

AGENDA

Inland Wetland Agency
Regular Meeting
Monday, August 1, 2011
Council Chambers, Audrey Beck Building

Call to Order: 7:00 PM

Review of Minutes of Previous Meetings and Action Thereon:

- 7.05.2011 - Regular Meeting
- 7.18.2011 - Special Meeting
- 7.26.2011 - Field Trip

Communications:

Conservation Commission:
GM monthly business memorandum

Old Business:

- W1474 - Plimpton - Wormwood Hill/Gurleyville Rds - 4 lot subdivision
- W1482 - United Services, Inc. - North Frontage Rd - office building
- W1484 - Kouatly - 98 Ferns Rd - 1 Lot Re-Subdivision
- W1485 - Bell - 552 Bassetts Bridge Rd - New Barn and Addition to Existing Barn
(Additional mapping is in preparation)

Old Business Pending:

- W1483 - Cumberland Farms - Middle Tpk/Storrs Rd - Gas Sta. & Convenience Store
(Tabled pending 9/6/11 Public Hearing)

New Business:

New Application:

- W1486 - Gore - 166 Baxter Rd - sunroom in buffer

Request for Declaratory ruling:

- W1487 - Kueffner - Route 32 - regrading of cornfield for crop growth

Reports of Officers and Committees:

Other Communications and Bills:

- July/August - 2011 CT Wildlife
- July 2011 - CFL News
- Summer 2011 - The Habitat
- DEP Notice of UConn Fire Dept. General Permit

Adjournment:

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DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Regular Meeting
Tuesday, July 5, 2011
Council Chambers, Audrey P. Beck Municipal Building

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

Chairman Favretti called the meeting to order at 7:00 p.m. He appointed alternates Ward and Rawn to act in members' absence.

Minutes:

06-06-11 – Beal MOVED, Rawn seconded, to approve the 6-6-11 minutes as written. MOTION PASSED with all in favor except Pociask who disqualified himself.

6-15-11 Field Trip - Ward MOVED, Rawn seconded, to approve the 6-15-11 field trip minutes as written. MOTION PASSED with Beal, Rawn, Holt, Favretti and Ward in favor and all others disqualified.

Communications:

The 6-30-11 Wetlands Agent's Monthly Business report was noted.

Old Business:

W1479 - Bemont - Stafford Rd - new garage & small connector between existing house and existing garage
Holt MOVED, Plante seconded, to grant an Inland Wetlands License of the Wetlands and Watercourses Regulations of the Town of Mansfield to Stephen H. Bemont (File W1479), for construction of a living space addition/connection between the existing house and garage, and a new garage, on property owned by the applicant, located at 787 Stafford Road, as shown on a map dated May 2, 2011, and as described in application submissions.

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

1. Appropriate erosion and sediment controls shall be in place prior to construction, maintained during construction, and removed when disturbed areas are completely stabilized.

This approval is valid for a period of five years (until July 5, 2016), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.

MOTION PASSED with all in favor except Pociask who disqualified himself.

W1480 - St.Martin - Storrs Rd - new house, portions in 150' regulated area

Beal MOVED, Plante seconded, to grant an Inland Wetlands License of the Wetlands and Watercourses Regulations of the Town of Mansfield to William St. Martin File W1480, for construction of a new house and appurtenant construction, on property of Barry & Dru Burnham located approximately 500 feet north of Dodd Road on the west side of Storrs Road, as outlined in application submissions including a map dated May 11, 2011, showing installation of building drains and yard grading, as detailed on those plans.

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

1. All erosion and sediment controls (as shown on the plans) shall be in place prior to construction, maintained during construction, and removed when disturbed areas are completely stabilized.

This approval is valid for a period of five years (until July 5, 2016), unless additional time is requested by the applicant and granted by the Inland Wetlands Agency. The applicant shall notify the Wetlands Agent before any work begins, and all work shall be completed within one year. Any extension of the activity period shall come before this Agency for further review and comment.

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

New Business:

W1481 - Goldberg - Meadowbrook La - Request for Declaratory Ruling for lawn re-grading

Eric Goldberg, Meadowbrook Lane, described the water run-off problem he has experienced at his property for years. He stated it worsened as the development of Freedom Green came closer to his property. He added that Freedom Green has done some work to help correct the problem, and he requests permission to re-grade his lawn to further remedy the problem.

Holt MOVED, Pociask seconded, to grant a request for an exemption from obtaining an Inland Wetlands License to Eric and Ellen Goldberg (File W1481), for grading of yard to relieve run-off and ponding on property owned by the applicant, located at 96 Meadowbrook Lane, as shown on a map dated June 15, 2011.

This action is based on provisions of Section 4.1.D. of the Wetlands Watercourses Regulations of the Town of Mansfield, which refers to "Uses incidental to the enjoyment and maintenance of residential property" which is a "Permitted Use as-of-Right".

MOTION PASSED UNANIMOUSLY.

Plante MOVED, Rawn seconded, that pending the applicant submitting a request for reimbursement of the Request for Declaratory Ruling fee, the Mansfield Inland Wetlands Agency will authorize the reimbursement of the \$25.00 fee under Section 19.6 of the Mansfield Inlands Wetlands Regulations. MOTION PASSED with all in favor except Holt, Beal and Favretti.

Continued Public Hearing:

W1474 - Plimpton - Wormwood Hill/Gurleyville Rds - 4 lot subdivision

Chairman Favretti opened the continued Public Hearing at 7:25 p.m. Pociask disqualified himself. Members present were Favretti, Beal, Holt, Lewis, Plante and alternates Rawn and Ward, who were both appointed to act. Meitzler noted in addition to revised plans dated 6/20/11, the following communications were received and distributed to the Agency: a 6/7/11 letter from S. Plimpton granting an extension; a 6/7/11 letter from C. Gottman; and 6/29/11 report from the Wetlands Agent.

Douglas Bonoff, Land Surveyor; Paul Biscutti, Engineer; and Scott Plimpton, applicant, were present. representing the application.

Douglas Bonoff agreed to have the testimony of the Public Hearing at the Inland Wetlands Agency meeting entered into the record of the Planning and Zoning Commission Public Hearing.

Paul Biscutti reviewed 3 specific changes made to the 6/20/11 plans based on comments and recommendations from the staff, Agency and the public.

Cliff Gottman, 580 Gurleyville Road, questioned why the driveway was shifted closer to his property instead of keeping it the way previously planned, with retaining wall and guardrail, further east.

Favretti noted no further comments or questions from the public or the Agency.

Plante MOVED, Beal seconded, to close the Public Hearing at 7:50 p.m. MOTION PASSED with all in favor except Ward and Holt, and Pociask who disqualified himself.

New Business:

W1482 - United Services, Inc. - North Frontage Rd - office building

Rawn MOVED, Plante seconded, to receive the application submitted by United Services, Inc. (IWA file #1482) under the Wetlands and Watercourses Regulations of the Town of Mansfield for the construction of an office building with related parking area and other site improvements at North Frontage Road on property owned by Kevin Tubridy, as shown on a map dated June 27, 2011 and as shown on other application submissions, and to refer said application to the staff and Conservation Commission for review and comment. MOTION PASSED UNANIMOUSLY.

Reports of Officers and Committees:

None.

Other Communications and Bills:

Noted.

Adjournment:

Favretti declared the meeting adjourned at 7:56 p.m.

Respectfully submitted,

Katherine Holt, Secretary

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DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
SPECIAL MEETING
Monday, July 18, 2011
Council Chambers, Audrey P. Beck Municipal Building

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

Chairman Favretti called the special meeting to order at 7:00 p.m. He appointed alternate Rawn to act in Pociask's absence.

Old Business:

W1474 - Plimpton - Wormwood Hill/Gurleyville Rds - 4 lot subdivision

Hall, Goodwin and Ryan noted for the record that they listened to the recording of the 7/5/11 meeting.

