1246-11) submitted Storrs Center Alliance, LLC, for a 2-Lot Subdivision, on property located south of Dog Lane, east of Storrs Road and west of Village Street, as shown on plans dated 10-08-12, and as described in other application submissions, and to refer said application to the staff for review and comments. MOTION PASSED UNANIMOUSLY.
- d. **Proposed FY2013-2014 Budget**
Holt MOVED, Ryan seconded, to authorize the Chair to submit a letter of support to the Town Council for the proposed FY2013-2014 PZC/IWA Operating Budget (Account 52100). MOTION PASSED UNANIMOUSLY.

Mansfield Tomorrow | Our Plan ▶ Our Future:

Painter reminded members of the Open House on Saturday, March 9th from 9am to noon at E.O. Smith High School. Marcellino volunteered to attend as an observer.

Reports from Officers and Committees:

The Subcommittee on Infrastructure has been meeting weekly.

Communications and Bills:

None noted.

Adjournment: The Chairman set a field trip for the Storrs Center site on 3/13/13 at 3pm and declared the meeting adjourned at 8:20 p.m.

Respectfully submitted,

Katherine Holt, Secretary

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DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Regular Meeting
Monday, March 4, 2013
Council Chambers, Audrey P. Beck Municipal Building

Members present: J. Goodwin (Chairman), B. Chandy, K. Holt, G. Lewis, P. Plante B. Pociask K. Rawn,
B. Ryan
Members absent: R. Hall,
Alternates present: A. Marcellino, S. Westa
Alternates absent: V. Ward
Staff present: Grant Meitzler, Wetlands Agent

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

Minutes:

02-04-13 - Regular Meeting- Chandy MOVED, Plante seconded, to approve the 2-04-13 minutes as written. MOTION PASSED UNANIMOUSLY with Ryan noting that she listened to the recording of the meeting.

02-13-13- Field Trip- Ryan MOVED, Holt seconded, to approve the 2-13-13 Field Trip minutes as written. MOTION PASSED with Goodwin, Ryan and Holt in favor and all others disqualified.

Communications:

The 2-20-13 Draft Minutes of the Conservation Commission and the 2-25-13 Wetlands Agent's Monthly Business report were noted.

Old Business:

W1505 - Beacon Hill Estates, Section II, Mansfield City Road, 17 Lot Subdivision

Holt, Plante and Pociask disqualified themselves, and Marcellino was appointed to act.

Chandy MOVED, Ryan seconded, to approve the application for wetlands file W1505, submitted by the Eagleville Development Group LLC for a 17 lot subdivision known as Beacon Hill Section 2, with a proposed road and other associated improvements, on property owned by the applicant and located on the south side of Mansfield City Road and west of a subdivision known as Beacon Hill Section 1, as depicted on a plan dated July 15, 2012, and as presented at meetings of the Inland Wetland Agency on November 5, 2012, December 3, 2012, January 7, 2013 and February 4, 2013.

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

1. All erosion and sediment controls as described in the application shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized.

This approval is valid for a period of five years (until March 4, 2018), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment. MOTION PASSED with all in favor except Holt, Plante and Pociask who disqualified themselves.

W1511 – Homework Properties, LLC- 85 & 87 Old Turnpike Road, 2 Lot Subdivision

Holt MOVED, Rawn seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Homeworks Properties (file #W 1511) for a 2-lot subdivision, on property owned by the applicant and located at 85-87 Old Turnpike Road, as shown on plans dated 12/12/12, 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. Erosion and sedimentation controls (as shown on the plans) shall be in place prior to construction and maintained during construction and removed when disturbed areas are completely stabilized;
2. The Wetlands Agent recommends minor grading along the edge of Old Turnpike Road to maintain the current flow past the two driveways and downhill on the road to the east, rather than directing the flow into either of the two new lots. The applicant shall seek the advice of the Wetlands Agent on this matter.

This approval is valid for five years (until March 4, 2018), 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.

W1513 – Bruder – 3 Boulder Lane – above ground pool with deck

Holt MOVED, Ryan seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Xiomara Bruder (file #W 1513) for an above-ground pool with deck, on property owned by the applicant and located at 3 Boulder Lane, as shown on plans dated 1/31/13, 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. Erosion and sedimentation controls shall be in place prior to construction and maintained during construction and removed when disturbed areas are completely stabilized;
2. Neither the pool nor the edge of the deck shall be built any closer than 50 feet from the wetland, and the wetland boundary shall be marked and/or approved by the Wetlands Agent before any work begins.
3. All excavated material may either be removed from the property, or it may be spread around the property not closer than 50 feet from the wetland boundary.

This approval is valid for five years (until March 4, 2018), 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.

Pending:

W1502 - Wetlands Violation Ordinance

Item was tabled– no new information.

New Business:

None.

Adjournment:

The Chairman declared the meeting adjourned at 7:09 p.m.

Respectfully submitted,

Katherine Holt, Secretary

Memorandum:

February 25, 2013

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

- 3.01.12: Inspection - owner indicates payloader is repaired. Owner indicates the one car within 25' will be moved. Tire removal is nearing completion.
- 3.28.12: On the way to see the car moved I found the payloader blocking the entrance drive to the rear area, with the mechanic under the hood. He indicated the new engine had stopped running on the way to move the remaining car. Inspection today showed the payloader in the same location.
- 5.01.12: Payloader remains in the same location with a bad motor.
- 5.17.12: Payloader and the one vehicle have been moved. There are no vehicles within 25' of wetlands.
- 6.22.12: Inspection - no vehicles are within 25' of wetlands.
- 7.10.12: Inspection - no vehicles are within 25' of wetlands.
- 8.16.12: Inspection - no vehicles are within 25' of wetlands.
- 9.19.12: Inspection - no vehicles are within 25' of wetlands.
- 10.05.12: Inspection - no vehicles are within 25' of wetlands.
- 11.01.12: Inspection - no vehicles are within 25' of wetlands.
- 11.20.12: Inspection - no vehicles are within 25' of wetlands.
- 12.13.12: Inspection - no vehicles are within 25' of wetlands.
- 1.14.13: Inspection - no vehicles are within 25' of wetlands.
- 2.25.13: Inspection - car storage areas are snowed in, not accessible.

THE HABITAT

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



Winter 2012

volume 24 number 4

A Natural Resource Inventory - Ridgefield's Experience

by Dr. Benjamin Oko, Ridgefield Conservation Commission

Why do a natural resource inventory (NRI)?

Although not a required activity for a conservation commission, under the State's statutory authorization establishing commissions, the inventory is specifically listed under the permitted activities. If one looks at CACIWC's Handbook for Conservation Commissions (caciwc.org, publications) it is suggested that it is a natural outgrowth of open space planning.

The Ridgefield Conservation Commission embarked on its inventory in 2010, the same year that the town's Plan of Conservation and Development, (POCD), was being completed. Ridgefield's motivation grew out of a wish to establish a baseline document to augment the POCD. This was

encouraged by the Land Use Leadership Alliance (LULA) program which emphasizes the need for a natural resource inventory if a town is going to introduce environmental regulations aimed at protecting land and water and encouraging biodiversity.

Step one; establish a steering group: The usual steering group is the town's conservation commission. In other instances, when the initiative for the inventory has come from the office of the town select board or the planning board or town planner, they may form the steering group. It is of value to try and include other stakeholders as part of the planning process which is,

of course, easier when the impetus for the study comes from outside the commission.

Ridgefield's Conservation Commission was the steering group. We had the full support and cooperation of the town's planning staff throughout the process.

Step two; read the online NRIs: There are a dozen or so NRI's online. Search "natural resource inventories Connecticut".

The overall quality of the inventories is excellent. In Ridgefield's reading of them they looked at, first, how they were produced and, second, what their emphasis was.

"The Ridgefield Natural Resource Inventory was published in April of 2012, eighteen months after the planning began."

Step three; choose an emphasis:

NRIs often are documents about open space planning with the goal of establishing areas of a community that are of high ecological value and thus should receive special protection. In other NRI's, town character, historic preservation or special resources are emphasized. Ridgefield is a relatively densely-developed community; less than 20% remains under-developed. "Under-developed" is defined for this NRI as a land parcel of 6 acres or more that contains no more than one house. (A map illustrating this point was developed for the NRI). At the same time, Ridgefield has almost 25 % of its land permanently protected as open space. Because of the relative absence of opportunity to add significantly

to the present open land holdings, the commission chose to emphasize studying the present resources with the aim of finding ways to sustain and improve the ecosystem through public and private participation.

Step four; who is going to produce the inventory: To decide how to produce an

Ridgefield, continued on page 12

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www.caciwc.org

CACIWC News Briefings

This past year marked a special anniversary for CACIWC as we celebrated our 35th Annual Meeting and Environmental Conference. Preparing for the meeting was especially challenging for the CACIWC Board of Directors and its Annual Meeting Committee. After many years of service as the host to our annual meetings, MountainRidge in Wallingford was sold and closed to the public, requiring us to search for a new venue. After searching and reviewing many sites throughout central Connecticut, we were excited to return to our original location, now known as Four Points by Sheraton in Meriden.

1. The Board of Directors has begun a review of the many comments and suggestions submitted on the survey distributed at our 2012 annual meeting. We welcome early suggestions for workshop topics and speakers that you would like us to recruit for our 36th Annual Meeting and Environmental Conference, to be scheduled for a Saturday in November 2013. 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 www.caciwc.org website.

2. The Board continues to appreciate the large number of commissions who have renewed their CACIWC membership. For those who have not yet done so, it is not too late to send in your 2012-13 membership dues. A copy of the renewal form and additional information can still be found 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. Please consider making an additional contribution to support CACIWC education and outreach efforts!

3. The officers and members the Board of Directors have begun the second year of their two-year term following the elections of our 34th Annual Meeting on November 12, 2011. Although we were able to fill several vacancies during 2012, the Windham County director and a number of other CACIWC board vacancies remain (please see the list in this issue of *The Habitat*).
CACIWC news, continued on page 15

CACIWC Membership Dues Are Due

Go to caciwc.org to download the form.
Click on About CACIWC.

CACIWC's 35th Annual Meeting & Environmental Conference

Connecticut Commissioners and Staff Celebrate Our Special Anniversary Conference

The CACIWC Board of Directors and its Annual Meeting Committee extends their appreciation to all members who were able to attend our 35th anniversary conference. We were especially appreciative to members who may have endured many days without power and suffered other hardships as a result of Hurricane Sandy. Unfortunately, subtropical Storm Sandy was followed a week later by a strong nor'easter that left up to a foot of snow in some areas of Connecticut. The experience must have seemed all too familiar to some of you who were also left powerless in 2011 by Hurricane/Tropical Storm Irene and the pre-Halloween nor'easter.

Keynote Speaker

CACIWC was pleased to host Dr. Michael Klemens, as the keynote speaker of our 35th Annual Meeting & Environmental Conference. Educated in the United States and Europe, Dr. Michael W. Klemens is a conservation biologist and land-use planner who seeks to achieve a balance between ecosystem requirements and human needs. He has conducted field work in East Africa and throughout the United States, and has written several books including the definitive study of Connecticut's amphibians and reptiles.

Dr. Klemens has authored over 100 scientific papers. He is the co-author (with Aram Calhoun) of the Best Development Practices manual for vernal pool resources which is incorporated by reference into Connecticut's 2004 Stormwater Manual, as well as the guidance document promulgated by the Army Corps of Engineers for the New England Region in 2011. He is on the scientific staff of the American Museum of Natural History, serves as a consultant

to various Federal agencies, and is adjunct faculty at several universities.

Dr. Klemens' well-received keynote address, entitled *Ecological Stewardship and Economic Development: Do We Have to Choose?*, examined the perceived limited choices between environmental health and economic prosperity. This keynote address explored the roots of this perceived dichotomy which is at the basis of so much of the conflict and confrontation that surrounds land use decision-making. Dr. Klemens reviewed options that are available to local leaders and communities to better resolve conflicts, understand the strengths and limitations of science and their

practitioners, and plan for more ecologically and economically resilient communities, drawing on his own thirty plus years of experience in the field.

Locally, Michael has served over six years on the Salisbury Planning and Zoning Commission (P&Z), most recently and currently as its Chairman. Under his leadership the P&Z has assumed authority over critical natural resources such as vernal pools,

complementing the authority of the local inland wetlands commission to afford protection of both the pools and the critical upland habitat. He states that "recognizing the distinct regulatory authorities of these agencies, and creating regulations that dovetail with one another, is the best legal fix that can fill the void created by the regressive Avalon Bay decision." He was recently re-elected on a platform that "brings an independent perspective to planning issues, mindful of the need to balance the stewardship of community interests with rights of land-owners to use their properties productively. Increased public participation

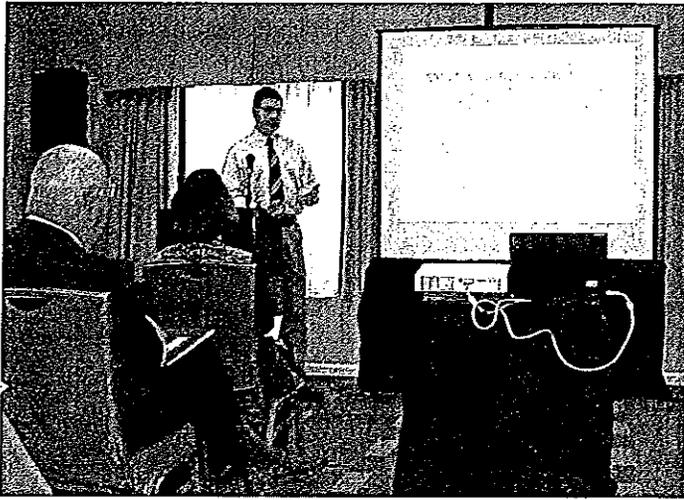
annual meeting, continued on page 4



*Dr. Michael Klemens, Key Note Speaker.
Photo courtesy of Heidi Wallace*

annual meeting, continued from page 3

in municipal government is essential, and that all points of view have merit and require the serious attention of local government.”



Daniel Morley, Policy Development Coordinator CT Office of Policy and Management, presents workshop on “The State Plan of Conservation and Development, Next Steps.”

Photo Courtesy of Rod Parlee

Conference attendees were also treated to a brief lunchtime discussion on Connecticut environmental and land use legislation provided by **Martin Mador, Legislative Chair of The Connecticut Chapter of the Sierra Club**. During his discussion, Marty provided his insight on critical issues to watch during the coming legislative session, especially in light of the budget shortfalls facing the state and region.

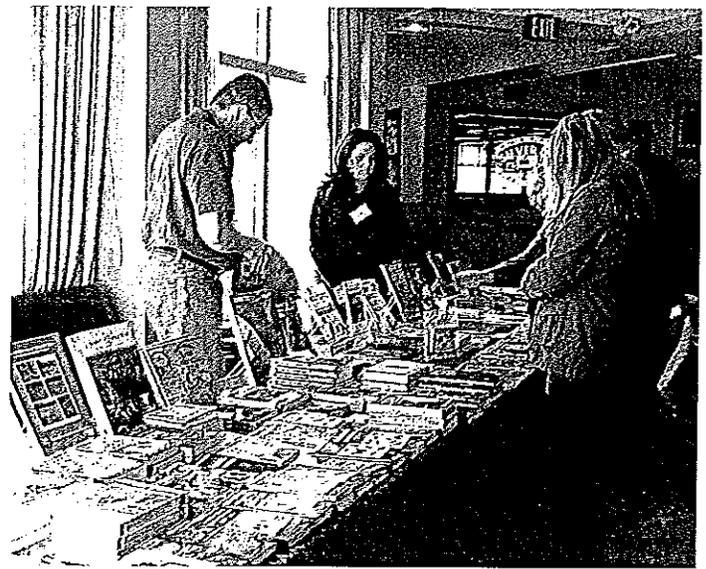


Display Table: CT Environmental Review Team

Photo Courtesy of Heidi Wallace

Workshops & Displays

Four newly organized workshop tracks were introduced at the 2012 annual conference: Open



Display Table: CT Department of Energy and Environmental Protection's Book Store.

Photo Courtesy of Rod Parlee

Space & Conservation Biology, Land Use Law & Legal Updates, Wetlands Science & Engineering, and Commission Administration & Planning. These four tracks included a total of twelve workshops lead by experts in various interest fields for Connecticut conservation and wetlands commissioners and their staff. The workshops covered a variety of topics relevant to Connecticut commissioners.

Twenty commercial entities and non-profit groups also provided a variety of displays to further inform visitors of current issues relevant to their work and volunteer efforts.

Awards

Two annual CACIWC awards were given at the Saturday November 17, 2012 ceremony.

Elaine Sych, coordinator for the Connecticut Environmental Review Teams, received a 2012 “Special Recognition Award.” In her position, Ms. Sych is responsible for bringing together Environmental Review Team members from a wide range of environmental, planning and land management professions. As the ERT Coordinator, Elaine oversees all aspects of the environmental review process, including serving as a liaison with municipal boards and governments, conducting field investigations, and developing concise reports. With over twenty years of experience, Elaine has been successful in advancing informed land management decisions and sound environmental practices. She

annual meeting, continued on page 5

annual meeting, continued from page 4

has completed over 400 ERT reports, while the program is close to approaching 1,000 ERT Reports since its inception in 1969 and has served 161 of our 169 Connecticut municipalities.

Elaine began her career as the Eastern Connecticut ERT Coordinator in 1985. She assumed responsibility for the entire state in 1991. Elaine is a graduate of the Southern Connecticut State University with a BS degree in Geography and attended graduate school, also in geography, at the University of North Carolina



Elaine Sych, CT Environmental Review Team Coordinator, receiving Special Recognition Award from Alan Siniscalchi, CACIWC President
Photo Courtesy of Rod Parlee

at Chapel Hill. She has a broad background in land use and environmental planning and has a strong interest in promoting outdoor education. She is also a certified Master Gardener and a recent participant in the Land Use Leadership Alliance (LULA) Training Program. CACIWC is pleased recognize her continued professional assistance to municipal land use commissions by selecting her as the recipient of this Special Recognition Award.

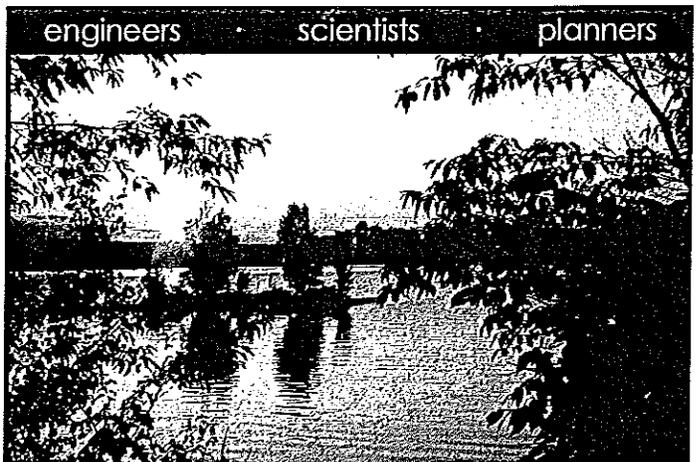
David Leff, former Deputy Commissioner of the Department of Environmental Protection also received a 2012 "Special Recognition Award." A long-time supporter of CACIWC's mission and goals, David had a 28-year career with the state of Connecticut as an agriculture and environmental policy advisor to the state legislature and as deputy commissioner of the Connecticut Department of Environmental Protection where he was primarily responsible for our state parks, forests, fisheries and wildlife. An unfortunate degeneration of his cervical spine forced him into early retirement.

