

**AGENDA**

Inland Wetland Agency  
Regular Meeting  
Monday, April 5, 2010  
Council Chambers, Audrey Beck Building

Call to Order: 7:00 PM

Review of Minutes of Previous Meetings and Action Thereon:

3.01.2010 - Regular Meeting

Communications:

Conservation Commission: There were no referrals.  
GM monthly business memorandum

Old Business:

W1447 - IWA Regulation Revisions  
Current Draft dated 1-21-2010

New Business:

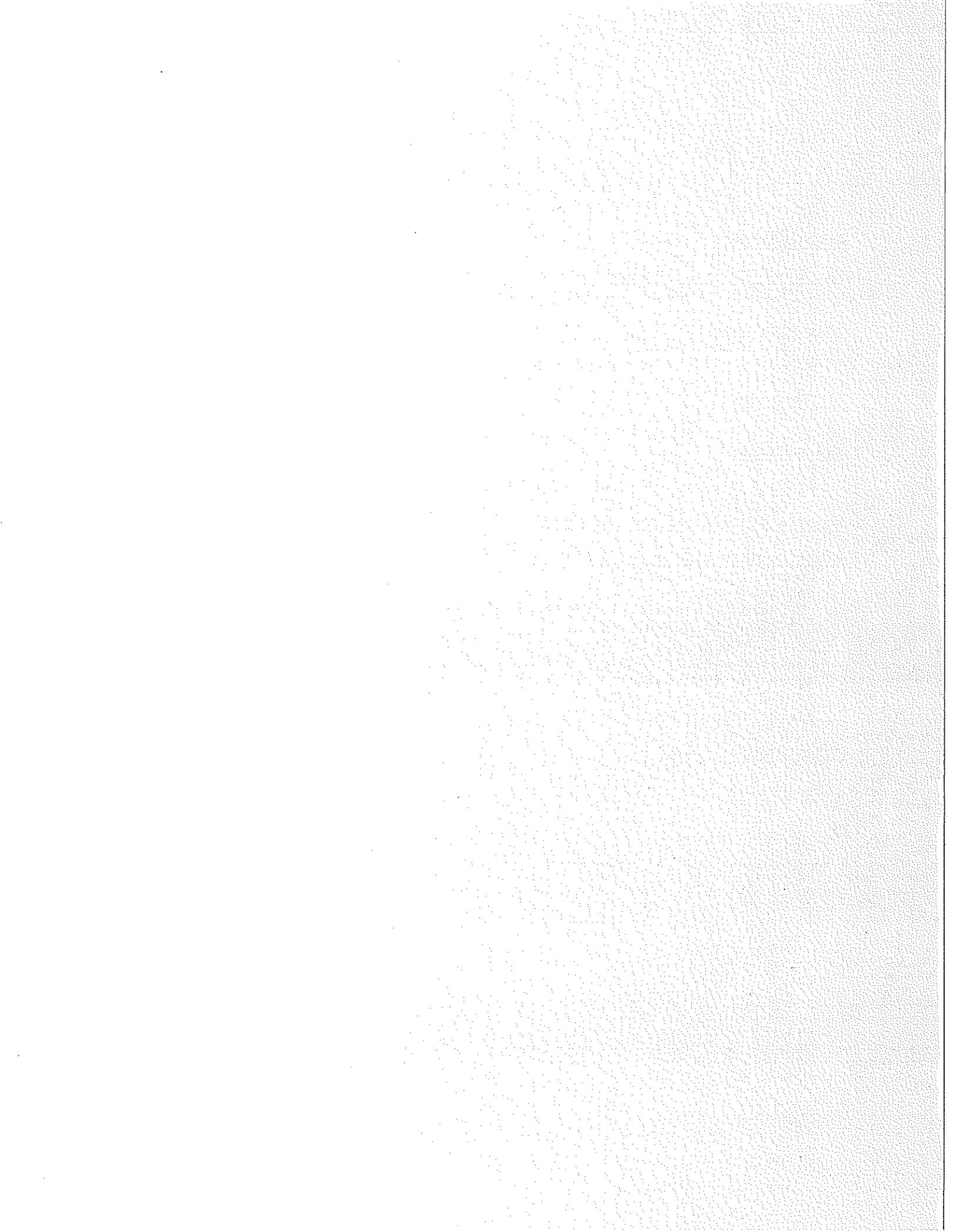
W1450 - Town of Mansfield - Healey easement path in buffer  
W1451 - Town of Mansfield - IWA Regulation revision per new statute

Reports of Officers and Committees:

Other Communications and Bills:

Connecticut Wildlife  
Habitat  
DEP Swan Lake outlet improvements approval  
DEP Commissioner Marrela to Kessel  
DEP to UConn, Richard Miller re: Mirror Lake dredging  
Dept. of Health to Kessel re: drinking water standards  
Kessel to Commissioner Marrela re: UConn projects  
Kessel to DEP Inland Water Resources re: UConn projects  
State Forestry Practices Board

Adjournment:



**DRAFT MINUTES**  
MANSFIELD INLAND WETLANDS AGENCY  
Regular Meeting  
Monday, March 1, 2010  
Council Chambers, Audrey P. Beck Municipal Building

Members present: R. Favretti (Chairman), M. Beal, J. Goodwin, R. Hall, K. Holt, G. Lewis, P. Plante, B. Ryan  
Members absent: B. Pociask  
Alternates present: F. Loxsom, Kenneth Rawn, Vera Stearns  
Staff present: G. Meitzler (Wetlands Agent)

Chairman Favretti called the meeting to order at 7:02 p.m. Alternate F. Loxsom was appointed to act in the absence of B. Pociask.

**Minutes:**

2-1-10 – R. Hall MOVED, G. Lewis seconded, to approve the 2-1-10 minutes as written. B. Ryan disqualified, all others in favor, MOTION PASSED.

**Communications:**

2-25-10 Wetlands Agent's Monthly Business report was noted.

**Old Business:**

**Public Hearings:**

W1447 - IWA Regulation Revisions 1-21-2010 Draft

Chairman Favretti opened the Public Hearing at 7:22. Members present were R. Favretti, M. Beal, J. Goodwin, R. Hall, K. Holt, G. Lewis, P. Plante, B. Ryan, and alternates F. Loxsom, K. Rawn and V. Stearns. Alternate F. Loxsom was appointed to act. Grant Meitzler, Wetlands Agent read the legal notice as it appeared in the Chronicle on 2/16/10 and 2/24/10. Meitzler noted the following communications received and distributed to the Commission: a 2/25/10 memo from G. Meitzler, Wetlands Agent; a 2/17/10 letter from S. Tessitore, State DEP, Supervising Environmental Analyst; and a 3/1/10 letter from D. O'Brien, Town Attorney. It was also noted that an email received today from the Chairman of the Conservation Commission reported no objection.

Meitzler briefly summarized the regulation revisions and noted that they were based on the latest draft DEP model regulations. There being little deviation from what practice has been, the revisions are intended to clarify the process. Gregory Padick, Director of Planning, indicated that the 150-foot buffer area is maintained in the revised regulations.

Beverly Simms of 61 Northwood Road, Mansfield, expressed concern for the protection of wetlands and in particular those related to the proposed Ponde Place development.

K. Holt stated that she was pleased that the regulations revision process was nearing completion. Noting no further comments or questions from the audience or the Agency, M. Beal MOVED, K. Holt seconded, to close the Public Hearing at 7:32 p.m. MOTION PASSED UNANIMOUSLY.

W1445 (W1419) - Chernushek, additional gravel removal and constr. haul road

Chairman Favretti noted a 2/24/10 letter from the applicant to withdraw the application. K. Holt MOVED, R. Hall seconded, to accept the applicant's request to withdraw his application. MOTION PASSED UNANIMOUSLY.

**New Business:**

**Administrative Ruling:**

W1449 - Juniper Hill - Green improvements to lawns and drainage

Meitzler noted a 2/23/10 letter from Christopher Gagnon, P.E., Godfrey-Hoffman Associates, LLC; a 2/23/10 letter from Edward A. Austin, President, Mansfield Retirement Community; and a 2/25/10 site map.

Christopher Gagnon, Professional Engineer with the firm of Godfrey-Hoffman Associates LLC of North Haven, Connecticut, as representative for the applicant, requested an administrative approval of the site plan. There are some wetlands in the project area, but affect is limited to the outfalls of the storm water management system. The proposed maintenance work would minimize impacts down-gradient of the project, improve safety for the residents and be a benefit to the community. Replacement of parking area with a more permeable surface is not planned due to soil characteristics, but they will eliminate the area where "ponding" occurs. There are no plans for oil separators at this time as the focus will be on bio-swales and non-structural measures that will be easier to maintain. However, separators will be considered as final plans are prepared. Final plans would be provided to the Town for review by engineering staff, and all zoning permits and building permits for the project would be obtained. An official motion of the Agency is sought so that they may proceed and adhere to stringent time limits provisions of a HUD grant.

Ed Austin of 844 Storrs Road, Mansfield, President of the Board of the Mansfield Retirement Community Inc. noted that Juniper Hill Village, a 100-unit facility, has had the assistance of the Town in receiving Small Cities Grants in the past for system upgrades, the installation of a sprinkler system and kitchen improvements. They hope to receive \$1,500,000.00 from a grant application and are in position to present the project proposal to the HUD committee. There will be a 12-month time limit to finish the project in order to qualify for the grant proceeds. Mr. Austin stressed the potential benefit to both residents and the community of the "green program" associated with the project.

K. Holt MOVED, R. Hall seconded, to make a declaratory ruling that an exemption from licensing requirements is granted pursuant to Sections 3.3 D, 3.4 A, and 3.4 B of the Wetlands and Watercourses Regulations of the Town of Mansfield to Juniper Hill Village (file no. W1449), for site improvements to be made within regulated areas along the westerly areas of the Juniper Hill Village development, consisting of sidewalk and yard drainage improvements, replacement of damaged storm drains, and improved outlet conditions, as outlined in application submissions including a map dated 2.25.2010.

This action is based on a finding of essential conformance with the requirements of Section 3 of the wetlands regulations, and is conditioned on the following provision being met:

1. Detailed plans are to be submitted for review by staff before any work begins to determine conformance with the descriptions of work planned, as outlined in the application submissions.

This approval is valid for a period of five years (until March 1, 2015), 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.

**Reports of Officers and Committees:** None.

**Other Communications and Bills:** K. Rawn indicated interest in attending the 2010 Municipal Inland Wetland Commissioners Training Program as being offered by DEP. It was noted that G. Lewis has completed this program in the past. G. Meitzler noted a 2/8/10 letter from S. Hill, P.E., Manager of State Design Bureau of Engineering and Construction DOT regarding replacement of piping on North Eagleville Road from Eagleville Brook, at the upper crossing area near the university.

**Adjournment:** Favretti declared the meeting adjourned at 7:35 p.m.

Respectfully submitted,

Katherine Holt, Secretary

Memorandum:

March 31, 2009

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.

**Mansfield Auto Parts - Route 32**

- 12.08.08: Inspection - no vehicles are within 25' of wetlands.
- 1.16.09: Inspection - no vehicles are within 25' of wetlands.
- 2.24.09: Inspection - no vehicles are within 25' of wetlands.
- 3.06.09: Inspection - no vehicles are within 25' of wetlands.
- 4.14.09: Inspection - no vehicles are within 25' of wetlands.
- 5.11.09: Inspection - no vehicles are within 25' of wetlands.
- 6.10.09: Inspection - no vehicles are within 25' of wetlands.
- 7.16.09: Inspection - no vehicles are within 25' of wetlands.
- 8.12.09: Inspection - no vehicles are within 25' of wetlands.
- 9.14.09: Inspection - no vehicles are within 25' of wetlands.
- 10.27.09: Inspection - no vehicles are within 25' of wetlands.
- 11.30.09: Inspection - no vehicles are within 25' of wetlands.
- 12.28.09: There are two cars that need to be moved. Mr. Bednarczyk indicates their payloader is down for repairs and the cars will be moved as soon as it is repaired.
- 1.27.10: No change - the payloader is apart with parts on order to complete repairs. It is of 1986 vantage and finding parts is a major proposition.
- 2.18.10: Same - they are in the process of rebuilding the engine on the payloader.
- 3.30.10: Same - Mr. Bednarczyk indicates a contuing problem finding engine parts.

DRAFT MOTION

**W1447 - Inland Wetland and Watercourse Regulation Revisions**

\_\_\_\_\_ MOVED, \_\_\_\_\_ seconded, that the Mansfield Inland Wetlands Agency adopt the attached Mansfield Inland Wetlands Regulation revisions, pursuant to the Connecticut General Statutes and State regulations,. The adopted regulation revisions were presented as an 1/21/2010 draft at the Agency's 3/01/2010 Public Hearing, and are to become effective May 1, 2010.

The adopted regulation revisions have been referred to the Commissioner of the Department of Environmental Protection, the Mansfield Town Council, the Mansfield Conservation Commission, and Dennis O'Brien, Town Attorney.

These revised regulations have been drafted in the format of the Department of Environmental Protection Model Regulations which are widely used by towns throughout the state and maintain statutory requirements very closely.

Staff is further instructed to forward a copy of the adopted regulations to the Commissioner of Environmental Protection.

PAGE  
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Memorandum:

March 31, 2010

To: Inland Wetland Agency  
From: Grant Meitzler, Inland Wetland Agent  
Re: New Business for the April 5, 2010 meeting

**Administrative Ruling:**

W1450 - Town of Mansfield - Healey easement path in buffer

	yes	no
	-----	-----
fee paid .....		n.a.
certified receipts .....		x
map dated .....		4.15.2009

This application is for construction of a wheel path for access between two town parcels in Mansfield Center. This will be a gravel path located in an easement at the rear of the Healey property along the edge of the large wetland farther to the rear.

Receipt and referral to the Conservation Commission is appropriate.

W1451 - Town of Mansfield - New statute regulation revisions

These statutory changes require changes for renewal of some specific wetlands permits. Formal adoption of these changes requires a public hearing and referrals.

I recommend setting a public hearing date of June 7, 2010 based on the requirement for notice of the revisions to the Commissioner of Environmental Protection 45 days in advance of the public hearing.

PAGE  
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**APPLICATION FOR PERMIT  
 MANSFIELD INLAND WETLANDS AGENCY  
 4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268  
 TEL: 860-429-3334 OR 429-3331  
 FAX: 860-429-6863**

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

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

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

**Part A - Applicant**

Name Town of Mansfield  
 Mailing Address 10 South Eagleville Road  
Storrs - Mansfield Zip 06268  
 Telephone-Home \_\_\_\_\_ Telephone-Business 860-429-3015 x204

**Title and Brief Description of Project**

\_\_\_\_\_  
 \_\_\_\_\_

**Location of Project**

**Intended Start Date**

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

Name Michael and Mary Healey  
 Mailing Address 126 Lynch Rd  
Chaplin, CT Zip 06235  
 Telephone-Home 860-377-9901 Telephone-Business 860-455-0696

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

Signature See attached authorization date \_\_\_\_\_

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

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

1) Describe in detail the proposed activity here or on an attached page. (See guidelines at end of application - page 6.)

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

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

Construct an agricultural and recreational access consisting of a 12-foot wide 250-foot long gravel surface.

- a) no activity
- b) 120 yd<sup>3</sup> of top soil will be stripped and stock piled on the western section of the Healey property.
  - Silt fence will be installed down gradient of construction activity
  - A drainage culvert on the southerly portion of the access easement with outlet protection to disperse flow will be installed
  - The access drive will be resurfaced with 120-150 yd<sup>3</sup> of gravel, processed gravel and stone dust, per plan
  - Fencing will be installed per plan

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

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

- a) There will be no disturbance within the watercourse/wetland
- b) There will be approximately 500ft<sup>2</sup> of cumulative site disturbance

3) Describe the type of materials you are using for the project: processed gravel, rip rap, stone dust, culvert, fencing

- a) include **type** of material used as fill or to be excavated Topsoil, processed gravel, rip-rap, stone dust
- b) include **volume** of material to be filled or excavated 120 yd<sup>3</sup> of top soil will be stripped and access drive will be resurfaced with 120-150 yd<sup>3</sup> of gravel, rip-rap, and stone dust

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

To control erosion and sedimentation silt fencing, hay bales and rip-rap protection will be used. Disturbed areas will be re-seeded as necessary.

**Part D - Site Description**

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

Gently to moderate (6-8% gradient) sloping to the wetland

**Part E - Alternatives**

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

To maintain an agricultural and recreational access that is not prone  
to erosion this improved access is needed.

**Part F - Map/Site Plan (all applications)**

1) Attach to the application a map or site plan showing existing conditions and the proposed project in relation to wetland/ watercourses. Scale of map or site plan should be 1" = 40'; if this is not possible, please indicate the scale that you are using. A sketch map may be sufficient for small, minor projects. (See guidelines at end of application – page 6.)

2) Applicant's map date and date of last revision April 15, 2009

3) Zone Classification \_\_\_\_\_

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

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

See Section 6 of the Mansfield Regulations for additional requirements.

**Part H - Notice to Abutting Property Owners**

1) List the names and addresses of abutting property owners

Name	Address
<u>See attached</u>	

2) **Written Notice to Abutters** . You must notify abutting property owners by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. Postal receipts of your notice to abutters must accompany your application. (This is not needed for exemptions).

**Part I - Additional Notices, if necessary**

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

2) Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to

the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

- 3) The Statewide Reporting Form (attached) shall be part of the application and specified parts must be completed and returned with this application.

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

- 1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site? \_\_\_ Yes  No \_\_\_ Don't Know
- 2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know
- 3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality? \_\_\_ Yes  No \_\_\_ Don't Know

**Part K - Additional Information from the Applicant**

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

**Part L - Filing Fee**

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

\_\_\_ \$365. \_\_\_ \$110. \_\_\_ \$60. \_\_\_ \$25. *NA*

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

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

*Stanifer Kaufman*  
Applicant's Signature

*3-11-2010*  
Date

Mike and Mary Healey  
476 Storrs Rd  
Mansfield, CT 06250

29.113.18  
GITSIS CONNECTICUT  
REALTY LLC  
466 STORRS RD

MANSFIELD CENTER CT 06250

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29.96.19  
BRAZEAU MARK  
463 STORRS RD  
MANSFIELD CENTER CT 06250

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29.113.15  
OLIVER JOHN W and JENNIFER M  
PO BOX 635  
MANSFIELD CENTER CT 06250

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29.113.17  
MANSFIELD TOWN OF  
OPEN SPACE STORRS ROAD  
31 BASSETTS BRIDGE RD  
MANSFIELD CENTER CT 06250

29.113.17A  
HEALEY MICHAEL C and MARY C  
126 LYNCH RD  
CHAPLIN CT 06235

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29.113.17B  
MANSFIELD TOWN OF  
OPEN SPACE BASSETTS BRIDGE ROAD  
4 SO EAGLEVILLE RD  
STORRS CT 06268

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29.96.17  
JOHNSTON BRENDAN B  
477 STORRS RD  
MANSFIELD CENTER CT 06250

29.96.18  
PERKINS MARK H SR  
P O BOX 162  
MANSFIELD CENTER CT 06250

# MANSFIELD INLAND WETLAND AGENCY

## ABUTTER NOTIFICATION FORM

to be sent by Certified Mail

<http://www.usps.com/send/waystosendmail/extraservices/certifiedmailservice.htm>

Pursuant to Mansfield's Inland Wetland Agency notification requirements, abutting property owners are hereby notified of a wetland application pending before the Inland Wetland Agency. The complete file for this application is available for review in the Planning Office. Questions regarding the application or application review process may be addressed by calling the Planning Office at (860) 429-3330 or emailing at [www.PlanZoneDept@mansfieldct.org](mailto:www.PlanZoneDept@mansfieldct.org)

### I. Public Hearing/Meeting Dates:

Date/Time of Next Scheduled Meeting: April 5, 2010

At the above listed scheduled meeting date the Wetland application will be received by the Agency. No presentation by the applicant will be given at this meeting. Public comment (written or verbal) is encouraged to be presented at the next regularly scheduled meeting.

For more details (date and time) of the next meeting, please contact the Planning Office at (860)429-3330.

II. Location of Proposal: 476 Storrs Road

III. Applicant: Town of Mansfield

Owner: Michael and Mary Healey

IV. Proposed Use: Recreational and Agricultural

V.

VI. (Statement of Use/Statement of Justification to be attached)

VII. Map: (Attach 8 1/2x11" or 11x17" map depicting proposal)

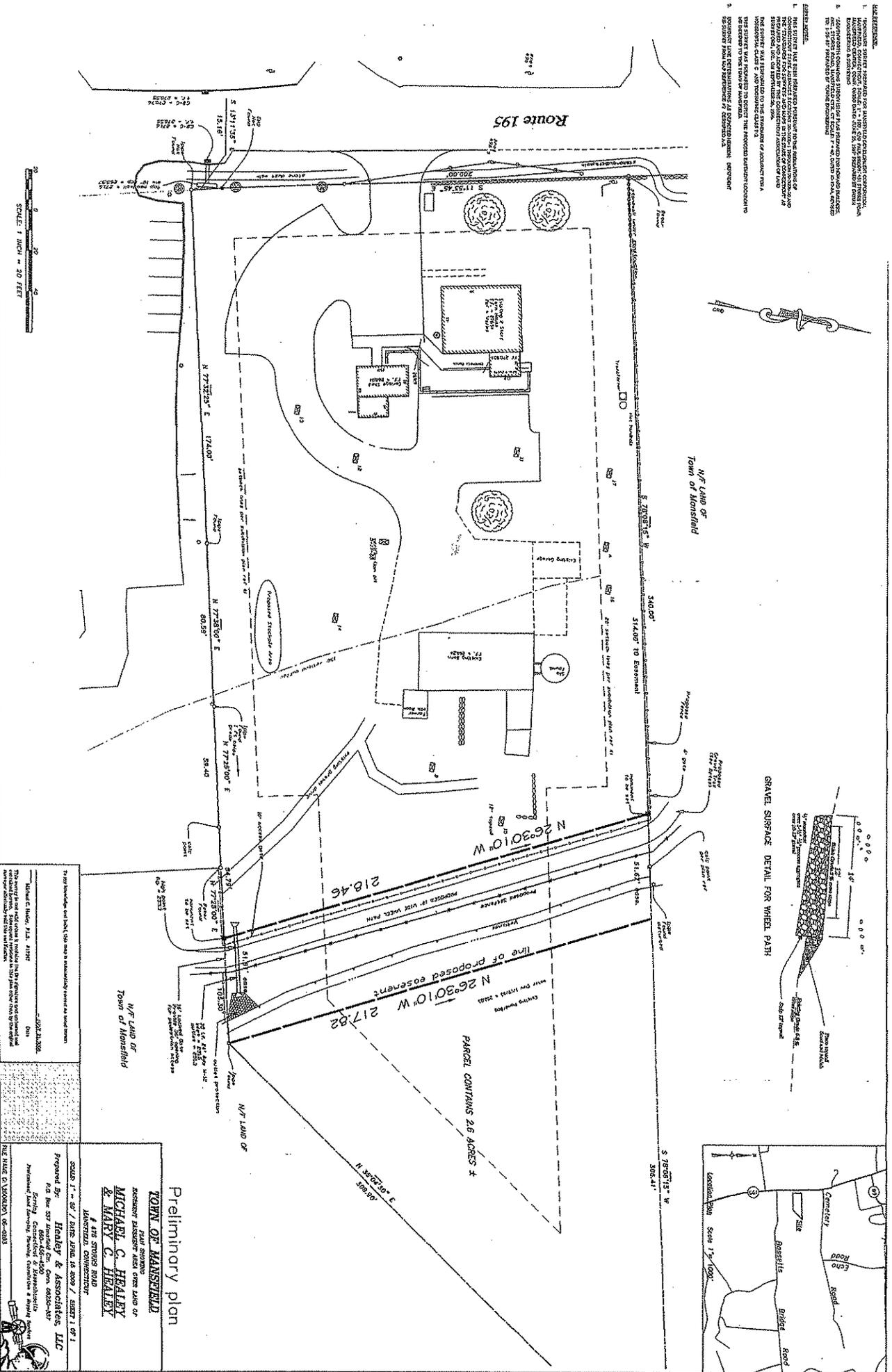
\*Notices are to be sent within 7 (seven) days of the receipt of the application by the office staff. To verify that Notice requirements have been met, applicants are required to submit Certified Mailing receipts and one copy of information mailed to property owners to the Planning Office. Failure to meet Notice requirements or to submit return receipts to the Planning Office promptly may necessitate application processing delays.

