

**AGENDA**  
Mansfield Conservation Commission  
Wednesday, August 20, 2014  
Audrey P. Beck Building  
CONFERENCE ROOM B  
7:30 p.m.

1. Call to Order
2. Roll Call
3. Opportunity for Public Comment
4. Minutes
  - a. July 16, 2014
5. New Business
  - a. IWA Referrals: W1533 – Lessenger - Monticello Lane – New Single Family Residence
  - b. Acquisition of Sawmill Brook Preserve Parcel
  - c. Other
6. Continuing Business
  - a. Review of Town-Owned Easements
  - b. Mansfield Tomorrow | Our Plan ▶ Our Future
  - c. Swan Lake Discharge Mirror Lake Dredging and other UConn Drainage Issues
  - d. UConn Agronomy Farm Irrigation Project
  - e. Eagleville Brook Impervious Surface TMDL Project
  - f. UConn Hazardous Waste Transfer Station
  - g. Ponde Place Student Housing Project
  - h. CL&P "Interstate Reliability Project"
  - i. Protecting Dark Skies in the Last Green Valley
  - j. Water Issues
  - k. Other
7. Communications
  - a. Minutes
    - ☐ Open Space: No New Meetings
    - ☐ PZC: 8/4/14
    - ☐ IWA: 8/4/14
  - b. Wetlands Agent Month Business Report
  - c. The Habitat- Summer 2014
  - d. CT State of the Birds 2014
  - e. DEEP Certification Memo Re: Eagleville Brook
  - f. Other
8. Other
9. Future Agendas
10. Adjournment



Town of Mansfield  
CONSERVATION COMMISSION  
Meeting of 16 July 2014  
Conference Room B, Audrey P. Beck Building  
(draft) MINUTES

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

Town Staff: Jennifer Kaufman, Inland Wetland Agent

1. The meeting was called to order at 7:30 PM by Chair Quentin Kessel. Booth and Buck were designated voting members for the meeting.

2. The draft minutes of the 18 June 2014 meeting were approved as written ( Buck, with Facchinetti seconding. Three voting for the motion, and Booth, having not been in attendance, abstained).

### 3. New Business

#### IWA referrals:

W1531 – Markus – 59 Hillyndale Road. This is a request to expand an existing bedroom, add a bathroom, and convert an existing deck into a sun room. The house location is close to wetlands and building it at this location would not be likely to be permitted today. Note was taken of the additional runoff and Facchinetti moved, and Buck seconded, that as long as this runoff is dealt with in such a manner the water infiltrates into the ground table (e.g., a rain garden) there should not be a significant impact on the wetland. The motion passed with three in favor and Booth abstaining.

Booth questioned whether the potential additional load on the septic system might lead to future septic difficulties in close proximity to the wetlands. The Commission urges the PZC to bring this matter to the attention of the Department of Public Health.

W1532 – Jones - 49 Farrell Road. This is a request for a two car garage to be constructed within the regulated area. Booth moved, and Buck seconded, that as long as the roof runoff is dealt with in such a manner the water infiltrates into the ground table (e.g., a rain garden) there should not be a significant impact on the wetland. The motion passed unanimously.

Other -- Individuals who might replace Drzewiecki on the Commission were discussed. It was agreed that Kessel would attempt to contact one of them.

The meeting adjourned at 8:15 PM.

Respectfully submitted,

Quentin Kessel, Secretary, *pro. tem.*

PAGE  
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# Department of Planning and Development

Date: July 31, 2014  
To: Mansfield Inland Wetlands Agency  
From: Jennifer Kaufman, Inland Wetlands Agent  
Subject: Receipt of New Application for Wetlands License  
Lot 19 Monticello Lane (IWA File #1533)  
Owner/Applicant: Kurt Lessenger  
Description of work: construction of a single family dwelling, septic system, well and driveway  
Map Date: 7/15/2014

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## Project Description

The applicant proposes to construct a 3-bedroom, single-family dwelling, with an onsite septic system, well and driveway on Lot 19 located on Monticello Lane (assessor's parcel id 22.59.19). The proposed dwelling is 28 feet from the edge of wetlands. Site grading is proposed 10 feet to the edge of wetlands. Approximately 800 cubic yards of fill will be used for grading around the house. The total disturbance in the upland review area is estimated at 0.4 acres.

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

## Application Fees and Notifications

- The applicant has paid the required application fee.
- The applicant has submitted copies of the notice mailed to neighbors and a list of abutters to be notified. Certified mail receipts must be submitted prior to action on the application.
- The applicant has submitted copies of notices provided to the Connecticut DPH and Windham Water Works. Certified mail receipts must be submitted prior to action on the application.
- Natural Diversity Database has been checked and no state listed species or significant natural communities exist on the property.

## Receipt Motion

\_\_\_\_\_ MOVES, \_\_\_\_\_ seconds to receive the application submitted by Kurt Lessenger (IWA File #1533) under the Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a single family dwelling, septic system, well and driveway on property located at Lot 19 Monticello Lane as shown on a map dated 7/15/2014 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

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

FOR OFFICE USE ONLY  
File # W1533  
Fee Paid \$185<sup>00</sup>  
Date Received 7-30-14

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

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

**Part A - Applicant**

Name Kurt Lessenger

Mailing Address 218 Route 87

Columbia, CT Zip 06237

Telephone-Home 860-228-2799 Telephone-Business \_\_\_\_\_

**Title and Brief Description of Project**

Construct new single family dwelling with on-site septic system, well and driveway.

Location of Project Monticello Lane-Map 22, Block 59, Lot 19

Intended Start Date to be determined

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

Name same

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

\_\_\_\_\_ Zip \_\_\_\_\_

Telephone-Home \_\_\_\_\_ Telephone-Business \_\_\_\_\_

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

Signature \_\_\_\_\_ date \_\_\_\_\_

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

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

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

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

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

a) No activity within wetland soils

b) Proposed dwelling-28 feet at its closest point  
Well-25 feet at its closest point  
Driveway-47 feet at its closest point  
Primary septic system-61 feet at its closest point  
Foundation drain-64 feet at its closest point  
Site grading-10 feet at its closest point

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) None

b) Approximately 800 cu yds of clean fill for grading around proposed house.  
Upland area disturbance will be approximately 0.4 acres.

3) Describe the type of materials you are using for the project: \_\_\_\_\_  
Gravel for driveway and clean fill around proposed house.

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

b) include **volume** of material to be filled or excavated 800 cu yds

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

Silt fencing will be installed down gradient of proposed activity and maintained until area has been stabilized.

**Part D - Site Description**

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

Lightly wooded with 16% ± slopes from road to approximately 4% near wetlands.  
Upland soils being well drained as indicated by soil testing.



**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 X 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 X 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 X No \_\_\_ Don't Know

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

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

**Part L - Filing Fee**

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

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

X \$60 State DEP Fee

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

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

  
Applicant's Signature

07/23/14  
Date



Town of Mansfield  
Agenda Item Summary

DRAFT

**To:** Town Council  
**From:** Matt Hart, Town Manager  
**CC:** Maria Capriola, Assistant Town Manager; Linda Painter, Director of Planning and Development; Curt Vincente, Director of Parks and Recreation; Jennifer Kaufman, Natural Resources and Sustainability Coordinator  
**Date:** August 25, 2014  
**Re:** Open Space Acquisition, Sawmill Brook Parcel

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**Subject Matter/Background**

At Monday's meeting, the Town Council will continue a public hearing from their July 28, 2014 meeting on the proposed acquisition of a  $\pm 9.15$  acre parcel of land referred to as the Sawmill Brook Parcel, located approximately 200' northeast of the Jacobs Hill Road cul-de-sac and depicted on the attached maps. On three sides it abuts either Town or Joshua's Trust land (Sawmill Brook Preserve). On the west side it abuts a private driveway (see attached maps). The Nipmuck Trail follows the east boundary of this property. The land rises gradually to the northwest and is forested with the same trees as the adjoining land - mature oaks with a beech understory. Wetlands and a brook cross the property from northwest to southeast. The property was appraised by an appraiser hired by Willard J. Stearns and Sons, Inc. for \$30,000 in December 2012 and for \$9,500.00 by an appraiser hired by the Town in August 2013. The owners are willing to sell the property for \$20,000.00.

Open Space Preservation Committee members visited the property on June 8, 2013 and reviewed this parcel with reference to its location and according to the criteria in the Town's Plan of Conservation and Development at their June 17, 2014 meeting. The following is a summary of the committee's review:

1. *Significant Conservation and Wildlife Resource* - The parcel is located in a significant forest area within the Kidder-Sawmill Brook streambelt (see Appendix J).
2. *Conserves, preserves or protects notable wildlife habitats and/or plant communities* - This parcel is located in the middle of a preserved section of a large interior forest between Crane Hill Road and Puddin Lane. Preservation of the site would protect the ecological benefits of this property as well as the surrounding preserved parcels. Preservation would also contribute to the overall protection of this large forest tract.
3. *Creates or Enhances Connections* - A well-worn trail begins on Town land at the end of Jacobs Hill Road and follows the south edge of the Stearns property to a junction with the Nipmuck Trail, which proceeds along the east edge. The Stearns property is part of the viewshed from these trails, and it provides a buffer from an adjoining house to the west. A loop trail may be possible on the Stearns property for further enjoyment of this scenic forest area.

DRAFT

The Planning and Zoning Commission reviewed this parcel at their July 21, 2014 meeting and supports the purchase of this property.

**Financial Impact**

As stated above, the agreed upon sales price totals \$20,000. There is a sufficient balance in the Town's Open Space Acquisition Fund to cover this cost.

**Recommendation**

Unless the public hearing raises any additional issues that we have not considered, for the reasons referenced above, staff recommends that the Council authorize purchase of the Sawmill Brook Property.

*Move, effective August 25, 2014 to authorize the Town Manager to finalize and to execute the purchase of the 9.15-acre parcel known as the Sawmill Brook Parcel. .*

**Attachments**

- 1) Open Space Preservation Committee Report
- 2) Map of Parcel in relation to Saw Mill Brook Preserve and Wolf Rock Preserve.
- 3) Assessor's Map detailing the location of the parcel
- 4) Appendix J and K of the 2006 Plan of Conservation and Development

## OPEN SPACE PRESERVATION COMMITTEE

### Recommendation concerning acquisition of the Stearns property (at Sawmill Brook Preserve)

June 17, 2014

To: Mansfield Town Council, Town Manager

At the Open Space Preservation Committee's June 17, 2014 meeting, the committee reviewed in executive session a 7-acre land-locked property off Jacob's Hill Road that Willard J. Stearns and Sons, Inc. is offering to the Town. The committee reviewed this parcel with reference to its location and to criteria in the Town's Plan of Conservation and Development (POCD). Committee members visited the property on June 8, 2013.

#### DESCRIPTION

The land-locked parcel lies east of Jacob's Hill Road (access by a trail from the east side of the cul-de-sac). On three sides it abuts either Town or Joshua's Trust land (Sawmill Brook Preserve). On the west side it abuts a private driveway. The Nipmuck Trail follows the east boundary of this property. The land rises gradually to the northwest and is forested with the same trees as the adjoining land: mature oaks with a beech understory. Wetlands and a brook cross the property from northwest to southeast.

#### CRITERIA IN APPENDIX K of POCD

##### *1. A Significant Conservation and Wildlife Resource*

The parcel is located in a significant forest area within the Kidder-Sawmill Brook streambelt (see Appendix J).

##### *3. Conserves, preserves or protects notable wildlife habitats and/or plant communities*

This parcel is located in the middle of a preserved section of a large interior forest between Crane Hill Road and Puddin Lane. Preservation of this parcel would protect the ecological benefits of this property as well as the surrounding preserved parcels. It would also contribute to the overall protection of this large forest tract.

##### *7. Creates or Enhances Connections*

A well-worn trail begins on Town land at the end of Jacobs Hill Road and follows the south edge of the Stearns property to a junction with the Nipmuck Trail, which goes along the east edge. The Stearns property is part of the viewshed from these trails, and it provides a buffer from an adjoining house to the west. A loop trail may be possible on the Stearns property for further enjoyment of this scenic forest area.

#### RECOMMENDATION

The committee recommends that the Town acquire this property to insure a continuous protected area in this interior forest and to provide a buffer for the Nipmuck and Town trails.

## J. LISTING OF SIGNIFICANT CONSERVATION AND WILDLIFE RESOURCES

The following listing is intended to identify locations and/or streambelts/greenways which have significance with respect to conservation and wildlife resources in Mansfield. The listing is not intended to suggest priorities.

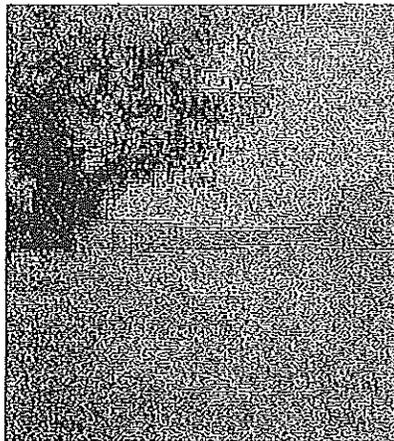
### NATURAL DIVERSITY RESOURCES

- Locations depicted in the Connecticut Department of Environmental Protection Agency's Natural Diversity Data Base mapping (see Map 11 of this Plan)

### WATER RESOURCES (Surface and Groundwater)

- The Willimantic River Valley Greenway from the Willington town line to the Windham town line, including Eagleville Lake, an important stratified drift aquifer associated with UConn well fields north of Route 44 and west of Route 32 and tributary streams;
- Weaver Brook streambelt, which bisects the University of Connecticut's Depot Campus and enters the north end of Eagleville Lake;
- Cedar Swamp Brook streambelt, which flows from Cedar Swamp (a large, important swamp extending north into Willington and south across Rt. 195 into Mansfield) joining Nelson Brook and ultimately entering the north end of Eagleville Lake. Cedar Swamp itself, scenic falls, old dams, ledges, Pink Ravine Pond and Pink Ravine are all features of this streambelt system.
- Nelson Brook streambelt, which enters Mansfield from Willington and joins Cedar Swamp Brook at Shelter Falls Park. Two of its tributaries drain unusual wetlands. The first, a unique perched oligotrophic pitch pine-blueberry bog, lies just north of Rt. 195 and west of Tony's Garage. The second is roughly 100 acres of wetlands and glacial ridges. This parcel is nearly surrounded by residential development on Cedar Swamp Rd., Rt. 195, Baxter Rd. and Rt. 44. Another significant wetland, made up mainly of a dwarfed maple swamp, accompanies Nelson Brook from northwest of its crossing of Rt. 44 to its crossing with Birch Rd.
- Eagleville Brook streambelt, including a tributary stream north of S. Eagleville Road;
- Dunham Brook streambelt, including Dunham Pond and associated upland wetlands and tributary streams;
- Cider Mill Brook streambelt, including Coutu Pond and tributary streams;
- The Fenton River Valley streambelt, including associated stratified drift aquifer areas, adjacent meadows, ledges, hillsides and tributary streams;
- Fishers Brook streambelt, including "Codfish Falls" and tributary streams;
- Gurleyville (Valentine) Brook streambelt, including Valentine Meadow, the Horsebarn Hill drumlin, adjacent University of Connecticut agricultural land and tributary streams;

- Tift Pond and the Albert E. Moss Sanctuary south of Route 275, west of Rt. 195 and north of Birchwood Heights Road;
- Hanks (Hitchcock) Pond and associated streambelt areas;
- Bradley Brook streambelt, including Hansen's Pond and tributary streams to both Bradley Brook and Hansen's Pond;
- Schoolhouse Brook streambelt, including Bicentennial Pond, Schoolhouse Brook Park, Chapins Pond and tributary streams;
- The Mount Hope River Valley streambelt, including associated stratified drift aquifer areas, hillsides, identified potholes and tributary streams;
- Knowlton Pond, Leander Pond and McLaughlin Pond and the streambelt areas between these ponds;
- The Mansfield Hollow Reservoir (Naubesatuck Lake) and associated flood plain and stratified drift aquifer areas;
- Echo Lake, Eaton Bog and associated stratified drift aquifer and streambelt areas;
- The Natchaug River Valley streambelt, including the Willimantic Reservoir;
- Kidder-Sawmill Brook streambelts, including a significant white cedar swamp between Maple Road and Mansfield City Road that is on State DEP priority lists; Wolf Rock, east of Crane Hill Road, a significant forest area south of Browns Road, east of Crane Hill Road, north of Puddin Lane and west of Route 195, and tributary streams;
- Conantville Brook streambelt, including associated stratified drift aquifer areas and tributary streams;



The Mansfield Hollow Reservoir Falls

### AGRICULTURAL AND FORESTRY RESOURCES

- Agricultural land in southwestern Mansfield, hillside vistas extending from Browns Road through Pleasant Valley Road and along Mansfield City and Crane Hill Roads;
- Agricultural land located along Rt. 32 north and south of Route 44. Important natural features and scenic beauty make this area significant.
- Agricultural land east and west of Route 195 behind Mansfield Supply and in the Horsebarn Hill area;
- Prime agricultural soils and agricultural soils of State-wide significance within active farming areas;
- Interior forest tracts as identified on Map #21 of this Plan

### GEORGRAPHY AND EARTH RESOURCES

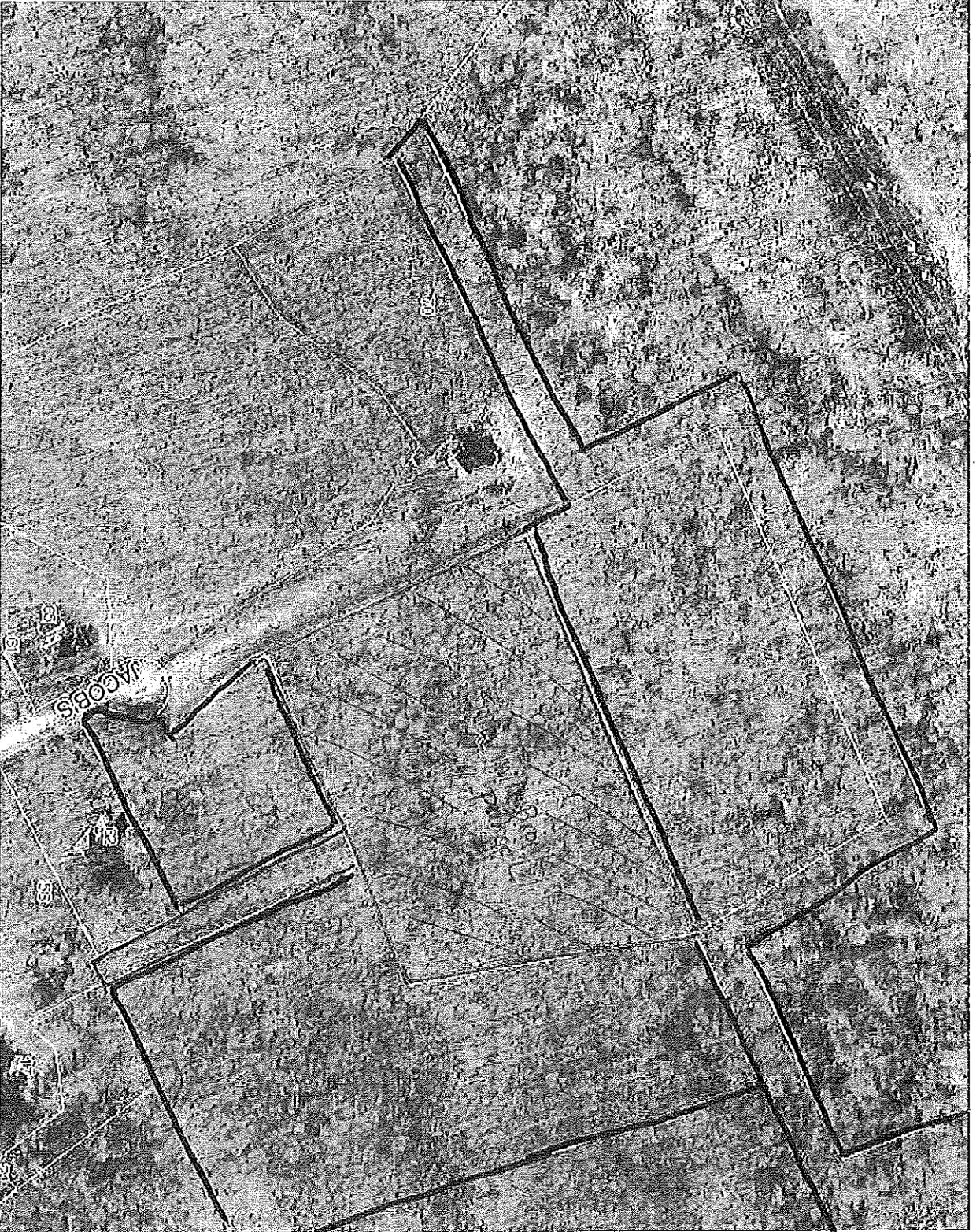
- Coney Rock and adjacent steeply-sloped and hillside areas north of Mulberry Road and east of Chaffeeville Road;
- Fifty-foot Cliff and adjacent steeply-sloped areas west of Chaffeeville Road

## K. OPEN SPACE ACQUISITION PRIORITY CRITERIA

The following open space acquisition criteria, are provided to assist in the evaluation of potential sites for additional preserved open space. All open space acquisition decisions should be based on a comprehensive review of specific site characteristics, information contained or referenced in this Plan and information obtained through an active public notice and review process. The listed criteria are not weighted to help establish priorities, but in general, sites that address multiple primary categories or that would be of town-wide significance in addressing a goal or objective of this Plan would have a higher priority than sites that address fewer primary categories or do not have Townwide significance. It also is noted that land availability, acquisition costs and budgetary priorities will also significantly influence open space acquisition decisions.

1. Identified or specifically referenced as a potential conservation, preservation or recreational area within Mansfield's Plan of Conservation and Development, the WINCOG Regional Land Use Plan or the Connecticut Policies Plan for Conservation and Development
  - Identified as a potential conservation area on Map 21
  - Identified as within one of Mansfield's significant conservation and wildlife resource areas in Appendix J
2. Conserves or preserves historic or archaeological resources
  - Site is located within or adjacent to a Plan-identified village area (see Map #5)
  - Site contains historic structures, sites or features including, but not limited to mill sites, cemeteries, foundations, stone walls (see Map 2)
  - Site is a recorded archaeological site
3. Conserves, preserves or protects notable wildlife habitats and/or plant communities
  - Site includes species listed by State or Federal agencies as endangered, threatened or of special concern (see Map #11 for DEP Natural Diversity Data Base data)
  - Site contains or helps protect vernal pools, marshes, cedar swamps, grasslands, waterbodies or other notable plant or animal habitats
  - Site is within a designated large contiguous interior forest area (see Map #11)
  - Site includes a diversity of habitats
4. Conserves, preserves or protects important surface or groundwater resources
  - Site is located within or proximate to a State-designated wellfield aquifer area, potential stratified drift wellfield area or existing public water supply well
  - Site is proximate to the Willimantic Reservoir or tributary watercourses and waterbodies
  - Site contains or is adjacent to significant wetlands, watercourses or waterbodies and acquisition will significantly help to protect the water resource
  - Site contains a flood hazard area
5. Conserves, preserves or protects agricultural or forestry land
  - Site contains prime agricultural soils or agricultural soils of State-wide significance, (particularly important when in association with an existing agricultural use)

- Site is located within an existing agricultural area such as the area in southwestern Mansfield along Mansfield City Road, Stearns Road, Browns Road, Crane Hill Road and Pleasant Valley Road
  - Site contains prime forestry soils (particularly important when located within a large contiguous interior forest area or within a site implementing a long-term forest management plan)
  - Site would provide a significant buffer for an existing agricultural use
6. Conserves, preserves or protects important scenic resources
- Site contains scenic overlooks, ridgelines, open fields, meadows, river valleys and other areas or features of particular scenic importance. (Information contained on Map 12 should be utilized in considering relative scenic importance.)
  - Site contains significant roadside features such as specimen trees and noteworthy stone walls
  - Site abuts a Town-designated Scenic Road
  - Site is visible from existing roadways, trails and/or readily accessible public spaces
  - Site contributes to the scenic quality of one of Mansfield's historic village areas
7. Creates or enhances connections
- Site is located along the Willimantic River, the Nipmuck Trail or other State-recognized greenway or a potential town-wide or multi-town greenway or trail system
  - Site would expand an existing park or preserved open space area and contribute to a continuous area of open space, protect a wildlife corridor, and/or provide a new trail access between open space properties or from existing roads or subdivisions to open space properties)
  - Site would provide a new linkage from an existing or proposed residential neighborhood to an open space/park area, school or commercial area
  - Site provides a buffer area for existing trails
8. Creates or enhances recreational opportunity
- Site is physically suitable for future ballfields and other active recreational use
  - Site abuts an existing school, playground or active recreational site
  - Site provides new boating or fishing access to the Willimantic River or other significant watercourses or waterbodies
  - Site abuts or is within the watershed of existing outdoor public swimming site, such as Bicentennial Pond in Schoolhouse Brook Park
  - Site is located within or proximate to existing areas of higher-density/residential development



**Zoning**

Conservation Easement

Railroad

Trails

Parcels

Streams

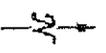
water

wetlands

**Townland**

Sawmill brook parcel

Joshua's Trust Land Private Property



1 in = 289.72 ft

Printed:  
8/8/2014



MainStreetGIS, LLC - [www.mainstreetgis.com](http://www.mainstreetgis.com) / [info@mainstreetgis.com](mailto:info@mainstreetgis.com)  
 Disclaimer: This map is for assessment purposes only. It is not valid for use as a survey or for conveyance

# trail guide

There is a total of 3 miles of blazed hiking trails within the Joshua's Trust and Town boundaries. The Nipmuck Trail (blazed in blue) and Joshua's Trust (blazed in yellow) wind through the following points of interest:

1. **Glacial Remains** - Signs of glacial activity are visibly scattered around the preserve. Many of the rocks were carried by the glacier from regions much farther north and were deposited here over 15,000 years ago.

2. **Wolf Rock** - Approximately 6 feet in diameter, this rock was left perched at the edge of a 40-foot cliff by the glaciers. Today it remains as one of Mansfield's most spectacular landmarks, mentioned in deeds dating back to the late 18th century.

3. **Scenic View** - As you look out south and east over the tree canopy from Wolf Rock, the views are breathtaking. Here the forested valley of Sawmill Brook can be seen, as well as the open fields on the brow of Crane Hill Field. In the distance is the campus of Eastern Connecticut State University.

4. **Rock Ledge** - During the descent down the trail, one of the preserve's many rock ledges can be seen. The bedrock exposed here is a variety of metamorphic rock called Williamitic Gneiss.

5. **Old Blacksmith Shop Road** - This abandoned road once connected Mansfield Center to the Crane Hill area.

6. **Riparian Vegetation** - While the trail winds along Wolf Rock Brook, take note of native water-tolerant vegetation growing here: skunk cabbage, ferns and birches. This palette of greenery will appear in many of the wet areas in the preserve.

7. **Hemlock Grove** - The dominant tree species here is the evergreen hemlock. While these trees are native, the species is currently threatened by a non-native insect called the Hemlock Woolly Adelgid.

8. **Invasive Plants** - As you cross over Sawmill Brook, notice the understory vegetation. These invasive species (barberry, multiflora rose, and bittersweet) were introduced as ornamental plants, and have since escaped from cultivated gardens into the wild, replacing native plants.

9. **Beaver Activity** - As the trail winds along the marsh's edge, note the pointed stumps. These are the remains of trees that were felled by beavers. The size of the marsh may be attributed to beaver damming.

10. **Marsh Views** - Sunny, treeless wetlands are called marshes. Phragmites, the tall 'wheat-like' grass seen at the far edge of the marsh, is a common invasive species of this wet environment.

