MEETING NOTICE AND AGENDA

MANSFIELD INLAND WETLANDS AGENCY

Monday, August 3, 2015 ▪ 7:00 PM

Audrey P. Beck Municipal Building ▪ 4 South Eagleville Road ▪ Council Chambers

1. **Call to Order**
2. **Roll Call**
3. **Review of Minutes**
   a. 7-06-15 – Meeting Minutes
   b. 7-15-15 – Field Trip Minutes
   c. 7-20-15 – Special Meeting Minutes
4. **Communications**
   a. Conservation Commission Minutes
   b. Monthly Business Memorandum
5. **Old Business**
   a. **W1548 - C. & L. Niarhakos, 101 East Rd, Re-Subdivision Application**
   b. **W1553 – I. and E. Hanka, 225 Mulberry Rd,-Above Ground Pool**
      Memo from Inland Wetlands Agent
   c. **W1554- Storrs Friends Meeting, 57 Hunting Lodge Rd, - Site Improvements**
      Memo from Inland Wetlands Agent
   d. **Other**
6. **New Business**
   a. **W1555 – J. and K. Hawes, 241 Mulberry Rd, Above Ground Pool, Deck and Shed**
      Memo from Inland Wetlands Agent
   b. **Other**
7. **Reports from Officers and Committees**
8. **Other Communications and Bills**
   - UConn-Bypass Form WPCF treated effluent
   - UConn-2014 Water Quality Report
   - CT Wildlife May/June 2015
9. **Adjournment**

DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Regular Meeting
Monday July 6, 2015
Council Chamber, Audrey P. Beck Municipal Building

Members present:	J. Goodwin, B. Chandy, R. Hall (7:04), G. Lewis, P. Plante, K. Rawn, B. Ryan, V. Ward
Members absent:	B. Pociask,
Alternates present:	P. Aho, K. Holt
Alternates absent:	S. Westa
Staff present:	Jennifer Kaufman, Inland Wetlands Agent

Chairman Goodwin called the meeting to order at 7:00 p.m. and appointed Holt to act for Pociask. Aho was appointed to act until Hall arrived at 7:04 p.m.

Goodwin noted that the Commission will address Old Business items prior to the Public Hearing, so as to allow those in attendance for Old Business to leave prior to the start of what is expected to be a lengthy Public Hearing.

Approval of Minutes:
June 1, 2015 Regular Meeting: Plante MOVED, Ryan seconded, to approve the 6-1-15 meeting minutes as presented. MOTION PASSED UNANIMOUSLY. Chandy noted for the record that she listened to the recording.
June 10, 2015 Field Trip: Ryan MOVED, Ward seconded, to approve the 6-10-15 Field Trip Minutes as presented. MOTION PASSED with Goodwin, Ryan, Ward and Aho in favor and all others disqualified.

Inland Wetlands Agent's Monthly Business Report:
Handouts were distributed to members re recent court cases as presented at the 2015 Municipal Inland Wetlands Agency Training Program held on 7/1/2015 and sponsored by CT DEEP. Agent Kaufman asked the Agency if it was their desire to recommend that the Town Council consider establishing an ordinance creating fines for violation of the Inland Wetlands and Watercourses Regulations, pursuant to Section 22a-42 of the CT General Statutes. Members were in agreement that the staff should start working with the Agency on the issue, drafting a suggested schedule of fines to send to the Council for their consideration.

Communications:
The Conservation Commission Minutes were noted.

Old Business:
W1548 - C. & L. Niarhakos, 101 East Rd, Re-Subdivision Application
Tabled until the Public Hearing is closed.

W1549 – Jensen's Rolling Hills Mobile Park, Middle Turnpike-Site Restoration
Ward MOVED, Hall seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Jensen's, Inc. (File #W1549) for Site Restoration on property owned by the applicants and located at Jensen's Rolling Hills Mobile Home Park, Middle Turnpike as shown on plans dated 4/14/2015 and as described in application submissions.

This action is based on a finding that this will adequately restore and prevent further adverse impact to the wetlands, and is conditioned on the following provisions being met:

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. Grass along the disturbed slope will continue to be monitored to ensure that vegetation reestablishes to stabilize the slope;
3. To further stabilize the area on the slope that lacks vegetation, erosion mat will be installed and the area will be over seeded with a native grass mix;
4. All wood at the top left side of the slope area will be removed; and
5. Concrete barriers will be installed at least 15-feet away from the top of the slope to prevent debris from being pushed into the wetlands in the future.

This approval is valid for five years (until July 6, 2020) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment. MOTION PASSED UNANIMOUSLY.

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

Holt disqualified herself and Chairman Goodwin appointed Aho to act in her place.

Ryan MOVED, Chandy seconded, to grant an Inland Wetlands License pursuant to the Inland Wetlands and Watercourses Regulations of the Town of Mansfield to William St. Martin (File #W1550) for dredging an existing pond on property owned by the applicant and located at 601 Storrs Road as shown on plans dated 5/24/2015, revised through 6/14/2015 and as described in application submissions.

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

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized; and
2. All conditions outlined in the CT DEEP Natural Diversity Database Review are followed.

This approval is valid for five years (until July 6, 2020) 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 and is contingent upon all other state and federal permit requirements being met. Any extension of the activity period shall come before this Agency for further review and comment. MOTION PASSED with all in favor except Holt who was disqualified.

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

Rawn MOVED, Holt seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Mark MacDonald (File #W1551) for above ground pool on property owned by the applicants and located at 93 Candide Lane as shown on plans dated 5/14/2015 and 5/27/2015 and as described in application submissions.

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

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. The silt fence currently installed down gradient of the pool construction site shall remain until the site is completely stabilized;
3. All material shall be stockpiled at least 50 feet from the edge of wetlands and surrounded by silt fence until it is either removed from the site or distributed at least 50 feet from the edge of wetlands; and
4. All pool filter back wash shall be contained and not discharged directly to the wetlands.

This approval is valid for five years (until July 6, 2020) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment. MOTION PASSED UNANIMOUSLY.

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

Chandy MOVED, Holt seconded, to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Larry and Laurie Wasiele (File #W1552) for a one-bedroom addition on property owned by the applicants and located at 357 Gurleyville Road, as shown on plans dated 5/14/2015 and as described in application submissions.

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

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. Silt fence shall be installed 10 feet from the edge of wetlands and shall remain until the site is completely stabilized;
3. All fill shall be removed from the site immediately or stockpiled at least 50 feet from the edge of wetlands and surrounded by silt fence to prevent sedimentation of the wetlands; and
4. Should a septic system need to be installed within the upland review area or should the addition need to be moved closer to the edge of wetlands to meet the CT Public Health Code, the owners will need to file a new application for an inland wetlands license prior to beginning construction.

This approval is valid for five years (until July 6, 2020) unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment. MOTION PASSED UNANIMOUSLY.

Public Hearing:

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

Chairman Goodwin opened the continued Public Hearing at 7:17 p.m. Members present were Goodwin, Chandy, Hall, Lewis, Plante, Rawn, Ryan, Ward and alternates Aho and Holt. Holt was appointed to act.

Wetlands Agent Kaufman noted the following communications received and distributed to members: a 6-21-15 set of revised plans from the applicant; a 6-24-15 report from Gerald Hardisty, Civil Engineering Services, representing the applicant; a 7-1-15 memo from Jennifer Kaufman, Wetlands Agent; and a 7-6-15 memo from Derek Dilaj, Assistant Town Engineer.

Acting on behalf of the applicants Christopher and Lindsey Niarhakos, were the following: Edward Pelletier, Land Surveyor, Datum Engineering and Surveying; John Ianni, Soil Scientist, Highland Soils; and Gerald Hardisty, Engineer, Civil Engineering Services.

Edward Pelletier reviewed the proposal. He reported the project will divide the 14 acre +/- parcel into three lots, one of which presently contains a single family residence. He contends no activity will occur in the wetlands. He discussed proposed mitigation measures to address the neighbor's concerns regarding surface water runoff, i.e., by installing ground water re-charge basins to alleviate the surface water runoff. He noted that he reviewed the report from Derek Dilaj, Assistant Town Engineer, and agrees to increase the frequency in maintenance of the outlets.

John Ianni reviewed the site's soil and vegetative characteristics and stated that there is no defined watercourse on the property, nor would the wetlands on this parcel be classified as a wildlife habitat wetlands. He discussed his findings at the site that lead to his conclusion that the proposed development will not generate enough surface flow to significantly impact the wetlands or the neighbor's property.

Gerald Hardisty reviewed the specifics of the mitigation measures that are proposed and stated that there will be no adverse impact to the neighbor's property or the wetlands as a result of run-off from this project.

Attorney Caleb F. Hamel, Branse & Willis, LLC, represents the neighboring property owners, Mr. and Mrs. Harper who are opposed to the proposal. Attorney Hamel submitted a Verified Notice of Intervention and a binder of materials for inclusion in the public record. Attorney Hamel introduced his team: Donald Aubrey, Engineer, Towne Engineering; and Martin Brogie, Soil Scientist, GEI Consultants, Inc.

Donald Aubrey spoke at length about the impact the existing run-off from onsite and neighboring UCONN property has on his client's lot. He averred that the Niarhakos proposal has not taken into consideration the impacts of the run off from the adjacent UCONN land. He submitted as exhibits, photographs he purports illustrate the problems the Harpers are experiencing due to run-off.

Martin Brogie discussed his findings from site visits, reviewed the soils he contends are present onsite and the areas of wetlands on and off the subject parcel. He stated that the applicant's representatives are not taking into consideration the off-site wetlands and water coming onto the subject site and the Harpers' site. He also contended that the project was aggressive; that the stormwater detention basins will not be sufficient to filter the runoff and that there will be significant impact to the wetlands, particularly downstream of the subject property.

John Ianni offered in rebuttal that the opposition did not provide any evidence that there would be a significant impact on the wetlands from the development of this property. He also disagreed as to the soil type on the site as identified by Mr. Brogie.

The Chair inquired as to why the soil type could not be identified as both parties contended they used the USDA maps as reference.

Attorney Hamel and the Agency requested that the hearing be kept open, but staff reported that given the statutory time limitations, the hearing could only remain open with the applicant's consent to an extension. Chairman Goodwin asked the applicant if they would grant an extension of time. After discussion amongst themselves, Mr. Pelletier reported that his clients declined to grant an extension of time.

Goodwin noted there were no additional comments from the Agency or the Public. At 8:49 p.m. Plante MOVED, Holt seconded, to close the Public Hearing. MOTION PASSED UNANIMOUSLY.

Old Business Continued:

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

Members stated that they would like to defer discussion of this application to the August meeting so as to give them time to review the materials submitted this evening. Additionally, the staff will review whether or to what extent the Assistant Town Engineer may comment on the newly submitted materials now that the Public Hearing is closed. Item was tabled for discussion at the next meeting.

New Business:

W1553 – I. and E. Hanka, 225 Mulberry Rd,-Above Ground Pool

Ryan MOVED, Hall seconded, to receive the application submitted by Ingrid and Erik Hanka/Sabrina Pools (IWA File #W1553) under the Wetlands and Watercourses Regulations of the Town of Mansfield for an above-ground pool on property located at 225 Mulberry Rd as shown on a map dated 6/15/2015 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

W1554- Storrs Friends Meeting, 57 Hunting Lodge Rd, - Site Improvements

Ryan MOVED, Holt seconded, to receive the application submitted by Storrs Friends Meeting (IWA File #1554) under the Wetlands and Watercourses Regulations of the Town of Mansfield for parking and storm water improvements on property located at 57 Hunting Lodge Rd as shown on a map dated 5/4/2015 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments. MOTION PASSED UNANIMOUSLY.

Reports from Officers and Committees:

No reports were offered.

Other Communications and Bills:

Noted.

Adjournment:

Chairman Goodwin set a Field Trip for 7/15/15 at 3:00 p.m. and declared the meeting adjourned at 8:50 p.m.

Respectfully submitted,

Vera S. Ward, Secretary

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DRAFT MINUTES

MANSFIELD PLANNING AND ZONING COMMISSION
INLAND WETLANDS AGENCY
CONSERVATION COMMISSION
FIELD TRIP

Wednesday, July 15, 2015

Members present:	J. Goodwin (left at 4:30), K. Holt, K. Rawn, V. Ward (arrived at 3:10)
Staff present:	L. Painter, Director of Planning and Development
	C. Hirsch, Zoning Agent, item 1

The field trip began at 3:00 p.m.

W1554- Storrs Friends Meeting, 57 Hunting Lodge Rd, - Site Improvements
Members were met on site by Brenda Shaw, Anna Andrews, Norm Janes, Mike Dietz, and Dave Cannell. Members observed current conditions, and site characteristics. No decisions were made.

W1553 – I. and E. Hanka, 225 Mulberry Rd,-Above Ground Pool
Members were met on site by Ingrid and Eric Hanka and John Casado of Sabrina Pools. Members observed current conditions, and site characteristics. No decisions were made.

P1335- Willard J. Stearns & Sons, Inc., Browns Road and Coventry Road, -Pre-Subdivision Application
Members were met on site by Mark Peterson, John Alexapolous, John Ianni, and Leslie Stearns. Members observed current conditions, and site characteristics. No decisions were made.

The field trip ended at approximately 4:50 p.m.

Vera S. Ward, Secretary

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DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Special Meeting
Monday July 20, 2015
Council Chamber, Audrey P. Beck Municipal Building

Members present: J. Goodwin, B. Chandy, G. Lewis, P. Plante (7:03), K. Rawn, B. Ryan, V. Ward
Members absent: R. Hall, B. Pociask
Alternates present: K. Holt
Alternates absent: P. Aho, S. Westa
Staff present: Linda Painter, Director of Planning and Development
Chairman Goodwin called the meeting to order at 7:00 p.m. and appointed Alternate Holt to act.

W1548-Niarhakos, 101 East Road, 3-Lot Re-Subdivision
Members discussed staff's recommendation to hire a consultant on the Agency's behalf, at applicant expense, to review the materials and testimony presented at Public Hearing and to offer the Agency a recommendation and/or opinion regarding this proposed project's impact on wetlands. Discussion was held amongst the members re: the applicant's concerns of conflict of interest between interveners' expert and one of the proposed consultants, the extent to which a consultant can provide information to the Agency after the close of the Public Hearing and the qualifications of the consultants.

Holt MOVED, Ryan seconded, to authorize staff to engage the services of CME Associates, Inc. to review and analyze the information presented at the Public Hearing held on June 1, 2015 and July 6, 2015, regarding an Inland Wetlands Application submitted by C. and L. Niarhakos (File #W1548) for 3 Lot Subdivision on property owned by the applicants and located at 101 East Road as shown on plans dated 3/30/2015 and revised through June 21, 2015, and as described in application submissions. Pursuant to section 8.6 of Mansfield's Inland Wetlands and Watercourses Regulations, fees incurred for this review will be the responsibility of the applicants; a deposit in the amount of the estimated cost shall be provided prior to issuance of a notice to proceed. MOTION FAILED with Chandy, Holt and Ryan in favor and Plante, Rawn, Goodwin and Ward against.

Adjournment:
Chairman Goodwin declared the meeting adjourned at 7:16 p.m.

Respectfully submitted,

Vera S. Ward, Secretary

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Town of Mansfield
CONSERVATION COMMISSION
Meeting of 15 July 2015
Conference B, Audrey P. Beck Building
(draft) MINUTES

Members present: Aline Booth (Alt.), Joan Buck (Alt.), Neil Facchinetti, Scott Lehmann, Grant Meitzler, Michael Soares. *Members absent*: Robert Dahn, Quentin Kessel, John Silander. *Others present:* Shatki Lane, Roger Lapierre, Brenda Shaw (Storrs Friends Meeting).

1. The meeting was **called to order** at 7:31p by Neil Faccinetti in the absence of Chair Quentin Kessel. Alternates Booth & Buck were designated voting members for this meeting. The agenda was reordered to accommodate visitors from Storrs Friends Meeting regarding W1554.

2. IWA referrals.

a. **W1554 (Storrs Friends Meeting, 57 Hunting Lodge Rd).** Brenda Shaw of the Storrs Friends Meeting (SFM) described the proposed project, locating its components on a large site map produced by Towne Engineering. SFM proposes to upgrade two parking lots. The lower one, adjacent to Eagleville Brook would be slightly raised, graded, and paved so that storm-water would drain away from the brook into a rain garden (instead of directly into the brook, as it does now). In unusually heavy rains, water from the lot would flow into the rain garden, seep into the soil, and enter the brook via an underground drain. The upper parking lot, adjacent to a wetland, would be enlarged and reconfigured to add two handicapped spaces; it would be graded and paved so that runoff is directed to an infiltration basin between the lot and the wetland. Booth, noting that the property is in a flood zone, asked whether the project was, in consequence, subject to any special requirements. Ms. Shaw indicated that DEEP had determined that it would meet whatever conditions the State imposes on development in flood zones. (The bioretention system was designed by UConn's Mike Dietz under a DEEP grant.) After some discussion, the Commission agreed unanimously (**motion**: Booth, Buck) that:

> If the project is carried out as described in the application, the Commission expects that it will have no significant negative impact on wetlands and indeed that it should reduce the impact of storm-water runoff from the facility's parking lots on adjacent wetlands, including Eagleville Brook.

Ms. Lane, Mr. Lapierre, & Ms. Shaw left the meeting. The Commission took up item 3 below before returning to IWA referrals

b. **W1553 (Hanka, 225 Mulberry Rd).** The applicants propose to install a 21-ft diameter above-ground pool about 55 ft from wetlands. The site slopes toward wetlands and will need to be leveled, but the whole job would probably take no more than one day, according to Meitzler. Facchinetti asked about the wetlands impact of the pool's water draining into the wetland, should the pool structure fail catastrophically. Meitzler said that DEEP does not consider pool water a threat to wetlands: the concentration of chlorine is very low and what there is dissipates rapidly. The Commission then unanimously agreed (**motion:** Soares, Buck) that no significant impact on wetlands is to be expected from this project, provided standard erosion controls remain in place during construction and until the area is stabilized.

3. The draft **minutes** of the 17 June meeting, with the correction of two typos noted by Meitzler,

were approved.

4. Water Systems Advisory Committee. Buck reported on the 24 June meeting of the Water Systems Advisory Committee, which receives information about the project to deliver Connecticut Water Company (CWC) water to Mansfield & UConn and may comment on aspects of this project to CWC and PZC/IWA through Town Planner Linda Painter.

- The DEEP has issued its final water diversion permit for the project. {A public information session on the permit was held on 30 June in the Council Chambers.}
- Installation of the water main will start with the final segment: from St. Paul's church on Rte. 195 to UConn's intake at W-lot and to Jensen's mobile park on Rte. 44.
- Information about the project is posted online at www.CTWater.com/Projects, where updates via email or text message may be requested.
- Tom Callahan announced that the steering committee for the State's water planning process would meet in open session on 30 June at UConn.

5. Fines for wetlands violations? Jennifer Kaufman's 29 June memo to IWA notes that Mansfield has no fines for violations of wetlands regulations (such as failure to secure a permit from IWA for work in the regulated area). Should there be? Booth thought there should be some fine for non-compliance, lest regulations be ignored. Facchinetti observed that fines could discourage reporting violations by people who acted in ignorance of regulations; fines should not punish self-reporting of violations. Meitzler suggested that establishing fines could change the nature of the Wetlands Agent's job from facilitating compliance to enforcing it – not a change he would have welcomed when he served as Wetlands Agent. Lehmann described lack of some sort of fine as unfair to those who play by the rules; if there is no fine, there is no disincentive for just ignoring regulations and proceeding with any project, including those that would not have been approved by the IWA. Soares suggested a discretionary fine of up to twice the permit fee for work done without a permit (or not complying with the terms thereof).

6. Eagleville Lake fanwort control. The herbicide treatment scheduled for 24 June was postponed to 07 July by heavy rain that would have quickly flushed it from the reservoir.

7. Adjourned at 8:26p. Next meeting: 7:30p, Wednesday, 19 August 2015.

Scott Lehmann, Secretary, 17 July 2015.

Town of Mansfield

Inland Wetlands Agency

Date: June 29, 2015
To: Mansfield Inland Wetlands Agency
From: Jennifer Kaufman, Inland Wetlands Agent
Subject: Monthly Business Report

Mansfield Auto Parts - Route 32

On July 29, 2015, I monitored the site and there were no cars or automobile parts that could may contain oil or other fluids located within 25 feet of the wetlands.

77 Forest Road

At your last meeting, Agent Plante asked me to investigate some debris that may have been placed in the wetlands at 77 Forest Road. On July 9, 2015, I walked property with Christopher Kueffner. I determined that tree debris/brush had been deposited in the wetlands on the southerly portion of this property. While the clearing of a field in the upland review area is a permitted as of right activity under Section 4.0 of the Regulations, the filling of wetlands is not permitted as of right.

The property owner was sent a Notice of Violation. He was informed that by July 31, 2015, the deposited material must be moved at least 15 feet from the edge of wetlands and silt fence is to be installed 5 feet from the edge of wetlands. He was also informed that the area between the brush pile and the silt fence are to be stabilized by over seeding with a conservation mix or a cover crop and that the silt fence shall not be removed until this area is stabilized. Further, per section 14.B of the Regulations, he was informed that failure to carry out the actions in this Notice of Violation may result in an issuance of the order provided in Section 14.3.A. It was also recommended that he plant a cover crop on the whole field to improve soil health of the field.

Establishing Fines for Wetlands Violations

At your last meeting you agreed that staff should begin working on establishing fines or increased application fees for wetlands violations. Unless IWA would like to have this occur sooner, staff will begin this project in the fall after the Plan of Conservation and Development and zoning regulations have been completed.

TOWN OF MANSFIELD
INLAND WETLAND AGENCY

Jennifer Kaufman
Natural Resources and
Sustainability Coordinator
Inland Wetlands Agent

4 South Eagleville Road
Storrs/Mansfield, Connecticut 06268
860- 429-3015 x6204 (direct)
KaufmanJS@MansfieldCT.org

July 9, 2015

Re: Notice of Wetlands Violation (Assessor's Parcel Id 7.13.11-B)

Christopher Kueffner
Field and Forest LLC
192 Ravine Road
Storrs-Mansfield, CT 06268

Dear Chris:

On July 9, 2015, you and I walked property located on 77 Forest Road and I determined tree debris/brush had been deposited in the wetlands on the southerly portion of this property, which is a violation of Mansfield's Inland Wetlands and Watercourses Regulations (the Regulations). Pursuant to Section 4.2 of the Regulations, "All activities in wetlands or watercourses and upland review areas involving filling, excavating, dredging, clear cutting, clearing, or grading or any other alteration or use of a wetland or watercourse not specifically permitted by this section and otherwise defined as a regulated activity by these regulations. While the clearing of a field in the upland review area is a permitted as of right activity under Section 4.0 of the Regulations, the filling of wetlands is not permitted as of right.

By July 31, 2015, the deposited material must be moved at least 15 feet from the edge of wetlands and silt fence shall be installed 5 feet from the edge of wetlands. The area between the brush pile and the silt fence shall be stabilized by over seeding with a conservation mix or a cover crop. The silt fence shall not be removed until this area is stabilized. Per section 14.B of the Regulations, failure to carry out the actions in this Notice of Violation may result in an issuance of the order provided in Section 14.3.A. It is recommended that you plant a cover crop on the whole field to prevent to improve soil health of the field.

Please contact me at 860-420-3015x6204 or via email at KaufmanJS@MansfieldCT.org if you have questions or need further information.

Sincerely,

Jennifer Kaufman
Inland Wetlands Agent

Copy: Inland Wetland Agency

Town of Mansfield

Department of Planning and Development

Date: July 28, 2015

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 101 East Road (File #W1548)
C. and L. Niarhakos.
Description of work: 3 Lot Subdivision
Map Date: 3/30/2015, revised through 6/21/2015

At your July 6, 2015 meeting, there was a public hearing regarding the above referenced 3-lot subdivision. There was lengthy testimony and the applicant's experts and the abutter/intervenor's experts gave opposing opinions as to whether the proposed activities would adversely impact the wetlands. The applicant, the intervenor, and staff provided comments as part of the public hearing, which was closed on July 6, 2015. The applicant's engineer submitted a letter and a report entitled "Resubdivision Williams Heights Parcel "A" East Road, Storrs, CT, Hydrology and Drainage Report, revised 6/24/2015". This report was entered into the record as part of the public hearing and is attached to this memo.

Staff is working on draft motions for the agency's consideration. These will be available Monday's meeting.

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Town of Mansfield

Department of Planning and Development

Date: June 25, 2015

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 225 Mulberry Road (File #W1553)
I. and E. Hanka/Sabrina Pools
Description of work: above ground pool
Map Date: 6/15/2015, revised through 7/16/2015

Notifications

☒ The applicant has paid the required application fee
☒ The applicant has submitted certified mail receipts for notices mailed to abutters

Project Overview

Initially the applicants submitted a plan to install a 21-foot diameter above-ground pool approximately 55 feet from the edge of wetlands. The Agency conducted a site visit on July 15, 2015 and determined that the applicants had depicted the location of the pool incorrectly. The applicants submitted a revised plan on July 16, 2015 with the correct location, which is approximately 45 feet from the edge of wetlands. The proposed location of the pool slopes toward the wetlands. Approximately 6 cubic yards of soil will be excavated to grade the area of the pool and all material will be stockpiled approximately 60 feet from the edge of wetlands. Approximately 375 square feet of will be disturbed in the upland review area. Silt fence will be installed down gradient of the pool to protect the wetlands from erosion and sedimentation. The pool is a steel walled, which is more sturdy than a traditional above ground pool and will be filtered using a closed system filter and does not require any pool water discharge.