## **Statement of Use/Justification**

### **PROJECT DESCRIPTION**

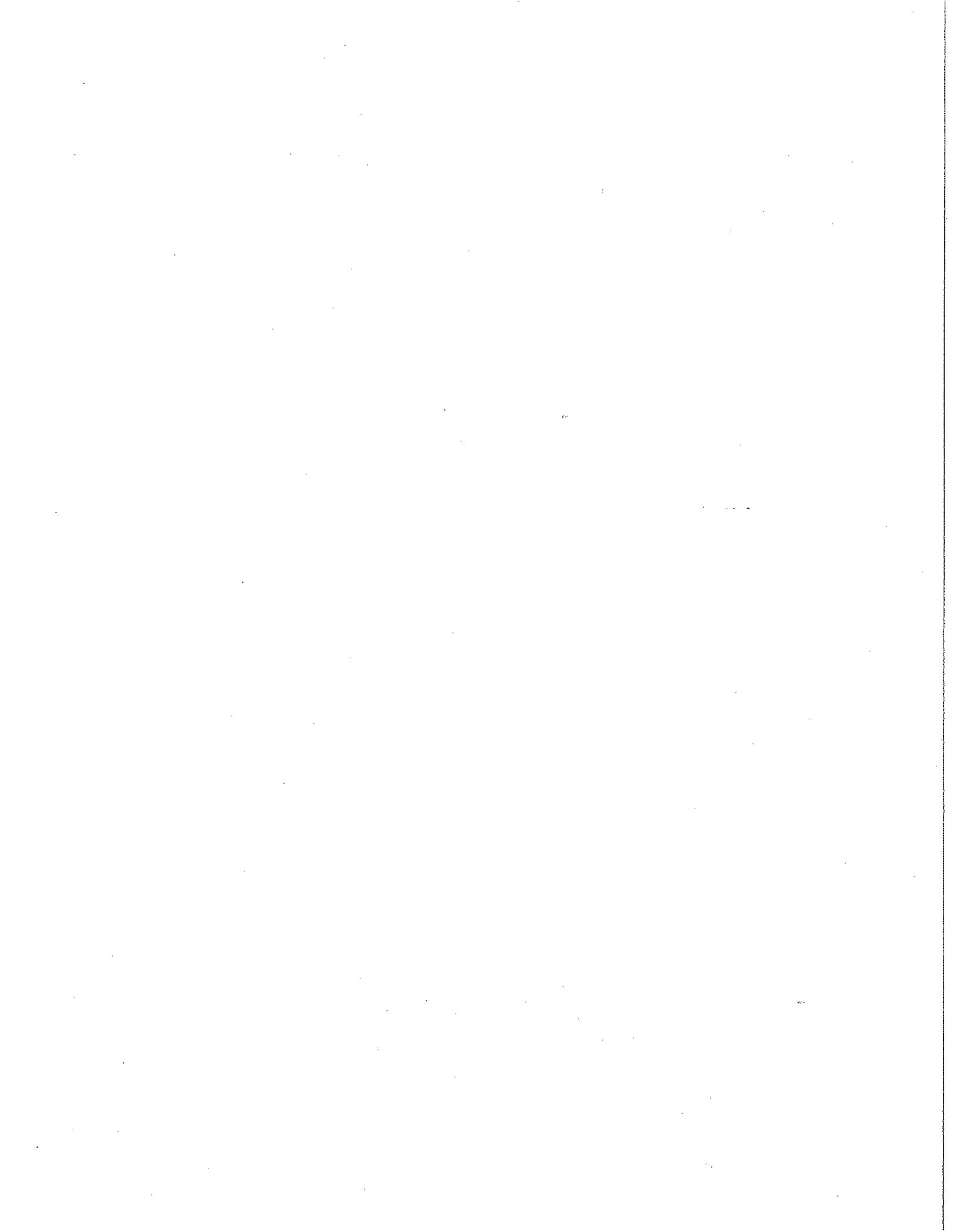
The Town of Mansfield proposes to improve public access by constructing an agricultural and recreational access consisting of a 12-foot wide, 250-foot long gravel surface for pedestrian and agricultural use within the regulated area for wetlands. The proposed access will allow the Town to link the cultural, historic features of Mansfield Center within the Town-owned Commonfields. The construction details of the proposed access are shown on the attached plan.

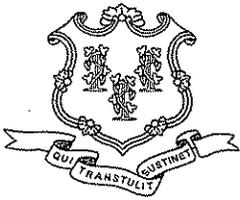
1. THIS SURVEY WAS MADE FOR THE PURPOSE OF SUBDIVIDING THE PROPERTY OF MICHAEL C. HEALEY & MARY C. HEALEY, TRUSTEES, INTO TWO LOTS, ONE BEING 2.8 ACRES AND THE OTHER BEING 1.2 ACRES, FOR THE PURPOSE OF SELLING THE SAME TO THE TOWN OF HANSHIELD, NEW JERSEY.
2. THE PROPERTY IS LOCATED IN THE TOWNSHIP OF HANSHIELD, NEW JERSEY, AND IS BOUND BY ROUTE 195 TO THE NORTH, THE TOWN OF HANSHIELD TO THE SOUTH, AND THE TOWNSHIP OF HANSHIELD TO THE WEST.
3. THE SURVEY WAS MADE BY MEASUREMENT AND CALCULATION, AND THE ACCURACY OF THE SAME IS GUARANTEED TO BE WITHIN THE TOLERANCES SET FORTH IN THE PROFESSIONAL SURVEYING ACT, N.J.A.C. 17:27.
4. THE SURVEY WAS MADE IN ACCORDANCE WITH THE PROFESSIONAL SURVEYING ACT, N.J.A.C. 17:27, AND THE SURVEYOR'S LICENSE NO. 12345.
5. THIS SURVEY WAS MADE FOR THE PURPOSE OF SUBDIVIDING THE PROPERTY OF MICHAEL C. HEALEY & MARY C. HEALEY, TRUSTEES, INTO TWO LOTS, ONE BEING 2.8 ACRES AND THE OTHER BEING 1.2 ACRES, FOR THE PURPOSE OF SELLING THE SAME TO THE TOWN OF HANSHIELD, NEW JERSEY.



This survey was made for the purpose of subdividing the property of Michael C. Healey & Mary C. Healey, Trustees, into two lots, one being 2.8 acres and the other being 1.2 acres, for the purpose of selling the same to the Town of Mansfield, New Jersey. The survey was made by measurement and calculation, and the accuracy of the same is guaranteed to be within the tolerances set forth in the Professional Surveying Act, N.J.A.C. 17:27. The survey was made in accordance with the Professional Surveying Act, N.J.A.C. 17:27, and the Surveyor's License No. 12345.

**Preliminary plan**  
**TOWN OF HANSHIELD**  
 PARCEL CONTAINS 2.8 ACRES ±  
 MICHAEL C. HEALEY & MARY C. HEALEY  
 TRUSTEES  
 475 STOVES ROAD  
 HANSHIELD, NEW JERSEY  
 Prepared by: Michael C. Healey & Associates, LLC  
 P.O. Box 877 Mansfield, NJ 07033-0877  
 Phone: 908-661-4400  
 Fax: 908-661-4400  
 Professional Seal: Michael C. Healey, Surveyor  
 License No. 12345  
 Date: 08/21/2008





STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



W

To: Connecticut's Municipal Inland Wetlands Agencies

From: Betsey Wingfield  
Bureau Chief  
Bureau of Water Protection and Land Reuse

PBW  
PAR BU  
4 Mar 2010

Received  
3-10-2010  
Grant  
Meigler

Dated: March 3, 2010

Re: 2009 Legislation and Regulations Advisory

The 2009 Legislature amended section 22a-42a of the Connecticut Inland Wetlands and Watercourses Act with the passage of Section 3 of Public Act 09-181. This Public Act adds a new subsection (g) to section 22a-42a. This amendment went into effect upon passage of the Public Act on July 2, 2009.

Section 22a-42a of the Connecticut Inland Wetlands and Watercourses Act pertains to the establishment of wetland and watercourse boundaries by regulation, the adoption of inland wetlands agency regulations, inland wetlands agency permits, and filing fees. Public Act 09-181 added a new subsection (g) to section 22a-42a which allows permits issued during the period from July 1, 2006 to July 1, 2009 to be valid for not less than six years, and any such permit may be renewed upon certain circumstances, provided no such permit be valid for more than eleven years. Permits issued prior to July 1, 2006 or after July 1, 2009 are not subject to this amendment.

A complete copy of Public Act 09-181 is attached for your use with the amended language designated by "NEW". You should plan to revise your regulations to reflect the amendment to Section 22a-42a. Please note that only the revised language in section 3 of Public Act 09-181 is relevant to inland wetlands agencies. Changes to the other sections of the public act, while noted as "NEW", do not apply to inland wetlands agencies.

If your regulations follow the Inland Wetlands and Watercourses Model Municipal Regulations (IWWMMR) Fourth Edition dated May 1, 2006, you should plan to revise the following sections as noted.

*Section 7: Application Requirements*

The underlined language noted below is new and should be added to your regulations.

- 7.10 Any application to renew a permit shall be granted upon request of the permit holder unless the Agency finds that there has been a substantial change in

circumstances which requires a new permit application or an enforcement action has been undertaken with regard to the regulated activity for which the permit was issued provided a) no permit issued during the time period from July 1, 2006, to July 1, 2009, inclusive, shall be valid for more than eleven years; and b) no permit issued prior to July 1, 2006 or after July 1, 2009 may be valid for more than ten years.

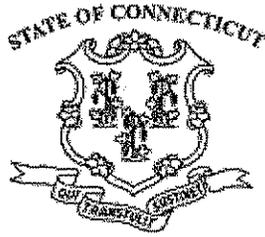
*Section 11: Decision Process and Permit*

The underlined language noted below is new and should be added to your regulations.

- 11.6 Any permit issued by the Agency prior to July 1, 2006 or after July 1, 2009 for the development of land for which an approval is required under section 8-3, 8-25 or 8-26 of the Connecticut General Statutes shall be valid for five years provided the Agency may establish a specific time period within which any regulated activity shall be conducted. Any permit issued by the Agency prior to July 1, 2006 or after July 1, 2009 for any other activity shall be valid for not less than two years and not more than five years. Any permit issued by the Agency during the time period from July 1, 2006, to July 1, 2009, inclusive, shall expire not less than six years after the date of such approval.

Please be reminded it is our understanding that Section 3 of Public Act 09-181 governs until such time that your regulations are revised.

Should you have any further questions regarding the above changes, please feel free to contact Darcy Winther of the Wetlands Management Section at (860) 424-3019.



**Substitute House Bill No. 5254**

**Public Act No. 09-181**

**AN ACT CONCERNING EXTENDING THE TIME OF EXPIRATION OF CERTAIN LAND USE PERMITS.**

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

Section 1. Section 8-3 of the general statutes is amended by adding subsection (m) as follows (*Effective from passage*):

(NEW) (m) Notwithstanding the provisions of this section, any site plan approval made under this section during the period from July 1, 2006, to July 1, 2009, inclusive, except an approval made under subsection (j) of this section, shall expire not less than six years after the date of such approval and the commission may grant one or more extensions of time to complete all or part of the work in connection with such site plan, provided no approval, including all extensions, shall be valid for more than eleven years from the date the site plan was approved.

Sec. 2. Section 8-26c of the general statutes is amended by adding subsection (e) as follows (*Effective from passage*):

(NEW) (e) Notwithstanding the provisions of this section, any subdivision approval made under this section during the period from July 1, 2006, to July 1, 2009, inclusive, shall expire not less than six years after the date of such approval and the commission may grant one or more extensions of time to complete all or part of the work in connection with such subdivision, provided the time for all extensions under this subsection shall not exceed eleven years from the date the subdivision was approved.

Sec. 3. Section 22a-42a of the general statutes is amended by adding subsection (g) as follows (*Effective from passage*):

(NEW) (g) Notwithstanding the provisions of subdivision (2) of subsection (d) of this section, any permit issued under this section during the period from July 1, 2006, to July 1, 2009, inclusive, shall expire not less than six years after the date of such approval. Any such permit shall be renewed upon request of the permit holder unless the agency finds that there has been a substantial change in circumstances that requires a new permit application or an enforcement action has been undertaken with regard to the regulated activity for which the permit was issued, provided no such permit shall be valid for more than eleven years.

Sec. 4. Section 8-26g of the general statutes is amended by adding subsection (c) as follows  
*(Effective from passage):*

(NEW) (c) Notwithstanding the provisions of this section, any approval of a subdivision of land for a project of four hundred or more dwelling units made during the period from July 1, 2006, to July 1, 2009, inclusive, shall expire not less than eleven years after the date of such approval.

Approved July 2, 2009

# Connecticut Wildlife



# Eye on the Wild

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# Connecticut Wildlife

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



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As we wrap up this issue of Connecticut Wildlife, it is still cold and snowy outside and we are wondering if spring will ever come. Whenever it is time to work on the March/April issue, I start looking forward to spring and one of my favorite events of the season – the migration of frogs and salamanders from their forest homes to nearby vernal pools where they breed and lay eggs. Being a transplant to Connecticut from first the Midwest and then the Rocky Mountains, my initial experience with this amphibian migration was a moment to remember. During the first spring at our house in Meriden more than two decades ago, I opened the back door on a warm, rainy night to find a slew of spotted salamanders waiting to come in. Walking outside, I found salamanders moving through the grass, across the patio, down the walkway, and into the road, headed for the large “swamp” across the street. Spotted salamanders were not the only ones making the migration; they also were joined by Jefferson salamanders (a Connecticut species of special concern), wood frogs, and spring peepers. Although I did not see as many frogs as salamanders, I could definitely hear them. On some warm, rainy nights the sound of wood frogs croaking and peepers peeping can be deafening.

I had never seen Jefferson salamanders before and when I mentioned finding them to fellow biologist Julie Victoria, she told herpetologist Dr. Michael Klemens (author of Amphibians and Reptiles of Connecticut and Adjacent Regions). He visited our “swamp” to verify that I had found a previously unknown population of this rare species. He explained that the steep, rocky area behind my house was a favored habitat of the Jefferson salamander. Knowing that, I’ve taken it upon myself to watch over these creatures every year during their migration. My biggest concern in the beginning was the journey these animals had to take as they left the woods behind the houses, traveled through the yards, and then navigated the road that separated them from their breeding pool. Fortunately, the road is a dead end with a handful of houses and is not heavily traveled. However, a good number of frogs and salamanders are still run over as they cross the road. So, there I am, out in the rain on those spring nights, with my flashlight, picking up frogs and salamanders and carrying them across the road during their trips to the breeding pool and then back to the forest. My neighbors thought I was a bit eccentric at first. But, as the years went by, they started watching out for the amphibians, too. When my kids were old enough, they also pitched in, along with their friends. It has become an annual event for all and, in the process, the kids (and even the adults) have learned about these fascinating animals and have come to appreciate them. This experience is not unique — each one of us should take the time to learn more about the natural world around us and do our part to conserve it for future generations.

Kathy Herz, Editor

## Cover:

The ring-necked duck is common in Connecticut during spring migration. It frequents freshwater marshes and ponds.

Photo courtesy of Paul J. Fusco

# The Spring Turkey Hunting Season Approaches

By Michael Gregonis

The spring wild turkey hunting season is an event that many hunters look forward to on an annual basis. The 2010 spring gobbler season is no exception. This year's season has several changes that provide additional hunting opportunities. The season will start on April 28 and end on May 29. Private land hunters will be able to harvest 3 birds, while state land hunters can harvest 2 birds. New regulation changes have increased the spring season by one week and allow hunters to purchase both private and state land permits. Hunting licenses and turkey permits can be purchased on the DEP's Web site ([www.ct.gov/dep/sportsmen-licensing](http://www.ct.gov/dep/sportsmen-licensing)) and at most town clerks, some sporting goods stores, and DEP offices. Hunters are required to have a 2010 firearms hunting license or a small game and deer archery permit to apply for a spring turkey permit.

## Season Outlook

Hunters should expect to see fewer jakes (males less than one year old) during the 2010 season because last summer's turkey brood survey indicated productivity on the lower end of the spectrum. Connecticut also has experienced several years of lower productivity, which have caused some declines in the overall statewide wild turkey population. Despite these factors, with preparation and persistence hunters should be able to find cooperative gobblers throughout the state.

## Preparation is a Must

As is consistent with hunting for most species of wildlife, preseason scouting may make the difference between harvesting a bird and just enjoying a day afield. Hunters should head into the field before the season to locate signs of turkeys and listen for gobbling activity. This extra effort helps increase your chances of success.

Some signs that hunters should be looking for include tracks, feathers, and droppings; each of these signs can indicate sex and abundance of birds. For example, the track of an adult male turkey averages about 6 or 7 inches in length, whereas a hen track is smaller at about 4.5 to 5 inches. Breast feathers from turkeys that have recently been in the area



P. J. FUSCO

Preseason scouting may make the difference between harvesting a turkey and just enjoying a day afield. Hunters should head into the field before the season to locate signs of turkeys and listen for gobbling activity. This extra effort helps increase your chances of success.

also can help identify the sex of the bird. Male breast feathers have black tips while the female's are buffed-colored. Droppings from male turkeys are j-shaped and about 1.5 to 2 inches long versus droppings from females which are smaller and more compact than elongated. These signs are useful for determining number of birds, frequency of use, and travel corridors. It is as simple as knowing that the more signs that are observed in an area, the larger the turkey population.

Another important preseason scouting technique is locating and monitoring gobbling activity. Male turkeys announce their presence to hens by gobbling from a roost tree. Hunters can use gobbling activity to their advantage because gobblers will often roost in the same vicinity, if not

the same tree, during spring. To locate turkey roosts, hunters should arrive at their hunting area an hour before sunrise, find a high vantage point on the property, and listen for gobbling activity. This type of scouting should be conducted on days with light winds and increasing barometric pressure. By locating roosting areas, hunters should have a good idea of where the gobblers are at first light, which will be advantageous for setting up a strategy for harvesting a bird when the season starts. Spending time in the field before the season starts can pay off with additional birds in the bag.

*Mike Gregonis is a biologist with the Wildlife Division's Deer/Turkey Program*

## Spring Turkey Junior Hunter Days, April 17 & 24

Spring turkey junior hunter training days provide junior hunters with an opportunity to learn safe and effective hunting practices from experienced hunters. Licensed junior hunters may hunt for turkeys when accompanied by a licensed adult hunter 18 years of age and older. The adult mentor may not carry a firearm. The junior hunter must have a valid spring turkey season permit for state or private land. Those hunting on private land also must have written consent from the landowner. The adult mentor may assist in calling turkeys. Hunting hours for Junior Hunter Training Days only are one-half hour before sunrise to 5:00 PM. Harvested turkeys must be tagged and reported. Consult [www.ct.gov/dep/hunting](http://www.ct.gov/dep/hunting) to learn more about tagging and reporting requirements.

# Fish Habitat Enhanced Along the Shetucket River

By Brian D. Murphy

During the last decade, the DEP's Inland Fisheries Division has been actively adding Large Woody Habitat (LWH) to river systems as a component of individual stream restoration projects, particularly in rivers that are LWH deficient. Large Woody Habitat is typically defined by fisheries biologists as trees or logs with a minimum diameter of four inches and a minimum length of six feet that protrude or lay within a stream channel. Research has shown that LWH is an important natural component of a river's biological diversity and health. Large wood functions to create and enhance new instream fish habitats and also helps stabilize stream channels. In addition, wood helps collect organic materials, such as leaves and twigs, that provide an important food source for aquatic insects. In essence, LWH functions as a mini-ecosystem.

## *Shetucket River Project*

The Shetucket River below the Scotland Hydroelectric Facility in Windham has been identified as LWH deficient. It was determined that this section of the river would greatly benefit from the introduction of LWH as part of overall

long-term river management and restoration efforts. Two reasons for the LWH deficiency are: 1) LWH is collected and removed at trashracks associated with the hydroelectric facility, and 2) the facility, which regulates instream flows, operates in a peaking mode, thereby disrupting the transport and settlement of wood that would naturally be recruited into the Shetucket River. Currently up for relicensing with the Federal Energy Regulatory Commission, the facility is proposed to be operated in a run-of-river mode in the future. Future run-of-river operation mode, which simulates a more natural streamflow regime, will be more conducive to the recruitment and retention of LWH.

## *Installing Habitat Structures*

The Shetucket River habitat enhancement project entailed the installation of three constructed log jams and three floating log covers placed along the east side of the river, adjacent to Salt Rock State Park property. The Wildlife Division's Wetlands Habitat and Mosquito Management Program was responsible for the installation of these habitat structures

using low ground pressure excavators. Construction management oversight was provided by Todd Bobowick, fisheries biologist with the U.S. Department of Agriculture's Natural Resources Conservation Service.

The construction of log jams in the river involved the careful group placement of multiple trees (branches included) to form an interwoven complex of wood simulating the formation of natural log jams. Each structure was comprised of 8 to 10 hardwood trees. Log jams were secured in place with soil anchor devices and wire rope and will remain in place providing woody habitats for an estimated 15 to 20-year period. Log jams were located in water depths between 1 and 4 feet extending away from the bank, but extending no greater than 25% of the low flow channel width. Given these width parameters, structures will not impact navigation uses within the river. It is anticipated that the structures may also trap mobile wood naturally recruited into the Shetucket River during high flow events.

Floating log covers are structures comprised of individual trees felled into the river at locations where there is no access for heavy equipment. These structures were installed in the river near larger boulders and bedrock outcrops, significantly adding to the complexity of instream habitats. These floating log covers, designed to float with changes in streamflow, were secured in a similar fashion as the log jams. They mainly provide overhead cover and velocity refugia (refuge from strong currents) for the fish community.

## *Fishing the Shetucket River*

The Shetucket River supports a highly diverse fish community (23 species, 15 native) comprising both inland and diadromous species. Diadromous fish



This constructed log jam in the Shetucket River in Sprague creates "Large Woody Habitat" that provides instream fish habitats and helps stabilize stream channels.

R. WOLFE, WETLAND RESTORATION PROGRAM



E. THOMAS, DEP WATERSHED MANAGEMENT PROGRAM

Donnie Hargreaves of the DEP's Wetlands Habitat and Mosquito Management Program constructs a log jam in the Shetucket River to create "Large Woody Habitat."

are migratory species that exhibit a life history strategy that includes movement between fresh and saltwater. The river is managed as a Trophy Trout Stream with a daily creel limit of 2 fish and an open season from the third Saturday in April to the last day in February. It is annually stocked by the Inland Fisheries Division with adult brown and rainbow trout and surplus broodstock trout ranging from 1 to 10 pounds in size. Many tributary streams to the Shetucket River provide important thermal refuges for trout; in particular, downstream of the Scotland Dam are Merrick Brook (Scotland) and Beaver Brook (Sprague). Areas within 100 feet of the mouths of these tributaries are closed to all fishing from June 15 to August 31. Occasionally, wild brown trout and native brook trout that have moved into the river from these coldwater tributary streams can be found in the Shetucket River. In addition to a trout fishery, the Shetucket River supports an abundant smallmouth bass population. The bass are generally small (less than 8 inches in length); however, some indi-

viduals can exceed 12 inches in size. The Shetucket River also is managed as an Atlantic salmon broodstock fishery from the Scotland Dam downstream to the Occum Dam (Norwich). A total of 500 Atlantic salmon broodstock were stocked in this area of the river during 2009.

More complete fishing regulation information can be obtained in the 2010 Connecticut Anglers Guide at [www.ct.gov/dep/fishing](http://www.ct.gov/dep/fishing). Anglers can access the Shetucket River at several locations on state property in the Town of Sprague, including 2,300 feet of shoreline at Salt Rock Park Campground and 2,500 feet of shoreline at Mohegan State Forest.

### ***Funding the Project***

The Inland Fisheries Division received grant assistance from the Natural Resources Conservation Service's Wildlife Habitat Incentive Program to fund project implementation. Additional funding was provided by the U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program. The Thames Valley Chapter of Trout Unlimited also was

supportive of this habitat enhancement project as the river is a popular fishing location for its members.

The Inland Fisheries Division has successfully completed many stream habitat restoration projects throughout Connecticut since 1995. More information on these projects can be found on the DEP Web site at [www.ct.gov/dep/fishing](http://www.ct.gov/dep/fishing) (click on "habitat restoration" under Featured Links). A 6-page fact sheet about Large Woody Habitat management also is available on the habitat restoration section of the Web site.

With the completion and promotion of more successful riverine habitat projects, like the one on the Shetucket River, it is hoped that similar efforts will be undertaken by municipalities, non-governmental organizations, and private landowners in other rivers and streams that are deficient of Large Woody Habitat.