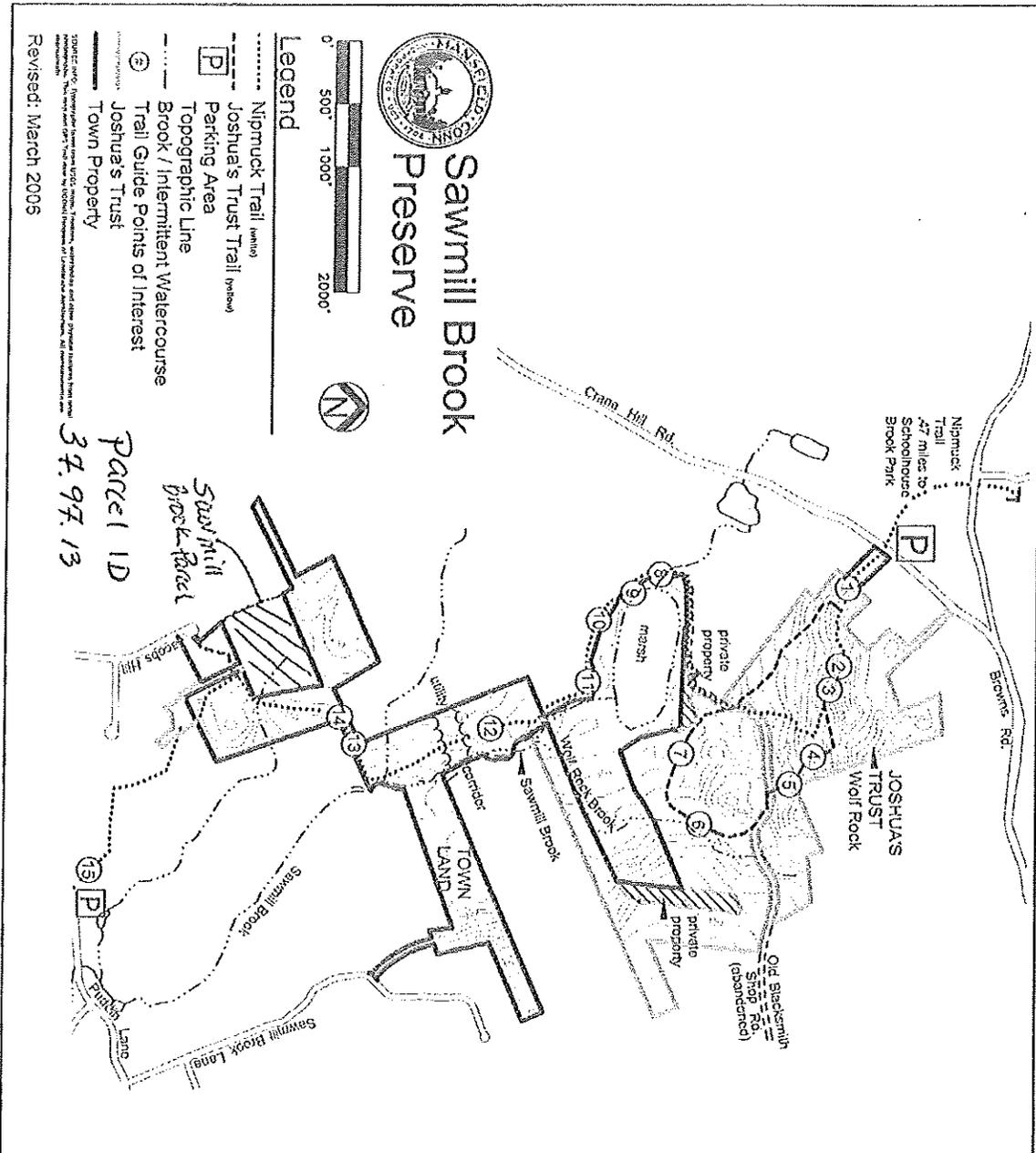
11. **Wildlife View** - A view opens when the trail rounds the end of the marsh. Approach quietly and you may spot a Great Blue Heron.

12. **Utility Corridor** - This area is cleared for power lines and reveals the profile of Sawmill Brook valley, as the land slopes down to the brook, then steeply up the other side to Beech Mountain.

13. **Upland Hardwoods** - As the trail makes a gradual climb, notice the change in tree species. Hardwoods such as oak, beech and maple dominate the forest here.

14. **Old Stone Wall** - In most forests in New England it is common to find spans of old stone walls used to contain grazing animals and property boundaries.

15. **Nipmuck Trail** - The blue-blazed Nipmuck Trail extends 37-miles from Union, Connecticut to Mansfield Hollow State Park and connects many of Mansfield's town parks. The Nipmuck trail is maintained by the Connecticut Forest and Parks Association.



## Sawmill Brook Preserve



- Legend**
- Nipmuck Trail (blue)
  - Joshua's Trust Trail (yellow)
  - P Parking Area
  - Topographic Line
  - Brook / Intermittent Watercourse
  - ⊕ Trail Guide Points of Interest
  - Joshua's Trust
  - Town Property

Page 1 of 13  
37.97.13

Revised: March 2005

**Mansfield Open Space Preservation Committee**  
DRAFT Minutes of June 17, 2014 meeting

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

1. Meeting was called to order at 7:38.
2. Vicky was appointed acting secretary.
3. Minutes of the May 20, 2014 meeting were approved.

**Old Business**

3. *Mansfield Tomorrow* The committee reviewed proposed goals, strategies and actions for Chapter Four of the Plan (Open Space, Parks and Agricultural Lands). They recommended revisions that will be forwarded to Town staff.

**Executive Session**

4. The committee voted to go into Executive Session at 8:00 and to come out of Executive Session at 8:50. Recommendations will be forwarded to Town staff.

4. Meeting adjourned at 8:55.

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**DRAFT MINUTES**  
**MANSFIELD PLANNING AND ZONING COMMISSION**  
Regular Meeting  
Monday, August 4, 2014  
Council Chamber, Audrey P. Beck Municipal Building

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

Chairman Goodwin called the meeting to order at 7:15 p.m. Alternates Westa and Ward were seated for absent members.

**Approval of Minutes:**

**a. July 21, 2014 Meeting**

Ward MOVED, Rawn seconded, to approve the 7-21-14 minutes as corrected. MOTION PASSED with all in favor except Pociask, Ryan and Westa who disqualified themselves.

**Zoning Agent's Report:**

Noted.

**Public Hearing:**

**Scenic Road Alteration Request, Dog Lane and Gurleyville Road, PZC File#1010-5 and #1010-8**

Chairman Goodwin opened the Public Hearing at 7:16p.m. Westa recused herself. Members present were Goodwin, Holt, Plante, Pociask, Rawn, Ryan and alternate Ward who was appointed to act. Linda Painter, Director of Planning and Development, read the legal notice as it appeared in The Chronicle on 7/22/14 and 7/30/14 and noted her memos dated 7/31/14 and 8/1/14.

Stephen Child, Arborist, and Shawn Johnston both from CL&P, presented the application. Child said the goal of tree removal and trimming is to protect the backbone feeder lines, while attempting to maintain the rural character of the area. They reviewed the hazardous and non-hazardous trees, although those trees deemed hazardous do not need approval from the PZC.

Jennifer Martin, 99 Dog Lane, appeared and submitted a letter on behalf of her husband, Michael Soares, who is a member of the Mansfield Open Space and Preservation Committee, Conservation Commission and Water Advisory Board. Both Martin and Soares (in his letter) requested that the healthy trees remain so as not to alter the appearance, safety or character of the scenic road. Martin thanked the Commission for the process and the opportunity it provides to comment.

Ethel Mantzaris, 217 Gurleyville Road, stated that she doesn't want the ash in her yard removed and requested that the applicants re-mark the trees on the road as many of the marked trees are not discernable.

Mark Kiefer, Tree Warden, Public Works Superintendent, stated that it was necessary to remove the hazardous trees as soon as possible.

It was agreed by the applicant that prior to the next meeting the hazardous trees would be re-marked with one color tape and the healthy trees, that are subject of the request to remove, be re-marked with a different

color. Members also requested that CL&P provide copies of the consent letters that have been received from abutting property owners.

At 7:55 p.m. Holt MOVED, Rawn seconded, to continue the Public Hearing to the next meeting. MOTION PASSED with all in favor except Westa who recused herself.

#### Old Business:

a. **Scenic Road Alteration Request, Dog Lane and Gurleyville Road, PZC File#1010-5 and #1010-8**  
Public Hearing continued to the next meeting.

b. **Application to Amend the Zoning Regulations, East Brook F, LLC, PZC File #1326**

Ryan MOVED, Holt seconded, subject to revisions noted below, the May 15, 2014 application of East Brook F LLC (File #1326), to amend Article 6, Section B.23.q, Article 8 Schedule of Dimensional Requirements and Notes, Article 10, Section D.6 and new Section D.20, and Article 10, Section H.5.e of the Mansfield Zoning Regulations as submitted to the Commission and heard at Public Hearings on July 7 and July 21, 2014. The subject regulation amendments shall become effective as of September 1, 2014.

In approving this application, the Planning and Zoning Commission considered all Public Hearing Testimony and communications. In accordance with the approval criteria identified in Article XIII, Section D of the Zoning Regulations, the Commission makes the following findings in approval of these amendments:

- The application is complete and contains all required information.
- The amendments promote goals and objectives contained in the 2006 Plan of Conservation & Development that encourage an orderly and efficient pattern of development with a sustainable balance of uses, specifically Policy Goal 1, Objective d, which encourages the strengthening of land use regulations. The amendments are also consistent with the goals and recommendations contained in the Windham Region Land Use Plan of 2010, and the 2014-2024 Capitol Region Council of Governments Regional Plan of Conservation and Development.
- The amendments promote the statutory goals identified in Section 8-2 of the Connecticut General Statutes and other zoning purposes cited in Article One of Mansfield's Zoning Regulations.
- The amendments are appropriately worded, legally sound and suitably coordinated with other provisions in the Mansfield Zoning Regulations.
- The amendments will promote the public's health, safety, property values and general welfare.

Furthermore, the Commission has adopted the subject regulation revisions for the following reasons:

- The revisions continue to promote the orderly development of the community and protect character and property values while eliminating conflicts identified by the recent *MacKenzie v. Planning and Zoning Commission of the Town of Monroe* appellate court decision.
- The revisions continue to provide for flexibility in design while maintaining the original intent of the regulations.
- The revisions to Article 10, Section H.5.e ensure that property owners receive direct notice of proposals to excavate within fifty feet of a property line.

The applicant's May 15, 2014, "Proposed Amendments to Mansfield's Zoning Regulations" shall be revised to incorporate revisions listed below. These revisions address issues raised in the Public Hearing process and are necessary to improve consistency with the Town's fire lane and emergency access regulations and clarify notice requirements proposed by the applicant.

1. Revise the amendments to Section B.23.q to reference the Inland Wetlands Agency;

2. Revise the second sentence of the amendments to Article 10, Section H.5.e to read as follows: "Said notification, which shall be sent by Certified Mail, shall include the date and time of the scheduled Public Hearing, the applicant's Statement of Use and mapping that depicts areas of proposed activity."
3. Revise the amendments to Article 8, Schedule of Dimensional requirements related to minimum front, side and rear yard setbacks to require a minimum 30 foot front yard setback, a minimum side yard setback of 30 feet on at least one side with the other side allowed to be zero, and a minimum rear yard setback of 30 feet. Note 22 shall apply to all three setbacks.
4. Revise the new Note 22 to the Article 8 Schedule of Dimensional requirements to add the following sentence "Larger setbacks may also be required to ensure compliance with the Town's Fire Lane Ordinance (Chapter 125 of the Mansfield Code of Ordinances)."
5. As part of the codification of these amendments, staff shall correct numbering errors throughout the Zoning Regulations to restore a consistent numbering system where new subsections start with the number one (1), letter (a), etc. and ascend progressively with no gaps or duplications.

MOTION PASSED with all in favor except Pociask and Westa who disqualified themselves.

**c. Gravel Permit Renewals**

▪ **Hall property on Old Mansfield Hollow Road (File #910-2)**

Holt MOVED, Plante seconded, to approve the 7/10/14 special permit renewal request of Edward Hall, for earth removal on land of the applicant south of Bassett's Bridge Road as shown on a plan revised to 7/10/14. All existing special permit conditions shall remain in place except as follows:

1. Condition #6-A shall be deleted.
2. Conditions #7 shall be revised to: The wide buffer area located north of the cart path on the applicant's property shall be maintained in its existing wooded state with no disturbance of any kind. The buffer acts as a shield, providing an important separation between active excavation work and neighboring residential uses, and is deemed necessary to address neighborhood impact requirements.
3. Condition #16 shall be deleted.

MOTION PASSED with all in favor except Pociask and Westa who disqualified themselves.

▪ **Green Property, 1090 Stafford Road (File #1258)**

Holt MOVED, Plante seconded, to approve the 7/10/14 special permit renewal request of Philip DeSiato on behalf of Karen Green, for gravel removal on land owned by K. Green at 1090 Stafford Road. All existing conditions of the special permit shall remain in place except for Condition #3, which shall be revised to delete the second sentence.

MOTION PASSED with all in favor except Pociask and Westa who disqualified themselves.

**New Business:**

**a. 8-24 referral: Four Corners Sanitary Sewer Project**

Matthew Hart, Town Manger and member of the Four Corners Water and Sewer Advisory Committee; John Carrington, Director of Public Works; and Derek Dilaj, Consulting Engineer for Weston and Sampson; all were present to review the proposed line and connections and to answer Commissioner's questions.

The following resolution as MOVED by Rawn, seconded by Ryan:

RESOLVED, that the Planning and Zoning Commission of the Town of Mansfield approves the following project pursuant to Section 8-24 of the General Statutes of Connecticut:

Sanitary sewer collection system to address water contamination and wastewater disposal in the approximately 500 acre area near the intersection of Routes 44 and 195 in northern Mansfield known as "Four Corners". The project is contemplated to serve sixty-one (61) properties and to include, but is not limited to, installation of approximately 21,700 linear feet

of sewer piping (which includes the collection system, a trunk sewer and a force main to the University of Connecticut's wastewater treatment plant), two submersible pump stations, related equipment and appurtenances, and related land or easement acquisitions;

provided that this resolution is for approval of conceptual plans only. The project is subject to and shall comply with all applicable zoning, site plan, subdivision, inland wetland and other laws, regulations and permit approvals, and this resolution shall not be a determination that any such project is in compliance with any such applicable laws, regulations or permit approvals.

MOTION PASSED with all in favor except Ward who was opposed.

**b. Upcoming Meeting Schedule**

Plante MOVED, Pociask seconded, to cancel the August 18, 2014, and September 2, 2014, PZC Meetings, and schedule a special PZC meeting for September 3, 2014, immediately following the conclusion of the IWA meeting. MOTION PASSED UNANIMOUSLY.

**Mansfield Tomorrow | Our Plan ▶ Our Future:**

Painter reported that the draft plan is in revision and will be sent to the consultants for formatting before being distributed to the Commission for further review.

**Reports from Officers and Committees:**

Noted.

**Communications and Bills:**

Noted.

**Adjournment:**

The Chairman adjourned the meeting at 8:25 p.m.

Respectfully submitted,

Katherine Holt, Secretary

**DRAFT MINUTES**  
**MANSFIELD INLAND WETLANDS AGENCY**  
**Regular Meeting**  
**Monday, August 4, 2014**  
**Council Chambers, Audrey P. Beck Municipal Building**

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

Chairman Goodwin called the meeting to order at 7:00 p.m. and appointed Westa and Ward to act in the absence of members.

**Review of Minutes:**

a. 7-07-2014 - Regular Meeting-

Wetlands Agent Kaufman reported that the OMS Request for Exemption acted on at the 7/7/14 meeting should not have had a file number assigned as it was not an application for a license. This application number will be reassigned to the next incoming application.

Ward MOVED, Ryan seconded, to approve the 7-7-14 minutes as corrected. MOTION PASSED with all in favor except Westa and Pociask who disqualified themselves.

b. 7-16-2014 – Field Trip - Ryan MOVED, Holt seconded, to approve the 7-16-14 field trip minutes as written. MOTION PASSED with Ryan and Holt in favor and all others disqualified.

c. 7-21-2014- Special Meeting- Ward MOVED, Rawn seconded, to approve the 7-21-14 minutes as written. MOTION PASSED with all in favor except Pociask, Ryan and Westa who disqualified themselves.

**Communications:**

The Conservation Commission Minutes and the Wetland Agent's Monthly Business memorandum were noted.

**Old Business:**

a. W1531 – Markus – 57 Hillyndale Rd – Addition

Holt MOVED, Ryan seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Etan Markus (File #W1531) for a sunroom and bedroom and bathroom expansion on property owned by the applicant, located at 57 Hillyndale Road as shown on a revised map dated June 11, 2014, and as described in other application submissions.

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

1. The applicant shall submit a revised plan for approval by the Inland Wetlands Agent that meets the following conditions:
  - a. All stockpiles shall be located at least 40 feet away from the wetland;
  - b. Silt fence shall be placed at least 20 feet away from the wetlands and watercourse around the perimeter of the work area;
  - c. Additional silt fence shall be placed around stockpiles of excavated material; and
  - d. All roof drainage shall be directed to a rain garden or natural area where it can infiltrate, to prevent increased runoff into the watercourse and wetlands.
2. The 4 foot by 6 foot shed shall be moved at least 10 feet from the edge of wetlands.
3. Erosion and sedimentation controls shall be in place prior to construction and maintained during construction and removed when disturbed areas are completely stabilized.

This approval is valid for five years (until August 4, 2019), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this agency for further review and comment. MOTION PASSED with all in favor except Westa and Pociask who disqualified themselves.

b. W1532 – Jones – 49 Farrell Rd – Two Car Garage

Holt MOVED, Ryan seconded, to grant an Inland Wetlands License pursuant to the Inlands Wetlands and Watercourses Regulations of the Town of Mansfield, to Janet Jones (File #W1532) for an attached garage and driveway repairs on property owned by the applicant, located at 49 Farrell Road, as shown on a map dated June 1, 2014, and as described in other application submissions.

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

1. The applicant shall submit a revised plan for approval by the Inland Wetlands Agent that meets the following conditions:
  - a. All stockpiles shall be located at least 60 feet away from the wetland;
  - b. Silt fence shall be placed at least 10 feet away from the wetlands along the northerly side of the work area;
  - c. Additional silt fence shall be placed around stockpiles of excavated material;
  - d. All roof drainage shall be directed to southeast corner of the garage to a rain garden or natural area where it can infiltrate, to prevent increased runoff into the watercourse and wetlands;
  - e. The driveway shall be sloped so that it drains away from the wetlands and
  - f. A natural buffer separating the driveway from the wetlands shall be maintained.
2. Erosion and sedimentation controls shall be in place prior to construction and maintained during construction and removed when disturbed areas are completely stabilized.

This approval is valid for five years (until August 4, 2019), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this agency for further review and comment. MOTION PASSED with all in favor except Westa and Pociask who disqualified themselves.

**New Business:**

a. W1533 – Lessenger - Monticello Lane – New Single Family Residence

Ward MOVED, Ryan seconded, to receive the application submitted by Kurt Lessenger (IWA File #1533) under the Wetlands and Watercourses Regulations of the Town of Mansfield for construction of a single family dwelling, septic system, well and driveway on property located at Lot 19 Monticello Lane as shown on a map dated 7/15/2014 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

b. Upcoming meeting schedule

Holt MOVED, Ward seconded, to cancel the September 2, 2014 IWA regular meeting and schedule a special IWA meeting for September 3, 2014, at 7:00 p.m. in the Town Council Chambers. MOTION PASSED UNANIMOUSLY.

Reports from Officers and Committees: The Chairman set a Field Trip for Wednesday, August 27, at 3:30 p.m.

Other Communications and Bills: Noted.

Adjournment: The Chairman adjourned the meeting at 7:12 p.m.

Respectfully submitted,

Katherine Holt, Secretary

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# Town of Mansfield

## Department of Planning and Development

Date: July 31, 2014  
To: Mansfield Inland Wetlands Agency  
From: Jennifer Kaufman, Inland Wetlands Agent  
Subject: Monthly Business Report

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### Mansfield Auto Parts - Route 32

On May 20, 2014, Grant Meitzler and I inspected the site and noticed that there were numerous car doors within 25 feet of the wetlands. The owner agreed to remove the doors and store them at least 25 feet away from the wetland. The doors had not been moved as of June 6, 2014. I returned to the site on June 20, 2014 and noted that the staff was in the process of moving the items and I returned on July 31, 2014 and the issue was resolved.

It was noted that a car was parked approximately 20 feet from the wetland. The owner was asked to move it. I will return within the month to check on the status.

### Agent Approvals

A-1- Vicente, 97 Brookside Lane- Expansion of a deck 80 feet from the wetlands. *(This approval was authorized by the IWA on July 21, 2014, because the property owner is my direct supervisor and I wanted to avoid any appearance of a conflict of interest).*

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# The Habitat

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

Summer 2014

volume 26 number 3



## The New Law Protecting State Conservation and Agriculture Lands

### Help for Protection of State Forests, Parks, and Wildlife Management Areas

*Editor's Note: The passage of P.A. 14-169 was a top priority for a coalition of partners including the CT Land Conservation Council, Audubon Connecticut, Connecticut Forest & Park Association, Rivers Alliance of CT, Sierra Club - CT Chapter, and CACIWC.*

With legislature's passage and Governor's signing of Public Act 14-169, *An Act Concerning The Grant Of Property Interests In Property Held By The Departments Of Agriculture And Energy And Environmental Protection And The Establishment Of A Public Use And Benefit Land Registry*, a valuable tool has been created for the state to use in protecting the over 255,000 acres of State Parks, State Forests, Wildlife Management Areas and other open space valuable for conservation and agricultural purposes. These lands were conveyed and acquired with an expectation that they will be permanently preserved in trust for the benefit of the public. Yet they are largely unprotected.

As detailed by the CT Council on Environmental Quality Report, *"Preserved but Maybe Not: The Impermanence of State Conservation Lands"*, most of the deeds to state open space lands, including those acquired through the Recreation and Natural Heritage Trust Program (General Statutes Section 23-74 *et seq*), do not include conservation restrictions (defined under General Statutes Section 47-42(a)) expressly providing for the dedication and protection of the land *in perpetuity*. Public Act 14-169 authorizes:

- The DEEP commissioner to place conservation or preservation restrictions, as defined by Connecticut General Statutes section 47-42a, on any lands owned by the department, and
- The Department of Agriculture commissioner to place conservation or preservation restrictions, as defined by section 47-42a, on any lands owned by the department.

Public Act 14-169 also supports implementation of P.A. 12-152, *An Act Concerning the State's Open Space Plan*, and revision of the state's Comprehensive Open Space Strategy (aka Green Plan), by:

- Authorizing the DEEP commissioner to designate department-owned lands as "lands of public use and benefit," which includes land used for conservation, public enjoyment, or recreational purposes, or activities to improve or maintain these purposes.
- Requiring the DEEP commissioner to establish, by January 1, 2015, a publicly accessible geographic information map system and database that has a public use and benefit land registry to provide identifying information on land owned by DEEP, other state agencies, and land conservation organizations, and,
- By January 1, 2015, requiring the registry to be available on DEEP's website, including the identifying information for three state parks and updating the registry with 10 state parks on a quarterly basis.

CT Environmental Review Team  
Seeks New Members, see page 7.

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## Board of Directors

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Darcy Winther DEEP Liaison



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*Associate Editor: Ann Letendre*

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

This past March, the U.S. Environmental Protection Agency New England Regional Office (EPA Region 1) published a summary of their New England "Climate Leaders Summit" held last November in Providence, Rhode Island. The major goal of this summit was determining ways to develop a more climate-resistant New England. Summit members specifically focused on identifying ways to assist municipalities throughout New England prepare for, and adapt to, climate change. In consultation with an External Workgroup, summit leaders identified six key actions to help New England municipalities move along the pathway to resiliency:

1. Acquire local level data and information on current and future community climate change impacts.
2. Understand the risk to your community by integrating impact information and vulnerability assessments into your existing planning processes.

*CACIWC news, continued on page 12*

## Save the Date!

37th Annual Meeting & Environmental Conference  
Saturday, November 15, 2014

*Conference Will Highlight a Revised Agenda and New Location*

In response to your comments from the 2013 meeting survey, CACIWC has revised the format of our 2014 annual meeting, developed an expanded lunch menu, and scheduled the meeting at a new location:

Villa Capri Banquet Facility

906 North Colony Rd., Wallingford, CT 06492

[www.VillaCapri.com](http://www.VillaCapri.com)

This year CACIWC will be piloting an efficient new Annual Meeting registration and payment system that will include an online component. Despite these changes, the CACIWC Board is pleased to announce the registration fees have not been increased for our 37th Annual Meeting & Environmental Conference.

CACIWC is lining up a speakers for our 2014 legal, procedural, and scientific workshops designed for both new and experienced inland wetlands and conservation commissioners and their agents. Many of these workshops will support our 2014 conference theme of Preparing Connecticut for the Impact of Global Changes. Watch for the complete list of new workshops on our website at: [www.caciwc.org](http://www.caciwc.org). Please direct any questions on our annual meeting to us at: [AnnualMtg@caciwc.org](mailto:AnnualMtg@caciwc.org). ↵



# Journey to The Legal Horizon

by Attorney Janet Brooks

## *Caveat Exemptor:*

*May the person wishing to undertake an exemption beware – proceed to the wetlands agency before your farm fields and horse barn, or risk liability and enforcement*

*Yorgensen v. Chapdelaine, 150 Conn. App. 1 (2014)*

In May the Appellate Court issued another decision regarding the farming exemption within the wetlands act. For those of you who are keeping up with the court decisions, the Appellate Court has not changed its course. The take-away message consistent with prior cases is:

- 1) Those people believing that their activities fall within an exemption, the “exemptors,” are required to have those activities declared exempt by the municipal wetlands agency before undertaking those activities.
- 2) If during the agency’s review the agency seeks additional information relevant to its consideration whether the proposed activities are exempt, the exemptor is required to provide it.
- 3) If the agency has ruled against the exemptor as to any proposed activity and the exemptor still wishes to undertake that activity, the exemptor must take an appeal to Superior Court, contesting the agency’s decision.
- 4) If the exemptor takes no appeal, the agency’s finding of the facts cannot be disputed in the future.
- 5) If the agency brings an enforcement action in court against an exemptor, the exemptor cannot claim that the activity is exempt unless the agency has already declared the activities exempt.
- 6) When the agency brings an enforcement action in court, the exemptor may not file an independent court action asking for the court to rule on whether the exemptor’s proposed activities are exempt.

I have coined the term “exemptor” to mean someone who believes his or her activity is exempt. I write “believes” intentionally, because it is the agency which determines that the activity is exempt. Why do I state that the agency determines whether an activity is exempt when it is not written in the wetlands statute?

Because the state Supreme Court in a 1990 decision held that it is the administrative agency in the first instance which determines whether an activity falls within its own jurisdiction.<sup>1</sup> If there was any doubt that this concept applied to wetlands agencies, the following year the Appellate Court extended that principle to the wetlands statute, in a case involving the farming exemption.<sup>2</sup>

The DEEP (the Department of Energy and Environmental Protection) has created a template for agency consideration of exemptions in the Inland Wetlands and Watercourses Model Municipal Regulations, 4th ed. (2006). Found in Section 4 of the Model Regulations, Section 4 establishes a process in which the exemptor, prior to undertaking the proposed exempt activity, notifies the agency and provides it “with sufficient information to enable it to properly determine that the proposed operation and use is a permitted or nonregulated use of a wetland or watercourse.” Most agencies have adopted this subsection in some form in their regulations. Often these regulations are found in Section 4.

Do you know where your exemption regulations are? Whenever I get a phone call to discuss a situation involving exemptions, I always open up my official set of statutes to the exemption provision. I have the statute in front of me and review the words while having the discussion. The exemption is not intuitive; it is what the legislators said it is. It is not subjective (what do I think should be exempt?) It is also not a test of your memory. Do you bring your regulations to your agency meetings? I did, when I served on a wetlands commission.

Exemptors can feel exasperated when they see no reason why agencies should be requiring a ruling before they can commence exempt activities. I feel their pain. In almost every article I’ve written about

*legal horizon, continued on page 4*

exemptions I have supported amending the wetlands act to reference this line of court cases. Lawyers are educated to know that “the law” is the statute as interpreted by the highest court in the jurisdiction. Many wetlands commissions have limited or no access to legal advice. Exemptors shouldn’t have to hire lawyers to understand the exemption process. An amendment to the wetlands act explicitly setting forth the process would benefit everyone. In fact, such an amendment was enacted to the Connecticut Environmental Protection Act (CEPA) in 2013. CEPA was amended to incorporate the change made by the state Supreme Court in a 2002 decision about the specificity of facts to be included in environmental intervention petitions. Transparency in government procedures benefits the regulators and the regulated – and promotes public confidence in government.