Hall, Plante and Holt all felt that despite issues they have with other aspects of the project they don't see any issues related to wetlands. Noting no further comments from Commission members, Holt volunteered to work with staff on a motion for the 8/1/11 meeting.

New Business:

W1483 - Cumberland Farms - Middle Tpk/Storrs Rd - Gas Sta. & Convenience Store

Goodwin MOVED, Holt seconded, to receive the application submitted by Cumberland Farms Inc. (IWA file #1483) under the Wetlands and Watercourses Regulations of the Town of Mansfield for the construction of an Cumberland Farms gas station and convenience store at 643 Middle Turnpike & 1660 Storrs Road on property owned by those listed in Exhibit A attached to and made part of this application, as shown on a map dated July 11, 2011 and as shown on other application submissions, and to refer said application to the staff and Conservation Commission for review and comment and to set a Public Hearing for 9/6/11. MOTION PASSED UNANIMOUSLY.

W1484 - Kouatly - 98 Fern Rd - 1 Lot Re-Subdivision

Goodwin MOVED, Holt seconded, to receive the application submitted by M. Youssef I. and Ann M. Kouatly (IWA file #1484) under the Wetlands and Watercourses Regulations of the Town of Mansfield for a 2-lot subdivision (1 new lot) at 98 Fern Road on property owned by the applicants, as shown on a map dated July 12, 2011 and as shown on other application submissions, and to refer said application to the staff and Conservation Commission for review and comment. MOTION PASSED UNANIMOUSLY.

W1485 - Bell - 552 Bassetts Bridge Rd - New Barn and Addition to Existing Barn

Goodwin MOVED, Holt seconded, to receive the application submitted by James Wesley and Jean E. Bell (IWA file #1485) under the Wetlands and Watercourses Regulations of the Town of Mansfield for the construction of a new barn, existing barn addition for use as a wedding venue at 552 Bassetts Bridge Road on property owned by the applicants, as shown on a map dated 11/19/10 as revised to 5/14/2011 and as shown on other application submissions, and to refer said application to the staff and Conservation Commission for review and comment. MOTION PASSED UNANIMOUSLY.

Adjournment:

Favretti scheduled a field trip for July 26, 2:30 p.m., before declaring the meeting adjourned at 7:12 p.m.

Respectfully submitted,

Katherine Holt, Secretary

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DRAFT MINUTES

MANSFIELD INLAND WETLAND AGENCY/PLANNING AND ZONING COMMISSION
FIELD TRIP
Special Meeting
Tuesday, July 26, 2011

Members present: R. Favretti, M. Beal, J. Goodwin, K. Holt, K. Rawn,
B. Ryan, V. Stearns,
Staff present: G. Meitzler, Wetlands Agent, Assistant Town Engineer
L. Painter, Director of Planning and Development
Other Commissions: S. Lehman, Conservation Commission

The field trip began at 1:30 p.m.

1. Cumberland Farms - 643 Middle Tpk/1660 Storrs Rd - Gas Station & Convenience Store. IWA File #1483, PZC File #1303
Members were met on site by Joseph Williams, Ken Thatcher and John Marth. Members observed the site noting the existing conditions and areas of proposed work. No decisions were made.
2. Kouatly Property- 98 Fern Rd - 1 Lot Re-Subdivision. IWA File #1484, PZC File #1304
Members were met on site by Engineer Peter Henry of Holmes & Henry Associates, LLC and Mike Bugnacki, MTS Builders. Members observed the site noting the existing conditions and areas of proposed work. No decisions were made.
3. Bell Property- 552 Bassetts Bridge Rd - New Barn and Addition to Existing Barn for use as a Wedding Venue. IWA File #1485, PZC File #1217-2
Members were met on site by owner Jean Bell. Members observed the site noting the existing conditions and areas of proposed future work. No decisions were made.

The field trip ended at approximately 3:20 p.m.

Respectfully submitted,

K. Holt, Secretary

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Town of Mansfield
CONSERVATION COMMISSION
Meeting of 20 July 2011
Conference B, Audrey P. Beck Building
(draft) MINUTES

Members present: Robert Dahn, Neil Facchinetti (Alt.), Quentin Kessel, Scott Lehmann, Frank Trainor. *Members absent:* Joan Buck (Alt.), Peter Drzewiecki, John Silander. *Others present:* Aline Booth, John Marth (Cumberland Farms), Grant Meitzler (Wetlands Agent), Linda Painter (Town Planner), William Shakalis.

1. The meeting was called to order at 7:30p by Chair Quentin Kessel. Linda Painter, Mansfield's new Town Planner, was introduced to the Commission.
2. The draft minutes of the 18 May 2011 meeting, as revised on 27 May 2011, were approved.
3. **IWA referrals.** Lehmann observed that the IWA Field Trip to three of these properties is scheduled for next week. The Commission decided to proceed with the referrals anyway, anticipating that it might be difficult to assemble a quorum for the August meeting.

a. **W1483 (Cumberland Farms, 4 Corners, NE)** John Marth sketched Cumberland Farms' proposal for a convenience store and gas station on the northeast of the Four Corners at routes 44 and 195. The vacant Kathy John's and Republic Oil buildings that now occupy the two parcels (2.6-acres total) would be demolished; DEP-required environmental remediation will remove soil contaminated by gasoline leaks at Republic Oil. Plans call for a net decrease in impervious cover (IC); runoff would be directed to a bio-retention basin near 195 to the west, and thence via underground pipe to a wetland along the west edge of the property (about 140 ft from the retention basin). A small wetland on the eastern boundary near Kathy John's is uphill from proposed work.. The rear of the property would be left in its current quasi-natural state; plantings are proposed along routes 44 and 195. After some discussion, the Commission agreed unanimously (**motion:** Facchinetti, Trainor) that no significant impact on wetlands is to be expected from this project, provided standard sedimentation controls are employed during construction.

b. **W1482 (United Services, N. Frontage Rd.)** United Services proposes to construct a 2-story medical office building on North Frontage Rd. near Mansfield City Rd., for which the land is now being cleared. Conantville Brook runs along the rear boundary of the property; the northwest corner of the building and portions of the parking lot would be within 150 ft of these wetlands. The site is fairly flat, save to the east, where contours would be reformed to afford level parking. Runoff would be directed to catchment basins and into an underground storage system – tanks made from sections of large-diameter perforated culvert – behind the building and above the Brook, from which it would seep into groundwater; maintaining such a system is largely a matter of keeping sand from clogging it up. The Commission agreed unanimously (**motion:** Facchinetti, Trainor) that no significant wetlands impact from this project is likely, provided standard sedimentation controls are employed during construction, new contours are stabilized, and maintenance of the storm-water retention system is performed on a regular basis.

c. **W1484 (Kouatly, 98 Fern Rd.)** The Kouatlys propose to split a house lot from their large parcel on Fern Road, permitting their son to build a single-family home between his

parents' house and the derelict school bus garage property to the south. Portions of the building and development envelopes lie within 150 ft (60 ft at the closest point) of wetlands on the latter property. The Commission agreed (**motion:** Kessel, Trainor; all in favor save Lehmann, a friend of the applicants, who abstained) that no significant wetlands impact is to be expected, provided the house is placed near the indicated location and standard sedimentation controls are employed during construction.

d. **W1485 (Bell, 552 Bassetts Bridge Rd.)** The applicants propose to construct a tool barn about 100 ft from a wetland; runoff at this site appears to drain away from the wetland. They also propose to convert an existing barn within 150 of wetlands into a wedding facility. After some discussion, the Commission tabled this referral until the August meeting: the map provided is incomplete and Lehmann can view the property on next week's IWA field trip.