*Brian Murphy is a Senior Fisheries Habitat Biologist with the DEP's Inland Fisheries Division*

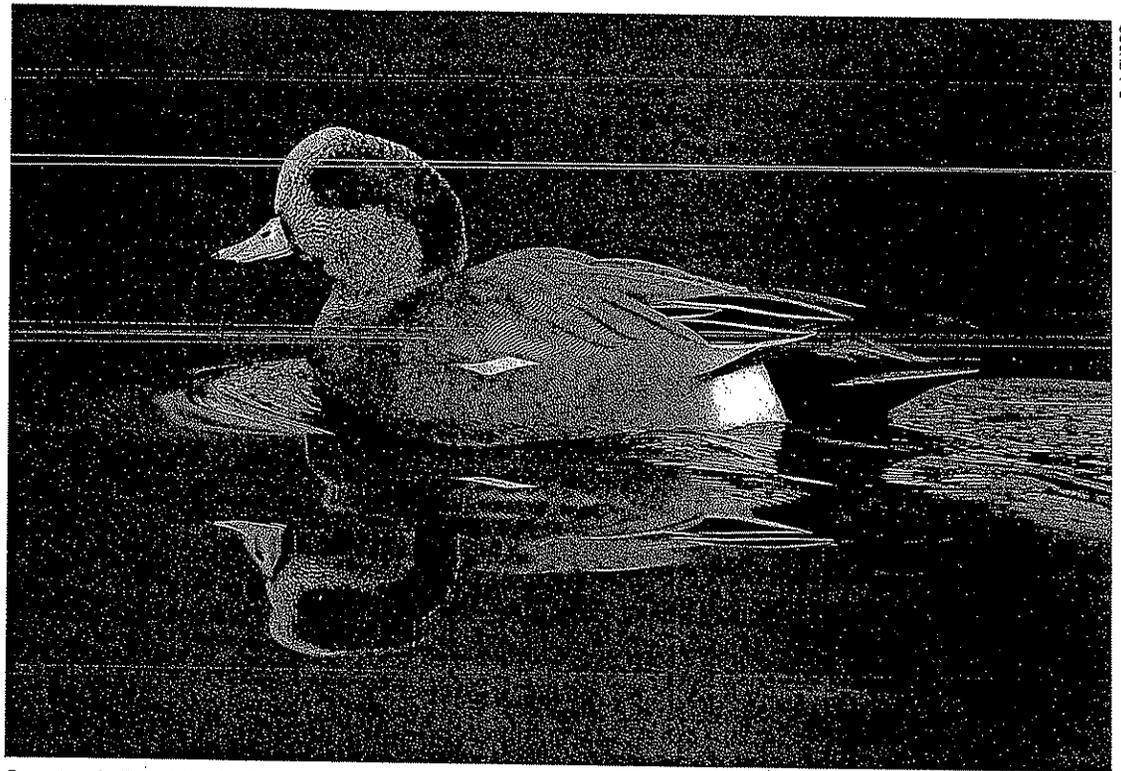
# 2010 Midwinter Waterfowl Survey Shows High Numbers of Canada Geese

By Min Huang

Every winter since 1955, the Wildlife Division has conducted the annual Midwinter Waterfowl Survey to obtain an index of long-term wintering waterfowl trends. This survey is conducted in early January throughout the Atlantic Flyway. The Atlantic Flyway is a bird migration route that generally follows the Atlantic Coast of North America and the Appalachian Mountains. The states and Canadian provinces that make up the Atlantic Flyway all participate in the survey. The survey is conducted from a helicopter in Connecticut and a census is obtained from the coast, the three major river systems (Connecticut, Thames, and Housatonic) and selected inland lakes and reservoirs.

Conditions for the 2010 survey were excellent. Many of the inland lakes and ponds were frozen due to prolonged cold weather in the weeks prior to the survey. When inland water areas freeze, waterfowl concentrate along the coast and on the major river systems. Clear skies and moderate winds on the day of the survey led to unlimited visibility and good flying conditions.

Counts of all puddle ducks were above their 5-year averages. The mallard count (2,500) was the highest in over 15 years, as was the count for American black ducks (3,200). American wigeon and gadwall counts also were above their respective 5-year averages. Following a recent trend, however, most puddle ducks were observed in urban sanctuaries where supplemental feeding by the public occurs. The Division discourages citizens from feeding waterfowl for a number of reasons, including increased risk of disease transmission and the potential for poor nutrition. The Division has published a brochure, "Do Not Feed Waterfowl," that outlines the potential hazards



Counts of all puddle ducks during the Midwinter Waterfowl Survey were above their 5-year average, including counts of the American wigeon.

of feeding waterfowl. It is available on the DEP Web site ([www.ct.gov/dep/wild-life](http://www.ct.gov/dep/wild-life)).

The scaup count (800) was well below that of 2009 and continued to be lower than historical wintering numbers for Connecticut. The decline in the scaup population throughout North America continues to be of concern for biologists nationwide. Habitat changes on the scaup's breeding grounds may be a factor in the long-term decline of the population.

Mergansers were abundant but below levels observed in 2009 (900) and just under the 5-year average. The common goldeneye count (400) also was less than last year. Counts for buffleheads (1,100) and long-tailed ducks (200) were above those from last year

and slightly above their 5-year averages.

Atlantic brant numbers (1,000) were lower than in 2009 and below the recent average. Canada goose counts (4,800) were high for this survey and the highest recorded in a decade.

*Min Huang is the leader of the Division's Migratory Gamebird Program*

## Connecticut Midwinter Waterfowl Survey Results for Major Species\*

Species	2010	2009	Five-year Avg.
Atlantic Brant	1,000	1,700	1,400
Black Duck	3,200	2,900	2,000
Bufflehead	1,100	700	900
Canada Goose	4,800	3,500	3,300
Canvasback	0	100	100
Mallard	2,500	1,400	1,100
Merganser	900	1,800	1,100
Mute Swan	700	700	800
Long-tailed Duck	200	100	100
Common Goldeneye	400	800	800
Scaup	800	1,900	2,200

\* rounded to nearest hundred

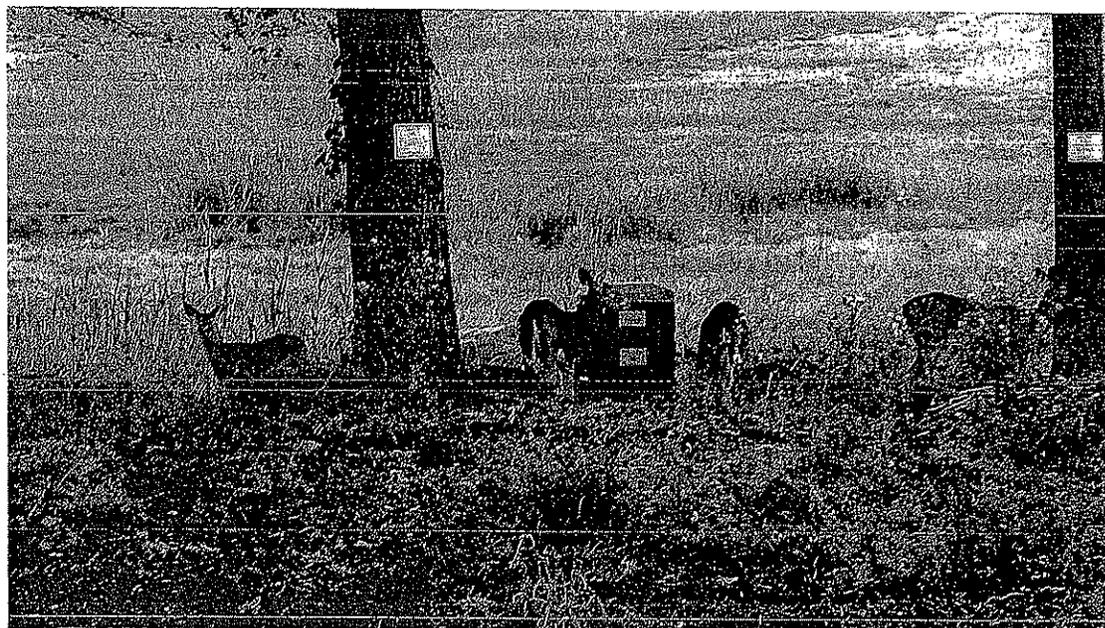
# An Assessment of Deer, Ticks, and 4-poster Devices

By Howard Kilpatrick

Numerous communities in Connecticut are concerned about the abundance of ticks and the risk of contracting tick-related diseases, such as Lyme disease, babesiosis, and ehrlichiosis. Many studies have demonstrated a close relationship between deer abundance and tick abundance. As deer populations increase, tick populations and the risk of contracting Lyme disease also increase. A 13-year study in Mumford Cove in Groton demonstrated that by reducing deer populations during the hunting season, the community saw less ticks and human cases of Lyme disease.

Recently, a "4-poster device" was developed to kill ticks on deer. The device uses corn to attract deer and, as the deer feed, they rub their head and neck against a paint roller covered with a tickicide. A cooperative study was initiated in 2008 on Mason Island in Mystic, Connecticut, to learn more about the effectiveness of the 4-poster device. Study cooperators included the Mason Island Community, Connecticut Agricultural Experiment Station, and the Wildlife Division. The goal of the study is to test the effects of 4-poster devices on tick abundance, tick infection rates, deer herd health, and human cases of Lyme disease in the small, isolated community on Mason Island.

Data are being collected on tick and deer populations at both Mason Island (treated site) where the 4-poster devices are being used and Black Point (control site) where there are no 4-poster devices. Collecting data before and after treatment



Deer visit a 4-poster device installed on Mason Island in Mystic. The device uses corn to attract deer and, as the deer feed, they rub their head and neck against a paint roller covered with a tickicide.

is initiated and from a treated and control site will allow researchers to evaluate the effectiveness of the 4-poster devices. Acorn production may influence deer use of 4-poster devices, therefore mast surveys are being conducted annually to quantify acorn production.

Tick sampling was initiated at Mason Island and Black Point prior to use of the 4-poster devices and will continue throughout the study. Ticks were sampled by dragging a piece of fleece on the ground along walking trails, stone walls, yard edges and through open forest at the treated and control sites. The Connecticut Agricultural Experiment Station examined all ticks to assess infection rates.

Spotlight surveys were initiated to assess the number of fawns produced per doe (deer herd health). Evaluating changes in the number of fawns produced per doe will provide insight into how supplemental feed, used to attract deer to the 4-poster device, may affect deer herd health. Spotlight surveys were conducted

at Mason Island and Black Point before use of the 4-poster devices and will continue throughout the experimental study.

The Mason Island Association is annually surveying residents to record the number of human cases of Lyme disease in the community. This survey will be conducted throughout the study to assess changes in the number of human cases of Lyme disease in the community.

Five, 4-poster devices were deployed on Mason Island in October 2008. Tick sampling was initiated in June 2008 and spotlight surveys of deer were initiated in November 2008. Potential effects of the 4-poster devices on deer herd health were observable in fall 2009 (after first year of treatment) and potential effects on nymphal tick populations should be observable by June 2010 (after second year of treatment, due to the life cycle of ticks).

The 4-poster devices were active for 22 weeks (9 weeks in fall and 13 weeks in spring) during the first year of the study. Total corn consumption was 3,960 pounds, or 62.9 pounds of corn per day, during the 9-week fall period. Spotlight surveys were conducted at Mason Island and Black Point in November 2008 (pre-treatment) and November 2009 (post-treatment). The number of fawns produced per doe increased at Mason Island, but decreased at Black Point,

## Tick and fawn production at Mason Island and Black Point during the pre-treatment (2008) and 1-year post-treatment period (2009).

Site	No. Sites Sampled	2008			2009		
		Total Ticks Collected	% Ticks Tested Positive	Fawns Per Doe	Total Ticks Collected	% Ticks Tested Positive	Fawns Per Doe
Masons Island	37	44	30%	0.36	70	31%	0.86
Black Point	39	132	39%	0.71	135	26%	0.38

*continued on page 13*

# 2009 a Better Year for Mast Production in CT's Forests

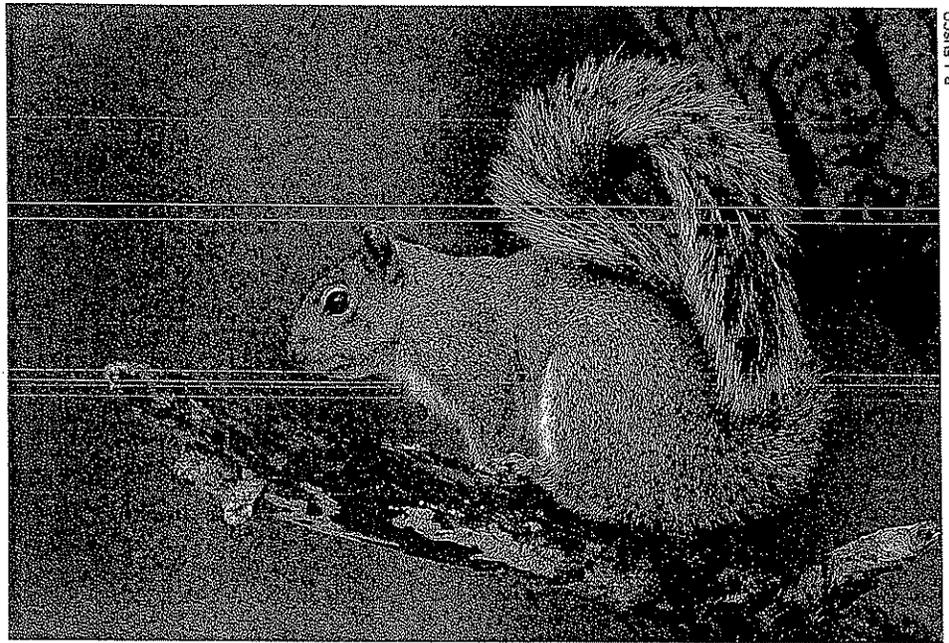
Written by Michael Gregonis

Research on mast is important because the availability of mast can influence annual productivity of squirrels, deer, bears, wild turkeys, ruffed grouse, and many other wildlife species. Mast is a word that biologists often use; however, many may not know what constitutes mast. In general, mast is the nuts and berries produced by trees and shrubs. All mast falls into two categories, hard mast such as acorns and hickory nuts and soft mast such as blueberries, wild cherries, and blackberries.

States from Maine to West Virginia are participating in a cooperative research project that tracks annual hard mast productivity, resulting in a single online database that is available to wildlife biologists and the public. The goal of this survey is to gather regional information regarding hard mast production, which will aid in the management of wildlife species in the northeastern United States.

The Wildlife Division initiated a field study in 2007 to assess hard mast production in each of Connecticut's 12 deer and turkey management zones (see map on page 17). This information, in conjunction with an ongoing acorn abundance assessment from the deer hunter survey, will provide more insight into annual acorn productivity throughout Connecticut's oak forests.

The 2009 survey was conducted from August 15 to September 1. Twenty-five trees from the white oak group (e.g., white, chestnut, swamp oak species) and red oak group (e.g., red, black, pin, scarlet oak species) were selected for sampling at 11 of 12 survey sites.



P. J. FUSCO

Twenty-five trees were selected from only the red oak group at one site because an insufficient number of white oaks were available for sampling. Survey trees are numbered and marked with white paint indicating species from the white oak group and red paint for the red oak group. Marking the trees with paint and a metal numbered tag assists with locating each tree on an annual basis. The crown of each tree is scanned for 30 seconds with binoculars to detect the presence or absence of acorns to assess annual hard mast productivity. All trees are assessed to determine the proportion of sample trees that have mast, providing an index of productivity.

A productivity scale of 0 (scarce) to 6 (abundant) was used to rank mast abun-

dance at both the regional and statewide level. The statewide index for the 2009 field mast survey was 3.2, whereas the index was 2.4 in 2008. The index for 2009 indicates that statewide acorn abundance was moderate to abundant. On a regional basis, acorn abundance ranged from a high of 5.0 in deer and turkey management zone 5, to a low of 1.0 in zone 8. The mast index in the remainder of the management zones fell into the moderate to abundant category.

Information provided by the mast survey also will be used to predict productivity in some wildlife populations, as well as the deer harvest. Past research has shown that in years with high acorn abundance, there is more food for some wildlife species (e.g., tree squirrels), thus creating conditions that enhance survival and increase production of young the following year. Information reported on the annual deer hunter survey demonstrates that the deer harvest increases in years of low acorn abundance. This increase in harvest can be attributed to deer moving more often from feeding to bedding areas and foraging for longer periods as they search for sparse acorns and other foods. Acorns are an important food for many wildlife species and can affect the size of populations and their vulnerability to hunting pressure.

*Michael Gregonis is a biologist with the Wildlife Division's Deer/Turkey Program*

## Connecticut Hard Mast Survey, 2009

Zone	Site Location	Percent Acorn Abundance			Research Mast Index
		White	Red	Total	
1	Housatonic WMA	24	36	30	1.8
2	Sessions WMA	24	96	60	3.6
3	Scantic River SP	0	64	64	3.8
4	Belding WMA	60	96	78	4.7
5	Yale-Myers Forest	68	100	84	5.0
6	Aldo Leopold WMA	0	96	48	2.9
7	Sleeping Giant SP	12	64	36	2.3
8	Cockaponset SF	1	33	17	1.0
9	Hurd SP	16	64	40	2.4
10	Franklin WMA	48	92	70	4.2
11	Huntington SP	44	72	58	3.5
12	Barn Island WMA	0	88	44	2.6
	Mean				3.2

# Weasel Project Completed: Results Shed Light on Distribution of Short- and Long-tailed Weasels

By Christina Kocer

A two-year status and distribution study of short-tailed and long-tailed weasels in Connecticut was completed in 2009. Trapping efforts were conducted throughout the state at federal, state, and town-owned properties, as well as at several privately-owned properties. Three different types of live traps were used, including squirrel-sized Havahart® traps, PVC tube-shaped traps, and wooden box traps. Two kinds of bait (rabbit or mouse) also were evaluated for effectiveness.

Between July and December 2008, 11 individual weasels were captured 19 times during 1,549 trap nights (one trap night was defined as one 24-hour period in which a trap was set).

An additional 40 weasel specimens were collected from fur trappers, designated wildlife rehabilitators, Nuisance Wildlife Control Operators, nature centers, and by collecting weasels killed by domestic pets and vehicles.

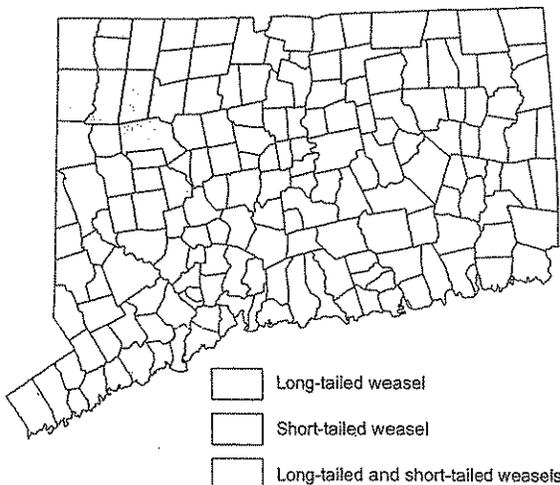
Short-tailed and long-tailed weasels are similar in appearance and difficult to distinguish, even when biologists are able to examine them closely in hand. Therefore, small tissue samples were collected for genetic analysis from every individual weasel encountered. Tissue samples were analyzed in 2009 and it was confirmed that 6 individuals were short-tailed weasels (all females) and 44 were long-tailed weasels (23 males, 17 females, and 4 unknown). Only 1 individual was unconfirmed.

Of the 11 weasels captured in traps, 1 was confirmed as a short-tailed weasel (female) and the remaining 10 were long-tailed weasels (4 males, 6 females). Initial captures of female long-tailed weasels were accomplished twice as often with rabbit bait than with mouse bait. However, once a female chose a particular bait type, all successive captures of that individual were made using the same bait. Male long-tailed weasels did not appear to exhibit a bait preference. No female weasels of either species were captured in PVC tube traps initially and no male weasels were ever captured in Havahart® traps. No animals were recaptured in wooden traps; however, PVC tube traps were more likely to capture a weasel as a recapture than



Wildlife Division technician Christina Kocer transfers DNA into small plastic tubes as part of the species verification process. Because short- and long-tailed weasels are difficult to distinguish, genetic analyses were used to accurately differentiate the two species. All lab work was completed at the University of Connecticut.

## Results of Weasel Distribution Study 2007-2008



as an initial capture. The wooden box traps were the only trap type used for this study that did not appear to exhibit a sex bias as they were successful in capturing both male and female long-tailed weasels equally as often, regardless of bait used. These data suggest that it may be important to incorporate a variety of bait and trap types throughout a study to reduce sex, species, and individual preferences and to increase capture success.

Similar to historically described ranges for the 2 weasel species, long-tailed weasels were found throughout Connecticut while short-tailed weasels tended to be found in the north and western parts of the state. Limited data for short-tailed weasels were collected so the species' range may be underestimated.

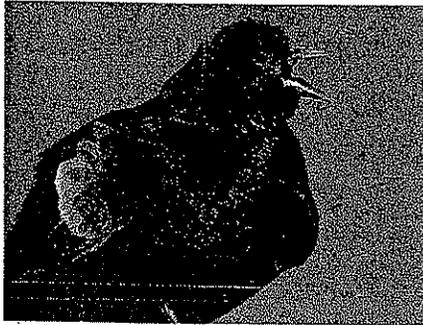
Wildlife Division staff continues to collect weasel sightings from the public and specimens for future analyses. An additional 12 weasel specimens have been collected since the initial analyses were completed, so genetic analyses will resume in the future.

*Christina Kocer is a technician with the Division's Wildlife Diversity Program*

# Sentinel of the Marsh - The Red-winged Blackbird

Article and photography by Paul Fusco, Wildlife Outreach Program

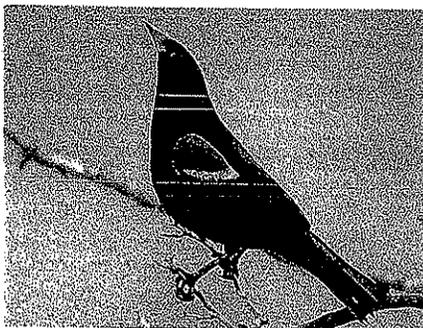
In late winter, as the coastal salt marshes of Connecticut begin to thaw, one of our best known birds begins to return to the state from its wintering grounds. Flocks of adult male red-winged blackbirds are among the first to arrive to the partially frozen wetlands across the state. Some are vanguards that will be passing through on their way further north, and some will claim territories for the upcoming breeding season. As winter turns to spring, their loud "konk-la-ree" song emanates from all corners of the wetlands across Connecticut as male red-winged blackbirds sing from the tops of reeds and cattails. Resident adult females and immature males generally appear in increasing numbers after the beginning of April.



Set off against the otherwise black plumage, the red shoulder patches of the male red-winged blackbird are truly stunning. When in full display, the birds will puff up their body feathers, spread their tail, and flare out their namesake epaulets to flash blazing scarlet patches. The epaulets are used as a

territorial warning to other males during the breeding season.

Red-winged blackbirds are dimorphic in that the male and female have different plumages. While the male has all black plumage with red shoulder patches, the female is brown and heavily streaked. At first glance, the female actually looks somewhat like a large sparrow. The red shoulder patches are only found on the male. Young males are dusky brown with mottled streaking and show some red on the shoulders.



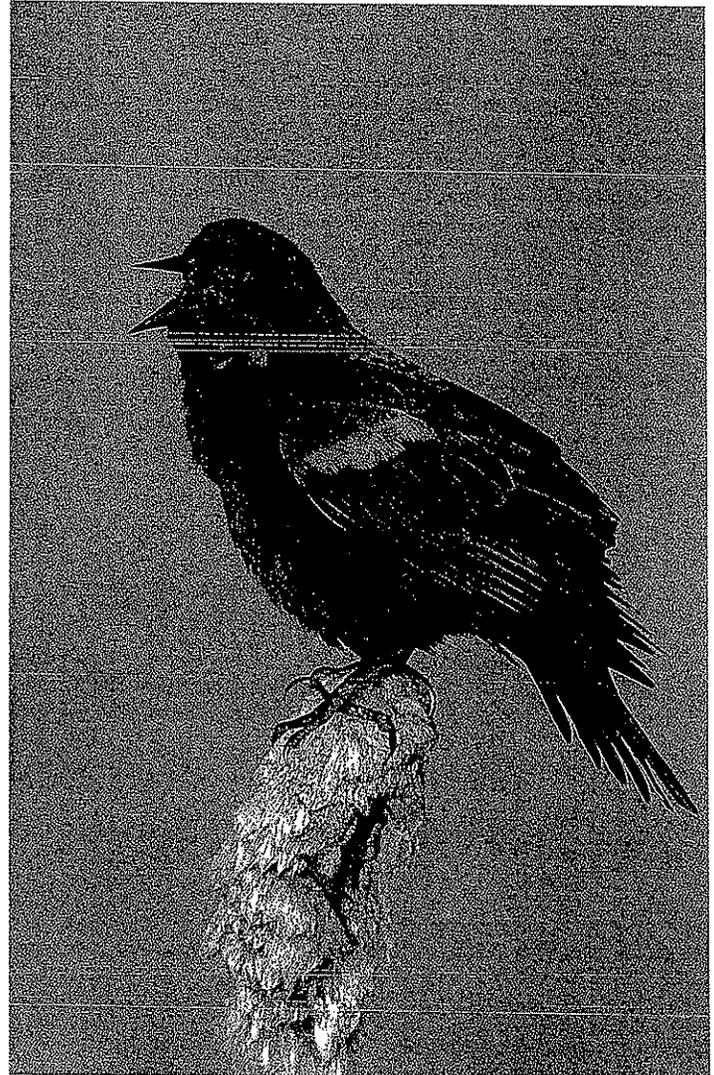
## Range

Red-winged blackbirds are considered to be one of the most abundant birds in North America. They can be found coast to coast, from Alaska to eastern Canada, and south to Florida and down into Mexico. In Connecticut, they are found statewide and in large numbers.