We’ll flesh out points (1) – (6) with some of the facts in the court decision regarding Darlene Chapdelaine. Chapdelaine and her partner had a contract to purchase real estate in Eastford. Her partner applied for and obtained a building permit to construct a barn. Subsequently the wetlands enforcement officer (“officer”) inspected the property (from an off-site location) and noted regulated activity occurring on the property. The officer issued a cease and desist letter to Chapdelaine (1) to cease regulated activities within 100 feet of wetlands and (2) to submit an application to restore the wetlands. The order was upheld at the agency hearing which Chapdelaine did not attend. Chapdelaine contacted the officer to settle the matter, stating that she hadn’t received the cease and desist letter. On that same day Chapdelaine filed a request for a jurisdictional ruling that her activities were either unregulated (the agency had no jurisdiction) or exempt farming activities.

The town attorney informed her that to establish that her activities were outside the jurisdiction of the wetlands agency, she would need to submit a plan showing the wetlands and indicate the locations of fill and other proposed activities on the property. Chapdelaine did not provide a map of the wetlands, despite numerous requests to do so. The agency concluded that certain activities fell within the farming exemption, specifically equestrian instruction, training, and breeding as well as selective cutting of trees for the expansion of pasture. The agency was not able to determine whether other activities fell within in the exemption: the large stockpiling of soil in conjunction with the construction of a riding arena, which included the

grading, filling or removal of soils. Thus, the agency granted Chapdelaine an exemption as to certain activities and could not determine whether other activities were exempt, based on her unwillingness to provide additional information. She did not take an appeal from the latter ruling.

Instead of appealing that decision to court, Chapdelaine filed an action in superior court asking the court to determine that her proposed activities fell within the wetlands exemption. That suit was joined a few months later with the agency’s enforcement action that she was conducting activities without a permit for which no exemption had been issued. The Appellate Court, relying on a 2012 decision on the exemption section stated: “The proper way to vindicate a legal position is not to disobey the orders, but rather to challenge them on appeal.”<sup>3</sup>

Chapdelaine appealed the trial court’s ruling that cited to the officer’s testimony based on on-site and off-site viewing of the property to determine that work was continuing. (That work included the building of a road.) The Appellate Court set out its duty on appeal. It may overturn the lower court’s finding of facts where they are “clearly erroneous.” That is, when there is no evidence to support the finding or where the court “is left with the definite and firm conviction that a mistake has been committed.”<sup>4</sup> The Appellate Court found support for the trial court’s factual findings.

I found one aspect of the posture of the case and the decision puzzling: why was it necessary to have a mapping of the soils to determine whether the activities were exempt? If the activity is exempt, it can be conducted in the wetlands itself. If the exemptor is making a claim that the activity falls outside the upland review area, and thus is exempt, then a soil survey would be essential. (Even then, many agencies reserve the right – as stated in their definition of regulated activity – to determine that other activities outside the upland review area are regulated.) The agency could have determined that stockpiling of soil, whether for farming purposes or not, whether in the upland review area or within the wetland itself, is a regulated activity and requires a permit. I spoke with Attorney Mark Branse, the town attorney,<sup>5</sup> who agreed that exemption requests in general don’t require a mapping of soils. He mentioned that numerous requests by the agency for explicit listing of activities to be conducted were unanswered by Chapdelaine.

*legal horizon, continued on page 5*

Exemptors, beware: Your best protection is to be fully forthcoming in your proposed activities which you have not yet begun. File your request with ample time to address the agency's questions. Any other approach leaves you vulnerable to agency scrutiny and jurisdiction.

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

(Endnotes)

<sup>1</sup> *Cannata v. Department of Environmental Protection*, 215 Conn. 616 (1990).

<sup>2</sup> *Wilkinson v. Inland Wetlands & Watercourses Commission*, 24 Conn. App. 163 (1991).

<sup>3</sup> *Yorgensen v. Chapdelaine*, 150 Conn. App. 1, 14, quoting *Inland Wetlands & Watercourses Commission v. Andrews*, 139 Conn. App. 359, 364 (2012).

<sup>4</sup> *Yorgensen v. Chapdelaine*, 150 Conn. App. 1, 19, quoting *Canterbury v. Deojay*, 11 Conn. App. 695, 720-21 (2009).

<sup>5</sup> Telephone conversation between Attorney Mark Branse and the author on June 16, 2014. ☞

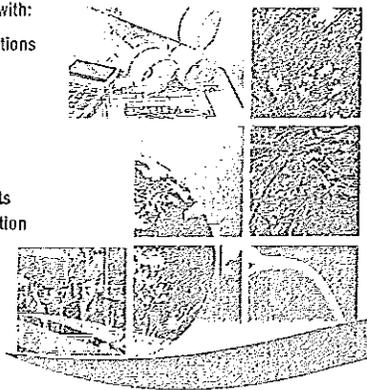
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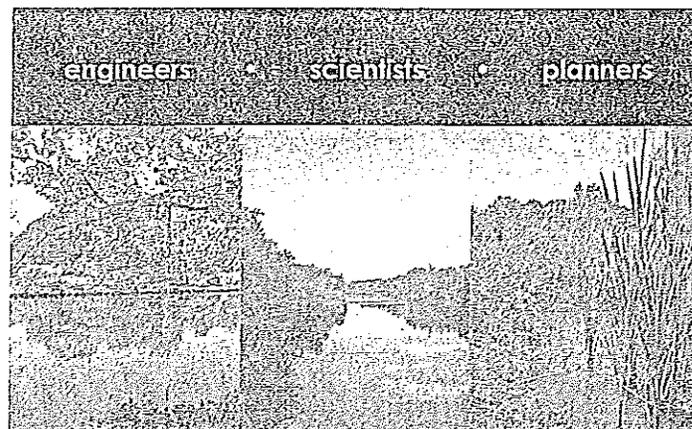
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Amy Blaymore Paterson, Executive Director,  
Connecticut Land Conservation Council, receives  
2014 "Women Inspiring Conservation in Connecticut" Award

"I feel so incredibly fortunate to serve as the Executive Director of the Connecticut Land Conservation Council," said Amy Blaymore Paterson. "This position not only provides me with the opportunity to help land trusts, towns and landowners to protect the places that make our communities so special, but also, and perhaps more importantly, it puts me in that very important position to help inspire young people to embark upon a career that will continue to make a difference for generations to come. I am truly honored to receive this award."

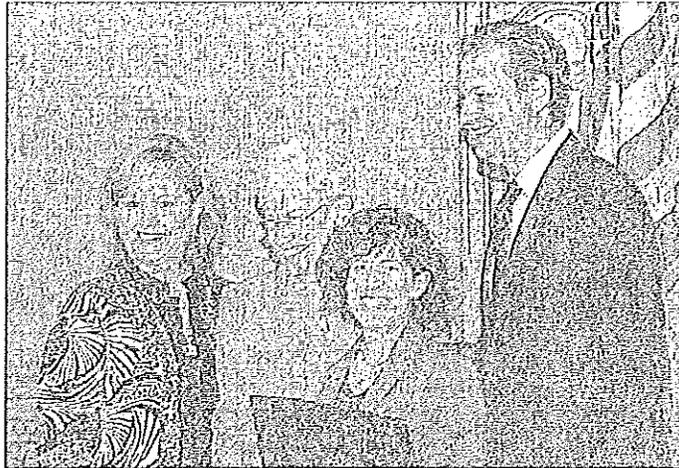
Amy joined a fledgling Connecticut Land Conservation Council (CLCC) in 2010 as its first Executive Director. Under her leadership and exceptional work ethic CLCC has grown and become an important voice statewide, advocating for land preservation, stewardship and funding, while working with others in the conservation and agriculture community to ensure

the long term strength and viability of land conservation in Connecticut.

Amy received the Women "Inspiring Conservation in Connecticut" Award June 26, 2014 at the State Capitol from Connecticut's Conservation Partnership, USDA's Natural Resources Conservation Service and Farm Service Agency, and the Connecticut Association of Conservation Districts. Nominations for the awards were solicited from partners and the general public. This year's theme, *Celebrating Women of Character, Courage,*

*and Commitment: Stories of the Extraordinary Determination of Women*, honored the exceptional and often unrecognized determination and tenacity of women in a non-traditional field.

CONGRATULATIONS, AMY! 🍀

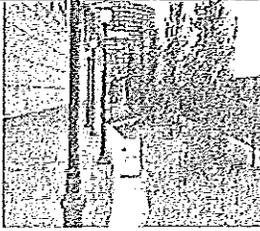


L to R: Lisa Coverdale, NRCS State Conservationist, Lt. Gov. Nancy Wyman, Amy Paterson, Executive Director, CT Land Conservation Council, Bryan Hurlburt, Executive Director, CT Farm Service Agency. Picture credit—NRCS

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# CT Environmental Review Team (ERT) Program Seeks Team Members

We are currently seeking environmental professionals from academia, retirees, other state and local organizations, and the private sector to supplement our pool of federal, state and regional partners. We need individuals willing to act as team members with expertise in the areas of natural resource management, open space preservation and agriculture interested in participating in this unique and valuable service. Other areas of experience being sought include: ecology, soils, forestry, geology, fisheries, trails/greenways, invasive plant species, planning, energy, recreation, transportation, wetlands, watercourses, lake and watershed management and wildlife.

As a team member you will be required to participate in a field review and submit a written report on your observations and evaluations of the proposal being considered. A timeframe will be set for completing and submitting your written report. To understand the process and see the final product of an ERT you can access our website [www.ctert.org](http://www.ctert.org).

For more information and to discuss this opportunity, please contact Elaine Sych, ERT Coordinator at (860) 345-3977 or via email at [ctertelaine@aol.com](mailto:ctertelaine@aol.com) or to download a Team Member Interest Form please go to: [www.ctert.org/ERTWebsite/pdfs/2014\\_ERT\\_Forms/2014\\_TeamMemberLetter\\_Final.pdf](http://www.ctert.org/ERTWebsite/pdfs/2014_ERT_Forms/2014_TeamMemberLetter_Final.pdf).

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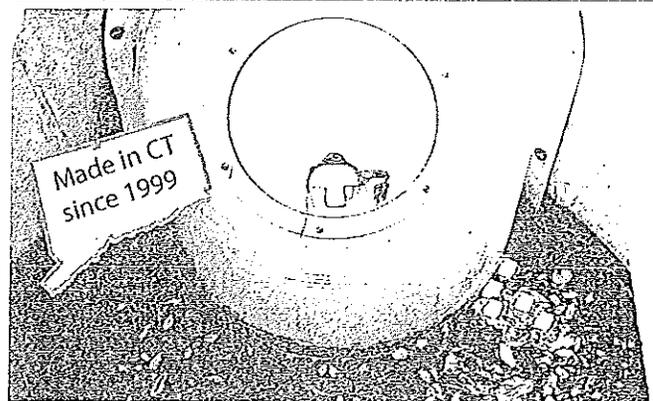
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# Old Mine Park Wins Design Award

## for Sensible Stormwater & Ecological Restoration Solutions

### Trumbull Conservation Commission Intervenes to Promote Restoration Solution

The Old Mine Park Pond Restoration was the first of what will be several model projects by the municipalities of Bridgeport, Trumbull and Monroe under the Pequonnock River Initiative. Formed in 2010, this watershed-based plan seeks to restore the Pequonnock River to a natural and sustainable ecosystem by improving water quality, increasing native habitat, and promoting sustainable land use strategies. Demonstration pilot projects, such as Old Mine Park, would not be possible without grant funding from Section 319 of the Clean Water Act. Amendments to the Clean Water Act in 1987 created the Section 319 Nonpoint Source Management Program which supports public outreach, training, pilot projects, monitoring, and other activities that contribute to controlling nonpoint source pollution.

The original dredging plan for Old Mine Park called for putting back the original mowed lawn right down to the water's edge. However, immense disruption to the streamside areas as a result of construction operations caught the attention of Trout Unlimited who observed sediments and pollutants flowing unimpeded into the Pequonnock River. Shortly thereafter, the Trumbull Conservation Commission intervened and called for a better approach for restoring the disturbed area with the help of Save the Sound and the Town of Trumbull.

The new, award-winning design by Site Systems emphasizes Low Impact Development and stormwater management practices that mitigate the effects of downstream flooding, reduce the amount of sediments and pollutants from flowing into the river, and improve the riverbank habitat for indigenous fish and other wildlife. For local residents, a pedestrian bridge, meandering pathways, and benches near the water's

edge invite them to sit for a while and appreciate the various native flora and fauna.

The major Low Impact Design components are:

1. Riparian Buffer
2. Meadows
3. Drainage Channel & Sediment Basin

Riparian buffers are areas of trees, shrubs, and other vegetation adjacent to rivers, streams, or ponds that filter sediment and pollutants from stormwater runoff through the presence of vegetation and roots. With dense coverage of riverbanks and stream edges, less erosion occurs and fewer sediments wash into riparian areas downstream. Additionally, the extra vegetation helps slow down the flow of runoff, promoting helpful

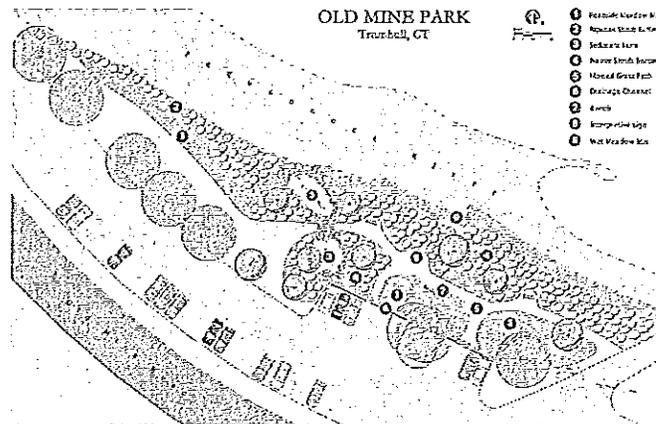
infiltration that recharges groundwater reserves and preventing dangerous flash flooding downstream.

As an added bonus, the fertilizer-laden runoff from lawns and gardens (rich in nitrogen and phosphorus) is sequestered in the soil where plants can make use of it – and not in water bodies where it will cause algal blooms.

A number of native shrubs comprise the riparian buffer at Old Mine Park including Red Chokeberry

(*Aronia arbutifolia*), Winterberry (*Ilex verticillata*), and Inkberry (*Ilex glabra*). Indigenous trees such as Red Maple (*Acer rubrum*) and Heritage River Birch (*Betula nigra* 'Heritage') will eventually grow taller and add valuable shade along the water's edge, helping to moderate temperatures and create viable habitat for cold-water fish such as trout.

Meadows are a low-maintenance, native landscape alternative to traditional lawn areas that attract a variety of small mammals as well as predators such as owls and hawks. By providing shelter, food, and



#### Streamside Buffer Plan

The parking lot was a major source oil, gasoline, and other nonpoint source pollutants entering the river. The design addresses that problem by adding sediment basins to collect and retain stormwater. New native plantings provide much needed habitat for local wildlife. Image Credit: Site Systems, Inc.

*Old Mine, continued on page 9*

*Old Mine, continued from page 8*

nesting material, these ecosystems help protect and preserve dozens of our threatened and endangered native species.

At Old Mine Park, two distinct meadows were established from seed: a wet meadow near the water's edge, and an upland meadow near the parking lot. Along the edge of the Pequonnock River, wetland species such as Fox Sedge (*Carex vulpinoidea*) and Boneset (*Eupatorium perfoliatum*) add to the riparian buffer and help intercept and filter runoff. Closer to the parking areas, an upland meadow with Black-eyed Susan (*Rudbeckia hirta*) and Canada Goldenrod (*Solidago canadensis*) add sources of seeds and nectar amidst the drier soils and roadside conditions.

To help collect stormwater runoff, a drainage channel was installed where the parking lot meets the park itself. Water sheets off of the pavement into a gravel strip area where it drains down into a perforated pipe. This pipe then conveys the untreated runoff to the first part of the sediment basin, the forebay, where garbage and large sediments can be settled out.

The sediment basin is the final stop for the partially treated stormwater before it reaches the Pequonnock River. This basin is significantly larger than the forebay and is designed to detain runoff for a period of no more than 24 to 48 hours. The presence of vegetation within the sediment basin helps treat some



*Streamside Buffer Habitat*

*One year later, this streamside buffer planting has filled in and provides important food and habitat sources for fish, birds, insects, and other species. Image Credit: Site Systems, Inc.*

of the pollutants, but most of the heavy lifting is done by soil microbes which gradually break down the pollutants over time.

The Low Impact Design elements work together to create an attractive and functional landscape that protects the river from human impacts and creates beautiful, varied habitat for the benefit of wildlife and local residents alike. This Spring, Site Systems and Save the Sound will continue their work in Pequonnock River Watershed with another riparian buffer project at Glenwood Park in Bridgeport.

*Site Systems, Inc. is a landscape architecture firm based in Trumbull, CT. The Connecticut Chapter of the American Society of Landscape Architects (CTASLA) recently honored the firm with a 2014 Design Merit Award for an ecological pond restoration and stormwater management project at Trumbull's Old Mine Park. ♻*



*Streamside Buffer Construction*

*This "before" photograph shows the existing conditions of the site following a dredging operation within the park. The original restoration plan called for reseeding the disturbed area as lawn. Image Credit: Donald Watson, FALA*



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# 2014 Legislative Wins for the Environment

## State Will Help Cities and Towns Preserve Open Space

### The 2014 Open Space Grant Program Will Benefit from \$10 Million in Funding

In addition to the passage of Public Act 14-169 (*see page 1*), other wins for the environment supported by CACIWC included funding for open space and farmland protection; long-awaited funding for 9 new positions in the state parks; the control of running bamboo; facilitation of development of a state-wide water plan; and several other important acts.

#### Funding Open Space Protection

In May 2014 Governor Malloy announced that the state Bond Commission would approve \$5 million to assist cities, towns, and land trusts with the purchase of important lands to protect as open space. DEEP will use the new bond funds, along with at least \$5 million it has received under the Community Investment Act (CIA) to award the 17th round of the Open Space and Watershed Land Acquisition Program (OSWLA). OSWLA is authorized and defined by Connecticut General Statutes Section 7-131d, et seq., and is funded through a combination of state bonding and funds from the Community Investment Act (CIA). The open space grants for land trusts, towns and water companies typically cover 50 percent of the purchase price for a property. The deadline for applications for the new round of grants was March 31. DEEP received 30 applications for funding open space projects totaling more than 2,200 acres. It also received two applications for the Urban Green and Community Garden portion of the grant program. The Urban Greens and Community Gardens program provides qualifying organizations with grants to refurbish or renovate community parks and gardens in targeted and/or distressed communities. Funded by the CIA, the program fosters preservation, rehabilitation and development of garden spaces, and encourages outdoor passive recreation and gathering spaces for families and children.

#### Other Environmental Legislation Successes Supported by CACIWC

- Public Act 14-100 - An Act Concerning Liability for the Growing of Running Bamboo Establishes liability for running bamboo that spreads beyond the boundaries of a property owner

and establishes a duty to contain running bamboo that is growing in such a location that it could spread beyond the boundaries of a property owner.

- Public Act 14-163 - An Act Concerning the Responsibilities of the Water Planning Council Will facilitate the development of a state water plan and implement legislative recommendations of the Water Summit Working Group.
- Public Act 14-33 - An Act Concerning the assessment of horses and ponies and farm machinery and the transfer of land classified as farm land, open space land, forest land and marine heritage land. Authorizes municipalities, by local option, to exempt all horses and ponies from property taxation; to increase the property tax exemption for farm machinery; to amend the date on which a qualified forester's report must be submitted; to require property owners to provide notice of an excepted transfer of land classified as farm land, open space land, forest land or maritime heritage land, and to make other changes concerning the assessment of such classified land.
- Public Act 14-151 - An Act Concerning Tree Trimming Places the burden of proving that public convenience and necessity require the pruning or removal of a tree or shrub on utility companies. This bill would improve the tree trimming done by electric utilities, bring more tree expertise into the ongoing regulation of tree trimming, clarify and improve the way that electric utilities must notify landowners, and clarify the opportunities for landowners to object or request a modification to the tree trimming proposed by the utilities.
- State Parks received a long-awaited infusion of resources -- funding to cover 9 New Positions in the State Parks (3 Park Supervisors and 6 Park Maintainers).

*2014 legislation, continued on page 11*

- The 1000-acre Preserve coastal forest in Old Saybrook received \$2 million in funding that was earmarked from the Recreation and Natural Heritage Fund; The Trust for Public Land has secured a contract to purchase the land for protection for \$8.09 Million. Funding is being sought from the State, The Towns and individuals through a capital campaign. The state has committed \$2 million from the Recreation and Natural Heritage Fund toward acquisition. On July 6th the town of Old Saybrook will hold a referendum to vote on supporting a \$3 million bond toward acquisition. The 16 year goal to protect 1,000 acre coastal forest, The Preserve, is within hiking distance.
- The Community Investment Act funding for open space, farmland protection, affordable housing and historic preservation remained intact and unraided;
- Bonding for farmland and open space preservation in the Department of Agriculture and CT DEEP budgets respectively was continued at last year's strong levels. 🌱

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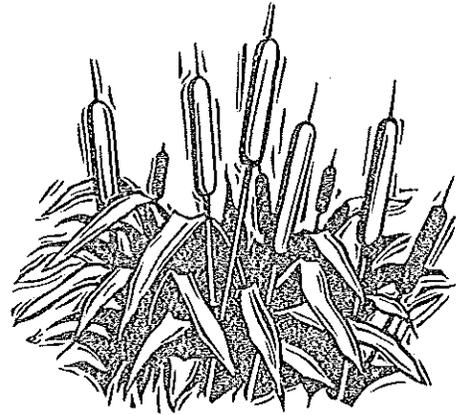


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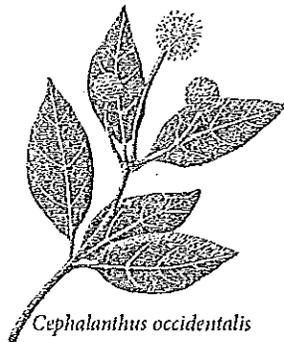
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During 2014-15, CACIWC will work with our member commissions to help disseminate summit findings to key leaders, gather local data, set community priorities, work with cooperative partner agencies, and otherwise assist members strengthen the resiliency of their municipalities to the impact of climate change.

1. To help promote the efforts of these summit leaders and other regional coalitions, CACIWC is dedicating our 37th Annual Meeting and Environmental Conference, scheduled for Saturday, November 15, 2014, with the theme of *Preparing Connecticut for the Impact of Global Changes*. The Annual Meeting Committee has been organizing a series of key speakers and informative workshops on how best to preserve important local ecosystems from the impact of habitat changes and losses, invasive species, emerging diseases, and other external threats. Speakers will also discuss state and federal legislation that may impact the work of CACIWC members. Please see the preliminary announcement in this issue of *The Habitat* and watch for additional conference news on our [www.caciwc.org](http://www.caciwc.org) website. You may direct any questions or comments on our annual meeting to us at: [AnnualMtg@caciwc.org](mailto:AnnualMtg@caciwc.org)

2. The CACIWC board of directors expresses its thanks to the commissions who have already paid their 2014-15 membership dues in response to the recently distributed reminder and renewal form. A copy of this form and additional information has also been placed on our website: [www.caciwc.org](http://www.caciwc.org). Our website also provides a description of additional individual and business membership categories you or your company can use to provide additional support to CACIWC. We will very much appreciate any additional contributions that you can provide to support various CACIWC programs including our Annual Meeting, educational materials, and future issues of *The Habitat*.

3. The CACIWC board of directors continued work on the development of our new strategic plan. As part of the strategic planning process, we have been incorporating information obtained from the 2013 membership-wide survey. We will be distributing a brief 2014 membership-wide survey supplement to further assess your educational needs and ensure that CACIWC is aware of any new challenges to your efforts in protecting Connecticut wetlands and other important habitats.

4. Following our service as coordinating judges for the environmental science awards in the year's Connecticut Science & Engineering Fair CACIWC Board Treasurer Charles Dimmick and I are developing new opportunities for Connecticut students to participate in our 37th Annual Meeting and Environmental Conference. Watch this column and our website for more information on these activities, designed to increase interest among Connecticut students in careers and volunteer activities that support conservation and wetlands protection.

5. CACIWC was pleased to recently welcome a few new members of our Board of Directors. However, the New London County director and several other CACIWC board vacancies remain unfilled (please see the updated list in this issue of *The Habitat* and on [www.caciwc.org](http://www.caciwc.org)). Please submit your name to us at [board@caciwc.org](mailto:board@caciwc.org) if you are interested in serving as the New London County representative, one of the vacant alternate county representatives, or as one of the alternate at large representative positions.

6. We have received inquiries from members regarding our CACIWC advisory committees designed to help us with our education and outreach efforts, contribute to the development of new goals and objectives for our updated strategic plan, and participate in the ongoing review of legislative initiatives. Let us know of your areas of interest by contacting us at [board@caciwc.org](mailto:board@caciwc.org).

As always, please do not hesitate to contact us via email at [board@caciwc.org](mailto:board@caciwc.org) if you have questions or comments on any of the above items or if you have other questions of your board of directors. All of us benefit from your ongoing efforts to protect wetlands and conserve important habitats within your municipality!

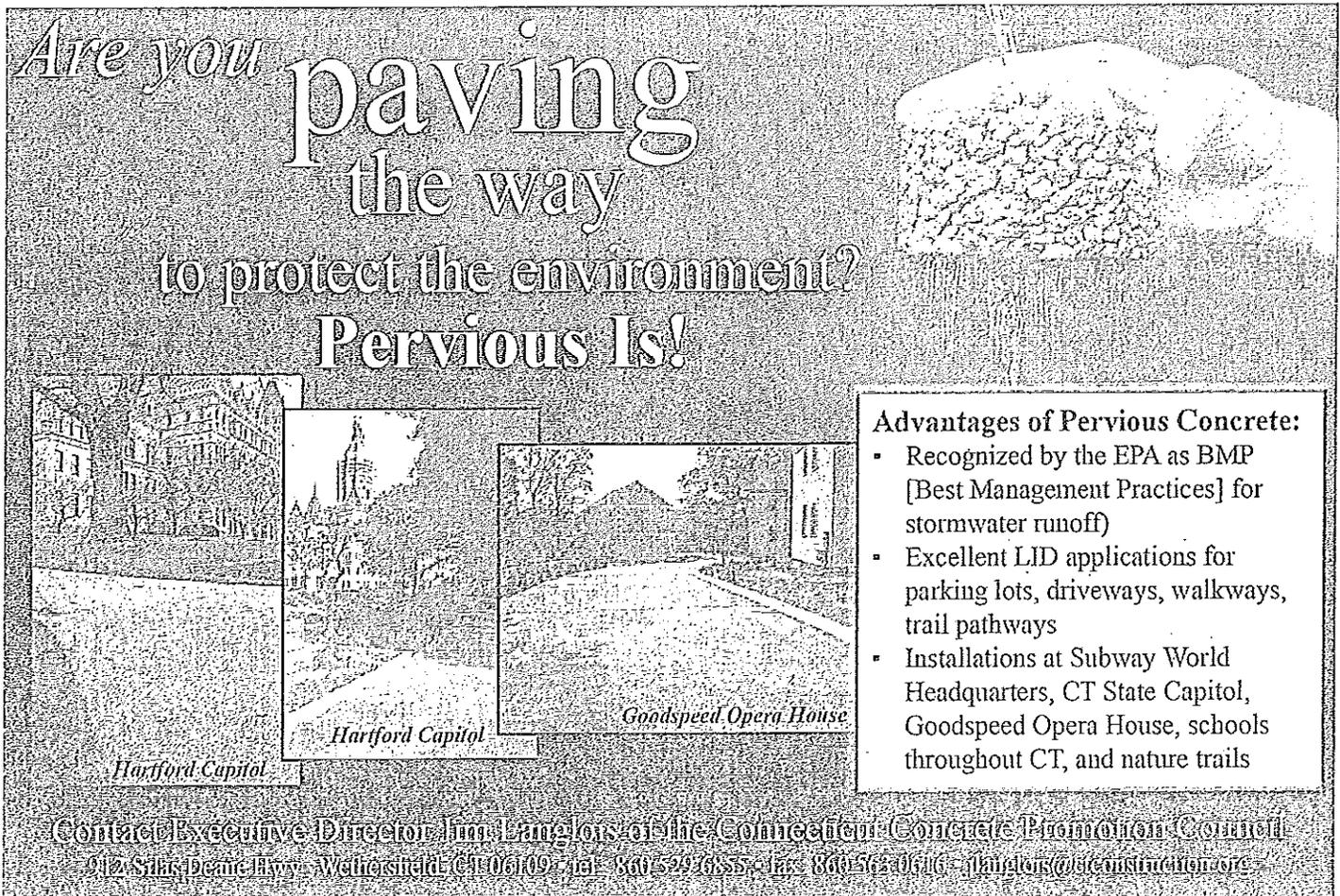
~ Alan J. Siniscalchi, President ↵

# “The Functions and Values of Wetlands and Watercourses” Educational DVD Wins Telly Award

**D**VD titled “The Functions and Values of Wetlands and Watercourses”, produced by the DEEP’s Wetlands Management Section (WMS) and Middlesex Community College’s Corporate Media Center, is a bronze winner in the 35th Annual Telly Awards.