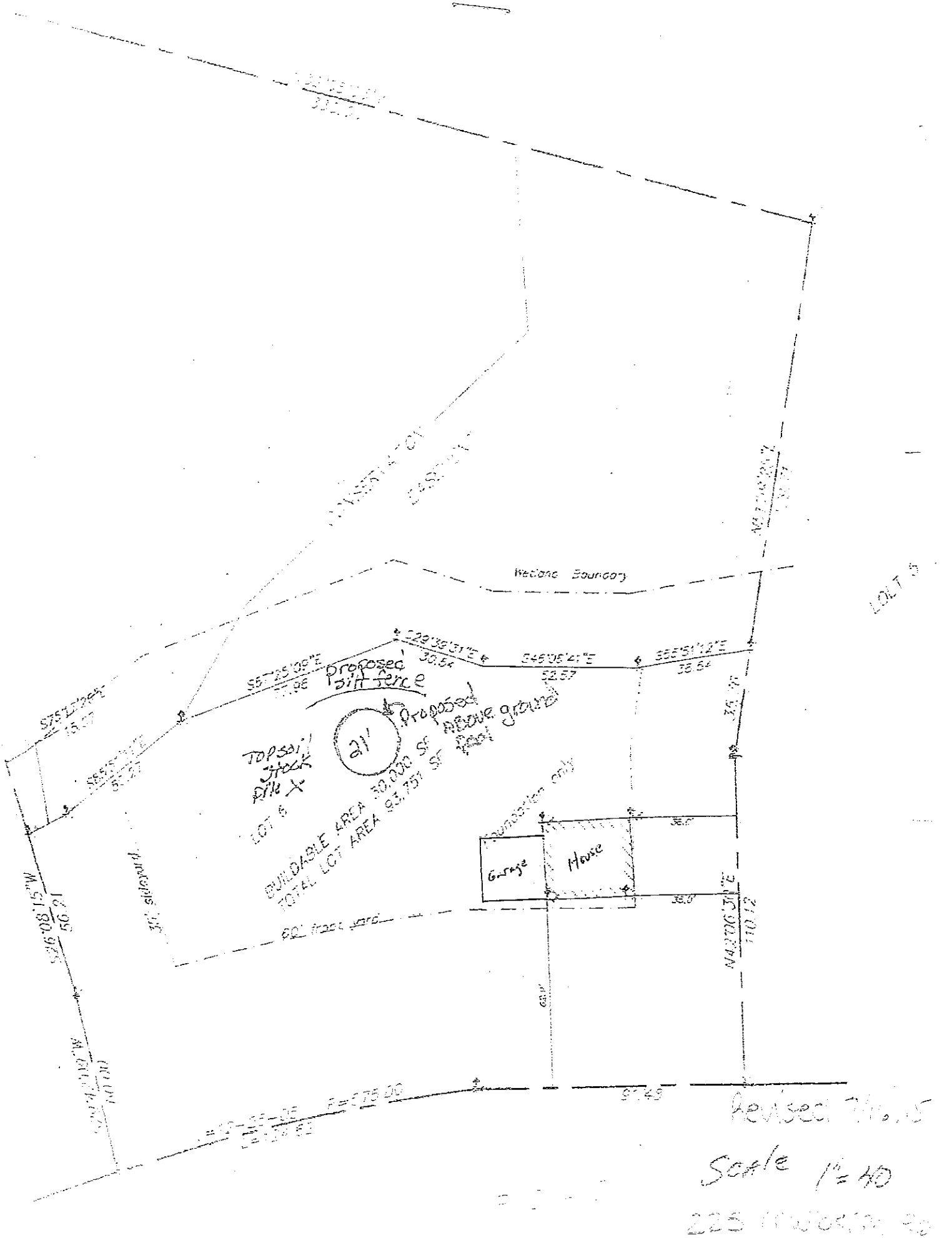
Recommendation/Suggested Motion

_____ MOVES, _____ seconds to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to I. and E. Hanka/Sabrina Pools (File #W1553) for an above ground pool on property owned by the applicants and located at 225 Mulberry Road as shown on plans dated 6/15/2015, revised through 7/16/2015 and as described in application submissions.

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

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. All material shall be stockpiled at least 50 feet from the edge of wetlands and surrounded by silt fence until it is either removed from the site or distributed at least 50 feet from the edge of wetlands; and
3. The pool shall be installed with a closed system filter that does not require any pool water to be discharged.

This approval is valid for five years (until August 3, 2020) 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.


Proposed Silt Fence
Proposed Above ground pool
21'
Topsoil Stock Pile
LOT 6
BUILDABLE AREA 30,000 SF
TOTAL LOT AREA 93,757 SF
Garage
House
35' setback
80' front yard
Wetland Boundary
LOT 5
Revised 7/10/15
Scale 1" = 40'

PAGE
BREAK

Town of Mansfield

Department of Planning and Development

Date: July 29, 2015

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: 57 Hunting Lodge Road (File #W1554)
Storrs Friends Meeting
Description of work: Site Work
Map Date: 5/4/2015, revised through 7/22/2015

Notifications

☒ The applicant has paid the required application fee
☒ The applicant has submitted certified mail receipts for notices mailed to abutters

Project Overview

The IWA issued an Inland Wetlands License in 1996 (File # W887) for an addition to the existing building and developing the northern parking area. The current proposal includes replacing the existing pavement for both the northerly and southerly parking areas, installation of storm water improvements, and other site improvements to make the parking more orderly. Currently, the southern parking area drains directly into Eagleville Brook. The applicants propose to pull the southern parking area 15 feet further away from the brook and regrade it so that it drains to a 1090 square foot landscaped bioretention area. The bioretention area has been designed to capture the first inch of rain with an overflow that will drain to the brook during large storm events. The northern parking area will also be repaved. On the plan dated 7/22/2015 the applicants show "Alternative 1" which includes adding a 10 foot by 60 foot paved area on the northerly portion of the parking area. In a letter dated 7/27/2015, the applicants stated that they would be eliminating this as an alternative and including it as part of their proposed improvements. While this will be an increase in impervious surface, the applicants propose to install a 330 square foot infiltration basin and any runoff from the northern parking area will be directed to this basin. Mansfield's Assistant Engineer has reviewed the storm water management features and is confident that the plan submitted on 7/22/2015 will sufficient and an improvement to the existing site conditions.

The applicants propose to adhere to the 2002 Connecticut Guidelines for Erosion and Sedimentation Control. Silt fence will be installed between the wetlands and the construction area. Because the site is small, there is no area to effectively stockpile material. The 7/22/2015 plan shows a barrier around the western portion of the landscaped bioretention area but there is nothing noting that there will be a barrier to prevent parking on the side of the bioretention area along Hunting Lodge Road. This should be considered

so that the bioretention area is not damaged. Overall, the site improvements will cause less ongoing impacts to the wetlands. I recommend a motion to approve an Inland Wetlands License for the proposed activities outlined in the application.

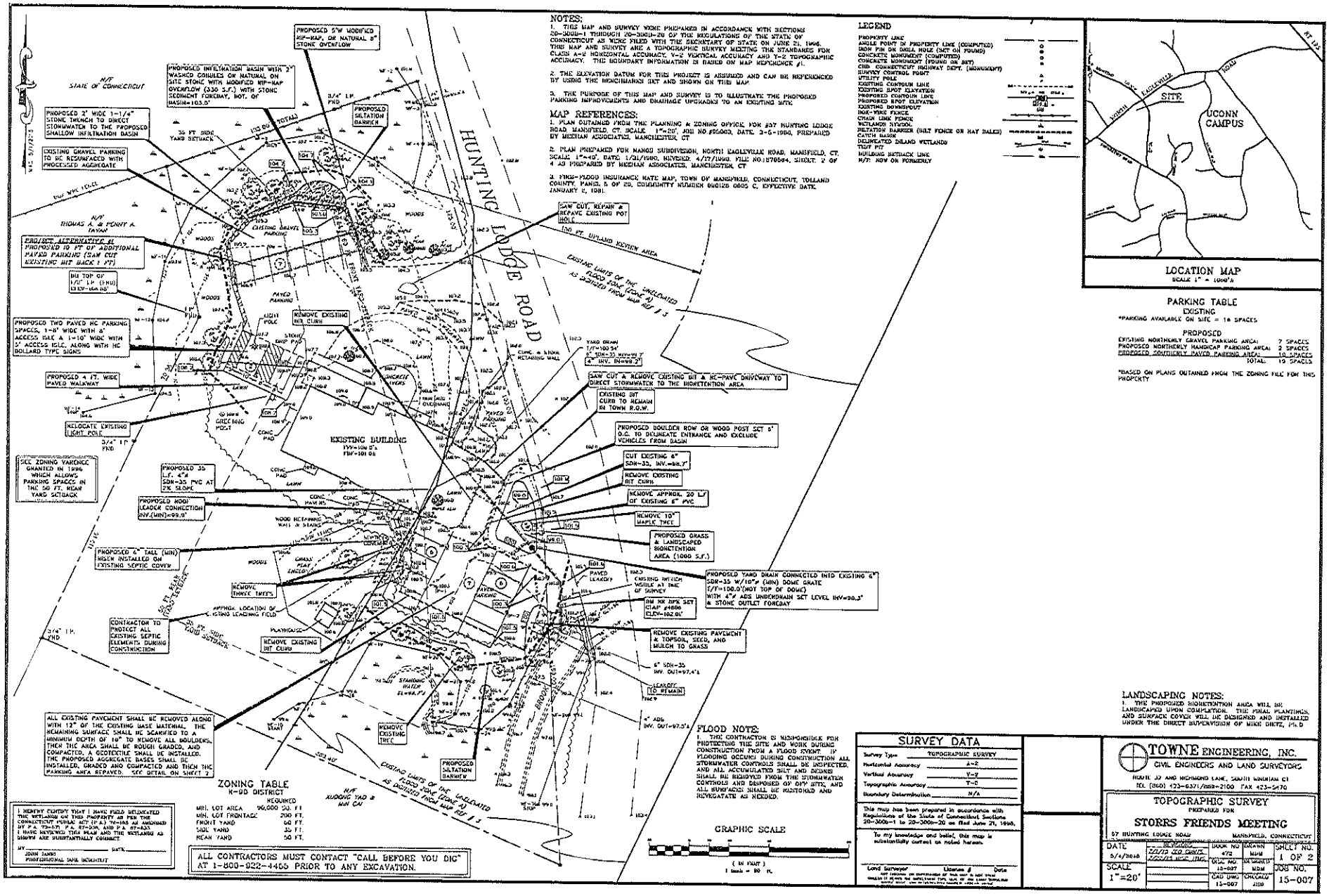
Recommendation/Suggested Motion

_____ MOVES, _____ seconds to grant an Inland Wetlands License pursuant to the Wetlands and Watercourses Regulations of the Town of Mansfield to Storrs Friends Meeting (File #W1554) for Site Work on property owned by the applicants and located at 57 Hunting Lodge Road as shown on plans dated 5/14/2015 and as described in application submissions.

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

1. Appropriate erosion and sedimentation controls shall be in place prior to construction, maintained during construction and removed when disturbed areas are completely stabilized;
2. A barrier shall be installed on the eastern side of the landscaped bioretenion area to prevent damage from vehicle parking; and
3. No material shall be stockpiled on the site.
4.

This approval is valid for five years (until August 3, 2020) 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.



NOTES:

1. THIS MAP AND SURVEY WERE PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THROUGH 20-300b-20 OF THE REGULATIONS OF THE STATE OF CONNECTICUT AS WERE FILED WITH THE SECRETARY OF STATE ON JUNE 21, 1996. THIS MAP AND SURVEY ARE A TOPOGRAPHIC SURVEY MEETING THE STANDARDS FOR CLASS A-2 HORIZONTAL ACCURACY, V-2 VERTICAL ACCURACY AND T-2 TOPOGRAPHIC ACCURACY. THE BOUNDARY INFORMATION IS BASED ON MAP REFERENCE #1.

2. THE ELEVATION DATUM FOR THIS PROJECT IS ASSUMED AND CAN BE REFERENCED BY USING THE BENCHMARKS SET AND SHOWN ON THIS MAP.

3. THE PURPOSE OF THIS MAP AND SURVEY IS TO ILLUSTRATE THE PROPOSED PARKING IMPROVEMENTS AND DRAINAGE UPGRADES TO AN EXISTING SITE.

MAP REFERENCES:

1. PLAN OBTAINED FROM THE PLANNING & ZONING OFFICE, FOR #37 HUNTING LODGE ROAD, MANSFIELD, CT. SCALE 1"=20', JOB NO.#95003, DATE: 3-6-1996, PREPARED BY MEEHAN ASSOCIATES, MANCHESTER, CT

2. PLAN PREPARED FOR MANOO SUBDIVISION, NORTH EAGLEVILLE ROAD, MANSFIELD, CT. SCALE 1"=40', DATE: 1/31/1980, REVISED: 4/17/1980, FILE NO.1870584, SHEET 2 OF 4 AS PREPARED BY MEEHAN ASSOCIATES, MANCHESTER, CT

3. FIRM-FLOOD INSURANCE RATE MAP, TOWN OF MANSFIELD, CONNECTICUT, TOLLAND COUNTY, PANEL 5 OF 20, COMMUNITY NUMBER 090128 0005 C, EFFECTIVE DATE JANUARY 6, 1981.

LEGEND

PROPERTY LINE
ANGLE POINT IN PROPERTY LINE (COMPUTED)
IRON PIN OR DRILL HOLE (NOT OR FOUND)
CONCRETE MONUMENT (COMPUTED)
CONCRETE MONUMENT (FOUND OR SET)
CHD. CONNECTICUT HIGHWAY DEPT. (MONUMENT)
SURVEY CONTROL POINT
UTILITY POLE
EXISTING CONTOUR LINE
EXISTING SPOT ELEVATION
PROPOSED CONTOUR LINE
PROPOSED SPOT ELEVATION
EXISTING DOWNCUT
NOR-WAY FENCE
CHAIN LINK FENCE
WETLANDS BOUNDARY
SILTATION BARRIER (SILT FENCE OR HAY BALES)
CATCH BASIN
DELINEATED INLAND WETLANDS
TEST PIT
BUILDING SETBACK LINE
M/F: NOW OR FORMERLY

LOCATION MAP
SCALE 1" = 1000'±

PARKING TABLE

EXISTING
*PARKING AVAILABLE ON SITE = 16 SPACES

PROPOSED

EXISTING NORTHERLY GRAVEL PARKING AREA:	7 SPACES
PROPOSED NORTHERLY HANDICAP PARKING AREA:	2 SPACES
PROPOSED SOUTHERLY PAVED PARKING AREA:	10 SPACES
TOTAL:	19 SPACES

*BASED ON PLANS OBTAINED FROM THE ZONING FILE FOR THIS PROPERTY

ZONING TABLE
R-90 DISTRICT

	REQUIRED
MIN. LOT AREA	90,000 SQ. FT.
MIN. LOT FRONTAGE	200 FT.
FRONT YARD	50 FT.
SIDE YARD	35 FT.
REAR YARD	50 FT.

I HEREBY CERTIFY THAT I HAVE FIELD DELINEATED THE WETLANDS ON THIS PROPERTY AS PER THE CONNECTICUT PUBLIC ACT (P.A.) 76-436 AS AMENDED BY P.A. 78-347, P.A. 87-339, AND P.A. 87-433. I HAVE REVIEWED THIS PLAN AND THE WETLANDS AS SHOWN ARE SUBSTANTIALLY CORRECT.

BY _____ DATE _____
JOHN TANNI
PROFESSIONAL SOIL SCIENTIST

ALL CONTRACTORS MUST CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 PRIOR TO ANY EXCAVATION.

FLOOD NOTE:

1. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE SITE AND WORK DURING CONSTRUCTION FROM A FLOOD EVENT. IF FLOODING OCCURS DURING CONSTRUCTION ALL STORMWATER CONTROLS SHALL BE INSPECTED, AND ALL ACCUMULATED SILT AND DEBRIS SHALL BE REMOVED FROM THE STORMWATER CONTROLS AND DISPOSED OF OFF SITE, AND ALL SURFACES SHALL BE RESTORED AND REVEGATATE AS NEEDED.

GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.

SURVEY DATA

Survey Type	TOPOGRAPHIC SURVEY
Horizontal Accuracy	A-2
Vertical Accuracy	V-2
Topographic Accuracy	T-2
Boundary Determination	N/A

This map has been prepared in accordance with Regulations of the State of Connecticut Sections 20-300b-1 to 20-300b-20 as filed June 21, 1996.

To my knowledge and belief, this map is substantially correct as noted hereon.

Land Surveyor _____ License # _____ Date _____

LANDSCAPING NOTES:

1. THE PROPOSED BIORETENTION AREA WILL BE LANDSCAPED UPON COMPLETION. THE FINAL PLANTINGS AND SURFACE COVER WILL BE DESIGNED AND INSTALLED UNDER THE DIRECT SUPERVISION OF MIKE DIETZ, PH.D

TOWNE ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
ROUTE 32 AND RICHMOND LANE, SOUTH WINDSOR CT
TEL. (860) 423-6371/fax-2100 FAX 423-5470

TOPOGRAPHIC SURVEY
PREPARED FOR
STORRS FRIENDS MEETING
57 HUNTING LODGE ROAD MANSFIELD, CONNECTICUT

DATE	REVISIONS	DOCK NO	DRAWN	SHEET NO.
5/4/2015	TITLE TO DWG. ADDED MISC. INFO.	472	MJM	1 OF 2
SCALE		DSC NO	DESIGNED	JOB NO.
1"=20'		12-007	MDM	15-007
		CAD DWG	CHECKED	
		15-007	JDH	

EROSION AND SEDIMENTATION CONTROL NOTES

PROJECT DESCRIPTION:

THE PROJECT IS FOR THE EXPANSION OF THE EXISTING PARKING FACILITIES AND THE INSTALLATION OF STORM WATER CONTROLS TO ALLOW DETENTION, AND INFILTRATION OF THE STORMWATER GENERATED FROM THE PROPOSED AND EXISTING IMPROVEMENTS AND CORRESPONDING IMPERVIOUS AREAS.

CONSTRUCTION SCHEDULE:

A. INSTALL HAY BALES AND/OR SILT FENCE AS SHOWN ON THE PLAN, AND CUT AND REMOVE TREES AND STUMPS AS SHOWN

B. EXCAVATE AND ROUGH GRADE THE BIORETENTION AREA SOUTHEAST OF THE EXISTING BUILDING AND INSTALL THE PROPOSED YARD DRAIN, PEASTONE AND UNDER DRAINS

C. SAW CUT AND REMOVE THE EXISTING PAVEMENT AND CURB, EXCAVATE APPROXIMATELY 12" OF THE EXISTING SANDY BASE MATERIAL AND DISPOSE OF OFF SITE

D. SCARIFY REMAINING BASE TO REMOVE SURFACE BOULDERS AND ANY UNSUITABLE MATERIAL ENCOUNTERED TO A MINIMUM DEPTH OF 18"

E. ROUGH GRADE SUBBASE AND COMPACT

F. INSTALL GEOTEXTILE AND PROCESS AGG. BASE AND FINISH GRADE PARKING LOT

G. FINISH GRADE BIORETENTION AREA AND INSTALL LANDSCAPING

H. MULCH TOPSOIL, SEED AND HAY ALL DISTURBED AREAS

I. STRIP TOPSOIL AND BOULDER FROM NORTHERNLY HANDICAP PARKING AREA AND FORM AND COMPACT SUBGRADE

J. INSTALL PROCESS AGG. AND ROUGH GRADE NORTHERLY PARKING AREA

K. FINISH GRADE SITE AND INSTALL DETENTION BASIN AND STONE INFILTRATION TRENCH, AND RIP-RAP OVERFLOW

L. INSTALL HANDICAP BOLLARDS AND SIGN, PAVE TWO PARKING AREAS AND SIDEWALK

M. CLEAN SITE AND RESTORE ALL DISTURBED AREAS

ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO OR THE START OF CONSTRUCTION AND SHALL REMAIN IN EFFECT UNTIL ALL DISTURBED AREAS ARE STABILIZED WITH A STRONG AND HARDY STAND OF VEGETATION

OPERATION AND MAINTENANCE:

IN GENERAL EROSION AND SEDIMENTATION CONTROL AND RESTORATION MEASURES SHALL CONFORM TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION, AND TO LOCAL TOWN REQUIREMENTS.

UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL CONFORM TO STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 816" AND ANY SUBSEQUENT REVISIONS.

THE CONTRACTOR SHALL MAKE DAILY INSPECTIONS OF THE SITE TO ENSURE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES AND IMMEDIATELY MAKE NECESSARY REPAIRS.

WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA ON WHEN GRADING ACTIVITY HAS TEMPORARILY CEASED FOR A PERIOD OF TIME EXPECTED TO EXCEED ONE MONTH, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT CONTROL MEASURES ARE USED

ADDITIONAL SEDIMENTATION AND/OR EROSION CONTROL MEASURES IF REQUESTED BY THE TOWN SHALL BE INSTALLED IMMEDIATELY UPON REQUEST.

ALL DISTURBED AREAS SHALL BE PROTECTED WITH A MINIMUM VEGETATION COVER AS SHOWN IN ACCOMPANYING CHART

THE CONTRACTOR SHALL PLAN ALL LAND DISTURBING ACTIVITIES IN A MANNER AS TO MINIMIZE THE EXTENT OF THE DISTURBED AREAS.

THE CONTRACTOR HONESTY ACKNOWLEDGES HIS RESPONSIBILITY TO INSTALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ON THIS SITE AND THAT HIS FAILURE TO INSTALL AND MAINTAIN THESE DEVICES COULD RESULT IN FINES OR SUSPENSION OF WORK.

ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED UNTIL SITE IS STABILIZED

GENERAL NOTES

ALL CONTRACTORS AND USERS OF THIS PLAN MUST BE CERTAIN THAT THEY ARE USING AN APPROVED PLAN FOR CONTRACT AND CONSTRUCTION PURPOSES.

ALL STORMWATER CULVERTS SHALL BE ADS PIPE OR APPROVED EQUAL. ALL CULVERTS INSTALLED SHALL BE BACKFILLED CAREFULLY WITH SELECT MATERIAL AND COMPACTED TO AVOID ANY MEASURABLE SETTLEMENT. ALL CULVERTS ARE TO BE LAID ON A UNIFORM GRADE (AS SET BY LENGTH AND INVERTS SHOWN).

PARKING AREAS SHALL BE GRADED TO A MINIMUM SLOPE OF 1% AND A MAXIMUM OF 4%.

FILL SHALL BE PLACED ON SUITABLE COMPACTED, STRUCTURAL SUBGRADE IN 6" LIFTS. EACH LIFT SHALL BE COMPLETELY COMPACTED BEFORE THE NEXT LIFT IS INSTALLED. FILL SHALL BE CLEAN, STRUCTURAL FILL MEETING CLASS "A" REQUIREMENT FOR M.08.01 OF FORM 816

ALL STUMPS AND DEBRIS ENCOUNTERED SHALL BE DISPOSED OF PROPERLY OFF SITE AND SHALL NOT BE BURIED ON SITE

THE EXISTING ENTRANCES ON HUNTING LODGE ROAD SHALL BE UTILIZED AND MAINTAINED FOR THIS PROJECT

ALL SHORELINE SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 4% WITH A MAXIMUM CROSS SLOPE OF 2%

PAVED PARKING SHALL CONSIST OF 6" PROCESS GRAVEL BASE MEETING THE REQUIREMENTS OF M.05.01, 1-1/2" CLASS I BINDER, AND 1-1/2" CLASS II WEARING COURSE, BOTH BINDER AND WEARING COURSE SHALL MEET THE REQUIREMENTS FOR M.04.03 OF FORM 816

ALL PARKING SHALL CONFORM TO THE LOCAL ZONING REGULATIONS. ALL PARKING STALLS SHALL BE 9' WIDE AND 18' LONG, WITH THE MINIMUM AISLE WIDTH OF 24'. PARKING BUMPERS WHEN NEEDED, SHALL BE PRE-CAST CONCRETE, PLASTIC OR APPROVED EQUAL. BUMPERS SHALL BE SECURED TO THE PAVEMENT USING STEEL DOWELS OR REBARS. PROPOSED BUMPERS SHALL BE INSTALLED 2.5 FT. BACK FROM THE EDGE OF PARKING LOT.

ALL BENCHMARKS AND TOPOGRAPHY SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. ALL BENCHMARKS SET WITH A SPIKE ARE REFERENCING THE TOP OF THE NAIL HEAD FOR THE ELEVATION GIVEN, NOT THE SHAFT. THE TOPOGRAPHY IS FROM A FIELD SURVEY PERFORMED BY TOWNE ENGINEERING, INC

PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT 1-800-922-4455 TO DETERMINE AND MARK ANY UNDERGROUND UTILITIES.

NOTE: A PIPE FOR WHAT WE BELIEVE IS THE FOOTING DRAIN FOR THE EXISTING BUILDING ON THIS SITE CROSSES THE EXISTING PARKING LOT. THE CONTRACTOR IS RESPONSIBLE FOR NOT DAMAGING THIS PIPE, AND IF DAMAGED OR FOUND TO BE MALFUNCTIONING IT SHALL BE REPLACED WITH 4"ø SCH-40 PVC.

TESTPIT RESULTS

BY: MATTHEW D. MAYNARD, P.E. &
JOSEPH M. BOUCHER, L.S., L.S.I., BOTH OF
TOWNE ENGINEERING, INC.

OBSERVED: JULY 20, 2015

TEST PIT #1
0-3" BIT. CONCRETE
3-7" FINE PROCESS GRAVEL
7-12" FINE YELLOW/TAN FINE (DECAD) SAND
12-15" GRAY FINE (DECAD) SAND
15-22" BURIED TOPSOIL
22-36" GRAY LOAMY SILTY SAND (TILL)
36-33" GRAY MED SANDY TILL
NO SEEPAGE, NO LEDGE

TEST PIT #2
0-3" BIT. CONCRETE
3-9" YELLOW/ BROWN FINE PROCESS GRAVEL
9-14" YELLOW FINE (DECAD) SAND-MOTTLED
14-20" BURIED HOCKY TOPSOIL
SEEPAGE AT 14", NO LEDGE

TEST PIT #3
0-2.5" BIT CONCRETE
2.5-7" FINE PROCESSED GRAVEL
7-11" RED/BROWN FINE SILTY (DECAD) SAND
11-13" GRAY SILTY SAND
13-16" BURIED TOPSOIL
16-25" GRAY SANDY TILL
MOTTLING AT 11"
NO SEEPAGE
NO LEDGE

TEST PIT #4 (DUG 7/22/2015)
0-8" PROCESSED GRAVEL
8-14" YELLOW COARSE SAND & FINE GRAVEL
14-24" ORANGE/BROWN FINE SILTY GRAVEL
24-33" RED/BROWN MED SHARP SAND & MED GRAVEL
NO SEEPAGE
NO MOTTING
HOLE TO 39"
NO LEDGE

PERC TEST

BY: MATTHEW D. MAYNARD, P.E. &
JOSEPH M. BOUCHER, L.S., L.S.I., BOTH OF
TOWNE ENGINEERING, INC

ON: 7/22/2015

ALL MEASUREMENTS TAKEN FROM GROUND SURFACE

PERC TEST #1
TOTAL DEPTH: 18"

TIME	READING	DIFF.	RATE
10:48	0.0	---	---
10:51	3.0	3.0"	1.0
10:55	4.25"	1.25"	3.2
10:59	5.25"	1.0"	4.0
11:03	5.75"	0.5"	8.0
11:07	6.125"	0.375"	10.7
11:12	6.625"	0.5"	10.0
11:17	7.125"	0.5"	10.0
11:21	7.375"	0.5"	8.0

PERC TEST #2
PERFORMED IN HAND DUG TEST PIT #4
TOTAL DEPTH 35"

TIME	READING	DIFF.	RATE
11:05	21.5"	---	---
11:07	22.25"	0.75"	2.7
11:12	23.5"	1.25"	4.0
11:17	24.20"	0.75"	0.7
11:21	25.0"	0.75	5.3

DRAINAGE NARRATIVE
25 YEAR PEAK VOLUME ANALYSIS

NORTH INFILTRATION BASIN
DRAINAGE AREA: A.060 SQ FT. (0.13 Ac)
Tc=5 min. (ASSUMED DUE TO PAVED SURFACE)
I (25 YEAR)=Tc OF 5 MIN.)=6.7 IN/HR
C=0.90
PAVED: 2,600 S.F.@C=0.95
GRAVEL: 1,300 S.F.@C=0.6
LAWN/WOODS: 900 S.F.@0.3

Q= 0.13 Ac x 6.7 IN/HR x 0.81 = 0.71 CFS PEAK FLOW

VOLUME(CF)= Tc x 60 MIN/SEC)
=(1/2)(0.71 CFS x 10.5 MIN x 60 MIN/SEC)
= 668.25 CU FT. PEAK VOLUME REQUIRED

PROPOSED STORMWATER CAPACITY:
THIS SITE IS CURRENTLY SERVICED BY A PROPOSED STONE TRENCH & ONE STORMWATER BASIN. THE PROPOSED STONE TRENCH IS ASSUMED AT 40% PORE SPACE AND IS APPROXIMATELY 8 FT. DEEP AND 100 FT. LONG.