They have adapted well to development, and can be found in wetlands of even the most urban areas. In fall, they migrate from the northern parts of their range for the winter.

## Habitat Use

Freshwater wetlands are the primary breeding habitat for the red-winged blackbird. The birds are most frequently associated with cattail marshes and marshes with shrubs and small trees. Cup-shaped nests are built in cattails, shrubs, and small trees, sometimes over water. Red-winged blackbirds also frequently nest close to the ground in thick grass fields, especially those that are close to wetlands. In coastal areas, they usually are not found



The red-winged blackbird is slightly smaller than a robin, and has a straight, sharply pointed bill. Males are black with red and buff shoulder patches.

in true saltmarsh habitats, but instead in brackish and wetland edges close to saltmarshes.

Foraging occurs in open areas where the blackbirds primarily feed on insects, other invertebrates, and weed seeds. In agricultural areas, the birds feed on insects, grubs, and worms that are brought up by plows. Red-winged blackbirds consume an astounding number of harmful insects and weed seeds. The list includes, but is not limited to, cankerworms, grubs, caterpillars, weevils, grasshoppers, and weed seeds like panic grass and ragweed. In some farm regions, large blackbird flocks may become agricultural pests when they damage crops, such as rice and corn. The destruction mainly occurs in areas where grains are grown in great abundance. Overall, the damage caused by this species is outweighed by the beneficial service it provides to farmers and homeowners in the form of pest control.

## Behavior

Red-winged blackbirds are aggressive. They will boldly



Cattail marshes are a preferred habitat for red-winged blackbirds.

attack larger birds, like crows, ravens, herons, and hawks, that stray into their territory, driving the potential predators away. On occasion, observers have reported red-winged blackbirds actually riding on the backs of these larger birds, pecking and jabbing while holding on.

Males have breeding territories that can be close to each other. Adjacent territories with common borders are good places to watch interactions between the birds. The males use various displays to defend a territory, including song with feather spread, bill-tilt, and flight song. At times, male red-winged blackbirds can be brutally aggressive toward each other. Territorial squabbles can be intense and may involve wrestling on the ground or in water.

Red-winged blackbirds typically forage on the ground by walking and pecking as they go. They may be seen hopping only on occasion. In flight, red-wings have an irregular flapping flight pattern. Flocks are loosely grouped and may be vocal.

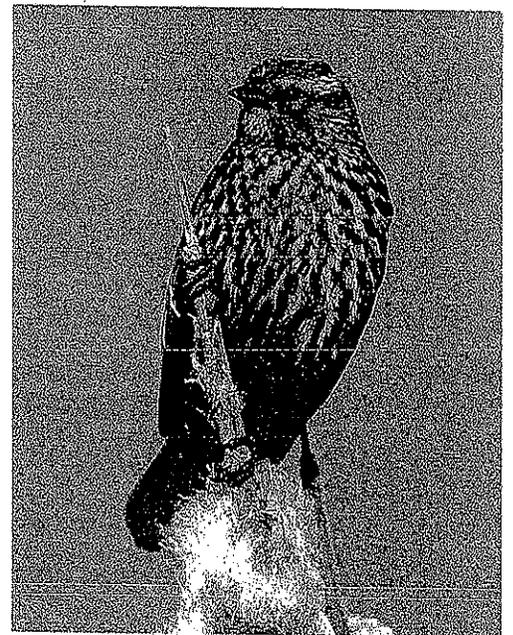
### **Conservation**

All blackbirds are native migratory birds that are protected by the Federal Migratory Bird Treaty Act of 1918, a formal treaty with Canada and Mexico. There are exceptions to their protection in that they may be killed when found "committing or about to commit depredations upon ornamental or shade trees, agricultural crops, livestock, or wildlife, or when concentrated in such numbers and manner as to constitute a health hazard or other nuisance."

The birds begin to form flocks in late summer, which by fall, could grow to enormous numbers. Their flocks are frequently mixed with cowbirds, grackles, starlings, and rusty blackbirds. They may come into conflict with people in some areas because

the huge flocks may feed on cultivated grain or rice. Also, large roosts may be a nuisance because of the noise and droppings.

While the overall population appears to be stable, in some parts of its range this bird's numbers are declining significantly due to habitat loss and the use of poison to stem crop damage. Draining and filling of wetlands, changes in farming practices, and suburbanization have all contributed to a reduction in the red-winged blackbird's habitat. According to information from National Audubon Society and the U. S. Geological Survey, red-winged blackbirds have declined in Connecticut by as much as 70% over the last 40 years. Strong inland wetland protections and enforcement of wetland protection laws are important for the conservation of these birds as well as other wildlife that depend on wetland habitat.



Females with their heavily streaked brown plumage appear similar to a large sparrow.

# Landowner Incentive Program Projects Continue

By Judy Wilson

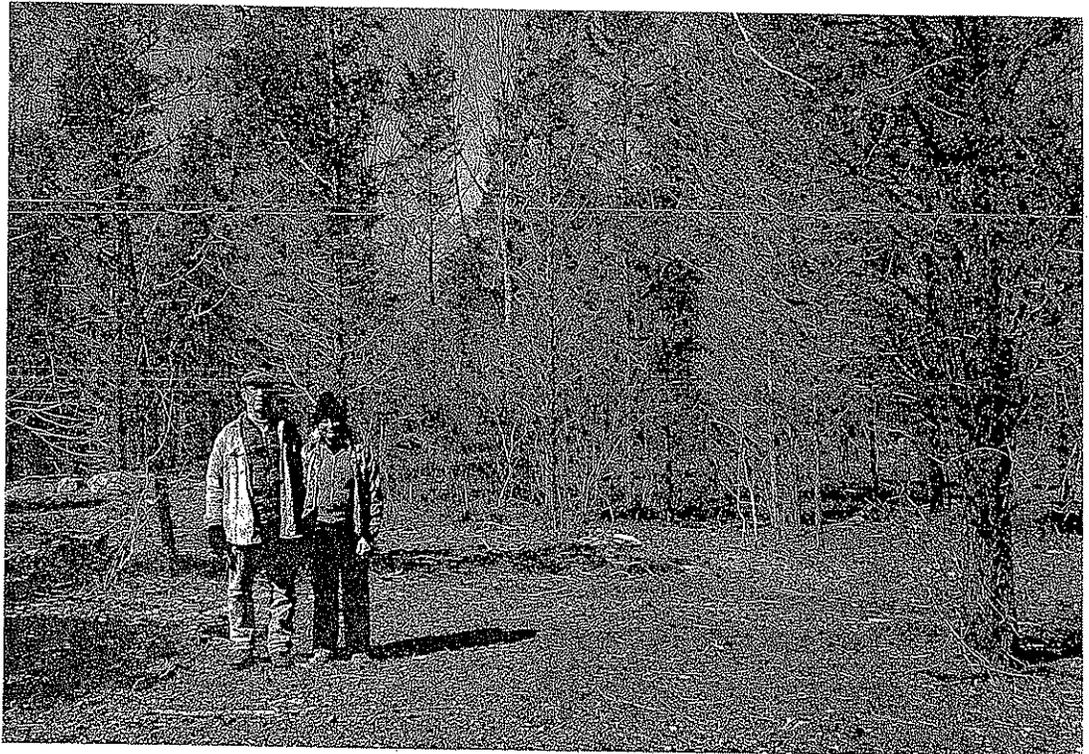
The Wildlife Division's Landowner Incentive Program provides technical advice and cost assistance to landowners for habitat management that will result in the protection, restoration, reclamation, enhancement, and maintenance of habitats that support fish, wildlife, and plant species considered at-risk. This program has been made possible through grants from the U.S. Fish and Wildlife Service, which recognized the need to help states with the stewardship of their at-risk species. Landowners who have or are currently participating in the Program were required to submit an application to the Division. Applications were accepted from 2005 to 2007.

Because funding was limited, grants were awarded through a competitive process. The Division developed ranking criteria to ensure that these limited funds were distributed with maximum benefit to at-risk plants and wildlife. Some of the most important ranking criteria included presence of and benefit to at-risk species, presence and value of priority habitats, presence and integrity of imperiled natural communities, and total acreage of property and project. The Landowner Incentive Program provides up to 75% of the project cost, while the landowner, conservation organization, or other non-federal grant source must provide the remaining 25% match. In some cases, landowners provide the matching funds through in-kind services, such as brush hogging, plowing, and harrowing.

Despite no new funding in the past few years, the Program continues to work using the original grants, but does face an uncertain future. Staff continues to execute contracts and prepare project proposals for all previously approved projects. Several projects were completed in 2009 and more will be implemented in 2010.

## *Pequot Fish and Game Club*

The Pequot Fish and Game Club completed its second Landowner Incentive



Tom and Kathleen Jannke partnered with the Wildlife Division to reclaim this old field. This area, along with the existing pastures and seedling sapling habitat found on their land, will provide habitat for at-risk species, such as field sparrows, indigo buntings, woodcock, and chestnut-sided warblers.

Program project to create additional early successional habitat on its 85-acre game club property in Newtown. Approximately 2.5 acres of maturing, low quality hardwoods were cut around an existing 2-acre field to increase the amount of early successional habitat. A special machine called a brontosaurus was used to cut the trees. As part of its match requirements, the Club will cut any remaining hardwoods that were too big for the brontosaurus. The site will regrow into seedling/sapling habitat, which will provide abundant nesting and foraging sites for species at-risk, like blue winged and chestnut-sided warblers, as well as improved cover for hunting during the fall season. This is the second Landowner Incentive Program project the club has undertaken as it expands the amount of early successional habitat it manages to approximately 10 acres. Those 10 acres include a warm and cool season field, reverting old field, and seedling/sapling habitat. The Club conducts an informal bird survey each spring.

## *Early Successional Habitat Project in Ledyard*

Tom Jannke of Ledyard has been

an active conservationist all his life and passionate about managing his land since he attended the University of Connecticut Extension Service's COVERTS program several years ago. This intensive workshop educates landowners, land trust stewards, and conservation group leaders about forestry, wildlife ecology, and habitat management principles, and how to apply them to their land. The workshop is co-sponsored by the DEP's Wildlife and Forestry Divisions.

Tom started by working with a consulting forester to write a forestry plan for his property and also received some technical assistance about plantings from Wildlife Division habitat biologist Ann Kilpatrick. He planted numerous native fruit-bearing shrubs in part of a field that was fenced off from a horse pasture. Under the Landowner Incentive Program, funding was used to hire the services of a state approved forestry contractor. The contractor cleared over-topping, low quality hardwoods from a 3-acre old field, leaving behind eastern red cedars and some white oaks. The red cedars provide year round cover and their fruits are a source of food for several species of birds and small mammals. The white oaks

provide acorns, which are sought after by a variety of wildlife. Tom went well over the required 25% match by hiring a local contractor to clear an additional area of woods that resulted in another 3 acres of seedling/sapling habitat. This project resulted in about 6 acres of newly-created early successional habitat that complements the diversity of pasture, wetlands, and forest found on the Jannke property. This new habitat also adds to a much larger, adjacent area that is protected and managed by the Avalonia Land Conservancy, thus increasing the value of both properties to wildlife.

### Marsh Restoration in Guilford

Neighbors Carolyn Cooper and Judie Fine from Guilford had read about a Landowner Incentive Program project to restore tidal marshes in North and South Cove, Old Saybrook, by treating the invasive common reed, phragmites, through a series of spraying and mulching treatments. By controlling the tall, thick stands of phragmites, native vegetation can once again grow and provide critical habitat to at-risk species like the blue crab and seaside sparrow. Over 250 landowners are participating in this multi-year project in Old Saybrook to control approximately 113 acres of phragmites located on over 250 acres of tidal wetlands.

Carolyn and Judie felt that a similar, but smaller, project could be conducted to restore a tidal marsh in Guilford. The Committee to Save Guilford Shoreline applied to the Landowner Incentive Program for funding to restore a 20-acre marsh on Seaside Avenue. Funding was awarded to the Committee in 2007 for 3 rounds of phragmites control treatments. The project would be done in partnership with the Wildlife Division. The Committee to Save Guilford Shoreline organized an informational meeting in August 2009 so that representatives from the Divi-

sion could explain to project participants, residents, and other interested citizens the purpose of the Landowner Incentive Program and how and why phragmites control is implemented.

Approximately nine acres of phragmites is scattered in clumps of various sizes over the 20-acre marsh. The marsh consists of 17 parcels that are owned by 16 different landowners. Through the untiring efforts of primarily Judie Fine of The Committee to Save Guilford Shoreline, 14 landowners signed "letters of permission" to participate in the project. The first herbicide spraying was completed in September 2009. The treated areas were mowed over the winter to mulch the phragmites. The Division's Wetlands Habitat and Mosquito Management Program conducted the herbicide spraying

and follow-up mowing.

Because of the positive support this project has received from the dedicated members of the Committee to Save Guilford Shoreline and the citizens of Guilford, along with documented benefits of restoring native vegetation to critical shoreline habitats, the Town of Guilford is planning to carry out phragmites control work on adjacent town-owned land at Jones Beach on Seaside Avenue and possibly several other sites. This is another example of how a small, but important, Landowner Incentive Program funded project can lead by example and result in a larger area of habitat being restored, enhanced, or managed for wildlife.

*Judy Wilson is a biologist with the Wildlife Division's Private Lands Habitat Program*



Members of The Committee to Save the Guilford Shoreline, Judie Fine, Charles Magby (President), and Carolyn Cooper, pose in front of a stand of phragmites, an invasive plant. The Landowner Incentive Program has provided funding for the restoration of 20 acres marsh in Guilford by controlling phragmites.

R. BLUM, PRIVATE LANDS HABITAT PROGRAM

### 4-poster Device

*continued from page 7*

from the pre-treatment to post-treatment period. Tick infection rates were similar at Mason Island and Black Point during both the pre-treatment and 1-year post-treatment period. Tick numbers from the pre-treatment to the 1-year post-treatment

period were similar at Black Point but increased at Mason Island.

Preliminary data suggest that supplemental feed may increase the number of fawns produced per doe. The effects of the 4-poster devices on the tick population will not be detectable until June 2010. Additional years of data will

provide more insight to the effects of 4-poster devices on tick populations and deer herd health. Communities considering using 4-poster devices will be required to obtain a permit from the DEP.

*Howard Kilpatrick is the leader of the Wildlife Division's Deer Program*

# Conservation at a Crossroads?

## *Declining numbers of hunters may spell trouble for habitat conservation*

By Min T. Huang

Conservation of critical habitat has been at the foundation of wildlife management efforts in this country. With that purpose at hand, the North American wildlife management model – a user pay model – has become the most successful in the world. Forming the base of the North American conservation model are hunters and the hunting tradition. Since the early 1900s, hunters and those who embrace the hunting culture and a love of the outdoors have been at the forefront of efforts to conserve our precious wildlife heritage.

Participation in hunting, however, is declining, despite an increasing population in the United States. Nationwide, over the past 20 years, the number of hunters has declined 10%. Connecticut alone has lost a third of its hunters in the same timeframe. Approximately 1.5% of Connecticut's population currently hunts. Despite unprecedented hunting opportunities, hunters continue to drop out and new hunters are not being recruited at a high enough rate to replace those that are leaving. The reasons for this decline are many, and they vary across the country. Some of the more significant reasons that have been identified include the transient nature of societal values, increased demands on leisure time, an increasingly technological environment in which our youth focus their recreational pursuits, the proliferation of organized sports participation, and a growing ethnic population that has not traditionally had hunting as a cultural foundation. This declining trend, should it continue, may ultimately lead to the demise of hunting as we know it today.

The progressive loss of the hunting culture in our society and the myriad of benefits derived from that culture could result in far reaching negative impacts on North America's wildlife management program, which has historically relied upon significant participation and financial support from hunters. The loss of the hunting culture also could have negative economic impacts on rural America and result in an accelerated loss of open space.

Throughout our country, public agencies and programs involved with habitat conservation and wildlife management are largely funded by hunters through

hunting license sales and excise taxes. One of the benchmarks in the conservation movement in the United States was the Pittman-Robertson Act of 1937 (also known as the Federal Aid in Wildlife Restoration Act). This monumental legislation levied a tax on the sale of firearms and ammunition. These funds are given back to the states for the purchase of critical habitat and for wildlife management programs. Since 1937, over \$4.2 billion has been raised by hunters for state wildlife programs. In fiscal year 2010 alone, over \$269 million will likely be allocated to the states through Pittman-Robertson for conservation. Approximately 62% of all Pittman-Robertson funds have been spent on land acquisition, with the remaining amount spent on wildlife management programs.

The acquisition of over 4 million acres of critical habitat and an additional 14 million acres of land conserved through easements and landowner agreements have benefited all wildlife, not just those species that hunters pursue. The protection of critical habitats in Connecticut, such as the Roger Tory Peterson Wildlife Area in Old Lyme, not only benefits waterfowl, wading birds, and shorebirds, but also endangered species like salt marsh sharp-tailed sparrows, a population in our state that has global importance.

Another way that hunters have fueled the conservation of habitat and wildlife is through donations and membership in various conservation organizations. In Connecticut, 57% of waterfowl hunters belong to one or more conservation organizations. These private, non-profit organizations are no different than their collective membership in their dedication for conservation. As an example, since the passage of the North American Waterfowl Management Plan in 1986, over \$4.5 billion has been spent on wetland habitat conservation across the continent. A large portion of this total has been spent by conservation organizations, such as Ducks Unlimited and Delta Waterfowl, whose funds are largely driven by hunters and private benefactors. Ducks Unlimited has spent over \$73 million on habitat conservation in the Atlantic Flyway alone.

Hunters have traditionally been influential politically, and have been integral

in the passage of important conservation legislation, such as the Conservation Reserve Program, which has saved millions of acres of farmland from development.

A telling example of the importance of dedicated funding for the conservation of wildlife and habitat can be observed in a recent report published by the U.S. Fish and Wildlife Service on the conservation status of birds throughout North America. The majority of species that were hunted (e.g., waterfowl) and those species associated with wetlands as a group (about one-quarter of all birds) have been increasing over the past 40 years. This increase was due largely to the flow of dollars from hunting revenue. These funds are subsequently directed toward the conservation of wetlands. The North American Wetlands Conservation Act and the Federal Duck Stamp Program have generated billions of dollars for wetland conservation, with over 30 million acres of habitat being conserved throughout North America. Connecticut's Duck Stamp Program, funded largely by Connecticut waterfowl hunters, has raised over \$1 million for wetland conservation in our state. On the other hand, in the absence of a reliable, dedicated source of funding, the majority of nongame wildlife species are not increasing, but instead are declining, in some instances to the brink of extinction.

So, as the hunting population ages and declines, what does that really mean for conservation in Connecticut and throughout North America? We are truly at a conservation crossroads. Those who enjoy the outdoors – whether it is for hunting, birding, spiritual renewal, or just peace of mind – have the obligation to ensure its viability for future generations. The hunting community has borne the financial brunt of this burden. Without new sources of dedicated funding and/or new groups stepping up to the plate to champion our natural heritage, the outlook is bleak. As an example, there is a growing concern and almost resignation throughout North America among wetland habitat managers that the current pace of development, changing land uses, and lack of funding will make it difficult to just maintain the current amount and function of wetlands in the future. Without an influx of funding and political

influence on wetland policy, this does not bode well for any wildlife species dependent on wetlands.

As state wildlife agency budgets shrink and operating costs continue to increase, tough choices will have to be made with regard to how limited dollars are spent on the resource. Should the Wildlife Division forego a monitoring program that provides needed information on system response to management activities, pass on purchasing a critical parcel of land, or not conduct basic inventory and distribution surveys? Although new sources of funding for wildlife conservation have recently been appropriated, they are just that, appropriations. They can be reduced (which has already happened to initial allocations) or taken away to fund something else.

Stemming the tide of declining participation in hunting is going to be difficult, but not impossible. Several national surveys indicate that there is a large pool of potential hunters. The social reality of everyday life, however, presents numerous challenges to recruiting those individuals. Becoming a hunter involves

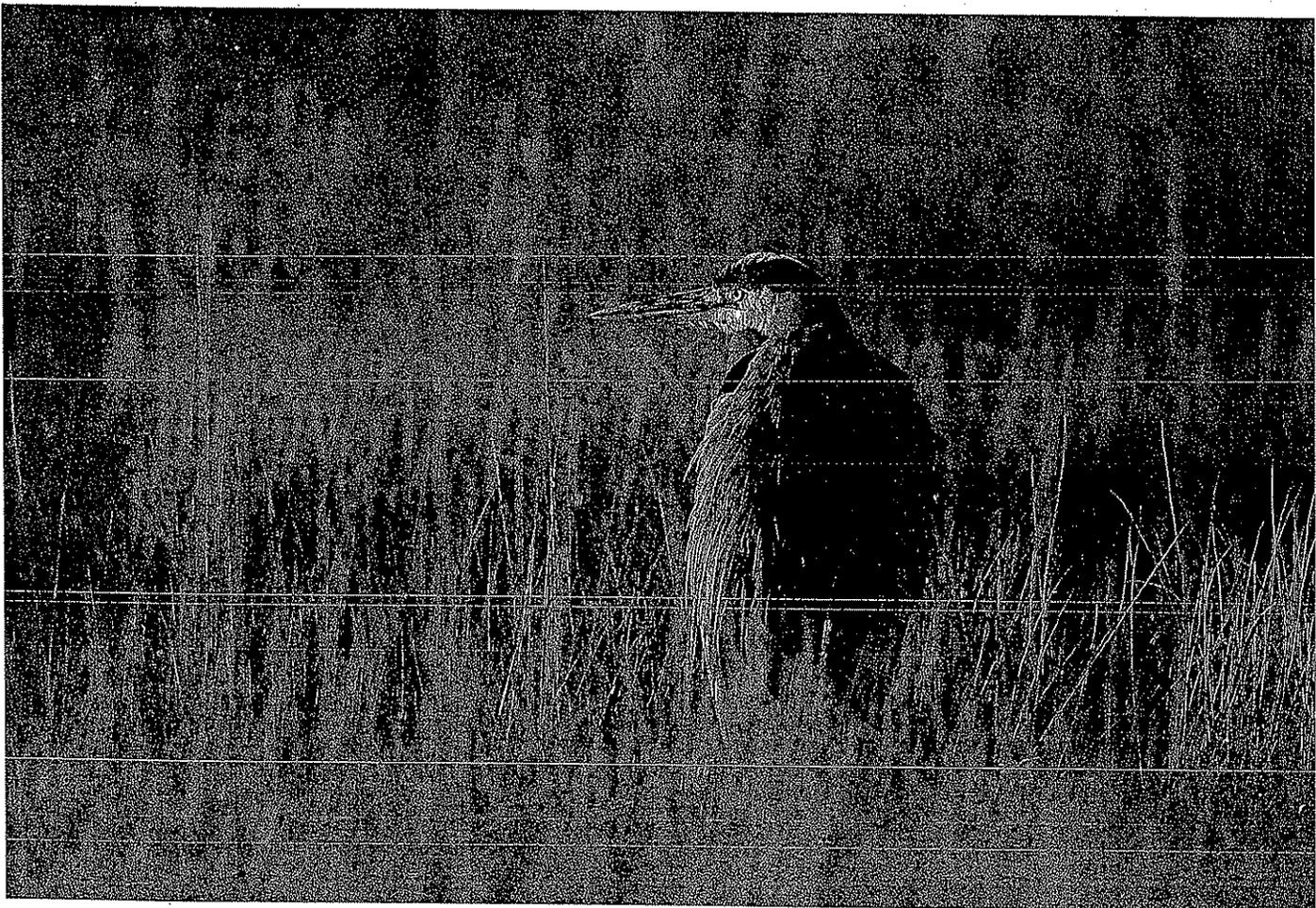
more than just firing a firearm or bow or going into the field to harvest game. Being a hunter is based on attitudes and involves development, over time, of an individual's perception of him/herself as a hunter and as part of the hunting culture. This development does not occur in a vacuum and requires a broad and deep social system of initiators, companions, and mentors. Importantly, not everyone in the hunting culture is a hunter. Long-term participation in hunting depends on development of a personal/cultural identity.