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David Leff, Author, receiving Special Recognition Award from Alan Siniscalchi, CACIWC President.
Photo Courtesy of Rod Parlee

Not willing to allow his condition to interfere with his love for the New England environment, David actively pursued a new career in writing, where he continues to promote conservation issues by focusing on the connection of people to their communities and the natural environment. His first book, *The Last Undiscovered Place*, is a memoir about one's efforts to rediscover our own neighborhoods. His second nonfiction book, *Deep Travel: In Thoreau's Wake on the Concord and Merrimack*, takes us on a canoe trip following the route of the great naturalist. In this work, David helps us examine the wide range of phenomena that contributes to our environments. David received a bachelor's degree from the University of Massachusetts at Amherst in 1975 and graduated from the University of Connecticut School of Law in 1978, passing the bar exam that same year.

CACIWC is pleased to recognize his continued efforts to preserve and promote awareness of Connecticut's many important habitats by selecting him as the recipient of this Special Recognition Award.

We again thank the conference attendees and all those responsible for organizing our 35th Annual Meeting and Environmental Conference. The CACIWC Board of Directors has begun a detailed review of the evaluations forms submitted by participants of this conference. In addition to informing us of their opinions of the educational sessions, the participants also provided valuable suggestions for workshop topics for next year's conference. To allow all of our members the opportunity to submit ideas for workshop topics and other suggestions, the CACIWC Annual Meeting Committee has decided to again maintain the AnnualMtg@caciwc.org email throughout the year. Please keep those suggestions coming! We extend our sincere appreciation to our 2012 conference sponsors and look forward to seeing all of you at our 2013 Annual Meeting and Environmental Conference!



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Journey to The Legal Horizon

by Attorney Janet Brooks

Appellate Court Decision on Affordable Housing Proposal within Public Water Supply Watershed:

Eureka V, LLC v. Planning and Zoning Commission, 139 Conn. App. 256 (2013)

Note: This column addresses concerns within the purview of conservation commissions: the protection of drinking water quality by limiting the density of residential development. Inland wetlands commissions are cautioned not to extrapolate sentences or holdings from this case, because the decision very much reflects the statutory language of the affordable housing appeals act -- which is not applicable to wetlands and watercourses agencies.

In November the Connecticut Appellate Court issued its ruling affirming that a substantial risk to drinking water supplies can outweigh the need for affordable housing. However, the Ridgefield planning and zoning commission went too far in its prohibition of any residential development in the public water supply watershed, when the evidence supplied by the potentially affected water company and state agencies recommended a restriction of 1 residential unit per 2 acres. The zoning commission's prohibition of sewers or septic systems in the watershed was improper because it was based only on generalized fears and speculation.

In *Eureka V, LLC v. Planning and Zoning Commission*, 139 Conn. App. 256 (2013)¹, the applicant, Eureka V, LLC ("Eureka") sought amendments to the zoning regulations and the zoning map in preparation to build, based on a conceptual plan, 509 residential units (1, 2, and 3-bedroom townhouse units), with 30% of the units to be affordable housing. Sixty-seven acres of the 153 acre parcel are located within the watershed for the Saugatuck Reservoir. Eureka sought to rezone the property from a corporate development district to a housing opportunity development zone. After days

of public hearing, the planning and zoning commission ("commission") adopted an "overlay zone" that limited development to a density of 1.9 units per acre of land within the zone, required all units to be supplied with municipal water and sewer system, and prohibited any line from crossing in watershed areas. That had the effect of limiting the non-watershed portion of the Eureka project to a density of 1.9 units/acre while prohibiting development in the watershed area -- since the residential units would be required to have sewers, but sewers would be prohibited in the overlay zone.

"Guidance documents do not constitute standards that have the force and effect of law, nor do they constitute expert opinion for a specific outcome. Experts may refer to guidance documents, but better be prepared to substantiate their opinions with other knowledge."

As is allowed by the affordable housing statutes, Eureka came back with a modification to its conceptual plan: 1) allow the units to be connected to either sewers or septic systems, 2) limit development in the watershed area to 1 unit/acre (resulting in 2.6 units/acre for overall project), and 3) a reduction from 509 units to 389 units. The commission approved 2 units/acre in the non-watershed area and denied the rest of the modification.

On appeal to the superior court (trial court), the court concluded that the commission's decision to limit density and to prohibit sewers in the non-watershed area was arbitrary and was not necessary to protect a substantial public interest. The court upheld the commission's prohibition of any residential units in the watershed as necessary to protect the public water supply.

Unlike in any other land use appeal, the burden of proof in an affordable housing appeal is on the commission.² Supreme Court precedent sets out that the reviewing court "must determine whether the record

legal horizon, continued on page 8

legal horizon, continued from page 7

establishes that there is more than a mere theoretical possibility, but not necessarily a likelihood, of a specific harm to the public interest if the application is granted.”³ If that is established, the court must independently, without deference to the agency decision, review the record and determine if the denial was “necessary.”

The Appellate Court stated that “any substantial risk to the public’s legitimate interest in maintaining safe and healthy drinking water certainly could outweigh the need for affordable housing.”⁴ The Appellate Court pointed to the statutes that authorize zoning commissions to consider protections for drinking water supplies. The commission received conflicting opinions from the experts for the applicant and the commission itself. The commission permissibly sided with the opinions issued by the water company and the state department of public health. The water company relied on a CT Department of Environmental Protection (now Department of Energy and Environmental Protection) guidance document that included the limit of 1 unit/2 acres to protect drinking water quality.

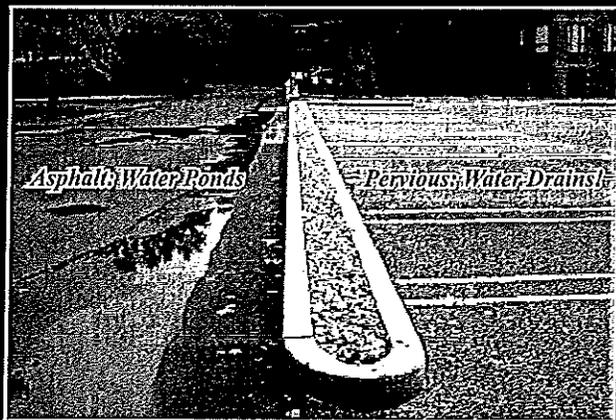
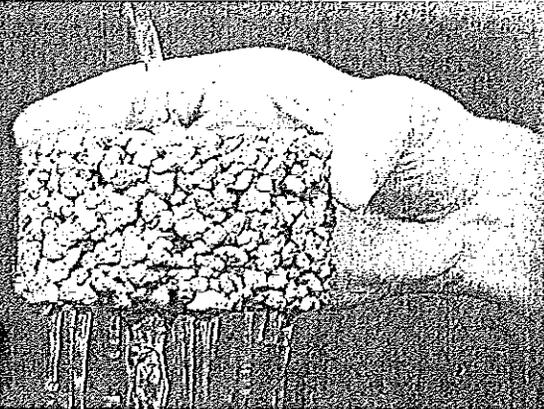
The Appellate Court quoted extensively from the letter of CT Department of Public Health (DPH) supervisor of the water protection unit, Lori Mathieu. Eureka’s proposed zoning changes, in her words, had “the potential to increase the risk to public health due to the high density residential land use.”⁵ Ms. Mathieu relied on the 2005 Plan of Conservation and Development which incorporated the decades-long policy of 1 residential unit/2 acres. She concluded: “Use of minimum sustainable lot sizes of two or more acres should adequately protect public drinking water supplies while allowing community growth.”⁶

Based on these experts the Appellate Court affirmed the trial court’s ruling that there was sufficient evidence in the record for the commission’s determination that the granting of the applications “would present more than a mere theoretical possibility of a specific harm to the public’s substantial interest in maintaining a safe and healthy drinking water supply.”⁷

However, the Appellate Court did not uphold the commission’s total prohibition of building in the watershed

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area. Since Lori Mathieu of DPH stated in her letter that 1 unit per 2 acres is protective of water quality, further restriction wasn't necessary. The statutory standard is higher than reasonable: is the restriction necessary?

As for the prohibition of sewers through the public water supply watershed -- the Appellate Court said no. The water company's opposition to sewers "is based on generalized fears and 'guidance documents' and is inconsistent with the [commission's] treatment of all other watershed property in Ridgefield."⁸ Pointing to a similar case, the Appellate Court concluded that there wasn't evidence of the potential harm that would occur or the probability that it would occur.

There are two noteworthy matters. One, the state plan of conservation and development is in the process of being revised and reissued by the General Assembly. The draft proposed by the Office of Policy and Management omits all of the protective language which DPH relied on in its letter sent to the commission. While the revision process is not complete, if the new version of the state Plan of Conservation and Development omits the 1 unit/2 acre language, will the DPH

continue to write letters opposing development that has greater density? While it is difficult to predict future court action, it seems that the letter from DPH was of more importance than a guidance document (the state plan of conservation and development).

Finally, reliance on a guidance document without on-the-ground facts or other support is not likely to provide the evidence necessary to bolster an agency action. This is the second case this year from the Appellate Court in which the court disavowed reliance on guidance documents. In the earlier case, a wetlands appeal referring to the 2002 Guidelines for Soil Erosion and Sediment Control, the court stated: "although they [the guidelines] may contain a set of beneficial recommendations, non-adherence does not in itself imply a likelihood of adverse impact on wetlands."⁹ Guidance documents do not constitute standards that have the force and effect of law, nor do they constitute expert opinion for a specific outcome. Experts may refer to guidance documents, but better be prepared to substantiate their opinions with other knowledge.

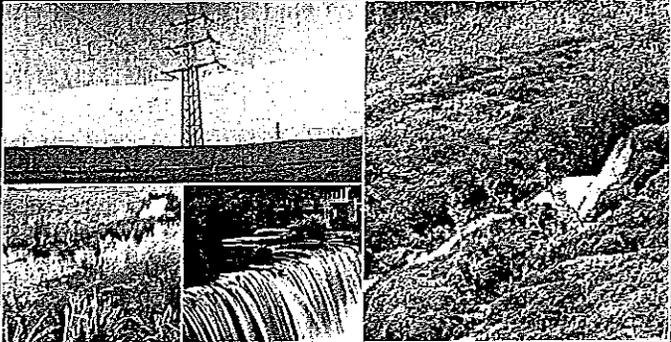
Janet P. Brooks practices law in East Berlin. You can read her blog at: www.ctwetlandslaw.com.

(Endnotes)

- 1 You can read the case on the Judicial Website at: <http://www.jud.ct.gov/external/supapp/Cases/AROap/AP139/139AP559.pdf>. Or go to: www.jud.ct.gov, click on Opinions, click on Appellate Court Archives, click on 2012, scroll down to "published in the Connecticut Law Journal of 11/27/12, click on the case.
- 2 The Appellate Court decision lays out the statutory framework in a particularly readable manner. *Eureka V, LLC v. Planning and Zoning Commission*, 139 Conn. App. 256, 264-65 (2013).
- 3 *Eureka V, LLC v. Planning and Zoning Commission*, 139 Conn. App. 256, 266 (2013), citing *River Bend Associates, Inc. v. Zoning Commission*, 271 Conn. 1, 26 (2004).
- 4 *Eureka V, LLC v. Planning and Zoning Commission*, 139 Conn. App. 256, 271 (2013).
- 5 *Eureka V, LLC v. Planning and Zoning Commission*, 139 Conn. App. 256, 274 (2013).
- 6 *Eureka V, LLC v. Planning and Zoning Commission*, 139 Conn. App. 256, 274 (2013).
- 7 *Eureka V, LLC v. Planning and Zoning Commission*, 139 Conn. App. 256, 274 (2013).
- 8 *Eureka V, LLC v. Planning and Zoning Commission*, 139 Conn. App. 256, 276 (2013).
- 9 *Estate of Casimir Machowski v. Inland Wetlands Commission*, 137 Conn. App. 830 (2012).



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CONSERVATION ALERT!!

Emerald Ash Borer A Threat to all Connecticut Ash Trees

The Connecticut Agricultural Experiment Station (CAES) and the Department of Energy and Environmental Protection (DEEP) have confirmed that the emerald ash borer (*Agrilus planipennis*) was detected in Prospect, CT on July 16, 2012 by staff members at CAES. The identification has been confirmed by federal regulatory officials in the USDA Animal and Plant Health Inspection Service, Plant Protection and Quarantine (USDA APHIS-PPQ). This is the first record of this pest in Connecticut, which is added to 15 other states where infestations have been detected. A new probable site of infestation is located in the Naugatuck State Forest. The emerald ash borer is responsible for the death and decline of tens of millions of ash trees from the mid-west to New York State and south to Tennessee. Ash makes up about 4% to 15% of Connecticut's forests and is a common urban tree.

"The detection of the emerald ash borer (EAB) in Prospect and probably in Naugatuck reaffirms that statewide surveys for this pest were necessary," said Louis A.

Magnarelli, director of CAES. "We expected to find the beetle in areas of Connecticut across from infestations in Dutchess County, New York; however, the EAB has great flight potential and can travel in infested wood moved by people. This pest attacks all species of ash trees. Our immediate goals are to determine how extensive the Connecticut infestation is, notify residents in the Prospect and Naugatuck area, and implement strategies to slow the spread of the insect."

The insect specimens were recovered in Prospect from a ground-nesting, native wasp (*Cerceris fumipennis*), which hunts beetles in the family *Buprestidae*, including the emerald ash borer. The developing wasp larvae feed on the beetles provided by the adult wasp. The wasp provides a highly efficient and effective "bio-surveillance" survey tool and does not sting people or pets. This work was supported by the US Forest Service. In addition, 541 purple prism detection traps, containing a special chemical lure, have been set across

ash borer, continued on page 15

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Ellington Conservation Commission Receives 2012 Farmland Preservation Pathfinder Award

Established in 2003 by Working Lands Alliance, the prestigious Pathfinder Awards recognize individuals and groups that have significantly advanced farmland preservation through leadership, advocacy, planning, and education. Award winners log countless hours and great successes in the name of preserving Connecticut's most valuable and vulnerable resource - our farmland.

This year, Working Lands Alliance recognized the Ellington Conservation Commission (ECC) for their volunteer efforts to keep Connecticut farmland in agriculture. The ECC has continuously championed the preservation of open space and working farmlands since its creation approximately a decade ago. In 2006 the Conservation Commission developed an Open Space Plan defining preservation goals and implementation measures to preserve these lands. According to census data from 2000 through 2003, Ellington was the second fastest growing community of the 29 towns in the

capitol region and farmlands were, and continue to be, under increasing pressure for development.

Recognizing that farmland defines Ellington's character and provides local produce, as well as other community benefits, the ECC, supported by Town Planner Robert A. Phillips AICP, initiated a farmland preservation movement which included a farmland ranking system for properties under consideration for preservation as well as a town-wide referendum in support of a 2 million dollar bond pre-authorization. To that end, in 2007 an overwhelming outpouring of support, approximately 80% of voter turnout, approved a two million dollar bond authorization to help permanently protect the town's remaining valuable farmlands. This provided the Conservation Commission with the funds needed to work toward preserving working farmland and assist in meeting local and regional preservation goals. It is also noteworthy that this program would not be as successful as it has been if not for the financial and logistical support of Joseph Dippel and his staff at the CT State Department of Agriculture (DoA) as well as those involved with the funding program at the Natural Resources Conservation Service (NRCS).

Since Ellington's bond authorization, ECC has executed Farmland Preservation Agreements with landowners and farmers preserving over 407 acres, with an additional 55 acres under consideration (approximately 2% of total land area in town). This amounts to four and possibly five preserved farmsteads since approximately 2008. Prior to that, only a few farms were preserved over many decades by the DoA alone. In addition, earlier this year, ECC worked with town officials to successfully sign a Cooperative Agreement with the state DoA making it possible for community farms (farms 30 acres or less) to be considered for a Community Farmland Preservation Program, further cementing the town's commitment to agriculture.

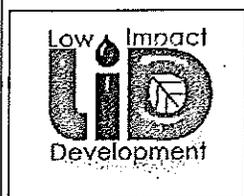
It is for the reasons above that the Ellington Conservation Commission was awarded the 2012 Outstanding Group Award for their tireless efforts in preserving farmland in Connecticut. CACIWC salutes ECC's team work and success. Congratulations on a well deserved award.



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Ridgefield, continued from page 1

inventory one can draw on the NRI review. Some have been produced by professionals, others by volunteers with professional training, some used volunteers to support the work of town professionals, and some were produced by knowledgeable nonprofessional volunteers. In addition to the question of who will produce the inventory, one need consider how much time it will take and, importantly, what it will cost.

In Ridgefield there was a core of persons on the commission with very good skills, a landscape and civil engineer, an environmental expert, and a writer/editor. Although all were more than happy to chip in, none had a lot of time available. Town personnel likewise could contribute only on a limited basis. Because of Ridgefield's desire to produce the NRI in a timely fashion, they decided to hire a professional to produce the study. This choice was made possible, in part, because of the fortuitous existence of a small fund that the town had earmarked for doing a project related to the environment. To raise additional funds, the Commission dedicated its annual open space fundraiser to the project. The search led to the hiring of Michael Klemens and his assistant, Eric Davison.

In the course of outlining the scope and cost of the work with Dr. Klemens, it became clear that including an on-the-ground biodiversity study would be unaffordable if included in his scope of the work. Since this was central to Ridgefield's goal, it was decided to use community volunteers to provide this data. When the decision to use volunteers was made, it was clear that this was not going to be an all-inclusive scientific survey. However, as will be seen later, useful data about Ridgefield's flora and fauna was able to be developed.

Step five; developing a volunteer program: The volunteer group was recruited by using a combination of personal contacts, notices in the paper and drawing from an existing group of open space rangers. This produced a turnout of about 25 people, most of whom stayed involved through the year long duration of the project. During the planning period regular meetings were held with the volunteers with email used as follow-up. The initial meeting was used to establish people's areas of interest and expertise and, critically

important, time availability. A questionnaire was used asking people to rate their skills in the world of flora and fauna. Focal activities involving all volunteers included vernal pool training, water quality sampling and a photography workshop. These increased overall satisfaction and involvement. All the surveys that were developed were open to all the volunteers but were formed around core groups based on interest and expertise; e.g. tree experts, birders, etc. The core group was often 2 or three people.

The field surveys were done in a variety of ways. They all conformed to the rule that "we will do the best we can with what we have".

Having examined the steps involved in setting up the Ridgefield NRI, let's turn to some of its components. The following elements are ones that are likely to be parts of all NRI's. Resources mentioned in these elements that are commonly available are in bold italics.

Maps: A suite of 14 maps was developed for the Ridgefield NRI by Eric Davison. These used a base map that was developed from the town's GIS maps. The Commission and others selected the street and place names used. (To give some notion of the time an NRI takes, this review of names took an estimated thirty hours of commissioners' and Davison's time.) Davison used data from the University of Connecticut's *Center for Land Use Education and Research*, (*CLEAR*, <http://clear.uconn.edu/>), as well as information he developed from *USGS topo maps* to develop the map suite.

Additional maps used in the NRI were developed by the *town's GIS* mapper using the town's GIS program. An intern from *Highstead*, a land preservation organization, developed the maps.

Ridgefield, continued on page 13



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Ridgefield, continued from page 12

zation based in Redding, CT, developed a map showing the change in forest cover by combining a 1934 aerial survey map that can be found in the *Map and Geographic Information Center*, (MAGIC.lib.UCONN.edu) with the latest *CLEAR* forest cover map. Maps and information about forest types, sizes and buffering were also developed using *CLEAR* data.

Water Quality: Various sources were used for water quality including data from the *Federal Clean Water Act*, (section 305b), the *CT Department of Energy and Environmental Protection's (DEEP) benthic macro invertebrate sampling, Norwalk River watershed studies*, and a *local lake association's* water quality study.

Wildlife: The findings of both current and historical wildlife studies were examined from two perspectives. The first was to compare the survey results with the state listed species found in Ridgefield in the *DEEP Natural Diversity Data Base*. The second compared the results to a data base developed by Dr. Klemens called the Focal Species Approach or FOSA. This looks at what the presence of a species indicates about the environment; for example, a breeding wood thrush is an indicator for an intact large core forest.