4. Dark Skies. William Shakalis, an amateur astronomer, is interested in working with the Commission to reduce light pollution from UConn and other sources. He agreed to find out what light pollution regulations exist at the state or town level and what model ordinances have been proposed to address light pollution. {Section 505.6.3 of the State Building Code, which concerns "Light Pollution Controls," requires "full cut-off luminaries" except in certain cases, including outdoor sports facilities.} Before approaching the powers-that-be at UConn, it would also be a good idea to enlist support from faculty who teach astronomy and from concerned residents of Mansfield and nearby towns.

5. Open Space Sale? Anthony Kotula is asking the Town to sell him 0.15 acres of land on Maple Rd. so that he can grow rhubarb on it. Perhaps not entirely coincidentally, the sale would also give Mr. Kotula enough frontage to split off a building lot. The parcel, part of the Maplewoods subdivision open-space dedication, was to provide parking for walking on Old Bennett Road, but the sightline to the northwest is poor. After some discussion, the Commission agreed that selling this parcel to Mr. Kotula would set a bad precedent, encouraging other attempts to convert Town open space to private property. It would be preferable to retain the land but grant Mr. Kortula an agricultural easement on it. However, he appears to have plenty of unshaded space on his own property for a rhubarb plantation.

6. The Connecticut Council on Environmental Quality is inviting public input on environmental concerns and priorities at 5:30p, Wednesday, 27 July 2011 in the Council Chambers.

7. Mirror Lake Dredging. GZA GeoEnvironmental maintains, in its 07 June letter to the DEP, that use of a polymer flocculent that is not NSF-certified in the sediment dewatering process for the Mirror Lake dredging project poses no risk to public drinking water supplies. GZA notes that, according to the flocculent's manufacturer, "the concentration of acrylamide [a carcinogen] is the sole concern of NSF in certifying a flocculent used in the treatment of drinking water." GZA then maintains that, according to its analysis, residual acrylamide in water released into Roberts Brook will be diluted to safe levels by the time any is withdrawn at Windham Water Works. However, this analysis overlooks the fact that some of the acrylamide-contaminated water is likely to be withdrawn at UConn's Fenton River wellfield far upstream. Kessel's letter to the DEP, pointing out this oversight, was unanimously approved by the Commission (**motion:** Facchinetti, Trainor).

8. Eagleville Brook Watershed Management Plan. DEP has released the draft of its final plan for managing TMDL in Eagleville Brook by reducing IC in the watershed. Comments drafted by

Kessel on behalf of the Commission were unanimously approved (**motion:** Facchinetti, Dahn). They express support of the plan's goals and methods for attaining them, suggest that efforts to reduce IC should focus on those parts of the UConn campus that probably contribute most of the stormwater-transported pollutants to Eagleville Brook *and* to Roberts Brook, and argue that IC% for a given area should include any water bodies with outflows (such as Swan Lake).

8. Adjourned at 9:15p.

Scott Lehmann, Secretary, 21 July 2011

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Memorandum:

July 26, 2011

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

WI419 - Chernushek - hearing on Order

3.10.09: The hearing on the Order remains open and should continue until the permit application under consideration is acted upon.

(The Order was dropped on approval of the application required in the Order.)

4.30.09: Former rye grass seeding is beginning to show green. I spoke with Mr. Chernushek this afternoon who indicated health problems that delayed his starting but indicated he will be working this weekend. I will update on this Monday evening.

5.26.09: A light cover of grass growth has come in. Mr. Chernushek indicates health problems and two related deaths have delayed his start of work since the permit approval was granted. It appears that some light work has started. He has further indicated that he will start a vacation on June 22, 2009 to finish the work.

6.13.09: Work is underway.

6.21.09: Bulldozer work has been completed - finish work remains. The additional silt fencing has been placed along the northerly wetlands crossing, and the additional pipe under the southerly crossing has been installed. Remaining work includes finish grading along edges, spreading stockpiled topsoil, and establishing grass growth.

7.01.09: I spoke with Mr. Chernushek who indicated he expects work to be completed by September 1, 2009. (Site photo attached).

9.03.09: Mr. Chernushek has been working on levelling and grading. The formerly seeded areas have become fairly thick growth surrounding the central wet areas. He has further indicated that with the combination of weather and the slower moving of earth with the payloader compared to the earlier rented bulldozer has led him to contact contractors for earth moving estimates which have not yet been received. The site is not yet finished but has remained quite stable.

9.12.09: I met with Mr. Chernushek today and discussed again what his plans are for stabilizing this work site.

10.01.09: Mr. Chernushek indicated he has not heard back from the contractor he had spoken with about removing material, and is in progress of contacting others. In discussion is removal of material from the site either within the 100 cubic yard limit or obtaining a permit for such removal.

10.28.09: Mr. Chernushek has indicated he has made arrangements with DeSiato Sand & Gravel to remove 750 cubic yards of material. Staff is in the process of clarifying permit requirements.

WI445 - Chernushek - application for gravel removal from site

11.30.09: Packet of information representing submissions by Mr. Chernushek, Mr. DeSiato and myself is in this agenda packet as Mr. Chernushek's request for modification.

12.29.09: Preparation of required information for PZC special permit application is in progress. Tabling any action until the February 1, 2010 meeting is recommended.

- 1.12.10: 65 day extension of time received.
- 2.18.10: No new information has been received.
- 2.25.10: This application has been **withdrawn**.
- 6.30.10: As viewed from the adjacent property, the upstream and downstream areas have grown to a decent protected surface. I did not see indication of sediment movement.
- 10.26.10: A sale of the East portion of the Chernushek property has been in negotiation.
- 12.27.10: The property exchange has been completed. The owner is now the neighboring property owner Bernie Brodin. He has indicated his intention to stabilize the area as weather permits.
- 4.25.11: Mr. Brodin indicates he is starting with grading and spreading hay and seed to stabilize disturbed areas.

Mansfield Auto Parts - Route 32

- 2.18.10: Same - they are in the process of rebuilding the engine on the payloader.
- 3.30.10: Same - Mr. Bednarczyk indicates a continuing problem finding engine parts.
- 4.13.10: Owner indicates the payloader is operating again.
- 4.15.10: Owner indicates he will have the cars moved this week.
- 4.23.10: No vehicles are within 25' of wetlands.**
- 5.17.10: Inspection - no vehicles are within 25' of wetlands.
- 6.02.10: Inspection - no vehicles are within 25' of wetlands.
- 6.23.10: Inspection - no vehicles are within 25' of wetlands.
- 7.15.10: Inspection - no vehicles are within 25' of wetlands.
- 9.01.10: Inspection - no vehicles are within 25' of wetlands.
Mr. Bednarczyk has started removing tires from the westerly part of his site using roll-off containers. With this arrangement a moderately steady rate of removal of the tires should be possible to maintain until the tires are completely removed.
- 9.28.10: Inspection - no vehicles are within 25' of wetlands.
Tire removal is continuing with 1 to 2 roll-off containers being removed per month.
- 10.07.10: Inspection - no vehicles are within 25' of wetlands.
Tire removal has been continuing.
- 11.29.10: Inspection - no vehicles are within 25' of wetlands.
Owner has been trucking cars for crushing with 6 tires per vehicle. He indicates 3 cars per day or 18 tires per day. The actual number is probably lower than 18.
- 12.23.10: Inspection - no vehicles are within 25' of wetlands.
- 1.07.11: Inspection - no vehicles are within 25' of wetlands.
- 1.20.11: Vehicle storage areas are snowed in and inaccessible.
- 1.26.11: Snows remain, although some clearing has been done I could not count on being able to get out.
- 2.24.11: Inspection - no vehicles are within 25' of wetlands.
- 3.09.11: Inspection - no vehicles are within 25' of wetlands.
- 3.22.11: Inspection - no vehicles are within 25' of wetlands.
- 4.25.11: Inspection - no vehicles are within 25' of wetlands.
- 5.17.11: Inspection - no vehicles are within 25' of wetlands.
Mr. Bednarczyk's estimate is that approximately 100 tires per month are being removed from the site.
- 6.14.11: Inspection - no vehicles are within 25' of wetlands.
- 7.12.11: Inspection - no vehicles are within 25' of wetlands.