Providing and enhancing social support for hunters is the key to future hunting participation. Efforts to increase participation should focus on "becoming a hunter" and not on "going hunting." How someone develops a personal/cultural identity as a hunter is a long-term process involving a myriad of activities, and always occurring in a particular social context. Any individual can go hunting once or even multiple times, but development of a personal/cultural identity is necessary for long-term commitment and participation. We can take steps through existing hunter education

and wildlife outreach programs to focus more on these "non-consumptive" facets of the hunting culture, as well as promote more participation by the non-hunting constituency. Many graduates of hunter education classes throughout the country never intend to hunt. Ensuring that hunter education and wildlife outreach programs emphasize the "non-consumptive" aspects of the hunting culture will likely foster a more sympathetic and better-informed non-hunting public.

Hunting and the hunting tradition have been a fabric of American culture since the settlement of the "New World." As we have learned that conquering nature provides far fewer benefits than those derived from living with nature, conservation was born. Hunters have been at the forefront of this movement. Despite the current declining trend in hunting, it is not too late for us to maintain and build upon an institution that is truly American.

*Min Huang is the leader of the Wildlife Division's Migratory Gamebird Program.*



P. J. FUSCO

As state wildlife agency budgets shrink and operating costs continue to increase, tough choices will have to be made with regard to how limited dollars are spent on the wildlife resource. Both game and nongame species, like the great blue heron, will be affected.

# FROM THE FIELD



## Bill Hyatt New Bureau of Natural Resources Chief

Bill Hyatt was recently selected as the new Bureau Chief to lead the DEP's Bureau of Natural Resources. He now oversees the Divisions of Wildlife, Forestry, Inland Fisheries, and Marine Fisheries. Bill brings to the position 30 years of experience in natural resource management and a strong enthusiasm for the work that is done. He has worked for the DEP in positions of increasing responsibility since 1981; most recently as the Director of Inland Fisheries, a position he held since 2001. Under his direction, the Inland Fisheries Division has improved both the quantity and quality of fish raised at state hatcheries, increased the number of Trout and Bass Management Areas, created new walleye fisheries, established Trout Parks, and initiated an urban fishing program.

Bill has served on numerous boards, councils, and task forces over the years, including the Connecticut Institute of Water Resources, Connecticut Invasive Plant Council, Fisheries Advisory Council, and Executive Committee of the American Fisheries Society. Bill holds a B.S. in Ecology and an M.S. in Fisheries from the University of Connecticut.

## International Migratory Bird Day, May 8, 2010

**The Power of Partnerships in Bird Conservation:** Celebrate the partnerships that make bird conservation programs a success, along with the 20th anniversary of Partners In Flight. In 2010, International Migratory Bird Day focuses on the "Power of Partnerships" in bird conservation through its annual art and education materials.

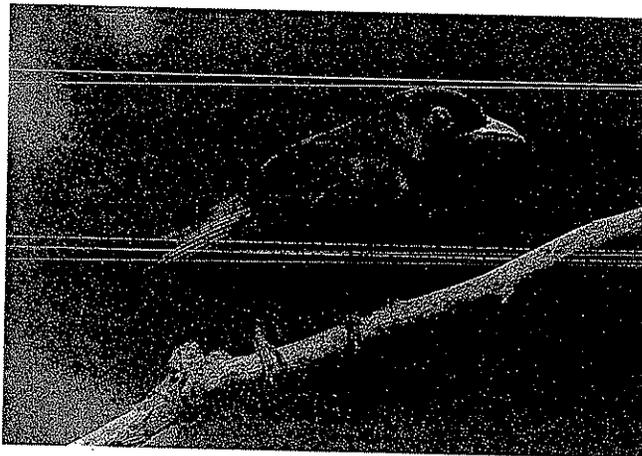


PHOTO BY: P. J. FUSCO

Twenty species of birds are highlighted on a poster to illustrate the conservation theme and represent species that benefit from partnerships and depend on our support to help their populations in the years to come. Visit [www.birdday.org](http://www.birdday.org) to learn more about International Migratory Bird Day.

## 40 Years of Earth Day

2010 marks the 40th anniversary of Earth Day, which was first celebrated in April 1970. Since the first Earth Day, great progress has been made in Connecticut to clean up our air and water, preserve open space, protect wildlife, and initiate statewide programs like recycling. The 40th anniversary of Earth Day on April 22, 2010, provides an opportunity to focus attention on these environmental successes, as well as on the challenges we still face. Working in cooperation with a coalition of environmental advocacy groups, the DEP is planning to celebrate this milestone. Details of the Earth Day "agenda" are still being developed, but you can expect to see events at the State Capitol, outreach to schools, outdoor activities, and more. The DEP plans to have a special "Earth Day" feature on its Web site that will provide information so that you can join in the celebration. Stay tuned — [www.ct.gov/dep/earthday](http://www.ct.gov/dep/earthday).

## Your Questions Answered ? ? ? ?

**Do you have a wildlife question you'd like to have answered?**

Please send it to: Your Questions Answered, DEP - Wildlife Division, P.O. Box 1550, Burlington, CT 06013; Email: [dep.ctwildlife@ct.gov](mailto:dep.ctwildlife@ct.gov)

*My bird feeders were just raided and destroyed by a black bear. Can I continue feeding birds throughout the spring and summer?*

Unfortunately, your best option is to remove your bird feeders. The Wildlife Division recommends that residents discontinue the feeding of birds from late March through November and also in winter if feeders are visited by bears. When bears leave their winter dens in late winter/early spring, natural foods are sparse and bears will seek high-energy foods associated with people, such as bird seed and garbage. This situation can lead to conflicts and potential safety hazards for both people and bears.

Bears typically avoid people, but food attractants near homes can cause them to become habituated to humans. Bears are attracted by bird seed, garbage, outdoor pet food, compost piles with food scraps, fruit trees, and berry-producing shrubs. Once a bear learns where to find human foods, it will return, looking for more. Even if feeders are made inaccessible to bears (by hanging them at least 10 feet above ground and 6 feet away from tree trunks), the scent of suet and seed may still attract bears. If bears lose their fear of people and develop a taste for human foods, they can become bolder and become persistent nuisances.

If a bear is observed passing through your neighborhood without stopping, you can either leave the bear alone and enjoy the experience

or make loud noises from a safe distance to attempt to scare the bear away. If the bear stops to feed on trash, bird seed, or other human generated foods, remove those foods after the bear has left and advise your neighbors to do the same. In residential areas where bears are known to be present, the entire neighborhood must take recommended actions or bears will move from yard to yard seeking food. There are several recommended actions you can take to avoid attracting bears, the most important being to never intentionally feed bears. Garbage should be kept in an airtight container, with a tight lid, and stored in a garage or shed. Wait until the morning of collection before bringing out garbage. Add a few capfuls of ammonia to trash bags and garbage cans to mask food odors. Pet food should not be left outside overnight and livestock food should be stored in airtight containers. Do not put meats or sweet-smelling fruit rinds in compost piles. Lime can be sprinkled on compost piles to reduce the smell and discourage bears. Thoroughly clean grills after use or store in a garage or shed. The actions you take to avoid conflicts with bears should also reduce problems with other common wildlife species, such as coyotes, raccoons, skunks, and foxes. More black bear information is available on the DEP Web site at [www.ct.gov/dep/wildlife](http://www.ct.gov/dep/wildlife).

# Recent Changes Affect Deer and Deer Hunting in CT

By Andrew LaBonte

Many changes occurred during the 2009 deer hunting season, such as online permits and licenses, paperless tags, tele-check, and Internet reporting. Comparisons were made between permit sales and hunting season results in 2008 and 2009 in an effort to evaluate the changes.

A total of 59,161 permits were issued during the 2009 deer season. Permit sales have not been below 60,000 since 1993. Overall permit issuance in 2009 declined 7.6% from 2008 (64,060) and 4.4% from the 3-year average (61,859). Issuance for muzzleloader permits had the greatest 1-year decline (15%), followed by shotgun/rifle (7.6%) and archery (2.5%) permits. When the cost of permits increased on October 1, 2009, it was expected that permit issuance would decline. The archery season showed little decline, mainly because permits were purchased prior to the price increase. As expected, there was no change in permit issuance for landowner permits because they are offered at no cost. Of all permits purchased in 2009, 75% were purchased prior to the price increase. It is expected that permit issuance will continue to decline in 2010.

With a reduction in permit sales and an abundance of acorns, it was assumed that fewer deer would be harvested during the 2009 hunting season. A regression analysis comparing trends in deer harvests and acorn abundance was created to predict the harvest for the 2009 season. The expected archery harvest, based on acorn abundance indices, was approximately 3,097. Through the use of a new hunter reporting system in 2009, the actual harvest was calculated at 4,718 deer, a 31% increase over the reported harvest of 3,608 in 2008.

The reported archery harvest increased in deer management zones 1-10 between 15% and 116% from 2008 to 2009. The expected muzzleloader harvest in 2009, based on acorn abundance indices, was about 822. In deer management zones 11 and 12, where hunters are required to report harvested deer and bring them to a check station to receive a free replacement tag, reported harvest only increased 2-3% and the reported muzzleloader harvest only increased 6-7%. These results indicate that the reported harvest in zones 11 and 12 in past years is probably more reflective of the actual harvest than in zones 1-10.

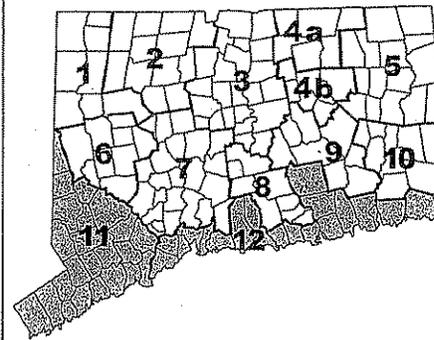
Previous research has indicated that when incentives for reporting harvested deer were provided to hunters, compliance with reporting increased. The increase in the reported archery and muzzleloader harvest in zones 1-10 may be due more to the convenience of the new reporting system than that of a true increase in harvest rates in 2009.

Hunters were required to bring their deer to mandatory check stations during the first 4 days of the 2009 shotgun/rifle season. A total of 2,547 deer were checked at these stations (an additional 134 deer were incidentally reported using the new reporting system), resulting in a 28% decrease from the 3,556 deer checked in 2008. Aside from the slight decline in permit sales and the abundance of acorns, reporting rates during the first 4 days of the shotgun/rifle season should have been similar because no change occurred in the reporting method. Thus, the actual harvest rate declined in 2009.

The expected shotgun/rifle harvest in 2009, based on acorn abundance indices, was about 7,209. The actual shotgun/rifle harvest was 4,948 deer using reports from check stations, telephone, and the Internet, a 31% decrease from 2008. Warm temperatures and an abundant acorn crop likely minimized hunter success during the 2009 shotgun/rifle season. Reported harvest during the 2009 landowner season (1,065 deer) was similar to the 2008 season (1,176 deer). Unlike the 3-week shotgun/rifle season, the landowner season runs from November to December and is less affected by periods of inclement weather.

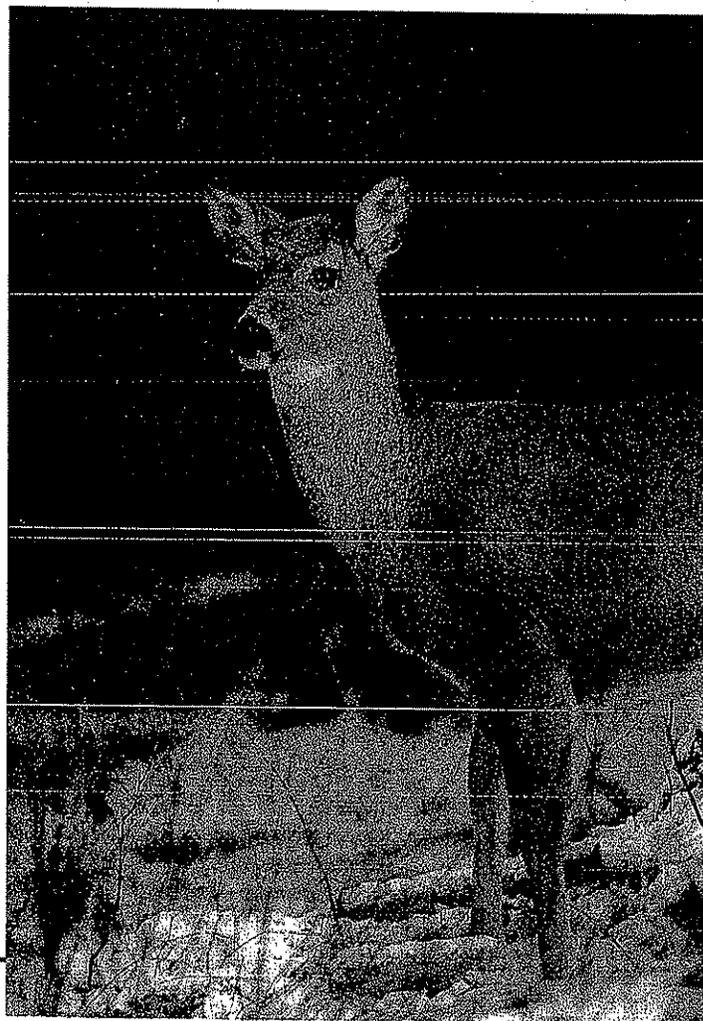
The new reporting system appears to be a convenient and effective means

## Connecticut Deer Management Zones



for hunters to report their harvest and allow the Department to easily acquire accurate data. Hunter opinions about the new tagging and reporting system are being assessed and should provide insight about the changes in the near future. As we move forward, it is expected that hunters will appreciate the changes that were made to make hunting both rewarding and convenient.

Andy LaBonte is a biologist with the Wildlife Division's Deer Program



P. J. FLUSCO

# Connecticut Waterfowl Association Donates Wood Duck Nest Boxes

The Connecticut Waterfowl Association (CWA) has been a conservation partner with the Wildlife Division for many years. The organization's mission is "to preserve, reclaim, and enhance wetland and wildlife habitat in the state of Connecticut in a manner that promotes the wise use of our natural resources and the progress of society." Cooperative projects have included public awareness programs, youth hunting program participation, assistance with the statewide wood duck nest box program, and funding assistance to the Division for equipment and habitat enhancement projects.

Recently, 17 members from CWA, met at the Flaherty Field Trail Area in East Windsor to build 78 wood duck nest boxes. The organization donated 70 of these to the DEP to be installed throughout the state. The donated boxes will be used as replacement boxes in the Division's wood duck nest box program.

## Connecticut



Waterfowl Association

The Wildlife Division extends its gratitude to CWA for its cooperation on this valuable conservation project. The Division also looks forward to many future partnerships that will benefit wetland habitats and the species that use these important sites.

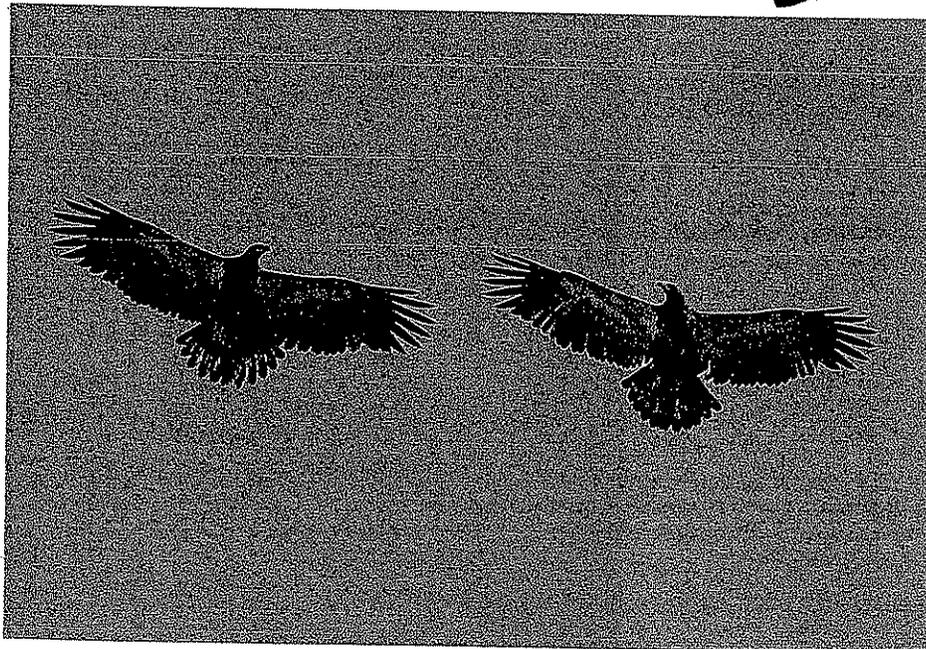


CWA members built 78 wood duck boxes, 70 for the state, on February 20, 2010, at Flaherty Field Trail Area in East Windsor. Members who participated include Jack Berlanda, Rich Chmiel, Frank Davis, Matthew Davis, Jim Gavin, John Larkin, Bruce Strickland, Sue Strickland, David Braatz, Tanner Braatz, Noah Braatz, Garratt Braatz, David Prouix, and David Elovich. Not pictured are Paul Capotosto (photographer), Tanner Steeves, and Roger Wolfe.

# The Wildlife Observer

Do you have an interesting wildlife observation to report to the Wildlife Division?

Please send it (and any photos) to: Wildlife Observations, DEP Wildlife Division, P.O. Box 1550, Burlington, CT 06013, or email: [dep.ctwildlife@ct.gov](mailto:dep.ctwildlife@ct.gov)



## Bald Eagle Mirror Image from Burlington

Frank Rossi of Burlington was fortunate to capture this image of two immature bald eagles soaring through the skies this past December. These first year birds will not exhibit the distinctive adult plumage of a snow-white head and tail and brownish-black body until they are about 5 years old. Young bald eagles are often confused with golden eagles; however, they are grayer than the darker golden eagle, and the bill is much heavier. Also, the golden eagle's legs are covered with feathers while an immature bald eagle's lower legs are bare.

Report your observations of black bears and moose on the DEP Web site at [www.ct.gov/dep/wildlife](http://www.ct.gov/dep/wildlife).

# Wildlife Calendar Reminders

- Late March..... Remove bird feeders from your yard to avoid attracting hungry bears that are emerging from their winter dens. Whenever a bear visits a bird feeder, take the feeder down immediately. To learn more about what to do if you encounter a black bear, visit the DEP's Web site ([www.ct.gov/dep/wildlife](http://www.ct.gov/dep/wildlife)).
- March 15-19 ..... **National Wildlife Week**, sponsored by the National Wildlife Federation. An easy way to participate in this week-long event is by making time for outdoor play and interaction with the natural world. The National Wildlife Week Web site ([www.nwf.org/nationalwildlifeweek](http://www.nwf.org/nationalwildlifeweek)) offers resources for kids, teens, parents, and educators to make spending time outdoors easier than ever.
- March 28..... **Fifth Annual Benefit Dinner and Auction for the Mount Vernon Songbird Sanctuary**, 1:00-5:00 PM, at the Aqua Turf Club in Southington. Ticket cost is \$55 per person. For more information, visit the Sanctuary's Web site at [www.mvssanctuary.org](http://www.mvssanctuary.org). Reservations can be made by sending a check to Mount Vernon Songbird Sanctuary, 1024 Mount Vernon Road, Southington, CT 06489 or pay (credit card) by phone at 860-276-8433.
- Late April-August.... Respect fenced and posted shorebird nesting areas when visiting Connecticut beaches. Also, keep dogs and cats off shoreline beaches to avoid disturbing nesting birds.
- April 22 ..... Earth Day (celebrate the 40th anniversary, see page 18 for more information).
- May 8..... International Migratory Bird Day. To learn more about this annual celebration, visit the Web site [www.birdday.org](http://www.birdday.org).

## Programs at the Sessions Woods Conservation Education Center

Programs are a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. Please pre-register by 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.

- March 21 ..... **Mushrooms**, from 9:30-11:30 AM. Join the Connecticut Valley Mycological Society, during their annual meeting at Sessions Woods, for a presentation on mushrooms. There will be a coffee hour at 9:30 a.m., followed by the speaker at 10:30 a.m.
- April 11 ..... **The Friends of Sessions Woods Annual Meeting with a Program on Bats**, starting at 1:00 PM. This annual meeting at the Sessions Woods Conservation Center is open to all! Learn about Connecticut's bats and white-nose syndrome in a presentation by Wildlife Division staff. White-nose syndrome is a condition associated with the deaths of hundreds of thousands of hibernating bats in the northeastern United States. It was first noticed near Albany, New York, in 2007. Since March 2008, biologists and cavers have documented dead and dying bats at over 25 caves and mines in New York, Vermont, Massachusetts, and Connecticut. What do we know about white-nose syndrome and how has it affected the bats of Connecticut? **A potluck dessert extravaganza will precede the presentation at 12:30 p.m. Please bring a dessert to share.**

## Hunting Season Dates

- April 28-May 29 ..... Spring Turkey Hunting Season
- April 17 & 24 ..... Spring Turkey Junior Hunter Training Days provide junior hunters with an opportunity to learn safe and effective hunting practices from experienced hunters. Visit the DEP Web site ([www.ct.gov/dep/hunting](http://www.ct.gov/dep/hunting)) to learn more.
- ..... Consult the 2010 Connecticut Hunting and Trapping Guide for specific season dates and details. The guide will available in April at more than 350 locations statewide -- including town halls, bait and tackle shops, DEP facilities, and commercial marinas and campgrounds. The guide is also on the DEP Web site ([www.ct.gov/dep/hunting](http://www.ct.gov/dep/hunting)). Go to [www.ct.gov/dep/sportsmenlicensing](http://www.ct.gov/dep/sportsmenlicensing) to purchase Connecticut hunting, trapping, and fishing licenses, as well as all required deer, turkey, and migratory bird permits and stamps. The system accepts payment by VISA or MasterCard.

# Connecticut Wildlife

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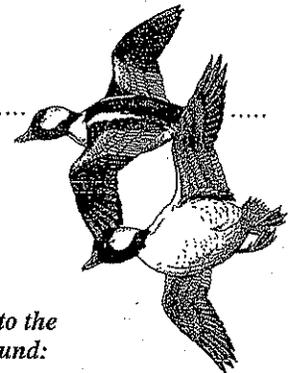
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Help fund projects that benefit songbirds, threatened and endangered species, reptiles, amphibians, bats, and other wildlife species.

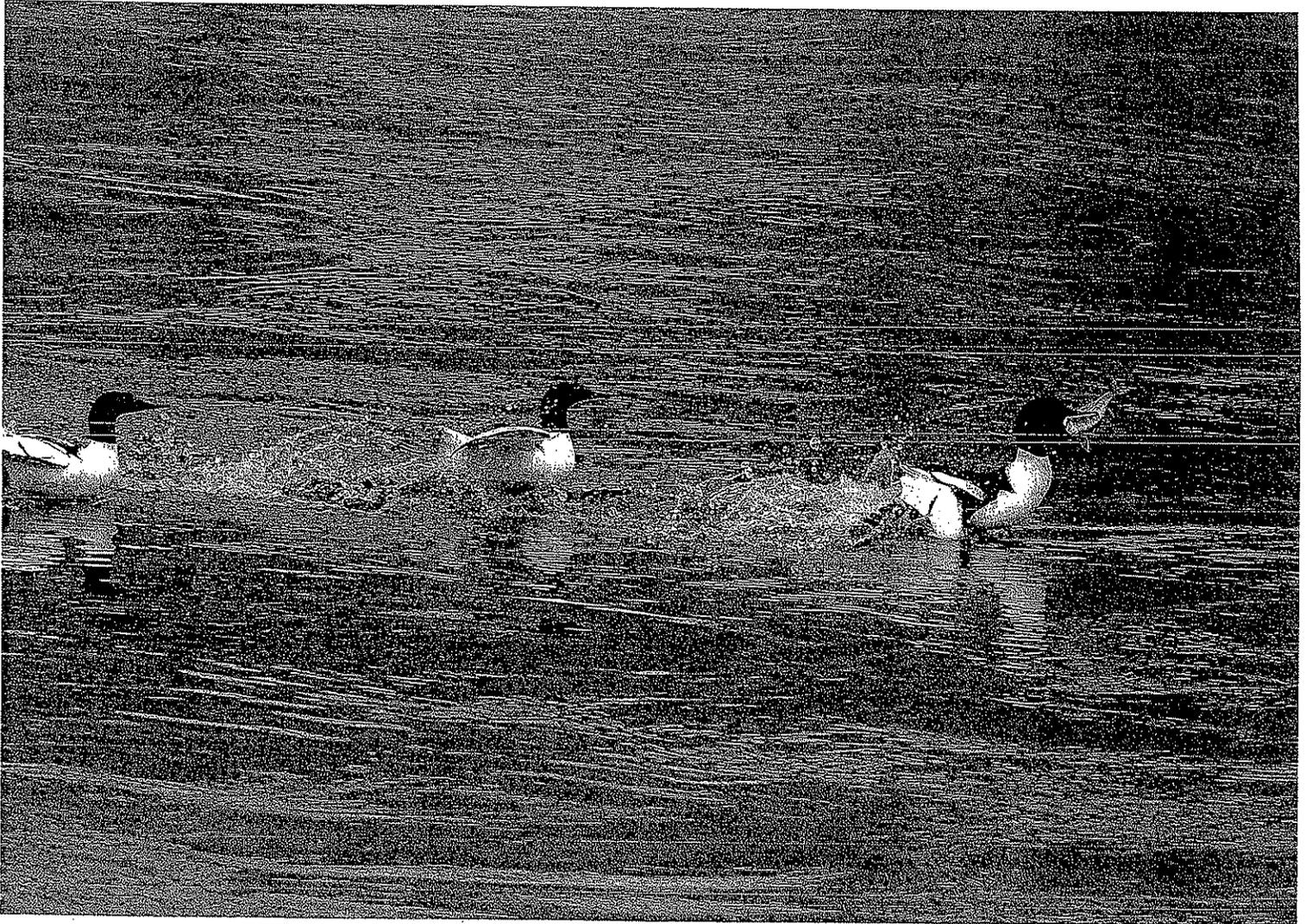


# Connecticut Wildlife

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Bureau of Natural Resources / Wildlife Division  
Sessions Woods Wildlife Management Area  
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|||



A male common merganser makes off with his catch, trying to elude two hopeful pirates in hot pursuit.