Illustrations: A photo list was supplied by the writers of the NRI to the commission for illustration of different segments of the text. The volunteers and members of the commission were asked to supply photographs from material they might have in hand. To add to these and to photos that were taken during the surveys, a special photo-shoot day led by a volunteer, a professional photographer, added to the mix. Historical photographs were available from the *Ridgefield Historical*

Society archives. When needed some *online photos* were used.

Field Surveys: The field surveys were done in a variety of ways. They all conformed to the rule that "we will do the best we can with what we have". The appendices of the NRI contain details of the methodology of the individual surveys as well as the results. Surveys were done of forests, vernal pools, water quality, birds, butterflies, reptiles and amphibians, wildflowers, and mammals. These selections follow the skills and interests of the volunteers. A final step in the survey process was to make the findings available as a series of checklists that can be downloaded from the conservation website. This, it is hoped, will serve to increase community involvement and also encourage the submission of new species not found during the survey.

Additional Resources: In addition to the above mentioned resources, those listed below are generally available. (In instances where the resource listed is specific to Ridgefield, as for example, the Land Conservancy of Ridgefield, the "generally available" resource would be the area's local land trusts.)

- NEMO, (Nonpoint Education for Municipal Officials) a Uconn program that will come to your community to do a workshop on how to do a community resource inventory, which is much the same as an NRI. Go to <http://nemo.uconn.edu/>
- Western Connecticut University Dept of Biological and Environmental Sciences
- Yale Peabody Museum
- Land Conservancy of Ridgefield
- Environmental studies for development applications and other land use projects
- Published studies on species populations like the Connecticut Butterfly Atlas are found in the relevant sections of the NRI and its bibliography.

The Ridgefield Natural Resource Inventory was published in April of 2012, eighteen months after the planning began. It is available for download online at ridgefieldconservation.org. The maps from the printed version are also on line. The printed version is available for purchase for \$20 which is below the printing cost of \$30. This discount is to encourage its dissemination in the community. For further information contact Benjamin Oko at benoko@comcast.net or conservation@ridgefieldct.org.



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Municipal Inland Wetlands Commissioners Training Materials/Information

The 2012 Municipal Inland Wetlands Commissioners Training Program Segment 3 workshops were conducted with over 100 participants. Two workshop topics were presented: (1) *Vernal Pool Ecology and Monitoring* and (2) *Benthic Macroinvertebrates and What These Organisms Can Tell Us About the Health of a Stream*. All training materials/information have been posted on the DEEP Wetlands Management Section webpage:

- Vernal Pools: http://www.ct.gov/dep/cwp/view.asp?a=2720&q=514222&depNav_GID=1907
- Benthic Macroinvertebrates: http://www.ct.gov/dep/cwp/view.asp?a=2720&q=514238&depNav_GID=1907

The NOFA Organic Land Care Program

NOFA's Organic Land Care courses are designed with the goal of enabling schools and towns to comply with the Connecticut K-8 School Pesticide Ban and with improving water quality in rivers and Long Island Sound.

THE LAWN CARE CERTIFICATE COURSE

January 24: Manchester Community College, Manchester, CT

February 26: Three Rivers Community College, Norwich, CT

This one-day course will cover how pesticide and fertilizer runoff harms water quality, how to grow a beautiful lawn organically, and how to market organic services. This introductory course is designed for inland wetlands and conservation commissioners, for municipal and school groundskeepers, homeowners, environmental educators, town committee members and lawn care professionals. The course addresses compliance with Connecticut's school pesticide restrictions and fertilizer regulations and how to communicate the environmental value of sustainable land care practices to customers. Registration is \$80. For more information or to register, go to <http://www.organiclandcare.net/lawncertificatecourse>. Contact: Kristiane Huber, Kristiane@ctnofa.org, 203-888-5146.

THE ACCREDITATION COURSE IN ORGANIC LAND CARE

February 11-14 at Three Rivers Community College in Norwich, CT

For over a decade the Accreditation Course in Organic Land Care has taught land care professionals ecology principles related to land care, and how these principles can be replicated or directly applied the design and management of yard, gardens, school grounds and playing fields. Now in its 12th year the course has been revamped to include stormwater management instruction, compost tea and specialized tracks for lawn care professionals and for organic landscaping. At the conclusion of the course, attendees may take the Accreditation Exam to join NOFA's over 500 Accredited Professionals in 20 states.

Registration: \$495 in Connecticut (group discounts and a payment plan option are available)

For more information or to register go to <http://www.organiclandcare.net/education/accreditation-course>.

Contact: Kristiane Huber, Kristiane@ctnofa.org, 203-888-5146.



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CACIWC news, continued from page 2

Habitat and on www.caciwc.org). We were pleased to receive approval for our bylaws amendments during our November 17, 2012 meeting (see our website for the amended bylaws: www.caciwc.org). These amendments included the creation of several *alternate at large* positions that are not restricted to a specific county and allow us to retain well qualified directors from areas whose county and alternate county representatives are already filled. Please submit your name to us at board@caciwc.org if you are interested in serving as the Windham County Representative, one of the vacant alternate county representatives or in one of the new alternate at large representative positions.

4. Are you too busy to join the board at this time but would still like to work with CACIWC? We are forming several additional CACIWC advisory committees to help us with our education and outreach efforts, help us select new goals in objectives for our updated **strategic plan**, or participate in the review of legislative initiatives. Let us know by sending your name and interest area to us at board@caciwc.org.

Finally, the CACIWC Board of Directors sends a special message to our member commissions and staff of the Town of Newtown. We join the many expressions of condolences from around the world on the tragic events at the Sandy Hook Elementary School on Friday, December 14, 2012.

We thank all of our members throughout Connecticut for your efforts and wish you a safe, healthy, and happy new year.

~ Alan J. Siniscalchi, President



ash borer, continued from page 10

the state in all eight counties by The University of Connecticut Cooperative Extension System via an agreement with the USDA APHIS PPQ. Three additional EAB have been captured in a trap located in Prospect, while other beetles were captured in a trap in Naugatuck.

“This is a disturbing discovery and one that has the potential for great environmental harm in the state,” said DEEP Commissioner Daniel C. Esty. “Connecticut has more than 22 million ash trees. The presence of EAB here could have a devastating effect on the beauty of our forests, state and local parks and neighborhoods, as well as the state’s wood product industries. Now that EAB has been detected here, it is more important than ever to limit its spread. It is imperative that residents and visitors throughout the state not move firewood. The movement of firewood that contains the presence of EAB is the quickest way to rapidly spread the insect.”

The EAB is a small and destructive beetle, metallic green in color, and approximately 1/2 inch long and 1/8 inch wide. Adults emerge from the bark of infested trees leaving a small “D”-shaped exit hole roughly 1/8 inch in diameter. This insect is native to Asia and was first discovered in the Detroit, MI and Windsor, Ontario regions of North America in 2002. It has since spread through the movement of firewood, solid-wood packing materials, infested ash trees, and by natural flight dispersal. It is unknown how the EAB entered Prospect or Naugatuck. Movement of infested firewood is a high risk activity that can spread the beetle over long distances. Prior to the pest’s discovery in Prospect, the closest known infestation to Connecticut is in eastern New York near the Hudson River.

The emerald ash borer is a regulated plant pest under federal (7 CFR 301.53) and state (CT Gen. Statute Sec. 22-84-5d, e, and f) regulations. For more information about the EAB, please visit the following website: www.emeraldashborer.info.



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- **Excellence in Conservation Awards** – *New category for 2013!* -- Recognizing outstanding achievements by organizations and individuals.
- **Post Conference Reception** – *New for 2013!* – Join us for an evening of socializing and celebrating. *Details coming soon!*

For further information, please contact Connie Manes, CLCC Training and Education Committee, at connie@manes-consulting.com or Amy Paterson, CLCC Executive Director, at abpaterson@ctconservation.org.

January/February 2013

Connecticut Wildlife

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



From the Director's Desk



Growing up in rural Wisconsin my family enjoyed an intimate, yet utilitarian, relationship with the world around us. We raised chickens for eggs and dinner, and usually had a cow on hand for a ready and constant milk supply. My dad also was an avid gardener with an expansive collection of root and orb vegetables, and the rarely successful rows of sweet corn. Later in life, dad made the most of our grove of apple trees as well, with an unending supply of apple pies, sauce, and even pickled apples. And, it was this agrarian side of the family that set the stage for my first wildlife adventures.

Certainly we suffered the occasional loss of chickens to the errant fox that led to dad mending fencing and patching holes in the coop. And, each spring brought another battle with apple-loving insects – it was the sixties, so we did what all families of the time did, we sprayed. But the most memorable were the nights dad and I worked together, first building, then baiting, box traps to foil the eastern cottontails that would raid the family garden.

We would start with a couple of boards, some pieces of scrap 2" x 2", and a cross cut saw. Dad would reinforce that drawing the saw started the cut, and that nothing should be forced or hurried. That the saw would do the work. Once the boards were cut to length and tacked together – dad was a machinist by trade, so if a 10 penny nail would do, a carriage bolt was even better – we wrapped the sides and back with chicken wire. Putting the notch in the top where the bent coat hanger would go was always his job, and required the special skills with a drill and chisel. Next came attaching the flapper door with the hinge rescued from the local dump. Securing the coat hanger with the special hooks at either end, to hold the piece of cut apple – the trigger – and the other to hold the flapper door open always felt the most important as it was what made the contraption really work. Last came cutting a length of rubber from an old inner-tube to form the "spring."

The best part came each morning, after the trap had been set, when dad would roust me from whatever had captured my imagination to see if we had been successful.

Today, even more than then, we have opportunities to participate in the world around us, if only we will take the time. It is that much more fulfilling if we share it with a child. Find your way to participate; it's easier than you might think.

Rick Jacobson, DEEP Wildlife Division Director

Cover:

A boldly marked male hooded merganser eats an Atlantic mud crab. Learn more about this fascinating waterfowl species by reading the article on page 12.

Photo courtesy of Paul J. Fusco

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2013 Is the Year of the Snake

Partners in Amphibian and Reptile Conservation (PARC) is celebrating 2013 as the Year of the Snake, and the DEEP Wildlife Division is participating in this year-long outreach campaign to raise awareness of the status of snakes and the threats and human perceptions that contribute to their decline. PARC strives to conserve amphibians, reptiles and their habitats as integral parts of our ecosystem and culture through proactive and coordinated public-private partnerships (www.YearoftheSnake.org). The Wildlife Division is responsible for the conservation of the 14 native species of snakes found in Connecticut. As part of Year of the Snake, the Wildlife Division will send out monthly press releases on snakes, publish articles in Connecticut Wildlife magazine, and hold several educational events and activities throughout the year. Stay tuned for Year of the Snake events on the DEEP website at www.ct.gov/deep/YearoftheSnake and our Facebook page at www.Facebook.com/CTFishandWildlife.

Snakes are fascinating animals!

They survive in some of the most extreme environments on Earth and occur in a variety of habitats everywhere around the world, with the exception of Iceland, Greenland, Newfoundland, Ireland, New Zealand, the Falkland Islands, Antarctica, and some smaller islands. Some snakes spend most of their time underground, some live in the tree tops and have the ability to glide through the air, and others spend their entire lives swimming in the open ocean.

Snakes are reptiles. They are long and slender, and have no limbs. They do not have fur like mammals, feathers like birds, or moist skin like amphibians. Reptiles have dry skin with scales (scutes). The scales can come in various shapes and can either be keeled (with a raised ridge down the center) or smooth (without the ridge). The scales on a snake's belly are usually quite wide and are called ventral scales.

Snakes are ectothermic (cold-blooded). Their body temperature changes with the temperature around them. A snake will sit in the sun on a rock or other surface to warm up or it will retreat to a cool, shady spot when it is hot outside. In colder environments, they will hibernate during winter.

Snakes cannot blink their eyes. The eyes are covered with a clear protective membrane called a spectacle.

Snakes are carnivorous. They eat other animals, such as mice, birds, fish, frogs, insects, and even other snakes.

Moving Like a Snake

Snakes can coil, climb, and slither because they have a very flexible spine made up of 100-400 vertebrae, each of which is attached to a pair of separate, thin ribs. Most snakes move in a series of S-shaped curves, pushing themselves

along using plants, rocks, sticks, and other irregularities as shove-off points. Many snakes can also travel in almost a straight line using the wide, overlapping plates, or belly scales, on their undersides. Muscles attached to the ribs pull and lift these scales, creating a series of wave-like motions. As the scales push against rough surfaces on the ground, the snake moves forward. Most snakes use a combination of these two methods, but some also use an accordion-type movement – especially when climbing trees. A few desert snakes move using a complicated series of sideways body twists (known as sidewinders).

Snake Senses

Snakes have a variety of ways to sense their environment. They have good "close-up" eyesight and an excellent sense



of smell. Their flicking, forked tongue and a structure in the roof of their mouth called the Jacobson's organ are responsible for their incredible ability to "smell" their environment. This ability enables snakes to not only locate food, but also identify other snakes and animals that may be attempting to prey on them.

Pit vipers, a type of snake, use special nerve endings in their skin to detect the body heat of prey animals. For many snakes, these nerve endings are in the lips. Pit vipers like rattlesnakes and copperheads have a single pair of more highly-developed heat sensors, called pit organs, at the front of the head. When a prey animal is close enough, the organs alert the snake that its next meal is nearby. Able to detect small differences in temperature from one to several feet away, a pit viper can tell the location of a frog or mouse and be able to strike at it accurately, even in total darkness.

Meat-eating Strategies

Different kinds of snakes attack prey in different ways. Constrictors squeeze

continued on page 14



Connecticut's longest snake, the eastern ratsnake, has flourished due to reforestation of the state's landscape over the last century.

Assessing the Status of Forest Interior and Shrubland Birds in Connecticut

Written by Min T. Huang, DEEP Wildlife Division, photography by Paul Fusco

For the past three years, the Wildlife Division has been assessing the status of shrubland and forest interior birds throughout the state. A large part of this work stemmed from the need to develop

egy (CWCS), a number of species were targeted for monitoring: prairie warbler, blue-winged warbler, eastern towhee, and field sparrow in shrubland habitats; and cerulean warbler, worm eating warbler,

aged properties, combined with utility right-of-ways, support about 1,700 blue-winged warblers, 2,700 eastern towhees, 550 field sparrows, and 1,200 prairie warblers. These estimated populations were

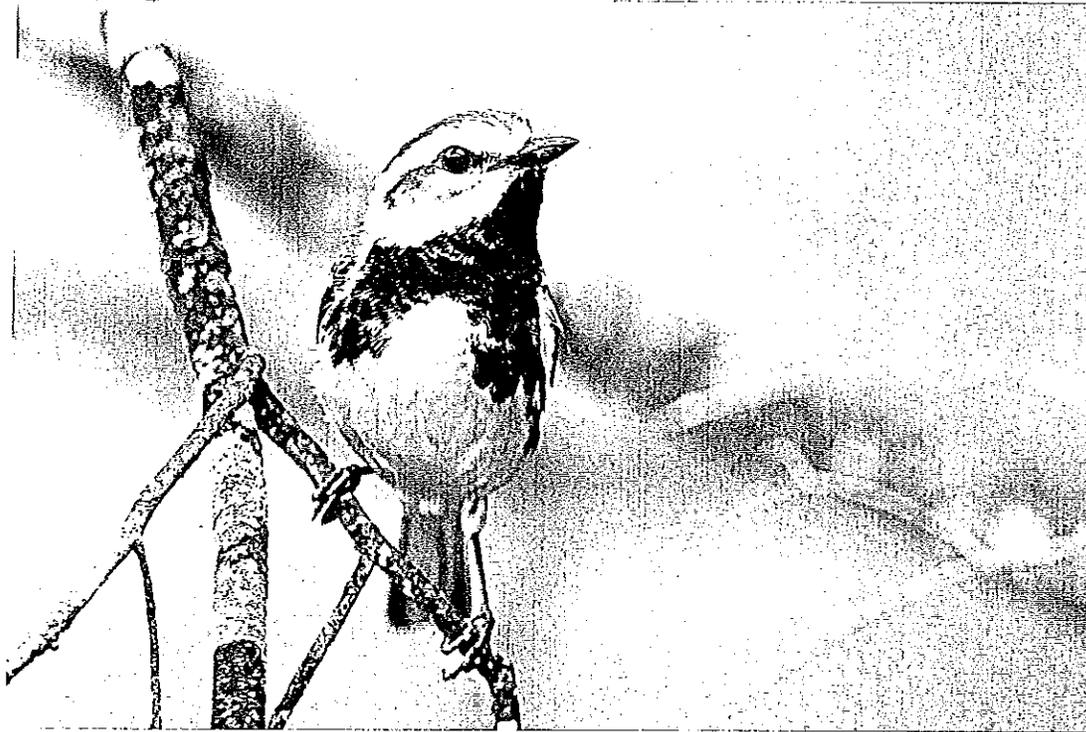
then compared to the population goals set by the CWCS. Currently, less than 20% of the population goals for prairie warbler and less than 10% for blue-winged warbler, eastern towhee, and field sparrow are supported by utility right-of-ways and DEEP managed and protected properties.

Estimating Shrubland Habitat

The Wildlife Division is currently contracting with the University of Connecticut to estimate the total amount of shrubland habitat in the state. The final estimates will allow biologists to better assess how close or far away they are from stated population objectives for these shrubland birds of conservation concern.

This analysis will also include some retrospective analyses. This is key because it is known that the benefits provided by shrubland habitat to specific birds and other obligate species is temporal, typically only lasting 10 years or so. Shrubland habitats must be constantly created or maintained or they will no longer provide suitable habitat for shrubland birds. This is in stark contrast to forest interior habitats that, by and large, can be left alone and still provide benefits.

The three years of monitoring showed that shrubland bird productivity was variable, demonstrating how weather and environmental variables, such as moisture, affect nesting success. For example, the number of broods observed in shrublands ranged from 35 to 216 across the years. Biologists do not have the necessary resources to conduct studies on adult survivorship of shrubland birds. But, the indices of productivity that have been developed show the importance of high adult survivorship in maintaining popula-



The black-throated green warbler is one of several forest interior birds that is being monitored by the Wildlife Division as part of an effort to assess the status of shrubland and forest interior birds in the state.

and refine protocols to monitor trends of breeding bird species of greatest conservation need (GCN). Many of these species were and continue to be poorly represented through the Breeding Bird Survey, and thus targeted surveys needed to be developed. Critical for the development of conservation strategies, as well as for prioritizing areas to focus conservation efforts, is knowledge of how key vital rates, such as survival and productivity, are influenced by habitat condition and habitat distribution across the landscape. Another facet of this effort is to assess productivity of these birds in relation to existing habitat conditions and in response to habitat work that is conducted (i.e., forest management activities).

Monitoring Songbird Populations

In concert with Connecticut's Comprehensive Wildlife Conservation Strat-

egy (CWCS), a number of species were targeted for monitoring: prairie warbler, blue-winged warbler, eastern towhee, and field sparrow in shrubland habitats; and cerulean warbler, worm eating warbler,

black-throated-blue warbler, and black-throated-green warbler in forest interior habitats. Statistically robust surveys in both shrubland and forest interior habitats were developed to assess these species. Surveys were conducted annually with the assistance of volunteers, seasonal staff, and Wildlife Division biologists. Habitat variables were measured at each of the survey points so that abundance could be correlated with what is on the landscape. Over the course of the three years, some preliminary population estimates have been developed for shrubland birds. Division biologists assessed the extent of shrubland habitat on state-managed areas, and then used species abundance projections to estimate the abundance of targeted shrubland species that are supported by DEEP protected and managed areas. It was determined that DEEP man-

tions of songbirds.

Division biologists have also conducted forest interior bird surveys, both traditional point count surveys and also callback surveys. The surveys were conducted specifically in contiguous blocks of forest that are at least 5,000 acres in size. These blocks were identified by The Nature Conservancy. They represent those areas in the state that could best support cerulean warblers, a species that is known to require large blocks of contiguous forest. Abundance of target species varied over time, but generally seemed to decrease.