Memorandum:

July 28, 2011

To: Inland Wetlands Agency
From: Grant Meitzler, Inland Wetland Agent
Re: W1482 - United Services, Inc. - North Frontage Rd, Rte 633
Office building

plan reference: June 27, 2011

Engineering Report: BL Companies June 27, 2011

(Includes June 3, 2011 letter from John Ianni, Soil Scientist)

This application is for construction an office building of 28,748 sq.ft. on land of Kevin Tubridy located along the north side of the North Frontage Rd that parallels Route 6 from Route 195 to High Street. No work is currently proposed directly in wetlands. Much of the proposed work area is within the 150' regulated area adjacent to wetlands.

The wetlands involved here are those associated with the Conantville Brook. From the rear of the proposed building and to the east the brook is quite deeply cut into its brook bed and there is very little wetland area next to the brook on either side. From behind the proposed building and to the west there is a very flat and wide floodplain area along the brook. The map submitted shows the 100 year floodplain elevation along the edge of these areas.

The site is generally quite flat in proposed construction areas with this being a sand and gravel soil plain from the N.Frontage Rd. The soils a very droughty and site runoff is indicated at quite a low value in the calculations for the site runoff before construction.

The plan keeps runoff very low with the design submitted. Water from the paved parking lot surfaces and the roofs is directed to hooded interceptors to catch oils and floating debris. After flowing through the pipe and protected system, water is directed to two underground infiltration systems placed behind the proposed building and parking lots. These have been designed to contain the roof and parking lot runoff for the 25 year storm. This design has been based on the low estimate from the NCRS of the site soils permeability. From discussion with the engineer it appears that a reassessment of the actual soil's capacity to absorb rainfall will be done during/after construction and the final size of these underground infiltration chambers adjusted as appropriate.

From the rear of the proposed site development and back to the area of the edge of wetland and the 100 year flood elevation the land slopes moderately steeply to the lower brook elevation. About midway up (or down) this slope there is a very old canal that has been in long disuse although still in quite good condition through the area that I walked. This should serve to catch overflow from the site, as it has been doing for decades.

There is an area of disturbance that appears to have been a gravel mining area in the distant past. This is partly under the proposed easterly parking lot and the landscaped are proposed east of the easterly parking lot. These areas will be regraded and recreated as parking lot of maintainable grass area.

Appendix G of the BL Companies engineering Report is a specific Operation and Maintenance Section covering seven pages. This provides guidelines of proper overall maintenance of the site with checklists and record keeping indicated.

Separating Distances
to the wetlands

westerly parking area	64'
.....	70'
.....	90'
easterly parking area	102' to 148'
building	155'
.....	135'
.....	149'
.....	189'
West Underground infilt.....	57' to 115'
East Underground infilt.....	106' to 124'

Sediment and Erosion Control plan has been provided showing silt fence surrounding the active construction site. Specific treatments are noted on sheet EC1 including tracking pad at drive entrance, silt fence and hay bales at specific locations. where appropriate, and erosion blankets for stabilization of the steeper banks in the rear areas of the proposed site. Sheet EC2 follows with details and specific sediment & erosion control notes.

Summary Comments:

This proposal offers a 28700 sq.ft. office building with a 148 space parking lot that has been designed to keep flow from the developed parts of the site at very near zero for the 25 year storm. Flow is to be contained within underground infiltration systems returning this flow to the groundwater underneath the site.

Memorandum:

July 28, 2011

To: Inland Wetlands Agency

From: Grant Meitzler, Inland Wetland Agent

Re: W1484 - Kouatly - 98 Fern Rd - 2 lot resubdivision

plan reference: July 12. 2011

This resubdivision is to split a single new 2.38 acre lot from an existing 14.62 acre lot at 98 Fern Rd. No work is proposed in wetlands.

There are two distinct wetland areas shown on the plans, as follows:

1. on the adjacent property to the south shown starting about 30' south of the property line. I walked this area this morning and it appears to be be relatetd to grading done when the site was leveled many years ago in order to keep water away from the school bus barns.

I would characterize it as a former gravel excavation area graded to catch surface water. I would also characterize it as of minimal wetland value.

2. to the rear of the proposed lot 2 and centrally located on Lot 1 is a much larger natural wetland. This is wooded and two areas that have been noted as "wood frog habitat" have been shown within this natural wetland area. More information is needed on the nature of these two areas as they may warrant increasing the proposed BAE/DAE separating distances in line with the vernal pool 100' exclusionary area.

This wetland zone which runs several hundred feet across the Kouatly property also contains a man-made pond about 180 feet in diameter. This was dug about 30 years ago. It is very unusual to see a large pond that does not have fish in it, based on which I would say this pond is unlikely to qualify as a vernal pool.

SEPARATING DISTANCES
FROM WETLANDS

	Lot 1	Lot 2
house	134'	84' *
septic	55'	135' *
reserve	258'	103' *
driveway	101'	68' *
well	193'	137' *
footing drain	**	80' *
BAE	36' **	50'
DAE	1' **	50'

* each of these distances marked with a single asterisk is between the item and the wetland noted as #1 above.

** the large manmade pond does not appear subject to anything but foot traffic and grass mowing upon which these very small separating distances may not be objectionable.

For the new lot 2, silt fence/hay bale protection has been indicated downhill of the new construction areas and stockpile area. A standard tracking pad for the new drive entrance has also been indicated.

Summary Comments:

I have asked Mr. Henry for additional information on the "wood frog habitat" areas as they relate to possible vernal pool locations. I think this clarification is needed before wetlands action is appropriate.

Memorandum:

July 28, 2011

To: Inland Wetland Agency
From: Grant Meitzler, Inland Wetland Agent
Re: New Business for August 1, 2011 meeting

Declaratory Ruling:

W1488 - Kueffner - Route 32, South of Merrow Rd

This property is the land south of Merrow Rd between the railroad tracks and Rte 32. It is the "Corn Maze" land. Mr. Kueffner wants to clear some small treed sres running through the current cornfields and do levelling work to move soil in the existing fields in order to get more uniform corn growth than occurs at present.

Section 4.1 of our regulations provides the following:

4.1 The following operations and uses shall be permitted in wetlands and watercourses and upland review areas, as of right:

A. Grazing, farming, nurseries, gardening and harvesting of crops and farm ponds of three acres or less essential to the farming operation, and activities conducted by, or under the authority of, the Department of Environmental Protection for the purposes of wetland or watercourse restoration or enhancement or mosquito control.

The provisions of this subdivision shall not be construed to include road construction or the erection of buildings not directly related to the farming operation, relocation of watercourses with continual flow, filling or reclamation of wetlands or watercourses with continual flow, clear cutting of timber except for the expansion of agricultural cropland, the mining of topsoil, peat, sand, gravel or similar material from wetlands or watercourses for the purposes of sale;

It appears to me this qualifies for the as of right farming exemption, both for the improvement of the existing cornfields and the minor clear cutting proposed.

New Application:

W1486 - Gore - 166 Baxter Rd - sunroom addition in buffer.

	yes	no
	-----	-----
fee paid	n.a	
certified receipts	n.a	
map dated	7.26.2011	

This application is for a new sunroom addition to the existing house. The location is approximately 125' away from the wetlands which were mapped when this subdivision lot wa approved.

Receipt and referral to the Conservation Commission is appropriate.

PAGE
BREAK

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

FOR OFFICE USE ONLY	
File #	W/486
Fee Paid	\$185-
Date Received	7-26-11

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

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

Part A - Applicant

Name Alan D. Gore

Mailing Address 37 Wildwood Rd

Storrs, CT Zip 06268

Telephone-Home 860 429-0101 Telephone-Business 860 428-9758

Title and Brief Description of Project "Sun Room"

Build a 14' x 17' 3 Season Room attached to the house.