## The Potential Economic Benefits of Riparian Buffers

by Niev Duffy, Ph.D., Eastern Economic Research, Inc.

*This article, which is a summary of existing research on riparian buffers, has been modified from its original format for The Habitat. The full set of citations for the supporting research can be found at [caciwc.org](http://caciwc.org).*

### INTRODUCTION

Opponents of environmental protections on private residential and commercial property, such as the requirement of riparian buffer zones, are often concerned that restrictions will lower property values. In fact, there is growing evidence to suggest that modest and evenly enforced environmental protections within an entire wetlands area can substantially enhance property values. Studies also suggest that environmental protections can boost state revenues by enhancing the desirability of communities and recreational areas, while limiting the unforeseen growth in state expenses that often accompanies expanded residential and commercial development in watershed areas.

The economic benefits of the ecological services provided by Connecticut's rivers and wetlands run in the tens of billions of dollars annually. Maintaining a minimum level of protection for these assets can help to ensure that the rapid expansion of residential and commercial development does not negate the benefits of economic growth.

### POTENTIAL ECONOMIC BENEFITS

Studies have demonstrated that riparian buffers are a relatively low cost, easily enforceable and effective means of delivering valuable ecological services - such as the prevention of diffuse source pollution, protection of water supplies, flood mitigation, and aesthetic enhancement of communities and recreation areas. The spread of residential and commercial land development is frequently accompanied by an increase in water pollution when fertilizers, sediment, chemicals and other contaminants

are carried from lawns and pavement into neighboring wetlands by storm water runoff. Numerous studies document the important role that riparian buffers can play in reducing diffuse source pollution that may otherwise result in eutrophication, increased toxicity, and loss of water clarity. Studies have also demonstrated that protection is far more efficient than clean-up.

The ecological services provided by Connecticut's rivers and wetlands are worth many billions of dollars annually. The natural protection that riparian buffers offer to the quality of these assets can safeguard and enhance the desirability of communities and recreational areas, protecting property values and promoting tourism.

#### Recreational

Clean water, abundant and diverse wildlife, healthy fish stocks, and scenic views are a few of the assets that riparian buffers protect. This natural capital leads to a steady stream of returns in the form of tourism and recreational income and related tax revenue. Both the volume and range of outdoor recreational activities has increased dramatically in the United States over the last few decades. For example, expenditures associated with wildlife-watching increased by over 20% in the U.S. between 1995 and 2006, from \$37.7 billion to \$45.7 billion (in 2006 dollars). In 2006, fishing, hunting and wildlife watching activities by Connecticut residents alone generated \$755 million in

*Buffers, continued on page 3*

Inside *	Pg.
Municipal Farmland Protection	2
Journey to Legal Horizons	4
Forest Stewardship Issues	8
CACIWC Membership	11
DEP Open Space Grants	16

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## Reminder

Dues for fiscal year July 1, 2009 - June 30, 2010 are due. Check page 11 to see if your commission has submitted its payment.

# Working Together to Preserve Connecticut's Farmland

by the Connecticut Farmland Trust



Mitchell Farm overlook, Salem, CT

Connecticut's farmland is disappearing at the alarming rate of 8,000 acres a year. Fertile, highly productive land is being converted to residential and commercial uses at one of the fastest rates in the country -- in less than 20 years, we have lost 21% of our state's farmland. If this rate of conversion continues, all of our remaining farmland will be gone in less than two generations. This is why it is so important for organizations to work together to protect our state's working lands.

"Towns and local land trusts are becoming more and more active in farmland preservation within their communities. As a result, stronger partnerships are being formed with the combined resources of local, state and federal programs," says Henry Talmage, Executive Director of Connecticut Farmland Trust. "CFT has always been about collaboration and we take great pride in our ability to complete projects through teamwork and leveraging of funds."

The Connecticut Farmland Trust (CFT) is the only private, statewide nonprofit conservation organization dedicated exclusively to protecting Connecticut's farmland. CFT holds agricultural conservation easements that protect 1,766 acres of farmland around the state, has assisted partners in the preservation of 157 additional acres, and serves as a leading resource on conserving Connecticut's working farmland. By working with like-minded groups and pooling our resources, CFT is able to preserve more land than we would be able to do alone. These collaborations benefit all of us.

Everyone in Connecticut reaps the benefits of farmland. From producing fresh, local food to providing pastoral vistas, farms are a vital part of our history, culture, and economy. Connecticut farms contribute \$2 billion annually to our local economy, provide a myriad of environmental benefits, and help balance town budgets. Studies have documented that farms require less than 50 cents in town services for every

*Farmland, continued on page 13*

*Buffers, continued from page 1*

recreation related revenues in Connecticut. Another \$9 billion was spent by tourists visiting the state, generating over 1 billion in state and local tax revenue, and employing 1 in 15 workers in the state.

But Connecticut's recreational and tourism dollars are heavily reliant upon the maintenance of healthy ecosystems. For example, numerous studies emphasize the importance of preserving the natural habitat of fish - including shade trees, submerged grasses and other food sources - to maintaining healthy fish populations in spots popular among anglers. Numerous studies have found that individuals express willingness to pay substantial sums to protect the regional environment. One study in the 1990s found particularly high dollar values placed on improving water quality to a "swimmable" level.

Loss of natural riparian buffers can lead to pollution of streams by sediment, nutrients, and other contaminants, destroying fish habitat and closing swimming areas. The 1994 EPA National Water Quality Inventory Report to Congress identified 374 sites in 22 states where recreation was restricted due to poor water quality." In a 2009 survey of recreational boaters on Candlewood Lake in Connecticut, over half of respondents stated that poor water quality due to invasive species was "a major problem". And almost three quarters of boaters who owned lakefront property found it to be a major problem, indicating that they were the group most likely to benefit from riparian buffer zones designed to prevent such eutrophication.

Over the last two decades, an 18.2% increase in the land area covered by construction in Connecticut has been accompanied by a 14.5% decline in farmland, 6.5% decline in deciduous forest, 6.9% decline in area covered by water, and a 5.5% decline in forested wetland; trends that highlight the importance of safeguarding the remaining wetlands from environmental degradation. In Connecticut, an extensive study of coastal areas suggests that landuse restrictions within a 100 ft wetland buffer zone has helped to reduce the loss of natural vegetation during residential and commercial land development.

### *Aesthetic Value*

Historically, Connecticut's great natural beauty and well-preserved historical villages have ensured it some of the most prized real estate in the world. Its very desirable communities have attracted a relatively high-

skilled, high-income population that, in turn, has attracted a dynamic commercial sector. The desirability of communities is strongly influenced by the surrounding environment, and the health of neighboring wetland ecosystems plays a particularly important role. Reduced water clarity, algae blooms, and eutrophication have been shown to greatly diminish adjacent property values. And in regions where water quality has been allowed to deteriorate substantially as a result of over-development, studies have documented dramatic declines in regional property values.

Environmental restrictions on privately held land are often fought by those with short-term interests in the sale of local residential and commercial development, who fear that new restrictions will diminish market profitability. Though there is little evidence of diminished individual property values when all properties are similarly restricted, or regional economic loss, studies do show that land use restrictions that improve water quality often lead to substantial increases in property values both on and near wetland areas.

By maintaining a minimum level of protection for rivers and wetlands, riparian buffers can also help to mitigate a number of unintended consequences of rapid residential and commercial development that can drain state budgets, such as increased flooding, declining water tables and increasing strain on public water systems, as well as the spread of invasive plant species. Failure to address these issues can negate many of the benefits of economic growth.

### *Drinking Water*

Safe, dependable supplies of groundwater - for residential, agricultural, commercial and public uses - are crucial to a healthy economy. Among the many ecological services offered by riparian buffers is their ability to help protect and restore groundwater reserves. Public agencies spend large sums each year to obtain, treat and maintain water supplies. The loss of ecological services provided by riparian buffers can increase these costs. Increased sedimentation leads to the need for dredging and more frequent repair and replacement of equipment. Increased runoff of nutrients and other contaminants from lawns, fields, and pavement into wetlands increases the need to treat drinking water with chemical coagulants and disinfectants. And contaminants can also cause costly depreciation of commercial equipment. Expanding riparian buffers has the potential to limit these costs.

*Buffers, continued on page 12*



## What to Do While Applications are Hibernating

*Tom ODell asked me to write a column on what wetlands agencies could be doing while awaiting the return of "business as usual." In this column I share two thoughts: one task for the present and planning for the future.*

### Part I

If your wetlands agency has not amended its regulations for a while or if you're just not sure if your agency has kept its regulations current with state law, start with this task. There are a few tools that will really streamline this job. Depending on the size of your agency, you could consider setting up a smaller group to meet on these issues. Of course, the meetings would need to be noticed according to the Freedom of Information Act, be held in a public place (i.e., not in someone's home), be open to the public, have minutes created, etc. The major tool to rely on is the 2006 version of the DEP Model Regulations. The model regulations are available on the DEP website at: [http://www.ct.gov/dep/lib/dep/water\\_inland/wetlands/modelregsfinalof4thedition.pdf](http://www.ct.gov/dep/lib/dep/water_inland/wetlands/modelregsfinalof4thedition.pdf). The regulations begin with a list of revisions on pages 2 through 6. The list also includes the reason for the change in very succinct language. This will come in handy when you need to state on the record during the public hearing the reason for the proposed changes. The revisions clarify prior regulations, or are mandated by an amendment to the state law. Within the 2006 model regulations themselves it is very easy to distinguish the changes, as new or revised language is underlined. I have been before too many agencies in the past six months with outdated regulations. Here are some of the procedural and substantive problems in some towns' existing regulations.

*Date of receipt:* The law no longer allows you to require submission three business days prior to the next regularly scheduled meeting. The date of receipt is now the day of the next regularly scheduled meeting *immediately following the day of submission.*

*Regulated activity:* The Appellate Court in 2003 ruled that in order to have authority regulate activities that take place outside of wetlands or watercourses for their effect on those resources the agency must first have adopted a regulation establishing the authority to regulate conduct in the upland. The DEP has proposed language to establish that authority. Check the definition section of the model regulations, § 2.1. If you're fuzzy on the legal reasoning of that case, you can read my blog entry of December 28, 2009 addressing the case, at [www.ctwetlandslaw.com](http://www.ctwetlandslaw.com).

*Aquatic, plant or animal life and habitats in wetlands or watercourses:* Maybe some agencies have had a lot of turnover since 2003 and don't remember the outcry when the Supreme Court held that wildlife did not fall within the protection of the wetlands act. Then the legislature amended the statute in 2004, upholding the Supreme Court decision in part and reversing it in part. You will not be able to properly figure out what to do with wildlife considerations without the statutory language in your regulations. It is not intuitive; it was a political compromise. You will need to have the language as you review applications and decide how to consider wildlife impacts. Want to brush up on the wildlife controversy? You can read my blog entries of December 30, 2009 and December 31, 2009 at [www.ctwetlandslaw.com](http://www.ctwetlandslaw.com).

*Right of agency to enter onto private property:* In prior versions of the DEP model regulations, there seems to have been language that suggested that agencies or their agent had the authority to enter onto private property without the consent of the property owner. The 2006 version clears up that misnomer.

To complete the tasks, the DEP has made available online all of the legislative advisories. From the DEP Inland Wetlands and Watercourses main page, click on "Legislation, Regulation and Case Law." You would only need to review the advisories from 2006 to the present, as the earlier advisories are already incorporated into the 2006 model regulations.

*Legal, continued on page 6*



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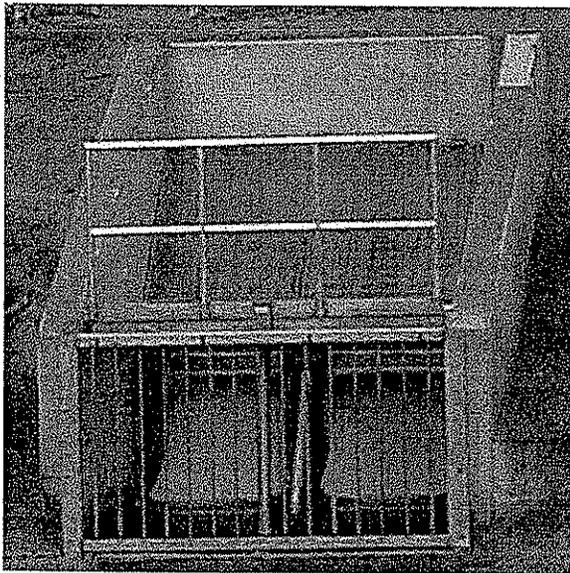
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I note that DEP has not posted an advisory for the legislative change in the 2009 session. Last year the legislature amended the act to state that wetlands permits issued from July 1, 2006 to July 1, 2009 "shall expire not less than six years after the date of such approval" and that the total period of time such permit may be in existence, including renewal time, cannot exceed 11 years. To read more about the change, go to the January 26, 2010 entry on my blog at [www.ctwetlandslaw.com](http://www.ctwetlandslaw.com).

One more task derived from your regulations: Almost all agencies have a section equivalent to § 4.4 in the model regulations which requires any person wishing to engage in an exempt activity to notify the agency "on a form provided by it." It is the rare agency that has developed that form. Some agencies invite letters with supporting documentation. Some use the application for regulated activities -- which makes me shriek, because it prompts the agency to begin an inappropriate inquiry. The application form for regulated activities delves into areas that are irrelevant to an agency's consideration of *whether* it has jurisdiction. Once an agency has established its jurisdiction, it is appropriate to look into alternatives and other factors for consideration. Why not craft a form which asks for facts that establish whether or not the person's activities fall within the exemption?

## Part II

Training of individual agency members, on the one hand, is a personal matter. A member is asked to give up time from other personal or family responsibilities or pleasures to become and to stay an informed member. But it is also an agency concern, as well as a public one. The wetlands act requires at least one member of the agency or staff to have completed the DEP comprehensive training program. DEP is required to allow one person from each town to attend the entire training program at no cost. Of course, the notion that only one person be trained is an inadequate benchmark. It is merely a point of departure.

Training should not be a matter that occurs only when - and if - agency members happen to sign up and attend.

**Priority #1: The training of members within a calendar year should be a matter of business to be discussed early in the year.**

Legal, continued on page 7



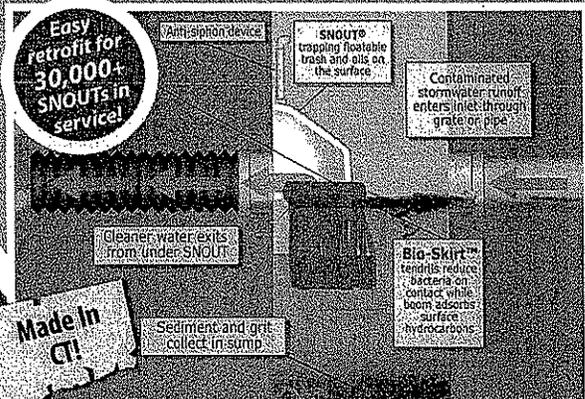
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*Legal, continued from page 6*

I believe it should be placed on the agenda once a year to discuss the year's goals for training agency members. The discussion can establish who has completed what aspects of existing training. Are members feeling overcommitted time-wise between training and agency duties? An idea that was discussed at the January, 2010 Council on Environmental Quality meeting was to excuse members from attending an agency meeting, as long as the agency would still have a quorum to proceed with pending business, so that the member could spend the equivalent time in training.

**Priority #2:** Any member who has not attended Segment I and the basic legal training should strive to do so. When I routinely offered Segment I legal training while at the Attorney General's Office, I often had agency staff people with many years of experience state that they learned something new at Segment I.

**Priority #3:** A majority of agency members should strive to attend the DEP Segment II Legal Update or the CACIWC annual meeting workshop on Legal Update. In fact, your agency should try to be in attendance at both. (Different members could go.) The DEP's Segment II is generally in May and June, while

the CACIWC meeting is in November. This year almost all of the Appellate and Supreme Court cases covered in the CACIWC annual meeting workshop had been issued in the late summer and fall, too late to be covered in the DEP Segment II training.

And, yes, I agree that folks should go get the technical training as well. I just want to stress the need for the agency to stay up to date on the changes in the law. That will not happen merely by serving on a commission for twenty years. It is not a matter of experience; it is a matter of knowledge.

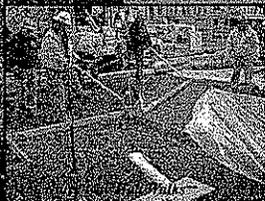
**Priority #4:** The statute requires the follow-up step that the newly trained member summarize the content of the training program at an agency meeting. At a minimum that should include distribution of any written materials provided at training.

Up to date regulations and forms, and current knowledge of the law, are the best bases for being prepared for the return to "business as usual."

*Attorney Janet P. Brooks is in solo practice in East Berlin and has started a blog on wetlands law, which you can read at [www.ctwetlandslaw.com](http://www.ctwetlandslaw.com).*



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*Editor's Note: Conservation Commissions take note - stewardship of municipal and private protected open space is a challenging responsibility. The following article discusses the consequences of ignoring that responsibility and encourages action to protect against unintended consequences.*

## Biological Integrity Issues in Connecticut's Upland Forest Ecosystems *by Emery Gluck, Forester, CT-DEP*

In Connecticut we are fortunate to have a significant forested landscape which forms an aesthetically pleasing backdrop to our daily lives and provides important ecological functions which contribute to our quality of life. Unfortunately, numerous issues have developed that threaten the forest's ability to sustain these valuable environmental services. This article summarizes the main impediments to sustainable upland forest ecosystems.

### Forest Fragmentation

As development starts to devour a continuous forest, it fragments the remainder. Edge habitat occurring at the forest /development interface is inhospitable to many species of wildlife. The edge habitat is well suited for skunks, raccoons, dogs, cats and other animals that prey upon the eggs of ground nesting birds. Also, brown-headed cow birds, a brood parasite that lay their eggs in other birds' nests, are more prevalent the closer to the edge. The host bird raises aggressive cowbird fledglings which crowds out its own fledglings. Brood parasitism and nest predation lead to the inability of smaller fragmented forests to sustain many interior bird species. Additionally, non-native invasive plants are usually more abundant in fragmented forests. Generally, habitat quality declines with the size of the forest. More information about forest fragmentation can be found on the University of Connecticut's Center for Land Use Education and Research (CLEAR) web site, ([http://clear.uconn.edu/projects/landscape/forest\\_frag.htm](http://clear.uconn.edu/projects/landscape/forest_frag.htm)).

The aggregation of a large continuous protected forest is often a more valuable conservation strategy than preserving smaller isolated forests. Planning tools such as cluster housing and transferable development rights have the potential to retain a modest to significant amount of continuous forest while allowing for limited residential and commercial growth.

### Invasive Plants

"Non-native invasive species pose a serious risk to North American forest ecosystems, threatening to change existing ecological trajectories, suppress rare and endangered native species, reduce productivity and biodiversity and damage wildlife habitat."<sup>1</sup>

Numerous non-native (exotic) invasive plants have gained a well established foothold and threaten to become pervasive in Connecticut forests. Many are characterized by "hypercompetitive behavior" that includes earlier leaf out than native competitors, the ability to re-sprout vigorously and produce large amount of seeds that are spread by birds and deer.

Non-native invasive plants that can be ecologically disruptive in Connecticut's forest include Tree-of-Heaven, Japanese barberry, and Oriental bittersweet. The former has been documented to cause heart attack-like symptoms if a person's skin is exposed to an excessive amount of the plant's sap. The incidence of black-legged ticks, a major vector for Lyme disease, is greater in dense thickets of Japanese barberry. The thickets provide an ideal refuge for the tick carrying white footed mouse. Bittersweet vines aggressively climb trees and monopolize forest understories. The vines aid in bringing down supple trees while extensive mats in the understory smother tree seedlings and other native understory vegetation.

The foothold these invasive plants have gained may turn into a stranglehold without considerable intervention. The next hurricane may greatly speed up the hostile takeover as significant disturbance in the upper forest canopy will provide sunny new ground for the germination of invasive plant seeds. Forest harvesting is thought to promote the invasion of non-native invasive plants where there is a nearby seed source. But one study found no increase in abundance of barberry after low- to moderate intensity selective harvesting.

Complete control of exotic invasive plants is unlikely. Herbicides provide the most definitive control but often meet public opposition. Uprooting smaller invasive plants is possible but unlikely to cover extensive areas; repeated cutting or burning immediately after leaf out kills a significant proportion if done in the same growing season.

For more information on invasive plants go to the Connecticut Invasive Plant Working Group (CIPWG) web site, <http://www.hort.uconn.edu/CIPWG/>.

*Forest, continued on following page*

## Deer

In addition to aiding the spread of invasive plants by depositing their seeds throughout forest, an abundance of deer may aid in changing the composition of the forest. Deer often browse heavily on oak seedlings but avoid species such as black birch, which contains the same chemical component as the muscle rub Ben Gay. Nearly 100 threatened or endangered species are browsed by white tailed deer. They have been known to browse the native understory plants so much that it allows an opening for invasive plants to germinate. Conversely, where deer had been fenced out, the understory was lush with native plants.

Deer populations were almost extirpated with the loss of mature forests and unrestricted hunting in the late 1800s. Citizens reported only 12 deer in Connecticut in 1893. With increased suburbanization, maturing oak forests, and a decline in hunting, the deer population has grown exponentially. Their population is currently estimated at 65,000.

Significantly expanding responsible hunting, reducing forest fragmentation by minimizing conversion of forests to conventional subdivisions could help stabilize an excessive deer population and revitalize the plants favored by deer.

## Lack of Appropriate Disturbance

Some upland forest ecosystems have evolved to sustain themselves after disturbances such as fire, hurricanes and tornadoes. These disturbances create a temporary open environment where sun-loving plants could perpetuate themselves and their offspring could outgrow competing shade tolerant species. Native Americans used to frequently burn extensive areas of the forest to create an environment that attracted their game animals, increased berry production, and provided numerous other benefits necessary for their survival. Pre-settlement forests experienced fires exponentially more frequently than today's forests. Fire that sustained oak ecosystems for thousands of years has been extinguished as fire preventive systems evolved to protect people and houses that now fill the increasing fragmented forest.

Today's maturing oak forest originated after extensive clearcuts, fires, chestnut blight and farm abandonment from about a century ago. The prolonged absence of similar events and excessive deer browse has started to facilitate the slow transformation of much of Connecticut's oak forest into shade tolerant birch, beech and maple forests. Oak seedlings are found in the understory of an intact forest after an acorn crop but most die out within a few years because of lack of adequate sunlight. Survivors are severely hindered by overtopping competitors. Oak seedling survival on ridge-tops and droughty soils where competition is limited is an exception. The ability of a new generation of oak to graduate to the forest canopy is severely limited under current conditions.



*Nehantic State Forest, Salem – This oak forest received a regeneration harvest and controlled burn. Grasses become established after such repeated disturbances. Their seeds provide an important food source for the fall bird migration. Forests near Native American villages were probably burned frequently creating an open park-like forest. The fires killed thinned barked trees and shrubs. The older oak and chestnut trees were protected from low intensity fires by their thick bark. Younger oaks re-sprouted more vigorously than other hardwoods killed by the fires.*

The potential future displacement of oaks has enormous ecological consequences as around 50 animal species depend upon acorns for their primary source of protein. Oak forests host more species and a higher abundance of birds than maple forests. Oaks cumulatively host over 500 species of butterflies and moths (Lepidoptera). Larvae, the immature form of Lepidoptera, are an important food source for birds.