Comparing Current and Historic Distributions

Of interest, and as a demonstration on the importance of monitoring, biologists assessed the current distribution of each of the four target species and compared them to the distribution of these birds during the creation of Connecticut's Breeding Bird Atlas from 1982-1986. The worm-eating warbler displayed a current distribution that closely mimicked the distribution observed in the 1980s. In the current assessment, worm-eating warblers were detected in the six survey routes that overlap with the Breeding Bird Atlas grids where breeding was either confirmed or probable in the 1980s. With only one exception, no worm-eating warblers were detected along any of the routes situated outside of the areas identified by the Breeding Bird Atlas.

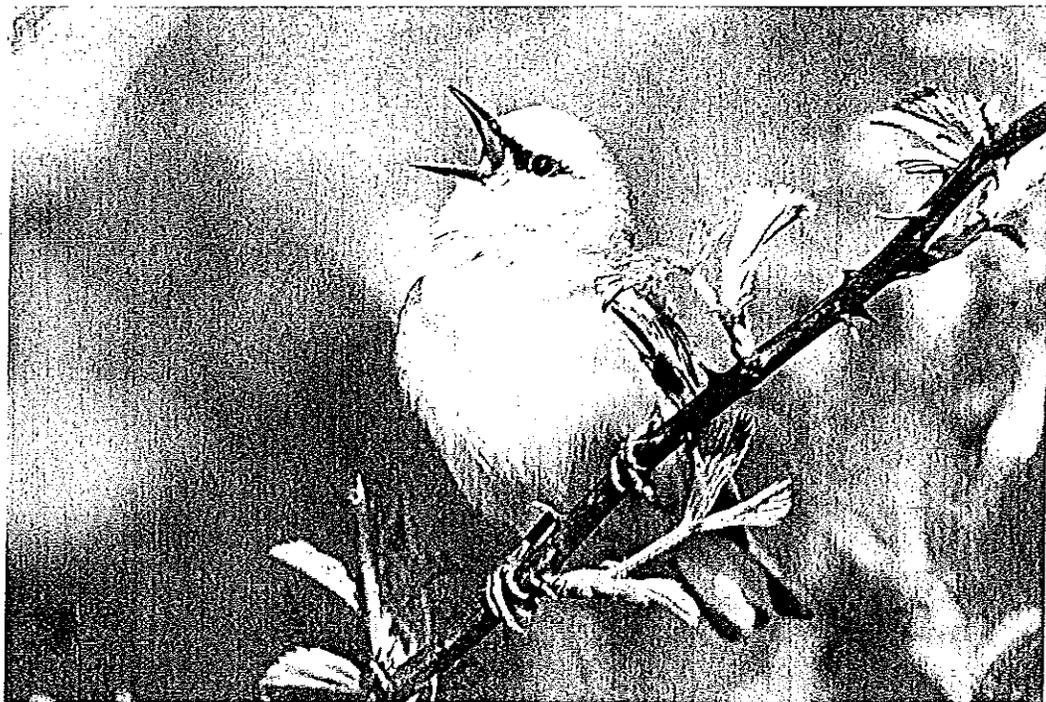
Black-throated blue and black-throated green warblers exhibited similar patterns to one another. The majority of current detections occurred in areas where breeding was confirmed or probable according to the Breeding Bird Atlas, but both also were detected in entirely new areas in Connecticut. Black-throated blue warblers were primarily found in northwestern Connecticut, closely mimicking the Breeding Bird Atlas range. However, birds were detected along two routes in southeastern Connecticut, differing significantly from the Atlas. The black-throated green warbler was clustered in the northwestern and southeastern portions of the state but also was found in central Connecticut, outside of the range of the Atlas.

The most radical difference between current and historic distributions was observed with cerulean warblers. No war-

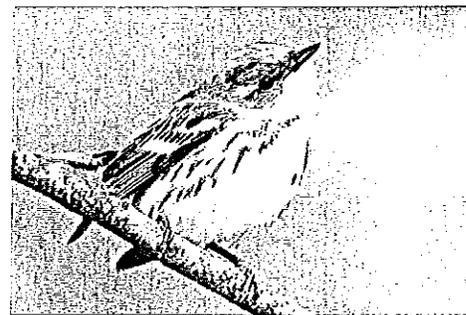
blers were detected on any of the three survey routes that abut or overlap the Breeding Bird Atlas grids with records of cerulean warblers. The only route where cerulean warblers were detected is located in an area outside of the Atlas range. This may partly be explained by a complete lack of survey routes in or around the largest Breeding Bird Atlas area with confirmed breeding records. The forests that comprise this block did not meet the criteria for listing by The Nature Conservancy and therefore were not included in the survey effort.

Dedicated Funding Is Needed

More research is needed on these GCN birds. However, the Wildlife Division's ability to undertake the necessary research and conservation projects is hampered by a lack of funding and resources. Research and management projects for Connecticut's hunted species receive dedicated funding through the Federal Aid in Wildlife Restoration Program. Nongame wildlife species, such as songbirds, are sometimes secondary beneficiaries of federal aid projects, but rarely receive direct funding. Until a dedicated funding mechanism is established in Connecticut, the future appears uncertain for research and conservation of many of these songbird species and their habitats.



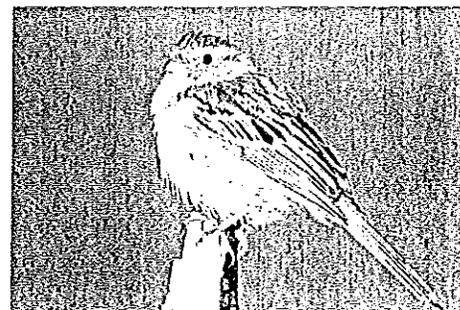
Population assessments by the Wildlife Division indicated that DEEP managed properties with early successional habitat and utility right-of ways support about 1,700 blue-winged warblers.



Cerulean warbler



Worm-eating warbler

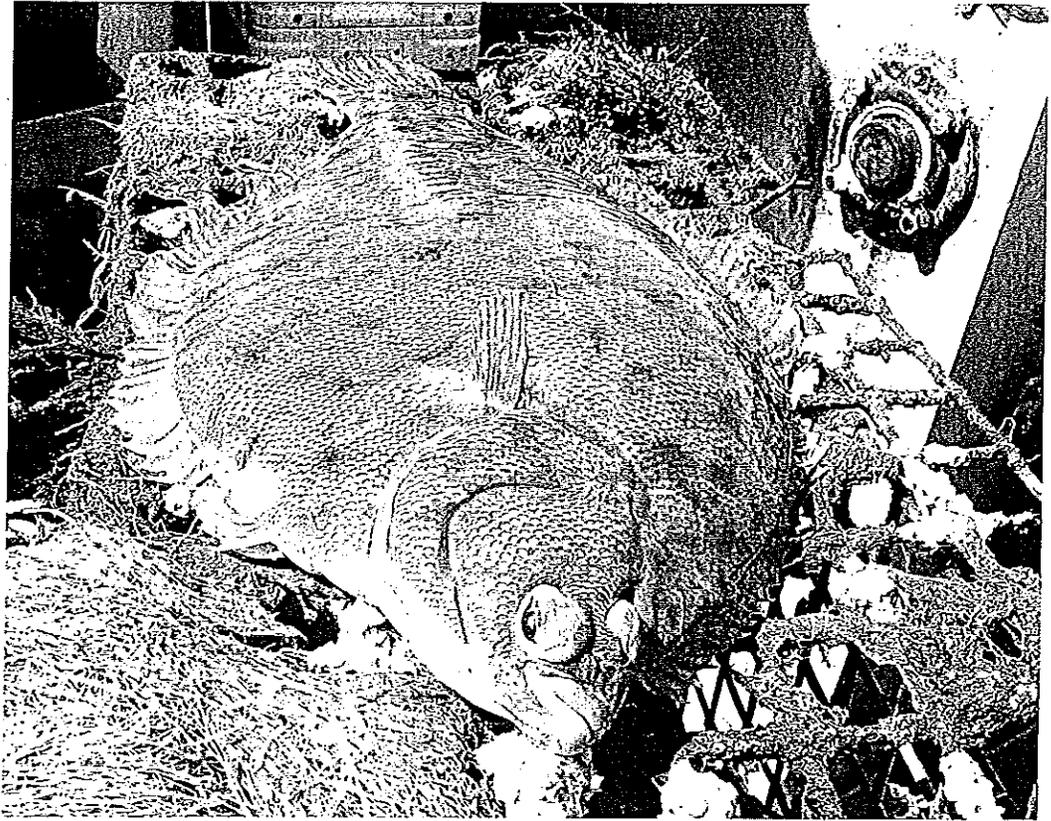


Field sparrow

Eight Ways to Be Flat

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

People commonly think of fish as having a sturdy, bullet-shaped body with various fins, a big mouth, and two eyes symmetrically placed on either side (think tuna or great white shark). However, one of the most advanced and globally diverse groups of fish is the flatfish, or flounders. There are 570 different species worldwide and eight of them can be found in Long Island Sound. Despite their great diversity, at first glance all flounders look much the same – flattened pancake body, dark on the top side and light on the underside, with one long fin running all around the edges. Even though this body shape looks like road-kill, it suits the survival strategy of the group – camouflage rather than speed or strength. All flounder species go through an involved metamorphosis to acquire this body shape. Larval flounder start life with the expected fish shape, but after several weeks begin to laterally flatten with one eye migrating to the opposite side of the body. This configuration gives flounder a complete zenith (180 degrees) of vision on the top side, while the side buried in sand or mud is blind. Such extraordinary vision is of great survival value, both in ambushing

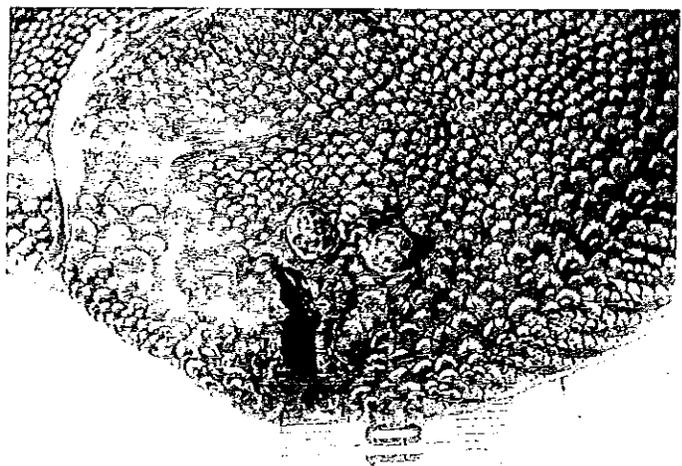
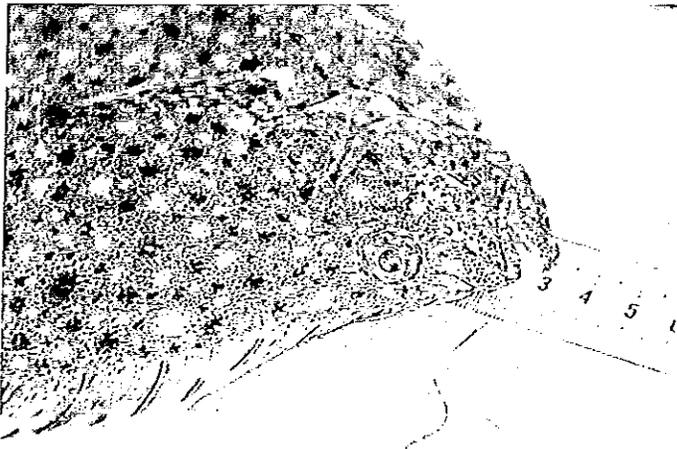


The winter flounder is so called because it spawns in Long Island Sound from January through April. Spawning occurs in shallows over mud bottoms, so the fish are usually colored to match the bottom. Hence, their other name is "black back."

food and seeing predators before they see the flounder. Many flounder species can also change the coloration of their top side from dark to light to match the blotches and patterns of the sediment in which they are hiding.

To make up for similar appearances, the flounders have been given descriptive

names that make it easier to remember their distinctive characteristics. Two common species in Long Island Sound are winter and windowpane flounder. Winter flounder are named so because they spawn in the Sound from January through April. Spawning occurs in shallows over mud bottoms, so the fish

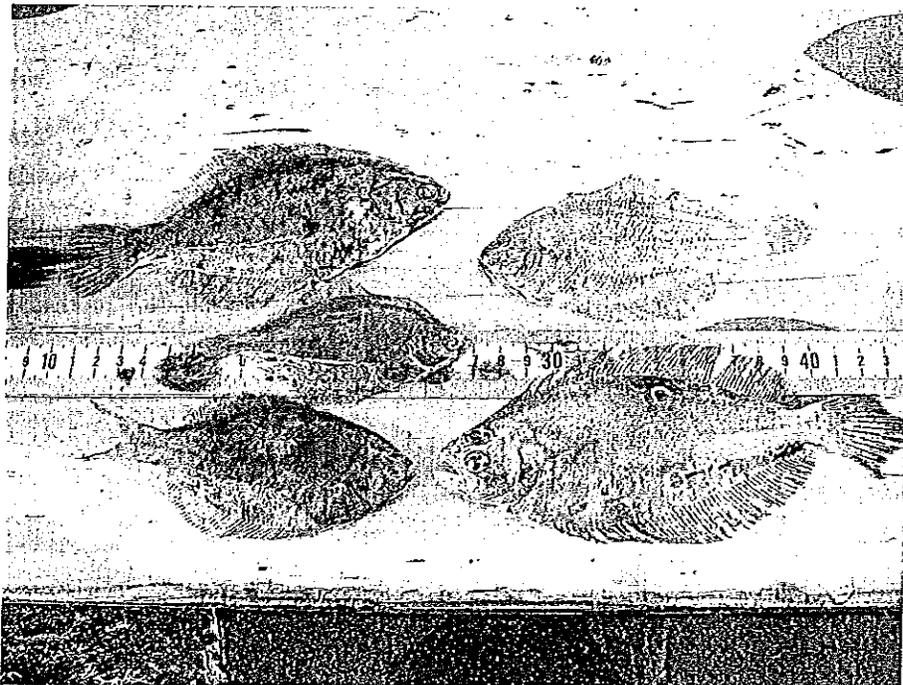


Windowpane flounder (left) is common in Long Island Sound. The hogchoker (right) is the most adaptable and oddest flounder.

are usually colored to match the bottom. Hence, their other name is "black back." Winter flounder are well adapted to cold temperatures, having chemicals in their blood that act as antifreeze. Windowpane flounder are also found in the Sound year round, but are light-colored with spots that match their favored sandy bottoms. Windowpanes have such thin bodies that if you hold them up in the sunlight you can see their internal organs.

Winter flounder have two offshore cousins, yellowtail flounder and American plaice, which look very similar and only occasionally enter Long Island Sound from the deeper, cooler waters off Block Island. As its name implies, the yellowtail flounder can be identified by the yellow coloration on its blind side tail, which is white in almost all other species. American plaice are one of the few flatfish that are strong enough swimmers to be able to rise to considerable heights off the bottom to snare their prey, or be caught in commercial nets. Another deep water species that is more common in the Sound is the fourspot flounder. As you can probably guess from its name, you can easily distinguish this elongated species by the four large spots on its top side.

Moving into the Sound as the water warms in late spring are the more southern flatfish, summer and smallmouth flounder. The summer flounder (also called fluke) is named for its habit of spawning offshore in fall and moving in-shore in spring and summer to feed. Compared to the other flounders, the fluke, with its large mouth and teeth and a more muscular body, grows the largest by feeding on other fish. These features make it a highly sought-after prize for anglers from Hatteras, North Carolina, to Massachusetts. The smallmouth flounder, which is in the same taxonomic family, is small in mouth gap (as its name implies) and body size, and very thin with light, thin scales. The largest smallmouth only grows to six inches (15 cm) in length, compared to summer flounder that can reach 36 inches (90 cm) in length and 22 pounds. This remarkable size range within one family demonstrates how selective adaptation can mold species with common ancestry into different specializations.

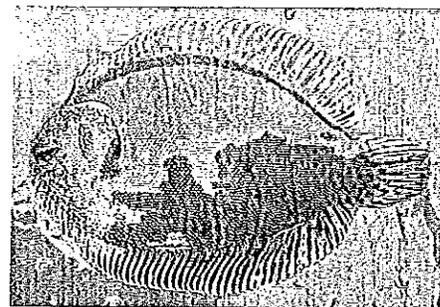


(Top to bottom, left to right): summer flounder (juvenile), smallmouth flounder, winter flounder (middle), American plaice, and fourspot flounder against a meter stick.

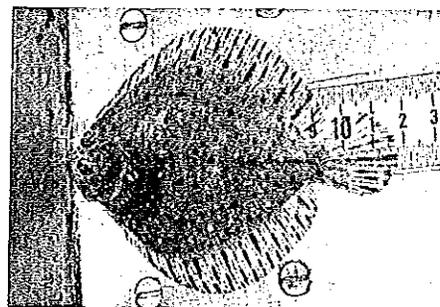


Above: A large adult summer flounder (fluke) captured in the CT DEEP Trawl Survey.

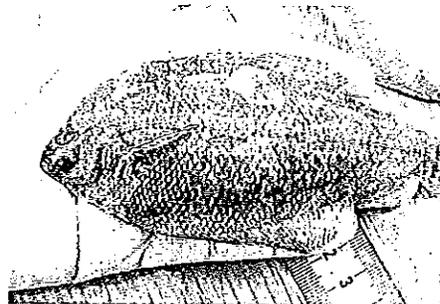
Last, but not least, is Long Island Sound's most adaptable and oddest flounder, the hogchoker. The story behind its strange name is lost in history but relates in some way to the practice in colonial times of leaving hogs to feed on small islands off the coast or in Connecticut's major rivers. The hogs would forage at water's edge and attempt to eat this small, rubbery flatfish that easily swims from open saltwater into brackish shallows. This little flounder has rough scales and remarkably strong muscles which are used to clamp down onto any hard surface, a characteristic that apparently made the hogs sorry to have rooted them out of the sand.



Adult hogchoker



Windowpane flounder on a meter stick.



Smallmouth flounder

Mating Season Movements of Connecticut Cervids

Written by Andy LaBonte, DEEP Wildlife Division

White-tailed deer and moose running across roadways and throughout Connecticut's landscape becomes increasingly more common as summer turns to fall. This increase in activity is an inverse relationship with decreasing daylight. A number of biological and behavioral changes occur in both plants and animals with decreasing light during early fall. In deer and moose, this change triggers an increase in estrogen levels of females, leading to the onset of breeding activity (estrus). At the onset of estrus, females become restless and nighttime activity increases. In males, increasing testosterone levels lead to neck swelling and rutting behavior. Rutting behavior includes sparring with other males to establish an order of hierarchy, leading to courtship and breeding with females. Although many males may participate in courtship, typically only the most dominant ones are involved with tending and breeding. During the rut, males also may expand their range, moving greater distances in search of receptive females, and become less aware of their surroundings. During peak breeding season, which occurs from mid-September to mid-October for moose and mid-November to mid-December for deer, the increase in activity can provide some unique opportunities to view these animals.

In fall 2012, the Wildlife Division received 28 different reports of a male moose with ear tags (#8) moving throughout western Connecticut. This young two-year-old male had been previously captured in downtown Plainville in June 2012, and was tagged, radio-collared, and relocated to the Barkhamsted/Hartland area. Likely in search of a female, the moose traveled over 34 miles southwest from where it was released earlier in the year, before it headed back north again. Movements of this magnitude are not uncommon for moose during the breeding season, especially when population densities are quite low, making it difficult to find a receptive female.