Location of Project 166 Baxter Rd. Storrs, CT. 06268

Intended Start Date August 2011

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

Name Dennis Wright + Amy Anderson Wright.

Mailing Address 166 Baxter Rd

Storrs, CT. Zip 06268

Telephone-Home 860 487-4316 Telephone-Business _____

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

Signature [Signature] Amy Anderson Wright date 7/27/11

Applicant's interest in the land: (if other than owner) Builder of the Sunroom.

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

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

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

a) in the wetland/watercourse

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

We will excavate for three pier footings off the mudroom then construct a 17' wide by 14' deep deck to support the Sun room kit. The small entry deck will be removed and new entry steps will be alongside the garage. There will be little disturbance to the lawn or soil. There will be NO disturbance in the wetland area.

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

We will dig within a 40 square foot area 130 feet from the marked wetland edge.

3) Describe the type of materials you are using for the project: 3 Concrete Footings, Pressure Treated deck, Aluminium Sun room kit.

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

b) include volume of material to be filled or excavated Excavate 105 Cubic Feet of material, for Footings + backfill.

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).

Hay down grade from excavated area. Lawn already in place.

Part D - Site Description

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

Sloping & well drained.

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.

As the house is within the setback
the alternatives would also be within
the setback.

Part F - Map/Site Plan (all applications)

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

2) Applicant's map date and date of last revision 7-20-11

3) Zone Classification _____

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

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

See Section 6 of the Mansfield Regulations for additional requirements.

Part H - Notice to Abutting Property Owners

1) List the names and addresses of abutting property owners

Name	Address
Randy + Arlis Bobb	122 Hebron Rd Bolton, CT. 06043
Charles + Wendy Koch	135 Baxter Rd Storrs, CT. 06268
BB+B LLC	767 Baxter Rd. Storrs, CT. 06268
Arthur + Marion Bessette	172 Baxter Rd. Storrs, CT. 06268
Town of Mans.	open space - 4 So Eagleville Rd. 06268

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

Part I - Additional Notices, if necessary

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

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

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

Part J - Other Impacts To Adjoining Towns, if applicable

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

Part K - Additional Information from the Applicant

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

Part L - Filing Fee

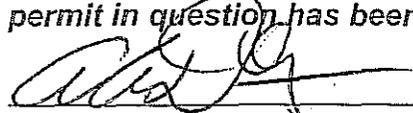
Submit the appropriate filing fee. (Consult Wetlands Agent for the fee schedule available in the Mansfield Inland Wetlands and Watercourses Regulations.)

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

\$60 State DEP Fee

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

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



Applicant's Signature

7/26/11

Date

Town of Mansfield Open Space

4 S. Eagleville Rd.

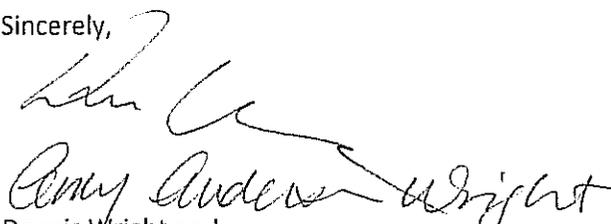
Storrs, CT 06268

July 26, 2011

Dear Mr. Mitzler,

We are your neighbors, Amy and Dennis Wright, at 166 Baxter Road in Storrs. We are planning to build a 14 ft x 17 ft three-season porch that will be directly attached to our house. According to the plans, one corner of the porch will be within the 150 foot wetlands setback. This letter is to inform you that we will be seeking approval for the plans through the wetlands commission.

Sincerely,



Amy Anderson Wright
Dennis Wright and

Amy Anderson Wright

ROAD

N 8°-47'-22" E 123.52'

S 76°-13'-39" E 105.87'

PROPOSED DRIVE

PROP. WELL

LOAM STOCKPILE

FOUNDATION DRAIN DISCHARGE TO DAYLIGHT

PROPOSED HOUSE

GARAGE

PROPOSED 1250 GALLON SEPTIC TANK

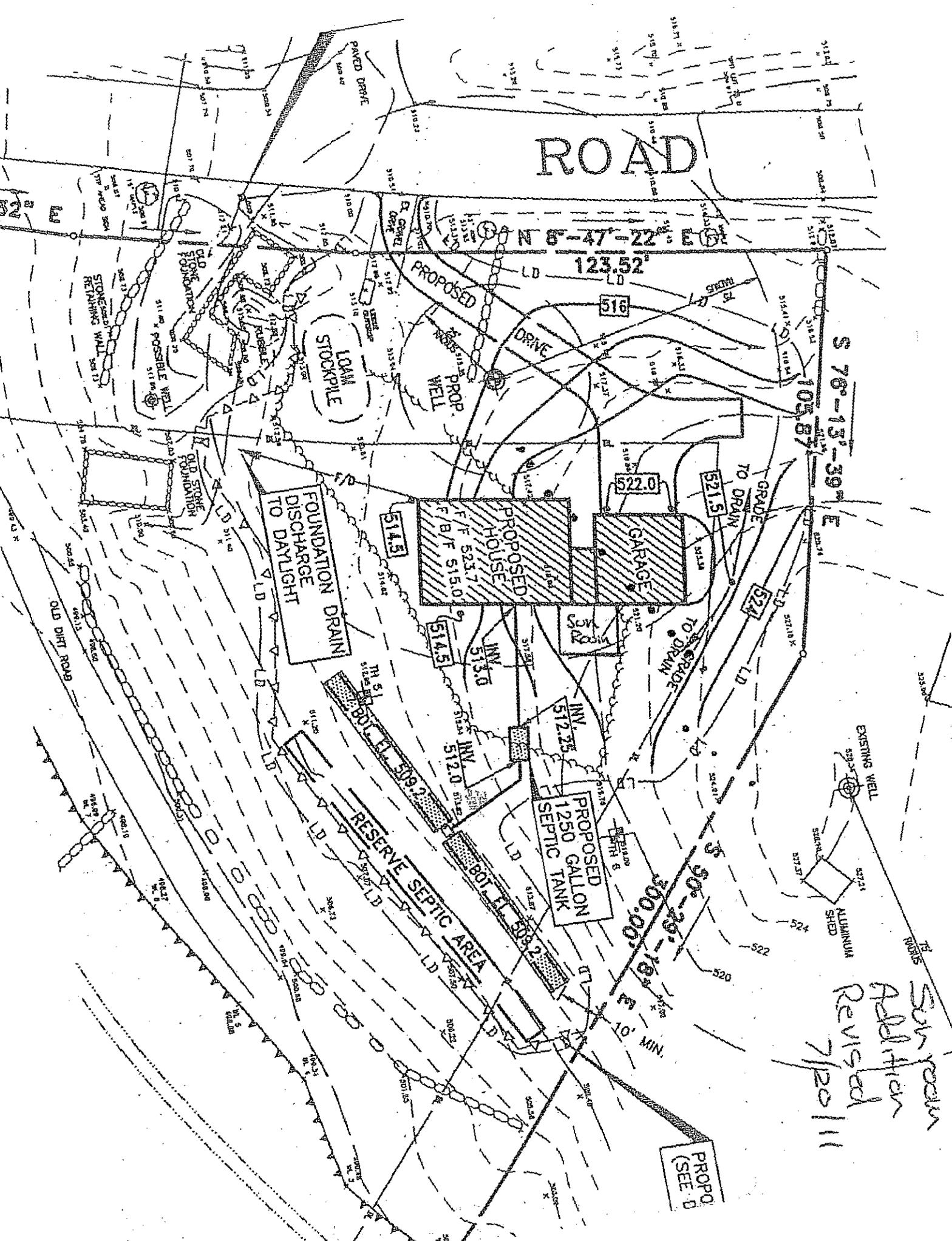
RESERVE SEPTIC AREA

EXISTING WELL

ALUMINUM SHED

Surround Addition Revised 7/20/11

PROP'D (SEE D)