Severe fire and other disturbances historically sustained a small part of the landscape

in young forest habitat. The majority of the forest landscape should be made up of sawtimber-dominated forests in order to provide habitat for the bulk of the wildlife species. (Sawtimber are trees greater than 11" in diameter measured 4.5' above ground level). At the same time, very young forests provide requisite dense shrubby habitat for 22 bird species and four mammal species in New England, including numerous declining species such as blue-winged warbler, chestnut-sided warbler, New England cottontail and bobcat. The unique assemblage of dense cover, herbaceous vegetation, and associated insects is short-lived as the habitat structure changes as the forest ages. Forests as young as eight years old have already lost their habitat value for some species. A frequent infusion of relatively small but severe disturbances is necessary to sustain populations of those animals that depend upon this habitat.

*Forest, continued on page 15*



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IW = Inland Wetlands Commission		Z+IW = Zoning/Inland Wetlands Commission			
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Avon	IW	Fairfield	CC	Old Saybrook	IW (SUS)
Avon	CC	Farmington	Z+IW	Old Saybrook	CC (SUS)
Barkhamsted	IW	Farmington	CC	Oxford	CC+IW (SUS)
Barkhamsted	CC	Franklin	IW	Plainfield	IW
Beacon Falls	IW	Glastonbury	CC+IW (SUS)	Plainfield	CC
Beacon Falls	CC	Goshen	IW	Plainville	IW
Berlin	CC	Goshen	CC	Plainville	CC
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Bethany	CC (SUS)	Granby	CC	Portland	IW (SUS)
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### Flood Control

By impeding and absorbing flood waters, riparian forest buffers reduce the damage caused by floods. And by reducing the sedimentation of rivers and streams, which fills streambeds and makes them more prone to overflowing, riparian buffers also reduce the frequency of flooding. According to one study, reducing runoff by 10% within a watershed could reduce flood peaks with a 2 to 5 year return period by 25% to 50%.

According to the National Flood Insurance Program (NFIP), the value of flood losses in the U.S. between 1996 and 2005 totaled over \$2.4 billion. Rapid land development and the loss of riparian buffers have the potential to increase these costs. Ironically, where new land development leads to increased flooding, it has the potential to drive down the value of existing housing stocks in flood prone areas.

### POLITICAL FEASIBILITY AND "WILLINGNESS TO PAY"

Numerous studies find that Americans express a willingness to pay substantial sums for programs that will improve water quality. While such studies might overstate the true willingness to pay for ecological services, the notable consistency of such results indicate a very real concern over the availability and security of safe drinking water. One study that explored the difference between the hypothetical willingness to pay among survey participants and taxpayers' actual willingness to pay for a river-front improvement project, found that there was no statistically significant difference between the two. Since the benefit/cost ratio to households of wetland restoration projects is often very high, it is perfectly rational for residents to be willing, if not eager, to pay for such projects.

*Editors Note: The preceding article is the first extensive literature review published in The Habitat. The article was requested by the Editor to provide supporting evidence of the economic value of riparian buffers. We would appreciate comments on its value to commissioners and whether or not other literature reviews should be considered for The Habitat.*

### Advertisement

## Chemical Remediation in Wetlands: Not Your Average Cleanup

By Wayne H. Bugden, LEP  
Director of Environmental Services, CME

When remediating contaminants in sediment, how "clean" is clean enough? Wetlands are very sensitive to pollution, but Connecticut remains without a standardized regulatory approach to this problem. There are many reasons for this, including:

**Unique Physical and Chemical Properties:** Sediments range from dense sands and silts, to loose organic peats. Some bind tightly to heavy metals while others contain natural organic compounds that laboratories may

mistake for petroleum. Such variability makes it impossible to develop "one-size-fits-all" cleanup standards.

**Uncertain Source(s):** Finding the "responsible party" can be tricky if a wetland receives runoff from multiple properties. Investigators can use forensic techniques to "fingerprint" contamination, but success depends on careful planning and experience.

**Need to Balance Risks:** Sometimes, removing contamination may cause more damage than leaving it in place. Knowing how, and when, to remediate wetlands cannot be determined using a State-wide policy. Instead, ecological risk assessments must weigh the pros and cons of all alternatives.

Connecticut DEP is working to develop sediment cleanup criteria, but it is unknown when, or if, these standards will go into effect. Meanwhile, wetland contamination

problems must be carefully evaluated to determine if remediation is needed. When

it is, the cleanup professionals must consider the wetland's many unique properties to avoid damaging its essential functions and values.

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*Farmland, continued from page 2*

dollar they generate in local taxes -- while residential development costs towns more than one dollar for every dollar of revenue generated.

Connecticut Farmland Trust assists towns and land trusts by offering technical assistance and guidance in the specific area of agricultural conservation easements. These easements give landowners the flexibility to change their operation and practices to meet future agricultural needs. CFT's criteria for easements focus on viable, active farms with prime and important agricultural soils. There is no restriction on property size. CFT may also contribute funds toward the acquisition of an easement and may sometimes hold the easement.

"There is a big difference between open space and agricultural easements, and we are happy to provide

towns and land trusts with guidance on conservation language that includes specific terms to help protect farmland," says Elisabeth Moore, CFT's Conservation Director. "Who gets the credit for preservation or holds the easement on the property isn't important. The most important thing is protecting Connecticut's remaining farmland."

Organizations contact CFT for assistance and partnerships, but CFT also seeks out groups to collaborate with when their preservation projects fit with our mission of protecting farmland. We are currently working with the Town of Branford to preserve a farm and are collaborating with the Town of Lebanon to preserve three farms. Below is a listing of farms Connecticut Farmland Trust has preserved with help from towns and land trusts:

*Photos courtesy of Connecticut Farmland Trust*



*Vanishing Geese Farm, Durham*

**Vanishing Geese Farm, Durham**

Preserved in 2009

43 acres of hay & pasture, Scottish Highland cattle, chicken, and honey bees

Collaboration with Durham Conservation Commission

**Phillips Farm, Southbury**

Preserved in 2004

20 acres of support land for local dairy

Collaboration with Southbury Land Trust

**Loydal Farm, Southbury**

Preserved in 2005

36 acres of support land for local dairy

Collaboration with Southbury Land Trust

**On the Hill Farm, Salem**

Preserved in 2005 & 2006

76-acre beef and hay farm

Small seasonal farm stand open to the public

Collaboration with Salem Land Trust and the USDA-Natural Resources Conservation Service's Farm and Ranch Lands Protection Program.

**Hunt Hill Farm, New Milford**

Preserved in 2008

40-acre Christmas tree farm

Seasonal farm stand - open to the public

Collaboration with Weantinoge Heritage Land Trust and the Town of New Milford

**Marvel & Mitchell Farms, Salem**

Preserved in 2009

206 acres of hay & pasture

Collaboration with The Nature Conservancy



*Osuch Farm, Watertown and Bethlehem*

**Osuch Farm, Watertown and Bethlehem**

Preserved in 2007

40 acres of support land for local dairy

Collaboration with Watertown land trust

**Little Pond Farm, Stonington**

Preserved in 2010

96 acres of corn & hay

Collaboration with Town of Stonington

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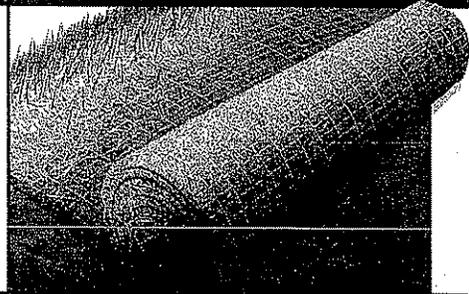
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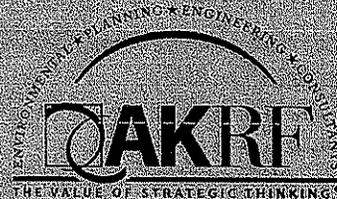
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### CONTACT:

Martin Brogie  
700 Main Street, Suite C  
Willimantic, CT 06226

t: 860-423-7127

f: 860-423-7166

www.akrf.com

Forest, continued from page 9

The maintenance of disturbance-dependent ecosystems is a difficult task in a mostly suburban state. Controlled burns can be an effective tool, but there is very limited opportunity to implement and they pose an element of risk. Mechanical grinders or masticators can create young forest habitat by grinding up a forest whose trees that are approaching 7" in diameter. Though mechanical treatments can mimic historic disturbances such as fire to a certain extent, they are unlikely to capture the full ecological value of a natural disturbance. These treatments are usually expensive. The Wildlife Habitat Incentive Program (WHIP) may provide federal cost sharing for controlled burns and creating young forest habitat. More information about creating young forest habitat can be found through the "Coverts Program" from the UConn Cooperative Extension's web site, <http://www.canr.uconn.edu/ces/forest/coverts.htm>.

The most cost efficient method for maintaining a disturbance dependent ecosystem often involves forest management. Forest management also often entails cutting trees too small to market but necessary for freeing up overtopped oak seedlings and saplings. It should be noted that some harvests can be ecologically regressive. Harvests in oak forests can accelerate succession towards other species if only the valuable

trees are harvested and most of the small non-oak trees are left. Appropriate forest management can sustain an ecologically viable forest and, in addition, yield wood products to offset management costs.

### Forest Management Assistance

DEP Division of Forestry conducts a detailed assessment and extensive planning before implementing forestry operations on state forests. Likewise, it is recommended that landowners and land trusts have a stewardship plan prepared by a certified forester to provide a detailed evaluation of the forest resources and management options before any harvest. The Connecticut Division of Forestry offers a service where their foresters can provide a limited initial assessment at no charge to the landowners.

The complex social and biological issues confronting Connecticut's forest are in the process of being collaboratively addressed by stakeholders in the 5-year revision of the Connecticut Statewide Forest Resource Plan. More information on forest management can be found at the DEP Division of Forestry Website: [http://www.ct.gov/dep/cwp/view.asp?a=2697&q=322792&depNav\\_GID=1631&depNav=](http://www.ct.gov/dep/cwp/view.asp?a=2697&q=322792&depNav_GID=1631&depNav=)

For the most part, the forest is not sustaining viable populations of the full array of fauna and flora native to the area. The forest is being compromised because the cumulative effect of our collective actions and inactions brought unintended and often unnoticed consequences. It will take a mindful concerted effort to substantially change this course.

### End Notes

<sup>1</sup>Chornesky et al 2005. Science priorities for reducing the threat of invasive species to sustainable forestry. *Bio Science* 55(4): 335-348.

*This article and the full set of supporting citations can be found at [caciwc.org](http://caciwc.org).* 



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*Spring 2010*

RUDY J. FAURETTI, CHAIR  
INLAND WETLANDS AGENCY  
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## THE HABITAT

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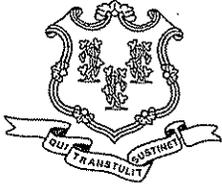
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### ★ OPEN SPACE ★ GRANT ROUND ANNOUNCED

Governor Rell announced that funds are available to assist cities and towns and land conservation organizations with the purchase and preservation of open space lands through the state's Open Space and Watershed Land Acquisition program. **The deadline for applications is Monday, May 3, 2010.** Be sure to use the application dated January, 2010. The pdf for the application can be found on the DEP website at [http://www.ct.gov/dep/lib/dep/open\\_space/open\\_space\\_grant\\_round\\_application.pdf](http://www.ct.gov/dep/lib/dep/open_space/open_space_grant_round_application.pdf), or call Dave Stygar (860)424-3081 or Allyson Clarke (860)424-3774 at DEP. Awards are expected to be announced in the fall of 2010.

### ★ DEP's 2010 MUNICIPAL ★ INLAND WETLANDS ★ COMMISSIONERS TRAINING PROGRAM

The DEP's 2010 Municipal Inland Wetland Commissioners Training Program will begin in mid-March with Segment 1. Brochures regarding the training program, along with a program voucher allowing one person to attend for free, were mailed to each municipal inland wetlands agency by February 19th. Further, online registration and information is available at <http://continuingstudies.uconn.edu/professional/dep/wetlands.html>. If you have additional questions regarding the 2010 Municipal Inland Wetland Commissioners Training Program please contact Darcy Winther of the DEP's Wetlands Management Section at (860)424-3063.



STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

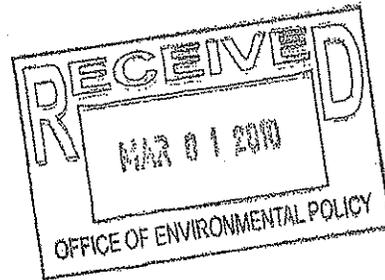


February 22, 2010

University of Connecticut  
31 LeDoyt Road -Unit 3055  
Storrs, CT 06269-3055

Attn: Richard Miller

RE: FM-200903092  
Swan Lake Outlet  
University of Connecticut  
Mansfield



Dear Mr. Miller:

The Inland Water Resources Division of the Department of Environmental Protection has reviewed the flood management certification prepared by James Ericson of Lenard Engineering and signed by Richard Miller of the University of Connecticut. The certification document dated October 1, 2009, states that the proposed activity has been designed in compliance with the requirements of Section 25-68d(b) of the Connecticut General Statutes (CGS) and Section 25-68h-1 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA).

The project consists of improvements to the existing Swan Lake Drainage outfall as shown on plans entitled "University of Connecticut Gurleyville Road Storrs, Connecticut Job # 07-444", dated May 7, 2008 revised May 28, 2009.

The above referenced certification is hereby approved with the following condition.

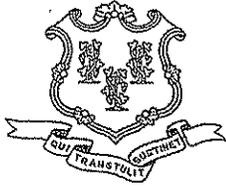
1. There shall be no modifications to the existing contributing stormwater drainage system discharging into the Swan Lake drainage outlet prior to receipt of all required state permits, specifically, the Inland Water Recourses Flood Management Certification and Diversion Permit. The outlet protection design must be verified upon final design of the future diversion.

No revisions or alterations to the approved plans are allowed without first obtaining written approval from this Division of such alterations. If there are any questions, contact Sharon Yurasevecz of the Inland Water Resources Division at 860-424-3019.

Sincerely,

Denise Ruzicka  
Director  
Inland Water Resources Division

PAGE  
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STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



February 25, 2010

Mr. Quentin Kessel  
Chair  
Mansfield Conservation Commission  
97 Codfish Road  
Storrs, CT 06269

Dear Mr. Kessel:

I am responding to your letter dated January 20, 2010, concerning the 2009 *Memorandum of Agreement Between the Department of Environmental Protection and the University of Connecticut (MOA)*. I appreciate your comments and concerns regarding these matters.

I'd like to provide you with some important background concerning the MOA. The MOA was developed as a mechanism to assure implementation of UCONN's Drainage Master Plan. The Drainage Master Plan was a study performed by UCONN in 2003 to evaluate flooding problems along Eagleville Brook, water quality problems along Eagleville Brook and flooding problems along North Eagleville Road and Hunting Lodge Road. This study indicated increased flood flow to both the Fenton River and Eagleville Brook. The study also proposed various recommendations for addressing these problems.

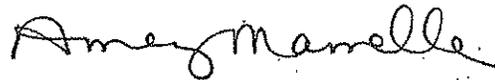
The overall intent of the Campus Drainage Master Plan and the implementation under the MOA, is to ensure water quality improvements and reduction of the rate of runoff through the various projects. While the MOA identifies projects, the actual design and evaluation of environmental effects will occur during the design and environmental permitting phases. The MOA in no way dictates environmental permitting outcomes. Should a project be denied, UCONN would be obligated to find an alternate project to meet water quality and flooding mitigation objectives. Certain elements may also require approval from the Department of Public Health Drinking Water Section due to their location within the Willimantic Reservoir watershed. In addition to addressing stormwater quality, UCONN will be expected to ensure that the peak rate of runoff, during heavy storms, would not cause erosion at the storm drain discharge points.

I understand that there are many concerns related to the proposed project to divert runoff from Eagleville Brook to the Fenton watershed. This project has not yet been designed. During the design and permitting process, both water quality as well as peak runoff concerns will be addressed.

We trust that the University will keep the Town of Mansfield fully apprised as future projects move forward.

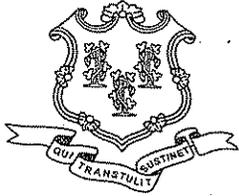
Please feel free to give Denise Ruzicka, Director of the Inland Water Resources Division should you wish to discuss this further. She can be reached at 860-424-3706.

Yours truly,

A handwritten signature in cursive script that reads "Amey W. Marrella".

Amey W. Marrella  
Commissioner

cc: Eric Thomas, DEP  
Karl Wagner, CEQ  
Richard Miller, UCONN



STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



NOTICE OF INSUFFICIENCY

March 10, 2010

University of Connecticut  
31 LeDoyt Road -Unit 3055  
Storrs, CT 06269-3055  
Attn: Richard Miller

RE: FM-200903960/ IW-200903962/DS-200903961  
Mirror Lake Dredging and Dam Modifications  
University of Connecticut  
Mansfield

Dear Mr. Miller:

Your application for an approval of a permit for the Mirror Lake dredging and dam modifications received by this Department on December 16, 2009 is incomplete for processing. Your application is insufficient because it does not contain the following:

1. In attachment E, under Executive Summary, the content references a 2006 UConn Campuswide Drainage Master Plan prepared by Lenard Engineering, Inc. (LEI). That report recommends some of the proposed work depicted on the plans entitled "Mirror Lake Dredging University of Connecticut Storrs Campus Project No. 901392" dated December 11, 2009. Although the computations in this report indicate the capacity of the proposed spillway matches the design flow requirements of the flood management approval, they do not specifically address that the dam has an adequately sized spillway for the design storm with the required freeboard. Please provide this supporting data. If this information is already in a previous study/report, provide only the applicable portions of the report.
2. In attachment E, specifications are included for concrete, reinforcing steel bars, etc. Is this a complete set of specifications for the project? This set is labeled as DRAFT. Submit a final copy of the specifications, as a permit would be issued based on approval of final Contract Documents.
3. Attachment Q of the application consists of a letter from Robert J. DeSista of the Department of the Army, New England District, Corps of Engineers (COE) to the University of Connecticut & Baystate Environmental Consultants, Inc. dated October 15, 2009. As stated in this letter, a COE permit is not required based on plans dated September 2009, which only showed the dredging work. Is the COE aware of the proposed work to the spillway, spillway apron/downstream channel, etc? Verify if no COE permit is required for this additional work not shown on the plans dated September 2009.
4. On Sheet 2 of 7 of the plans, under Sediment & Erosion Control Notes, comment #14 mentions CT DEP General Permit. Note that this application is for an individual permit.

FM-200903960/ IW-200903962/DS-200903961  
Mirror Lake Dredging and Dam Modification  
UCONN, Mansfield

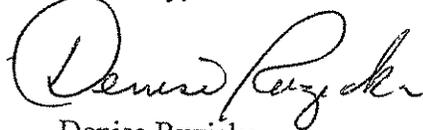
5. Calculations are required for the downstream riprap stilling basin and riprap channel protection. The calculation must show an adequate design while maintaining the minimal amount of impacts to the regulated area.
6. Water handling plan must be provided showing how stormwater will be handled in accordance with the DOT Drainage Manual for both the dredging and dam modifications.
7. The plans must include details of the four sediment dewatering areas.
8. Certification of Notice Form and copy of the published notice.
9. Enclosed is a letter from the Mansfield Conservation Commission dated January 25, 2010 listing several items of concern. Documentation is required showing that the six items have been addressed.

Please note that all present and future applications submitted to the Inland Water Resources Division must include the pertinent calculations and documentation from the approved Stormwater Master Drainage Plan. The applicant should not submit the entire Stormwater Master Drainage Plan consisting of several volumes of documentation but only provide the applicable portions relating to the proposed application. It is the responsibility of the applicant to provide a complete application including supporting documentation as described in the application package.

The Department will not process your application until the above insufficiencies are corrected. The information requested above must be submitted to the Department within thirty days of the date of this request or the application will be rejected in accordance with 22a-3a-2(e) of the Regulations of Connecticut State Agencies. Please be aware, however, that the Department may have additional questions regarding your proposal based on its review of the new information.

Should you have any questions or would like to meet with the Department's staff to discuss this matter, please call Sharon Yurasevecz at (860) 424-3019.

Sincerely,



Denise Ruzicka  
Director  
Inland Water Resources Division

cc: Danielle Missell, DEP  
Kartik Parekh, DEP  
Quentin Kessel, Mansfield Conservation Commission

RECEIVED

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10-27

~~10-27~~  
Wingfield

DEPT. OF ENVIRONMENTAL PROTECTION  
OFFICE OF THE COMMISSIONER

Mansfield Conservation Commission  
Storrs, CT 06268  
January 25, 2010  
(Revised January 28, 2010)

Commissioner Amey Marrella  
State of Connecticut  
Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106

Dear Commissioner Marrella:

The Mansfield Conservation Commission is concerned with the significant negative impact that the proposed University of Connecticut Dredging of Mirror Lake may have on the watercourses and wetlands in the public water supply watershed into which Mirror Lake drains. For this reason, we request that a public hearing be held on this Permit Application (dated December 11, 2009) for Wastewater Discharge, Inland Wetlands and Water Courses, Dam Construction and Flood Management Certification.

Our reading of this Permit Application suggests the following problems to us:

- 1) The 17,000+ tons of sediments to be dredged from Mirror Lake are known to contain toxic materials that exceed DEP standards; indeed additional testing is recommended in the Wastewater Discharge Application.
- 2) Inadequate details are provided on disposal of the dredging spoils.
- 3) The sediments (primarily anaerobic) contain large quantities of nutrients that when exposed to air in the dewatering process will convert anaerobic processes to aerobic processes, resulting in potentially heavy nutrient loadings, especially nitrogen, being introduced into Roberts Brook. This brook is designated a class AA water course in the permit application and is a tributary to a public drinking water supply. Moreover, these nutrient loadings may have cascading effects on ecological and biological processes in the system (e.g. algal blooms, significant alteration of the biota, change in pH, etc.)
- 4) Alternative options including phytoremediation appear to have been inadequately explored.
- 5) Studies on small lakes elsewhere have shown that sediment removal alone does not provide long-term restoration, and that the effects of dredging can have unintended negative consequences.
- 6) Additional sustainable remediation efforts should be further explored.

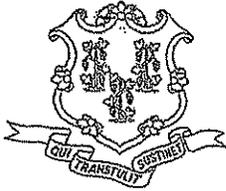
Please note, this is a letter from the Mansfield Conservation Commission, not our Town Council. Only our Town Council can officially communicate Town policy positions.

Sincerely yours,

  
Quentin Kessel, Chair  
Mansfield Conservation Commission

(Please address written communications to me at 97 Codfish Falls Road, Storrs, CT 06269 and emails to me at [quentinkessel@earthlink.net](mailto:quentinkessel@earthlink.net).)

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STATE OF CONNECTICUT  
DEPARTMENT OF PUBLIC HEALTH

March 11, 2010

Quentin Kessel  
Chairman  
Mansfield Conservation Commission  
97 Codfish Falls Road  
Storrs, CT 06269

Re: Mansfield Conservation Commission Letter to Commissioner of CTDEP

Dear Mr. Kessel:

The Department of Public Health (DPH) Drinking Water Section (DWS) has received your correspondence dated January 26, 2010 regarding your concerns with proposed stormwater diversions on the University of Connecticut Storrs Campus. The DPH is aware that there is an MOA between DEP and UCONN regarding stormwater management on the UCONN Storrs campus. The DPH does review applications and offers comments to the DEP under several of their permitting programs, one of which is the diversion permitting program. In addition, the DWS does have a requirement for stormwater discharge permitting under the Regulations of Connecticut State Agencies Section 19-13-B32(i).

In your letter, you also refer to the notification requirements of Public Act 06-53. Please note that PA 06-53 amended Connecticut General Statutes (CGS) Section 8-3i to require applicants to planning and zoning commissions, zoning commissions and zoning boards of appeals to notify the DPH and the affected water company when their projects fall within an aquifer protection area or public water supply watershed. If UCONN proposes a project which requires submissions to the local agencies noted and it falls within a public water supply source area, then UCONN will be subject to this notification requirement. UCONN may also be subject to CGS Section 22a-42f, which requires DPH and water company notification for regulated activities conducted in inland wetlands within public water supply watersheds.

Please be assured that as the regulatory agency responsible for ensuring the purity and adequacy of public drinking water sources of supply, the DPH is appropriately involved in permitting decisions that may have an effect on public drinking water supplies. If you have any questions, you may contact Pat Bisacky of my staff at 860-509-7333.