As part of a research project assessing deer survival rates and causes of mortality (see article in September/October 2012 issue of *Connecticut Wildlife*),

Wildlife Division staff is monitoring several radio-collared adult does and fawns in northwest Connecticut on a weekly basis. During a monitoring effort in mid-November 2012, researchers noticed that one doe had moved a great distance from its typical location. Believing the doe may have been harvested that morning by a hunter, they set out in search of it. After traveling around for quite some time trying to pin-point its location, the doe was finally located when it ran in front of researchers' vehicle with two young males chasing right behind her. The three animals returned to the woods where this chasing behavior ensued for nearly 15 minutes, all within view of the road. The collared female had moved more than two miles from her typical home range, either on her own accord or due to the persistent chasing from the young males. By the following day, the female had moved back to her normal location.

This increase in activity and movement during the breed-



COURTESY M. SCRANTON

Young male moose bearing ear tags (#8) and a tracking collar traversing through northwest Connecticut during the fall breeding period.

ing season raises the risk of a motorist striking a deer or a moose. The months of October, November, and December account for nearly 40% of annual deer vehicle strikes for females and nearly 65% of annual vehicle strikes for males. Similarly, one of the two moose-vehicle accidents documented in 2012 occurred during this same time period. Motorists driving around dawn or dusk, when deer and moose are most active, should always be aware of the potential for a collision with one of these large animals. Motorists are advised to use extra caution during the fall breeding season, as well.

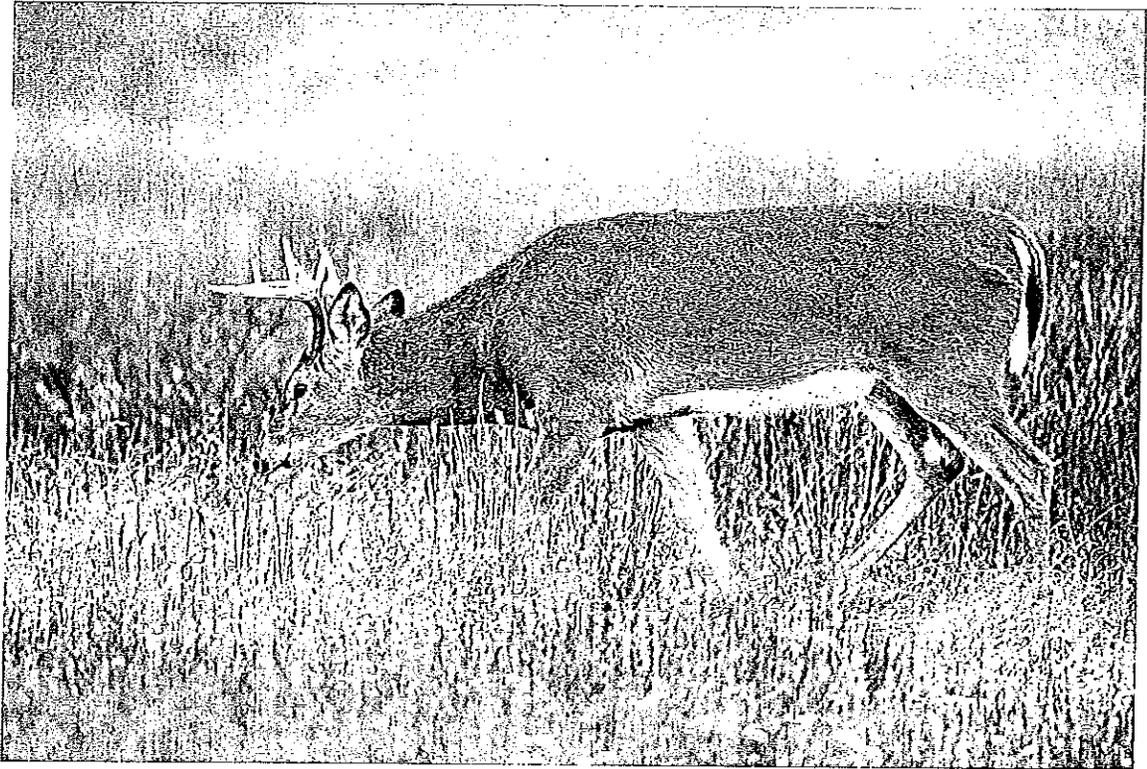
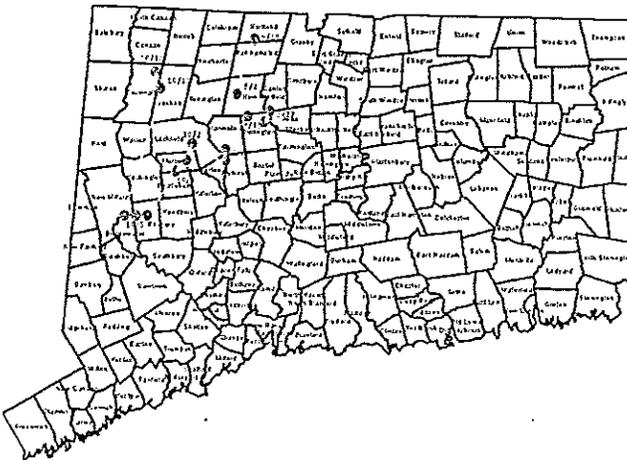


Higher Risk of Human Fatality with Moose/Vehicle Accidents

The risk of a human fatality resulting from a moose/vehicle accident is much greater than the risk associated with a deer/vehicle collision. Adult moose may stand over six feet tall at the shoulders, can weigh over 1,000 pounds, are brownish-black in color, and are most active at dawn, dusk, and after dark. Because of these characteristics, encountering a moose in a vehicle, particularly at higher speeds and in the dark, can be dangerous.

A growing moose population creates a significant road safety problem because moose have large home ranges (about 10-15 square miles), Connecticut's landscape is fragmented, and the state's roads experience high traffic volume. Because of this increased risk, moose sightings or encounters in developed areas of the state are carefully monitored with full awareness of the potential outcomes.

Fall movements of moose #8 based on sightings reported to the DEEP Wildlife Division (September 23 – October 11, 2012).



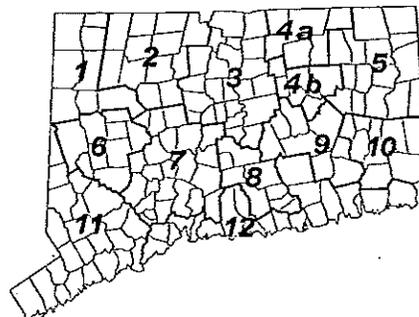
Mature buck displaying rutting behavior with its nose close to the ground in pursuit of a female in estrus.

P. J. FUSCO

Deer road kills reported in each of CT's deer management zones, a 5-year comparison, 2007-2011.

Zone	2007	2008	2009	2010	2011	Five-year Total
1	86	92	82	69	82	411
2	63	80	82	68	66	359
3	173	216	204	136	162	891
4A	92	113	85	64	81	435
4B	137	166	125	100	115	643
5	220	245	207	170	190	1,032
6	111	119	88	65	71	454
7	180	269	192	156	214	1,011
8	32	26	40	10	15	123
9	211	199	190	154	199	953
10	82	89	80	58	79	388
11	384	341	313	285	238	1,561
12	196	235	214	121	171	937
Total	1,967	2,190	1,902	1,456	1,683	9,198

Connecticut Deer Management Zones



Aphrodite of the Hemlocks

Article and photography by Mike Beauchene, DEEP Inland Fisheries Division

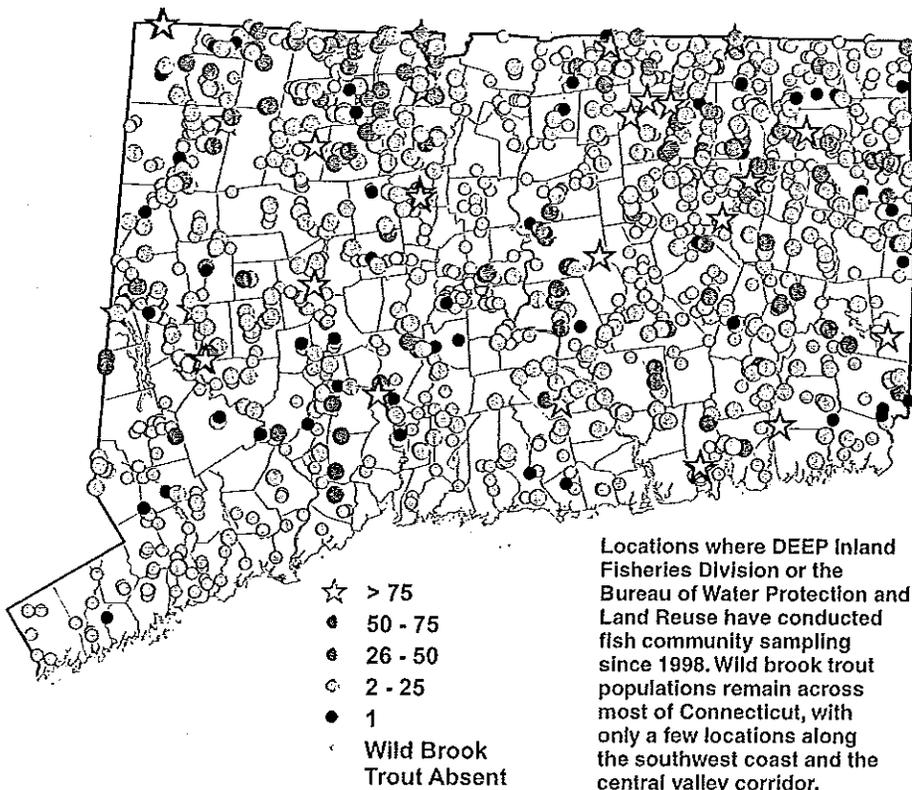
Stones and boulders blanketed by a thick emerald carpet of mosses. Tea-colored water cascading from pool to pool. Sunlight intercepted by a thick canopy of hemlock. A forest floor spongy and soft, slightly darkened, even in mid-day. Is this the realm of the mythical hobbit? Could be, but more likely it is the scene along one of the many small, spring fed headwater streams found across Connecticut – home to the “Aphrodite of the Hemlocks,” our only native, non-migratory salmonid, *Salvelinus fontinalis*, the brook trout.

Although it is called a trout, in reality it is a char. *Salvelinus fontinalis* roughly translates to “char living in springs.” The



Connecticut is fortunate to have many small cold water streams that provide habitat for brook trout. These streams share very cold water supplied from seeps and springs and a thick forest canopy to minimize heat from the sun.

Number of Wild Brook Trout in the Sample



differences between each are subtle. The tell-tale difference is that unlike trout, char do not have teeth on the roof of their mouth. Visually, char have light-colored spots contrasted against a dark background, no spots on the head, and pelvic and pectoral fins with a white outer margin followed by a thin black line. Specific to the brook trout, the dorsal surface has an intricate worm-shaped pattern of dark green lines.

Regardless of trout or char, you may know this fish as a speckled trout, native, square-tail, or brookie. As a child, I was fortunate to spend my formative years living next to a stream and its population of brookies. Days could go by where it seemed my only activity would be to sit streamside and watch as, one-by-one, mayflies, stoneflies, and caddisflies were swallowed by a hungry brookie dashing from the stream bottom to grab the insect just as it was about to leave the surface of the stream. Another favorite activity was to angle by drifting a worm attached to my homemade fishing pole and be amazed at the lightning speed and precision it was inhaled. It was obvious that each pool was a kingdom ruled by the

king or queen who occupied the prime shelter, current, and feeding pathways, leaving less desirable locations to the smaller fish.

Brook trout can be found from northeastern Canada and the Maritime Provinces southward to Georgia along the Appalachian Mountains, provided a stream has enough elevation to be a cold water habitat. The brook trout has a demanding set of standards without which populations will not be successful. Water temperature must remain cold throughout the hottest summer months, rarely exceeding 68 F. Oxygen levels are at the saturation point and the pH of the water can be slightly to moderately acidic. During the November to December spawning season, females seek out a silt-free bed of gravel, preferably with good groundwater input to build a nest or "redd." Once the eggs are laid and fertilized, the upwelling of the groundwater serves to continually aerate the eggs.

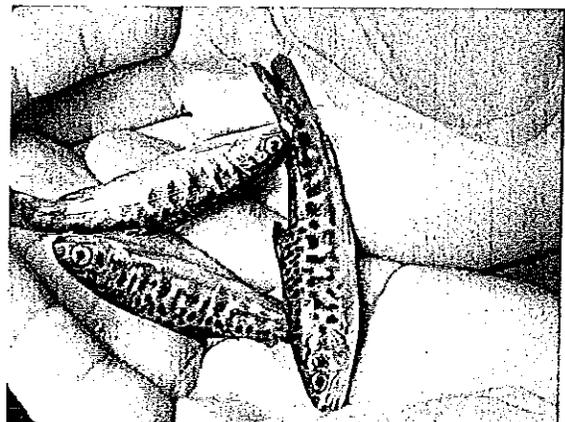
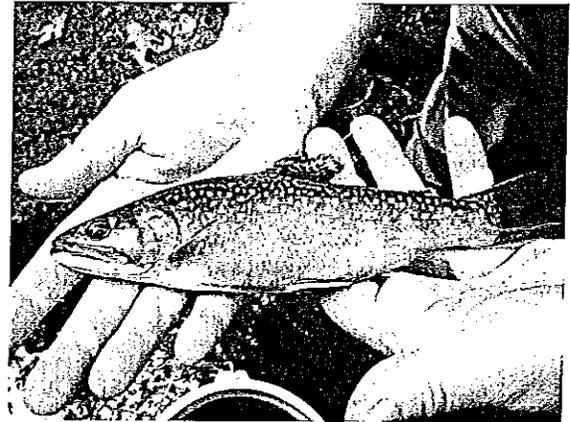
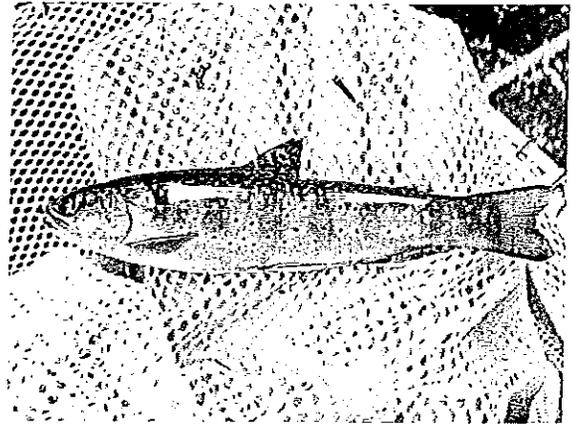
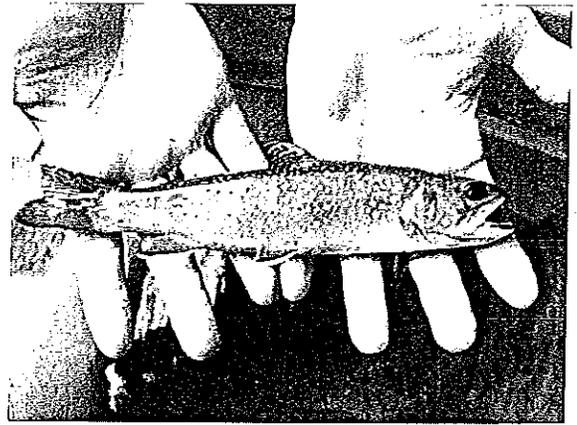
Although picky about water quality and habitat conditions, brook trout are fierce survivors and can persist through extreme drought conditions by finding the last remaining pools in which to hold tight until normal flows resume. During my younger years, I witnessed this phenomenon first hand at my homestead stream, where under very dry conditions the brook would turn into a series of isolated pools with no surface flow connecting them. Within each pool, crowded with more individuals than was intended, they waited for rain and a return to normal stream levels. At times like this, I may have taken the liberty to throw a few extra "hook-free" worms into the pool every so often.

As a fisheries biologist, I have sampled, over the years, hundreds of small streams across the state. I am often amazed at how brook trout are not only able to persist but flourish under what appears to be such minimal habitat. Streams with mere inches of water can have hundreds of brookies scattered throughout a 150-meter sample reach. Even more amazing is that a section of stream that had been completely dried up can have some brookies back in action almost immediately after water returns. Such persistence has served the species well and possibly prevented its extirpation from Connecticut during our early history.

Early settlers have written accounts of bountiful numbers of brook trout throughout many streams and rivers

in Connecticut. However, intensive land clearing and damming of streams to harness the power of water for early industrial purposes that followed resulted in an unintended but significant loss of brookie habitat, including increased water temperatures, barriers to migration, and an increase in the amount of sediment reaching the stream. All of these factors together have reduced suitable brook trout habitat to the point where it can only be found in small steep watersheds.

Collaborative work between the DEEP's Inland Fisheries Division and the Bureau of Water Protection and Land Reuse shows that self-sustaining native populations of brook trout are primarily found in streams draining less than six square miles, translating to be about a 13-14 foot wide stream. The good news is that the majority, approximately 54%, of the stream miles found in Connecticut, is in this range and could be suitable habitat for brook trout. The bad news is that the historical land use in Connecticut has extirpated brook trout from many of these streams. The success of future generations of brook trout will be determined through the combination of direct effect by humans (such as residential development, storm water run-off, and ground water extraction for drinking water), and environmental conditions (like changes in precipitation patterns, air temperatures, and stream flow reaching more frequent extreme highs and lows). Perhaps the brook trout is a combination of the Greek gods – the beauty and enticement of Aphrodite coupled with the strength and persistence of Hercules. In the future, it will be important to keep close watch on these populations to prevent loss of Connecticut's native trout . . . I mean char.



The wild brook trout is one of the most colorful native freshwater fish in Connecticut. If you are fortunate to capture one of these fish, you will easily understand the nickname "Aphrodite of the Hemlocks."

Connecticut's Timberland Duck - The Hooded Merganser

Article and photography by Paul Fusco, DEEP Wildlife Division

Beaver swamps are among the best places to find the hooded merganser, the smallest and least common of the mergansers. In spring, they prefer isolated wooded wetland habitat, the quieter the better. Drakes are elegant and boldly marked, yet they blend into their surroundings surprisingly well when encountered in this characteristic habitat with weathered tree trunks and downed branches along the water's edge.

Males have striking black-and-white plumage with rusty flanks, and sport a dazzling fan-shaped white crest that is rimmed in black. Females are drably-colored in soft browns and grays, and have a bushy brown crest. The drake's crest can be inconspicuous when lowered, but when raised, it is most impressive. In late winter and early spring, males start to display for the females. Often times, multiple males will participate in a showy display, all vying for the attention of a female.

Similar to its close associate, the wood duck, the hooded merganser is quiet and secretive during the breeding season. Both species have a strong preference for secluded wetlands and both avoid suburban habitats. They have little tolerance for human disturbance at nesting locations. Although they are hard to find during the breeding season, they are much more visible when migrating or at one of their favored wintering locations.