STONE TRENCH CAPACITY =0.4 x 100 FT. x 8 FT.= 320.0 CU. FT

INFILTRATION BASIN CAPACITY:

CONTOUR	AREA	VOLUME
104.0	330 S.F.	
		180.0 CU.FT.
103.0	0.0	

TOTAL PROPOSED CAPACITY = STONE STORAGE + BASIN STORAGE
=320 CU FT + 180 CU FT.
=500 CU. FT.

BASED ON THE CALCULATIONS THE PROPOSED STORMWATER SYSTEM IS ACCEPTABLE SINCE IT PROVIDES A 25 YEAR PEAK VOLUME STORAGE AT A MINIMUM.

SOUTH BIORETENTION BASIN
DRAINAGE AREA: 6,900 SQ FT. (0.16 Ac)
Tc=5 min. (ASSUMED DUE TO PAVED SURFACE)
I (25 YEAR)=Tc OF 5 MIN.)=6.7 IN/HR
C=0.90
PAVED: 4,500 S.F.@C=0.95
LAWN/WOODS: 2,400 S.F.@0.3

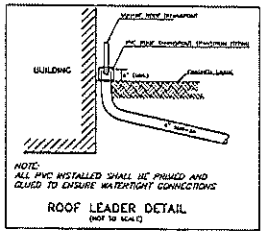
Q= 0.66 Ac x 6.7 IN/HR x 0.78 = 0.91 CFS PEAK FLOW

VOLUME(CF)= Tc x 60 MIN/SEC)
=(1/2)(0.91 CFS x 10.5 MIN x 60 MIN/SEC)
= 573.0 CU FT. PEAK VOLUME REQUIRED

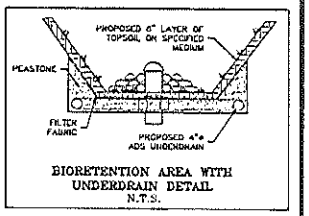
CURRENT STORMWATER CAPACITY:
THIS SITE IS CURRENTLY SERVICED BY ONE STORMWATER BASIN.
BASIN CAPACITY:

CONTOUR	AREA	VOLUME
100.0	760 S.F.	
		182.5 CU.FT.
101.0	910 S.F.	
		236.0 CU.FT.
102.0	1060 S.F.	
	TOTAL	418.5 CU. FT.

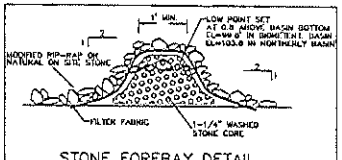
BASED ON THE CALCULATIONS THE PROPOSED STORMWATER SYSTEM IS ACCEPTABLE SINCE IT PROVIDES A 25 YEAR PEAK VOLUME STORAGE AT A MINIMUM.



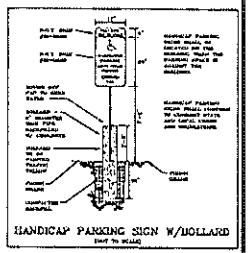
ROOF LEADER DETAIL
(NOT TO SCALE)



BIORETENTION AREA WITH UNDERDRAIN DETAIL
N.T.S.

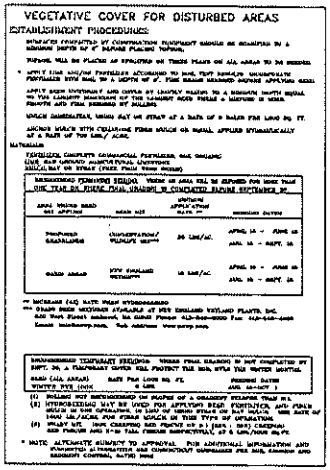


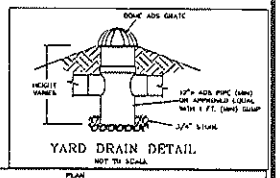
STONE FOREBAY DETAIL
NOT TO SCALE


HANDICAP PARKING SIGN W/BOLLARD
(NOT TO SCALE)

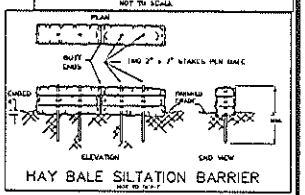
VEGETATIVE COVER FOR DISTURBED AREAS

ESTABLISHMENT PROCEDURES:

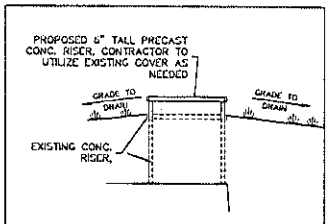




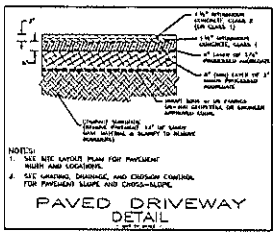
YARD DRAIN DETAIL
NOT TO SCALE



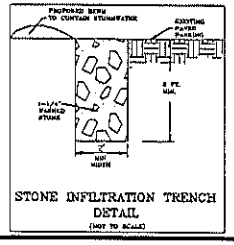
HAY BALE SILTATION BARRIER



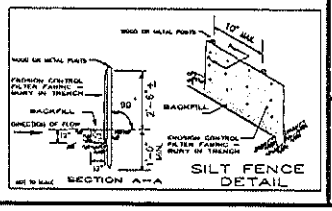
SEPTIC TANK RISER DETAIL
(NOT TO SCALE)



NOTES:
1. SEE SITE LAYOUT PLAN FOR PAVEMENT WIDTH AND LOCATIONS.
2. SEE GRADING, DRAINAGE, AND EROSION CONTROL FOR PAVEMENT SLOPE AND CROSS-SLOPE.
PAVED DRIVEWAY DETAIL



STONE INFILTRATION TRENCH DETAIL
(NOT TO SCALE)



SILT FENCE DETAIL

TOWNE ENGINEERING, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
ROUTE 32 AND RICHMOND LANE, SOUTH WINDSOR CT
TEL (860) 423-6371/800-2100 FAX 423-5470

TOPOGRAPHIC SURVEY
PREPARED FOR
STORRS FRIENDS MEETING
57 HUNTING LODGE ROAD MANSFIELD, CONNECTICUT

DATE	REVISIONS	BOOK NO.	DRAWN	SHEET NO.
8/4/2015	TOWN NO COMM.	XYZ	MJM	2 OF 2
SCALE	TOWN'S MISC. USE	MISC NO.	DESIGNED	JOB NO.
AS NOTED		15-007	MJM	
		CAD DWG	CHECKED	15-007
		15-007	JJM	

Storrs Friends Meeting
57 Hunting Lodge Road
Storrs-Mansfield, CT 06268

Friday, July 24, 2015

Town Planning
Town of Mansfield
4 South Eagleville Road
Storrs-Mansfield, CT 06268

Engineering Division
Department of Public Works
Town of Mansfield
4 South Eagleville Road
Storrs-Mansfield, CT 06268

Dear Ms. Painter and Mr. Dilaj:

I am writing in response to Mr. Dilaj's letter of July 13, 2015, addressed to Ms. Painter, and forwarded to me by Jennifer Kaufman. We appreciate the care with which Mr. Dilaj reviewed our application to modify our parking lots and drainage at the Storrs Friends Meeting House located at 57 Hunting Lodge Road. We have addressed each point, and our responses are below. We used the same numbers as in the list of comments in Mr. Dilaj's to Linda Painter for easy reference. We appreciate engineering work by Matt Maynard and others at Town Engineering in being able to respond to your concerns.

Site Considerations

1. The existing light pole which conflicts with the proposed handicapped parking spaces is proposed to be relocated, and is shown on the site plan, at the southeast edge of the proposed handicapped parking area.

2. The proposed HC parking area would be graded to drain into the proposed infiltration trench and then to the infiltration basin shown on the site plan.

3. We have revised the plans to illustrate the proposed handicap spaces are entirely paved with no alternative proposed.

4. We have chosen not in install a cleanout at this location due to the short pipe run proposed, and the fact that both ends can be accessed; either by taking off the gutter or flushing backward from the yard drain.

Infiltration Basin

5. The proposed infiltration basin has been revised to add an additional spot elevation and a sediment forebay.

Bioretention System

6. The area published was determined using a closed polyline and listing the area. The area published accounts for the entire bioretention area from the edge of the proposed pavement to the property line.

7. We have conducted a hand dug test pit and percolation test in the area of the proposed basin and found the soils to be suitable for infiltration, with the soils having a percolation rate of approximately 10/min/inch. No evidence of the seasonal ground water table was observed in the test pit observed within 24" of the bottom of the infiltration basin proposed.

8. We have reviewed this item in regards to the CT Stormwater manual and would like to present our calculations of the bioretention area drain time utilizing Darcy's law:

$$Ab = \frac{(Qv)(d)}{[(k)(t)(h+d)]}$$

Solve for "t" time to drain: $t = \frac{Qv(d)}{K(h+d)Ab}$

Ab= bioretention bed area=1,090 sq. ft.
Qv=25 year peak volume from site plan for southerly system
=303.8 cu. ft.
k=permeability=1.6 ft/day per web soil survey for top 8" of soil
h=average height of water above filter bed=1.3 ft.
d=min. depth of filter=0.7 ft.

t=0.06 days or 1.5 hours

Flood Plain

9 & 10. We have revised the plans to illustrate the limits of the 100 yr flood plain as published by FEMA, and have included some notation regarding working in the flood plain. This application has received a waiver from the CT DEEP regarding flood plain certification, please see below for the email from Jeff Caiola, P.E. at the CT DEEP, below:

From: "Caiola, Jeff" <Jeff.Caiola@ct.gov>
Date: 07/14/2015 9:52 AM (GMT-05:00)
To: "Dietz, Michael" <michael.dietz@uconn.edu>, "Thomas, Eric" <Eric.Thomas@ct.gov>
Subject: RE: Quaker lot on Eagleville Brook

Mike / Eric – Just getting to your looking at your proposed plan. It is clear to me that this project will not alter drainage patterns, timing or quantity of runoff leaving the site therefor a Flood Management certification is not required for the proposed activity. Thank you for coordinating. Let me know if you have any other questions.

Jeff

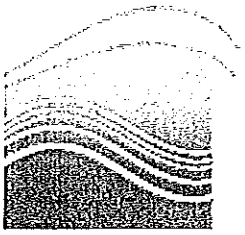
"Forget all the reasons why it wont work and believe the one reason why it will!" - unknown

Jeff Caiola, Supervising Civil Engineer

Inland Water Resources Division

Bureau of Water Protection and Land Re-Use

Connecticut Department of Energy and Environmental Protection 79 Elm Street, Hartford, CT 06106-5127 P: 860.424.4162 | E: [redacted]



Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

www.ct.gov/deep

Conserving, improving and protecting our natural resources and environment;

Ensuring a clean, affordable, reliable, and sustainable energy supply.

We would be happy to further address any concerns you may have about our proposal.

___ end of email _____

Sincerely,

Anna Andrews BRS

Brenda R. Shaw

Anna Andrews, Clerk

Storrs Friends Meeting

Brenda R. Shaw

Clerk, Sacred Space Committee

860 456-8567

PAGE
BREAK

Department of Planning and Development

Date: July 29, 2015

To: Mansfield Inland Wetlands Agency

From: Jennifer Kaufman, Inland Wetlands Agent

Subject: Receipt of New Application for Wetlands License
241 Mulberry Rd (IWA File #W1555)
J. and K. Hawes
Description of work: site improvements, installation of shed and above-ground pool

---

Project Description

The applicants propose to complete the following activities:

- Excavate, grade and stump an area of approximately 6,000 square feet to create a lawn area that will be filled to grade level and top soiled, seeded and mulched.
- Install a 12 foot by 18-foot stone pad for a 10 foot by 16-foot shed.
- Install a 24-foot round above ground pool with an attached 8 foot by 12-foot deck.
- Install a descending stair case on the back of the house which will connect with the pool deck.
- Extend an existing footing drain to the edge of the graded area.

All work will take place in the upland review area and at its closest point the work will take place approximately 25 feet from the edge of wetlands, and approximately 5 feet to the edge of a conservation easement held by the Town of Mansfield. In 2002, the Agency issued an Inland Wetlands License (File #W1163) for the Partridge Way III Subdivision of which this lot is a part. On the plan for this subdivision, is a designated buildable area. All proposed activities are included within this buildable area.

There will be approximately 6000 square feet of disturbance associated with the proposed activities. The applicants propose to use approximately 495 cubic yards of fill/topsoil to complete the proposed activities.

☐ 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.

Department of Planning and Development

☒ Natural Diversity Database has been checked and state and/or federal listed species or significant natural communities have not been identified on the property.

Receipt Motion

_____ MOVES, _____ seconds to receive the application submitted by J. and K. Hawes (IWA File #W1555) under the Wetlands and Watercourses Regulations of the Town of Mansfield for site improvements, installation of shed and above-ground pool on property located at 241 Mulberry Rd as shown on a map dated 7/27/2015 and as described in application submissions, and to refer said application to staff and the Conservation Commission for review and comments.

APPLICATION FOR PERMIT
MANSFIELD INLAND WETLANDS AGENCY
4 SOUTH EAGLEVILLE ROAD, STORRS, CT 06268
860-429-3015x6204 (DIRECT) TEL: 860-429-3330 OR FAX: 860-429-6863

FOR OFFICE USE ONLY

File # W W1555
Fee Paid $185-
Official Date of Receipt 7-27-15

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

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

Part A - Applicant

Name Darby Pollansky, owner/member Pollansky Construction, LLC

Mailing Address 92 Ross Avenue

Coventry, Ct. Zip 06238

Phone 860-742-9334 Email pollanskyconstruction@gmail.com

Title and Brief Description of Project

Site improvements; installation of shed; above ground pool with deck; descending staircase

Location of Project #241 Mulberry Road, Mansfield

Intended Start Date September 2015

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

Name Jeff and Karen Hawes

Mailing Address 241 Mulberry Road

Mansfield, Ct. Zip 06250

Phone 860-477-0469 Email

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

Signature Karen Hawes date 7/26/15

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

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

1) Describe in detail the proposed activity here or on an attached page. (**See guidelines at end of application)**
   Please include a description of all activity or construction or disturbance:

a) ***in*** the wetland/watercourse

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

See attached

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

Approximately 16000 sq. ft. of disturbance is proposed and approximately 495 yds. of fill and topsoil (combined) will be brought in.

3) Describe the type of materials you are using for the project: clean fill and topsoil

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

b) include ***volume*** of material to be filled or excavated 495 yds. of fill and topsoil (combined) brought in.

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).

A silt fence will be installed along the perimeter of the proposed project of disturbance.

Part D - Site Description

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

Entire lot slopes down away from Mulberry Road. There are existing trees and landscaping vegetation through out.

Part E - Alternatives

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

There are no other alternatives to the proposed projects as there is an archeological feature protected in the front yard along with ledge out croppings. The septic system and reserve are on the side yard. Access for reasonable use to the back yard needs to be created on the side of the garage where there currently is a narrow foot path.

Part F - Map/Site Plan (all applications)

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

2) Applicant's map date and date of last revision 7/27/15

3) Zone Classification RAR90

4) Is your property in a flood zone? _____Yes _____No ✓ Don't Know

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

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) Attach list of abutters, name, and address

2) **Proof of Written Notice to Abutters.** You must notify abutting (neighboring) property owners (any property immediately contiguous with the subject property, including those across the street) by certified mail, return receipt requested, stating that a wetland application is in progress, and that abutters may contact the Mansfield Inland Wetlands Agent for more information. Include a brief description of your project. ***Postal receipts of your notice to abutters must accompany your application.*** To generate an abutters list go to http://www.mainstreetmaps.com/CT/Mansfield/

Part I - Additional Notices, if necessary

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

Notice to Adjoining Town. If your property is within 500 feet of an adjoining town, you must also send a copy of the application, on the same day you sent one to Mansfield, to the Inland Wetlands Agency of the adjoining town, by certified mail, return receipt requested.

The Statewide Reporting Form shall be part of the application and specified parts must be completed and returned with this application.

Part J - Other Impacts To Adjoining Towns, if applicable

1) Will a significant portion of the traffic to the completed project on the site use streets within the adjoining municipality to enter or exit the site?___Yes_✓_No___Don't Know

2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality?____ Yes ___✓_No ____ Don't Know

3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality?____ Yes ____✓_No ____Don't Know

Part K - Additional Information from the Applicant

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

Part L - Filing Fee

Application fees shall be in accordance with the current Mansfield Code of Ordinance fee Schedule, pursuant to Section 8-1c of the Connecticut General Statutes. The fee schedule includes provisions for applicant-funded consultant studies and reports. The current fee schedule is available in the Planning and Zoning office.

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

Certification

I hereby certify that:

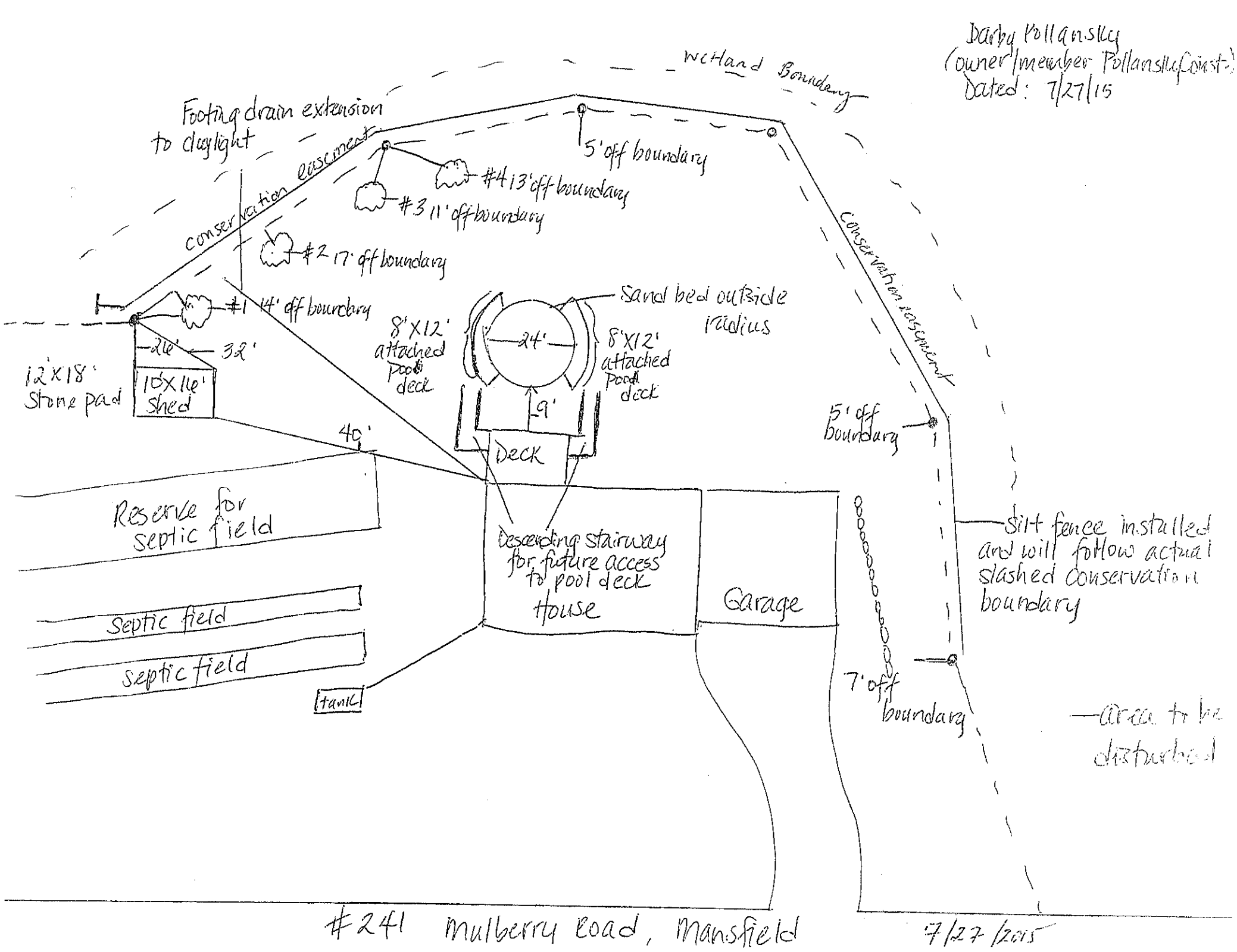
- I am familiar with the information contained in this form and that such information is true and correct to the best of my knowledge.
- I understand the penalties for obtaining a permit through deception or through inaccurate or misleading information.

Signature _____ Date 7/26/15

Authorization to Enter Property

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

Signature _____ Date 7/26/15


Darby Pollansky
(owner/member Pollansky Const.)
Dated: 7/27/15
Wetland Boundary
Footing drain extension to daylight
conservation easement
5' off boundary
#4 13' off boundary
#3 11' off boundary
#2 17' off boundary
#1 14' off boundary
Conservation easement
Sand bed outside radius
8'X12' attached pool deck
24'
8'X12' attached pool deck
9'
Deck
12'X18' Stone pad
10'X16' shed
26'
32'
40'
5' off boundary
Reserve for septic field
Descending stairway for future access to pool deck
House
Garage
Silt fence installed and will follow actual slashed conservation boundary
Septic field
Septic field
Tank
7' off boundary
area to be disturbed
#241 Mulberry Road, Mansfield
7/27/2015

Attachment to page 3 of 6 for Wetland application
Dated: 7/27/15
Submitted by: Darby Pollansky

This application is for permission to excavate, grade and stump an area of about 6,000 sq.ft. This is to create a lawn area that will be filled to grade level and topsoiled which will be seeded and mulched. Within this disturbed area, this application is seeking permission to install a 12'x 18' stone pad for a 10'x16' shed. The existing footing drain for the house will be extended out to edge of disturbed area to daylight. This application is also seeking permission for a 24' round, above ground pool with an attached 8'x12' deck. Also, a descending staircase from the existing deck on the back of the house which will connect to the pool deck. The side of the pool where the deck will be will be determined by the homeowner at the time of the installation of the pool. That also applies to the descending staircase from the house deck.

There is no proposal for any direct disturbance to the wetlands, or any activity within. Approximately a total of 495 yds. of fill and topsoil (combined) will be brought in to complete the leveling of the yard and to establish grass. The homeowner will be re-vegatating the outer perimeter of the disturbance with their choice of flowers and various landscaping plants.

The other goal with this application is to create a safe and useful access to the back yard for the following reasons:

1. no practical access exists because of the septic system location.
2. the area directly adjacent to the side of the

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER PROTECTION AND LAND REUSE BUREAU

BYPASS REPORT FORM

City or Town: Mansfield/Storrs

Type of Bypass
____Raw Sewage
____Disinfected Raw Sewage
____Partially Treated Sewage

____Disinfected Partially Treated Sewage
____Sludge Spill
X Other: Treated Effluent

Location of Bypass
X Treatment Plant

____Pump Station
____Manhole,____Lateral,____Basement
____Main,____Private

Cause of Bypass
____Weather Conditions _____

____Mechanical Equipment Failure

____Electric Utility Failure
____Electrical Equipment Failure
X Approved Shutdown
____Limited capacity:____Dry weather
____Wet weather

Blockage of Sewer Line due to:
____Grease, ____Roots, ____Other:

Exact Location of By-Pass: temporary pump/piping discharging to manhole (along final effluent pipe)

Date and Time By-Pass was Discovered: 7/7/15 7 /00 AM/PM

Date and Time By-Pass was Stopped: 7/7/15 9/00 AM/PM

How By-Pass was Discovered: WPCF Supervisor discovered during a routine morning inspection of the facility

Quantity/Volume of By-Pass: Approximately 20,000-120,000 gallons

How Quantity/Volume was Determined: Estimate based on influent flow data and visual inspection

If Equipment Failure, date of last inspection, maintenance or repairs: ____/____/____

Receiving Waters (If Applicable) wetland located south of the facility

Steps taken to minimize volume and duration of By-Pass: The piping was moved and secured properly

Action taken to eliminate By-Pass: The piping was re-installed and secured properly

Steps Taken to prevent recurrence of By-Pass: Inspections by the engineer to oversee the operations of the project and ensure equipment is functioning/installed properly.

Was area of By-Pass cleaned of debris? Yes No X N/A

Method Used:

Date of Last Blockage__/ Back up__/ Surcharge ___ at this location: ____/____/____

BYPASS NOTIFICATION LOG

Permittee shall notify DEP within 2 hours of becoming aware of the bypass and shall submit a written report within 5 days.

2 hours notification required

DATE/ TIME

7/7/15, 10:50 am VOICEMAIL — CT DEP - Iliana Ayala (860) 424-3758 (Primary DEP Contact) If Iliana Ayala is not available, you **must** call Municipal Facilities Section at number below:

7/7/15 11:00am — CT DEP (860) 424-3704 [(860) 424-3338 (DEP Emergency Dispatch) only for after hours] DO NOT LEAVE VOICE MAIL MESSAGES — VOICEMAIL

7/7/15 1:00 pm CARLOS ESGUERRA — Name of person contacted

CT Bureau of Aquaculture (203) 874-0696 Option 2 Monday through Friday 8:00 and 4:30 pm (Required only if bypass is south of Interstate Route 95)
_____ Name of person contacted.
After hours/weekend must refer to call list provided by Bureau of Aquaculture
DO NOT LEAVE VOICE MAIL MESSAGES

7/7/15 12:30 pm — CT Dept. of Public Health (860) 509-7333 (Drinking Water Section) notify Monday through Friday 8:30 to 5:00 pm if bypass occurred in following towns: Bristol, Cheshire, Danbury, Goshen, Groton, Hamden, Manchester, Mansfield, Middletown, North Haven, Norwalk, Ridgefield, Shelton, Stamford Vernon, and Woodstock.

__/__ KIM WHOLEAN Name of person contacted -

7/7/15 12:53pm — CT Dept. of Public Health (860) 509-7296 (Recreation Section) notify from Monday through Friday 8:30 to 5:00pm if bypass occurred from April 1st through September 30th.