Sincerely,

Eric McPhee  
Supervising Environmental Analyst  
Source Water Protection Unit  
Drinking Water Section

Cc: Amey Marella, Betsey Wingfield, DEP  
Barry Feldman, Rich Miller, Jason Coite, UCONN  
Rudy Favretti, Mansfield Inland Wetland Agency  
Elisabeth C. Paterson, Mansfield Town Council  
James Hooper, Willimantic Water Works  
Mark Paquette, WINCOG  
Karl Wagener, CEQ  
Margaret Minor, Connecticut Rivers Alliance  
Willimantic River Alliance  
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Representative Denise Merrill  
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Mansfield Conservation Commission  
Storrs, CT 06268  
March 17, 2010

Director Denise Ruzicka  
Inland Water Resources Division  
State of Connecticut  
Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106

Dear Director Ruzicka:

Commissioner Marrella's February 25, 2010 letter to the Mansfield Conservation Commission (MCC) asks that further questions concerning the MCC's January 20, 2010 letter to the Commissioner be addressed to you. While the Commissioner's letter did a fine job of reviewing the situation (of which we are well aware), she failed to address either the two important comments in the body of our letter or make any reference to the eight comments and questions that we appended to the letter.

There is some urgency to having these questions answered. For example, we understand UConn has already filed a permit for "Swan Lake Drainage Outfall Improvements – DEP General Permit for Utilities and Drainage." UConn hopes to begin this construction in the Spring of 2010. The application states, "The existing storm drainage outlets into Roberts Brook are showing signs of erosion and the proposed project will correct that erosion, as well as provide additional erosion protection at the outlet suitable for the proposed increased stormwater flows...."

The "signs of erosion" are minor and almost entirely due to the 1990s unpermitted diversion of the Swan Lake watershed (except that perhaps you retroactively permitted this diversion through the MOA we are questioning). This Swan Lake watershed diversion nearly triples the acreage of impervious coverage, the runoff from which enters this upper portion of Roberts Brook. This increase in runoff is almost certainly the cause of the erosion in question; this portion of Roberts Brook had been stable for the decades that had passed since being buried when the current College of Agriculture was constructed. We do agree that if the MOA's additional "55 acre" diversion is also permitted, additional erosion protection will be required. These two diversions would include a total of about 25 acres of impervious coverage, nearly five times that of the Horsebarn Hill/Route 195 watershed which this watercourse originally handled with relative ease. The 1990s Swan Lake diversion can be easily reversed by the removal of about 2 inches of concrete that was added to the dam on the western end of the lake at that time. The MCC feels this should be done; it would eliminate the need for the proposed, expensive, "drainage improvement."

We further note the Swan Lake diversion, which dumps stormwater into a watercourse within a public water supply watershed, should also have required a DPH permit, which in turn, sets limits on the quality of the water being discharged.

These considerations, along with the retroactive approval by the DEP of other UConn projects, are why the MCC asked the DEP to bring the MOA to the attention of the Connecticut Attorney General for an opinion. The MCC felt that you would prefer that such a request to come from the DEP.

In the meantime, the MCC is renewing its request to you for written comments and answers to the comments made and questions asked in our January 20, 2010 letter to Commissioner Marrella. Again, the MCC feels a sense of urgency on these issues, and we look forward to hearing from you at your earliest convenience.

Sincerely yours,

Quentin Kessel, Chair  
Mansfield Conservation Commission  
(Please address written communications to me at 97 Codfish Falls Road, Storrs, CT 06269 and emails to me at [quentinkessel@earthlink.net](mailto:quentinkessel@earthlink.net).)

Mansfield Conservation Commission  
Storrs, CT 06268  
January 20, 2010

Commissioner Amey Marrella  
State of Connecticut  
Department of Environmental Protection  
79 Elm Street  
Hartford, CT 06106

Dear Commissioner Marrella:

The Mansfield Conservation Commission would like to make the following two comments regarding the "MEMORANDUM OF AGREEMENT BETWEEN THE [THE] DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE UNIVERSITY OF CONNECTICUT" (UConn) signed by University of Connecticut Vice President Barry Feldman (9/4/09) and Betsey Wingfield, DEP Bureau Chief for Water Protection and Land Reuse (9/24/09). We applaud four out of the five future projects listed for the improvement of the water quality in Eagleville Brook and Roberts Brook.

Unfortunately we are unable to applaud the wisdom of allowing diversions from the Willimantic River Watershed (not a public water supply watershed, one of whose tributaries is Eagleville Brook), into the Fenton River watershed (a public water supply watershed, one of whose tributaries is Roberts Brook). The Mansfield Conservation Commission questions not only the wisdom, but also the logic and scientific basis for these diversions. We understand the pressures from the EPA regarding TMDLs in Eagleville Brook, but this diversion has the potential to do as much or more harm to Roberts Brook, than potential to help Eagleville Brook. It also sets a dangerous precedent by sending polluted water regulated by a TMDL into the most protected of streams under DEP water quality standards, essentially voiding those standards and apparently in violation of the Clean Water Act itself. The Eagleville Brook problem is likely to be temporary in nature and the brook should begin the healing process once the University puts the appropriate stormwater devices in place and the University's UConn 2000 construction programs wind down.

We note that the Mansfield Conservation Commission is constituted in accordance with enabling legislation by the State of Connecticut (Sections 7-131a through 7-131e of the General Statutes) for the purpose of "The development, conservation, supervision and regulation of natural resources, including water resources, within municipal limits." We further note that the University of Connecticut's main campus falls within Mansfield's municipal limits and that 7-131c authorizes the exchange of information between local conservation commissions and the Commissioner of the DEP.

Comment one:

The Mansfield Conservation Commission (MCC) finds the legal basis for this MOA to be unclear. The MOA represents a local decision which affects the towns of Mansfield, Windham, and Coventry without consultation. It grants, inappropriately we believe, retroactive approval and possible legality to ten projects with no public hearings, no prior Flood Management Certifications, and in apparent disregard for Connecticut's Anti-Degradation Implementation Policy (established in accordance with the Federal Clean Water Act – Title 40 Part 131.12), and probably with no DPH approval letters for stormwater discharges within 100 feet of a watercourse within a public water supply watershed.

As noted, this decision was made without input from the many stakeholders who have invested years of effort in wisely using and protecting the watersheds in question. It is not sufficient to tell these stakeholders that they will have the opportunity to comment on the five proposed individual projects at some later date (and have no opportunity to comment on those projects that have been completed without individual Flood Management

Certificates). The MCC requests that you bring this matter to the attention of the Connecticut Attorney General, and consider reissuing an improved MOA after a period of public comment.

Comment two:

The MCC has particular concerns regarding the plans to divert stormwater runoff from 55 acres (an incorrect number in the MOA). We note that the watershed containing Swan Lake has already been diverted (without a permitting process, although with a minor alteration, the historic outflow from this lake could be reestablished). The newly proposed diversion proposes to change a portion of the natural flow of the Eagleville Brook and Willimantic River watershed (not a public water supply watershed) into the Fenton River Watershed (a public water supply watershed). This would discharge water regulated by a TMDL (see the DEP document, "A total Maximum Daily Load Analysis for Eagleville Brook, Mansfield CT," 2/8/07, or referred to as EBTMDL later in this letter) which is therefore among the most polluted in the state to a Class AA river which requires the highest standard of protection. The transfer of stormwater is effectively creating a new point discharge to the Roberts Brook/Fenton River, which appears to fail the test for issuance of a certificate or permit under the Connecticut Anti-Degradation Implementation Policy, established as required by the Federal Clean Water Act and Connecticut's Surface Water Quality Standards. The test for issuance to a Class AA water requires the following: a) the discharge is of limited duration; and b) the discharge will consist of clean water. However, the proposed diversion will a) be permanent; and b) contain water polluted enough to require a TMDL.

By nearly all measures, both Roberts Brook and Eagleville Brook are similarly compromised by the IC of the campus. However, the proposal to divert a "complex array of pollutants" to lessen this impact on Eagleville Brook at the expense of Roberts Brook has been made without a similar investigation of potential negative impacts to Roberts Brook. Based on IC percentages of greater than 30% for the origins of both brooks on the campus, this is a significant oversight, especially when it is Roberts Brook that is in a public water supply watershed, not Eagleville Brook.

If this MOA is not rewritten after securing additional local input, at the very minimum, we expect to be given timely notification of hearings. The Commission requests these hearings be held in Storrs to facilitate local input. The following pages contain questions and comments from the MCC that we request written responses to. UConn's Rich Miller and Jason Coite attended our November meeting, but apparently no one was available from your Bureau of Water Protection and Land Reuse that evening to help us to better understand a number of the DEP-related issues.

Please note, this is a letter from the Mansfield Conservation Commission, not our Town Council. Only our Town Council can officially communicate Town policy positions.

Sincerely yours,

Quentin Kessel, Chair

Mansfield Conservation Commission

(Please address written communications to me at 97 Codfish Falls Road, Storrs, CT 06269 and emails to me at [quentinkessel@earthlink.net](mailto:quentinkessel@earthlink.net).)

CC: Betsey Wingfield, DEP  
Barry Feldman, Rich Miller, UConn  
CT Dept. of Public Health  
Mansfield Inland Wetland Agency  
Mansfield Town Council  
Willimantic Water Works  
WINCOG

Council for Environmental Quality  
Connecticut Fund for the Environment  
Connecticut Rivers Alliance  
Willimantic River Alliance  
Naubesatuck Watershed Council  
Representative Denise Merrill  
Senator Donald Williams

Additional Mansfield Conservation Commission questions and comments:

1. Given that the State Statutes state that Conservation Commissions have responsibility for "The development, conservation, supervision and regulation of natural resources, including water resources, within municipal limits," how is it that the DEP does not notify local Commissions when issues such as those addressed in this letter arise?
2. Why was the Willimantic Water Works not included in the discussions that led to this MOA. In working to protect the integrity of its reservoir, the Willimantic Water Works explicitly defines the Fenton River watershed as a critical area because it is riddled with wetlands and tributary streams. Because of this, extensive investigations, including VOCs, pesticides, metals and nutrients, were made of the Fenton and some of its tributaries in order to understand the quality of the water entering their reservoir. Why is no reference made to these reports? ("Mansfield Hollow Lake and Willimantic Reservoir Watershed Study," University of Connecticut, Department of Civil and Environmental Engineering, March, 2003, "Monitoring and Analysis of the Willimantic Reservoir and the Mansfield Hollow Lake Watershed, University of Connecticut, Environmental Research Institute, April 14, 2005). How are the diversions (one to be approved retroactively and the other proposed) likely to change the earlier results?
3. Why do, or do not, these diversions into an AA river violate Connecticut's Anti-Degradation Implementation Policy? This MOA seems to run contrary to present-day water conservation practices. Not only the DEP's BMPs, but we note the Nature Conservancy in its Connecticut Strategic Plan (FY 2010-2012) speaks of cooperation with the DEP in its section on improving freshwater quality on priority rivers, and also speaks in terms of the re-establishing of natural flow conditions and increasing hydrologic connections at the watershed scale.

It appears to the MCC that any improvement made to the water quality in the Eagleville Brook by this diversion will be to the detriment of the water quality in Roberts Brook and the Fenton River. The Fenton River is already burdened with significant impervious coverage runoff from the campus (including from watersheds IIA, IIB, and IIC in the notation used in the Campus Wide Drainage Master Plan, flood Management Certification Application (CWDMP)). This includes building and parking lot runoff from most of South Campus and the campus portion of Route 195. It also includes the unapproved diversion of the Swan Lake watershed (IIB) which includes Swan Lake, into which the additional 55 acres (IIIA) is proposed to be drained. (Much of the impervious coverage [IC] in this IIIA watershed is parking lot runoff).

4. According to the DEP's 2004 Stormwater Quality Manual, before proceeding with a diversion of stormwater discharges within 100 feet of a watercourse within a public water supply watershed, a DPH approval letter must be obtained. Does the University have such approval for these diversions? (The Swan Lake diversion done with the construction of the Chemistry Building and the proposed "55 acre" diversion)
- 5a. With regard to action levels on TMDLs: Partial justification for the diversions is the impervious coverage (IC) analysis in the EBTMDL report showing that the "headwaters" of Eagleville Brook are likely polluted. This has been confirmed with macroinvertebrate studies. As Eagleville and Roberts Brook have similar IC numbers, how, without a corresponding investigation of Roberts Brook how can this diversion be justified?

5b. With regard to the EBTMDL report: Appendix 2 of this document justifies IC as a Surrogate Target for TMDL Analyses in Connecticut and demonstrates, that within this simplistic model, if the percentage of IC coverage above a given point in a waterway in the watershed exceeds 12%, the macroinvertebrate community in the watershed is threatened, and Connecticut's water quality criteria for support of aquatic life may not be met. For this reason the TMDL document sets 11% IC as the goal to be reached in the Eagleville Brook watershed.

The proposed diversion does not significantly change the IC percentage numbers for the Eagleville Brook watershed. Apparently, the establishment of better stormwater management, not the diversion, is the primary means being depended upon to lower the effective IC percentage from the 27% IC coverage of the watershed containing the headwaters of Eagleville Brook. Neither the EBTMDL nor the CWDMP report make provision for significantly decreasing the actual percentage of IC with pervious parking lots, rain gardens, etc. Not pointed out in either report is the fact that the two other watersheds of the upper reaches of the Eagleville Brook have higher and more influential IC percentages (IIIB is 223 acres at 51% and the already diverted IIB with its 16 acres at 62%). Taken together these three watersheds had an impervious coverage of 47%; without including IIB, the number only falls to 46%. Clearly the 223 acres of IIB with its 51% IC is the watershed contributing the most to the TMDL in Eagleville Brook. Detrimental to aquatic life in Eagleville Brook are the very high copper levels and these have been attributed to the copper roof of Castleman Building. Both this building and the newer copper-sheathed Pharmacy Building are in watershed IIIB. For this reason, the diversion of watershed IIIA away from Eagleville Brook is unlikely to help with the copper overload. As noted in the body of the letter: **this diversion has the potential to do as much or more harm to Roberts Brook, than potential to help Eagleville Brook.**

While the MCC can applaud the 11% goal, this number must be placed in proper perspective. Typical IC values in the northeast US vary from 0-10% in open areas, to 20-40% in low density residential areas, to 45-60% in high density residential areas (from Table 2-2 in the 2004 Connecticut Stormwater Quality Manual). As Eagleville Brook (or Roberts Brook) travels further and further away from the UConn campus, the cumulative percentage of IC naturally lessens as more and more open areas are integrated into the IC equation. For Eagleville Brook the IC numbers in the EBTMDL report range from 27% to 51% on campus, to 14% where the brook passes under Hunting Lodge Road, to 5% well away from the campus. In other words, the 27% IC in IIIA is in the expected range for a high-density residential area. Much of this watershed is populated by parking lots, dormitories and other student housing. The proposed use of Swan Lake as a stormwater management device is inappropriate and will only lead to the problems that have long plagued UConn's Mirror Lake.

6. The MCC applauds the other stormwater management devices proposed in the MOA, but committing the University to the "55 acre" Willimantic River Watershed diversion into the Fenton River watershed is premature. With the passage of time, the temporary stresses due to the uncontrolled UConn construction program will gradually equilibrate to a new normal. This new normal may be expected to approach the preconstruction conditions. In fact, the new stormwater management devices may even result in an improvement over the preconstruction conditions without proceeding with the proposed diversion.

Is there some evidence that the more recent Eagleville and Roberts Brook problems don't have their origin in the lack of appropriate supervision of the construction boom at UConn, especially with regard to stormwater management and sedimentation and erosion controls? The MOA attempts to overcome this lack of oversight with five projects, the first three of which are long overdue and should have been put in

place prior to the initiation of UConn 2000 construction. The first of these is intended to minimize sedimentation and erosion in Roberts Brook. The MCC notes the lack of a similar stormwater control device for Eagleville Brook which might be appropriately placed just prior to point where the stream is covered and piped under the UConn campus. Isn't it possible that with these stormwater control devices in place, the pollution levels of both brooks will improve significantly without the proposed diversion?

7. With regard to the HEC RAS hydrology calculations used to calculate stormwater flows in Eagleville and Roberts Brooks, we are reminded of the old computer saying "garbage in, garbage out." Without accurate measurements of flow conditions in a given brook, this computer program is unable to give useful answers. In this imperfect world, the HEC RAS follows its output with error messages and a certain number of error messages is acceptable. However, the 32 pages of error messages in HEC RAS output for Roberts Brook deserves a closer look; it implies poor input data to the program and makes the results questionable.

8. With regard to UConn's first stormwater project: UConn is requesting a DEP General Permit for Utilities and Drainage, dated July, 2009. We observe their response to 6a "Is the subject activity within a watercourse or floodplain?", is "no." This is clearly an incorrect answer (see CGS 22a-38-16, copied below) which they justify with the questionable statement, "These discharges only flow generally when there is a storm event, after which there is no significant flow in the channel. Therefore, we believe the area immediately downstream of the discharge location should not technically be a watercourse." We question both their observations, it is indeed a watercourse, and their conclusions here. As noted in the body of the letter, the proposed transfer of stormwater will effectively create a new point discharge to the Roberts Brook/Fenton River, which appears to fail the test for issuance of a certificate because: a) the discharge is permanent and not of limited duration, and b), the discharge consists of water polluted enough to be worthy of a TMDL.

The University's claim that the area immediately downstream of the discharge location should not technically be a watercourse, seems to be an attempt to circumvent DPH regulations regulating stormwater discharges within 100 feet of a watercourse within a public water supply watershed. This should not be permitted.

Copied from the Connecticut General Statutes 22a-38"

(16) "Watercourses" means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon this state or any portion thereof, not regulated pursuant to sections 22a-28 to 22a-35, inclusive. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (A) Evidence of scour or deposits of recent alluvium or detritus, (B) the presence of standing or flowing water for a duration longer than a particular storm incident, and (C) the presence of hydrophytic vegetation;

March 15, 2010

Dear Town Inland Wetlands/Forestry Contact:

Enclosed is a "Notification of Timber Harvest Form" that forest landowners or their agents who are planning a commercial timber harvest would submit to your town's Inland Wetlands Commission. This Form, which we hope will be widely adopted for use by towns across Connecticut, was developed over many months by an Ad-Hoc Subcommittee of the State Forest Practices Advisory Board.<sup>1</sup> This Subcommittee has included approximately 20 participants drawn from municipal inland wetlands commissioners, municipal wetlands enforcement officers, certified professional foresters, certified forest products harvesters and Connecticut DEP representatives.

Because timber harvesting and forestry fall within the legal definition of agriculture in Connecticut, they are permitted as of right in wetlands unless certain specific, permit-required activities are involved. Local Inland Wetlands Commissions, however, have the right to require sufficient information so that they, not the landowner, can decide whether the proposed activity does or does not require a permit. This Form was developed to help towns obtain this information in an efficient, predictable way, and therefore make such jurisdictional rulings quicker and easier for everyone involved.

While this is not an "official" Connecticut DEP Form, forestry and wetland experts at the Agency have provided significant input into its development. It has been endorsed for municipal usage by the following organizations:

- The Connecticut Farm Bureau Association
- The Connecticut Forest & Park Association
- The Connecticut Professional Timber Producers Association
- The Society of American Foresters - CT Chapter

We hope this Form will be widely accepted as the standard document municipalities rely on in reviewing proposed commercial forest practice activities. It does not replace nor contradict the guidance given in the authoritative CT DEP brochure "Agriculture, Forestry and Wetlands Protection in Connecticut", which can be found online on the CT DEP website.

The information required to complete this Form is purposely straightforward. However, if you have additional questions on its use, please feel free to contact any of the endorsing organizations directly (contact information on the following page). Thank you very much.

Sincerely,

Bill Bentley, 2006 Chair, Society of American Foresters—CT Chapter

Eric Hammerling, Executive Director, Connecticut Forest & Park Association

Joan Nichols, President, CT Professional Timber Producers Association

Donald Tuller, Board President, CT Farm Bureau Association

<sup>1</sup>The Forest Practices Advisory Board was authorized by the Connecticut Forest Practices Act of 1991.



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# NOTIFICATION OF TIMBER HARVEST

Town: \_\_\_\_\_ Date: \_\_\_\_\_

Property Location: \_\_\_\_\_

**List all parcels:**

Assessor's Info:

Map	Block	Lot

OR:

Unique ID

Total acreage of property(s): \_\_\_\_\_

Total acreage of harvest area: \_\_\_\_\_

Landowner(s) of Record: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Town: \_\_\_\_\_ Zip \_\_\_\_\_

Phone ( ) \_\_\_\_\_

E-mail: \_\_\_\_\_

Primary Contact: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Town: \_\_\_\_\_ Zip \_\_\_\_\_

Phone ( ) \_\_\_\_\_

E-mail: \_\_\_\_\_

**Note:** Timber harvesting is a *Permitted as of Right Activity* pursuant to the Inland Wetlands and Watercourses Act, except for those practices regulated under Section 22a-36 through 22a-45 of the Connecticut General Statutes.

Is there a current forest management/stewardship plan for this property?  Yes  No

This timber harvest has been prepared by a State of Connecticut certified:

(Check one):  Forester OR  Supervising Forest Products Harvester

Forest Practitioner Certificate #: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

E-mail: \_\_\_\_\_

Phone #: (Business) \_\_\_\_\_ (Cell) \_\_\_\_\_

**Property Boundaries:**

Bounds are marked:  Yes  No

**Timber Harvest Boundaries:**

Have been marked or flagged:  Yes  No

Have owners of all lands within 100 feet of the harvest area been notified via first-class mail prior to filing this "Notification of Timber Harvest"?  Yes  No

Estimated starting date of timber harvesting operations: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Description of Timber Harvest:**

Objective: \_\_\_\_\_

Treatment: \_\_\_\_\_

**Amount of forest products to be harvested:**

\_\_\_\_\_ Board feet \_\_\_\_\_ Cords \_\_\_\_\_ Cubic feet \_\_\_\_\_ Tons

**How have the trees to be harvested been designated?**

They have been marked with paint at eye level and at ground level. Paint color(s): \_\_\_\_\_

They have not been marked

*This is not an official CT DEP form but it has been endorsed for town usage by: CT Farm Bureau Assoc., CT Forest & Park Assoc., CT Professional Timber Producers, Society of American Foresters - CT Chapter, and others.*

**SOIL, WATER AND INLAND WETLANDS RESOURCES**

**Actions Being Performed On This Land**

(Check all that apply and locate on attached Timber Harvest Area map -- see information below on maps.)

<p style="text-align: center;"><u>Crossings / Clearing</u></p> <p><input type="checkbox"/> Temporary stream/drainage crossing</p> <p><input type="checkbox"/> Temporary wetlands crossing</p> <p><input type="checkbox"/> Removal of trees in wetlands</p> <p><input type="checkbox"/> Removal of trees in upland review area</p>	<p style="text-align: center;"><u>Erosion and Sedimentation Control Measures:</u></p> <p><input type="checkbox"/> Installation of water bars</p> <p><input type="checkbox"/> Grading</p> <p><input type="checkbox"/> Seeding</p> <p><input type="checkbox"/> Other (describe below)</p>
<p style="text-align: center;"><u>Log landing area:</u></p> <p><input type="checkbox"/> anti-tracking pad</p> <p><input type="checkbox"/> curb cut</p>	<p style="text-align: center;"><u>Roads</u></p> <p>Are new roads, other than skid trails, to be constructed for transport of logs or other activities associated with this harvest?</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p>

**Describe in further detail as necessary:**

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**The following maps are attached to this "Notification" (Check all that apply)**

- Copy of USGS topographic map with property outlined
- Copy of Assessor's map with property outlined
- Timber Harvest Area map showing outline of harvest area, main skid road locations, log landing area, truck access roads, inland wetlands, watercourses and any crossings

*The undersigned hereby swear that the information contained in this application is true, accurate and complete to the best of my (our) knowledge and belief and that the timber harvest will be conducted in accordance with the specifications outlined in this "Notification of Timber Harvest."*

Signature of Landowner(s): \_\_\_\_\_ Date: \_\_\_\_\_

Print/Type Name: \_\_\_\_\_

Signature of Landowner(s): \_\_\_\_\_ Date: \_\_\_\_\_

Print/Type Name: \_\_\_\_\_

Signature of Certified Forest Practitioner: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

Certificate #: \_\_\_\_\_ Expiration Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Complete and Submit to:**

- The Municipal Inland Wetlands Agency/ies in which the property is located, and
- A courtesy copy of this Notification Form should also be sent to The Department of Environmental Protection, Division of Forestry 79 Elm Street, Hartford, CT, Tel: (860) 424-3630

*This is not an official CT DEP form but it has been endorsed for town usage by: CT Farm Bureau Assoc., CT Forest & Park Assoc., CT Professional Timber Producers, Society of American Foresters - CT Chapter, and others.*