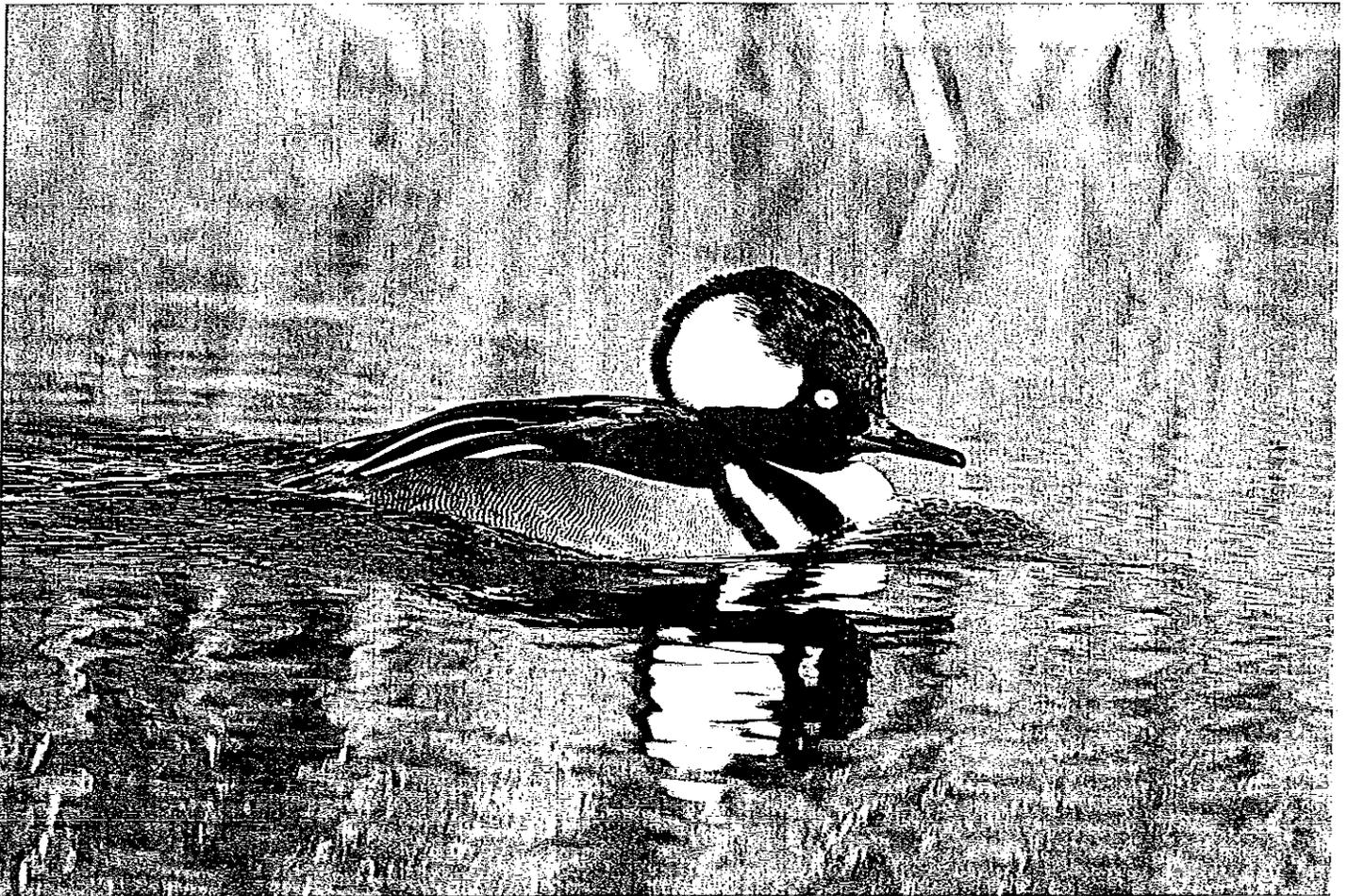
All mergansers are strong, fast fliers with rapid wingbeats and

direct flight. They fly with their bill, head, neck, and body all held in a straight horizontal line. These flight characteristics make mergansers easy to separate from other duck species. Often described as flying with the velocity of a speeding bullet, the hooded merganser is particularly fast and agile on the wing.

Habitat

Like the wood duck, hooded mergansers prefer to nest in old growth tree cavities, but also will use artificial nest boxes. In fact, mergansers often "dump" eggs in the nests of wood ducks and vice versa. The typical clutch size is 10-12 white eggs, which hatch inside the tree cavity or nest box. The young remain in the nest for about a day after hatching before the hen coaxes them out. Once the young climb up to the nest hole, they will take the fluttery plunge to water or ground, and will not return to the nest. In some cases, the nest cavity may be up to half a mile from water, so the young ducklings follow their mother as she leads them by walking to the nearest body of water.

During migration, hooded mergansers move in small flocks, and normally are not found in large concentrations like many other ducks. In winter, they can often be found close to the shoreline at small freshwater ponds, brackish creeks, and tidal marshes that are not frozen over. They are seldom seen in open salt water.



The bold fan-shaped crest of the male hooded merganser can make this duck highly visible on small ponds and tidal creeks during winter.

Their diet consists mostly of small fish, but crayfish, small crabs, and aquatic insects also make up a large percentage of what they eat. Mergansers catch their food by sight as they dive below the water's surface and swim underwater. Their bills are long and narrow with serrated edges, which are used to hang onto the slippery prey of small fish. When feeding on crustaceans, such as crabs, a merganser will surface with the crab, and shake it violently, breaking off the legs and claws before swallowing the body whole, shell and all.



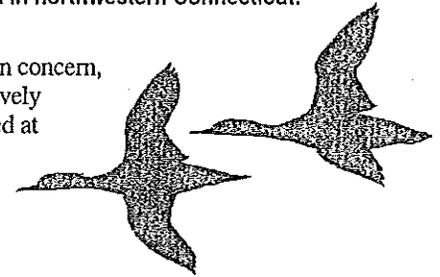
A hen hooded merganser watches over her young on a small beaver pond in northwestern Connecticut.

Conservation

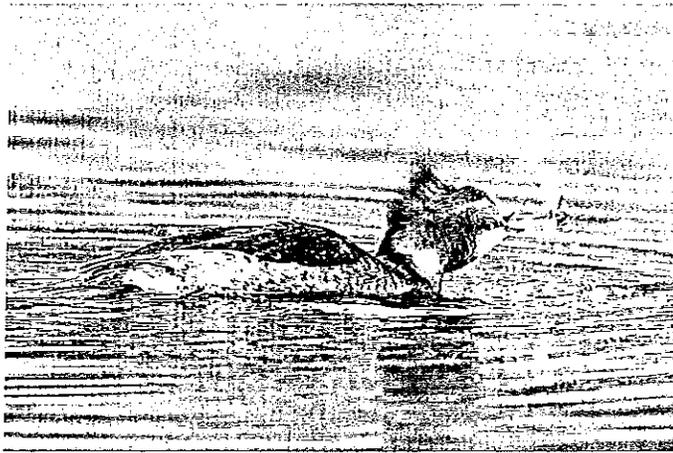
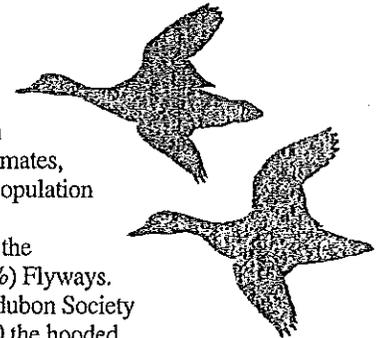
Because of their secretive nature, hooded mergansers are difficult to survey. They are found in Connecticut in low numbers during the breeding season. Most occurrences are in the northwest hills and along the lower Connecticut River. Their breeding distribution is expanding, particularly on the eastern side of the state. Annual wood duck box checks indicate that 13% of used wood duck boxes were occupied by hooded mergansers. In winter, hooded mergansers become more common as migrating birds from farther north arrive in Connecticut to spend the winter. Although considered to

be a species with low conservation concern, the hooded merganser has a relatively small overall population, estimated at approximately 350,000, making it one of North America's least common duck species.

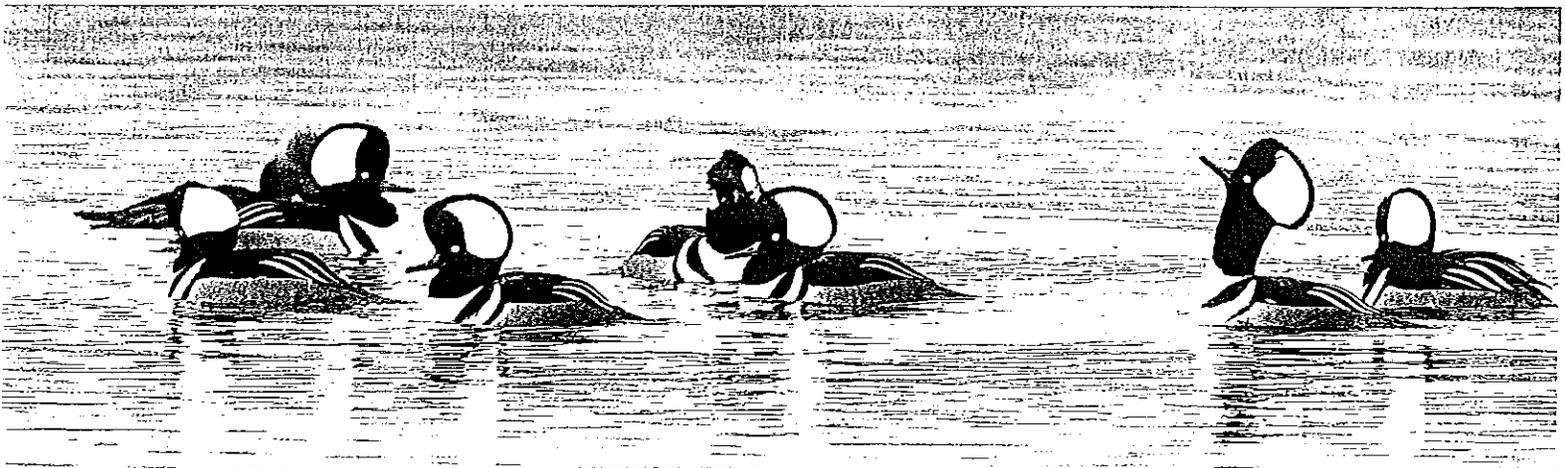
Historically, hooded merganser numbers were likely highest in precolonial times, then declined drastically as forests were cleared, reaching a lowpoint in the mid-20th century. Since that time, forests have regrown and matured in many areas, forest management practices have improved, and the merganser population has increased. Annual harvest rates for hooded mergansers are significant. According to U.S. Fish and Wildlife Service harvest trend estimates, approximately 30% of the estimated population was reported to be taken in 2011, with most of the harvest coming from the Atlantic (10%) and Mississippi (15.4%) Flyways. In Connecticut, based on National Audubon Society Christmas Bird Count data, since 1960 the hooded merganser winter population in Connecticut has increased steadily, and has remained at a comparatively high level for the last 15 years.



Note the sleek, streamlined flight posture of mergansers (above) as compared to mallards (below).



A hen hooded merganser wrestles with a favorite food, crab.
Below: Displaying males congregate in late winter.



Year of the Snake

continued from page 3

their prey tightly until the prey suffocates. Then the prey is swallowed whole. Venomous snakes use venom to catch their food. The venom is located in sacs connected to sharp fangs. When some venomous snakes, such as rattlesnakes, bite their prey, they jab their fangs into the prey's skin or muscle. This forces the venom to flow from the sacs through the fangs and into the animal's body. Other snakes, like the garter snake, catch and swallow their prey alive.

Snakes have special jaws for swallowing their prey whole. The lower jaw is actually two halves that can be rotated or moved apart. Also, the entire lower jaw can disconnect from the upper jaw. This allows some snakes to swallow food as wide as their heads. Swallowing prey can take hours, so snakes have windpipes that can move forward over the tongue. This allows the snake to still breathe while it is eating.

Snakes have powerful digestive juices, called enzymes, that completely dissolve prey, including fur, feathers, and even bones.

Because snakes can eat such huge meals at one time and because they are cold-blooded, they do not have to eat as often as other animals. If necessary, most snakes can survive with eating just a few times per year.

Shedding the Skin

Snakes grow throughout their lives. To grow, they must replace their outer layer of skin in a process of shedding (or ecdysis). The entire process takes several days to a week or more to complete. A new outer layer of skin must first begin to form beneath the old one. Then, fluid (from the lymphatic system) spreads between the layers of skin, separating the old from the new. Snakes have no eyelids, but do have clear scales over their eyes, and the fluid gives their eyes a gray or bluish cast and clouds the snake's vision during this period. Within a few days, the

Connecticut's Native Snake Species

Eastern Wormsnake	Smooth Greensnake
Northern Black Racer	Eastern Ratsnake
Timber Rattlesnake	Northern Brownsnake
Ring-necked Snake	Common Ribbonsnake
Eastern Hog-nosed Snake	Common Gartersnake
Eastern Milksnake	Northern Copperhead
Northern Watersnake	Northern Red-bellied Snake

Snakes Should NOT Be Killed

Hundreds of snakes are needlessly killed by people each year because of mistaken identity, fear, and misunderstanding. Very often, when a snake is found near a home, people panic and may even assume that the snake is dangerous or venomous. Few Connecticut residents realize that they are unlikely to encounter a venomous snake around their home. The two venomous snake species found in Connecticut (timber rattlesnake and copperhead) do not have wide distributions. These venomous snakes, along with the other 12 Connecticut snake species, are NOT aggressive and will only bite if threatened or handled. If left alone, snakes pose no threat to people.

If you encounter a snake in your yard or while out on a walk in the woods, observe and enjoy it from a distance and allow it to go on its way. The killing of any snake is strongly discouraged. All snakes will retreat from humans if given a chance.

fluid is reabsorbed and the snake begins to expand and contract its body and head. Eventually, it rubs its nose or head on a rough surface and the skin begins to peel. The snake then crawls forward, turning the shed skin inside out and leaving it behind. The shed skin stretches out during the shedding process, so it is not an accurate indicator of a snake's true size.

Reproduction

Some snakes lay eggs. Many keep the eggs in their body until the eggs hatch and then the live young emerge. Others give birth to live young directly. The newly-hatched snakes are on their own and have to find their own food and take care of themselves.

Threats to Snakes

Habitat Loss and Fragmentation: Habitat loss and fragmentation are possibly the biggest threats to snake populations globally. Direct mortality from roads, behavioral changes, and forced interactions with threats such as humans, farm equipment, and pets put snake populations at serious risk.

Over-collection: Some snake species are so charismatic and unique that they are heavily exploited for the pet and skin trade. Snakes are often not managed appropriately for sustainable use, unlike most game birds, mammals, and fish. Unregulated use and collection of wild snake species can result in undetected declines.

Human Persecution: Human persecution of snakes is rampant (even in Connecticut), particularly against venomous snakes. Many snakes are killed, regardless of whether or

not they are venomous, because people tend to have an irrational fear of these creatures. The extent of human persecution of snakes is demonstrated in a study conducted in Kansas, where eight out of 10 drivers were found to intentionally hit snake-like objects placed on the road. It is critical to educate people on the value of snakes, to identify venomous and nonvenomous species, how to avoid being bitten and, that when a snake is encountered, to leave it alone.

Global Climate Change: Because snakes are ectotherms (obtaining most of their body heat from the environment), they are great indicators of climate change and how it will affect other species. Studies indicate that snakes will be negatively affected by climate change because they cannot evolve or migrate fast enough to keep up with the changes in suitable habitat. For example, a study conducted by the University of Indiana Bloomington found that, although an initial increase in temperature may expand the range of timber rattlesnakes in the eastern United States, a temperature increase of 6.4 degrees Celsius would eventually displace this species from its range entirely.

More Research and Funding Needed

In order to conserve snake species, we need to learn more about these often secretive animals. Currently, in comparison to research on other vertebrates, very few organizations or institutions do research on snake species. In addition, snakes are one of the most difficult groups of animals to study, and new techniques are needed that will allow biologists to effectively study or monitor snakes, especially small species and young age classes.

To make matters worse, finding funding for research efforts is extremely difficult. The conservation of snakes is seriously overlooked and underfunded.

Common Gartersnake

Thamnophis s. sirtalis

Background and Range

The common gartersnake is perhaps the most common, widely distributed, and familiar of all North American snakes. In Connecticut, the gartersnake is found throughout the state, from sea level to the highest elevations, and from urban areas to "wilderness." The closely related common ribbonsnake resembles the gartersnake in appearance and habits. However, the ribbonsnake is less common in the state and is listed as a species of special concern.

In North America, the common gartersnake is found from Maine to central Missouri and from central Ontario to Florida.

Description

The gartersnake is marked with a pattern of three light stripes on a dark body, although the pattern can vary. One narrow stripe runs down the center of the snake's back, with a broad stripe on each side. The stripes are usually yellow, but can be shades of blue, green, or brown. Between the center and each side stripe are two rows of alternating black spots. The scales of the gartersnake are keeled (a raised ridge is found along each scale) and the snake's belly is yellow and pale green. Adults range in size between 18 and 26 inches in length, but can measure up to 42 inches long. Juvenile gartersnakes resemble adults. It is difficult to distinguish between the similar-looking garter and ribbonsnakes in the field. (See the ribbonsnake profile on the next page to learn the subtle differences.)

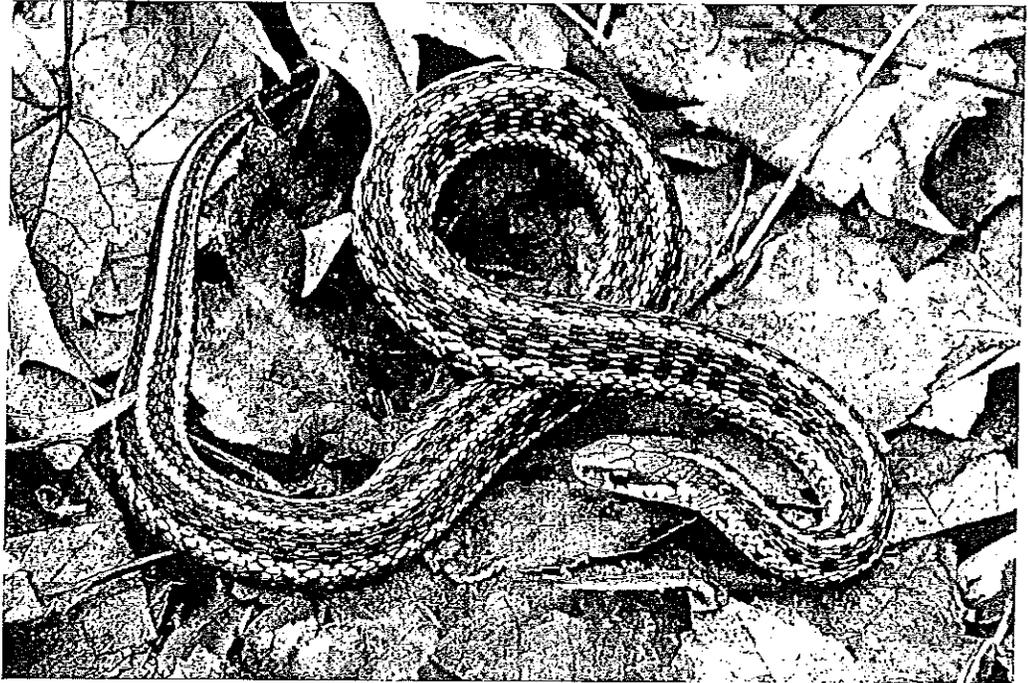
Habitat and Diet

The gartersnake's success is due to its opportunistic nature in both habitat use and food habits. The snake uses a variety of habitats, such as deciduous forests; forest edges; fields; swamps; bogs; stream, river, and pond edges; hedgerows; overgrown lawns; and grassy areas. Gartersnakes are often seen basking on wood piles, stone walls, hedges, and rocks.

Gartersnakes feed on a variety of small animals. Amphibians (frogs, toads, salamanders) are the main prey, followed by earthworms, mice, small fish, nestling birds, small snakes, leeches, slugs, snails, sowbugs, crayfish, millipedes, insects, and spiders. The saliva of the common gartersnake appears to be toxic to amphibians and other small animals and a bite may produce swelling or a rash in some people. Feeding usually occurs during daylight hours, but gartersnakes will also hunt for food in the mornings or evenings (crepuscular) and at night in hotter months and during the amphibian breeding period.