TERESA WILLIAMS Name of person contacted -

7/7/15 12:45 pm ROBERT MILLER — Local Health Department or Regional Health District Name of person contacted

__/__ Health Director of Contiguous Towns (Coastal Plants Only) or Health Director of Town Downstream (Inland Plants)

___ _____ Name of person contacted

Final report within 5

___ Fax to CT DEP, Iliana Ayala (860) 424-4067

__/__ Fax to CT Aquaculture (203) 783-9976 (If south of I-95)

__/__ Fax to Local Health Department or Regional Health District

Report Submitted by: Todd Matthewson Title: UConn WPCF Supervisor

Signature: [signature] Date: 7/7/15 Phone # 860-234-3534

Submit Completed Report to either by fax or by mail: State of Connecticut, Department of Environmental Protection, Water Bureau – Attention: Iliana Ayala, 79 Elm Street, Hartford, CT 06106-5127

Rev. 3/15/2010

Bypass Report Form
When to be submitted?

Under Section 22a-430-3(k) of the Regulations of Connecticut State Agencies ("RCSA"), Bypass "means the diversion of wastes from any portion of the wastewater collection or treatment facilities".

Examples of bypasses within a **collection System**

- A planned bypass of sewage in the sewer collection system **not** causing sewage to reach the ground surface, a storm drain, surface waters, or into public, residential or ~~commercial~~ property. → Notify DEP, Iliana Ayala during normal business hours at 860-424-3758.
- Backup of sewage into residential or commercial property. → Notify immediately the local or regional Department of Health Services.
- Surcharging of a sewer line causing an overflow of sewage to the ground surface, a storm drain or surface waters.
- Overflow of sewage at a sewage pumping station causing sewage to reach the ground surface, a storm drain or surface waters.

→ Notify immediately the local or regional Department of Health Services and CT Department of Health, Drinking Water Section and the Recreation Section. ~~See Bypass report form and notification log for details.~~

Examples of bypasses within **sewage treatment facility**

- A bypass of the entire facility or loss of disinfection.
- A bypass of any process in the facility due to infiltration, heavy rain, equipment failure or electrical failure. Examples: Flows are too high to keep effluent filters from becoming flooded, some flow is passed around filters but disinfection is not lost.
- A planned bypass of any process in the facility **NOT** causing sewage to reach the ground surface, a storm drain or surface → Notify DEP, Iliana Ayala during normal business hours at 860-424-3758.

→ Notify immediately the local or regional Department of Health Services and CT Department of Health, Drinking Water Section and the Recreation Section. ~~See Bypass report form and notification log for details.~~

Notify immediately the Department of Agriculture, Bureau of Aquaculture at (203) 874-0696 Option 2 Monday through Friday 8 – 4:30pm when there is a potential for **contamination of shellfish** or when any bypass occurs south of Interstate 95 anywhere in CT. After hours/weekend must refer to call list provided

Under Section 22a-430-3(k)(4) of the Regulations of Connecticut State Agencies ("RCSA") the permittee shall, within two hours of becoming aware of such condition, notify Iliana Ayala (860) 424-3758 during normal business hours (8 am to 4 pm). If Iliana Ayala is not available in person, call (860) 424-3704. DO NOT LEAVE VOICE MAIL MESSAGES Outside of the hours above, call DEP Emergency Dispatch at (860) 424-3338.

Submit to the DEP within five days the **Bypass report form and notification log** by fax at (860) 424-4067 or by mail.

PAGE
BREAK

UCONN 2014 Water Quality Report

Main Campus, Storrs and Depot Campus, Mansfield
Public Water System ID No. CT 0780021

Delivering Quality Water

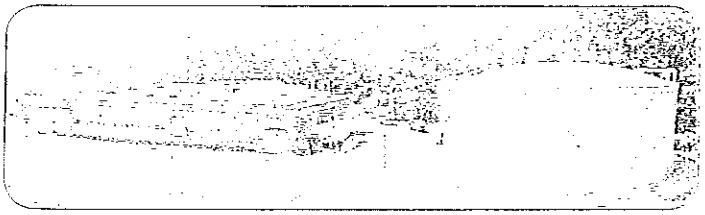
The University of Connecticut is pleased to provide you, our water system customers, with the 2014 Water Quality Report. We provide this report to our customers to fulfill the consumer confidence reporting requirement of the federal Safe Drinking Water Act (please see the water quality test results on page 3) and to keep you appraised of important water system developments.

For several years UConn has been planning and implementing measures designed to help meet our water supply goals of ensuring an adequate quantity of pure drinking water while making efficient use of available resources. Major investments were made to reduce water losses from our transmission and distribution systems. We provided extensive outreach to inform our students, staff and off-campus customers of the importance of water conservation. The result was a year-to-year reduction or sustained level of water use, despite a growing service population.

Specific milestones towards meeting our water supply goals were achieved in 2013. The University began replacing potable water used at its central utility plant with treated reclaimed water. Also, an Environmental Impact Evaluation assessed the possible alternatives to meet long term water needs and identified an interconnection with Connecticut Water Company to be the most environmentally sound and least costly option.

Building off the successes of 2013, this past year saw much sustained progress. The reclaimed water facility continued to reduce the utility plant's need for potable water. Overall potable water demand in the system is nearly 9 percent less than what it had been before reclaimed water was available. Design of the pipeline that would interconnect the UConn and Connecticut Water systems was completed, and an application to secure a water diversion permit, was made to the Department of Energy and Environmental Protection (DEEP). We continue working to complete the permitting process and obtain the final approvals for the project so we can move forward with the additional supply to meet the long term needs of the University and Mansfield.

Thank you for taking the time to review this report. If you have questions concerning the drinking water quality results, please call, week days between 8 a.m. and 5 p.m., the University's Department of Environmental Health and Safety at 860-486-3613, or New England Water Utility Services, Inc.'s (NEWUS) project manager at 860-486-1081. NEWUS is the contract operator subsidiary of Connecticut Water Company.



Reclaimed Water Facility

Regulatory Oversight

The University's Main Campus and Depot Campus systems experienced no water quality or monitoring/reporting violations for this reporting period. To ensure that tap water is safe to drink, the Federal Environmental Protection Agency (EPA) and the State of Connecticut Department of Public Health (DPH) establish and enforce regulations that limit the amount of certain substances in the water provided by public water systems. Water quality testir is an ongoing process, and the frequency of testing for each parameter is prescribed by these drinking water regulations. Due to testing schedules, not of these tests were required during 2014, but the most recent test data is shov in the table located on page 3. Samples from the University's water systems are tested regularly at state-certified laboratories to ensure compliance with state and federal water quality standards. Water samples are collected for wate quality analysis from our wells, from entry points into our systems, and from sample locations within our distribution system.

Securing Additional Water Supply for the Long Term

To address the anticipated long term water supply needs of UConn and neark areas in Mansfield, a detailed study in the form of an Environmental Impact Evaluation was prepared, published, publicly reviewed, and ultimately approv in 2013 under the state's Environmental Policy Act. Among the alternatives that were studied, the alternative of securing an interconnection with Connecticut Water Company was determined to be the most environmentall sound, most consistent with the state plan of conservation and development, and most economical. The agreements reached between UConn and Connecticut Water Company and Mansfield and Connecticut Water were structured to meet the long-term interests of the campus, its neighbors, and tl region.

In April 2014, the University and Connecticut Water jointly submitted a permit application to DEEP for the approval needed to interconnect the two supply systems (the Diversion Permit). The Diversion Permit application requested that the permit extend for 25 years and that Connecticut Water be authorized to provide up to 1.18 million gallons per day (mgd) on average an a maximum of 1.85 mgd for a peak day during that period. Water would com from Connecticut Water's Northern Western system's Lake Shenipsit Reservoi

In December 2014, DEEP issued a Notice of Tentative Determination based on its finding that the permit application was complete and the proposed diversion: 1) is necessary, 2) will not significantly affect long-range water resources management, and 3) will not impair proper management and use of the state's water resources. Publication of the DEEP notice, which included a draft of the permit, including a list of conditions to protect the environment, initiated a 30-day public comment period and public hearing process, that extended into 2015. The public hearing process was closed in May and a rulin is anticipated during the late spring or summer of 2015.

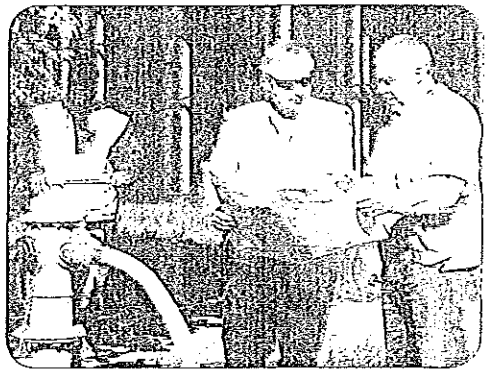
Working in partnership with the Town of Mansfield, Connecticut Water established a Water System Advisory Group with representatives from the Town, UConn, nearby communities, and other stakeholders, which will meet quarterly and provide local input to ensure communication and collaboration relating to the Connecticut Water system. The group will also make recommendations about best management practices, including water conservation programs, and the company will work with the Advisory Committee to implement such programs.

System Description

The University owns and operates the Main Campus water system in Storrs and the Depot Campus section in Mansfield. Although the Main and Depot systems are interconnected, the source of water within each system can vary. The Main Campus receives water from gravel-packed wells located in the Fenton River and Willimantic River Wellfields. The Depot Campus receives water only from the Willimantic River Wellfield. UConn's wells do not pump directly from the Fenton and Willimantic Rivers; rather, the wells are located near the rivers and pump groundwater from underground aquifers. As groundwater moves very slowly through the fine sands that make up these aquifers, the water is naturally filtered. The result is water of excellent chemical, physical, and bacteriological quality pumped from each wellfield. The only water treatment added is sodium hydroxide for pH adjustment and corrosion control, and chlorine for disinfection.

The University continues to have an ample supply of high quality drinking water to meet the needs of its current on-campus and off-campus users. In addition, it has over 7.6 million gallons of water storage capacity to meet all domestic, process, and fire protection needs. Large booster pumps help maintain adequate system pressures, and emergency generator power ensures continued operation during electric power outages.

Water Quality



As water travels over the land surface and/or through the ground, it dissolves naturally occurring minerals and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity, including:

- viruses and bacteria, which may come from septic systems, livestock and wildlife;
- salts and metals, which can be natural or may result from storm water runoff and farming;
- pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff or lawn care;
- organic chemicals, which originate from industrial processes, gas stations, storm water runoff and septic systems; and
- radioactive substances that can be naturally occurring.

To ensure safe tap water, EPA prescribes limits on these substances in water provided by public water systems. The presence of these contaminants does not mean that there is a health risk. The University complies with EPA and DPH water quality requirements to ensure the quality of the water delivered to consumers. There were no water quality violations in the University's systems in 2014.

Stage 2 Disinfectants and Disinfection Byproduct Rule (Stage 2 DBP rule)

The EPA's Stage 2 Disinfectants and Disinfection Byproducts Rule (DBP rule) requires all water systems to evaluate the potential for producing elevated levels of certain "disinfectant by-products" that have potential adverse health effects. These chemical compounds can be produced by the reaction of disinfecting chemicals with naturally occurring chemical compounds found in the water. Water quality test results over eight consecutive quarterly sampling periods showed that none of the samples contained levels of disinfection by-products in excess of allowable levels. Because of these favorable sample results, the University's water system has been designated as in compliance with the DBP rule.

Health Information

Consumer Confidence Reports are required to contain public health information for certain contaminants and compounds, even if the levels detected in the system were less than the Maximum Contaminant Levels (MCL) established for those parameters. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. EPA and the Federal Center for Disease Control guidelines on reducing the risk of infection by Cryptosporidium and other microbial contaminants are available from EPA's Safe Drinking Water Hotline (800-426-4791).

CRYPTOSPORIDIUM. Cryptosporidium is a microbial parasite found in surface waters throughout the U.S. Since the University uses groundwater (wells) rather than surface water (reservoirs), the University is not required to test for Cryptosporidium.

COPPER & LEAD. The University currently meets regulatory requirements for both lead and copper. Lead and copper samples were collected in 2014. The 90th percentiles for both lead and copper were below the EPA Action Level. Nonetheless, the University believes it is important to provide its customers with the following information regarding lead and copper.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The University's water systems provide high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap water for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Similarly, elevated copper levels can also have health impacts. Copper is an essential nutrient, but like lead, its levels can vary from location to location. Some people who drink water containing copper in excess of the Action Level over a relatively short period of time could experience gastrointestinal distress and may also suffer liver or kidney damage. People with Wilson's disease should consult their personal physician. If you are concerned about elevated copper levels, you may wish to have your water tested. Running your tap for 30 seconds to 2 minutes before using for drinking or cooking will significantly reduce copper levels in the water.

Water Quality Testing

The results of tests conducted on water samples for regulated compounds are summarized in this report. While most of the monitoring was conducted in 2014, certain substances are monitored less than once per year because the concentrations are expected to be relatively constant. If levels were tested prior to 2014, the year is identified in parentheses.

As required by the EPA and the DPH, the University also periodically tests for "unregulated contaminants." Unregulated contaminants are those that do not yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a standard. The last required samples for those unregulated compounds were collected in July 2009 with all sample results below detection levels.

University of Connecticut Water System

Water Quality Test	MCL	MCLG	Highest Level Detected	Range of Detections	MCL Exceeded?	Possible Contaminant Source
Copper (ppm)	AL 1.3	AL 1.3	0.299*	0.006-0.480	No	Corrosion of household plumbing systems
Lead (ppb)	AL 15	AL 15	11*	ND-27	No	Corrosion of household plumbing systems
Barium (ppm)	2	2	0.015	0.015	No	Erosion of natural deposits
Chloride (ppm)	250	NA	25.7	25.7	No	Erosion of natural deposits
Nitrate (ppm)	10	10	0.72	0.60-0.72	No	Runoff from fertilizer use
Sodium (ppm)	NL=28	NA	24.4	24.4	No	Erosion of natural deposits
Sulfate (ppm)	NA	250	10.8	10.8	No	Erosion of natural deposits
Turbidity (ntu)	5 ntu	NA	0.27**	ND-4.52	No	Soil runoff, pipe sediment, or precipitation of minerals or metals
Total Coliform (# of monthly positive samples)	1	0	0	ND	No	Naturally present in the environment
Alpha Emitters (pCi/L) (2013)	15	0	5.1	ND-5.1	No	Erosion of natural deposits
Combined Radium (pCi/L) (2013)	5	0	1.08	ND-1.08	No	Erosion of natural deposits
Chlorine (ppm)	MRDL 4	MRDLG 4	0.83	0.04-0.83	No	Water additive used to control microbes
HAA5 (ppb) [Haloacetic acids]	60	NA	3.8	ND-3.8	No	By-product of drinking water disinfection
TTHMs (ppb) [Total Trihalomethanes]	80	0	17.9	3.8-17.9	No	By-product of drinking water disinfection

* Compliance is based on 90th Percentile Value as listed here.
**Compliance is based on Running Annual Average as listed here.

Definitions and Key Terms

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. Typically when MCLs are exceeded a violation occurs and public notification is required.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfection Level): The highest level of a disinfectant allowed in drinking water.

MRDLG (Maximum Residual Disinfection Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health.

Detected Contaminant: A detected contaminant is any contaminant measured at or above a **Method Detection Level.** Just because a contaminant is detected does not mean that its MCL is exceeded or that there is a violation.

NA: Not applicable.

ND: Not detected.

NL: Notification level.

ppb (parts per billion): One part per billion = ug/L; the equivalent of 1 penny in $10,000,000.

ppm (parts per million): One part per million= 1 mg/l; the equivalent of 1 penny in $10,000.

PCi/L (picocuries per liter): A measure of radioactivity.

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

Managing Demand

Since the summer of 2013, treated non-potable water provided by the University's reclaimed water facility has supplied UConn's utility plant make-up water for steam production, process cooling for the heat-and-power producing turbines, and produced the chilled water used for air conditioning in many campus buildings.

The reclaimed water facility produced about 240,000 gallons per day (gpd) in 2014 but is capable of processing significantly more. To offset some of the potable water demands of several planned projects, three campus buildings now in development have been designed to use reclaimed water. The STEM Residence Hall, the Tech Park's Innovation Partnership Building, and a new science and engineering building will use reclaimed water for toilet flushing and/or to meet their cooling needs. By substituting processed wastewater for high-quality drinking water for those uses in these buildings, the University expects to save more than 44,000 gpd of potable water during the cooling season.

Also in 2014, UConn renewed a campus-wide water fixture retrofit program. In recent years, many of the campus's older buildings had been renovated with water-conserving fixtures, but many of the newer buildings can benefit from advances made in water saving devices as of spring 2015. Nearly all of the residence halls' faucet aerators and shower heads had been replaced with low flow fixtures. As toilets are replaced and as academic buildings are also addressed, the University expects to see an overall 20 percent reduction in its peak day water demand compared to 2013.

Reliability

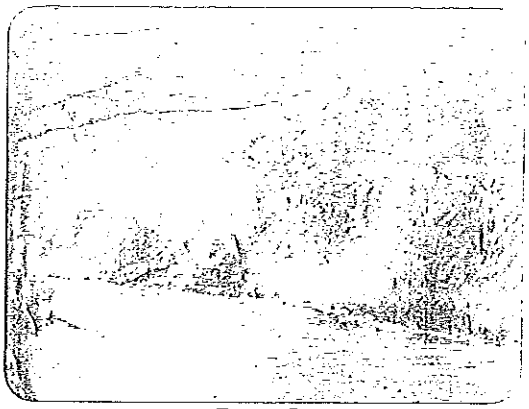
Willimantic Transmission Project

During the fall of 2014, the University started a project to replace the main transmission pipe connecting the Willimantic wellfield to the Storrs campus storage and distribution system. The original cast iron pipe was installed in the early 1970s and has shown signs of deterioration.

The University has repaired several leaks in recent years, including replacing 3,500 feet transmission main along Hunting Lodge Road in 2006. (Note - this piping will remain in place and is not being replaced as part of the Phase I and II projects.) A comprehensive study indicated that the pipe lies in soil that can be corrosive to cast iron over time. Phase I of this project involves installing about 13,500 feet of new 16-inch diameter pipe adjacent to the existing supply line from the wellfield at Spring Manor Farm to just past the Cedar Swamp Brook crossing of Hunting Lodge Road. The new cast iron pipe is entirely wrapped in polyethylene, preventing contact with corrosive conditions.

All of the pipe planned in Phase I has been installed, and will soon be tested before it is put into service. The project includes restoration of disturbed areas, including paved roads, and will be complete before the end of summer 2015. Phase II of the project will replace most of the remainder of the pipe route to the UConn storage tanks. Design of Phase II is underway, and construction should begin in 2015 and extend into 2016.

Source Protection



Fenton River

The University actively protects its wells, wellfields, and the Fenton and Willimantic Rivers, which are valuable water resources. Pursuant to the Connecticut Environmental Policy Act (CEPA), the University undertakes Environmental Impact Evaluations for construction projects based on their size, location, cost or other factors. This process, administered through the State Office of Policy and Management (OPM), provides state agencies, the town of Mansfield, environmental organizations, and interested citizens an opportunity to participate in the review process on a project regarding its potential environmental impact. The University also cooperates with Windham Water Works regarding watershed inspections on the Main Campus. These inspections are designed to protect the Fenton River Wellfield and the Fenton River, as well as the downstream reservoir that serves the Windham Water system.

The University utilizes its aquifer mapping information to delineate the areas of groundwater recharge for its wellfields. This technical evaluation, required by DEEP, shows the critical areas of direct recharge that must be protected from certain development. DPH, in conjunction with DEEP, maintains Source Water Assessment Program (SWAP) reports on the Fenton River and Willimantic River wells. These reports evaluate potential threats of contamination to our wells. The University's wellfields have an Overall Susceptibility Rating of "LOW," the best possible rating. To ensure continued source protection, however, the University will remain vigilant in protecting all of its water supply sources in the years to come. For more information regarding the SWAP report, visit the DPH's Web site at www.ct.gov/dph. In 2014, the University completed the CEPA process and design for the Main Accumulation Area for regulated wastes which will be relocated out of the public water supply watershed (Willimantic Reservoir) to North Campus.

Emergency Notification

UConn and its contract operator, NEWUS, have established a notification system to alert its customers of water supply interruptions. These notifications will be sent when water is planned to be temporarily unavailable due to construction or other improvements or during emergencies such as a broken water main. UConn on-campus consumers are notified through the Building & Emergency Contact (B&EC) system. This enables an email to be sent to the listed contacts of the buildings expected to be affected by the outage. Off-campus customers are notified through NEWUS' emergency notification call system. Notifications will include as much information as possible, including the expected duration of the outage, if known, and any special instructions.

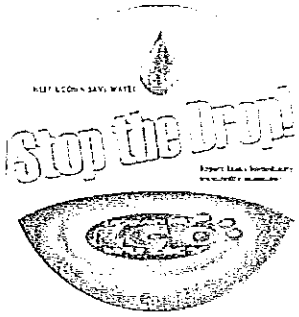
In order for us to promptly notify our customers, it is important that our contact information for you is complete and up to date. Employees can check their B&EC contact information by accessing www.beclist.uconn.edu using their NET ID. Off-campus customers who wish to update their phone number, please call 1-800-286-5700 or send an email to customerservice@ctwater.com.

Water Usage

Overall, the total potable water usage in 2014 increased slightly compared to 2013 but was in line with the growth in service population and was still nearly 9 percent less than what it was in 2012, before the reclaimed water was being used at the UConn utility plant. From 2005 to 2014, the average daily demand on the UConn water system decreased from 1.49 million gallons per day (mgd) to 1.16 mgd. While the on-campus service population increased by 23 percent over that time, the average daily water demand decreased by more than 22 percent.

To accomplish that reduction, the University made many water system changes to the actual infrastructure and its operations, which has helped to increase our overall water use efficiency. We continue to build on the progress made in previous years by renewing our program to replace water fixtures in campus buildings with water-saving devices, and the University remains diligent on reducing wasted water through routine leak detection and repair.

In addition to reclaimed water and other improvements made to the water system, the cooperation we have received from our consumers towards conserving water certainly helped contribute to our overall drop in water usage.



Much of the summer and fall months of 2014 were particularly dry, and the resulting lower streamflows led to our requests for voluntary and, for several weeks, mandatory water conservation. We appreciate your efforts to conserve water when we issue our conservation requests and throughout the year.

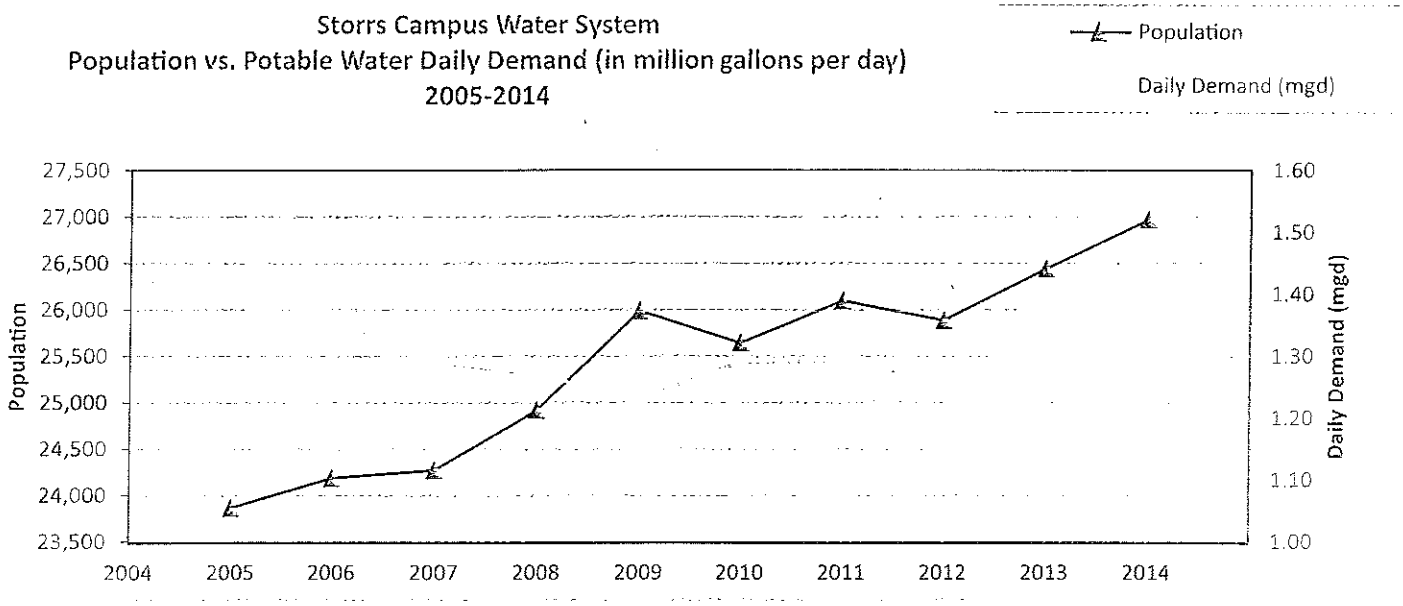
Water Conservation

While our water system does not pump water directly from the local rivers, it does extract groundwater from local aquifers that help sustain them. Extended dry weather naturally reduces streamflow which, in turn, may stress fish and other biotic stream habitat. That's why we respond with conservation measures of our own and request our customers to conserve water during these periods. UConn and NEWUS appreciate your cooperation and encourage the wise and efficient use of water at all times by applying the following tips:

- Install water-efficient fixtures and equipment, such as water-saving shower heads and toilets.
- Take shorter showers.
- Turn off faucets and showers when not in use.
- Wash full loads in washing machines/dishwashers.
- Limit running water in food preparation.
- Limit outdoor watering to early mornings or evenings, and do not water on windy days.
- Mulch around plants to reduce evaporation.
- Limit running water time when washing a car, or use a car wash.