The Telly Award honors the very best film and video productions, groundbreaking online video content, and outstanding local, regional and cable TV commercials and programs. The DEEP video was selected for a bronze Telly out of over 12,000 entries from all 50 states and five continents. A Silver Telly is the highest award, being given to only about 7-10% of entrants. The Bronze Telly is the second highest award, being given to only about 18-25% of entrants. This is the third bronze Annual Telly Award won by the WMS and Middlesex Community College’s Corporate Media Center.

The DVD highlights the beauty and complexity of wetlands and watercourses while educating the viewer on why these natural resources are indispensable and irreplaceable. Although tailored for inland wetlands agencies, the DVD will be very beneficial to other municipal land use commissions, students and citizens. The DVD has been mailed to Connecticut’s municipal inland wetlands agencies along with two previously produced, award winning DVD’s: “Introduction to Connecticut’s Inland Wetlands and Watercourses Act”; and “Map Reading and Site Plan Review.” The video is currently available on the DEEP’s YouTube channel. Further, all three training videos produced by the WMS are available on the WMS web page. For further information regarding this new educational video please contact the WMS at (860) 424-3019. 



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# CLCC Conservation Easement Workshop Schedule

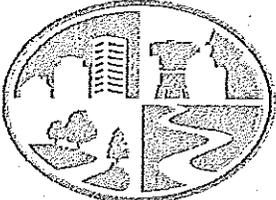
**August 8:** CLCC Model Conservation Easement (CE) Workshop #2  
 "Amendments, Administration & Discretionary Consent". Taught by Linda Francois, Esq., Connie Manes and members of the Model CE Working Group. (To be held in Litchfield)

**October 6:** CLCC Model Conservation Easement (CE) Workshop #3  
 "Federal Conservation Easement Rulings and Guidance: Trends and Take Aways". Taught by Stefan Nagel, Esq., Law Offices of Stephan Small. (To be held in Hartford)

**December 5:** CLCC Model Conservation Easement (CE) Workshop #4  
 "Stewardship, Monitoring & Enforcement". Taught by Linda Francois, Esq., Lindsey Michel, CFPA Conservation Director and members of the Model CE Working Group. (To be held at CFPA Middlefield)

For information contact Amy B. Paterson at (860) 685-0785 or [abpaterson@ctconservation.org](mailto:abpaterson@ctconservation.org) ☞

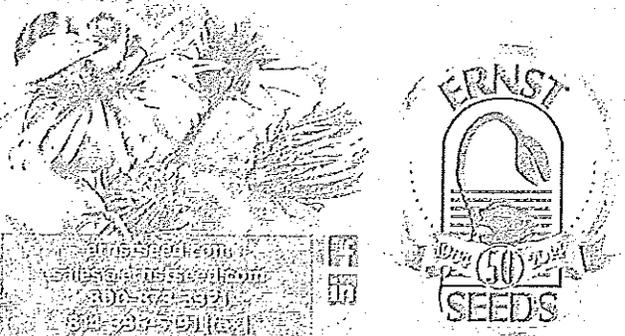
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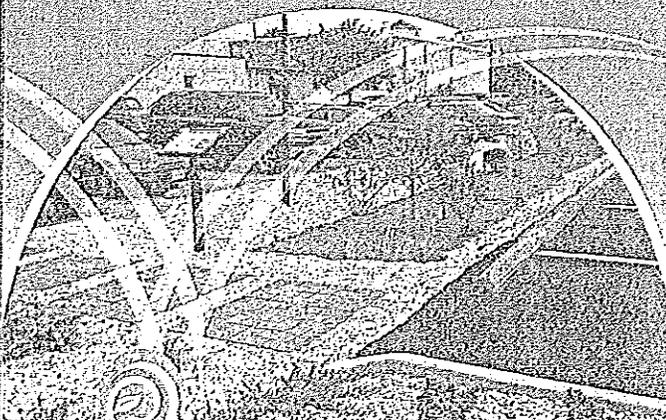
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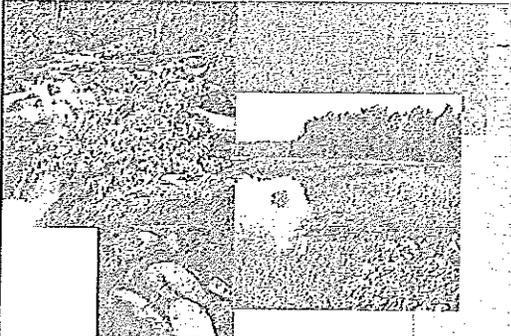
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Yet despite the prevalence of CEs and their importance to the long term viability of protected open space and farmland, many CEs are not written as well as they should be. Drafting errors and omissions, inconsistencies and ambiguities in CE language are common problems that threaten the long term viability of the document and thus its efficacy in protecting conserved lands in perpetuity.

Connecticut Land trusts are particularly vulnerable, with little to no staff, limited funds to pay legal fees, limited experience in dealing with CEs. Further, there are a limited number of attorneys practicing in Connecticut who have substantial experience in drafting conservation easements.

Weakly drafted CEs create confusion and strained relationships between the landowner and the land trust. Misunderstandings may lead to violations. Land trusts may be forced to expend considerable sums enforcing CEs. The goal of the Model is to minimize the risk of loss of conserved lands and the associated loss of public's trust in the land trust's ability to fulfill its mission.

## Project Components (2014)

1. Model Conservation Easement: The Model CE along with an excellent commentary on drafting a CE is now available on the CLCC's web site [www.ctconservation.org/trainingandeducation](http://www.ctconservation.org/trainingandeducation).
2. Educating CE drafters: CLCC will undertake an expansive outreach and education effort through a training program to engage and educate CE drafters (including private attorneys, land trust staff and board members, state and local government attorneys and staff, and other conservation professionals) about the model document language and format and the rationale behind specific model document terms and conditions to help them to better draft legally sound and effective CEs for their own use or that of their clients.
3. Educating: CLCC will provide training for CE Conservation Land stewards (including land trust staff and monitoring volunteers, municipal staff and commission members, and state agency staff) about the model CE language and monitoring protocols to help them to better manage and monitor existing CE conservation lands.

## Comments Requested

CLCC and the Working Group welcome suggestions for improving the substance and format of the Model and Commentary. Please share potential optional and alternative provisions and identify issues in need of further investigation. Comments may be directed to CLCC Executive Director and Project Coordinator, Amy B. Paterson at (860) 685-0785 or [abpaterson@ctconservation.org](mailto:abpaterson@ctconservation.org).

*Editor's Note: Municipal open space lands, purchased, in part, with state grant funds are required to have a conservation restriction which protects them in perpetuity. Conservation Commissions should make sure that other town designated open space lands that were not acquired with state grant funds are protected by a conservation restriction. ♣*

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## Model Conservation Easement Project Protecting and Stewarding Connecticut's Open Space in Perpetuity

*A Project of the Connecticut Land Conservation Council made possible by  
the generous support of the Geoffrey C. Hughes Foundation*

### *Project Overview*

To address the issue of lack of standardization of easement forms and terms, CLCC assembled a Model Conservation Easement Working Group (Working Group) of attorneys and conservation practitioners from around the state to research and draft a Model Conservation Easement (Model) for use by the Connecticut land conservation community, with a goal of simplifying language as much as reasonably possible and permitting adaptation to a broad array of situations.

The Model is intended to be used mainly as a "forever wild" easement, with one set of limitations that applies throughout the protected property and is aimed at properties with minimal use and minimal structures. It does not address working lands or historic preservation easements. This Model is a first edition,

and CLCC plans to undertake future efforts to build on the format and "boilerplate" provisions to create other purposed documents and more alternatives.

### *The Need for a Model Conservation Easement*

Conservation easements (CEs) continue to be one of the most important tools used by land trusts, government entities and landowners to protect open space and farmland in Connecticut. Well crafted CEs are a critical component of protecting land in perpetuity. CE terms, conditions and purposes clauses define allowable uses of land and the way a CE is drafted can have an enormous impact on what aspects of the land are protected and how the land acquired for conservation purposes can be used over time. In Connecticut, land trusts alone hold over 1,000 CEs and together with towns write an estimated 60-75 CEs annually.

*easement project, continued on page 15*

# CONNECTICUT STATE OF THE BIRDS 2014

CONNECTICUT'S DIVERSE LANDSCAPE:  
*Managing Our Habitats for Wildlife*



Connecticut  
Audubon Society

# CONNECTICUT AUDUBON SOCIETY

The Connecticut Audubon Society conserves Connecticut's environment through science-based education and advocacy focused on the state's bird populations and their habitats. The society operates nature facilities in Fairfield, Milford, Glastonbury, and Pomfret, as well as an EcoTravel office in Essex and an environmental advocacy effort in Hartford. It also manages 19 wildlife sanctuaries around the state, preserves over 2,600 acres of open space, and educates over 200,000 children and adults annually. Working exclusively in Connecticut for over 100 years, the Connecticut Audubon Society is the state's original and still independent organization, not affiliated with any national or governmental group. For membership and other information, please visit [www.ctaudubon.org](http://www.ctaudubon.org).

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# CONNECTICUT STATE OF THE BIRDS

## CONNECTICUT'S DIVERSE LANDSCAPE: MANAGING OUR HABITATS FOR WILDLIFE

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#### Front cover:

Grassland habitat with Bobolink  
Photo by Paul Fusco

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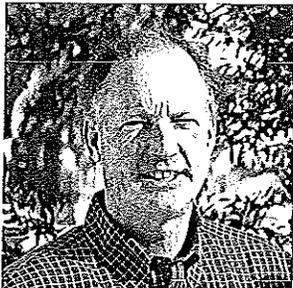
Salt marsh habitat with osprey platform.  
Photo by Julian Hough



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# About The Authors



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**ALEXANDER R. BRASH** is president of Connecticut Audubon Society. He spent nine years as the northeast regional director of the National Parks Conservation Association, was chief of the Urban Park Service for New York City's Parks Department, and worked for the World Wildlife Fund and the Nature Conservancy. Alex has a B.S. in Zoology from Connecticut College and an M.F.S. from Yale; he has also written and edited a number of books and articles.

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**GLENN D. DREYER** is the Charles and Sarah P. Becker '27 Director of the Connecticut College Arboretum in New London, executive director of the college's Goodwin-Niering Center for the Environment and an adjunct associate professor of botany at Connecticut College. He is president of the Connecticut Botanical Society, and serves on the Connecticut Tree Protection Examining Board. Glenn is the author of *Connecticut's Notable Trees (1998)* and co-author of *Greening Connecticut Cities and Towns: Managing Public Trees and Community Forests (2005)* and many professional and popular articles. His professional interests include vegetation management, the problem of exotic invasive woody plants, the cultivation and ecology of eastern North American native shrubs, and Connecticut's big and historic trees.

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DAVID BRANT



PETE MARRA



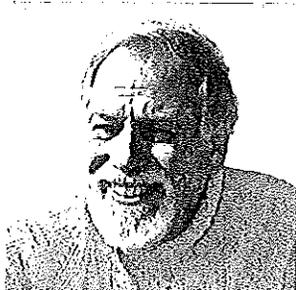
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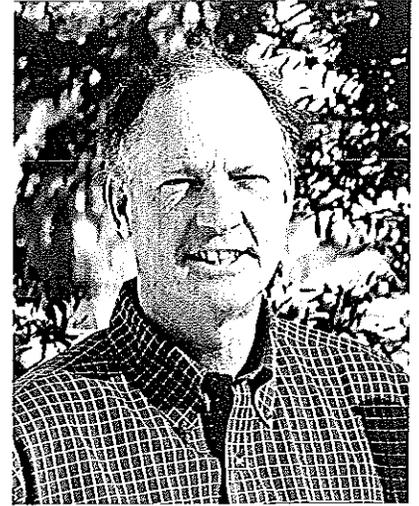


ANTHONY ZEMBA

# Introduction

Alexander R. Brash

President, Connecticut Audubon Society



This *State of the Birds* is for all the residents and organizations that enjoy the wildness of our state and love its fields, forests, wild birds, and native animals. Indeed, as we know, Connecticut is a beautiful state — from the amber grasses gracing our salt marshes each autumn to the iconic hemlock forests that cloak the valleys of our northern hills. With such a palette of natural areas, not surprisingly, the state is blessed with great biodiversity. Red and white trilliums spring up underfoot in the May woods, summer's Chimney Swifts swirl overhead, and against all odds turkeys, coyotes, and black bears have returned to our forests.

Yet, there are also troubling trends. The monarch butterflies no longer pass in great numbers. Aerial spraying for West Nile Virus and the decline of milkweed, the plant they depend upon, has led to their precipitous decline in our region, as well as across the nation. Hundreds of non-native plants such as barberry, bamboo, and mile-a-minute have invaded our woods and fields. The populations of most aerial avian insectivores, such as whip-poor-wills, swallows, and nighthawks, are diminishing. Because of an overabundance of herbivores, our diverse but fragile forests lack a healthy understory. Poor landscaping practices have led to increased erosion, run-off, and the sedimentation of our streams, rivers, and ponds. Insufficient financial support and benign neglect of our state land, public parks, preserves, and other landscapes now imperil these islands in our paradise. Without focused attention and thoughtful management, the forests, fields, and wetlands of our state will spiral into an even greater state of disrepair.

Managing areas for wildlife is a lot more complicated than just letting them go. Because our landscape is already human dominated and no longer naturally balanced, we must determine what we want a landscape to look like, and then actively manage the process to achieve that goal. Succession may be halted through mowing, burning, or other means. Stream beds, ponds, or vernal pools can be built or adjusted. Species may be added or subtracted, populations augmented.

In this *State of the Birds* we seek to make the case for the value of preparing management plans for conservation lands; secondly, to highlight the need to support Connecticut's Department of Energy and Environmental Protection so that they too can make plans for each parcel of state-owned land; and third, to provide evidence that where plans have been drafted they have made all the difference.

I would pause to note, though, that while most of the papers in this report appear to focus on larger tracts of land, in fact even a resident living in an apartment with a balcony, or who has access to a roof, or perhaps a community garden, can bring lessons home from this report. Simply planting more appropriate flowers in a window box, or eliminating non-native species from a roof garden or writing a letter to your elected leaders in support of DEEP will have an impact and cause significant ripples in the larger landscape. Such individual actions not only have their own impact, but just as importantly they stand as a lesson to your neighbors and others.

In conclusion, with this *State of the Birds* Report, we urge the state of Connecticut to complete its open space plan, we appeal to all land owners to act responsibly regarding lands under their care, and lastly, we ask all residents to get involved at any scale and in any role to help keep our state a beautiful one.

Alexander R. Brash



# Are Human Nature and Our Political System Stacked Against Habitat Conservation in Connecticut?

Stephen B. Oresman

Chairman Emeritus

Connecticut Audubon Society

Habitat conservation in Connecticut is poor and is probably getting worse rather than better. Connecticut Audubon's mission is the protection of the state's birds and their habitat. This means preserving lands that are Biological Conservation Units (BCU)—that is, habitats that have full, diverse suites of plants and animals of which birds are only a part, although a key indicator group.

Why is this a problem when in 1997 the state's General Assembly approved an official goal of 21 percent of our area to be held as open space land by 2023? The fact is that currently we really don't even know

how much open space we have. According to the 2012 report of the Connecticut Council of Environmental Quality, "nobody knows how much land has actually been preserved."

*State of the Birds* has always used the best available data and made reasonable assumptions about critical issues while urging the necessity of getting more accurate data quickly, and our best estimate is that we are about two thirds of the way to the goal—that is, about 250,000 acres short. This means that about 25,000 acres a year need to be preserved for the next ten years.

The state does have accurate numbers on its own



Lighthouse Point Park, in New Haven, is one of the state's best sites for watching migrating hawks, despite being roughly three-quarters parking and picnic areas..

lands and it is at 79 percent of its goal. Progress since 2005, however, has been slight compared with the previous 15 years. In 2012 the Department of Energy and Environmental Protection (DEEP) preserved 341 acres and provided grants to others for an additional 740. According to the "Green Plan" prepared by DEEP in 2007, the private partners—municipalities, conservation organizations, and water utilities—were at 58 percent of their goal. Assuming the same modest progress in the private sector as in the public—and there is little to suggest otherwise—we estimate the total open space at 68 percent.

The above "ball park" estimate, however, assuredly grossly overstates the amount of open space that is of high conservation value. A number of factors reduce this value, starting with the numerous alternative uses that are still considered "open space." A substantial part of municipal "open space" may be playing fields, golf courses, cemeteries, mowed lawns, and the like, which are a far cry from a BCU that supports a reasonable biodiversity.

For example, Cove Island Park has a protected wildlife sanctuary, an unprotected woods frequented by dog walkers, softball fields, tennis courts, and large mowed lawns surrounded by walkways as well as beach and shoreline. On a map it is probably all counted as open space. Similarly, New Haven's Lighthouse

Point, one of the best hawk migration watching sites in the state, is partly woods but roughly three quarters picnic area and parking.

*The state is only 2/3 of the way to its open space goals and progress has slowed considerably.*

The "open space" that does support biodiversity is also subject to all sorts of human activities that conflict with habitat conservation, including free-running dogs in grasslands, heavy traffic on beaches with nesting birds, and disturbance by mountain bikers and ATVs. While our state is becoming increasingly forested, the forests are also becoming increasingly fragmented, with a consequent reduction in their habitat value, as described in our 2011 *State of the Birds*. On top of all this we constrain the natural forces of fire and flood that previously managed the habitat so that grasslands and shrublands grew up and wetlands filled in. We have introduced exotic invasive plants that choke out the native ones, allowed excess populations of deer to overbrowse the understory, and encouraged feral and free-roaming cats that decimate the small animals and birds (see our 2007 *State of the Birds*).



JULIAN HOUGH

For open space really to be thriving BCUs, it needs to be managed for that purpose, but currently even less of it is managed for conservation. Even private conservation organizations such as Connecticut Audubon Society are not actively managing all of their land for conservation. While all of Connecticut Audubon Society's space is "preserved," most of it has become actively managed only in the past few years.

*There is no accurate statewide inventory of open space.*

To determine the amount of open space actively managed for conservation of biodiversity, we need to subtract the part of the public space that has other uses, such as golf courses, playing fields, picnic areas, and the like, and then, of the remainder, count only the percentage that is truly managed for conservation. The quantity of this remaining acreage—the true conservation area—is conjecture, but it is likely rather small.

This not to suggest that all of our open space should be devoted to habitat conservation, but we need to refine our open space goals to take into account the various conflicting uses. This task is not going to be easy because, as noted above, there is not even a completely accurate inventory of what we have, although *State of the Birds* has been calling for a complete inventory since 2008.

Finally in 2012 the legislature charged the DEEP

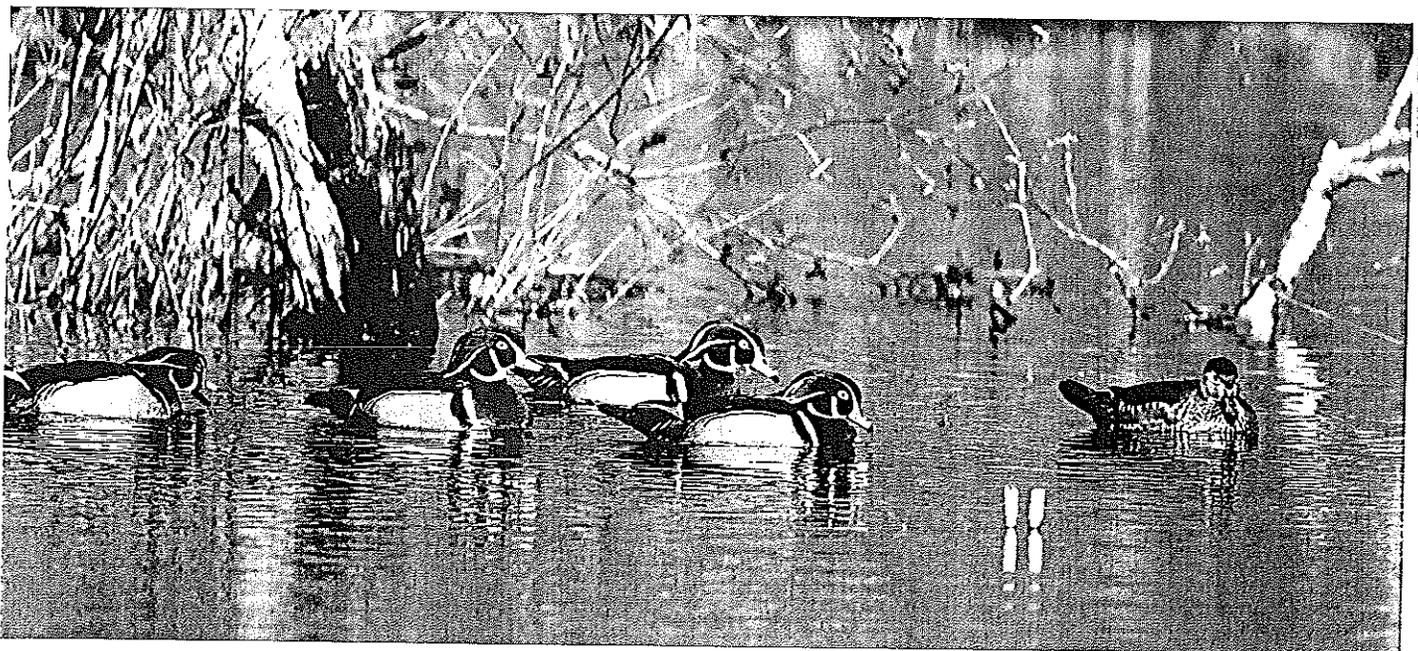
with providing "an estimate of the acres of land preserved" and "priorities for the acquisition of land including wildlife habitat." This is a very good move. However, there is no public target date for completion, and lack of funding has hampered the entire effort.

Why is habitat conservation so difficult? A host of factors militate against action. No one factor is the most important, but they all work together to leave us far short of our stated goals and making little progress toward them, partly because the goals are too imprecise.

It is simplistic to say that birds don't vote, but in a state where the population, governor, and legislature are increasingly urban-centric and more focused on social welfare and jobs, someone has to speak for birds and their habitat. Certainly the state is currently short of funds, but if the above comment seems overly critical please note that most recently the legislature attempted to divert dedicated conservation funds away from conservation and put them in the general coffers.

Another key impediment is that people naturally tend to vote their own interests. Some of this interest is positive for conservation. Duck hunters have preserved 11 million acres of wetlands in the U.S. through Ducks Unlimited. Trout Unlimited does similar work on rivers and streams on behalf of fishermen.

Some interests, however, are counterproductive to habitat conservation. Cat lovers promote and feed feral cats. Animal rights organizations agitate to prevent the culling of overpopulated deer. Some dog owners



PAUL J. FUSCO

Wood Ducks require well-secluded wetlands for breeding.

want to let their dogs run free, and ATV owners have tried to get state lands opened up for their use.

So part of the problem is that the birds and habitat do not have a natural constituency. This is puzzling if you believe the U.S. Fish and Wildlife estimate that there are over 60 million birdwatchers in the U.S. But efforts to tax birdseed for conservation, just as sportsmen are taxed for guns and ammunition and require licenses, has been met with a tepid response. This is partially because, by my careful estimate (based on membership figures from a number of national and local birding organizations), only about 250,000 of those U.S. birders are truly active, and maybe only 750 in Connecticut.

*Much of the open space does not have significant conservation value.*

And with such numbers birders are unfortunately not strong enough contributors to efforts to raise money for conservation. Yet birders get excited when someone messes with one of their favorite birding spots—again the power of self-interest.

With this *State of the Birds* focused on management planning for conservation land use, we know we are taking a risk. Planning requires a lot of detail and easily becomes boring, but it is important. See Anthony Zemba's article for how it's done and David Brant's case study of the plan for the Aspetuck Land Trust.

It is difficult to raise money for land management planning. It doesn't have the appeal of saving the whales or the Spotted Owl. Such appeals have the advantage of touching our emotions or requiring somebody else to do, or not to do, something, as in the case of the Japanese and the Norwegian whalers and the loggers in Oregon but not ourselves. It is also difficult to raise support for something where we will not immediately see the impact. Changed land use and active management for conservation in Connecticut will have an impact, but it will be only in the longer run and effective only for our children and grandchildren.

I have heard intelligent people complain that politicians oversimplify, appealing to our emotions



JULIAN HUGH

*Conservation management planning lacks the emotional appeal of efforts such as saving threatened species like the Spotted Owl.*

and short-run self-interest. This *State of the Birds* runs directly counter to that tendency. What we are promoting is an approach to wiser land use that is complex, detailed, and long-term. The natural constituencies for habitat conservation are the state's land trusts and conservation organizations. They and their members need to push the state government and raise money to plan and manage their own lands.

Please think about it. It needs your attention and support or in this state of ours things will just get worse.

\* \* \* \* \*

# Conservation Planning: A Strategic Approach to Sound Stewardship of Connecticut's Natural Resources

*Susan K. Whalen*

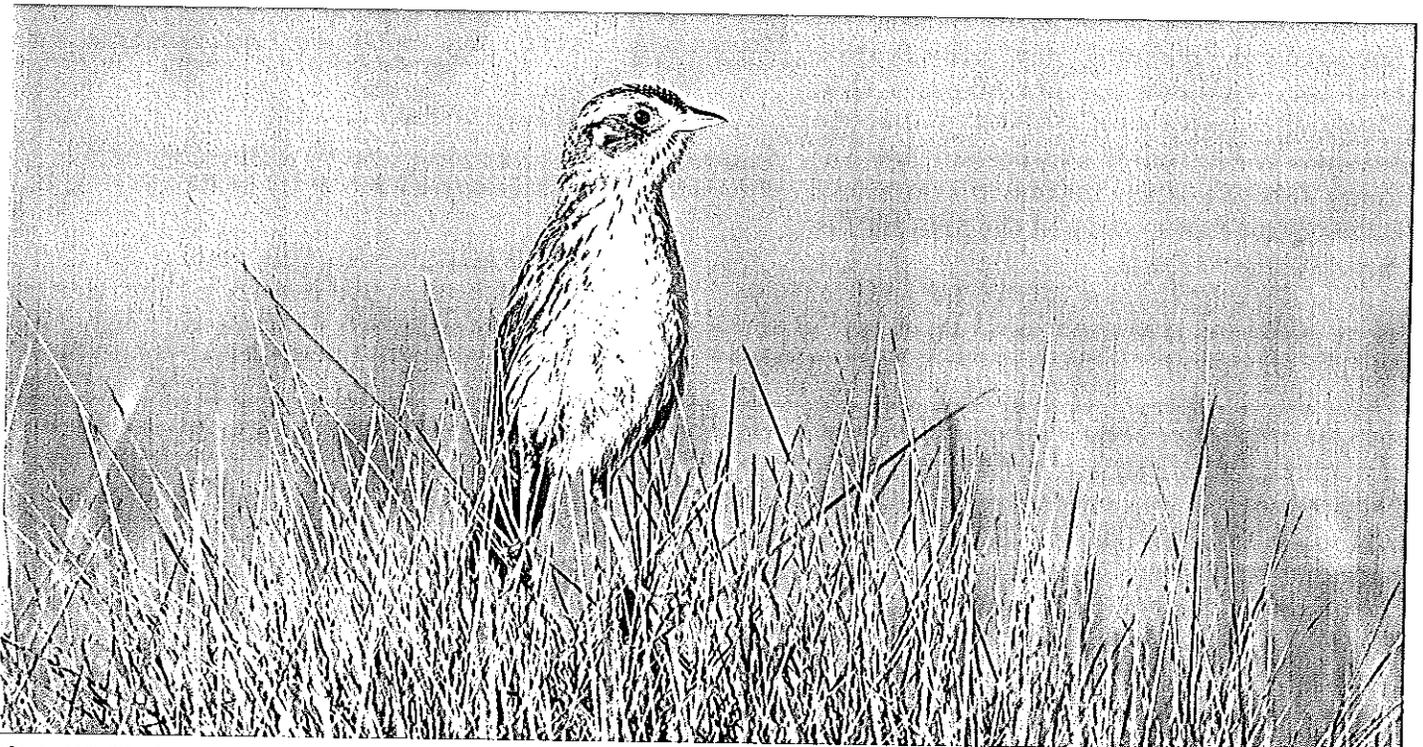
*Deputy Commissioner, Outdoor Recreation and Natural Resources*

*Connecticut Department of Energy and Environmental Protection*

For many decades, conservation planning has been an essential tool of Connecticut's Department of Energy and Environmental Protection, guiding protection of unique natural resources and critical habitats to ensure that the state's biodiversity is maintained. The importance of sound conservation planning is greater than ever before. Connecticut's natural resources face increasing challenges, such as rapid urbanization and increasingly fragmented habitats, a growing demand for recreational opportunities, and new threats from invasive species and emerging diseases. A strategic approach to species and habitat needs and to socio-economic and political variables is vital to achieving conservation goals.