Life History

Gartersnakes mate upon emerging from hibernation in March or April. It is common to observe a group of gartersnakes wrapped into a "breeding ball," which usually consists of males with a small



P. J. JUSCO

number of females. Males will mate with more than one female. Gartersnakes do not lay eggs. Instead, the young develop within the female in a thin sac-like membrane that contains a yolk. Gestation lasts between 90 and 100 days, with young emerging from the female anytime between July and October. A typical litter ranges from 10 to 40 individuals. The young receive no parental care and disperse immediately upon birth.

Interesting Facts

The gartersnake derives its name from the resemblance of their stripes to old-fashioned sock garters.

This snake is extremely cold resistant. It is active earlier in spring and later in fall than other snakes, typically from late February through October. Activity is closely associated with weather conditions. Snakes are ectothermic (cold-blooded) and derive heat from outside the body; environmental conditions must be warm enough – between 68 and 98.6 degrees F – for the snake to adjust its body temperature to a preferred range and become active. As winter approaches and temperatures drop, the snakes will group together to hibernate for the season. This grouping is referred to as an aggregation. Hibernacula include muskrat and crayfish burrows, mud banks, rock walls, under stumps and logs, or a burrow in soft earth.

Gartersnakes, particularly young ones, are prey for many animals, such as owls, hawks, herons, bitterns, rails, turkeys, crows, jays, dogs, cats, mink, otter, skunks, raccoons, opossums, foxes, and large predacious fish. Other snake species also prey on gartersnakes, such as milk, black racer, copperhead, and larger gartersnakes. However, gartersnakes are not defenseless. Their body markings help conceal movement, preventing detection. If threatened, they quickly seek cover, concealing themselves in vegetation or hiding under rocks. If captured, they emit a foul musk odor, thrash violently to escape, or will even bite.

Common Ribbonsnake

Thamnophis sauritus

Background and Range

The slimmest and thinnest member of the *Thamnophis* genus (gartersnake group), the common ribbonsnake is less common than its relative, the common gartersnake. It is a species of special concern in Connecticut due to declining numbers and the loss and degradation of its wetland habitats.

The common ribbonsnake occurs in southern New England down the Atlantic Coast to mid-Georgia, west to Mississippi, and a short range up the river valley into lower Indiana. The species is uncommon or localized in southern New England, where it appears to have declined or become extirpated in many areas. In Connecticut, the ribbonsnake has been documented throughout the state in wetland habitats, except in Fairfield County. Some of the largest concentrations of ribbonsnakes have been found in the Central Connecticut Lowland, in and near wetlands associated with basalt (trap rock) ridges.

Description

The small (typically 20-32 inches), slender, and striped ribbon-snake is most commonly confused with its relative, the common gartersnake. The ribbonsnake is boldly patterned with three yellow stripes on a reddish-brown to black background. A distinct dark band separates each side stripe from the belly. One stripe is centered on the body, while the other two stripes run down scale rows three and four. The ribbonsnake also has keeled scales (a raised ridge is found along each scale) and a belly that is pale yellow to pale green. The tail generally accounts for one third or more of the ribbonsnake's total body length. The common ribbonsnake also has two distinct parietal "spots" atop its head, which is unique to ribbonsnakes. The head is distinctly bicolored with the top portion black and the area below the eyes and under the chin pure white. Juvenile ribbonsnakes resemble adults.

In comparison, the similar-looking gartersnake is more heavy-bodied; has a proportionately shorter tail (less than one fourth its total length); is less swift and agile; and has lateral stripes on scale rows two and three. It also can be more variably colored and more blotched or patterned. Some individuals have well-defined striping and head markings, however the majority have poorly defined patterns when compared to ribbonsnakes. Gartersnakes are found in a wide variety of habitats, from dry to wet, whereas ribbonsnakes are usually found in and near shallow water.

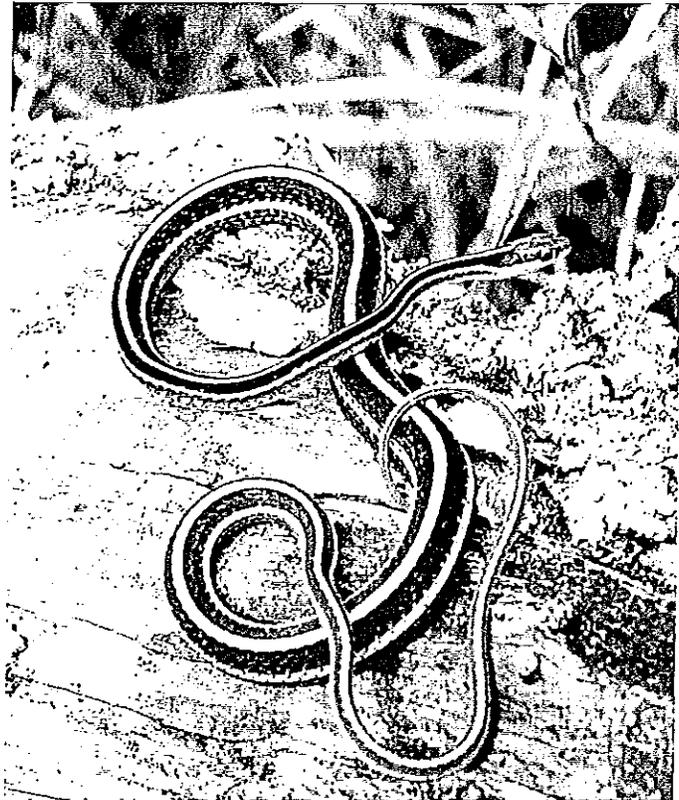
Habitat and Diet

The ribbonsnake seldom ventures from shallow aquatic habitats, and favors open, grassy, or shrubby areas bordering ponds, streams and wooded swamps. It may also be found in wet woodlands. Hibernation dens are underground, usually at higher elevations and sometimes near trap rock systems.

This snake feeds on a variety of aquatic creatures, mainly amphibians such as tadpoles, frogs, toads, and larval and adult salamanders. It also will consume small fish and some invertebrates. In turn, this snake is preyed upon by birds, mammals, fish, and large amphibians.

Life History

Ribbonsnakes are active from April through October, and generally mate in spring (April to May) after emerging from hiberna-



COURTESY D. QUINN

tion. Mating also can take place in the fall. Females give birth to 10-12 live young in July or August. The young receive no parental care after birth.

Interesting Facts

Ribbonsnakes, like their relatives the gartersnakes, are more tolerant of cooler temperatures than other snake species. Both snake species are Connecticut's earliest emerging snakes in spring. Ribbonsnakes tend to be most active during spring, but may become dormant in summer if their wetland habitat dries up. If habitat conditions improve, the snakes will become active again. This snake may be an indicator of high quality wetlands.

Comfortable both in and out of water, the ribbonsnake is an adept swimmer that prefers shallow water. Instead of diving to the bottom as a watersnake would, it swims rapidly along the shore and may disappear quickly into vegetation if threatened. In defense, a ribbonsnake may flatten its head, thrash about, and secrete a fowl smelling musk to deter predators. This snake may often be seen basking on logs, hummocks, or muskrat lodges.

The common ribbonsnake is non-venomous and harmless to humans. It is an important predator in aquatic food webs.

What You Can Do

If you encounter a ribbonsnake, observe it from a distance and allow it to go on its way. You should not try to agitate it by getting too close or handling it. It may try to bite or will release a musky odor. Common ribbonsnakes are protected by Connecticut's Endangered Species Act and persons who kill or collect this special concern snake could be faced with fines or legal action.

New England Cottontail Projects on State and Private Lands

Written by Lisa Wahle, New England Cottontail Private Lands Wildlife Specialist

The New England cottontail is found in southern New England and eastern New York. Over the past 50 years, the range of this once-common rabbit has shrunk to less than one-fifth of its historic size and its population has dwindled, so much so that this unique, native mammal now faces the possibility of being listed as a threatened or endangered species. The most critical threat faced by New England cottontails is the continuous loss of suitable habitat – brush, shrubs, and densely growing young trees, generally described as “young forest.”

In the past, natural factors, such as wildfire, storms, and flooding by beavers, created plenty of young forest habitat in the Northeast. However, development has taken over much of the land once inhabited by cottontails and other wildlife. In addition, thousands of acres that used to be young forest (ideal cottontail habitat) have grown up into mature woods where cottontails cannot live.

Creating Habitat on State Lands

Despite the decline in young forest habitat, research by the DEEP Wildlife Division has indicated that Connecticut



Timber harvester conducting a regeneration project on 20 acres at White Memorial Foundation in Litchfield.

still has widely distributed populations of New England cottontails and a fair amount of suitable habitat. However, the

department is not taking this for granted. The New England cottontail population is in serious decline regionally, and the required young forest habitat is ephemeral in nature. Major storms (like hurricanes) and wildfire cannot be counted on to create new young forest patches on a regular basis, so the DEEP needs to do the work of creating and restoring habitat patches in designated focus areas throughout the state. Biologists are working on the assumption that if good habitat is created, New England cottontails and other young forest wildlife will come... and stay! The DEEP has already created sizable habitat patches on four state properties and has immediate plans for work on six more within designated focus areas.

The Land of Goshen: More than a Temporary Home?

The DEEP recently created a large, 57-acre patch cut at the Goshen Wildlife Management Area (WMA) in Goshen adjacent to existing young forest habitat and a location where New England cottontails have been documented. This patch cut was somewhat complicated because it

continued next page



Master Wildlife Conservationists participate in a New England Cottontail Workshop at White Memorial Foundation in Litchfield.

Cottontail Rabbits

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involved work on sensitive wet soils and efforts to avoid impact to a state-listed plant of special concern. Careful timing, planning, and execution of the project were essential. After a long wait for dry weather conditions, the timber harvest was able to proceed in late summer 2012. The dry conditions made it possible for heavy-duty harvesting equipment to move around the project area without damaging the substrate. Logs were hauled out on a tracked forwarder. A two-acre island of undisturbed trees was left in the middle of the site to protect the state-listed plant. Brush piles were made to provide temporary cover for wildlife until regenerating forest and shrubs are large enough to provide more permanent cover.

Regeneration at this site is expected to be excellent for a number of reasons. The understory contained few invasive plant species and a variety of high-quality native plants, including viburnums and winterberry. The dampness of the soil is expected to encourage rapid, dense growth of vegetation. The large size of

the cut, coupled with a layer of slash left on the ground, will prevent deer browsing from impacting regeneration. New England cottontails are fully expected to move into the area within a few years.

Pachaug State Forest: #1!

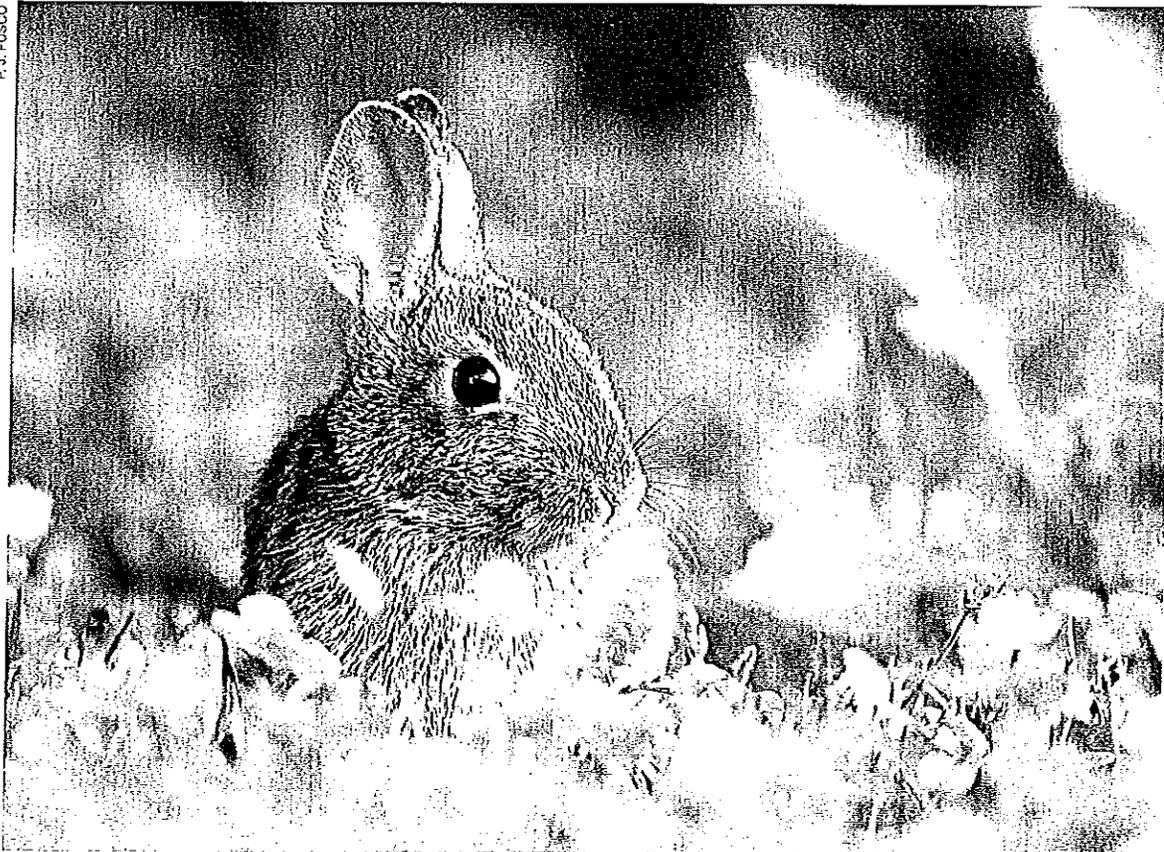
DEEP biologists have known for a while that the Wyassup Block of Pachaug State Forest, in Voluntown, is a special place for New England cottontails. A number of reports from avid rabbit hunters initially sparked interest in the area. Live-trapping and radio telemetry research confirmed a thriving population of New England cottontails near Wyassup Lake. Rabbits used in a captive breeding program at the Roger Williams Park Zoo in Rhode Island came from this location.

Pachaug State Forest is considered the "number one" location in Connecticut and the region for New England cottontails due to the presence of a healthy population and the large area of permanently conserved land within the forest (about 24,000 acres in all). However, more habitat work is needed to ensure that the forest remains number one. The young forest patch that harbored the healthy population

of cottontails resulted from forestry operations conducted in the 1990s. Unfortunately, the patch was quickly becoming too old to provide good winter cover and forage for New England cottontails. The forest canopy was closing and stem density was declining. These conditions were brought to the attention of the DEEP Division of Forestry, which immediately stepped up to conduct a forest inventory and also update the Forest Management Plan for the Wyassup Block to include habitat work for New England cottontails. The updated plan includes even-aged forest management in two large stands adjacent to existing young forest. Timber harvests in these stands will be conducted in two phases, resulting in more than 200 acres of enhanced New England cottontail habitat adjacent to a 90-acre shelterwood cut done in 2006. The need for continual regeneration of young forest through even-aged management has been written into the Pachaug State Forest Management Plan to guide forest operations in the future. With proper management and cooperation between DEEP biologists and foresters, it is anticipated that this parcel will remain Number One!

Creating Habitat on Private Lands

Clustered around state land projects are projects on private lands. The participation of private landowners in New England cottontail habitat work is critical to the successful conservation of this species, particularly because 90% of Connecticut's landscape is in private ownership. The DEEP is working with the U.S. Fish and Wildlife Service (USFWS), USDA Natural Resources Conservation Service (NRCS), Wildlife Management Institute (WMI), Northeast Fish and Wildlife Federation (NFWF), and other entities to promote and fund New England cottontail habitat projects on the ground throughout designated



Connecticut has widely distributed populations of New England cottontails and a fair amount of the rabbits' required early successional habitat. However, the Wildlife Division is undertaking a number of projects to create and maintain early successional habitats for the benefit of the cottontails and other wildlife species.

focus areas in Connecticut. Eight projects involving over 250 acres of habitat work were designed by DEEP and USFWS staff and funded by the NRCS in 2012. Eighteen additional projects are under consideration for 2013.

White Memorial: Perfect Place for a Project

In the hills of northwest Connecticut, the White Memorial

Foundation in Litchfield and Morris owns more than 4,000 acres that is used for conservation, research, education, and recreation. New England cottontails have been documented on the property, and a major young forest habitat enhancement effort on state land has been undertaken less than a mile away. White Memorial appears to be the perfect place for a New England cottontail habitat restoration project, and fortunately the Foundation staff thinks so too.

The 45-acre site that the Foundation offered for cottontail habitat work consists of old fields and pole-sized forest. Most of the area is overrun with invasive plants, such as Japanese barberry, multiflora rose, bush honeysuckle, and oriental bittersweet. The project involves tree harvest, invasive plant removal, and replacement with native shrubs through natural regeneration and plantings. Because the invasive shrubs and vines in the old fields presently provide usable habitat (though not ideal from a holistic ecological perspective), their removal will be done in two phases. Once native trees and shrubs become established in the initial cleared area, the remaining portion will be cleared. In the forested areas, two constructed brush piles will be left per acre and some tree crowns will remain on the ground to provide cover while the forest begins to regenerate.

Work began on this site in October



A 45-acre site, called Apple Hill, at the White Memorial Foundation (Litchfield) is being converted to prime New England cottontail habitat. The project involves tree harvest, invasive plant removal, and replacement with native shrubs through natural regeneration and plantings.

2012, just in time for a New England cottontail/shrubland bird seminar at the White Memorial Foundation Conservation Center. Seminar participants were Master Wildlife Conservationists and members of local bird clubs. After learning about the progressive decline of young forest and shrubland habitats in the Northeast and the need to re-create them on the landscape, participants were able to witness habitat enhancement work in action. It was probably the first time many of the participants had seen the likes of a mechanical tree harvester, Fecon mower, and forwarder. While this type of tree harvesting operation can often be upsetting to onlookers, seminar participants were seeing it through the educated eyes of habitat managers. Hopefully they will use this experience to educate others.

Groton Sportsmen's Club: Two Funding Sources for Work

Less than a mile from the region's number one ranked parcel for New England cottontail restoration in Pachaug State Forest lies a privately-owned property with documented occurrences of New England cottontails and a designation as the region's number three ranked parcel. It is the 380-acre Groton Sportsmen's Club property, which straddles the North Stonington and Voluntown border in eastern Connecticut. Management

of the property is overseen by capable stewards Bill Salisbury and Ray Thiel. In 2011, Bill and Ray submitted an application to the DEEP Wildlife Division's Landowner Incentive Program for funds to complete a small wildlife patch cut. DEEP staff and WMI contractors worked together to fund that project and several others on the property, totaling nearly 50 acres.

Bill had been trying to control invasive multiflora rose and autumn olive for years by brush-hogging and mowing several areas of the property. DEEP and WMI staff developed plans to assist the club in eradicating the unwanted invasives and then replanting with native shrubs, thus maintaining cottontail habitat. Three forest regeneration clearcuts also are planned. Brush piles in these new clearings and in a recent shelterwood cut will provide cover while the forest begins to regrow. Habitat work began in September 2012. The Landowner Incentive Program also will fund an eight-acre old field/shrubland restoration project. Through a patchwork of thickets on the property, New England cottontails and other shrubland-dependent wildlife should be able to find plenty of native food and cover to continue to thrive on the property. Find out more about these projects on the Groton Sportsmen's Club website at www.grotonsportsmen.com/hip/index.html.