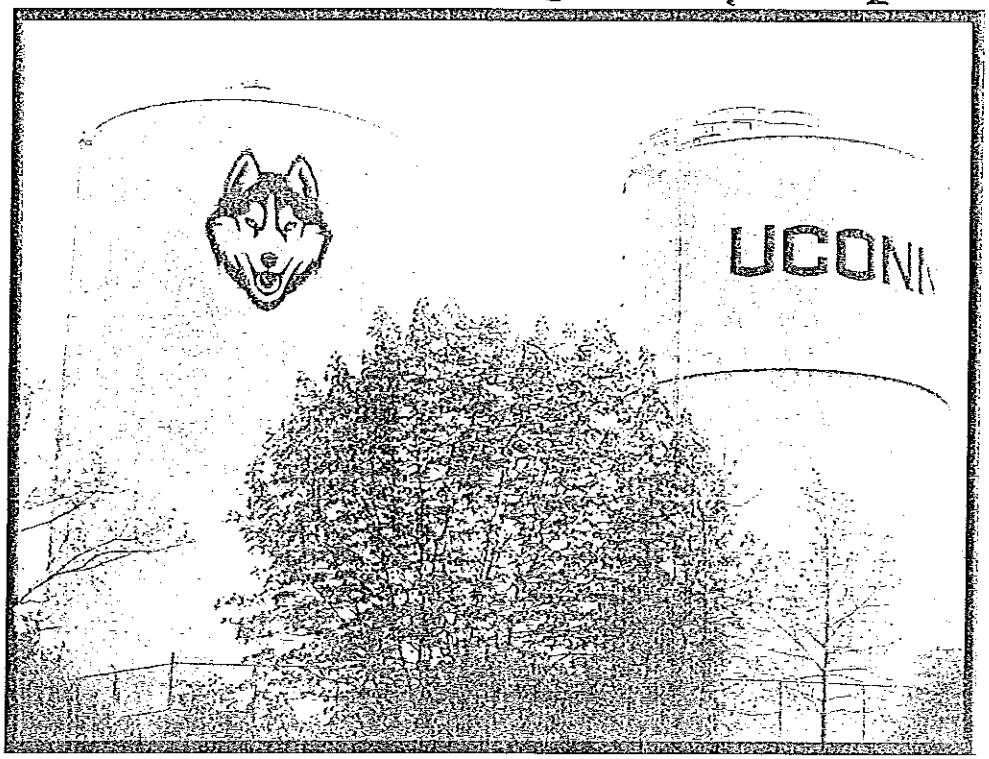
Repair leaks:

- In UConn dorms, promptly report leaks to your Resident Advisor.
- In other campus buildings, report leaks to Facilities Operations at 860-486-3113.



University of Connecticut
Facilities Operation Building
25 LeDoyt Road, Unit 3252
Storrs, CT 06269

2014
Annual Water Quality Report



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Connecticut Wildlife

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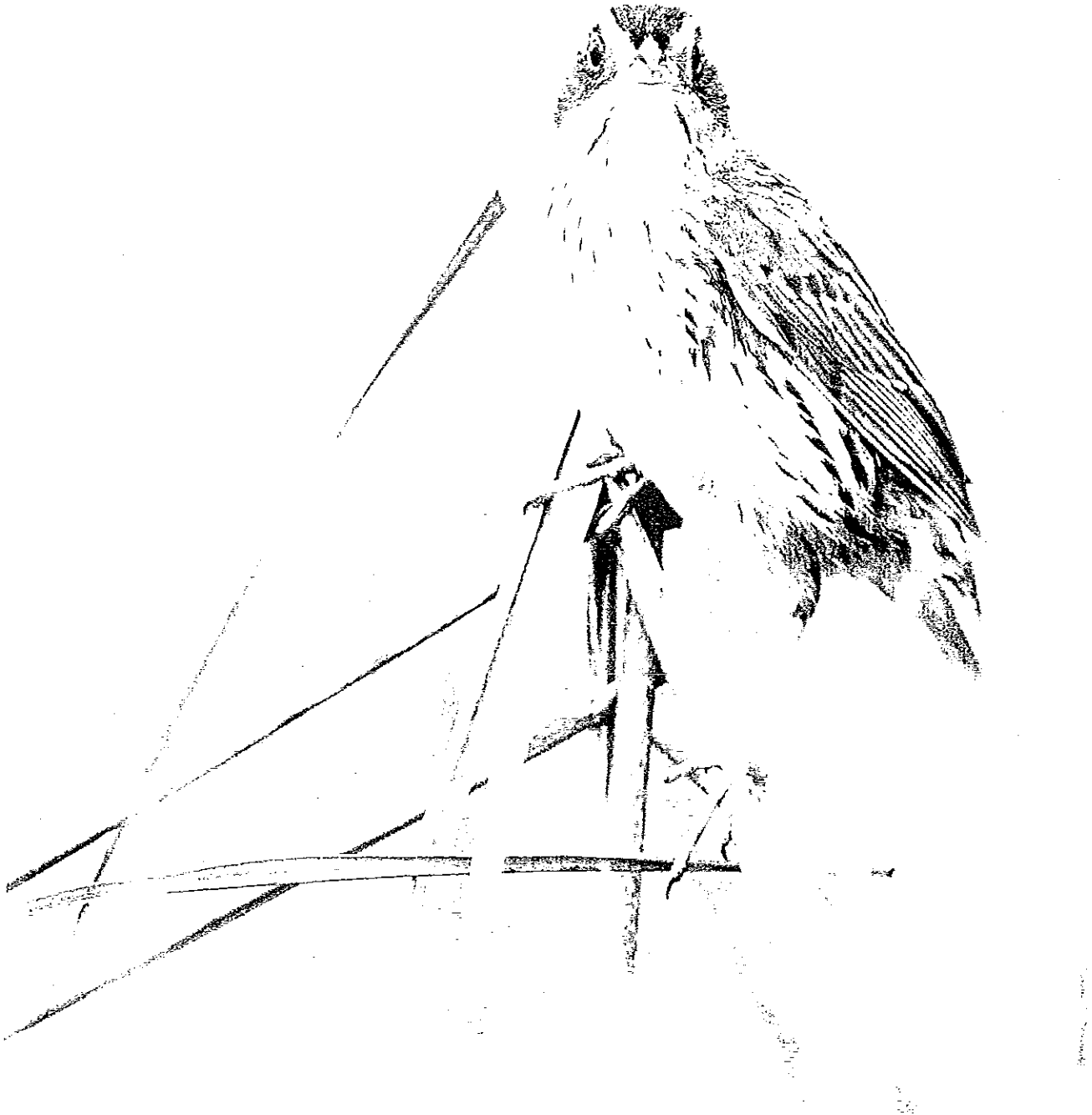
DIVISIONS OF WILDLIFE, INLAND & MARINE FISHERIES, AND FORESTRY



Eye on the Wild

Volunteers Are Crucial!

While reading this issue of Connecticut Wildlife, *you will notice a common thread. Many of the articles highlight projects in which volunteers play an important role. The Wildlife Division is fortunate to have a long list of volunteers, whether they are a passionate individual or part of an organized group. These dedicated people are ready, willing, and able to help out, whenever we ask and even at a moment's notice. In this time of tight budgets and shrinking staff numbers, the assistance of these volunteers on various projects is invaluable, and for that, the Wildlife Division is extremely grateful.*

We would never survive without volunteers. They are not only critical to helping us implement Connecticut's Wildlife Action Plan (see page 3), they also help us leverage additional funds and, most importantly, assist with the stewardship of literally thousands of species in a multitude of habitats across our diverse state. The largest group of volunteers is the Conservation Education/Firearms Safety Instructors who spend thousands of hours teaching courses on firearms, bowhunting, and trapping. Another fantastic group of volunteers are the Master Wildlife Conservationists, who contribute to the Wildlife Division's outreach, habitat management, and research efforts (see page 11).

The list of volunteers is extensive. Some are "citizen scientists" that annually participate in frog and bird surveys; monitor nesting bald eagles, peregrine falcons, and ospreys; act as purple martin landlords (see page 4); coordinate bluebird nest box trails or a series of kestrel nest boxes; patrol shorebird beach nesting areas; band songbirds and raptors; participate in invasive plant removal; and the list goes on. There also are numerous groups and organizations (e.g., conservation organizations, sportsmen's clubs, land trusts, Audubon chapters, schools, nature centers, etc.) that take part in individual efforts or donate funds or services for large projects.

Some recent volunteer efforts to create young forest habitat for New England cottontails and other wildlife are highlighted in this issue (see articles starting on page 7 and 16). The work of four outstanding volunteers even received special recognition from the New England Chapter of The Wildlife Society.

There isn't enough room on this page to name all of the individuals and groups and what they do, but they know who they are. The Wildlife Division appreciates all of the volunteers for their dedication and passion and for wanting to "make a difference" for wildlife.

Kathy Herz, Editor

Cover:

Connecticut's shoreline tidal marshes are home to one of our most secretive and inconspicuous species of sparrow, the saltmarsh sparrow (*Ammodramus caudacutus*). Read about the challenges this little bird is facing on page 12.

Photo courtesy of Paul J. Fusco

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

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Connecticut's 2015 Wildlife Action Plan Almost Complete

Written by Julie Victoria, Terwilliger Consulting Inc. Team and Retired Wildlife Division Biologist

Articles in recent issues of *Connecticut Wildlife* have highlighted revisions that DEEP is currently undertaking to update the 2005 Connecticut Comprehensive Wildlife Conservation Strategy, now called the Connecticut Wildlife Action Plan. The Wildlife Action Plan must be updated every 10 years to reflect changing conditions, and this first revision will be completed by September 30, 2015. Throughout the revision process DEEP has been seeking public input and participation. Public participation was a huge part of creating the original plan and continues to be important in 2015. Since the original plan was approved by the U.S. Fish and Wildlife Service in 2005, the Department and its partners have been able to integrate the management of natural resources, build valuable partnerships, and support regional and national efforts to secure long-term funding for fish and wildlife conservation. Some projects that have been conducted since 2005 have been highlighted in *Connecticut Wildlife* and, over the past year, public presentations and meetings have been held around the state to provide information and seek input from the public.

P. J. FUSCO (2)

Connecticut's Wildlife Action Plan identifies 10 key habitats, one being freshwater aquatic.

The DEEP Wildlife Division and its consultant, Terwilliger Consulting Inc., recently posted a complete draft of the 2015 Wildlife Action Plan on the DEEP website at www.ct.gov/deep/WildlifeActionPlan and everyone is encouraged to take a look. The comment period is winding down, edits are being incorporated, and the polished product is being prepared to go to the U.S. Fish and Wildlife Service for approval. You are encouraged to take this last opportunity to review the 2015 Wildlife Action Plan and participate in this important effort to create a vision for the future of fish and wildlife conservation in our state, and also help keep common species common.

State Wildlife Grants

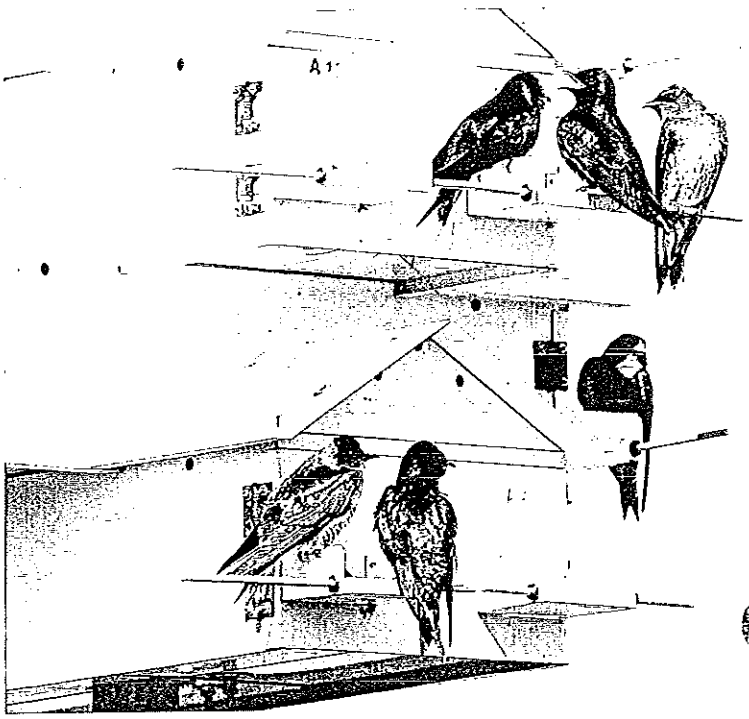
In an effort to keep common species common, the scarlet tanager is identified in Connecticut's Wildlife Action Plan as "very important."

Since the creation of the original Wildlife Action Plan in 2005, volunteers have been critical to the successful implementation of conservation actions, ranging from songbird surveys to habitat management to helping fill data gaps on little known species.

More Sighting Reports of Banded Purple Martins Needed

Written by Geoff Krukar, DEEP Wildlife Division

Every spring, purple martins return from their wintering grounds in South America and form nesting colonies in Connecticut. Adult purple martins are thought to be loyal to an established site, returning to the same colony year after year. However, little is known about where juvenile martins go when they return for the first time. Do they follow the parents? Do they spread out and find other colonies to join? Will they select any empty box and start a new colony? To obtain answers to these questions, the DEEP Wildlife Division initiated a color banding study in 2011. Over the last four years, more than 3,600 purple martin chicks have been uniquely color banded in Connecticut to identify the sites where they were born. Now, these returning migrants are helping to shed some light on their dispersal patterns.



P. J. FUSCO, H. FLINK (inset)

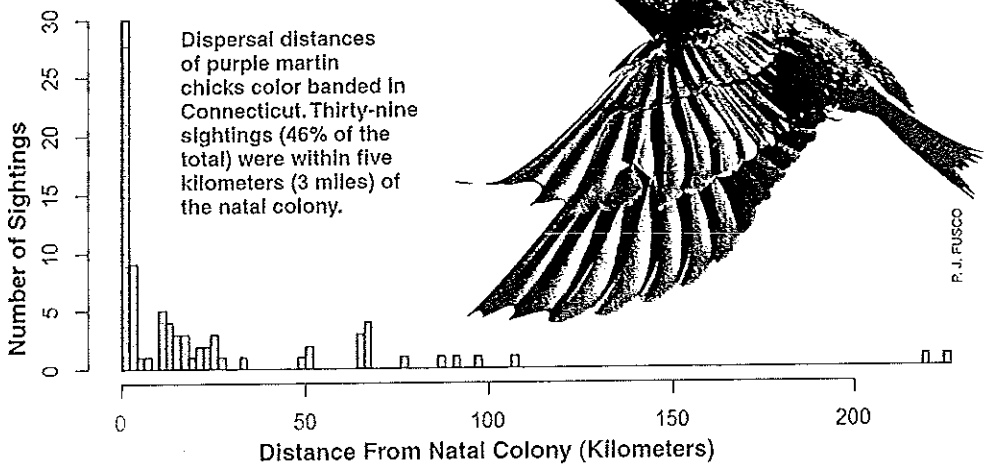
Every purple martin colony visited in 2014 had at least one banded bird, like this adult male (right) from Guilford.

Reported sightings of color banded adult and sub-adult purple martins have come from multiple locations across Connecticut, with a few even being reported from neighboring states. Some birds returned close to home. Twenty-four purple martins were observed at the exact same location where they were originally banded. Other birds made much further moves, with two joining a colony in New York and two joining colonies in Massachusetts. The overall average dispersal distance was 24.3 kilometers (km; 15 miles) with a maximum of 225.4 km (140 miles), but nearly half of all the sightings were within five km (3 miles) of the natal colonies (sites where they hatched).

While there appears to be some movement of birds between colonies clustered along the coast (same goes for inland colonies), to date there has not been much exchange between the coastal and inland colonies. The reasons for this are not clear. Presumably, sub-adult martins migrating north from their wintering grounds would arrive at the coast first where many of the colonies are still new or expanding. This would present opportunities for young birds to find nesting locations. However, over the course of this project, only one bird banded at an inland colony has been found nesting at a coastal colony. No birds banded at coastal colonies have been seen inland in Connecticut.

Key to the success of this project is increasing the number of sightings of color banded birds. During banding events in 2014, attempts were made to identify color-banded adult and sub-adult martins. When the nesting structures were lowered, the parent birds perched nearby, presenting opportunities to observe them with binoculars. At least one banded bird was observed at every colony visited, even at sites where banding had never occurred before. In addition, reports of banded purple martins have been solicited through newsletters and social media. However, the overall sighting (or recapture) rate is only 2.3%. With over 3,600 purple martin chicks colored banded during the last four years, this rate is surprisingly low. We need your help! Everyone, including volunteers and martin colony landlords, are encouraged to keep an eye out and report band colors and, if possible, band numbers of marked purple martins (deep.ctwildlife@ct.gov).

Purple Martin Dispersal Distances



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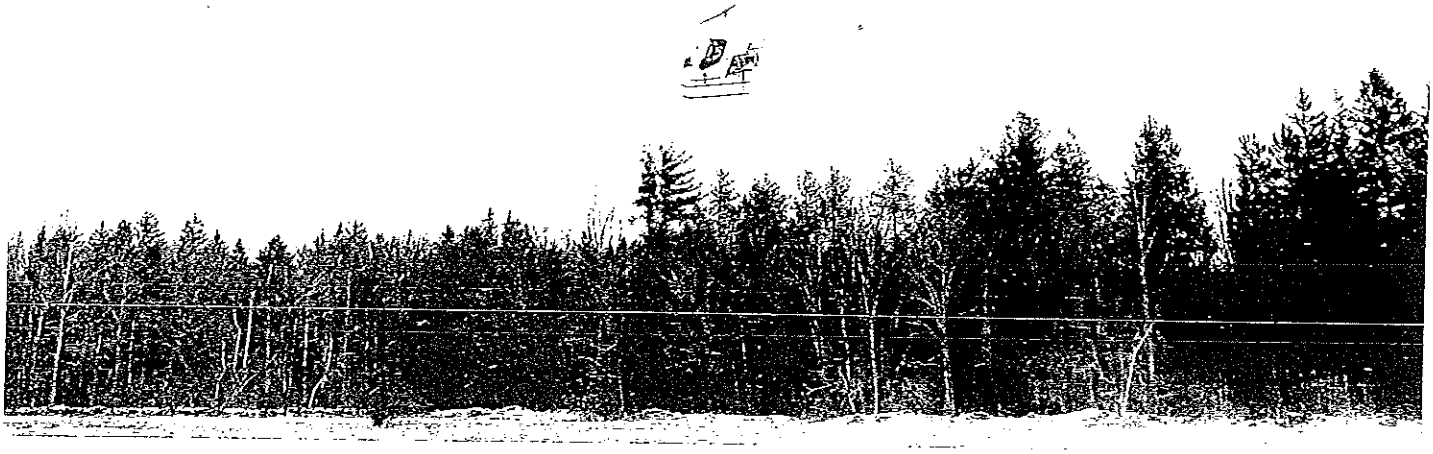
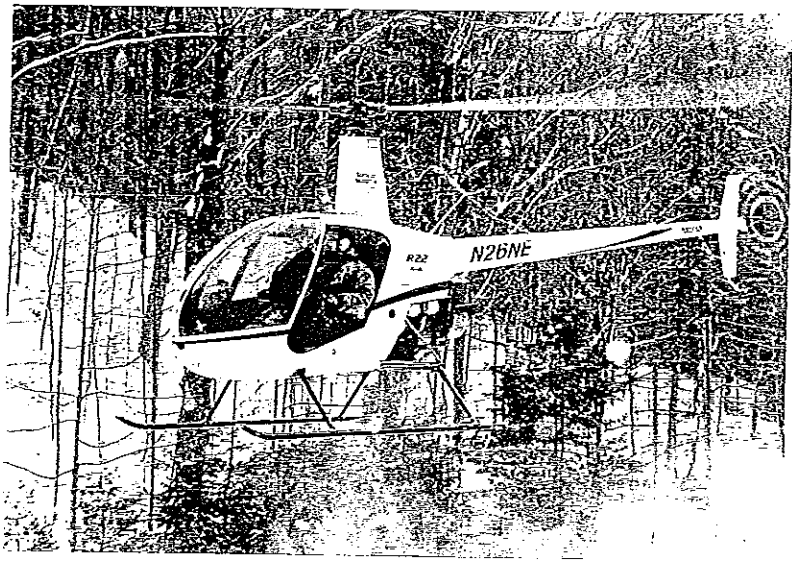


Aerial Excitement in Connecticut

Written by Andy LaBonte, DEEP Wildlife Division

When snow blankets much of Connecticut, DEEP Wildlife Division biologists take to the sky to conduct aerial surveys of several species. Helicopters and fixed wing aircraft are used to fly surveys to evaluate the status of deer and waterfowl populations, and occasionally for locating research animals, such as moose, bear, woodcock, and grouse.

Population surveys for deer are scheduled annually during winter when the ground is completely covered with snow. The snowcover increases the detectability of deer on the landscape. Deer management zones (DMZs), 13 of which have been delineated in the state, are flown on a priority basis. DMZs contain 50-60 miles of transects that are flown using a two- or four-person helicopter at tree top level and at speeds of about 10 miles per hour. Areas of special interest are flown on occasion and special transects are delineated to encompass the target areas.



Wildlife Division biologist Andrew LaBonte and a contracted pilot conducting a low level moose survey from a Robinson 22, two-person helicopter.

The midwinter waterfowl survey is flown in January to obtain an index of long-term wintering trends and provide reliable information on waterfowl distribution and habitat use. The survey also serves to provide data on population trends for some species that breed in remote areas and are difficult to survey using traditional methods. Waterfowl surveys are flown at low elevations along the coast and the three major river systems using a two-person helicopter. Deer and waterfowl surveys are flown every year or every couple of years to identify changes in population trends.

Biologists also use helicopters and fixed-wing aircraft to locate research animals fitted with very high frequency (VHF) transmitters that have moved great distances from their point of capture. Occasionally, animals that are difficult to capture, such as moose, require biologists to actually use a helicopter to fly close enough to the animal to fire a dart gun to tranquilize the animal, allowing a ground crew to locate the animal and place a transmitter on it.

The range of transmitters can be limited and varies with transmitter size. Transmitters placed on birds, such as waterfowl, woodcock, and grouse, have ranges of approximately one-half to two miles, while those on bear, deer, and moose have been heard up to 10 miles away with a direct line of sight. After establishing a thorough search radius from the surrounding roads on a missing animal, a search with an expanded radius can be conducted from the air, providing the best line of sight to aid in locating missing animals.

Although aerial survey work may sound exciting, there is potential danger. Wildlife biologists face a variety of job-related hazards that are unique to the profession. Low-level flight, such as that used for detecting research animals with transmitters and aerial wildlife observations, poses special difficulties. Aviation accidents involving fixed wing aircraft and helicopters accounted for 66% of documented fatalities in biologists (91) between 1937 and 2000 based on a study conducted in 2003. Of 38 accidents, mechanical failure, aerodynamic stall (inability to gain lift at low elevations and speed), and power-line collisions were the primary causes. In spite of the potential dangers associated with low-level flying, aerial surveys continue to provide managers with valuable information for research and management.

Prescribed Burns Conducted at Mohawk State Forest

Written by David Irvin, DEEP Forestry Division; photos provided by DEEP Forestry

DEEP Division of Forestry ignited a prescribed fire on the summit of Mohawk Mountain in Cornwall in late April. This popular overlook in Mohawk State Forest requires continuous vegetation management to maintain the vista on two sides of the mountain. In the past, time-consuming and labor intensive cutting was used to keep the vista open, as well as herbicide control of vegetation. The area is too steep and rocky for mowing.

The DEEP State Parks Division requested assistance from the Division of Forestry to plan a prescribed burn to determine if it was a viable alternative to using herbicides. Fire is already used by DEEP as a management tool for maintenance of native grasslands and other wildlife habitats, and to help restore or regenerate forest types and ecosystems that are in decline in Connecticut. These forest types are often disturbance-dependent, such as pitch pine sand plain and oak forests.

Two sites on Mohawk Mountain, one on the north slope and one on the south slope of the summit, were treated with prescribed burns separately on the same day.

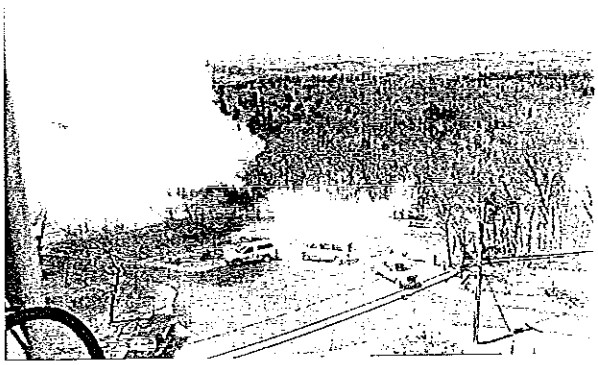
Two sites at Mohawk Mountain, one on the north slope and one on the south slope of the summit, were burned separately on the same day. Even though the total size of the two areas was three acres, the preparation to safely and effectively implement the burns took several days. Preparation involved the creation of firebreaks, contingency lines, and escape routes for staff safety. The potential for mountaintop wind and upslope effects on fire behavior was considerable, requiring a great deal of planning and careful, skilled ignition patterns with drip torches to keep control and reduce the possibility of spot fires during the most intense burning.

Eighteen DEEP staff members assisted in the burn, proving to be an effective professional collaboration between the DEEP Divisions of Forestry, Parks, Wildlife, and Support Services. Many are also part of the Connecticut Interstate Fire Crew (CIFC).

As with many prescribed burns, the fire was first lit to slowly back against the wind or downslope to create "black" safe areas at established control lines. Then each fire was slowly flanked by two different lighters working on opposite edges. Eventually, when approximately half to two-thirds of the areas had burned, the downslope edges were lit, closing the rings and finishing the operations. The fire burned out once fuels in the middle were consumed. All hot spots and "smokes" were cooled and mopped up before staff left for the day. The burns provided firefighter training opportunities and a refresher as the annual spring brush fire season began in Connecticut.

DEEP had the rare opportunity to post a safety "lookout" for the burns in a historic fire tower overlooking both sites. The last functioning fire tower actively used in Connecticut is on the summit of Mohawk Mountain (use was discontinued in the mid-1980s). Never in the past were fires observed so close to the tower and without the use of binoculars!

The Division of Forestry anticipates using prescribed fire in future ecosystem management, particularly in situations where benefits of burning cannot or should not be completely replaced by mechanical means or chemical use.



The view from the lookout tower on Mohawk Mountain.

Aquarion Water Co. Volunteers Create Cottontail Habitat

Written by Judy Wilson, DEEP Wildlife Division

On May 6, 2015, 11 enthusiastic and hardworking Aquarion Water Company Earth Day Volunteers spent the day working alongside staff from the Great Mountain Forest in northwestern Connecticut (Norfolk and Canaan) to remove non-native invasive plants and build a kiosk to provide information to the public about the New England cottontail project recently completed at Great Mountain Forest this past March.

Great Mountain Forest is a privately-owned forest whose mission is to educate, conduct research, and provide recreation supported by a working, sustainable forest management program (www.greatmountainforest.org). Great Mountain Forest received a competitive grant to work in partnership with the DEEP Wildlife Division to create young forest habitat for the New England cottontail, a species whose population and habitat have declined so dramatically that it is now a candidate for listing under the federal Endangered Species Act.

Using specialized equipment on frozen ground this past winter, all but selected mature trees were harvested from an area just north of where New England cottontails have been documented. The resulting regrowth will be thick, dense seedlings and saplings, mixed with a variety of broadleaved plants, briars, and grasses. This habitat and low ground cover are ideal for the New England cottontail and many other species of greatest conservation need, such as the eastern towhee, ruffed grouse, woodcock, and eastern box turtle. The DEEP Wildlife Division has actively sought out and partnered with landowners, such as Great Mountain Forest, to create and restore habitat for New England cottontails and other young forest dependent species on their property as part of the New England Cottontail Initiative.