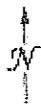


Kueffner - Cornfield Maze

Town of Mansfield, CT



- MapGrid
- towns
- Dimensions
- Address
- ParcelID
- Area
- Streets
- Parcels
- powerlines
- water
- wetlands
- Town
- roads
- highways



1 in = 337.15 ft

Printed:
7/28/2011

MainStreetGIS
www.mainstreetgis.com

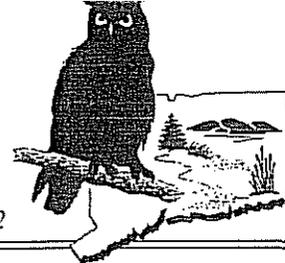
MainStreetGIS, LLC - www.mainstreetgis.com / info@mainstreetgis.com

Disclaimer: This map is for assessment purposes only. It is not valid for use as a survey or for conveyance

PAGE
BREAK

THE HABITAT

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



SUMMER 2011

volume 23 number 2

Editor's Note: The Connecticut Forest & Parks Association (CFPA) has been at the forefront of legislative efforts to restore protection against liability for injuries occurring on municipal owned open space land. The liability issue had the potential to reduce community support for open space acquisition and protection. This year, with the passage of Public Act 11-211, "An Act Concerning Liability for the Recreational Use of Lands," municipalities will be better protected against lawsuits stemming from outdoor activities on public recreational lands. See PA 11-211 text on page 14. This of course does not diminish the need to make public safety an important part of your open space stewardship activities.

Recreational Liability Reform: A Significant Win for Towns!

by Eric Hammerling

In the last hour of Connecticut's 2011 legislative session, the Senate approved H.B. 6557 entitled "An Act Concerning Liability for the Recreational Use of Lands". With its action, the General Assembly brought to conclusion a 15-year struggle to restore protection against liability for municipalities under the Recreational Land Use Act (RLUA).

When the RLUA was passed in 1971, its purpose was to encourage landowners to make their lands available for public recreation free of charge by providing landowners with statutory protection against frivolous lawsuits stemming from outdoor activities. As long as a landowner did not exhibit "willful or malicious failure to guard or warn against a dangerous condition, use, structure or activity" (C.G.S. § 52-557(h)), they would be protected. Municipalities, including entities such as the Metropolitan District Commission (MDC), a "nonprofit municipal corporation", were considered to be landowners under RLUA until the State Supreme Court ruled in Conway v. Wilton (1996) that the RLUA only included private landowners (individuals, corporate, land trust, etc.).

In Connecticut, municipalities have protected over 75,000 acres for open space/recreation, and over 1,000 miles of recreational trails wind through a mix of state, municipal, and private lands. Since that ruling, municipalities have been more vulnerable to lawsuits from injuries incurring on their recreational lands, and several municipalities either closed or decided not to open or acquire recreational areas in the wake of Conway. Recent examples include a jury verdict of \$2.9 million against the MDC from a bicycle accident at the West Hartford Reservoir, which almost triggered the closure of 30,000 acres of recreational lands, and an

\$8 million settlement against the city of Waterbury from a sledding accident that spurred Middlebury to consider closing the sledding hill behind town hall.

H.B. 6557 restores municipalities and related entities (e.g., political subdivisions of the state, municipal corporations, special districts, and water or sewer districts) as landowners protected under RLUA. However, despite strong support in public hearings before the Environment and Planning & Development Committees, compromise was necessary to pass legislation over strident objections from the CT Trial Lawyers Association (which had successfully blocked repeated attempts over the last 15 years to restore municipalities as landowners under RLUA). Under the compromise deftly brokered by Representative David Baram (D-Bloomfield), areas considered to be more intensively managed by municipalities were not given special protection under RLUA. Those recreational areas where municipalities would maintain a higher duty of care are swimming pools, playing fields or courts, playgrounds, buildings with

liability, continued on page 11

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www.caciwc.org

CACWIC News Briefings

The CACIWC Board of Directors was pleased with the initial response to our new column, designed to provide conservation and wetlands commissioners, agents, directors and other readers with highlights of recent decisions and other news from our board and committee meetings. Please do not hesitate to contact us via email at board@caciwc.org if you have any questions or comments on these items or if you have other questions of your board of directors.

Thank you ~ Alan J. Siniscalchi, President

1. The CACIWC Board of Directors and its Annual Meeting Committee are excited to announce that *Connecticut Department of Energy and Environmental Protection (DEEP) Commissioner Daniel C. Esty* has agreed to serve as the keynote speaker at our **34th Annual Meeting and Environmental Conference**, scheduled for Saturday, November 12, 2011 at MountainRidge in Wallingford, CT. This year marks a special milestone for Connecticut with the 50th anniversary of the enabling legislation authorizing the establishment of municipal conservation commissions. CACIWC will be celebrating this anniversary with special events throughout our annual meeting and conference. Using your suggestions, the Annual Meeting Committee is recruiting another series of informative speakers and workshop leaders. Watch for additional conference news in the next issue of *The Habitat* and on our website: www.caciwc.org.

2. Did your Commission have an especially successful year? Do you know of a special commissioner or staff person who deserves recognition for their efforts? The Board and its Annual Meeting Committee are encouraging readers to begin submitting nominations for our **2011 Annual CACIWC Awards** to us at: AnnualMtg@caciwc.org. The 2011 nomination form has been placed on our website. Please send us your nominations!

3. The Annual Meeting Committee has completed an evaluation of the **conference registration fees** for our 2011 Meeting. While the general admission fee will be increased for 2011 meeting, the Committee has decided not to increase the registration fee for members from town commissions who are current with their membership dues. Watch for the new conference registration form that will be placed on our website during August, 2011: www.caciwc.org.

4. **Membership dues** are an essential part of our operating budget. They support various CACIWC programs including our Annual Meeting, educational materials, and *The Habitat*. The Board has decided not to increase membership fees this year. You should have received a reminder and renewal form for the 2011-12 membership year, which began on July 1, 2011. A copy of this form and additional information can also be found on our website:

news, continued on page 11

Low Impact Development in the Farmington River Watershed

by MaryAnn Nusom Haverstock

The Connecticut Department of Environmental Protection works with towns to manage Connecticut's water resources in an effort to protect and restore the waters across the state. Watershed Management is an integrated approach addressing all aspects of water quality and related natural resource management, including pollution prevention and source control.¹ Working with our watershed partners across Connecticut, DEP assists in the development of watershed based plans that recommend implementation of practical solutions to reduce nonpoint source pollution in stormwater runoff.

Low Impact Development (LID) is one of the solutions we can implement to effectively manage stormwater runoff. LID is a site design strategy intended to maintain or replicate predevelopment hydrology through the use of small-scale controls integrated throughout the site to manage runoff as close to its source as possible.² Depending on site characteristics and the type of LID practice used, there is opportunity to sustain ground water discharges of cooler and improved water quality to maintain stream flow during dry periods. Water quality, biodiversity, recreation, cultural landscapes, and land use may also be improved when towns and the state engage in local and state regulatory reviews to encourage low impact development.

When constructed throughout a site, LID practices will limit runoff and can protect and improve water quality, recharge groundwater to maintain base flow of rivers and streams, decrease the need for expensive stormwater systems and help to create distinctive design elements in our development across Connecticut.