Snap Shot: Mattatuck State Forest

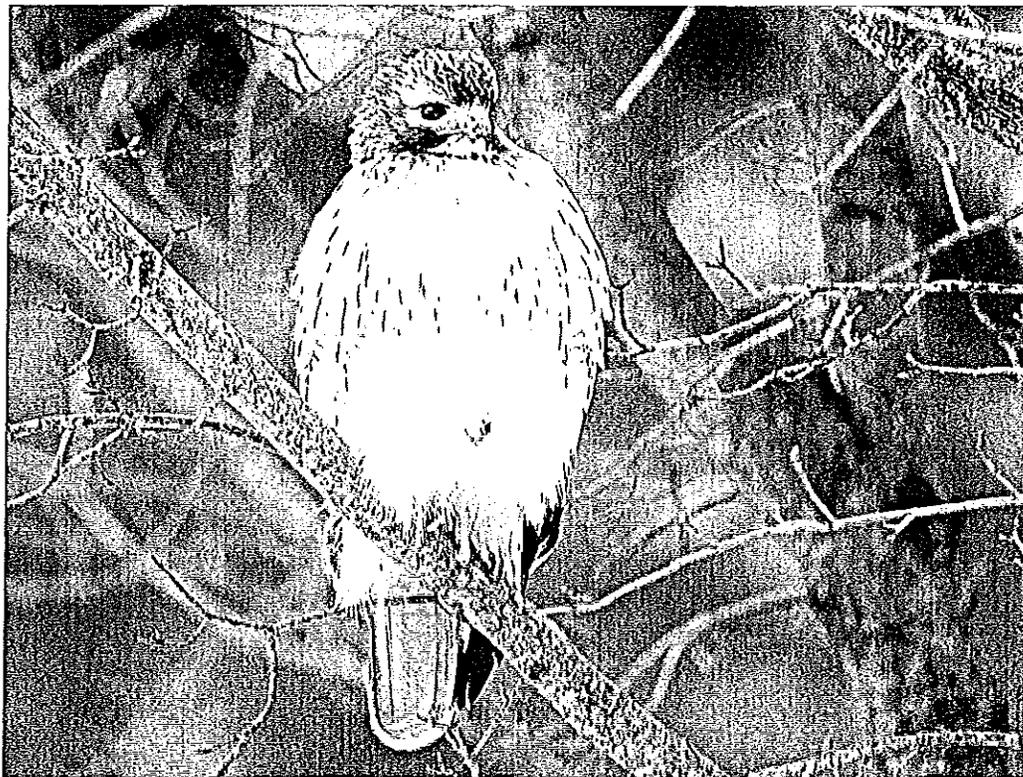
There is an ironic truth about Connecticut's forests – many of today's most treasured and scenic locales are a product of yesterday's disturbance on a grand scale. Mattatuck State Forest is one of these. The forest began as a concept of Mr. Harley F. Roberts in 1925. It was through his efforts that Mattatuck's initial 723 acres were gifted to the State of Connecticut in 1926. By 1930, through a combination of continued land donations by the Black Rock Association and purchases by the State, the forest had grown to 2,578 acres. Mr. Roberts' vision of land conservation has been well respected, for in the 87 years since his original gift, Mattatuck has grown to encompass 4,510 acres in 20 different parcels within the towns of Waterbury, Plymouth, Thomaston, Watertown, Litchfield, and Harwinton.

But, the Mattatuck State Forest we see today is not the forest Mr. Roberts knew. He saw a landscape that had been cut of its trees time and again to supply cordwood for the furnaces of the Naugatuck Valley's brass industry. Subsequent unchecked recreational use of the area also contributed to the rapid erosion of the hills into the valleys. Frequent forest fire activity also undermined the health of the forests. Fortunately, the forest began to improve under the practices of the Civilian Conservation Corps (CCC). From 1933 until 1942, Camp Roberts was home to hundreds of young men who did much of the work to turn the abused landscape into productive woodlands. Their tree planting and management stabilized the slopes and proved effective in stopping the erosion. Finally, with the protection of Connecticut's state park and forest system, the incidence of fire was reduced and sound long-term forest management practices were put into place.

Signs of the region's industrial history and resource exploitation abound on the landscape, but today's forest hides much of the evidence. Remains of quarries, lime kilns, house foundations, agricultural fields, and charcoal mounds can still be found.

Today, Mattatuck State Forest is managed responsibly and scientifically by the DEEP Division of Forestry for forest products and wildlife habitat, as well as for recreational activities, such as hiking, mountain biking, and hunting. The forest offers

Today, Mattatuck State Forest is managed responsibly and scientifically by the DEEP Division of Forestry for forest products and wildlife habitat, as well as for recreational activities, such as hiking, mountain biking, and hunting.



Raptors, like this red-tailed hawk, are regularly seen at Mattatuck State Forest.

miles of rugged trails with scenic overlooks in convenient proximity to Waterbury and surrounding towns. The forested corridor of Mattatuck lends a woodland aesthetic to a scenic drive along the Naugatuck River and provides a transition from the more industrial/urban landscape of the Naugatuck Valley to the "quieter" countryside of the Litchfield Hills. It also stands as a sure sign of nature's resilience and the determination of resource managers and conservationists to protect the resource.

Mattatuck's many parcels are spread out over several towns, offering a wide variety of forest experiences to the visitor. Various trails lead hikers past interesting topography to excellent overlooks. Of the many land parcels that make up Mattatuck State Forest, the largest – at 1,327 acres – adjoins Black Rock State Park and is accessible from the park's trails. Additionally, the well-marked, 36-mile-long Blue-Blazed Mattatuck Trail passes through several portions of the forest. (More information on the Blue-Blazed Trail System is available from the Connecticut Forest & Park Association at www.ctwood-



The most famous photo of The Old Leather Man taken on June 9, 1885 by James F. Rodgers at the Bradley Chidsey House in Branford.

lands.org.) The two most popular hikes in Mattatuck State Forest are the trails to "Whitestone Cliffs" and "Greystone."

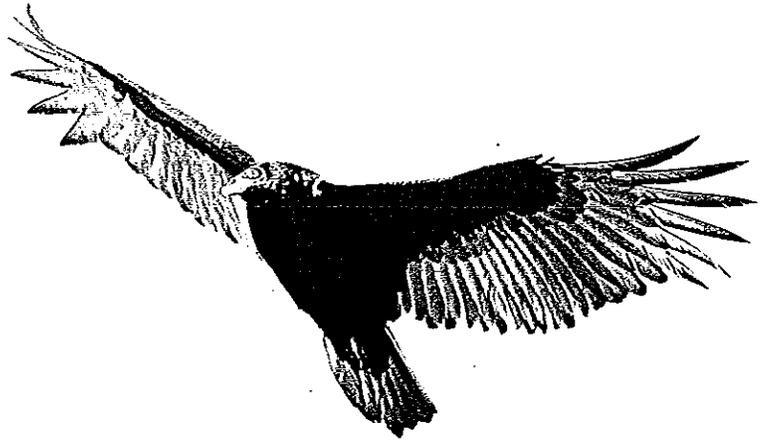
The Leather Man: The Connecticut Legend of the Leather Man is alive and well in Mattatuck State Forest. This renowned tramp in his baggy, leather suit had a 34 day, 365 mile loop through western Connecticut and eastern New York. He faithfully followed this loop for roughly three decades until his death in 1889. Each day ended 10-11 miles from the last, and his long series of evening rest areas included many cave shelters and rock overhangs. One of these was, and still remains, in Mattatuck State Forest. The Division of Forestry has developed a Letterbox Hike for those interested in following a section of the Leather Man's hike through Mattatuck State Forest to a rock cave he used for shelter. The cave could be difficult for those who are claustrophobic. Although the distance through it is short, there is a tight squeeze in low light. In order to find the letterbox, one must navigate 40 to 50 feet through the "cave" (which is actually formed from chance placement of overhangs and past ledge collapses, and is not to be confused with limestone caverns). A small flashlight may come in handy if overcast or nearing sunset. It may make your brief spelunking safer and assist you in finding the letterbox. To find directions for the Letterbox Hike, go to www.ct.gov/deep/stateparks, select Mattatuck State Forest and then click on the "Letterboxing" link.

Hunting is permitted at Mattatuck State Forest during the regulated small game, waterfowl, deer, and turkey seasons. Specific details on the season dates and regulations are available on the hunting section of the DEEP website at www.ct.gov/deep/hunting.

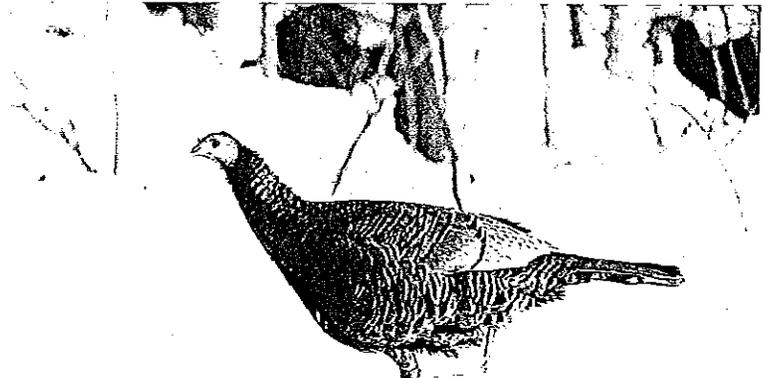
Directions to various access points, trailheads, and parking areas in Mattatuck State Forest are provided on the DEEP website at www.ct.gov/deep/stateparks, or by calling the DEEP State Parks Division at 860-424-3200. There are no fees for visiting Mattatuck State Forest. Gravel parking areas are available and the forest is not handicapped accessible.

Black Rock State Park (Thomaston/Watertown) is located on Route 6 near by Mattatuck State Forest. There is a daily charge for admittance to the park (in season) where visitors can enjoy picnicking, camping, swimming, fishing, and hiking. Check the DEEP website for more information about Black Rock State Park at www.ct.gov/deep/stateparks.

Information for this article was obtained from the DEEP website (www.ct.gov/deep/stateparks).



Turkey vultures have become a common sight over the past 20 years. Look for vultures soaring along the ridgeline that borders the Naugatuck River.



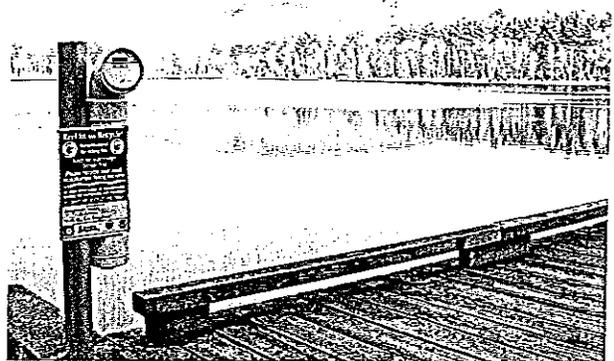
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Hunters have the opportunity to harvest a variety of wild game, including wild turkeys, at Mattatuck State Forest.

Thank You to the Naugatuck Valley Chapter of the Audubon Society

The Naugatuck Valley Chapter of the Audubon Society has installed recycling receptacles for fishing line at Reservoirs 2 and 4 in Naugatuck State Forest in Oxford. This is one example of the benefits of Naugatuck State Forest being recognized by National Audubon as an Important Bird Area (IBA). The IBA designation was granted to the state forest due to the wide diversity of bird habitats – early successional, shrubland, and young forest – created by active forest management, such as timber harvests and prescribed burns.

The Naugatuck Valley Chapter also has donated a backpack propane torch to kill invasive Japanese barberry, and created a Birder's List for Naugatuck State Forest. The Birder's List is available on the DEEP website at www.ct.gov/dep/lib/dep/forestry/nsf_bird_checklist.pdf.



DEEP - DIVISION OF FORESTRY

FROM THE FIELD

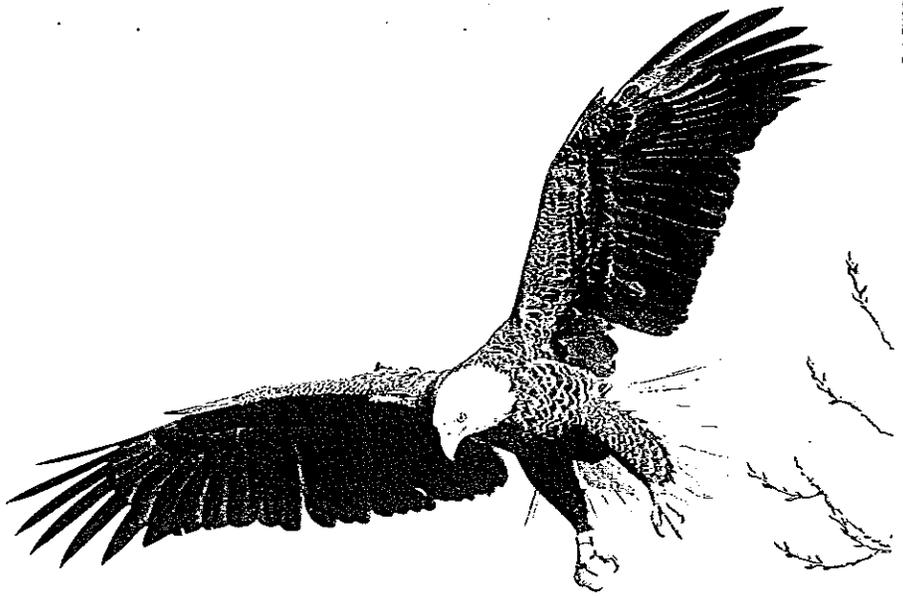
Eagle Feathers and Native Americans

The U.S. Justice Department recently announced that it would allow members of federally recognized Native American tribes to possess eagle feathers, along with feathers of other bird species. Such birds are covered under federal wildlife laws, including the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. These laws prohibit the possession, use, and sale of the feathers or other parts of federally protected bird species, as well as the unauthorized killing of such birds.

Under this new Justice Department policy, tribal members will not be prosecuted for wearing or carrying federally protected bird feathers or bird parts. These tribal members may also pick up feathers found in the wild as long as they do not disturb federally protected birds or their nests. In addition, the policy will allow the giving, lending, or trading of feathers or bird parts among tribe members, so long as such activities do not involve any compensation. The Justice Department will, however, continue to prosecute tribe members and non-members for violating federal laws that prohibit killing eagles and other migratory birds or the buying and selling of the feathers or other bird parts.

Attorney General Eric Holder stated that the new Justice Department policy strikes the right balance between enforcing wildlife laws that protect the birds and respecting the cultural and religious practices of federally recognized Native American tribes.

Currently, the U.S. Fish and Wildlife Service's National Eagle



P. J. FUSCO

Repository, located near Denver, Colorado, holds carcasses of eagles that were killed by contact with power lines or died of other causes. Native Americans may apply to the Repository for a feather or a carcass, but there is currently a waiting list to obtain feathers.

An informative Department of the Interior fact-sheet on the subject is available on the U.S. Fish and Wildlife website at www.fws.gov/home/feature/2012/pdfs/Fact-Sheet-DOI-Eagle-Feathers-Policy.pdf.

Connecticut Outdoors

Outdoor Users: Thank a Landowner Today!

With the start of the New Year, many are anticipating another year of fishing, hunting, hiking, or wildlife watching adventures. It also is the perfect time to extend your appreciation to private



landowners who offered you the privilege of accessing fishing, hunting, hiking, or wildlife watching opportunities on their properties. If you have been recreating on local land trust or other private non-profit conservation lands, be sure to include those groups on your thank you list as well. Following are some suggestions for hunters, anglers, and other outdoor users when thanking private property owners who allow access for outdoor recreation:

- Be thoughtful and personal in expressing

your appreciation, treating the landowner as you would like to be treated. If you are mentoring a new or junior hunter, angler, birder, or naturalist, include him or her in the process of thanking the landowner.

- Visit the landowner at the end of the season to express your appreciation in person. If possible, provide him or her with some of your fish and game harvest, or share images or a list of the wildlife you saw on the property.
- Send a personal note or card thanking the landowner for the opportunity to use his or her land. Consider giving a small gift such as a certificate to a local restaurant, a gift basket, or a subscription to *Connecticut Wildlife* magazine. In the case of a non-profit landowner, make a donation to their

organization.

- Offer to assist with tasks around the property that would be helpful, or identify, clean up, and properly dispose of any illegal dumping that has occurred.
- Assist the landowner in protecting the property by documenting and reporting suspicious or illegal activities to the DEEP Environmental Conservation Police at 800-842-HELP (toll-free).



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Conservation Calendar

Dec. 26-Mar. 13 **Observe bald eagles at the Shepaug Bald Eagle Viewing Area in Southbury.** Observation times are Wednesdays, Saturdays, and Sundays between 9:00 AM and 1:00 PM. Although admission is free-of-charge, advance reservations are required. To make reservations for individuals, families, and groups, call toll-free at 1-800-368-8954 between 9:00 AM and 3:00 PM on Tuesdays through Fridays.

Programs at the Sessions Woods Conservation Education Center

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

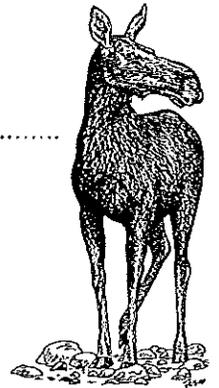
- Feb. 13..... **Bald Eagles**, starting at 6:30 PM. Laura Saucier, a technician for the Wildlife Diversity Program, will present an informative program on Connecticut's bald eagles. These majestic birds nest in the state and also can be seen during winter in suitable locations. Laura will provide insight on the bald eagle's natural history and the recovery of populations.
- Mar. 10..... **Mushrooms**, from 9:30-11:30 AM. Join the Connecticut Valley Mycological Society during their annual meeting at Sessions Woods for a mushroom presentation suitable for beginners and more seasoned mushroom seekers. The Mycological Society's meeting will include a coffee and refreshments period at 9:30 AM, with the presentation from 10:00 to 11:00 AM. Questions and answers will follow the program.
- April 28 **The Friends of Sessions Woods Annual Meeting with Talons! A Bird of Prey Experience**, starting at 1:00 PM. Attend the Friends of Sessions Woods Annual Meeting at the Sessions Woods Conservation Education Center for an up-close, unforgettable birds of prey experience. Master Falconer Lorrie Schumacher will share her knowledge about these beautiful birds and the audience will get to see the birds fly within inches of their outstretched arms. Traditionally, the Friends of Sessions Woods Annual Meeting also features a potluck dessert extravaganza preceding the presentation at 12:30 p.m. Please bring a dessert to share. Registration will ensure a seat and is greatly appreciated.
- June 23..... **SAVE THE DATE for Snake Day**, from 1:00-4:00 PM. Stay tuned to www.ct.gov/deep/yearofthesnake or www.Facebook.com/CTFishandWildlife for more details as they become available.

USFWS Begins Commemoration of 40th Anniversary of the Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) will honor the 40th Anniversary of the Endangered Species Act with a year-long commemoration of the Act that has been so successful in stabilizing populations of species at risk, preventing the extinction of many others, and conserving the habitats upon which they depend. The bald eagle, brown pelican, Lake Erie watersnake, American alligator, and Maguire daisy are all species that were on the brink of extinction, but have successfully rebounded. The wood stork, Kirtland's warbler, Okaloosa darter, black-footed ferret, and Louisiana black bear are also listed species that are showing significant progress towards recovery. These species are just a few examples of those benefiting from the protections afforded by the Endangered Species Act and the dedicated people who work to ensure their continued existence.

The USFWS has launched a dedicated web site spotlighting the history and accomplishments of efforts to protect and recover America's threatened and endangered species under the Endangered Species Act, found at www.fws.gov/Endangered/ESA40/index.html. Throughout this year, leading up to the 40th anniversary on December 28, 2013, the USFWS will celebrate stories of conservation success in every state across the country, provide information on the milestones of this historical law, share images and videos, and provide opportunities for families to participate in free, educational activities together. To connect with the Endangered Species Program throughout the year via social media, join the USFWS on Facebook at www.facebook.com/USFWSEndangeredSpecies, follow the agency on Twitter at twitter.com/USFWSEndsp, watch their YouTube Channel at www.youtube.com/usfws#p/c/7E8264DA432377C9, and download photos from their Flickr page at www.flickr.com/photos/usfwsHQ/collections/72157629000041201.

America's fish, wildlife and plant resources belong to all of us, and ensuring the health of imperiled species is a shared responsibility. Learn more about the USFWS's Endangered Species Program and explore what endangered species are near you by visiting www.fws.gov/Endangered.



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