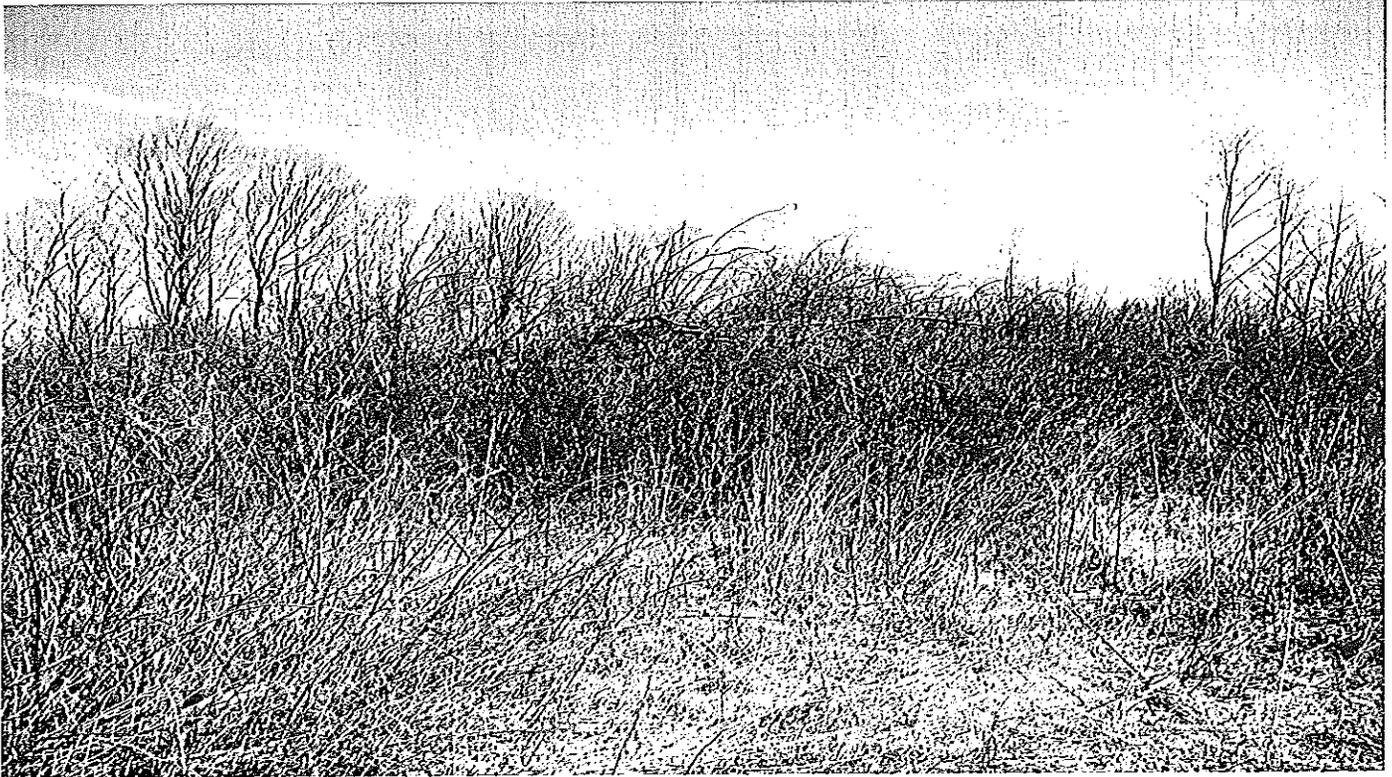
Over the past decade, Connecticut has developed several large-scale conservation plans such as the Statewide Comprehensive Outdoor Recreation Plan and the Connecticut Forest Action Plan that advance conservation goals while responding to public demands for increased use of resources.

One of the department's most all-encompassing plans has been Connecticut's Comprehensive Wildlife Conservation Strategy (CWCS). This document serves as a blueprint for the conservation of wildlife as well as for restoration and management of critical habitats. Completed in 2005 and currently under revision, the CWCS identifies species of greatest conservation need, their key habitats, threats, research needs,



PAUL J. FUSCO

*State Wildlife Grants have benefitted Saltmarsh Sparrow habitat.*



The loss of suitable shrub-scrub habitat, above, has led to the decline of the New England cottontail.

and targeted conservation actions. It coordinates the actions of the department, local land managers, and countless conservation partners to reverse the decline of wildlife populations and the loss of key habitats, to keep common species common, to minimize the need to list species as endangered or threatened, and to ensure that Connecticut's amazing biodiversity is maintained.

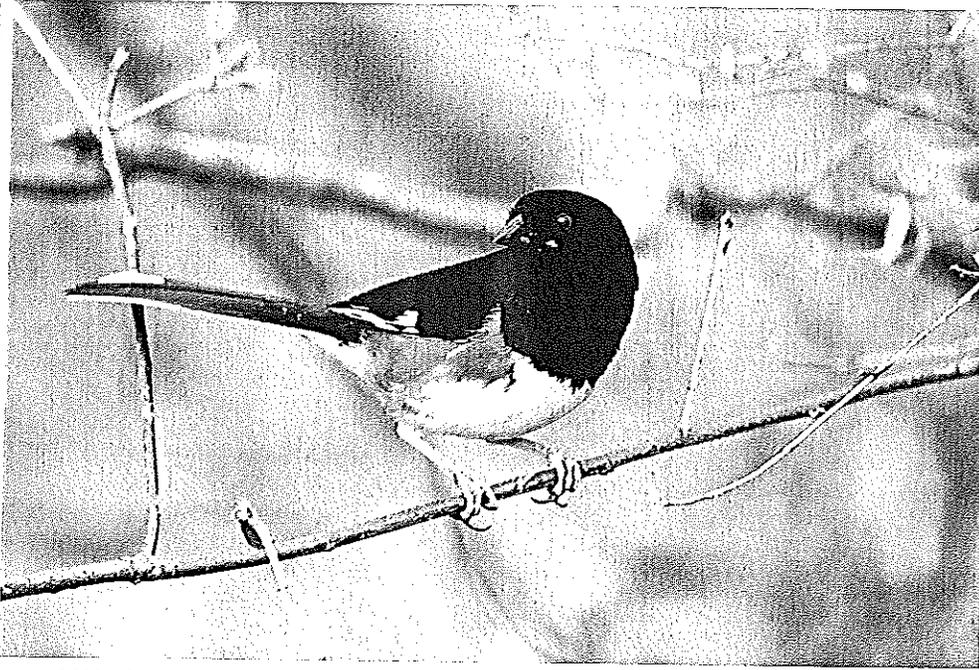
***Over the past decade, Connecticut has developed several large-scale conservation plans.***

This comprehensive wildlife planning effort was completed by all 50 states and U.S. territories in 2005, creating a national framework for the conservation of wildlife and their habitats. Now referred to as State Wildlife Action Plans (SWAP), these strategies were mandated by Congress as a prerequisite to receiving funding through the State Wildlife Grants Program. The approach featured in SWAPs has led to significant innovations, such as efforts to reverse the decline of the New England cottontail, working to rebuild a robust and sustainable population before it becomes endangered.

The New England cottontail (*Sylvilagus transitionalis*), Connecticut's only native rabbit,



was once abundant in most of New England and eastern New York and is currently a candidate for federal listing. Several factors have contributed to its dramatic decrease, notably the loss of suitable young forest or shrubland habitat. This loss is attributed to changes in land use: the reversion from farms to forests, residential and commercial development, and fragmentation. With 90 percent of Connecticut's lands in private ownership, the long-term success of the restoration initiative relies on developing partnerships with private landowners. In recognition of the vital roles of both public officials and landowners, the actions undertaken in SWAPs constitute a regional initiative to protect this species. State, federal, and non-governmental organizations,



Over 20% of all Eastern Towhees in New England are found in Connecticut.

and private landowners are collaborating to identify focal areas for conservation actions, to implement habitat restoration and enhancement projects, to develop captive breeding programs, and to monitor population responses to conservation actions. The benefits gained from these strategic collaborations yield benefits far greater than the focal species or habitat.

*With 90% of Connecticut's lands in private ownership, the long-term success of the restoration initiative relies on developing partnerships with private landowners.*

The Eastern Towhee is one of several birds identified in SWAPs as a species of Greatest Conservation Need that will benefit from efforts to restore New England cottontail populations and the young forest they rely on. This boldly marked sparrow has experienced a seven percent annual population decline across New England, with current populations estimated at less than 20 percent of what they were in the 1960s. They require dense shrubs and small trees for cover and a litter layer for foraging. Connecticut has a conservation responsibility for this species, since approximately 20 percent of all Eastern Towhees in New England are found here. Thus, the partnerships and landscape-scale work being done to benefit New

England cottontails will help conserve the Eastern Towhee and many other shrubland/young forest wildlife and plant species.

Perhaps one of the best examples of the success that can result from conservation planning has been the development of a Regional Conservation Needs program in the Northeast. To address regional conservation needs, states from Maine through Virginia, and the District of Columbia, worked with the U.S. Fish and Wildlife Service and the Wildlife Management Institute to pool a portion of their State Wildlife Grant allocations. The resulting grant program has developed conservation tools such as a regional habitat classification and habitat models, regional monitoring programs, and regional assessment of species and habitat vulnerability to climate change. The collaborative model used for the conservation of New England cottontails has been adapted for species such as the Saltmarsh Sparrow and wood and Blanding's turtles, and to address emerging challenges such as the Ranavirus and fungal dermatitis, which are infecting our reptiles and amphibians.

*Science-based conservation planning continues to be one of the most important ways to protect and enhance natural resources.*

Science-based conservation planning thus continues to be one of the most important ways to protect and enhance natural resources. Critical to such planning is ensuring that the information remains relevant to our conservation goals, and that our conservation plans remain both adaptive and proactive. Only through wise conservation planning can we be good stewards of our diverse natural heritage—maintaining healthy lands, waters, fish, and wildlife for future generations of outdoor enthusiasts.

\* \* \* \* \*

# Managing Our Habitats: What Do We Have Now, and What Makes a Difference?

*Scott Kruitbosch*

*Conservation & Outreach Coordinator*

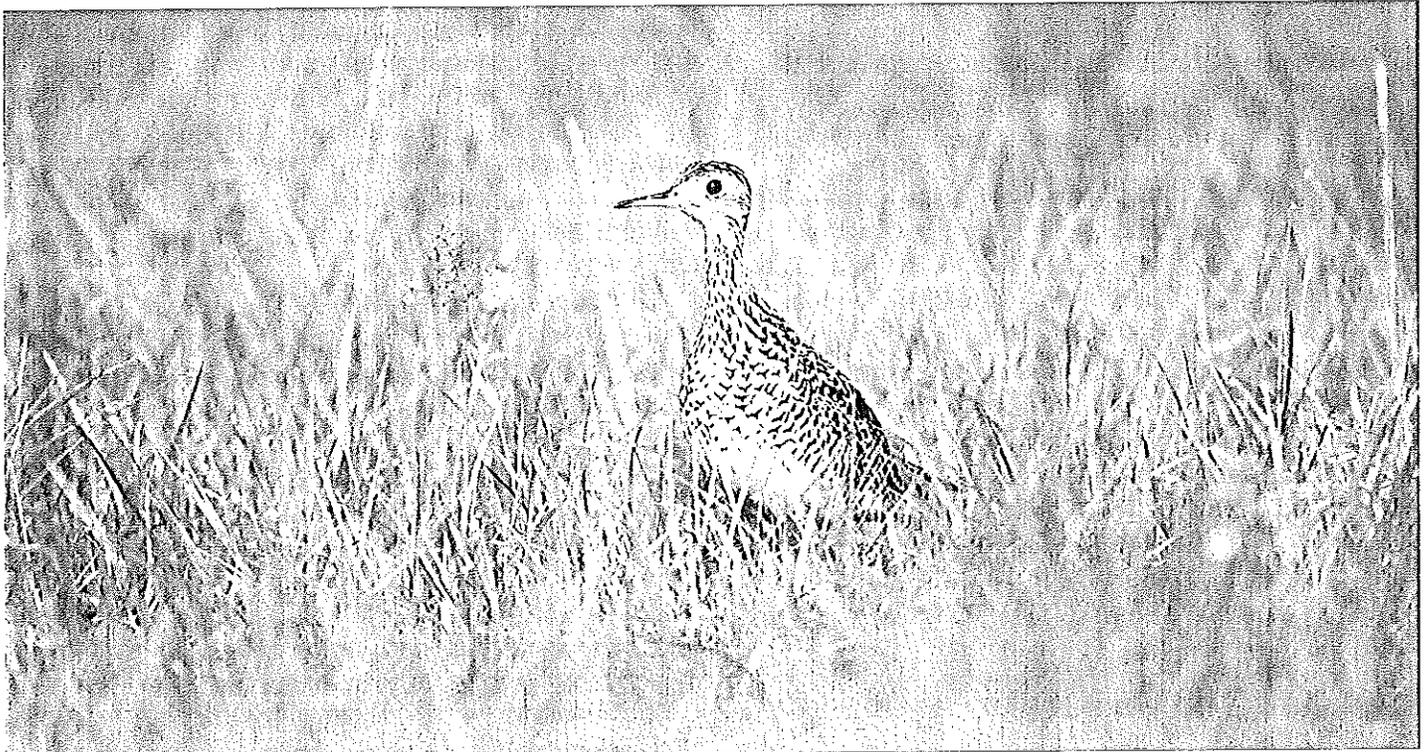
*Roger Tory Peterson Institute, Jamestown, NY*

Conservationists concerned with Connecticut's birds and wildlife habitats are faced with a number of important unknowns as we work to protect declining species and to maintain the populations of species that are still thriving. Conservation of our state's birds requires the active management of a range of habitats, based on scientifically sound surveys and conservation management planning.

But conservationists in Connecticut do not know how much of the state's important conservation land is being actively managed to reach conservation goals. We don't know how much of the state's protected open space has important conservation values. And

even more fundamentally, we don't know how much of the land that has been acquired for open space has actually been legally protected in perpetuity. Without knowing that information it is impossible to set conservation priorities, rationally target new acquisitions, and determine which habitat types are thriving and which are changing because of forest succession.

Unfortunately there is no entity that can provide an acceptable estimate of how much open space statewide is managed for conservation. The best guesses point to the largest portion being unmanaged or undermanaged. Indeed, the term "management" requires a clear characterization. Trimming back shrubs, removing



PAUL J. FUSCO

*Active grassland management is critical to ensure quality habitat for nesting Upland Sandpipers.*



Warm season grasses, such as those that grow in this meadow in Pomfret, require regular maintenance.

invasive plants, and clearing fallen trees from trails may be appropriate forest “management” to a municipality concerned primarily with maintaining walking trails but may fall short of larger conservation ideals.

*Conservation of our state’s birds requires the active management of a range of habitats, based on scientifically sound surveys and conservation management plans.*

Connecticut is the fourth most densely populated state in America. It has been developed extensively, first along its coastline and rivers, and then, in the latter half of the 20th century, in interior sections, as highways were built and suburbs spread beyond the cities. As the amount of valuable but unprotected conservation land dwindles in the face of development, it is vitally important to establish a baseline of existing high quality habitats, both protected and unprotected, as well as a plan for conservation tailored to each tract of open space. If we do not, population growth and development will overwhelm the remaining critical habitats, and the conservation values of preserved land will be lost.

### How much do we have?

In 1997 the Connecticut General Assembly passed a law that set a goal of preserving at least 21 percent of the

land in the state by 2023: “The goal of the State’s Open Space Acquisition Program shall be to acquire land such that ten percent of the state’s land area is held by the state as open space land and not less than eleven percent of the state’s land area is held by municipalities, water companies or nonprofit land conservation organizations as open space land. “Connecticut’s land mass is 3,205,760 acres. Thus the goal is to preserve 673,210 acres—320,576 by the state and 352,634 by municipalities, water companies, or nonprofit land conservation organizations. The Connecticut Department of Energy and Environmental Protection (DEEP) reports that the state has preserved about 255,000 acres. The DEEP also reports that municipalities hold 80,561 acres, conservation organizations 62,276, and water companies 97,584, for a total of 240,421 acres.

The department, however, collects data only on land that is preserved using state grants. That limitation prompted the Connecticut Council on Environmental Quality, which operates as an independent watchdog agency, to conclude that no reliable estimate of protected land existed, and so the CEQ stopped including open space acreage for municipalities, water companies, and nonprofit conservation organizations in its annual report for 2009. “Connecticut’s goal is to preserve 21% of the state’s land area by 2023,” the Council reported, “but nobody knows how much land has actually been preserved.”

In general, the CEQ believes that the DEEP’s estimate of the amount of acreage preserved by municipalities, water companies, and non-profits is too low. Amy

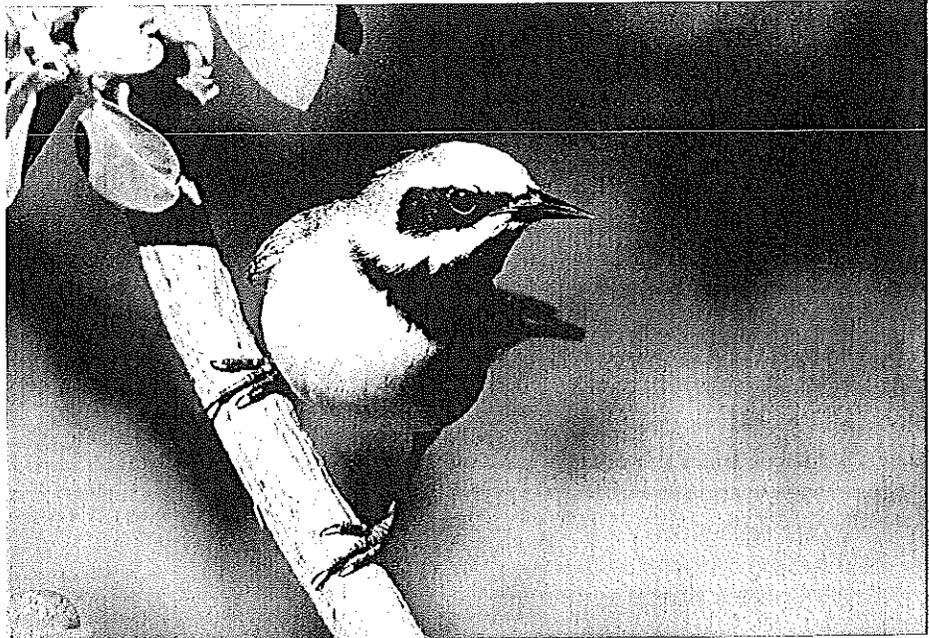
Paterson, executive director of the Connecticut Land Conservation Council, an umbrella organization for the state's 125-plus land trusts, noted that producing a reasonable estimate of open space can be extraordinarily difficult, for several reasons. For one, reporting is voluntary, so if some land trusts and municipalities decline to participate in open space surveys, the amount of acreage will be underestimated. For another, it is widely suspected that municipalities count lands that have no formal permanent protection, thus creating an overestimate of the amount of protected land.

## How Much of Our Protected Land Has Conservation Value?

In addition to not knowing how many acres have been protected, we do not know how much of the protected land is good habitat and what kinds of habitat the protected lands encompass. Nor do we know what percentage of the protected acreage consists of farmland, recreational land, or land preserved primarily to protect scenic viewsheds—legitimate preservation goals that may or may not result in habitat conservation.

To ensure that lands are being managed properly, each of these categories needs to be defined and an effort made to determine how many acres of preserved land fit into each category.

Municipalities struggle with open space calculations, and especially with estimates of land that is managed for natural habitats and how to categorize these properties. As a former member of the Stratford Conservation Commission, I can attest to the ongoing work being conducted to account for, classify, survey, and manage the town's open space parcels while also prioritizing the acquisition of additional lands. Many parks that consist of mowed lawn, ball fields, or playgrounds are included in the count. Other areas are pockets of critical habitat such as forest interspersed with gas and power line rights-of-way that unintentionally support shrub-land birds. Management with the intention of aiding birds and wildlife is in its very early stages at a handful of priority sites. Likewise, land trusts preserve land for various reasons: for wildlife habitat, for watershed protection, for scenic viewsheds, for agriculture, for hiking. Water company lands are likely to have high



PAUL J. FUSCO

*It is difficult to protect Golden-winged Warblers, or any species, if we don't know the conservation value of our open spaces.*

conservation value. Scenic areas, hiking areas, and farmland might also have conservation value—but not necessarily.

## How Much of Our Protected Land is Being Managed According to a Conservation Plan?

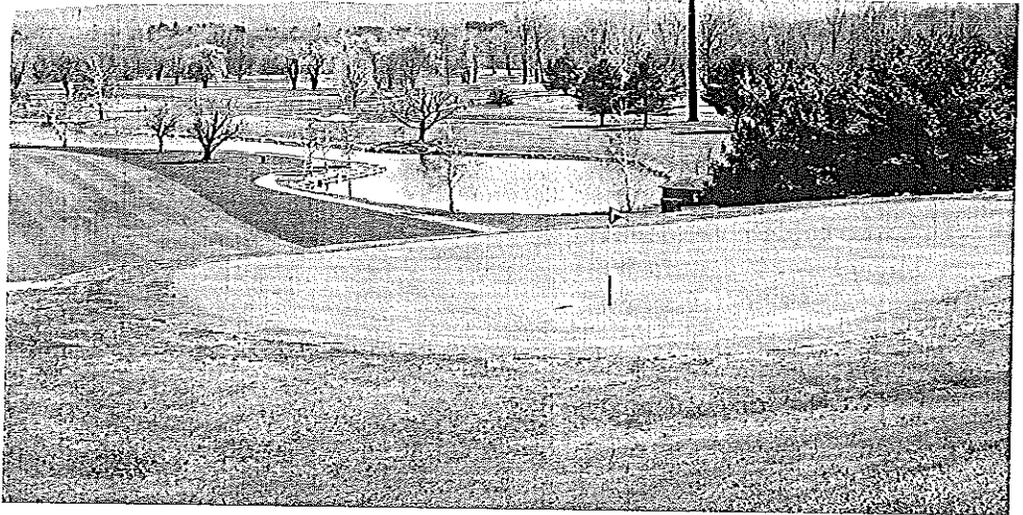
We conservationists also would like to know which of the natural habitats across the state are being managed according to carefully written conservation management plans. As Anthony Zemba discusses elsewhere in this report, biodiversity must be a goal in order for open space management initiatives to be effective. Unmanaged lands will inevitably mature toward mature forest with reduced biodiversity.

Connecticut Audubon Society, which owns 19 sanctuaries covering 2,600 acres, has completed conservation management plans for its largest properties—the 702-acre Bafflin Preserve in Pomfret and the 700-acre Croft Memorial Preserve in Goshen—and they are now moving toward creating plans for our other sanctuaries as well. Connecticut Audubon Society has also written management plans for the Aspetuck Land Trust's Trout Brook Valley Conservation Area (1,009 acres), the town of Orange's Turkey Hill Preserve (376 acres), Stratford Point (40 acres), and several other smaller properties.

## Is Improvement on the Horizon?

The state of Connecticut acknowledged that its open

space program needed improvement in 2012 when it passed a law that requires broad reforms (Public Act 12-152). The law requires the DEEP to come up with an accurate estimate of land preserved by the state, municipalities, water companies, and nonprofit land conservation organizations. It requires the DEEP to evaluate how it can do a better job getting reliable estimates from those non-state entities, including whether a state agency, a university, or a non-governmental organization should take on the task. It calls for a timetable for acquisition to meet



*Many communities count golf courses as open space but their habitat value is negligible.*

the 21 percent goal, as well as plans for managing preserved lands. It calls for a list of the highest priorities for acquisition and it calls for a survey of state lands owned by agencies other than DEEP to determine which properties have conservation value.

*According to the Council on Environmental Quality, "Connecticut's goal is to preserve 21% of the state's land area by 2023," "but nobody knows how much land has actually been preserved."*

The DEEP has also undertaken a Protected Open Space Mapping project (POSM) to catalogue and map all open space properties within Connecticut. Its goal is to update records last completed in 1990 while integrating a Geographic Information System geo-database with data from towns and cities available through the end of 2011. The POSM database will include "land acquired for the protection of natural features of the state's landscape or essential habitat for endangered or threatened species" or "land acquired to support and sustain non-facility-based outdoor recreation, forestry and fishery activities, or other wildlife or natural resource conservation or preservation activities."

However, the POSM project began more than a decade ago and now there are significant problems with its data, according to the Council on Environmental

Quality. The project was designed so that municipalities would be surveyed only once. Now after all these years, some towns have not been surveyed at all and for others it is essentially a collection of snapshots taken over many years. In many cases data collected at the start of the project is already old, and, since some towns protected additional land since, the data is already presumably inaccurate. In the assessment of the CEQ, the project is "moribund."

Land acquisition and preservation in Connecticut have slowed as well. In 2011 and 2012, DEEP preserved 575 and 341 acres, respectively. State grants allowed municipalities to preserve another 1,600 and 740 acres, respectively. As the CEQ noted in Environmental Quality in Connecticut, its annual report for 2012, "this pace is not nearly sufficient to reach the state's goals."

Luckily for those concerned with conservation, suburban sprawl and the pace of land development in general in Connecticut has slowed as well. When development picks up again, municipalities will be under increased pressure to approve new subdivisions and commercial projects, many of which will inevitably be proposed for unprotected green spaces that encompass high quality habitat. Once they are developed, they are lost forever. The pace of protection needs to increase, as does the vital work of assessing which habitats are most valuable and then planning to ensure that those habitats retain or improve their value.

\* \* \* \* \*

# Conservation and Management Plans; Tools for Managing Natural Resources

Anthony Zemba  
Certified Ecologist  
Certified Soil Scientist

In the present-day environment of invasive species, reduced natural floods and fires, and heavy human use, land left unmanaged in Connecticut will likely evolve through succession into single-stand mature forests, with a severely limited array of plants and animals inhabiting them. Many of these properties would probably also have conflicting priorities for use—birding and mountain biking, for example, or dog-walking and habitat protection. At Connecticut Audubon Society, we strongly believe in active management to improve conditions for a number of bird species that rely on specific habitats in the succession toward mature forest.

Active management can also help species that rely on a combination of special habitat attributes that may have been compromised by local, regional, or landscape-level human alterations. We are also strong proponents of reducing use conflicts by directing activities to sections of conserved land where damage can be minimized or avoided. To deal with habitat issues and use conflicts, we rely on scientifically based, carefully written conservation management plans. These plans address ways to preserve and manage a site's natural resources. A good plan defines objectives for a property and guides decision-making as land managers work



JULIAN HOUGH

Wetlands can be restored to enhance waterfowl habitat for many species including this state-endangered Common Moorhen.

to conserve and improve habitats in different stages of succession. It also lays out solutions to manage conflicts between interest groups and uses.

At a minimum, a good plan identifies natural resources, assesses their status, and identifies how management alternatives can reach short-term and long-term objectives for resource protection, conservation, and management. Essentially a good management plan provides the land manager with a framework or steps to achieve overarching goals for site stewardship. Plans typically do not provide specific details on how to implement a particular management technique. Instead, they identify techniques appropriate to the site's attributes, ownership status, human and financial resources,

and the managing entity's mission.