Examples of residential LID strategies that homeowners can design and build on their property include:

- Residential rain gardens: go to www.ct.gov/dep/lib/dep/water/watershed_management/wm_plans/lid/rain_gardens.pdf
- Shared driveways: reduces paved and soil compaction area
- Alternative pavement surfaces for front walks or driveways including porous asphalt, pervious concrete

or permeable pavers. For more information go to www.ct.gov/dep/lib/dep/watershed_management/wm_plans/lid/pervious_pavement.pdf

- Stormwater disconnects from roof gutters to rain barrels instead of storm drains; go to www.ct.gov/dep/lib/dep/water/watershed_management/wm_plans/lid/rainwater_harvesting.pdf
- Green roof applications; go to www.ct.gov/dep/lib/dep/water/watershed_management/wm_plans/lid/green_roofs.pdf

Examples of municipal LID strategies for more complex projects on municipally owned properties such as roads, town halls or libraries are:

- Reduction in road width/one-way cul-de-sac to reduce paved area
- Elimination of curb and gutter to encourage sheet flow across vegetated surfaces
- Alternative pavement surfaces for sidewalks or parking lots including porous asphalt, pervious concrete or

permeable pavers

- Green Roof applications; roof gardens designed to absorb precipitation and recycle water through evaporation and transpiration
- Depressed island in cul-de-sac for bioretention of storm water
- Grassed swales in road right of way instead of traditional stormwater sumps and piping to the nearest stream
- Reduction of sidewalks in smaller neighborhoods where sidewalks on one side could be used

Encouraging Incorporation of Low Impact Development (LID) Techniques in Future Development in Farmington River Watershed Towns

On October 1, 2008, DEP announced a Request for Proposals inviting towns in the Farmington River Watershed to apply for funds to conduct a Municipal Land Use Evaluation (MLUE). These grants came

LID, continued on page 4

"LID is a site design strategy intended to maintain or replicate predevelopment hydrology through the use of small-scale controls integrated throughout the site to manage runoff as close to its source as possible."

from a Supplemental Environmental Project (“SEP”) fund generated in lieu of cash penalties by an enforcement action.

These grants to municipalities allowed each town to identify their specific needs for potential revisions to current land use regulations and ordinances. The goal for these towns was to encourage incorporation of Low Impact Development (LID) techniques in future development. Towns formed Local Land Use Committees (Committee) to lead these evaluations and worked with planning and engineering firms to assist with their technical and legal reviews.

Ten towns in the Farmington River Watershed were awarded grants to review and recommend revisions to their municipal land use regulations and ordinances for incorporating LID in future landuse designs. DEP recommended an upper limit of \$50,000 for the project. Towns applied for funds according to their predicted needs. DEP awarded full funding to each town that applied.

Avon - \$50,000	New Hartford - \$47,100
Barkhamsted - \$44,305	Simsbury - \$25,000
Colebrook - \$35,000	Torrington - \$25,000
East Granby - \$37,000	Winchester - \$35,000
Harwinton - \$35,000	Plainville - \$50,000

Typical DEP/Municipal Scopes of Work had Five Steps

1) Form Local Land Use Committee

The Committee in each town had a slightly different makeup specific to their individual needs. This improved the diversity of the results to better serve all municipal stakeholders. Committees were comprised of municipal government representatives, including but not limited to members of:

- Conservation Commissions
- Inland/Wetlands and Watercourses Commissions
- Zoning Commissions (including Zoning Appeals Commissions)
- Planning Commissions
- Economic Development Commissions
- Engineering Divisions
- Public Works Divisions

Many towns invited external stakeholders to be active participants on the Committee. These additional

stakeholders ensured that local public involvement began early in the process and continued throughout the regulatory revisions and adoption process. External stakeholders included engineers, developers and construction companies who had experience with development in these or similar communities. Area residents, land trusts and watershed associations were also invited to work on town Committees to ensure their knowledge of the town’s natural resources was considered when revising regulations to encourage LID practices.

Throughout the process, DEP provided towns with information and technical support on watershed management issues, land use decisions, and current and proposed state environmental regulations. The CT NEMO program (<http://nemo.uconn.edu>) presented information on land use planning in CT and the University of New Hampshire Stormwater Center presented overviews of LID designs and projects currently being installed or monitored at their site in New Hampshire (www.erg.unh.edu/stormwater/index.asp).

2) Contract with services as appropriate for town

Municipalities each subcontracted expertise as required, including legal, environmental science, planning consultants and engineering firms. These subcontractors assisted the Committee with the review of their current regulations and proposed changes to remove barriers to incorporating LID into their regulations. Town specific revisions were adopted throughout subdivision, wetland, planning, and zoning regulations as well as local road ordinances. The Committee not DEP, gave final approval on regulation revisions.

3) Review municipal regulations as specified when drafting scope with DEP (Focus on zoning, subdivision and wetlands)

Proposed revisions to regulations and ordinances were drafted to eliminate barriers, and encourage the use of LID techniques in future development projects. Committees made sure that stakeholders and experts thoroughly reviewed all proposed changes to regulations and ordinances.

Town-wide meetings were organized to present findings to residents, including, but not limited to summaries of current local town regulations and ordinances that currently restrict use of LID techniques, as well as proposed revisions to local regulations and ordinances to encourage LID.

The Committees were successful in reviewing regulations that focused on their local zoning, subdivision and wetlands regulations. In addition, many towns reviewed road ordinances and regulations that affected the design and construction of roads at the local level.

4) Draft regulatory revisions with municipal committee and consultant

Each municipality's approach to revising regulations was unique. Because all towns worked hard to include a diverse group of stakeholders within their committees, the draft regulatory results allowed for concurrent local development and protection of water quality, and other natural resources, while providing incentives for land preservation in the Farmington River Watershed

5) Present findings/vote to adopt regulatory revisions

The DEP's goal for this project is to take these diverse lessons learned from this 10-town pilot project in the Farmington River Watershed to assist other communities in Connecticut. It would be ideal for towns to incorporate and improve upon these experiences as they perform their own Municipal Land Use Evaluations,

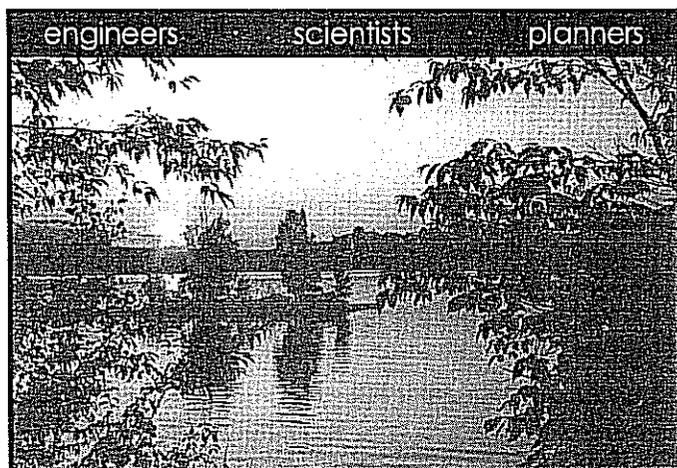
and consider modifying regulations and ordinances to improve the quality of life in their communities. DEP has created a web page that includes an overview of what low impact development is and the background of this MLUE project. Most importantly, this web page includes the summaries of the project goals directly from the ten towns that participated in this evaluation. The DEP web page links to their individual progress toward successful adoption and implementation of these regulations on their municipal websites. www.ct.gov/dep/cwp/view.asp?a=2719&q=477274&depNav_GID=1654

DEP was part of an EPA initiative to assist States to encourage Low Impact Development. If you are interested in seeing LID technology in place in Connecticut some examples have been installed throughout the grounds of the State Capitol, including three types of pervious pavement, a rainwater cistern, two types of rain gardens and a green roof. Additional information on the Capitol's LID installations and a brochure for a walking tour of the project can be found at: www.ct.gov/dep/lib/dep/water/watershed_management/wm_plans/lid/green_capitols_brochure.pdf.

¹ 2004 CT-DEP Stormwater Quality Manual, Glossary p. F-11
² 2004 CT-DEP Stormwater Quality Manual, Glossary p. F-5

MaryAnn Nusom Haverstock is a Supervising Environmental Analyst with CT-DEP Bureau of Water Protection and Land Reuse Planning and Standards Division, Nonpoint Source Program (NPS).