Preparation for the early May work date began with Great Mountain Forest staff cutting and milling native rot resistant red cedar logs into the timbers that would be used to build the informational kiosk. When the work day arrived, the volunteers notched the timbers so the kiosk could be assembled. They also cut and cleared downed logs from around the site where the kiosk was going to be installed, and dug holes for the kiosk posts. With the help of a tractor, the volunteers put up the kiosk posts and finished assembling the sign in place.

W. W. TIEDMANN, AQUARION WATER COMPANY

Aquarion Water Company Earth Day Volunteers and Great Mountain Forest staff stand near the informational kiosk they built and installed at Great Mountain Forest in Canaan to educate the public about a project to create young forest habitat for New England cottontails.

Volunteers also waded into thorny vegetation to cut and remove a variety of invasive plants, including barberry, buckthorn, and honeysuckle. The tree harvesting created a dramatic change on the landscape. The kiosk is critical to providing information to visitors about why this project was carried out – to create much needed dense, young seedling sapling forest habitat for the New England cottontail and many other species.

The work day at Great Mountain Forest was just one of eight projects that the Aquarion Water Company Earth Day Volunteers will be helping with this year, providing both labor and funding. Volunteers have assisted with other projects, including streamside buffers, raised garden plots, irrigation lines and fencing to promote new buffer plantings, trash cleanup, and even the installation of benches and plaques. In addition to enthusiasm, hard work, and a love of the outdoors, the volunteers bring a diverse skill set to the projects to get the job done. A variety of equipment also is used to accomplish projects, from hand tools to water trucks.

Aquarion Water Company is a public water supply company that provides water to more than 625,000 people in 51 cities in Fairfield, New Haven, Hartford, Litchfield, Middlesex, and New London Counties. The company supports the environment and sustainability through a variety of activities. For more information about the Aquarion Water Company, go to www.aquarionwater.com.

Thanks to a great partnership between Aquarion Water Company Earth Day Volunteers and staff from the Great Mountain Forest, non-native invasive plants were removed and a kiosk was installed to provide information about a project to create habitat for New England cottontails.

Filling a Niche: CT's Brown Trout Fry Stocking Program

By Michael Humphreys, DEEP Inland Fisheries Division

Connecticut is blessed with many beautiful free-flowing brooks and rivers. The majority of our moderate to large size streams are stocked with nine to 12-inch brown trout (*Salmo trutta*), brook trout (*Salvelinus fontinalis*), or rainbow trout (*Oncorhynchus mykiss*) raised at one of three state hatcheries. These trout are stocked to enhance fishing in streams where natural reproduction is absent or inadequate, or into waters that provide a seasonal trout fishery. Many of our cold perennial streams support significant wild, naturally reproducing brook trout, brown trout, or both species.

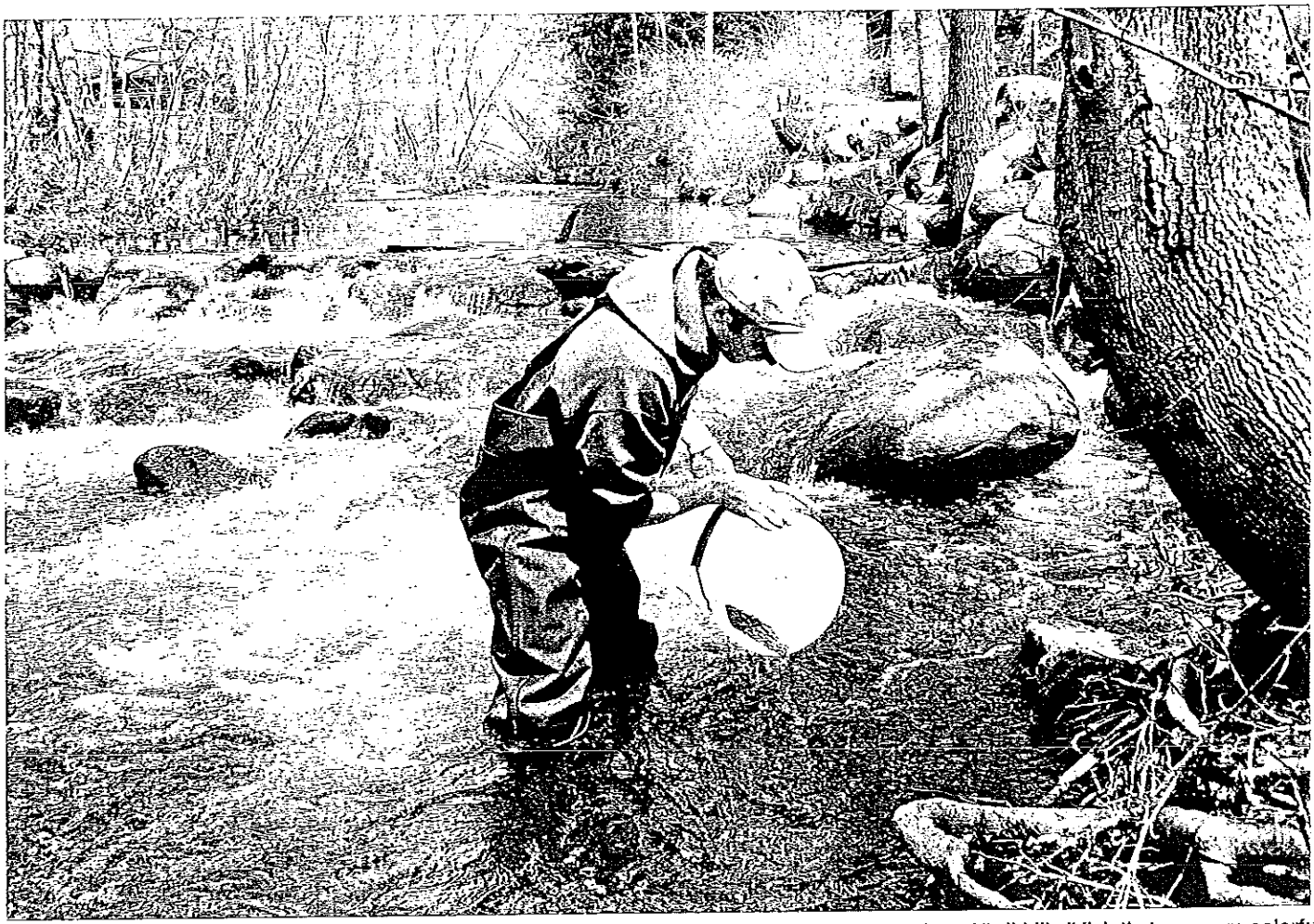
Through extensive stream sampling in the early 1990s, it was determined that most of Connecticut's moderate-size cool water streams could potentially support many more trout than they currently were. In other words, we were finding good trout habitat, but much of it was empty. The DEEP Inland Fisheries Division identified that natural spawning was hampered by little if any suitable spawning gravel or high mortality rates (predation and other natural causes of death). As these factors prevented most fish from reaching spawning age (two or three years old for most females), it was clear that successful reproduction was the "bottleneck" for trout populations.

At a time when hatchery production of adult-size trout is at capacity, we sought ways to fill the empty stream habitat with trout. Fry are small fish (1-2 inches) that are capable of swimming and feeding on their own. By producing and incubating trout eggs in DEEP hatcheries, and then rearing the hatchlings to the fry stage, we found a way to bypass the reproductive bottleneck.

We began stocking fry in the late 1990s. Fish stocked as fry can then disperse and grow on a diet of natural food in the natural stream environment. Very quickly, stocked fry take on natural coloration and habits and become indistinguishable from wild-spawned fish. Over the past 15 years, our extensive study has proven that the fry stocking project has increased the number of trout in streams in a cost-effective manner by using the empty habitat to grow fish.

Many of these fry-stocked waters are now managed as "Wild Trout Management Areas" to maximize the benefit of the high-quality, wild-looking trout grown from fry (see the Connecticut Angler's Guide for specific streams). Many of these waters are also stocked in spring with adult-size trout, which are necessary to support high catch and harvest rates during the popular traditional spring trout fishery. A nine- or 12-inch minimum length limit regulation serves to protect the young fry-stocked trout from harvest for their first one to two years.

Consecutive years of fry stocking can



M. HUMPHREYS, INLAND FISHERIES DIVISION

Stocking brown trout fry into streams with vacant or under used trout habitat facilitates the production of "wild-like" fish that are more colorful than traditional stocked trout.

M. BEAUCHENE, INLAND FISHERIES DIVISION

On an annual basis, 250,000 to 400,000 brown trout fry are produced and stocked into 50-70 miles of stream habitat in 25 to 30 streams each spring.

produce multi-age populations that have densities and age/size distributions that are similar to those in Connecticut's best natural wild trout streams. Thus, fishable numbers of trout are created in streams that previously held very few or no wild trout. In streams that are stocked with both fry and adult trout, the adult-stocked trout are almost always rapidly depleted, leaving few if any remaining by mid-summer, while high densities of fry-stocked trout remain to use previously empty habitat and provide new year-round trout fishing opportunities. Due to the nature of natural trout population dynamics, younger and smaller trout predominate in populations established by fry stocking. However, most fry-stocked streams produce some trout over 12 inches, with a few trout up to 18-20 inches or more.

We continue to look for new opportunities to support trout fisheries. Some efforts include stocking fry in small tributaries that act as "nursery streams" where fish migrate downstream as they outgrow their habitat. For example, 13 tributaries to the upper Housatonic River are now regularly stocked with Farmington survivor brown trout fry to supplement trout fisheries in the two popular Housatonic Trout Management Areas. Other fry stocking efforts involve tributaries to some trout management lakes, Steele Brook (Watertown), and, most recently, due to improved public access, Pond Brook (Newtown) and Cobble Brook (Kent).

Brown trout fry stocking has proven to be an efficient means of increasing the cost effectiveness of Connecticut's trout program and the quantity and quality of stream trout fishing.

Currently, the fry stocking program is an established part of DEEP's stream trout management program. On an annual basis, 250,000 to 400,000 brown trout fry are produced and stocked into 50 to 70 miles of stream habitat in 25 to 30 streams each spring. Fry stocking will never replace the high value of Connecticut's remaining self-sustaining native wild brook trout populations. In fact, wild brook trout populations are judiciously avoided when considering possible fry stocking locations. Likewise, fry stocking will not replace the high catch rates and harvest opportunities generated by the adult trout stocking program. Even the best stream habitat cannot naturally sustain the liberal harvest of adult-size trout that is supported by our state hatchery system. However, brown trout fry stocking has proven to be an efficient means of increasing the cost effectiveness of Connecticut's trout program and the quantity and quality of stream trout fishing.

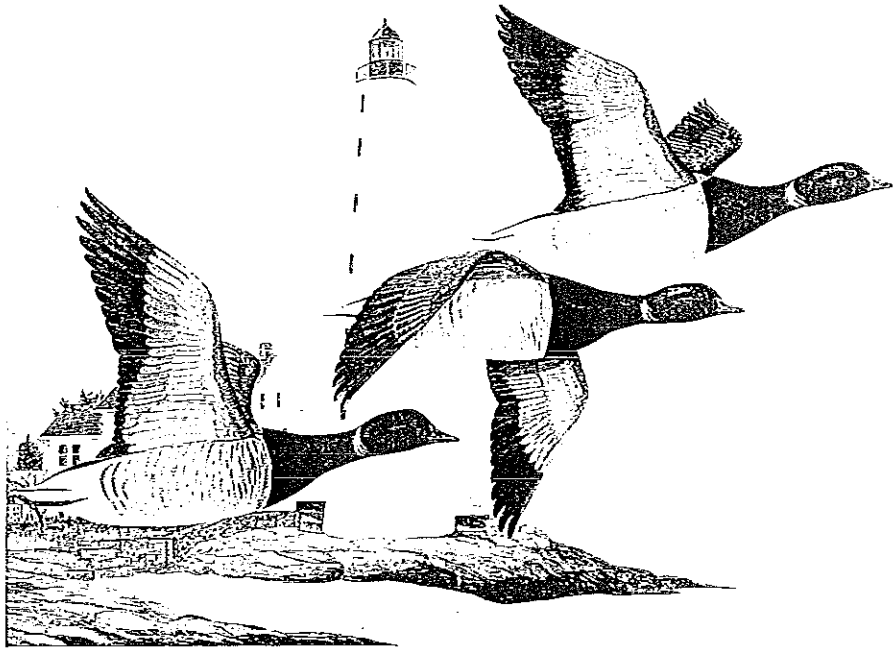
Jeffrey Klinefelter Wins 2015 CT Duck Stamp Art Contest

In an extremely close contest, a panel of judges recently selected wildlife artist Jeffrey Klinefelter's depiction of three Atlantic brant flying near the old New London lighthouse as the winner of the DEEP's 2015-2016 Connecticut Migratory Bird Conservation (Duck) Stamp Art Contest. Mr. Klinefelter, of Etna Green, Indiana, has entered a painting every year in the contest and finished third in last year's contest. Mr. Klinefelter's painting was chosen out of 11 entries submitted by artists from across the country, including two from Connecticut. The DEEP Wildlife Division encourages local artists to submit paintings for this contest. So far, few local artists have entered the contest or won the top prize.

Paintings were judged in five categories: originality, artistic composition, anatomical correctness, general rendering, and suitability for reproduction. Mr. Klinefelter's painting will be the image for the 2016 Connecticut Duck Stamp. A pair of Canada geese painted by Christine Clayton, of Sidney, Ohio, was voted a very close second and a painting of three bufflehead by Broderick Crawford, of Clayton, Georgia, placed third. The top three paintings are currently on display in the lobby of the DEEP headquarters at 79 Elm Street, Hartford, which is open to the public on Monday through Friday, from 8:00 AM to 5:00 PM.

Do your part for conservation. Buy a Connecticut Duck Stamp and contribute to habitat protection and restoration.

The Connecticut Duck Stamp Program was initiated in the early 1990s when concerned sportsmen worked with DEEP to develop legislation that would generate revenue for wetland conservation. Modeled after the federal Duck Stamp Program, Connecticut's program requires the purchase of a state Duck Stamp, along with a hunting license, to legally hunt waterfowl. By state law, funds generated from the sale of Duck Stamps can only be used for the development, management, preservation, conservation, acquisition, purchase, and maintenance of waterfowl habitat and wetlands, as well as the purchase and acquisition of recreational rights or interests relating to migratory birds.



A panel of judges recently selected wildlife artist Jeffrey Klinefelter's depiction of three Atlantic brant flying near the old New London lighthouse as the winner of the DEEP's 2015-2016 Connecticut Migratory Bird Conservation (Duck) Stamp Art Contest.

The Duck Stamp Program is a great example of how the North American Model of Wildlife Conservation works – users of the resource pay into funds whose monies are solely dedicated to conservation. The Connecticut Duck Stamp fund is a vital source of money for many of the wetland projects that are conducted in our state. Federal aid dollars from the hunter-funded Pittman-Robertson Program can also be used for wetland conservation.

The Duck Stamp Program has generated over $1.4 million for the enhancement of wetland and associated upland habitats, as well as garnered additional monies for Connecticut through matching grants from federal conservation initiatives. By combining Duck Stamp funds with these additional monies, over $4 million dollars have been available to complete wildlife conservation projects. Thus, Connecticut has received a 4:1 return on Duck Stamp monies. Over 3,445 acres of wetlands in the state have been restored or enhanced using Duck Stamp funds, mostly on state-owned wildlife management areas. The funds also have been used to purchase 75 acres of critical wildlife habitat and conduct habitat projects at over 50 sites statewide. These efforts have benefitted many of the approximately 274 birds, fish, amphibians, and reptiles of our state that rely upon clean, healthy wetlands.

Hunters are not the only ones who can purchase Connecticut Duck Stamps. Anyone who wishes to support wetland conservation and restoration in our state should buy a Duck Stamp. Stamps can be purchased for $13 each wherever hunting and fishing licenses are sold: participating town clerks, participating retail agents, DEEP License and Revenue (79 Elm Street in Hartford), and through the online Sportsmen's Licensing System (www.ct.gov/deep/sportsmenlicensing). Upon request, stamps can be sent through the mail. To learn more about the Connecticut Duck Stamp and the Art Contest, go to www.ct.gov/deep/ctduckstamp.

Reproduction prints of the winning Duck Stamps that are signed by the artists and suitable for framing are also available. Please contact the DEEP Wildlife Division's Migratory Bird Program at 860-418-5959 for more information on purchasing reproductions.

2015 Master Wildlife Conservationist Training Completed

Article written by Laura Rogers-Castro, DEEP Wildlife Division

Twenty-five individuals completed a 40-hour training program this past spring as a requirement for the DEEP Wildlife Division's Master Wildlife Conservationist Program (MWCP). This program is a free, adult volunteer training series sponsored by the Wildlife Division and offered biannually during spring at the Sessions Woods Conservation Education Center in Burlington. The intent of the program is to provide wildlife-related training to candidates willing to conduct volunteer activities for the Wildlife Division and other conservation organizations.

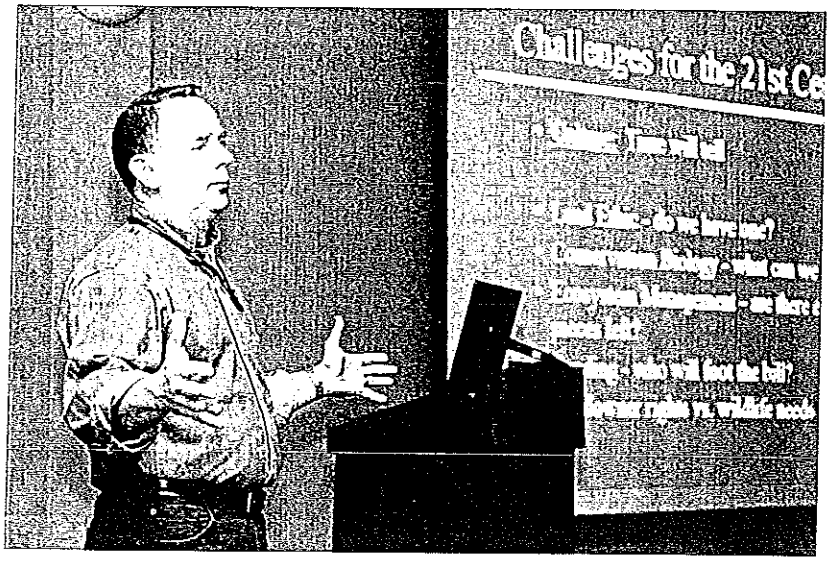
The program consists of classroom and field training. Topics include wildlife management, population ecology, Connecticut specific wildlife issues, forestry, interpretation, and communication skills. The classes are presented primarily by DEEP staff.

Upon completion of the classes and passing the examination, volunteers are required to provide 40 hours of service during the next year and 20 hours each subsequent year to remain in the program. Volunteer service can include leading wildlife-related walks, presenting educational programs, working on habitat enhancement projects at wildlife management areas, and assisting biologists with research projects. Other wildlife conservation projects initiated by candidates in their own communities, such as presenting wildlife programs, staffing wildlife-related displays at town festivals, or conservation commission-related work, also are considered valid volunteer service.

Since 2002, 272 participants have completed the Master Wildlife Conservationist Program series. Over 45,500 volunteer hours have been provided by MWCs. The Wildlife Division would like to thank all the MWCs for their dedicated volunteer efforts.

P. J. FUSCO (2)

Congratulations to the 2015 Master Wildlife Conservationist class. Back row (l to r) Dave Zabel (MWC Program Assistant), Eric Rahn, Theresa Nodine, Brianna Treichler, Lori Mendoza, Steve Johnson, Tina Forsberg, Joe Shea, Maureen Mauro DeSantis, Eugene Newell, Paul Colburn, Hugh Rogers, Christina Cerino, Andrew MacDonald, Mike DeGrego, Kevin Lamy (DEEP Maintainer), Laurette Sailer, Monica Cazzetta. Front row (l to r) Joe Manfre, Suzanne Newell, Barry Scott Hubner, Jean Laughman, Jean Bouteiller, Peggy Lareau, Art Potwin, Laura Rogers-Castro (DEEP Educator and MWCP Coordinator), Rick Napierski (DEEP Maintainer).



Wildlife Division Director Rick Jacobson provided an introduction to wildlife conservation during the Master Wildlife Conservationist Program series.

Examples of MWC projects: present wildlife programs at libraries, schools, and senior centers; conduct invasive species removal projects at wildlife management areas; staff the Shepaug Dam Bald Eagle Observation Area in Southbury; monitor coastal areas for nesting piping plovers and least terns; assist with Canada goose banding efforts; and provide outreach at the Woodstock Fair.

The Saltmarsh Squeeze and the Sparrow

Article and photography by Paul Fusco, DEEP Wildlife Division

Connecticut's salt marsh habitat is home to one of our most secretive birds, the saltmarsh sparrow.

Connecticut's shoreline tidal marshes are home to one of our most secretive and inconspicuous species of sparrow, the saltmarsh sparrow (*Ammodramus caudacutus*). This iconic little bird nests here during the breeding season, with many individuals remaining into the fall before moving south for the winter.

This sparrow is entirely dependant on saltmarsh habitat. And, there is growing concern about what lies ahead for both the sparrow and its habitat.

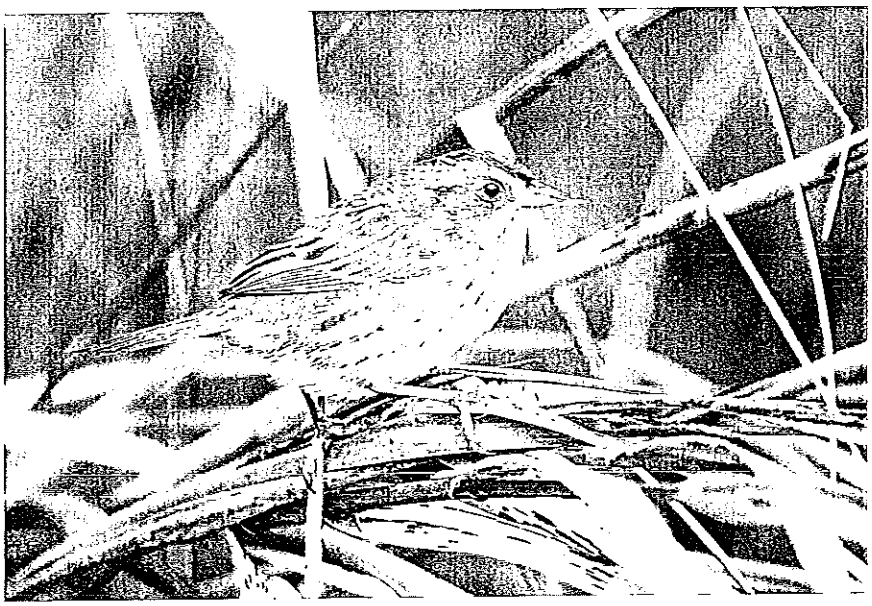
Description

The saltmarsh sparrow is a small stocky bird with a rather long bill for a sparrow. Its beautiful yellow ochre facial triangle, along with a gray ear patch and gray nape, are diagnostic. The breast and flanks are white or buff with distinct dark streaking, while the gray crown is unstreaked. The back is dark olive-brown and gray with white striping. The tail has pointed feathers, referring to a former common name of saltmarsh sharp-tailed sparrow.

Saltmarsh sparrows have a complex song with a whispy quality made up of varied jumbles and buzzy trills. The faint song is so soft it is almost inaudible.

Habitat

Salt marshes are the only habitat these birds use. This heavy dependence on salt marshes has led to significant declines in the saltmarsh sparrow population over the last century as development pressures have destroyed much of Connecticut's original salt marsh habitat. Since the time of European settlement, between 30% and 50% of the estuarine marshland present in Connecticut has been lost.



In the fall, saltmarsh sparrows can be found in the taller grass within the marsh, where they often feed on the seeds of saltmarsh cordgrass (*Spartina alternaflora).*

Saltmarsh sparrows are most closely associated with the drier portions of the salt marsh where there is dense cover of saltmeadow grass (*Spartina patens*) or blackgrass (*Juncus gerardii*). These grasses grow low and dense in the drier, high marsh zone, and this is where the sparrows most often build their nests.

An open cup nest is built within the marsh grasses, just out of reach of the highest tides. The location of nests makes them highly vulnerable to extreme high tides and sea-level rise due to climate change. The typical clutch size is two to six speckled greenish eggs. Incubation takes 11 days, and fledging occurs about 10 days later.

Behavior

Saltmarsh sparrows are skulky and secretive. They spend much of their time on the ground within the marshes. If flushed, the bird's flight is weak and low. A sparrow will often fly a short distance, then drop back down, disappearing into the marsh grass.

Rather than hopping, saltmarsh sparrows can be seen running mouse-like through the grass as they forage for food or hide from a predator.

Males will sing from the tops of grass clumps but they are not territorial. They sometimes perform an aerial courtship display where they exhibit a brief flutter flight 10 feet above the marsh while singing.

Among the saltmarsh sparrow's preferred food items are flies and sand fleas, making this bird beneficial to anyone spending time in or near a salt marsh. The bird also will eat other insects, spiders, snails, and seeds from marsh grasses.

Note the yellow ochre facial triangle that completely surrounds the gray ear patch. The streaked breast and flanks, along with the white back striping, gives the saltmarsh sparrow the ability to blend into its habitat. Concealment, coupled with the sparrow's skulky behavior, make the saltmarsh sparrow a difficult bird to observe.

Conservation

The saltmarsh sparrow is a species of special concern on Connecticut's Endangered, Threatened and Special Concern Species List, and it is a species of greatest conservation need as outlined in the state's Wildlife Action Plan. The entire breeding range of the saltmarsh sparrow is along the narrow coastal strip of the northeastern United States from Maryland to southern Maine. In winter, most saltmarsh sparrows retreat from the northernmost part of their range to Atlantic coastal marshes along the southern United States, from Maryland south to Florida. They have been documented in Connecticut during winter; however, it is a very rare occurrence.

Connecticut is situated in the middle of the sparrow's breeding range, bestowing a global responsibility for the conservation of this species on our state. Wildlife conservationists face a difficult challenge as sea-level rise associated with climate change is expected to be a major threat to the Northeast's tidal marsh systems.

Saltmarsh sparrows typically nest in the salt meadow grass or black grass of the high marsh zone, which is inundated by tides less frequently than the wetter portions of the marsh where the taller cordgrass (*Spartina alterniflora*) dominates. The high marsh zone has a narrow margin for the sparrows to reproduce in. Flooding spring tides destroy many early season nests, but some of the most successful nesters are the ones that re-nest quickly after the lunar tide cycle. This gives them the necessary time to incubate and raise young before the next lunar tide cycle floods the high marsh again a few weeks later.