A management plan might identify fire, for example, as having played an integral role in shaping habitat on a site. In Connecticut, fire likely helped create the natural communities of sand plains, oak barrens, and a number of vegetation associations that grow atop ridgelines. Therefore, a plan prepared for those systems might recommend the reintroduction of periodic prescribed burns if evidence suggests that fire has been absent or suppressed for unnaturally long periods of time. The plan would also discuss why this alternative is preferable to mechanical cutting or herbicide application. A management plan, however, would not necessarily provide the details of implementing a prescribed burn (navigating the regulatory permitting process, a health and safety plan, and other contingencies). These details would be included in separate "step down" plans focused on a particular management strategy.

There are many reasons land managers need conservation and management plans. Their needs vary among organizations and their missions, their level of commitment to actively managing the property, and their objectives for land stewardship. Despite these differences, there are a few paramount reasons a land manager should have a management plan:

### **1) Addresses Potential Conflicts**

A plan may be used to help address existing conflicts in land use or, better yet, to avoid implementing land management techniques that might cause conflicts in the future.

Trout Brook Valley Conservation Area, on the Easton-Weston border, is a good example. The 1009-acre preserve, owned by the Aspetuck Land Trust, is heavily used by hikers, dog walkers, bicyclists, and others. Knowing that the conservation area had the potential to harbor sensitive biota or species of conservation concern, Aspetuck contracted with Connecticut Audubon Society in 2011 to study the site, identify natural resources, and recommend the most appropriate recreational uses. Armed with data collected during the process, Connecticut Audubon Society was able to recommend shifting impacts away from more sensitive areas. The Aspetuck Board then used the recommendations as the basis of policy changes for the preserve (see the article by David Brant, executive director of the Aspetuck Land Trust, elsewhere in this report).

Special interest groups, however, often differ over what is an appropriate use of open space and conservation land. Based upon an assessment of the site's natural resources and its species of conservation

concern, a plan can identify appropriate site uses and coordinate them so they are in line with the site's objectives and the landowner's mission. If a particular use seems at odds with the site's goals, it need not necessarily be excluded. A plan can help address the conflict by finding ways to mitigate the impact of the activity. For instance, one might identify areas elsewhere on the site for the proposed use, or identify an appropriate time of year for the use, or identify other ways to avoid, minimize, or mitigate the impacts.

### **2) Organizes and Plans for Time and Money**

A plan can and should help the land manager distinguish between short-term and long-term goals, implement conservation and management measures, and help determine resources needed to implement, monitor, and adaptively manage the proposed measures.

### **3) Provides the Basis for Grant Funding**

In my 25-plus years of natural resource management, I have found that funding opportunities are often advertised with very short response times; and yet the applications often request information on a site's baseline conditions and other details that may not be quickly available. A properly prepared management plan will contain most of this information. Electronic copies of the plan will allow the property manager to cut and paste information from the plan into the application, or allow an appropriate response citing the plan by reference. A professionally prepared plan will also add credibility to the application.

### **4) May be Required by Law**

A good conservation and management plan will provide a road map for resource management for both the short and long terms. The plan should identify the natural resources targeted for conservation and management; the threats to their conservation status; solutions and opportunities to avoid or reduce these threats; the stakeholders in resource management at the local, state, and federal levels; metrics to gauge success of recommended management strategies; and measures for adaptive management. A plan based upon intimate knowledge of the site's natural resources and baseline conditions will provide solid justifications for proper management and thus be more likely to reach the site's conservation goals.



*Marsh bird surveys are an important part of conservation management.*

Examples of qualified personnel who might have the skills to prepare a plan include people formally trained in the natural sciences, such as wildlife management, ecology, environmental science, natural resource management, or forestry. A team representing several of these areas of expertise may be ideal, depending on the site's complexity.

The cost of implementing a management plan will vary according to the site's complexity, size, accessibility, objectives, biological integrity, and ecosystem health. Habitat use by target species may vary throughout the year, and certain habitat types may be used by certain species during limited times, for specific purposes (e.g., foraging, breeding), or both. Survey work should include multiple site visits during all seasons. Costs can range from a few thousand dollars for a few acres in suburban areas, to \$50,000-\$100,000 for large tracts of Department of Interior lands in the Northeast.



*Unleashed dogs on open space land may conflict with conservation goals.*

The results, if implemented correctly, will provide a mosaic of habitats supporting a rich diversity of plants, birds, and other wildlife.

\* \* \* \* \*

# What is a Conservation and Management Plan and Why Do We Need One?

*Anthony Zemba  
Certified Ecologist  
Certified Soil Scientist*

**L**and managers committed to good conservation need conservation management plans for the same reason businesses need business plans, coaches create game plans, and guidance counselors write academic plans. Each serves as a guide to success; in a similar way, a management plan provides a road-map that leads to successful conservation and natural resource management.

A plan provides key information that can help organize goals and outline priorities. A professionally written CMP will provide key information including:

- Baseline conditions
- Conservation goals for proper management of these targets
- Conservation and management targets
- Threats to these targets and ways to manage them
- Roles of key staff
- Methods to engage stakeholders

A properly prepared management plan can break a cycle of inefficiency and ineffectiveness and help streamline operational and organizational goals.

Below are examples, obtained from 25 years of



TWAN LEENDERS/CAAS

*Controlled burning is an effective management tool.*

ecological and environmental consulting experience, of instances when a plan could have helped reach conservation goals.

## **Management Plans Inform Decisions for the Proper Use of Limited Resources**

Managers of some sites in New England manage their sites to attract grassland birds such as Grasshopper Sparrow, Upland Sandpiper, and Vesper Sparrow. Many of these sites have failed to attract these or other grassland specialists as breeding residents, for any of several reasons: because the wrong community of grasses and forbs was chosen for the site's soil texture or drainage class; because the land parcel wasn't large enough to at-

tract and support breeding grassland birds; or because sufficient resources were not available to maintain the site as a grassland over the ensuing years.

Grassland birds require bunch grasses so they can build nests in the stalks and forage for food in the network of runways and passages between the plants. Sod doesn't allow for that kind of foraging. In one example I observed, preserve managers at a site in New England wanted to create grassland bird habitat and decided to sow seeds of grass and forb species

native to the Great Plains rather than to those of New England. The plants grew successfully but, because of the different environmental conditions, they formed a thick sod instead of growing as bunch grasses. So while the plants themselves grew successfully, the restoration site never attracted the hoped-for grassland birds. A management plan prepared by a qualified ecologist would have taken the local soil texture, structure, and moisture regime into account so that the appropriate native plant species adapted to New England climatic conditions would have been selected. Planting the right plants adapted to the given soil conditions will result in obtaining the desired proper growth structure.

## **A Management Plan Could Have Helped a Tidal Creek "Restoration" Succeed**

A major national retailer requested the evaluation of a tidal creek that flowed alongside one of its properties. The goal of the evaluation was to identify opportunities for habitat improvement. During background research, the retailer's consultant discovered that the site had once been the subject of a tidal creek "restoration" project that included channel widening and re-vegetated banks (the word "restoration" is in quotes because the project was not a true restoration: there was no historic information available for baseline ecological conditions, and no reference site used for ecological comparison).

The original planting plan revealed that the land-



PAUL J. FUSCO

*Declining populations of Bobolinks in Connecticut can be addressed with proper land management.*

scape architect had specified numerous trees, shrubs, tidal grasses, and groundcover for the restored creek banks and adjacent intertidal zones. Approximately 15 years later, hardly any of the upland plantings had survived, save for a few specimens adjacent to the parking lot that the site's landscaping contractor maintained. Luckily, most of the intertidal wetland grasses and shrubs survived, stabilizing the site's sediment and shoreline.

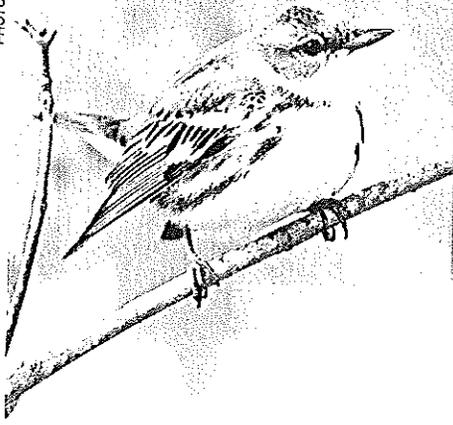
*Entities that own large land holdings may be required by law to assess their natural resources and plan for their management.*

Why did the upland portion of the planting plan perform so poorly? It is likely that the landscape architect did not have proper knowledge of the region's ecological communities in order to select and establish a sustainable vegetation community that would be resilient against the site-specific threats. This is unfortunate, since the cost of the plants, plus the cost of labor for installation, was likely significant.

In view of the full life-cycle costs of addressing the poor performance of the original planting plan and

*continued on page 20*

PHOTO BY PAUL J. FUSCO



*Cerulean Warbler*



**Forests**

PHOTO BY JULIAN HOUGH

A SAMPLE  
**BIF**  
THAT B  
FROM F  
MANAG

PHOTO BY PAUL J. FUSCO



**Tidal Marshes**



*Seaside Sparrow*

PHOTO BY JULIAN HOUGH

PHOTO BY PAUL J. FUSCO



*Golden-winged Warbler*



**Shrublands**

PHOTO BY JULIAN HOUGH

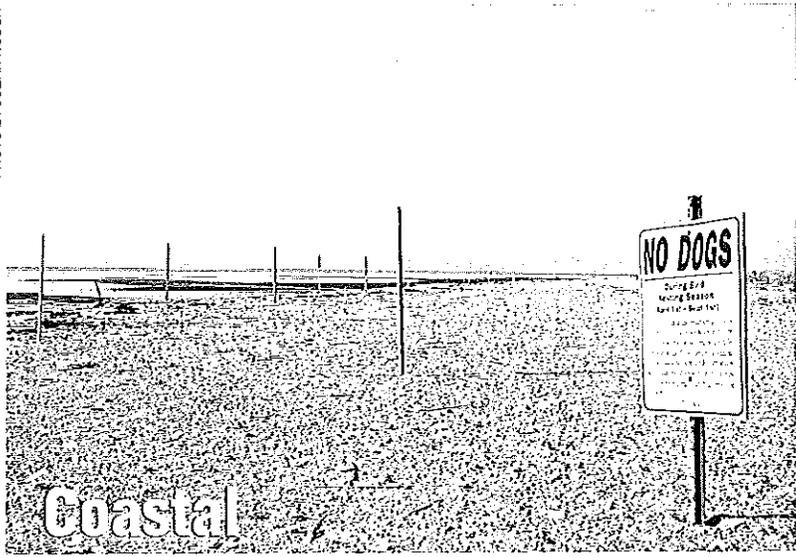


BACKGROUND & FIREMAN  
PHOTO BY TWAN LEENDERS

# LOSS OF BIRDS

# BENEFIT HABITAT RESTORATION

PHOTO BY JULIAN HOUGH



Coastal



Piping Plover

PHOTO BY JULIAN HOUGH

PHOTO BY JULIAN HOUGH



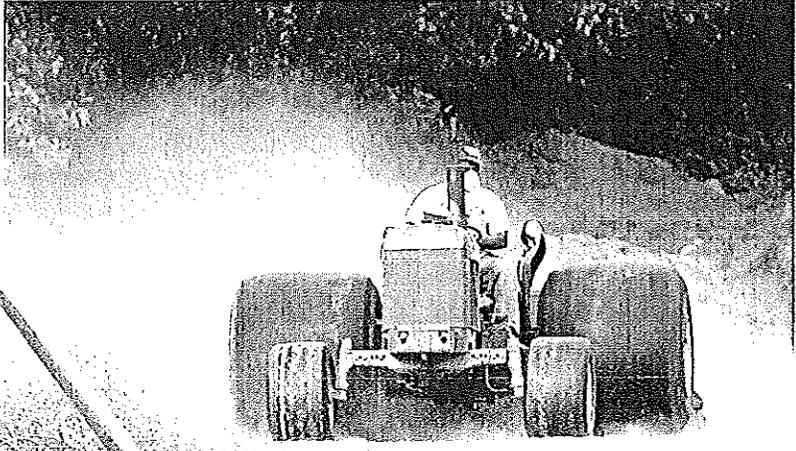
Virginia Rail



Inland Wetlands

PHOTO BY JULIAN HOUGH

PHOTO BY JULIAN HOUGH



Grasslands



Eastern Meadowlark

PHOTO BY PAUL J. FUSCO

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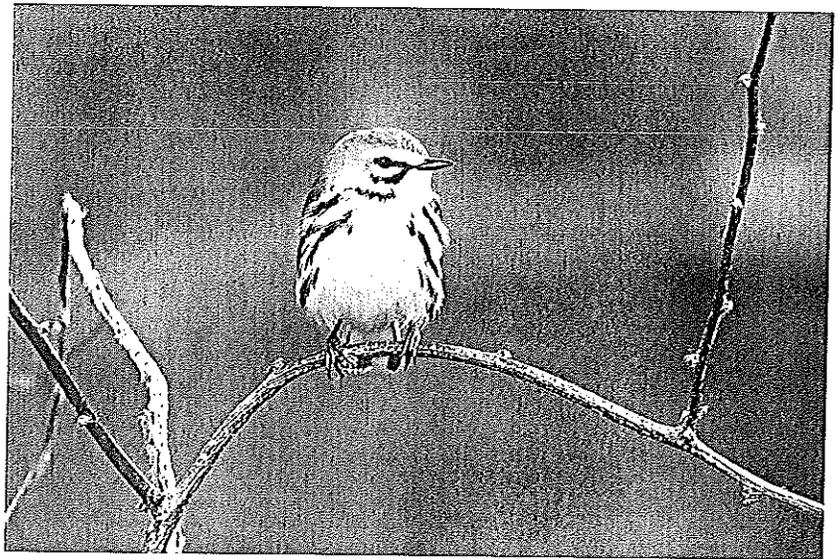
rehabilitating the creek's habitats and ecological communities, it is apparent that a management plan would have saved money, time, and effort, and the benefits of ecosystem services would have been realized. An effective plan would have revealed the proper vegetation associations to use at the site for the creek rehabilitation. The project would have relied on the plan for critical baseline information (both site-specific and regional) on native ecological communities, leading to better plant species selection and ultimately to better survival, growth, and production.

### **A Comprehensive Management Plan Could Have Helped Identify Proper Conservation Targets To Win a Competitive Grant**

A local consulting firm created a conservation and management plan to help guide conservation decisions on more than 28 management units spread over 19 parcels. Based on preliminary surveys, the firm's biologists identified shrubland birds of conservation concern—Blue-winged Warbler, Eastern Towhee, Brown Thrasher, and others—on many of the 28 units.

*The plan can be used to identify appropriate site uses and coordinate them with the site's goals and objectives.*

The land managers were surprised by this finding. They had previously written a grant proposal to create and maintain shrub land on many of these same units in order to benefit Yellow-breasted Chats, an endangered species in Connecticut. The proposal was rejected because the grant maker concluded that the chance of attracting chats was remote. Although the grant maker was correct, many other shrubland bird species of conservation concern would have benefited from habitat improvements or management measures that favor early successional habitat. The consulting firm's recommendations were correct in the plan, and proper conservation targets (i.e., native shrubland songbirds) had been identified correctly. If the land managers had had the plan in hand before writing



JULIAN HOUGH

*Prairie Warblers require healthy shrublands for nesting.*

the grant, they could have written a stronger proposal and convinced the grantors that the proposed conservation measures would benefit multiple early successional habitat species of conservation concern.

As an additional benefit, proper identification of target species would have brought the site into alignment with other identified targets in state and regional planning efforts such as the state's Wildlife Action Plan, or regional plans such as those prepared by Partners-in-Flight. Often, land managers may become aware of available grant opportunities just days before the submittal deadline. Having a completed CMP allows managers to have data available for timely preparation of a grant application.

### **A Comprehensive Management Plan Could Have Prevented a Major Natural Resource Impact**

Some years ago a consulting firm was hired to prepare a comprehensive conservation management plan for a U.S. military base that encompassed numerous wetlands, many of which were of high conservation value. However, in one of the wetlands, the consultant discovered evidence of a restoration project that had been undertaken to reverse what had obviously been a major disturbance.

Military personnel had been driving a tank into the wetland's unconsolidated muck soils specifically to get it stuck so that they could then practice retrieving it. Unfortunately, they did not know that a major fuel pipeline traversed the base in an easement that bisected that wetland. When the tank sank into the muck (which was intended), it also crushed the pipeline (unintended). The result was

a major release of petroleum compounds into the wetland and eventually into the watercourse it drained into.

Also unfortunately, there was no immediate sign of the spill, and it continued unabated for some time. It was not discovered until a utility crew flying routine inspections by helicopter along the easement noted an area of stressed vegetation. By then the damage had been done. Millions of dollars were required to cover the cost of a hydrogeological investigation that delineated the contaminant plume in the subsurface environment; of a remedial feasibility study; of remediation and hazardous materials management; of permitting; of wetland mitigation design and implementation; and of utility repair.



JULIAN HOUGH

*Heavily manicured areas might look nice but they often have little value for wildlife.*

*Essentially the plan provides the land manager with a framework or steps to achieve conservation goals.*

Because of the many wetlands on the base, and because much of the base was used intensively (for things such as driving a tank into a wetland), the base would have been an ideal subject for a management plan. Among other things, it would have identified which wetlands had the most conservation value and which natural resources needed the highest level of protection. It would have required a protocol for monitoring wetland damage incurred during routine military operations. And, most important in this case, it would have included a deed search to identify historical land use and ownership information—a search that would have turned up the easement and the location of the pipeline. Had a comprehensive management plan been completed ahead of time, millions of dollars in remediation costs and untold damage to the wetland and associated watercourses could have been avoided.

It is clear, then, that a properly prepared

conservation management plan can identify and quantify important ecological elements, identify possible threats, and provide recommendations for management, maintenance, enhancement, or rehabilitation. Both humans and wildlife stand to benefit from natural resource protection through sound land management decisions. Among the benefits are improved aesthetics, stabilization of shoreline and sediment, maintenance and protection of clean water, improved fish and wildlife habitat, and a host of other ecosystem services beneficial to man and our environment.

\* \* \* \* \*



PAUL J. FUSCO

*Nesting Least Bitterns indicate high quality wetland systems.*

# A Conservation Management Case Study: Trout Brook Valley

David Brant

Executive Director

Aspetuck Land Trust

Conservation and management plans are important tools for helping land trusts and other conservation-oriented landowners understand the ecological dynamics and complexities of the land they manage. Although in an ideal world every piece of land set aside for wildlife would be managed for the highest habitat use, in reality many land trusts do not have the resources to conduct ecological as-

assessments on every parcel they own. However, when a property is suspected of providing some unique conservation value, or because of its size serves an important role in supporting local habitat, a conservation and management plan is the perfect tool for understanding and maximizing the conservation value of that land.

The 1,009-acre Trout Brook Valley Conservation Area (TBV) in Easton and Weston is owned and managed by Aspetuck Land Trust, which was founded in 1966 to preserve open space in Westport, Weston, Fairfield, and Easton. TBV is surrounded by nearly 10 square miles of connected forestland and forms the core of one of the largest forest blocks in the region. The property includes 20 miles of trails for hikers, cross-country skiers, runners, mountain bikers, dog walkers, birders, and equestrians.

The Trout Brook Valley Conservation Area was created in 1999, when Aspetuck Land Trust led the effort



JULIAN HOUGH

Northern Goshawks use large forest tracts like Trout Brook Valley.

to purchase 730 acres of watershed protection land — situated between two properties previously donated to the Land Trust — on which a developer wanted to build a golf course and gated community. Aspetuck Land Trust raised \$11.3 million from thousands of donors, including \$6 million from the state of Connecticut, to purchase the property from Bridgeport Hydraulic Company. Though the state holds title to 300 acres in exchange for their \$6 million contribution, Aspetuck Land Trust manages the entire property. The Nature Conservancy, Connecticut Audubon Society, and actor and philanthropist Paul Newman and his family supported the effort. Together, the 730 acres and the two tracts it connected became the 1,009-acre preserve now known as the Trout Brook Valley Conservation Area.

Over the years, Trout Brook Valley became an increasingly popular destination for hikers, many of

whom enjoyed walking their dogs off leash. It is important to note that since 1999 dogs had been allowed off leash on the property. As the preserve became more popular, the increasing number of hikers and dogs raised concerns about damage to the preserve's wildlife and biodiversity. In 2012, two fox kits were killed by an off-leash dog whose owner allowed it to go off a designated trail. As a result, the Land Trust asked visitors to keep their dogs leashed until further notice and formed a committee to look at the issue in depth. This decision created much dissatisfaction among the many visitors who were accustomed to walking their dogs unencumbered throughout the property. The issue even attracted the attention of the *New York Times*.

Although the Land Trust had earlier in the year applied for funding for a conservation and management plan from the Connecticut Land Conservation Council and the Land Trust Alliance, the killing of the fox kits and the increasing volume of traffic on the preserve prompted the decision to move forward with this project. The Land Trust was already in the middle of conducting a forest management plan with support from the Natural Resource Conservation Service, but the conservation and management plan would complement this plan and give the Land Trust the information it would need to manage the property for both conservation and public use.

## The Aspetuck Land Trust had Limited Resources

With a volunteer board and just one full-time paid staff member, the Land Trust didn't have the capacity to carry out a conservation and management plan on its own, so it contacted the Conservation Services staff at Connecticut Audubon Society (CAS). Conservation biologists from CAS spent hundreds of hours over four seasons performing fieldwork at the preserve and analyzing data. Their study, which concluded in November



JULIAN HOUGH

*Connecticut Audubon Society biologists found more than 146 species of birds, including Scarlet Tanager, at Trout Brook Valley.*

2012 and required an interim ban on off-leash dog walking during its duration, found Trout Brook Valley to be one of the most important ecological features of Fairfield County.

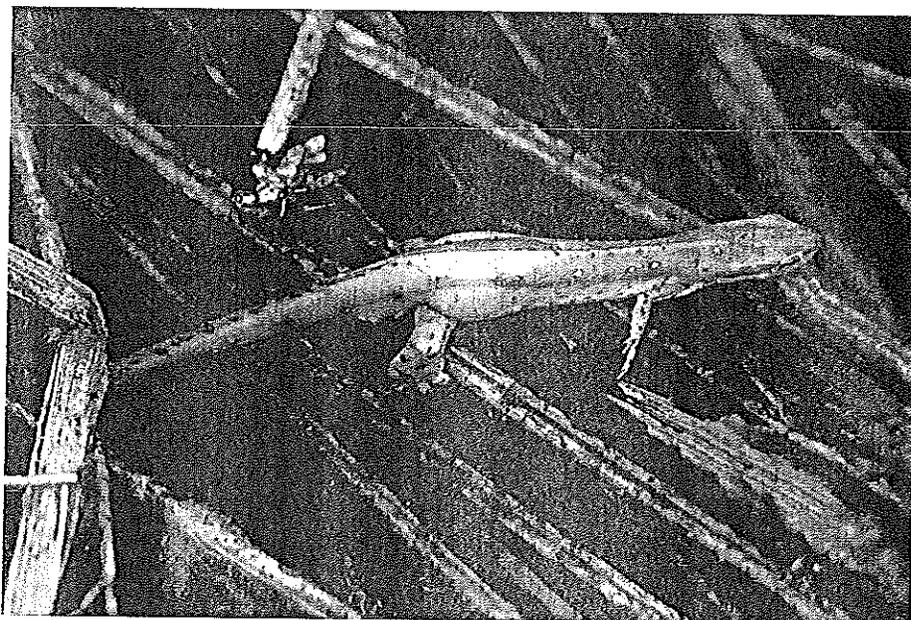
*As the preserve became more popular, the increasing number of hikers and dogs raised concerns about damage to the preserve's wildlife and biodiversity.*

The CAS field team conducted surveys of birds and amphibians, both of which are indicators of ecological health, and assessed the habitat quality and ecological functions of the preserve. The biologists identified a remarkable inventory of species and their habitats—more than 60 ephemeral wetlands and vernal pools, which form the foundation of the forest food chain, and dozens of high priority conservation species such as bobcat, eastern box turtle, tiger spiketail dragonfly, and Jefferson salamander.\*

In addition to a detailed account of what the CAS conservation biologists found, the conservation and management plan also contained an eight-page chapter, "Adaptive Conservation Plan," that sets out guidelines for future habitat management, including

wetland protection, forestry management, invasive species control, stewardship, and outreach. A key section of the plan is its recommendations, primary among them the protection of the vernal pools, which are both the foundation of the preserve's biodiversity and highly susceptible to disturbance.

Hundreds of dogs visit Trout Brook Valley on a busy weekend. CAS research demonstrated that the cumulative impact when they go off trail can be harmful. To prevent dogs from running into the vernal pools, the board of directors of Aspetuck Land Trust voted to make the leash rule permanent. A compromise was reached to allow a two-mile off-leash dog walking loop in the southern portion of the preserve, which was found to be less ecologically sensitive than other parts of the property.



PAUL J. FUSCO

*Eastern Newts use Trout Brook Valley vernal pools.*

***The study found Trout Brook Valley to be one of the most important ecological features of Fairfield County.***

The Land Trust board also decided to close the preserve's red/black trail, which meandered through many of the vernal pools, and restricted the yellow trail to hikers only. To accommodate mountain bikers and hikers who were affected by the red/black trail closure, the Land Trust re-routed, extended, and improved the green/white trail with volunteers from the Fairfield chapter of the New England Mountain Biking Association. Letters were sent to Land Trust members informing them of the new rules and the rationale behind the changes. The Land Trust installed new educational signs throughout the preserve and received funding from the Natural Resource Conservation Service Environmental Quality Improvement Program to implement habitat improvement projects throughout the property.

We at Aspetuck Land Trust see it as our responsibility to manage and preserve Trout Brook Valley for future generations, and we now have a plan to do this based upon the scientific findings in this report. Our next step is to better educate the public about

this unique and important natural resource. Long-term monitoring to assess the impact of these habitat improvement projects will be done in partnership with students in the graduate biology program at Sacred Heart University.

Open-space land is becoming scarcer and public demands on our lands are increasing. As land trusts and conservation groups strive to protect land, the way they navigate the conflicts between public access and conservation becomes more challenging. Trout Brook Valley highlights these challenging dynamics. In the end, the conservation and management plan developed by Connecticut Audubon Society helped the Aspetuck Land Trust find a solution that balanced land conservation and public access. Not everyone was happy with the balance that was struck, but the Land Trust now has much better information on which to base decisions about how to manage the Trout Brook Valley Conservation Area.

*The Aspetuck Land Trust (ALT) was founded in 1966 to preserve open space in the towns of Westport, Weston, Fairfield and Easton. ALT maintains 45 trailed nature preserves and other conservation-only properties on over 1,700 acres of land and is supported by contributions from nearly 1,000 annual members. Learn more at [www.aspetucklandtrust.org](http://www.aspetucklandtrust.org)*

*\*The complete conservation and management plan along with a video of some of the wildlife on the preserve can be found at [www.aspetucklandtrust.org](http://www.aspetucklandtrust.org).*

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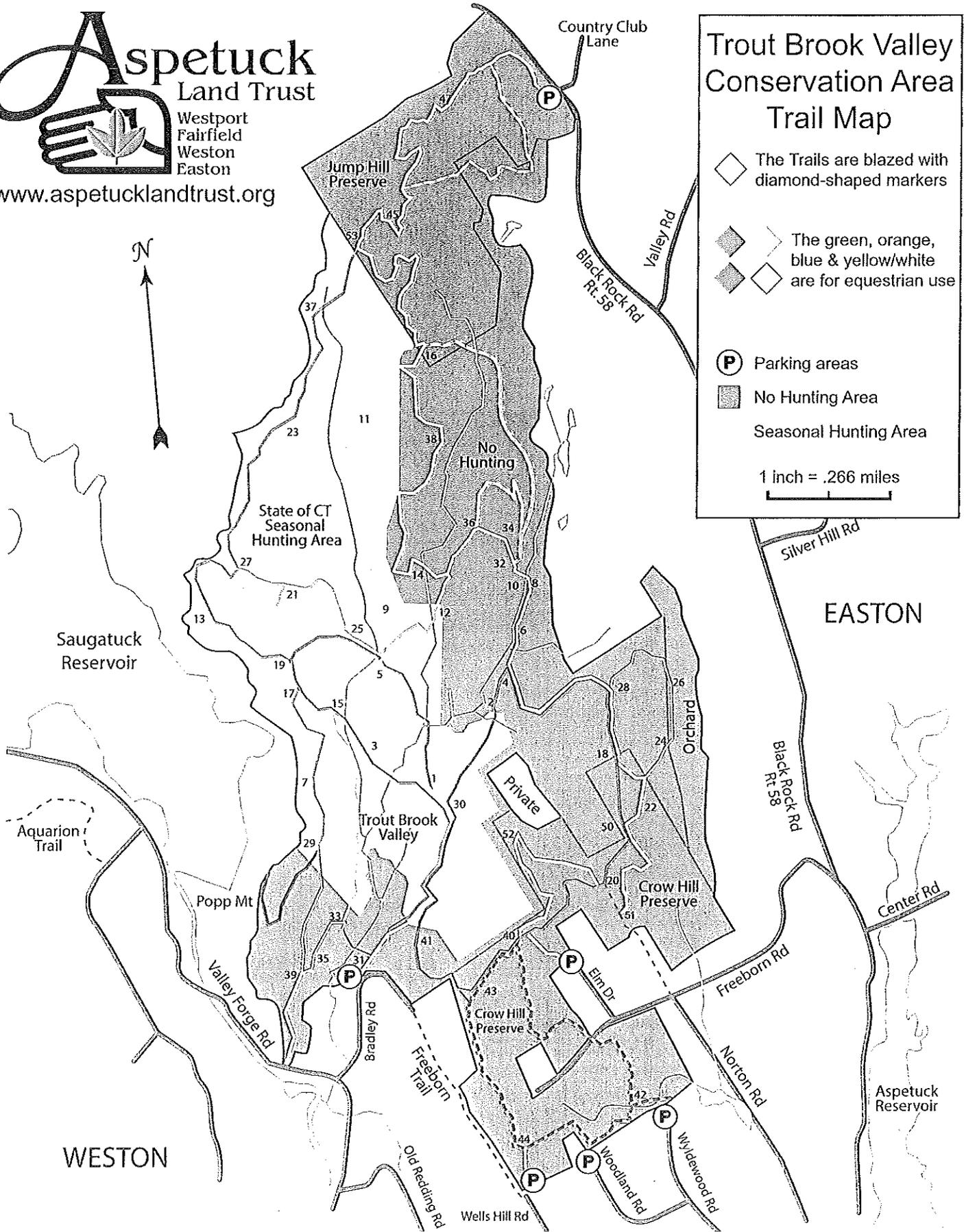
# Trout Brook Valley's Land Supports Significant Biodiversity



### Trout Brook Valley Conservation Area Trail Map

- The Trails are blazed with diamond-shaped markers
- The green, orange, blue & yellow/white are for equestrian use
- Parking areas
- No Hunting Area
- Seasonal Hunting Area

1 inch = .266 miles



# Chimon Island: Bird Paradise Lost

Peter Marra

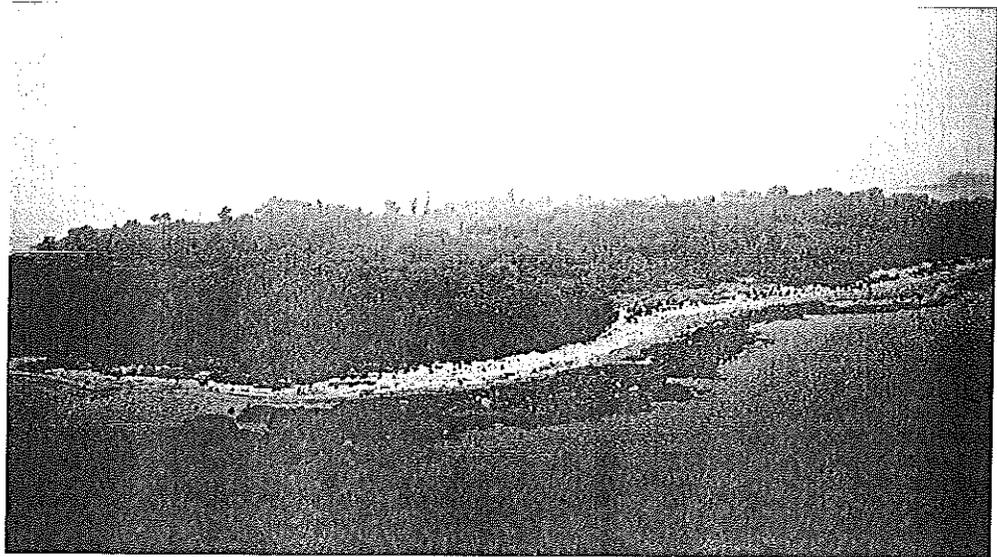
Research Scientist

Smithsonian Migratory Bird Center, Washington, D.C.

Chimon Island sits just shy of a mile from the Connecticut mainland. It's one of the larger islands of a small archipelago outside Norwalk Harbor. It was 1984 and I was working for Connecticut Audubon Society, living on the island and studying its breeding birds, largely the herons but also the gulls, terns, and songbirds that made Chimon and neighboring islands their home. I shared one of the old and dilapidated houses on the island with Norway rats, raccoons, and a barn owl. Occasionally I would make the trip to shore for fresh drinking water and perhaps a treat of a few refrigerated items that don't last without electricity, like a cold beer.

*The familiar sounds of the Herring Gulls and Black-backed Gulls or any of the eight species of herons that typically deafen the air with their calls were nowhere to be heard.*

On this occasion I went to shore the evening before and also treated myself to a shower and bed. When I arrived at the dock early the next morning I wasn't deterred by the dense fog. I sat in the stern of my 18-foot metal canoe and pull-started the outboard mounted on the side. I could barely make out the bow of the boat as it cut through the glass-like water. I had left my compass on the island the previous sunny afternoon. It's a straight shot from the marina to Chimon so I wasn't concerned. As a smart-ass 20-year-old I depended on



Chimon Island is one of the largest of the Norwalk islands.

PHOTO COURTESY OF THE AUTHOR

my internal compass.

The ride typically takes 30 minutes or so even during a busy boating day. I figured I would make it in 20. I remember the moment distinctly: I looked at my watch – over 60 minutes had passed, and still no sign of land. Something wasn't right and my heart started to beat a tad bit faster.

It also occurred to me that all I was hearing was the low, muffled sound of my outboard. The familiar sounds of the Herring and Black-backed Gulls or any of the eight species of herons that typically deafen the air with their calls were nowhere to be heard. The 1000-plus pairs of gulls that nested along the shores and the hundreds of herons that nested in the interior of Chimon also create a stench that blanketed the island much like the fog. I didn't smell that either. I continued another 15 minutes and it became clear that I had missed the island. Maybe I was heading for the Port Jefferson smoke stacks or, worse, due east toward Orient Point. In either case, I would run out of gas and be at the mercy of the current.

Luckily, none of this happened and I soon ran into the bow of a lobster boat with a friendly lobsterman

who knew exactly where he was. He let me tie up next to his boat for about an hour, shared coffee and stories (no lobsters), and we waited. The sun eventually burned off the fog and I learned where I had erred. I clearly should have been more careful and managed my circumstances differently. Situations often change and we need to respond to those changes in appropriate ways. It's a simple but profound lesson I carry with me to today.

I spent three wonderful summers during my undergraduate years at Southern Connecticut State University living on the island and collecting data on the nesting colonies. Data, I liked to believe, that would eventually help convince state and federal legislators to preserve the island and the nesting sites forever in the name of Stewart B. McKinney. The fragile populations of birds that nested there would always find a refuge along the bustling Connecticut coastline to breed and produce their next crop to sustain these wonderful species. At least that was the hope.

Then things began to change on Chimon. Change, of course, is always happening—whether to a city park or river channel or a protected habitat—and it can be good or bad depending on your perspective. But much like my adventure in the canoe, how, when, and if we respond to change is what matters.

I was lucky. Unfortunately the colonial birds that depended upon Chimon Island were not. It's not clear



PHOTO COURTESY OF THE AUTHOR

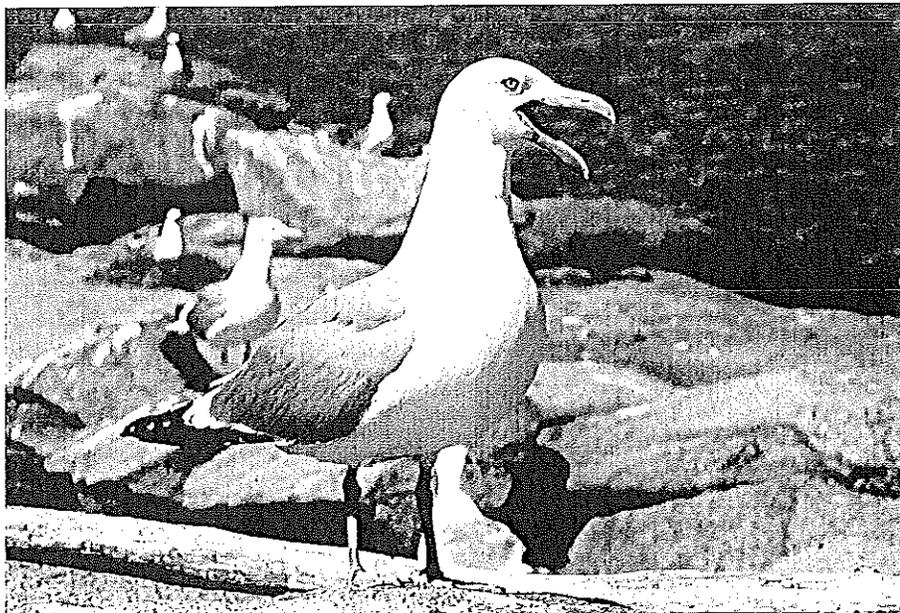
*The author on Chimon Island in 1993.*

when it happened, because as the years passed there had been little to no monitoring of the plant and animal populations on Chimon. It seems the approach had been to protect the island but to let the species fend for themselves. The breeding colony of herons and egrets disappeared. Likewise, the thousand pairs of Herring

*Chimon Island became a U.S. Fish and Wildlife refuge but was not managed, so the birds deserted.*

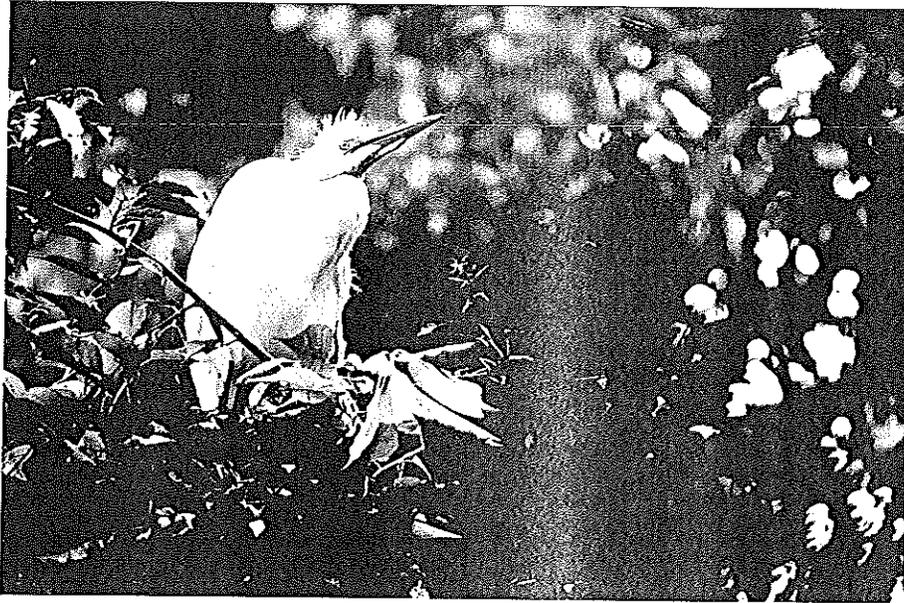
and Black-backed Gulls that nested along the rocky shores bordering the islands vanished.

Colonial nesting species are known to be quite sensitive to disturbance. Raccoons eat the eggs and young of nesting birds and can wipe out a colony with surprising ease. Deer devour everything vegetative from the ground to heights reaching three meters, making it easier for invasive plants, such as English and poison ivy, typically not eaten by deer, to kill trees critical for nesting. When the populations of raccoons, deer, and invasive plants exploded on Chimon, the birds did what their evolved responses had trained them to do—they abandoned the site.



PAUL J. FUSCO

*Herring Gulls were among the 1,000 plus pairs of gulls that formerly nested on Chimon Island but deserted due to raccoon predation.*



Great Egret fledgling at rookery on Chimon Island ...

## At Chimon, They Never Came Back

The unfortunate thing is that the problem could likely have been avoided with good conservation planning and management of the pest species.

Many species of plants and animals are now almost completely reliant on management actions for their survival – especially endangered species. Take the migratory Kirtland’s Warbler, for example—a species that breeds in the Jack Pines of the northern Upper Peninsula of Michigan and winters in the Bahamas. After its population had been reduced to a mere 200 birds in the 1970s, only the annual removal



... Great Egret fledgling killed by a raccoon in July 1992 on Chimon Island.

of cowbirds and the use of tractors (instead of dangerous fires) to manage their preferred tree, Jack Pine, enabled the population to recover to 3,500 warblers today.

The list of plant and animal species reliant on management actions is large and growing, especially for those species living in human-dominated ecosystems where change is often frequent and severe. Conservation scientists and land managers need to make choices with regard to when and where we impose management to protect certain species. Whether it’s management of exploding pest populations (raccoons, cats)

or habitat modifications, most species live in some form of human-modified

environment. These organisms create the ecological integrity of the ecosystems that we ourselves depend on as humans.

*Many species of plants and animals are now almost completely reliant on management actions for their survival.*

We need to decide if we want to sit by and watch as we lose populations and species. We need to decide if we value the breathtaking vision of paddling around a bend on one of the rivers in Connecticut and glimpsing a Great Egret spearing a fish. We need to decide if that’s something we want our kids and their kids to see. I know I do.

This will require more engagement, better conservation management planning, more monitoring and restorations, and more investment in how we manage our wildlife – whether it be on the islands that dot the Connecticut coastline or in remnant parks in urban areas. Nature is resilient, but sometimes we have to help it along to give it a chance.

\* \* \* \*

# Planning a Tidal Marsh Restoration

## *A Question and Answer Interview with Tom Steinke*

*Director of Conservation*

*Town of Fairfield*

For decades as Connecticut's population grew, communities allowed tidal marshes along Long Island Sound to be filled or drained to make room for new development. But in the 1960s, the state of Connecticut began regulating the use of tidal marshes and also encouraged local communities to acquire and protect open space.

The Town of Fairfield, with more than 600 acres of marsh, worked with the Yale School of Forestry & Environmental Studies on plans for protecting and restoring its wetlands. It took almost the entire decade of the 1970s, but eventually plans were complete, funds secured, permits acquired, and public support solidified. The result was an ambitious and successful project to restore the town's marshes. Connecticut Audubon asked Tom Steinke, the Town of Fairfield's conservation director, to explain. He began with an account of the damage.

**Tom Steinke:** The diking and filling of the coastal wetlands eliminated the tide. All the salt water was gone; the rain would leach the salt out of the peat; vegetation changed from saltwater-tolerant to freshwater-tolerant; the loss of the scouring power of the tide allowed sedimentation of the creek channels; the road salt and sand coming out of the storm sewers caused sedimentation, which resulted in backflooding of the marshes. The water couldn't get out right away and it would sheet-flood across the

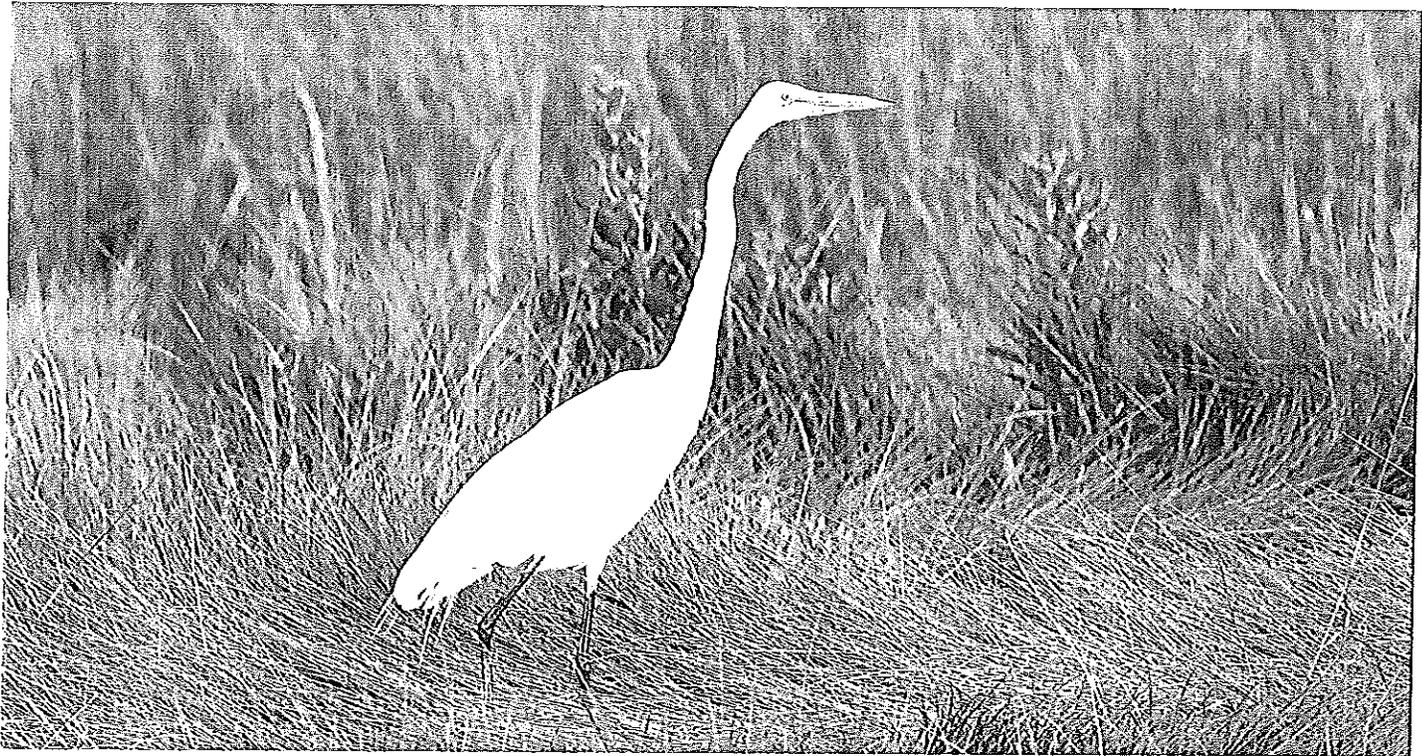


JULIAN HOUGH

*Phragmites, an invasive that greatly reduces biodiversity.*

marshes into backyards. And when that happened, because the sediment had filled the channels, and the phragmites' root systems had eliminated the ability of fish to come in and eat the larvae and pupae of mosquitos, we created a tremendous mosquito problem. When the vegetation changed from the low *Spartina* marsh grasses to phragmites, we had annual fires that would burn 20 acres in 20 minutes; it would burn garages and cars and pools, decks behind the houses. The loss of scouring allowed the debris to get hung up in the dikes, tide gates, and culverts. All the bridges got silted in. The water that sheet-flooded the marshes often backed up in the storm sewers and came up in the catch basins on the side of the roads and flooded the roads.

All of this was picked up by the team from Yale Forestry & Environmental Studies. The town did achieve flood protection for about the 20- 25-year



JULIAN HOUGH

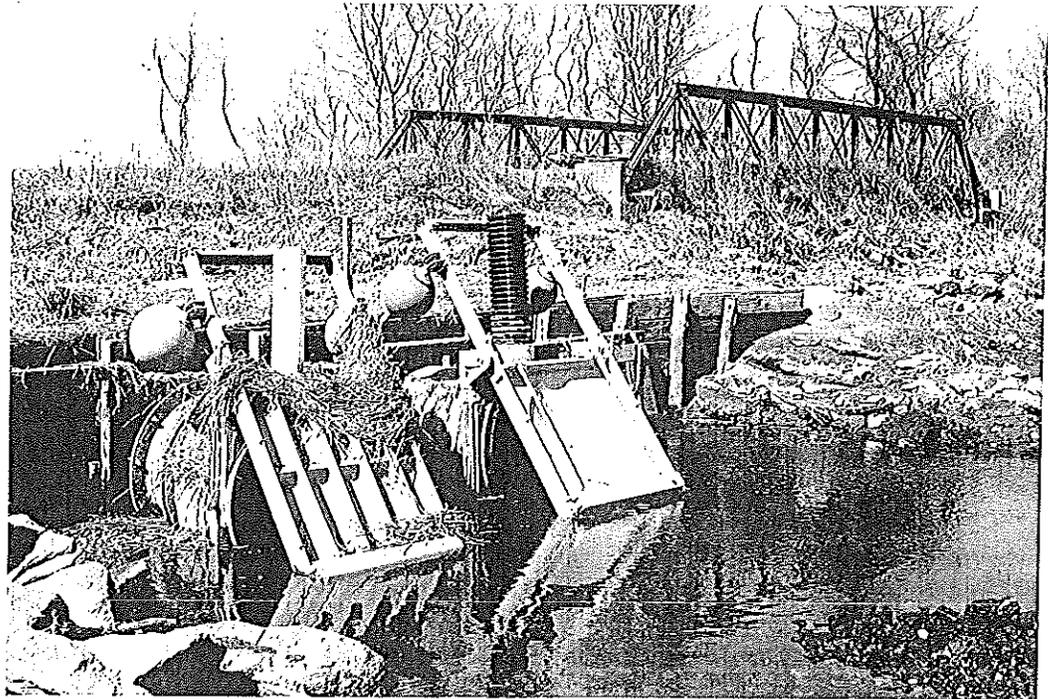
*Great Egrets thrive in restored salt marshes.*

storm, but it introduced ecological loss at the Pine Creek and Ash Creek marsh systems, and created public health and fire hazards.

**Connecticut Audubon:** So what was proposed?

**Tom Steinke:** Once you look at what to do about that, the answer is essentially to restore the natural conditions to the degree that you can.

The first thing Yale recommended was removal of the dike systems. When I got here, in '71, the contractor was just completing the Pine Creek dike. The town had anticipated that it would dike off the marshes, strip off the peat, and excavate the sand and gravel underneath for highway construction. Then they would backfill the excavation with garbage for waste disposal and create a park or public recreation area on the top. Those plans went awry when the state of Connecticut, in



TOM STEINKE

*Self-regulating tide gate.*

1969, adopted the state tidal wetlands act. That was the end of the marina expansions, the dumps, and the wetland development that property owners had anticipated. ...

We eliminated the old tide gates and put in more self-regulating tide gates. That allowed the saltwater



*Ospreys returned to the restored marsh.*

to go back into the marsh systems, restore all the scouring, eliminate the phragmites, eliminate the fires, eliminate the mosquitoes, and restore the fish, shellfish, and wildlife.

**Connecticut Audubon:** How long did it take from the time the town changed the tide gates to when the marsh began showing signs of being restored?

**Tom Steinke:** The day after.

**Connecticut Audubon:** Did the benefits continue to build over time?

**Tom Steinke:** Oh, yeah. You'd see the elimination of the phragmites. The marsh systems we have are predominantly peat—peat and muck: peat roughly three to five feet thick over muck going down to 35 feet. When you dike a marsh, you eliminate the tide. You lower the water level in the peat, which allows the peat to drain. And as it drains and dries out, it oxidizes and it subsides. In some areas of Pine Creek, we went down 18 inches after it was diked. If you put the normal tide back into an area that has subsided a foot and a half, you have a lake at high tide. We didn't want that. So now, instead of opening everything up through all these redundant systems, we're trying to fine-tune it with valves.

We're trying to reproduce, essentially, what nature did through friction and channel restrictions in the normal tidal marsh system.

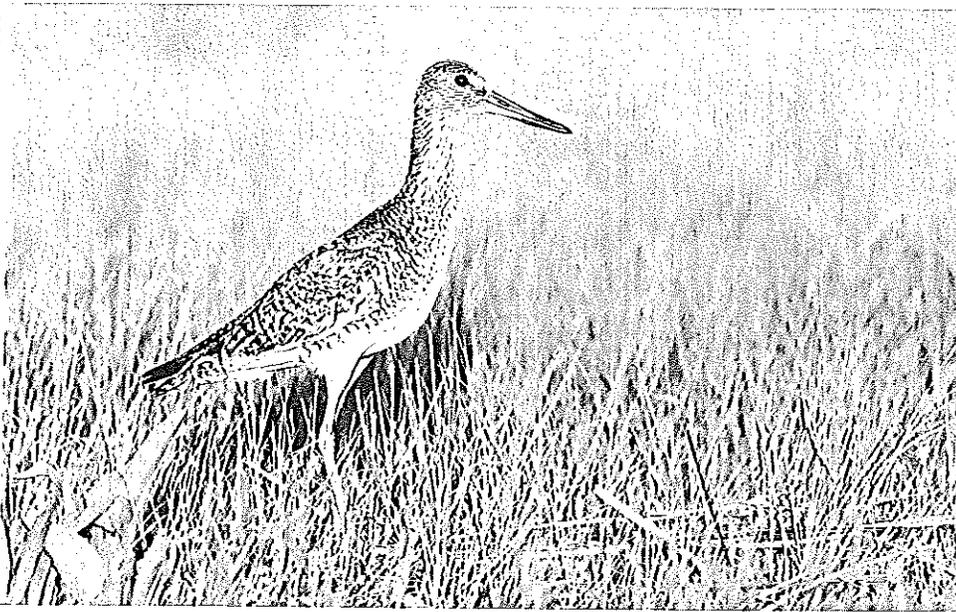
Once you go in and mess around with a natural

system, it's very difficult, and probably not even possible in many instances, to restore the natural condition. But you will get back to something that is aesthetically pleasing and more functional. You'll have Ospreys nesting. You'll have Salt Marsh Sparrows coming back. No more fires, no more phragmites, no more tremendous mosquito breeding problems.

*You'll see support from property owners who used to be plagued with mosquitoes and fires.*

**Connecticut Audubon:** Once you re-flood the marshes, are there measurable biological changes right away? What happens first?

**Tom Steinke:** The first day you've got fish and crabs and shrimp moving in. The tides coming in and moving out strip off the muck and you can see the sand and gravel being exposed beneath it. Each growing season, phragmites would drop from one to three feet, so if it's 13-, 14-, 15-foot high when you start, each year you're seeing about a three-foot drop down. It gets down to an equilibrium point at about six feet where it holds on for four or five growing seasons. It's using up all its reserves in the roots and the stems and then—bam!—it goes right down. Within 10 years you would not know



*Willetts can be found in healthy salt marsh habitat.*

you were out on a restored marsh — most people would not know.

**Connecticut Audubon:** What would you like to do next?

**Tom Steinke:** We still have about 100 acres to go, in Pine Creek. On the 50 acres east of the dike off Fairfield Beach Road, we'd like to see the tide gates redesigned to let the tides in. On Old Dam road, there are 50 acres there that should be restored. We know they can be.

**Connecticut Audubon:** Do opportunities exist for other communities to do this?

**Tom Steinke:** I've seen it in Milford, in Stratford. The state, at Silver Sands State Park, for example, they've been at that for years and been very successful. The West River, between West Haven and New Haven — they've got, I think, a dozen tide gates and I think they've retrofitted three self-regulating tide gates. And all of the state parks on the coast have had attention.

You'll see support from property owners who used to be plagued with mosquitoes and fires. The fire department hasn't been called out in probably 20 years for a marsh fire.

When an addition goes up,

you'll see a picture window on it over the marsh, or the deck is being extended toward the marsh; the improvements to the property are usually on the marsh side of the lot. You'll see in the real estate advertising: "Beautiful views over restored marshland." It's a boost for everybody.

**Connecticut Audubon:** So sound conservation management planning has resulted in tangible benefits beyond just biodiversity.

\* \* \* \* \*



*A healthy restored salt marsh in Fairfield.*

# Sound Grassland Management Requires a Solid Scientific Research Base

## *Evaluating Grassland Restoration by Seed in Southeastern Connecticut*

Glenn D. Dreyer

Charles and Sarah P. Becker '27 Arboretum Director  
Connecticut College

*Editor's note: Habitat management plans require not only fieldwork but also a review of the scientific literature. However for some habitats there is little or no literature to review. That's what Glenn Dreyer of Connecticut College found when he and his colleagues started a grassland restoration project in Waterford. The paper they subsequently published (in the journal *Natural Areas*, Jones et al. 2013) helps to fill that knowledge gap for future researchers. His article below is based on the published paper.*

The Connecticut College Arboretum has been engaged in ecologically based vegetation management since the early 1950s, over an increasingly large tract of land that now totals about 600 acres and surrounds the developed campus on three sides. Only about 35 acres are cultivated for plant collections, with the rest in a natural or lightly managed condition. Six decades ago Richard Goodwin and William Niering established long-term research projects that monitored plant and bird populations in unmanaged preserves and utilized controlled burning and selectively applied herbicides to manipulate vegetation elsewhere. Along with Frank Egler in Norfolk, they pioneered the application of plant ecology principles and species biology knowledge to vegetation management.