Many of these marshes are already heavily degraded from past ditching, filling, associated coastal development, and continuing encroachment. With sea levels rising as expected, there will be many uncertainties. But, the fact remains that there is little room for marsh systems to migrate inland, especially in Connecticut. High marsh ecosystems that are continually flooded by higher and higher tides will likely become more fragmented and gradually erode to low marsh and then mudflat, eventually being lost to open water. Marshes will be squeezed between the rising sea and existing coastal development and upland. Extensive areas of saltmeadow grass may be greatly reduced in size or eliminated altogether. This would severely impact the only nesting habitat that the saltmarsh sparrow has. Thus, this bird is extremely vulnerable to the effects of climate change and sea-level rise.

The sparrow is not the only species at risk. Other saltmarsh dependant wildlife that will likely be threatened by sea-level rise include rails, waterfowl, shorebirds, shellfish, crabs, and the state endangered least shrew. Fish populations would also be at risk because healthy marshes serve as important spawning nurseries for them. Many species of migratory birds depend on salt marshes as stopover habitats to refuel and rest during their journeys.

Since the mid-1990s, over 4,600 acres of tidal marsh have been restored by the Wildlife Division's Wetland Restoration Program. The funding to complete these projects has come from a number of conservation grants and partnership donations, including the Connecticut Duck Stamp Program.

Saltmarsh sparrows can be seen at some of the larger coastal marshes in Connecticut, including Hammonasset Beach State Park in Madison, Charles E. Wheeler Wildlife Management Area in Milford, and the Stewart B. McKinney National Wildlife Refuge/Great Meadows Marsh in Stratford. Look for the birds in the salt marsh when they sometimes pop up to the tops of the grass to watch for potential danger.

What Is Behind Those Minimum Sizes?

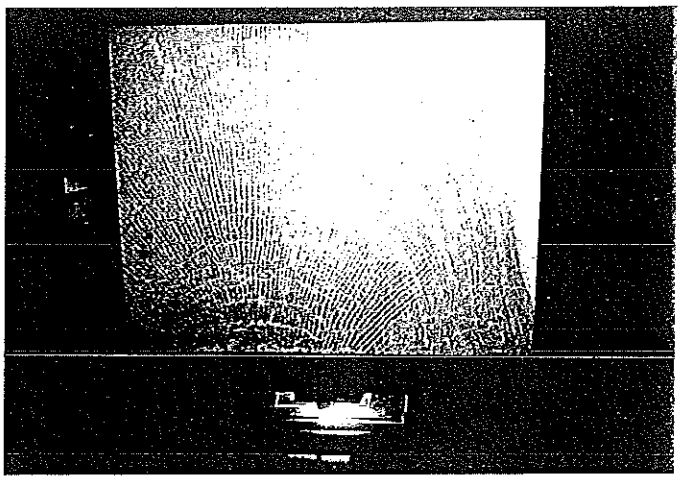
By Penny Howell, DEEP Marine Fisheries Division; photos provided by DEEP Marine Fisheries

This summer, thousands of anglers will be fishing in Long Island Sound in pursuit of the large diversity of fish species that are found there. In addition to being able to recognize which fish species they catch, anglers also have to know if there are limits on how big and how many they can take home. Every spring, DEEP publishes the Connecticut Angler's Guide Marine Section (www.ct.gov/deep/lib/deep/fishing/anglers_guide/anguide_part3.pdf) as an easy reference for marine and freshwater anglers, which includes identification keys and all pertinent regulations. What is missing from the guide is the vast amount of information that goes into setting regulations and monitoring the status of each species.

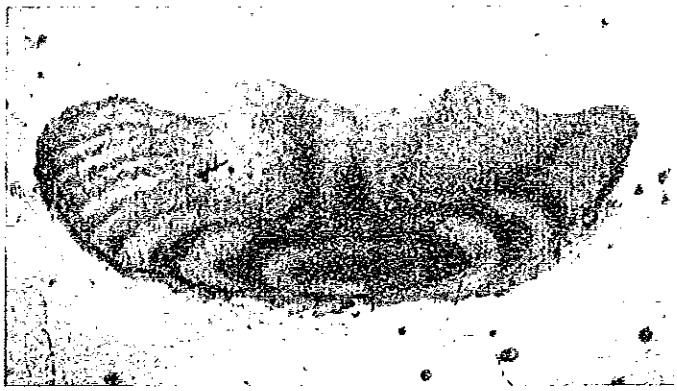
For example, regulations setting a minimum harvest length are based on a species' growth rate and age at maturity. DEEP Marine Fisheries Division staff use several techniques to age different species of fish so their rate of growth and age can be tracked. Fish grow faster when the water is warm, and they grow slower, or not at all, when the water is cold. Therefore, distinct growth periods show up differently on a fish's scales, bones, or other "hard parts." During fast growth periods, scale or bone is laid down thinly with little color. During slow growth periods, material is laid down more slowly leaving a thicker, and therefore darker, ring. Often, these rings can be seen by just holding a cleaned fish scale in front of a bright light. A more accurate count requires magnification. Thicker bones from very old fish may need to be cross-sectioned with a specially designed diamond-blade cutter. Fast-growing, short-lived species can be aged by looking at rings on their scales. Older, long-lived species require extracting a bone that is not damaged over the fish's life and is big enough to see the many annual rings. The accuracy of each structure to record age is verified by holding fish in captivity for many years or tagging and recapturing hundreds of wild fish over a long period of time.

Once the ages and growth rate of each species are documented, then a harvest rate for fish above a minimum size can be calculated so that the total mortality rate, from fishing and other sources, matches growth and reproduction rates. As long as these rates balance, the population can sustain itself with its full age structure. Most minimum harvest sizes correspond to a relatively young age, which allows the fish to reproduce at least once. However, many species can grow much older and larger. The minimum harvest size is just a beginning size which keeps the opportunity open to take home that trophy-sized fish.

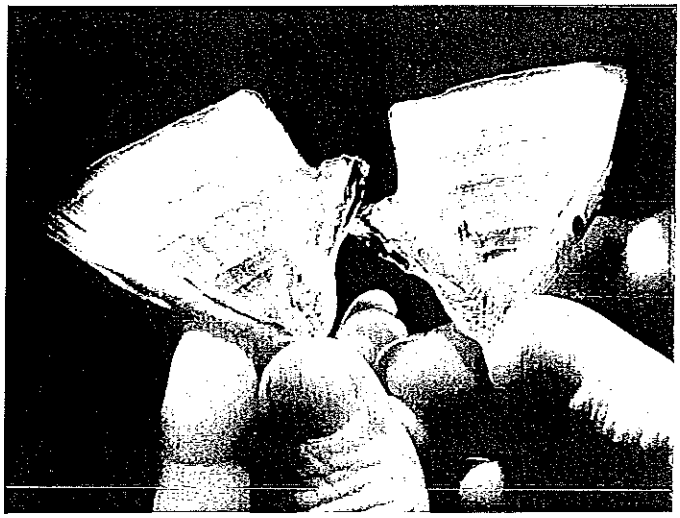
This work is funded through Federal Aid in Sport Fish Restoration.



When cleaned and highly magnified, several light annual growth rings show up clearly on this summer flounder (fluke) scale.



The growth rings on this 10-year-old winter flounder otolith (ear bone) are clear only when it was cross-sectioned and highly magnified to reveal thick and thin rings.



Bones, like these operculars (gill covers) from a tautog, show large growth rings at the base when the fish was young and smaller rings on the edge when the fish was older and its growth slowed. A large bone is needed to age tautog because they can live up to 40 years of age.

Minimum Harvest Size of Long Island Sound Fish

Species Name	Minimum Harvest Size	Age at Min Size	Maximum Age
Scup (Porgy)	10" (25.4cm)	3	17
Striped Bass	28" (71.1cm)	6	30
Summer Flounder (Fluke)	18" (45.7cm)	4	14
Tautog (Blackfish)	16" (40.6cm)	7	40
White Perch	7" (17.8cm)	2	10
Winter Flounder	12" (30.5cm)	3	15

Data source:
Atlantic States Marine Fisheries Commission Species Profiles and American Fisheries Society Monograph 9: Connecticut River Ecological Study

Inline Water Control Structures in Connecticut

Written by Paul Capotosto, Roger Wolfe, and Bonnie Lathrop, DEEP Wildlife Division

The Wildlife Division's Wetlands Habitat and Mosquito Management (WHAMM) Program has been installing inline water control structures in several state-owned water impoundment areas to control beaver flooding. These inline structures are placed in the dike of an impoundment, not along the edge like some other structures, eliminating the sound of water flowing over the weir boards. When beavers hear the sound of flowing water, they instinctively try to build a dam to reduce or stop the flow. Usually, the old water control structures and weir boards are left in place so that the beavers will continue to block off the old structure, but not touch the underwater culverts of the new inline water control structures. This allows water levels to be controlled by the inline water control structures, without impediment by beavers. Inline structures come in many sizes, ranging from four- to 24-inch diameter pipe, and can be customized to whatever size is needed.

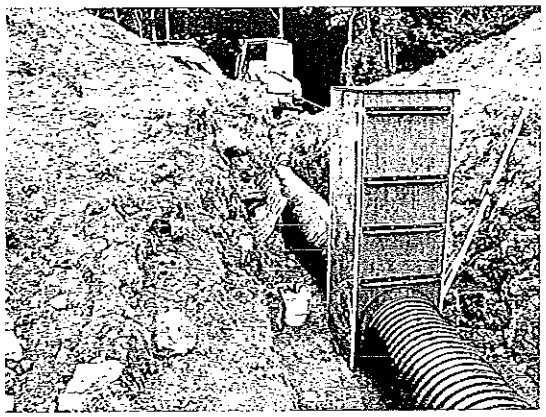
Inline water control structures were first used in Connecticut in 2005 at Davis Pond in Niantic. Several beach associations in the area wanted to re-establish saltwater flows to an old tidal salt pond. Historically, saltwater used to enter the site through an open channel. Over the years and due to several storms, this channel filled in with sand. The WHAMM Program had been restoring a tidal wetland to the north of the pond that was connected to tidal water. A new channel was created, but this would drain the pond of all water. Plus, there was no way to control water levels in the pond to keep the water high during certain times of the year. The beach associations were part of the discussion and decision on how to go ahead with the project and what kind of habitat would be created for migrating birds. Permits were obtained for installing two inline water control structures. Due to the presence of saltwater at the site, the structures were made of plastic with 18-inch diameter culverts. The structures have six- and eight-inch plastic weir boards, which can be raised or lowered to control water depths in the tidal pond. At certain times of the year, the weir boards are removed to drop the pond to low tide conditions for migratory shorebird habitat. While pulled out, the weir boards are repaired, if needed. Approximately 10 years later, the structures and the culverts are in good shape.

Since then, other inline structures have been installed throughout the state. In 2007, a six-inch diameter pipe and small inline water control structure were used on a dike, creating a small pond and wet meadow for waterbird habitat at the Connecticut Audubon Center in Pomfret. Funds were provided by Connecticut Audubon and the WHAMM Program.

In 2010, inline water control structures were installed (one at each area) at Bartlett Brook Wildlife Management Area (WMA) in Colchester and Mahoney Pond at Franklin WMA in North Franklin. Funds were provided by the Connecticut Duck Stamp Fund and the WHAMM Program.

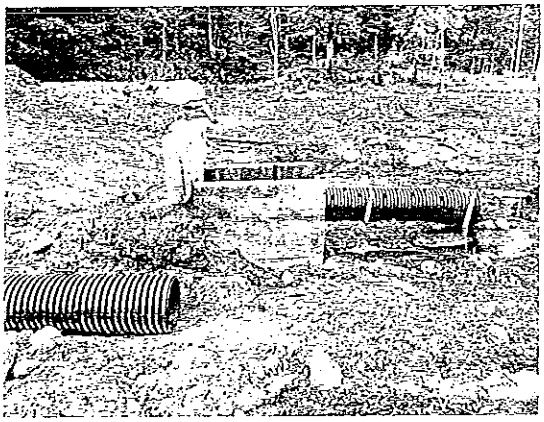
In 2011, four inline water control structures were installed: two at Charter Marsh in Tolland, one at Oxbow Marsh in Haddam, and one at Keeney Marsh in Nehantic State Forest. Funds for the Charter Marsh project were provided by the U.S. Fish and Wildlife Service's North American Wetlands Conservation Act (NAWCA) and DEEP. Funds for the Oxbow and Keeney Marsh projects were provided by the Wildlife Division's Habitat Management and WHAMM Programs.

In the fall of 2014, four inline water control structures were installed; two at Pumpkin Hill WMA in Chaplin and two at Black Spruce WMA in Goodwin State Forest in Hampton. These structures were funded by NAWCA and DEEP. The WHAMM Program installed these structures, starting in the late summer into the fall of 2014 after beaver debris was removed. Maintenance had to be conducted at both sites to clear vegetation on the dike and spillways. Working together, the Wildlife Division's Migratory Bird and Habitat Management Programs will decide when to raise and lower the water levels to promote plant growth that will be beneficial to wetland wildlife using the areas.



B. LATHROP

View of a 24-inch diameter ADS N-12 pipe attached to an eight-foot Agri-Drain inline water control structure.



B. LATHROP

The old cement water control structure at Pumpkin Hill WMA with two plastic pipes.

R. WOLFE

Compaction has been completed on two inline water control structures.

Volunteers Awarded for New England Cottontail Projects

Written by Lisa Wahle, Wildlife Management Institute, and Judy Wilson, DEEP Wildlife Division

In May 2015, Beth Sullivan from the Avalonia Land Conservancy and Debbie Martin, Richard Martin, and John Baker of the Litchfield Hills Audubon Society (LHAS) were awarded Certificates of Recognition by the New England Chapter of The Wildlife Society (TWS). These certificates recognize an individual or group outside of the wildlife profession who has made a significant contribution to wildlife management in one of the following categories: habitat protection, public education, and wildlife policy and conservation. With these awards, TWS recognized the significant wildlife conservation and outstanding outreach efforts of these exceptional volunteers. The awards were given on behalf of all the partners involved in the regionwide New England Cottontail Initiative, including the DEEP Wildlife Division, U.S. Fish and Wildlife Service (USFWS), U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), and the Wildlife Management Institute (WMI).

Not only did these exceptional volunteers oversee their respective habitat management projects and troubleshoot problems as they arose, the awardees made an effort to learn about and articulate the importance of young forest habitat for the New England cottontail and other wildlife. They continue to be passionate advocates for young forest habitat management through their writings, interviews, and presentations.

As an example of the ongoing outreach by the Avalonia Land Conservancy, Beth Sullivan gave a presentation at a 2015 Connecticut Land Conservation Conference Workshop explaining the challenges of executing the largest habitat management project ever undertaken by the Conservancy – the never ending paperwork, legal hurdles of gaining access, and communications necessary for the project to be implemented.

At the same conference, Debbie and Rich Martin presented a historic tour of management at Boyd Woods, in Northfield. Their beautifully choreographed presentation took participants through time, from the last century when the previous owner, Margery Boyd, documented the bird species present on the open landscape, through the process of natural succession, and now the return of some areas to young forest and associated wildlife.

The three awardees have written extensively about their projects and continue to field questions and criticisms from those who are not quite convinced that cutting down trees can have great benefits, even as those areas fill with new life.

The Peck and Callahan Preserve Project

In 2011, after learning about the New England Cottontail Initiative, the Avalonia Land Conservancy began to consider undertaking a project to create New England cottontail habitat at the Peck and Callahan Preserves in Stonington. After much internal discussion, research, more discussion, and even some soul searching, the Conservancy agreed to move forward with the project. The USFWS provided extensive technical support to plan the project and helped secure a Long Island Sound Futures Fund grant. NRCS provided a Working Lands for Wildlife grant and the Wildlife Division provided certified forestry technical assistance in coordination with the Wildlife Management Institute. Dedicated Conservancy members spent months researching, planning, posting, remarking boundaries, and negotiating with neighbors to gain access to the site. They also gained permission from a major power company to access the site across their right-of-way under power lines.

J. SULLIVAN, AVALONIA LAND CONSERVANCY

Beth Sullivan of Avalonia Land Conservancy was awarded a Certificate of Recognition from the New England Chapter of The Wildlife Society for her extraordinary volunteer efforts to create young forest habitat and educate people about its value for the New England cottontails and many other wildlife species.

Finally, in 2013, the project began and all but selected mature trees were cleared from 22 acres. This site is adjacent to six acres of an existing powerline right-of-way that is dominated by grasses, broad-leaved plants, and small shrubs and trees. Once the newly-created habitat resprouted into a dense thicket of shrubs, small seedling, saplings, and various plants, there was a total of 28 acres of habitat for New England cottontails.

Through it all, Beth Sullivan championed the project within her own organization to ultimately gain approval from the Conservancy's Board of Directors. She was interviewed by the local newspaper, and wrote tirelessly about the experience in her blog (See Avalonia eTrails for all of her posts; www.avaloniaetrails.blogspot.com). What follows are excerpts from Beth's blog that describe her thoughts pre- and post-harvest.

"What remains isn't pretty at first glance. The long swath of the Peck Preserve is open now. From a distance, it is pretty brown, a little disconcerting to a self-described tree hugger but we looked closer. The machines used were designed to have a low impact on the earth so we do not have any large areas of torn up ground. The wetlands were respected and left buffered and the stream now runs clear and clean. Specially chosen trees remained standing to provide reseeding sources, mast for wildlife and some shelter. A nice diversity of species is still present. Understory shrubs lie unharmed in most areas. Blueberry and huckleberry

plants, as well as smaller seedlings, ground covering vines and small plants, will thrive in the open canopy. Referred to as slash, those tree tops and branches left on the ground provide instant cover for small mammals. The rough slash will also deter deer that will try to enter the new area of inviting shoots and greenery. The decomposition over time will provide nutrients for the soil. As part of the funding agreement, large brush piles were created. These will provide longer term shelter for many animals, and hopefully the New England cottontail will be one of them!

*As we walked the entire site, we noticed new birds already. Several types of flycatchers, peewees, phoebes, and kingbirds were having a field day with the numerous dragonflies cruising around. Several butterflies made use of the now open areas: red-spotted purples, black swallowtails, and American coppers. We could see that the ferns, low plants, berry bushes and vines, such as greenbrier, were already beginning to grow up and fill in. On close inspection, it was wonderful to see the tree stumps already re-sprouting vigorous new shoots. Oaks, beeches, maples, birches and hickories all seem to be in a hurry to get a jump start on re-growing. It is this new growth that will provide the food and thick, dense cover that we aim for. (**Beth Sullivan, Chairperson of the Stonington Town Committee–Avalonia Land Conservancy**)*

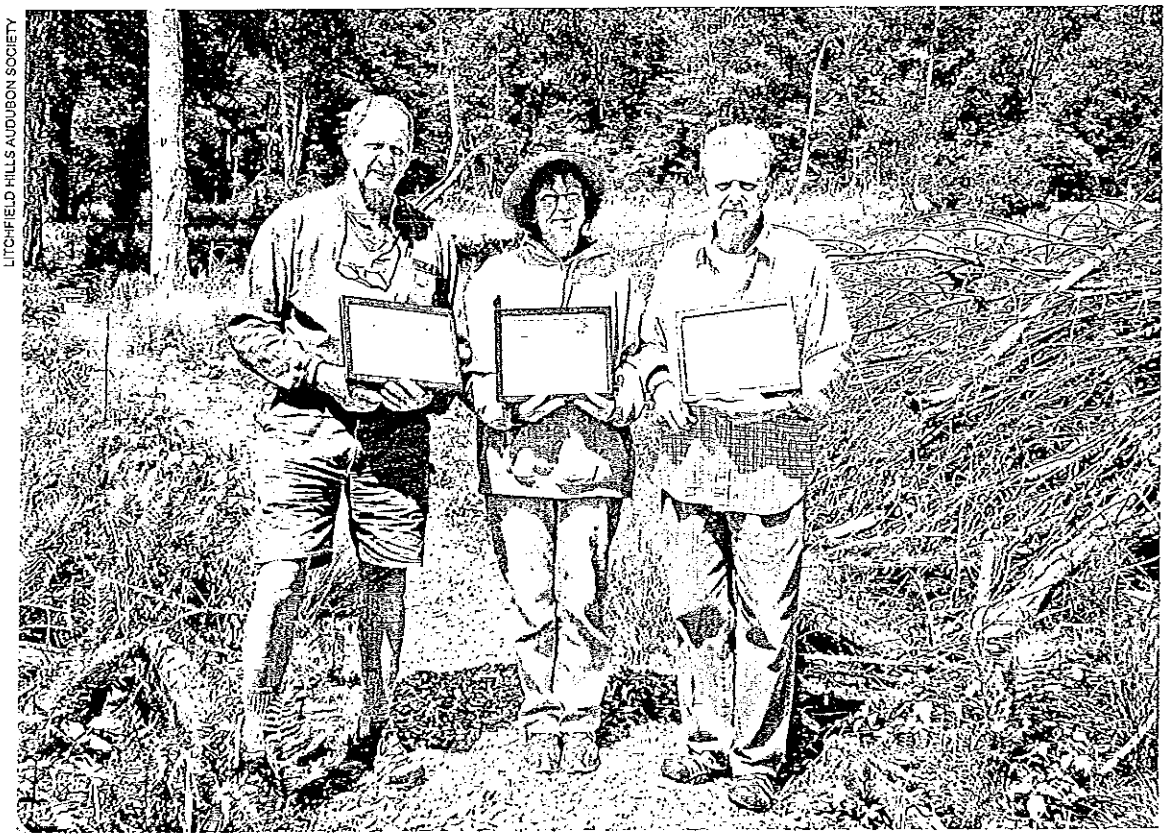
Boyd Woods Audubon Sanctuary Project

The New England cottontail project got off to a bit of a rocky start with the Litchfield Hills Audubon Society (LHAS). Member John Baker applied to the NRCS Working Lands for Wildlife Program to do a project, but many LHAS members, including Debbie and Rich Martin, were strongly opposed to cutting so much forest down at the Boyd Woods Sanctuary. More than 20 members of LHAS attended the site visit with staff from NRCS, the Wildlife Division, and the Wildlife Management Institute to learn why anyone would want to cut down forest to create a different habitat. By the end of the walk, members who were completely opposed to cutting trees were discussing the possibility of doing a project. Debbie and Rich Martin, the stewards for Boyd Woods, quickly evolved into supporters. They, along with John Baker, became unwavering supporters and worked tirelessly to see the project through.

Litchfield Hills Audubon Society received a grant from the NRCS Working Lands for Wildlife Program to fund the project. The Wildlife Division and Wildlife Management Institute provided technical expertise to write a cutting plan, secured all necessary permits, and assisted with finding contractors with the specialized equipment needed to do the work.

Eight acres were cut in 2014 and four more acres were cut in 2015. These cleared areas are quickly growing into brushy habitat that is dense with seedlings and saplings – a habitat needed by New England cottontails and many other species of young forest wildlife. These 12 acres are adjacent to five acres cleared in 2005 under another NRCS grant, bringing the young forest total to 17 acres.

John, Debbie, and Rich remained steadfast supporters through every hurdle of the project. Debbie and Rich wrote extensively about the project, fielded criticisms, hosted the Connecticut New England Cottontail Land Management Team for a site walk, and created a choreographed presentation seen by many. What follows is an excerpt from their presentation.



LITCHFIELD HILLS AUDUBON SOCIETY

(From left to right) John Baker, Debbie Martin, and Rich Martin are volunteer members of the Litchfield Hills Audubon Society and were awarded a Certificate of Recognition from the New England Chapter of The Wildlife Society for their outstanding efforts to create young forest habitat and provide outreach about the need for this habitat to support a variety of wildlife, including the New England cottontail, various birds, and butterflies.

"The Litchfield Hills Audubon Society received the 102-acre Boyd property, in the Northfield section of Litchfield, in 1995. The former landowner, Margery Boyd, had resided on the property (which was then called Twin Brook Farm) from 1926 until 1992, and as an avid birder she kept daily records of every bird she saw there. These records show that species requiring a shrubby/young forest habitat were common during the time when Margery's farmland was reverting to a mature forest. By the time LHAS

acquired the land, it was 90% wooded – thus, the name Boyd Woods Audubon Sanctuary was chosen. The woods were beautiful, but quiet. It was obvious that as the trees took over, many birds commonly recorded in Margery's birding diary had disappeared. To add diversity to the landscape, LHAS had a five-acre Wildlife Habitat Incentives Program (WHIP) clearcut done in 2005. Half of this area was allowed to grow into an early-successional shrubland, and the other half was planted in conifers. Before long, a variety of birds discovered this new habitat. Chestnut-sided and blue-winged warblers, Eastern towhees, field sparrows and others were frequently heard and seen. Eastern cottontails were also a common sight."

In 2012, when LHAS was approached about creating habitat for the New England cottontail, many members strongly objected. We'd heard that a clearcut of 25 acres or more was required, and after visiting recently cut New England cottontail projects in neighboring towns, we were devastated by what we saw: treetops, logs, and huge piles of brush were left, strewn all over the place! Boyd Woods was a lovely, peaceful spot. We didn't want this mess on our property!

But we started to see things differently as we talked to the "experts' (foresters from the USDA NRCS and DEEP). We learned about the New England cottontail and 47 other species of greatest conservation need that struggle to survive due to the disappearance of young forest habitats. On this list were many of the birds that Margery Boyd had counted as common. We could help bring them back to Boyd Woods! As an Audubon Society committed to managing our sanctuary for the preservation of wildlife, how could we NOT participate in this project? A turning point came when we were told we could cut as little as 10-15 acres (not 25). Suddenly, we couldn't wait to get started.

It was impossible to think of the freshly cut areas as 'devastating' when spring arrived because, although messy in appearance, this new habitat was full of life. Eastern towhees sang from the brush piles, while indigo buntings, field sparrows and catbirds joined the chorus along the early successional/clearcut edge. On the Annual LHAS Evening Woodcock Walk, an amazing number of woodcock performed courtship flights over these newly-expanded openings.

Summer sunshine encouraged the growth of interesting plants and wildflowers which previously hadn't been present. Many of these were beneficial to butterflies and bees. In autumn, many plants went to seed or produced berries. Tracks in winter snow showed evidence of a variety of animals visiting the clearcut, and some were burrowing into the brush piles. We are confident that when the New England cottontails arrive, they too will find this area accommodating. (New England cottontails have been confirmed at a preserve three miles from Boyd Woods).

During this process, LHAS has learned about the importance of land management practices. Margery Boyd wanted her land to be used for education and the enjoyment of nature. We have a perfect opportunity to fulfill her wishes in this promising new habitat. A meandering path and two benches invite sanctuary visitors to notice and appreciate changes as they occur in the regenerating landscape. Guided walks also will be offered."

Debbie and Rich Martin will be giving their presentation in the coming months at the Great Mountain Forest in Norfolk. This non-profit, privately-owned forest is the largest of its kind in Connecticut and is dedicated to research and the application of knowledge to the development and use of all types of trees, forests, and other natural resources. To find out when the presentations are scheduled, go to www.greatmountainforest.org.