Over the past century the vegetation cover on former agricultural lands has developed into forest over much of New England,

and the Arboretum property was no exception. Early in the present century we came to understand the conservation value of "early successional" – i.e., non-forested – habitat to a suite of animals and plants that were becoming increasingly uncommon. In 2003 we developed a plan to expand some existing open Arboretum fields located near the Thames River



PHOTO COURTESY OF THE AUTHOR

Nels Barrett, USDA, sampling a plot on the Connecticut College Arboretum property.

and Mamacoke Island in Waterford. While portions of the fields only needed encroaching young forest growth to be cut back to perimeter stone walls, we also decided to open a four-acre area that had some older trees but was mostly engulfed by the now typical woody invasive plants, including Asiatic bittersweet (*Celastrus orbiculatus*), privets (*Ligustrum spp.*), multiflora rose (*Rosa multiflora*), and shrub honeysuckle (*Lonicera morrowii*). This work eventually resulted in about 12 acres of contiguous grassland and savanna habitat.

Working with Nels Barrett, an ecologist with the USDA Natural Resource Conservation Service Connecticut office, we received a Wildlife Habitat Incentive Program (WHIP) grant that reimbursed us for approximately 25 percent of the cost to clear and seed the new field with a mixture of native grass and forb species. We knew that many land trusts, government agencies, and private land owners had used WHIP grants for similar purposes, but we found no follow-up studies that documented the relative success or failure of these projects in New England. Thus we decided from the beginning to perform periodic, detailed surveys of the plants that resulted from our effort to restore this site to an early successional habitat. We asked some simple questions like: Were the species present in the seed mix found in the resulting vegetation in the ensuing years? Was the proportion of a plant species in the resulting vegetation related to the original amount of that species in the seed mix?



Seeding the Arboretum grassland in 2006.



The grassland in 2008.

## Methods Used

In 2004 most trees and all undergrowth were cleared with a combination of whole tree harvesting and brush grinding equipment. Stumps were ground down below grade. Since native grassland and meadow plants species tend to compete best with the ubiquitous, aggressive, non-natives on nutrient-poor, very well-drained soils, as much organic

matter as possible was removed from the soil surface by repeated mechanical raking. Foliar herbicides (Garlon 3a and Crossbow) were selectively applied to new and resprouting woody growth as it appeared over the next year. In late June 2006 the four-acre site was seeded with 100 pounds of a mixture of 23 native grass and forb species (Table 1) using a tractor-pulled Truax Flex II seed drill. Approximately 80 percent of the seed mix was grass species by weight. No supplemental irrigation was used, but rainfall was sufficient to promote rapid germination. Subsequent maintenance was a single cutting with a tractor-pulled flail mower in late winter, and selective herbicide treatments of invading woody plants (primarily blackberries, *Rubus* spp.) and the very aggressive perennial, mugwort (*Artemisia vulgaris*).

Floristic analysis by Barrett, Chad Jones, and me consisted of periodic visits to the field during the growing season to identify and collect pressed specimens that flowered earlier than our sampling. Quantitative evaluation was done in late August 2006 and 2008 using 30 one-square-meter plots along a 100-meter permanently marked line through the field. All plants in the plots were identified and their percent coverage of the ground was visually estimated. We used the same techniques to sample an unseeded area within the seeded field that was a bit too rocky for the seed drill to operate, and an adjacent field that was cleared of woody vegetation like the seeded field but that had revegetated naturally with existing remnant meadow species. This article describes only some of the results of the project, but a more complete explanation was published in the journal *Natural Areas* (Jones et al. 2013).

## Research Results

During the first four growing seasons after planting, 19 of 23 species in the seed mix appeared in the sample plots, and one additional species was noted in the field but not in the plots. By 2013 the 21st species, butterflyweed (*Asclepias tuberosa*), appeared in the field, but after seven years we can't be sure that it resulted from our seed. Table 1 shows the initial proportion of seed planted and the percent cover of the resulting grassland by species two and four years after planting.

Establishment of the seeded species was highly variable, with some species quickly becoming rather abundant (e.g., big bluestem, *Andropogon gerardii*, 10 percent of the seed and 53 percent cover after four years) and other species never appearing (e.g., broomsedge, *Andropogon virginicus*, eight percent

of seed, zero percent cover). Four species occurred in the plots for the first time in 2010, suggesting delayed germination in some plants. Generally species that were more abundant in the seed mix were more common in the planting, but this relationship declined over time as additional "volunteer" species became established and spread.

*Generally species that were more abundant in the seed mix were more common in the planting, but this relationship declined over time as additional "volunteer" species became established and spread.*

Exotic species cover was very low in both surveys in the seeded field (three percent) compared to the other nearby sampled fields in both surveys. Woody cover increased over time despite selective herbicide applications as part of the annual maintenance regime.

## Utilization by Birds

Connecticut College biology professor Robert Askins and his ornithology students completed breeding bird censuses in the grassland during the summers of 2012 and 2013. They documented the first Eastern Bluebird territories ever in the Arboretum, but nest boxes were taken over by House Sparrows and no successful bluebird nesting occurred. Several other high conservation priority birds had breeding territories in the fields, including Eastern Kingbird, Baltimore Oriole, Orchard Oriole, and Indigo Bunting. Observations of the fields during autumn and spring migrations in 2012-2013 indicated that the site was heavily use by sparrows during fall. Eleven species of sparrows were noted during the migration period, with a peak of 39 individuals of eight species on one day in mid-October. Relatively few early successional birds were noted in the fields during spring, probably because the vegetation was mowed down each year in mid-March, prior to the migrants' arrival.

## Conservation Implications

Restoring a grassland or meadow from seed is an expensive and time-consuming operation, but we have shown that nearly all of the seeded species appeared in our field over the next few years, and they

dominated the site at least for the first four (Jones et al. 2013). Another positive result was that cover of non-native and invasive species was lower in the seeded grassland than in adjacent unseeded sites.

*Mowing alone will slow, but not stop, woody vegetation from slowly increasing.*

Local ecotypes of native species seed are almost never available commercially, and available forms of a species may behave differently than local populations. A case in point is big bluestem, which rather aggressively spread through the field, much beyond its original proportion in the mix. It turns out we planted the cultivated variety 'Niagra,' a particularly robust selection. We intentionally did not include switch grass (*Panicum virgatum*) in this project because of a similar experience in which an aggressive form of the plant was inadvertently used in another meadow seed mix, dominating the site for many years.

In terms of management, mowing alone will slow, but not stop, woody plants from at least slowly increasing, nor it seems will occasional selective herbicide treatments. Mowing a field down in mid-spring may be the ideal time to optimize utilization by birds, since the vegetation provides cover and some food for winter residents and both fall and spring migrants. Most of the important Southern New England grassland and meadow plant species get started late in spring, so a late April or early May mowing should not inhibit them.

**References**

Jones, C., G. Dreyer and N. Barrett. 2013. *Evaluating the Success of Seed Sowing in a New England Grassland Restoration*. *Natural Areas Journal* 33:214-221.  
 Dreyer, G., C. Jones, et al. 2014. *Native and Naturalized Vascular Plants of Connecticut Checklist*. *Connecticut Botanical Society Memoir No. 5*. New Haven.

\* \* \* \* \*

**Table 1. Establishment success of species included in the seed mixture in the planted grassland. Nomenclature from Dreyer and Jones, et al. 2014.**

Sown Species	Percent in seed mix (by weight)	2008 Cover	2010 Cover
<b>Forbs</b>			
Butterflyweed ( <i>Asclepias tuberosa</i> )	0.52	0	0
Showy tick-trefoil ( <i>Desmodium canadense</i> )	2	0.87	1.57
Hyssop-leaved thoroughwort ( <i>Eupatorium hyssopifolium</i> )	1	0	0.22
Spotted Joe-Pye weed ( <i>Eutrochium maculatum</i> )	0.52	0.17	0.17
Purple Joe-Pye weed ( <i>Eutrochium purpureum</i> )	0.52	0	0
Common grass-leaved goldenrod ( <i>Euthamia graminifolia</i> )	0.9	0.17	1.35
Rough-headed bush-clover ( <i>Lespedeza capitata</i> )	2	1.61	3.65
Foxglove beardtongue ( <i>Penstemon digitalis</i> )	0.5	0	0
Virginia mountain-mint ( <i>Pycnanthemum virginianum</i> )	2	0.04	0.04
Black-eyed Susan ( <i>Rudbeckia hirta</i> var. <i>pulcherrima</i> )	3	1.96	0
Brown-eyed Susan ( <i>Rudbeckia triloba</i> )	2.5	0	0.04
Gray goldenrod ( <i>Solidago nemoralis</i> )	1	3.91	5.00
Early goldenrod ( <i>Solidago juncea</i> )	0.5	0.35	3.61
Showy goldenrod ( <i>Solidago speciosa</i> )	1	0.22	0.74
Smooth American-aster ( <i>Symphotrichum leave</i> )	0.53	0	0.13
New England American-aster ( <i>Symphotrichum novae-angliae</i> )	2	0.13	0.35
Awl American-aster ( <i>Symphotrichum pilosum</i> )	0.52	0.96	0.48
<b>Grasses</b>			
Big bluestem ( <i>Andropogon gerardii</i> )	10	20.57	53.52
Broomsedge bluestem ( <i>Andropogon virginicus</i> )	8	0	0
Great Plains wild-rye ( <i>Elymus canadensis</i> )	21	1.48	0.30
Little bluestem ( <i>Schizachyrium scoparium</i> )	20	14.09	18.96
Indian grass ( <i>Sorghastrum nutans</i> )	10	3.74	10.09
Purpletop grass ( <i>Tridens flavus</i> )	10	0	0.17

## Actions and Recommendations

Milan G. Bull

Senior Director of Science and Conservation  
Connecticut Audubon Society

The natural process of succession that converts lakes and ponds to shallow marshes, to fields and meadows, to young forests then to mature forests, has gone on since time began. All of these stages, blending together in a continuous flow, occurring over time and space across the state, has led to an astounding abundance of biological diversity. Plants and animals, evolving in their own niche, take advantage of each and all of these stages which we, as humans, sometimes define as habitats, both macro and micro. If we interrupt the flow of this process, either on a small scale or large, we concurrently reduce biodiversity. This, essentially, is what is taking place in many areas of the developed world, exemplified by the northeastern United States and Connecticut in particular.

For many reasons—including economic, health, and safety—we have reduced or eliminated the natural processes that would have opened up the landscape to a mosaic of different successional stages, resulting in a single stage monoculture of mature

forests that now stretch across much of the Eastern U.S. This process has resulted in the decline of those plant and animal species dependent on those early stages of succession. If we are to sustain biodiversity, we must actively manage and/or recreate these early stages across the landscape.

We are beginning to awaken to this dilemma, and evolving land management practices are now considering broader scale biodiversity in terms of early successional habitat management.

Before we understand how much of what habitats we need to sustain and, hopefully, increase diversity, we need to know what we currently have and how much of it is effectively meeting the ecological requirements. Although most of the land in Connecticut is privately owned, there is a considerable amount of open space owned by the state (read: public) and used for various purposes. We are now beginning to learn exactly how much open space is protected, but we need to know more about how much of this land is set aside for conservation purposes and where the



PAUL J. FUSCO

Seaside Sparrow in critical saltmarsh habitat.

critical habitats are that still need protection. If not actively managed, all open spaces succeed to mature forest; therefore public lands need management plans in order to keep in place the habitats they may have been set aside to protect. Fortunately, many state parks, forests, and wildlife management areas have effective plans but many do not.

The Connecticut Council on Environmental Quality, in its special report of January 2014, *Preserved But Maybe Not: The Impermanence of State Conservation Lands*, suggests that the state Department of Energy and Environmental Protection (DEEP) should have at least a conceptual management plan for each property that describes its natural resources and general purposes. Although such plans would aid in making land swap decisions, it would also help in making management decisions based on conservation goals.

Public open space not owned by DEEP is largely owned by municipalities. The towns have the option of registering their open spaces with DEEP, but since many do not, we don't have a collective number for the amount of open space across the state.

To solve this issue, the state initiated a project called Protected Open Space Mapping to help document the legal status and extent of open space within town boundaries. As the CEQ notes, the project has significant flaws. We support a CEQ recommendation that DEEP consider offering incentives such as bonus points on grant applications to the municipalities that participate in this mapping project. We also support a CEQ recommendation to

enable a volunteer state commission to work with DEEP to discover from the municipalities the status of their "protected open space," which of those properties are expressly protected for conservation purposes, whether conservation values have been documented, and whether there are conservation management plans.

## RECOMMENDATIONS:

1. DEEP should create management plans for all DEEP properties.
2. A state commission should be established to work with DEEP and municipalities to document the location, amount, and status of their protected open space, and the conservation values and management plans of those lands.
3. The DEEP should fully implement Public Act 12-152, An Act Concerning the State's Open Space Plan (see article on page 9).
4. The state should establish and fund a grants program, perhaps in partnership with the Connecticut Land Conservation Council or the Land Trust Alliance, to provide matching grants for land trusts, non-profit conservation organizations, and municipalities to enable them to prepare conservation and management plans for protected conservation lands.

\* \* \* \* \*



PAUL J. FLUSCO

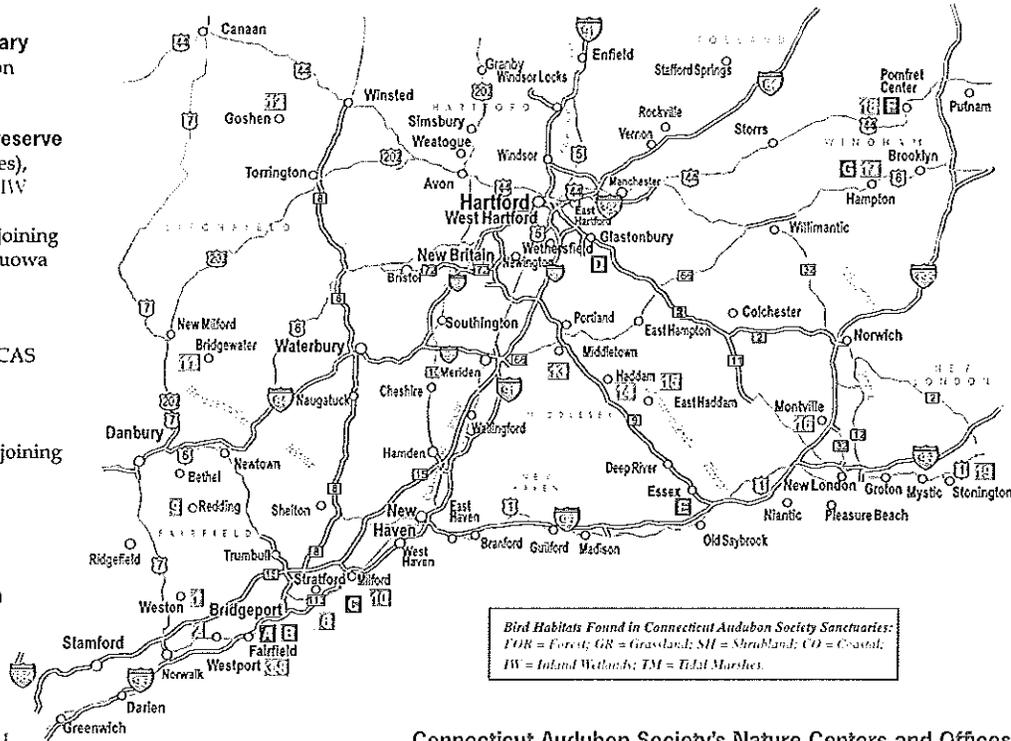
*Freshwater wetland habitat with Wood Duck box.*

# Connecticut Audubon Society's Wildlife Sanctuaries

Connecticut Audubon Society (CAS) manages 19 wildlife sanctuaries and nature preserves around the state, comprising over 2,600 acres of important wildlife habitat. Most sanctuaries are open daily from dawn to dusk, with free entry for CAS members, and "by donation" entry for others.



- 1 **Grace Robinson Nature Sanctuary** (37 acres) Lords Highway, Weston FOR; IW
- 2 **H. Smith Richardson Wildlife Preserve and Christmas Tree Farm** (74 acres), Sasco Creek Road, Westport SH; IW
- 3 **Birdcraft Sanctuary** (6 acres) adjoining CAS Birdcraft Museum, 314 Unquowa Road, Fairfield FOR; SH; IW
- 4 **Roy and Margot Larsen Wildlife Sanctuary** (155 acres) adjoining CAS Center at Fairfield FOR; IW; SH
- 5 **Elsa Feiler Denburg Woodland Conservation Area** (10 acres), adjoining CAS Center at Fairfield FOR; IW
- 6 **Banks South Farm** (60 acres), Fairfield FOR; SH; IW
- 7 **John W. Field Sanctuary & John Mahoney Sanctuary** (14 acres), Fairfield FOR; IW
- 8 **\*Hayes Meadow Tidal Marsh** (0.5 acres) & **\*N.B. Sargent Sanctuary** (0.5 acres), Fairfield TM
- 9 **Edward Steichen Memorial Wildlife Preserve** (54 acres), Redding FOR; IW
- 10 **Smith-Hubbell Wildlife Refuge and Bird Sanctuary** (8 acres) adjoining CAS Coastal Center, Milford SM; CO
- 11 **Jane and George Pratt Valley Preserve** (150 acres), Bridgewater and New Milford FOR; IW; SH
- 12 **Richard G. Croft Memorial Preserve** (700 acres), Goshen FOR; IW
- 13 **\*Cromwell Meadows** (79 acres), Middletown IW
- 14 **\*Haddam Wildflower Gorge** (4 acres) adjoining Hurd State Park, Haddam FOR; IW
- 15 **Harlo N. Haagenson Preserve** (65 acres), East Haddam FOR; IW; SH
- 16 **Morgan R. Chaney Sanctuary** (233 acres), Montville FOR; IW; SH
- 17 **Trail Wood—the Edwin Way Teale Memorial Sanctuary** (168 acres), adjoining CAS at Trail Wood, Hampton FOR; IW; SH
- 18 **Baffin Sanctuary at Pomfret Farms** (670 acres), near CAS Center at Pomfret GR; FOR; IW; SH
- 19 **Wilcox Preserve** (0.7 acres), Stonington CO



## Connecticut Audubon Society's Nature Centers and Offices

- 1 **Connecticut Audubon Society at Fairfield.**  
2325 Burr Street, Fairfield, CT 06824. Tel. 203-259 6305
- 2 **Connecticut Audubon Society Main Office & Birdcraft Museum.**  
314 Unquowa Road, Fairfield, CT 06824. Tel. 203-259 0416
- 3 **Connecticut Audubon Society Coastal Center at Milford Point.**  
1 Milford Point Road, Milford, CT 06460. Tel. 203-878 7440
- 4 **Connecticut Audubon Society Center at Glastonbury.**  
1361 Main Street, Glastonbury, CT 06033. Tel. 860-633 8402
- 5 **Connecticut Audubon Society EcoTravel Office.**  
30 Plains Road, PO Box 903, Essex, CT 06426. Tel. 860-767 0660 / 800-996 8747
- 6 **Connecticut Audubon Society Grassland Center at Pomfret.**  
218 Day Road, Pomfret Center, CT 06259. Tel. 860-928 4948
- 7 **Connecticut Audubon Society at Trail Wood, The Edwin Way Teale Memorial Sanctuary.** 93 Kenyon Road, Hampton, CT 06247. Tel. 860-928 4948

3 & 4 have Wheelchair-accessible nature trails.

\* Indicates sanctuaries with limited public access.

For more details or directions, please visit [www.ctaudubon.org](http://www.ctaudubon.org)

 Connecticut  
Audubon Society

314 Unquowa Road, Fairfield, CT 06824

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**Inland Wetlands and Watercourses Permit  
Water Quality Certification**

Permittee: Connecticut Department of Transportation  
2800 Berlin Turnpike, P.O. Box 317546  
Newington, CT 06131-7546  
Attn: Mark W. Alexander, Transportation Assistant Planning Director

Permit No: IW-201400616, WQC-201400618

Towns: Franklin, Mansfield, Marlborough

Project: Rehabilitation of 2 corrugated metal culverts under Route 207 (Franklin), 1 corrugated metal culvert under Route 430 (Mansfield), and 1 corrugated metal culvert under Route 2 (Marlborough)

Waters: Bellows Brook, Beaver Brook, Eagleville Brook, Tributary to Lyman Brook

Pursuant to Connecticut General Statutes Section 22a-39, the Commissioner of Energy and Environmental Protection (“Commissioner”) hereby grants a permit to the Connecticut Department of Transportation (“the Permittee”) to conduct regulated activities associated with the rehabilitation of four (4) corrugated metal culverts in the towns of Franklin, Mansfield, and Marlborough. In addition, pursuant to Section 401 of the Federal Clean Water Act (33 USC 1341), certification is hereby granted for activities, including but not limited to construction or operation of facilities, which may result in any discharge into the waters of the state associated with the above referenced project. The purpose of said activities is to repair deteriorated culvert structures that are in critical condition.

**AUTHORIZED ACTIVITY**

Specifically, the permittee is authorized to: slipline two corrugated metal culverts under Route 207 in the Town of Franklin (one conveying Beaver Brook and one conveying Bellows Brook), slipline one corrugated metal culvert conveying Eagleville Brook under Route 430 in the Town of Mansfield, and slipline one corrugated metal culvert conveying an unnamed tributary of Lyman Brook under Route 2 in the Town of Marlborough. Activities include improvements to culvert inlet and outlet conditions and miscellaneous fish passage improvements.

The activities proposed will impact approximately 0.36 acres of wetlands and watercourse. This includes: 0.037 acres of impact associated with clearing / grubbing for access and water handling at Bridge No. 06678; 0.147 acres of impact associated with clearing / grubbing for access, water handling, and proposed weir for fish passage at Bridge No. 06791; 0.061 acres of impact associated

with tree clearing for access, water handling, and rip-rap streambank protection at Bridge No. 06688; and 0.105 acres of impact associated with water handling, trash rack and low flow diversion wall at inlet, fishway at outlet, and interior baffles to slow velocities at Bridge No. 06689.

All activities shall be conducted in accordance with plans entitled: "*Connecticut Department of Transportation Environmental Permit Plans for Culvert Rehabilitation on CT Route 2, 207, & 430, Town(s) / City of Franklin, Mansfield and Marlborough,*" prepared by DOT's Office of Engineering, and submitted January 24, 2014, as a part of the application.

This authorization constitutes the licenses and approvals required by Section 22a-39 of the Connecticut General Statutes and Section 401 of the Federal Clean Water Act (33 USC 1341).

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

Said discharge(s) will comply with the applicable provisions of sections 301, 302, 303, 306 and 307 of the Federal Clean Water Act (33 USC 1311, 1312, 1313, 1316 and 1317, respectively) and will not violate Connecticut's Water Quality Standards.

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

This authorization is subject to the following conditions:

**CONDITIONS:**

1. **Expiration.** This permit shall expire 5 years from the date of issuance of this permit, except that Water Quality Certifications shall expire upon expiration of the U.S. Army Corps of Engineers (USACOE) Section 404 permit for the same activity.
2. **Construction Commencement and Completion.** If construction of any structures or facilities authorized herein is not completed within five years of issuance of this permit or within such other time as may be provided by this permit, or if any activity authorized herein is not commenced within five years of issuance of this permit or within such other time as may be provided by this permit, this permit shall expire five years after issuance or at the end of such time as may be authorized by the Commissioner.
3. **Notification of Project Initiation.** The permittee shall notify the Commissioner in writing two weeks prior to commencing construction or modification of structures or

facilities authorized herein.

**4. De minimis Alteration.**

- a. For Water Diversion Permits (CGS 22a-368) - The permittee may not make any alterations, except de minimis alterations, to any structure, facility, or activity authorized by this permit unless the permittee applies for and receives a modification of this permit in accordance with the provisions of section 22a-377(c)-2 of the Regulations of Connecticut State Agencies. Except as authorized by subdivision (5) of section 22a-377(b)-1(a) of the Regulations of Connecticut State Agencies, the permittee may not make any de minimis alterations to any structure, facility, or activity authorized by this permit without written permission from the Commissioner. A de minimis alteration means an alteration which does not significantly increase the quantity of water diverted or significantly change the capacity to divert water.
- b. For Other Permits - The permittee may not make any alterations, except de minimis alterations, to any structure, facility, or activity authorized by this permit unless the permittee applies for and receives a modification of this permit. The permittee may not make any de minimis alterations to any structure, facility, or activity authorized by this permit without written permission from the Commissioner. A de minimis alteration means a change in the design, construction or operation authorized under this permit that does not increase environmental impacts or substantively alter the construction of the project as permitted.

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

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

- 6. Accuracy of Documentation.** In issuing this permit, the Commissioner has relied on information provided by the permittee. If such information was false, incomplete, or misleading, this permit may be modified, suspended or revoked and the permittee may be subject to any other remedies or penalties provided by law.

7. **Best Management Practices & Notification of Adverse Impact.** In constructing or maintaining any structure or facility or conducting any activity authorized herein, or in removing any such structure or facility under condition 5 hereof, the permittee shall employ best management practices to control storm water discharges, to prevent erosion and sedimentation, and to otherwise prevent pollution of wetlands and other waters of the State. Best Management Practices include, but are not limited, to practices identified in the *Connecticut Guidelines for Soil Erosion and Sediment Control* as revised, 2004 *Connecticut Stormwater Quality Manual*, Department of Transportation's *ConnDOT Drainage Manual* as revised, and the Department of Transportation Standard Specifications as revised.

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

8. **Reporting of Violations.** The permittee shall, no later than 48 hours after the permittee learns of a violation of this permit, report same in writing to the Commissioner. Such report shall contain the following information:
- a. the provision(s) of this permit that has been violated;
  - b. the date and time the violation(s) was first observed and by whom;
  - c. the cause of the violation(s), if known
  - d. if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;
  - e. if the violation(s) has not ceased, the anticipated date when it will be corrected;
  - f. steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;
  - g. the signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with condition 12 of this permit.
9. **Material Storage in the Floodplain.** The storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood is prohibited. Any other material or equipment stored at the site below said elevation by the permittee or the permittee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.

10. **Permit Transfer.** This permit is not transferable without the prior written consent of the Commissioner.
11. **Contractor Notification.** The permittee shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The permittee's contractor(s) shall conduct all operations at the site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this permit.
12. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the permittee or a responsible corporate officer of the permittee, a general partner of the permittee, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement in the submitted information may be punishable as a criminal offense in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b and in accordance with any other applicable statute.”
13. **Submission of Documents.** Any document or notice required to be submitted to the Commissioner under this permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

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

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

performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.

14. **Rights.** This permit is subject to and does not derogate any rights or powers of the State of Connecticut, conveys no property rights or exclusive privileges, and is subject to all public and private rights and to all applicable federal, state, and local law. In constructing or maintaining any structure or facility or conducting any activity authorized herein, the permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this State. The issuance of this permit shall not create any presumption that this permit should be renewed.
15. **Fisheries Notification.** The permittee shall notify the Inland Fisheries Division at (860) 295-9523 in writing two weeks prior to commencing construction or modification of structures or facilities authorized herein.
16. **Unconfined Instream Construction.** All unconfined instream construction activities shall be restricted to a time period of June 1st through September 30th unless prior written authorization from the Inland Water Resources Division is otherwise granted.
17. **Fish Passage Monitoring & Evaluation.** The permittee shall provide a Memorandum of Agreement or other suitable written contractual agreement executed between the DEEP Inland Fisheries Division and the Connecticut Department of Transportation that establishes the following: (1) arrangements by the DOT for the purchase or the funding of purchase of equipment and materials necessary for the DEEP to perform monitoring and evaluation of the designed fish passage structures using PIT tag technology; (2) expectations of both parties for the post-construction monitoring and evaluation of the culverts and associated fish passage structures, in respect to demonstrating the effectiveness of the newly constructed structures to allow effective fish passage through the culvert, including experimental design and reporting; (3) the disposition of such equipment and materials subsequent to the completion of such monitoring and evaluation studies at the Tributary to Lyman Brook site. Said agreement shall be executed prior to commencement of construction.