The Natural Resources Conservation Academy

Training Connecticut's Next Generation of Conservation Ambassadors

Written by Jessica Bristol, DEEP Wildlife Division Seasonal Resource Assistant

The Natural Resources Conservation Academy (NRCA), run by the University of Connecticut's (UConn) Department of Natural Resources and the Environment, is a new field experience program for high school students interested in environmental science. Sixty-eight students from throughout Connecticut have participated in the program since its inception in 2012. The mission of the NRCA is to engage youth from a variety of backgrounds in an innovative process that provides them a thorough introduction to environmental and natural resources conservation issues, as well as actively encourages them to be part of the solutions.

The program begins in July each year with an intensive week-long field experience, where students learn from UConn professors and staff about a number of natural resource topics. Units in wildlife, fisheries, forestry, soils, freshwater, green infrastructure, and geospatial technology prepare students with knowledge and introductory skills in land use and natural resource conservation.

In the seven months following their field experience, NRCA students work under the mentorship of a local conservation leader to develop a conservation project in their hometown. Projects are incredibly diverse, ranging from field research to designing educational materials on a variety of environmental topics and issues for the local community. Toward the end of the seven-month period, students create a scientific poster detailing their project and highlighting key results to be presented to environmental professionals from throughout Connecticut.

L. CISNEROS, UCONN

NRCA student Ricky Moore poses next to the poster he prepared for the Connecticut Conference on Natural Resources, which was held at UConn in March 2015.

Student Richard (Ricky) Moore

Richard (Ricky) Moore, a sophomore at Middletown High School, conducted his community project under the mentorship of DEEP Eastern District Wildlife Biologist, Ann Kilpatrick, at the 50-acre

Aircraft Road parcel of Cockaponset State Forest in Middletown. This parcel of land has been extensively managed by DEEP through regular mowing, herbicide treatments, and native plantings starting in 2007 in an effort to enhance the native plant community. This work was funded through a Wildlife Habitat Incentive Program grant awarded by the U.S. Department of Agriculture (see article in the January/February 2010 issue of *Connecticut Wildlife*). Controlling invasive plants within Cockaponset State Forest has been especially challenging due to the high density of invasives on surrounding properties.

To help assess management efforts, Ricky's project focused on mapping patches of invasive plant species and native plant species to document the severity of invasion throughout the property. This baseline inventory can be used by DEEP to best adapt management practices and focus on particularly dense, potentially problematic patches of invasive plants. Ricky also had the opportunity to trap small mammals to evaluate the small mammal community. Ricky plans to continue educating the Middletown community on the importance of invasive plant management on private, residential properties.

M. ORTEGA, UCONN

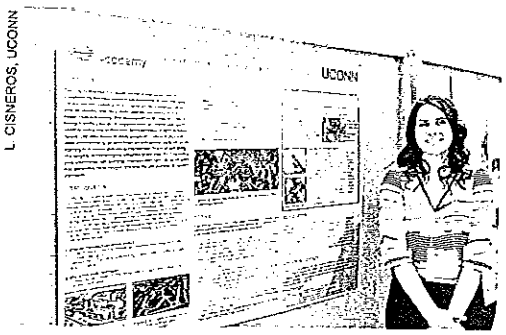
Natural Resources Conservation Academy students 2014-2015: (Top, right to left) Dr. John Volin, Naomi Robert, Joshua Goldwag, Sameena Shah, Brittany Marson, Moises Hernandez, Mari Cullerton, Eve Cullerton, Briana Gagnon, Carson Hill, Anna Meassick, Randy Kaufman, Richard Moore, Dr. Laura Cisneros. (Bottom, right to left): Megan Ryan, Shelby Burger, Jennifer Diaz, Maggie Yeung, Maureen McCarthy.

The mission of the NRCA is to engage youth from a variety of backgrounds in an innovative process that provides them a thorough introduction to environmental and natural resources conservation issues.

Student Briana Gagnon

Briana Gagnon, a junior at Lyman Hall High School in Wallingford, completed her community project under the guidance of DEEP Western District Wildlife Biologist, Peter Picone. Briana's project, entitled "The Meriden HUB: From Silver to Gold," researched the ecological, economic, and health benefits of parks on urban areas. In 2008, the City of Meriden approved final plans to convert the land which was previously home to the International Silver Company into a downtown green space. Due to past flooding problems, the land is no longer suitable for industry or retail development and standing buildings were demolished in 2007. Possible features of the new park include an outdoor amphitheater, pedestrian bridge, and green space for recreational activities.

Briana's research used a number of statistics to illustrate that the Meriden HUB will bring positive changes to the local community. Once completed, the HUB will serve as an island for wildlife, offering food and protection in an otherwise unsuitable habitat. The park will play a role in battling the urban heat effect and contribute to the diversion of damaging floodwaters. Parks also are associated with increased home values in the area and promote health through opportunities for "green exercise."



L. CISNEROS, UCONN

NRCA student Briana Gagnon poses next to the poster she prepared for the Connecticut Conference on Natural Resources, which was held at UConn in March 2015.

Connecticut Conservation Ambassadors

Each March, NRCA students present their projects at the Connecticut Conference on Natural Resources at the University of Connecticut. All students that complete both the field experience and community project components of the program graduate as "Connecticut Conservation Ambassadors" and are recognized for their hard work at a special award ceremony. The top three projects are awarded the Horace C. Eriksson Forestry Scholarship towards attendance to the Natural Resources and the Environment Department at UConn.

This year, the competition was intense, and judges awarded two candidates first place: Maureen McCarthy for "Pomperaug River Restoration Awareness" and Naomi Robert for "Examining the Effects of Tree Canopy and Japanese Barberry Management on Asian Jumping Worms at White Memorial." Third place was awarded to Randy Kaufman for his project entitled "Evaluating Changes in Size of Juvenile Horseshoe Crabs to Understand Environmental Effects on a Declining Species."

Congratulations to all of the NRCA participants for a job well done!

For additional information or to apply for the program, please visit the Natural Resources Conservation Academy website at www.nrca.uconn.edu/index.htm.

Deer Research Update, Winter 2015

This past winter, staff from the Wildlife Division's Deer Program, along with help from many volunteers, continued work on the white-tailed deer mortality project in northwest Connecticut. Twenty-six adult does were captured; seven in Cornwall and 19 in Canaan. Their ages ranged from two to eight years, with the average age being 3.5. Once captured, the deer were fitted with a VHF radio collar, cattle style ear tags, and vaginal implant transmitters (VIT). The VIT is a device which alerts researchers when the doe gives birth and, as in previous years, this effort was in preparation for fawn capture. Fawns will be captured from both the tagged does and opportunistically from other does beginning in mid-May. Captured fawns will be fitted with expandable radio collars and tracked daily throughout the summer, and three times a week for the remainder of the year. If a fawn dies, the remains will be recovered as soon as possible so that a cause of death can be determined.

As of this writing, one adult doe died from unknown causes 31 days after capture. Two others have moved approximately three miles from the capture site. Interestingly, one of the does moved from the Falls Village area to a previous winter capture site in Salisbury. For the first time in four years, no coyotes were seen or heard in the research area from January through March; however, numerous bobcats were observed.

Bill Embacher, Wildlife Management Institute

B. EMBACHER, DEER PROGRAM

Numerous bobcats were observed by researchers conducting a white-tailed deer study in northwest Connecticut this past winter. However, no coyotes were seen or heard in the research area from January through March.

Extinct Eastern Cougar Subspecies Proposed for Removal from Federal Endangered Species List

The eastern cougar (*Felis concolor couguar*) has likely been extinct for at least 70 years, according to a thorough review of data from researchers, states, and Canadian provinces across the subspecies' range. In response to the review, the U.S. Fish and Wildlife Service (USFWS) is proposing to remove the extinct subspecies from the endangered species list.

USFWS completed the formal review of the eastern cougar in 2011. During the review, USFWS examined the best available scientific and historic information, queried 21 states and eastern Canadian provinces, and reviewed hundreds of reports from the public. No states or provinces provided evidence of the existence of an eastern cougar population.

USFWS concluded that cougars occasionally occur in eastern North America, but that they are either Florida panthers, dispersing animals from western populations, or have been released or escaped from captivity. The conclusions are based on a review of more than 100 reports dating back to 1900.

The eastern cougar subspecies was listed as endangered in 1973. However, accounts suggest that most eastern cougars disappeared in the 1800s as European immigrants killed cougars to protect themselves and their livestock, as forests were harvested, and as white-tailed deer, the cougar's primary prey, nearly went extinct in eastern North America. The last records of eastern cougars are believed to be in Maine (1938) and New Brunswick (1932).

Extinct animals and plants cannot be protected under the Endangered Species Act, which is meant to recover imperiled species and their habitats. Additionally, under law, the eastern cougar listing cannot be used as a method to protect other cougar subspecies. The proposal is available for public inspection at https://www.federalregister.gov/public-inspection. From June 17 to August 17, 2015, the proposal will be available for review and comment at www.regulations.gov under docket no. FWS–R5–ES–2015–0001.

Wild cougar populations in the West have been expanding their range eastward in the last two decades, with individual cougars confirmed throughout the Midwest. Evidence of wild cougars dispersing farther east is extremely rare. In 2011, a solitary young male cougar traveled about 2,000 miles from South Dakota through Minnesota, Wisconsin, and New York, and was killed on a Connecticut highway. A cougar of unknown origin was also killed in Kentucky in December 2014.

USFWS's proposal to remove the eastern cougar from the endangered species list does not affect the status of the Florida panther, another cougar subspecies listed as endangered.

Additional information about eastern cougars, including frequently asked questions and cougar sightings, is at: http://www.fws.gov/northeast/ecougar. Find information about endangered species at http://www.fws.gov/endangered.

U.S. Fish and Wildlife Service

Avian Influenza

Since mid-December 2014, there have been several ongoing highly pathogenic avian influenza HPAI H5 incidents along the Pacific, Central, and Mississippi Flyways (or migratory bird paths). Avian influenza has not yet been documented in the Atlantic Flyway (which includes Connecticut). The Centers for Disease Control and Prevention (CDC) considers the risk to people from these HPAI H5 infections to be low. No human cases of these HPAI H5 viruses have been detected in the United States, Canada, or internationally.

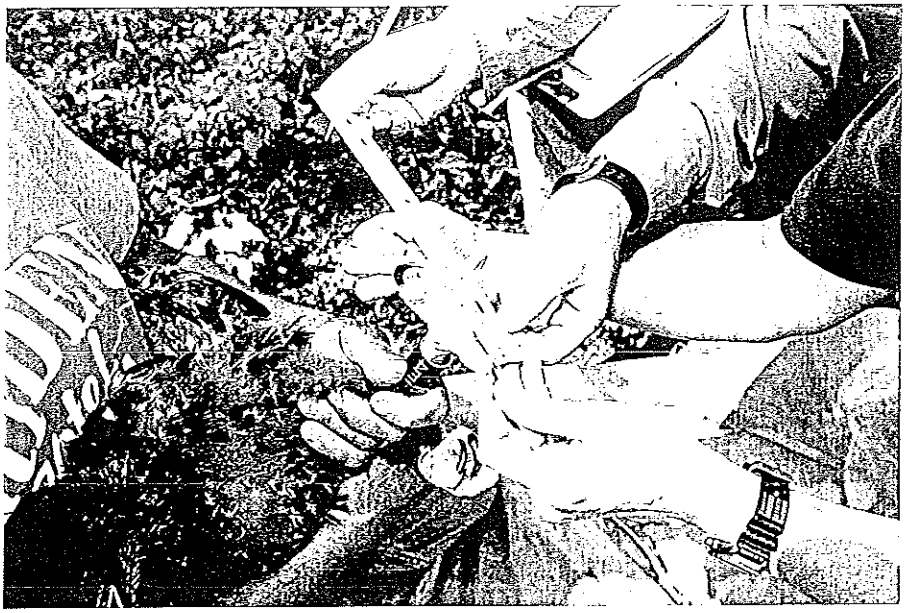
To help you navigate important information related to these events, the U.S. Department of Agriculture (USDA) has launched a new avian influenza webpage with aggregated resources to keep you up-to-date and also provide guidance for backyard poultry owners (www.usda.gov/avianinfluenza). The USDA plans that are currently in place, which include surveillance, reporting, biosecurity, movement control, vaccination, and depopulation, can be adjusted and applied to effectively control any new virus outbreak. Look for more information to come on the DEEP website (www.ct.gov/deep/wildlife) about reporting bird mortalities and what to know for the upcoming migratory bird hunting seasons.

Banding Bald Eagles

In late May and early June, DEEP Wildlife Division biologists visited bald eagle nests to band the young. Banding takes place after the chicks have grown large enough to comfortably wear an aluminum leg band but before they can fly away.

While a climber starts up the tree toward the nest, the adults usually circle overhead or perch in a nearby tree. Once at the nest, the climber corrals the eagles chicks, places them in canvas bags, and carefully lowers them to the ground. Biologists weigh, measure, and attach two aluminum leg bands to each chick. The climber pulls the chicks back up and returns them to the nest. Soon after the team clears the area, the adults return and tend to the chicks.

Banding is an important tool for wildlife biologists. All adult bald eagles look similar regardless of age and sex, so banding is critical for differentiating individuals. Additionally, a re-sighted band can reveal a bird's age, sex, origin, distance travelled, identity of siblings, and identity of parents. Each eagle gets a federally-issued silver band with a unique nine-digit number and a state specific colored band with two or three large numbers and letters. Connecticut uses black bands with white letters.



P.J. FUSCO

Volunteer Larry Fischer holds a bald eagle chick while research assistant Colin Apanovich and biologist Jenny Dickson take measurements that help identify the age and sex of the young chick.

If you see a banded bald eagle, contact DEEP Wildlife Division biologist Brian Hess at Brian.Hess@ct.gov or call 860-424-3208. Banded birds of any species can be reported to the USGS Bird Banding Laboratory at https://www.pwrc.usgs.gov/bbl/.

Report fish and wildlife violations to DEEP's Turn in Poachers (TIP) hotline at 1-800-842-HELP (toll free). Tips can be anonymous.

Specially Trained EnCon Canine Detects First Illegal Possession of Fish

This past April, three DEEP Environmental Conservation (EnCon) Police Officers and their canine partners from the agency's K-9 Unit completed training in the detection of illegally caught fish. The canines were trained to detect certain species of sport fish that are commonly caught in Connecticut, such as trout and striped bass, and to search on vessels, under rocks, along shorelines, and other places illegally taken fish could be hidden.

The canines have been hard at work since completing their training. The first canine to detect illegally caught fish was "Saydee." On May 8, 2015, EnCon officers saw two men fishing on the Housatonic River in Milford and stopped to conduct a fishing compliance check. The men said they had not caught any fish, but the officers dispatched Saydee who searched the shoreline and indicated a "find" on a black trash bag tucked in a rocky embankment. An inspection of the bag revealed two striped bass that measured only 15 and 19 inches in length. State regulations limit the possession of striped bass to one fish per angler at a minimum length of 28" in an effort to protect the resource. The two men, both from Bridgeport, were charged with fishing violations.

The fish detection training, which was offered by the Connecticut State Police K-9 Unit, is the first of its kind within the New England State Police Administrator Compact (NESPAC.) No fish and game detection training curriculum existed within NESPAC until this training program. In the future, the unit will be trained to detect game species as well. The EnCon officers and their canine partners were originally certified in tracking and evidence recovery in June 2012. DEEP obtained the dogs from Connecticut Labrador Rescue Inc., in Haddam.

DEEP ENCON POLICE

EnCon K-9 unit Labrador Retriever "Saydee" with two striped bass she detected. The fish were under the minimum length requirement leading to two Bridgeport anglers being cited for violations while fishing on the Housatonic River in Milford this past May.

Noble Proctor: The Ultimate Naturalist

This past May, the Connecticut birding and conservation communities lost a valued member who left behind a legacy. Noble S. Proctor, Ph.D., of Branford, was a well-known professor of biology for 34 years at Southern Connecticut State University (SCSU) where he taught courses in ornithology, botany, and biogeography. However, his contributions go way beyond his years of teaching. Noble also was a wildlife photographer and has written and co-authored 10 books on birds and wildlife. For over 40 years, he led wildlife tours throughout the world, visiting 90 countries.

An ornithologist all of his life, Noble amassed a lifelong birding list of over 6,000 species worldwide, 814 species in North America and his most prized list of finding 512 species of North American bird nests. Noble worked with his close friend, artist, author, photographer Roger Tory Peterson during his revision of the *Eastern Field Guide to Birds*. He was among the founding members establishing the Roger Tory Peterson Institute for Natural History in Jamestown, New York.

Noble was a member of a variety of organizations, including the American Ornithologists Union, The American Birding Society, Connecticut Botanical Society, Connecticut Butterfly Association, and he was a member of the New Haven Bird Club for 46 years. His many awards include: Outstanding Professor of the Year (SCSU), Connecticut Environmentalist Award, Outstanding Conservationist Award from the Connecticut Botanical Society, Connecticut Ornithological Association Mabel Osgood Wright Award in 2002, and in 2013, the American Birding Association's Roger Tory Peterson Award.

PHOTO COURTESY P. LYNCH

Noble also was a member of the Connecticut Citizens Advisory Committee established in 1982 to examine the nongame wildlife program needs in our state. Through the efforts of Noble and several other notable Connecticut conservationists, including Roger Tory Peterson, S. Dillon Ripley, and Stephen Kellert, an 11-member Connecticut Wildlife Conservation Committee was formed to develop an approach for creating a nongame program in Connecticut. In 1986, these efforts led to Public Act 86-370, which established the *Conservation Program for Nonharvested Wildlife* in Connecticut. Noble served for many years on the Citizens Advisory Board for Nonharvested Wildlife. After establishment of the Connecticut Endangered Species Act, Noble served on the Avian Species Advisory Committee through the 2015 listing period.

For years, Noble volunteered for the program he helped establish. He scouted grassland bird habitats and routinely participated in the Midwinter Bald Eagle Survey. For many years during the midwinter eagle survey, he covered Lake Gaillard and Lake Saltonstall in the East Haven/ Branford area along with Gritt Ardwin. Regardless of the weather conditions or temperature in early January, he could always be relied on to cover his assigned area. It was with great delight that Noble called to report the first eagle nest in Guilford (2012) and immediately offered to keep tabs on the nesting pair. While birds were his forte, Noble was a versatile biologist who looked down as well as up and contributed several herpetological records to the Wildlife Division as well. We have lost a wonderful friend, colleague, and mentor, and Connecticut has lost an accomplished, dedicated biologist with Noble's passing.

The obituary published in the *New Haven Register* provided information for part of this article (www.legacy.com/obituaries/nhregister/obituary.aspx?n=noble-s-proctor&pid=174983755).

Memories of Noble Proctor

Written by Miley Bull, Connecticut Audubon Society

Noble Proctor was a very special and unique human being, that, if lucky, one runs into once in a lifetime. A supreme naturalist, Noble had that contagious enthusiasm that inspired hundreds of his students and turned many non-science majors into lifelong, die hard biologists.

Well known for his ornithological knowledge and expertise, Noble was one of the few existing complete naturalists in every sense of the word. Just when you thought he knew everything there is to know about birds, bugs, and herptiles, he would ask if you wanted to see his collection of slime molds!

A quintessential humanist, Noble was also one of those rare individuals who made you feel like you were one of his best friends, minutes after you met him. He never forgot your name, no matter how fleeting the introduction, and was always truly interested in what you were doing.

I was always amazed when birding in other countries from Africa to Antarctica when a local scientist or government official would ask me if I knew Noble Proctor. He was, indeed, a world-wide legend.

Like so many others, I only wish I had spent more time in and out of the field with Noble and regret the times I had to pass up some of those opportunities. The few times we spent in the field birding or collecting specimens with Dave Parsons from the Peabody Museum are just some of those special memories. I will always remember the time we were searching for a reported timber rattlesnake den on a high talus slope in Kent and Noble crawled into a deep rocky overhang and came out with a turkey vulture egg – 100% Noble, all the way!

Noble is gone now, but all who knew him are very lucky and truly blessed. Fortunately, I am one of the lucky ones.

Conservation Calendar

Late April-August.....Respect fenced and posted shorebird and waterbird nesting areas when visiting the Connecticut coastline. Also, keep dogs and cats off shoreline beaches to avoid disturbing nesting birds.

Programs at the Sessions Woods Conservation Education Center

Programs are a cooperative venture between the Wildlife Division and the Friends of Sessions Woods. Please pre-register by emailing laura.rogers-castro@ct.gov or calling 860-424-3011 (Mon.-Fri., 8:30 AM-4:30 PM). Programs are free unless noted. An adult must accompany children under 12 years old. No pets allowed! Sessions Woods is located at 341 Milford St. (Route 69) in Burlington.

July 10 .....**Forest Floor Exploration,** starting at 10:00 AM. Hidden in the shadows of the towering trees and bustling wildlife, the forest floor is an intriguing place filled with life that is often overlooked. This program offers a lesson on the nutrient cycle, the resources that the forest floor provides to insects and animals, a hands-on investigation of the forest floor contents and insect identification, and a walk around the inner loop trail, 0.5 miles.

July 18 .....**Butterfly Walk,** starting at 1:30 PM. Back by popular demand, Wildlife Division Natural Resource Educator Laura Rogers-Castro will provide participants with a lesson on the basics to butterfly identification, including tips on distinguishing the various butterfly families. Following a brief indoor program, Laura will guide the group on a walk to identify the local butterfly fauna at Sessions Woods. Meet in the classroom located in the exhibit room of the Education Center.

Aug. 6 .....**Forest Pests & Diseases Walk,** starting at 10:00 AM. There are many insects and diseases that plague the beautiful forests of the world, including northwestern Connecticut. This program offers a walk along the main trail to the beaver marsh and back (2 miles round trip), and a discussion on various pests and sicknesses that are leading to the decline of several vital tree species.

Aug. 18 .....**Stream Investigation,** starting at 1:30 PM. Come to Sessions Woods for a hands-on exploration of our streams! This program provides a lesson on basic stream ecology, conservation techniques, invertebrates who live in these waters, and how these invertebrates can tell us how healthy our streams are.

Sept. 26 .....**CT Hunting & Fishing Day,** from 10:00 AM - 4:00 PM. DEEP will be hosting the 5th Connecticut Hunting & Fishing Day at Sessions Woods. This year there will be a live birds of prey program and a raptor meet-and-greet by Master Class Falconer Lorrie Schumacher from Talons. The day features additional activities for all ages, including target shooting; hunting dog demonstrations; archery; children's crafts and activities; hunting and trapping tips; fishing demonstrations; and more! Equipment vendors, sporting clubs, fish and wildlife exhibits, and conservation organizations will also be present. And, it's all FREE! Visit www.ct.gov/deep/HuntFishDay for more details. Parking will be available at Lewis Mills High School, in Burlington. Pre-registration is not required for this special day

Fisheries is now on Twitter! @ctfishinginfo shares fish and fishing related information to maximize your fishing experience! Spread the word.

Summer is the best time to sign up for a Conservation Education/Firearms Safety class. Plan ahead before the hunting seasons start. Regularly check the DEEP website at www.ct.gov/deep/hunting to find out about upcoming classes.

Find us on Facebook **www.facebook.com/CTFishandWildlife**

Connecticut Wildlife

PERIODICALS
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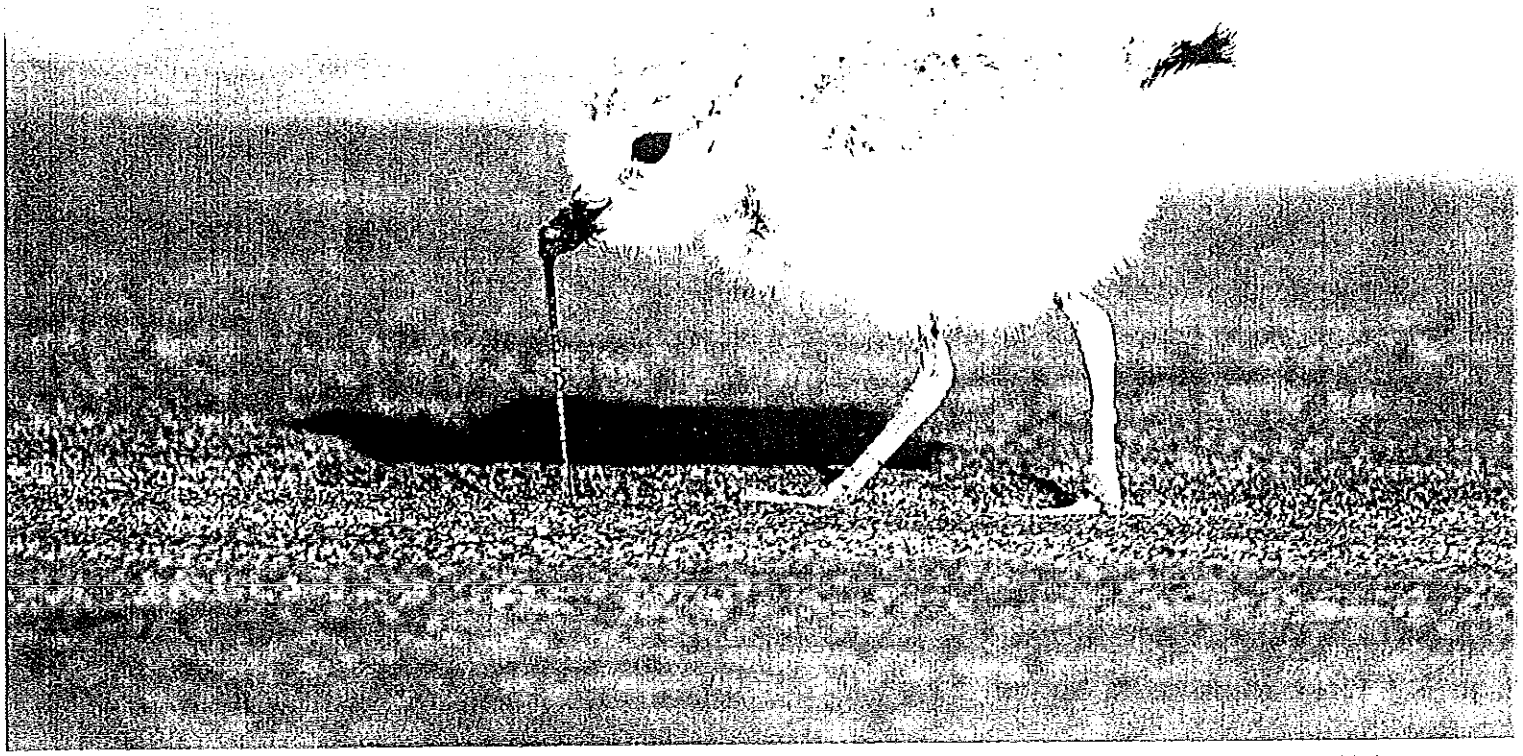
AND ADDITIONAL
OFFICES

Connecticut Department of Energy and Environmental Protection
Bureau of Natural Resources / Wildlife Division
Sessions Woods Wildlife Management Area
P.O. Box 1550
Burlington, CT 06013-1550



A young piping plover chick feeds on a marine worm in the intertidal zone on the Connecticut shoreline. The chick needs to grow quickly in order to survive the many threats it will confront.