The Nonpoint source program focuses on a watershed management approach and includes Watersheds/Lakes/NPS/LID, but is usually called the Nonpoint Source Program. www.ct.gov/dep/cwp/view.asp?a=2719&q=325628&depNav_GID=1654&depNav=



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maaurelia@optonline.net



Septic Systems and the Wetlands Act

The editor of The Habitat, Tom Odell, has asked me to reflect on the following scenario. After I sent in my original column our colloquy continued and is incorporated in the column.

Editor: When a proposed septic system in the upland review area is approved by the local health department, the wetlands agency can feel pressure to approve the system because the health department approval is included as part of the application. The agency then needs some scientific reason to document the adverse effect a septic system can have when constructed close to a wetland or watercourse. Some conservation commissions react by urging their wetlands agency to deny approval for septic systems in the upland review area because of the future need for repair work.

The applicant offers proof that the septic system has local health department approval. What's an agency to do? We live in a time of information overload. We do a computer search and within a nanosecond there are more than 200 hits, of varying relevance to the topic searched. We have to actively cull through the links, filtering out the information that doesn't fit our context. That's what a wetlands agency has to do with septic system approval. Compliance with the public health code is very relevant to the applicant. Without it, the project can't go forward. However, it's not relevant at all to the wetlands agency. The local health department uses the public health code to determine if the septic system can be approved. But because it does not include

consideration of impacts to wetlands or watercourses, the health department approval doesn't shed light on the task before the wetlands agency.

The scenario envisions that the wetlands agency then needs expert input to document the adverse effect the septic system will have on the wetland or watercourse. Actually, the wetlands agency always needs documentation of the adverse effect in order to deny the application. It is not the existence of the local health department approval which sets a higher standard for the wetlands agency review. Perhaps members on the commission feel more highly scrutinized, but the task has always been to (1) identify the impacts, if any, of the proposed project, (2) determine if the impacts at this site are or will be adverse, and then weigh the relevant considerations. The courts often point to the language in the legislative policy of the wetlands act itself, pointing out that the act provides "an orderly process to balance the need for the economic growth of the state and the use of its land with the need to protect its environment and ecology."¹

At the same time, the courts have long acknowledged that a project may be subject to numerous regulatory schemes. "It is not unusual for one seeking a permit for a certain use or operation to apply to and be given such permission or license by more than one agency of government."² So, the health department approval of the septic system is a fact, but not a relevant fact.

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If an applicant wishing to gain wetlands agency support from a health department approval is one extreme on the continuum then a conservation commission urging that all septic systems in the upland review area be denied based on the need to repair the system in the future is the other extreme. Activity in the upland review area, per se, is not what can be denied. The court has reminded us that “the ‘buffer,’ ‘set back area,’ ‘protected area’ and ‘regulated area,’ is not a protected or regulated area but rather an upland review area where *certain activities may be regulated because of the activities’ likely impact or effect on the nearby wetlands and watercourses.*”³ Again, the wetlands agency’s job is site-specific: will the septic system proposed at that location in the upland review area likely affect the nearby wetland or watercourse in an unacceptable manner? There are no shortcuts for the wetlands agency to take. Site-specific review and evaluation are the tasks that wetlands agency members face, even if the applicant or other commissions urge them to act otherwise.

Editor: If the system is approved for an upland review area, would a repair require another application? Another application may take too long--yet it would be important for all controls for reducing erosion and sedimentation be in place to protect wetlands. Can the original approval place conditions on future repairs?

If a repair is needed for an approved septic system and the activities fall into the definition of “regulated activity,” as far as the wetlands act is concerned, a permit is required. But you bring up valid, practical points: the waiting time for a permit is too long for emergencies, such as repair of a leaking septic system. In fact, the wetlands act is silent as to emergencies, which means, emergencies aren’t acknowledged. Yet, life must go on; *the repairs must occur and often quickly.*

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This is a practical problem and I decided to call on the real-life experiences of some staff and agents. The background information I received reflects some practices in the northeast, northwest and coastal CT towns. It, too, runs the gamut. In some towns, the local health department is in control. An engineer deals directly with the health department and the wetlands agency may never even learn of the situation. In two towns I learned that the local sanitarian approving the repairs is also a certified soil scientist. While the public health code doesn’t require consideration of wetlands and watercourses, the background and sensitivity of such a dually-trained professional certainly will be helpful -- especially in a town where the wetlands agency is not likely to be aware of the emergency.

Sometimes the staff or agent for the wetlands agency learns of the emergency nature of the repairs and verbally authorizes the work. The agent realizes that there isn’t exactly a provision for these authorizations, but stopping the work can also be harmful to wetlands or watercourses. In some of those towns the agent informs the agency at the next monthly meeting. The agency can decide whether to require the owner to file an after-the-fact permit.

Another approach I encountered was the issuance of what I’d like to term a friendly cease and restore order. In that town the staff has been delegated the authority to issue cease and desist orders. In a town where staff is on good terms with (i.e., not hostile to) contractors, the contractors will inform the land use office of what work they need to perform for a septic repair. The staff will issue a cease and restore order which orders that the repairs occur, that sedimentation and erosion control be put in place and that the owner show up at the next wetlands agency meeting to report on the matter.

What I like about issuing the order is that the homeowner is authorized by the order to undertake the work which he wants to do, the staff gets to put in place simultaneously sedimentation and erosion controls. This is a win-win situation. The homeowner gets swift “authorization” by means of the immediate issuance of the order and the agency, through its staff/agent gets the “permit conditions” it would otherwise require through a permit process. And finally, the public, at the next meeting is informed at a public meeting of the nature of the emergency and what occurred.

But the situation requires a lot of trust. Contractors come in to this staff person and ask what they should do

Editor's Note: The Woodbridge Conservation Commission & the Board of Directors of Massaro Community Farm were awarded the 2010 Pathfinder Education Leader Award by Working Alliance for significant contributions in the area of educating the public about the importance of farmland preservation. They are now awaiting solar panels for the barn roof shown in the background of the photo of their 2010 Family Fun Day.

Rebirth of Massaro Farm in Woodbridge

“Keep farming, feed people, build community”

by Cathy Shufro

I can smell them before I see them: fragrant plump strawberries in green plastic baskets on the produce table at Massaro Farm. The strawberries sit at the end of three tables displaying the first harvest of spring: bok choy, two kinds of lettuce, Chinese cabbage with edible yellow flowers, a bin of parsley, another of dill. “U-pick peas,” says the whiteboard, which lists the vegetables and herbs that each person may take. As one of 150 shareholders at Massaro Farm CSA in Woodbridge, I know that all of it was grown organic-style. I begin to fill my bag.

Two years ago, the four acres of fertile land that grew this food was a thatch of poison ivy, rocks, and grasses. Invasive vines choked the trees along the tumbling stone fences. The Wisconsin barn was falling to pieces, with holes gaping in its roof. The boarded-up farmhouse had been vandalized and the chicken coops had collapsed.

Now the barn exterior is refurbished, painted barn red, and awaiting solar panels. The two-story farmhouse is restored; in the mudroom that leads to the kitchen, the boot rack holds several pairs of boots belonging to full-time farmer Steve Munno. The 57-acre farm is now in its second summer of production, providing food and offering educational programs that this spring have included a bird walk, lunch-time picnics for preschoolers, a composting workshop, and beekeeping demonstrations. Last summer the farm donated 4,700 pounds of food to people in Woodbridge and in neighboring New Haven and Ansonia who could not otherwise afford nutritious local produce. The farm’s motto is “Keep farming, feed people, build community.”

This rebirth seems almost miraculous. It came about through citizen activism, a lot of luck, and leadership

from the Woodbridge Conservation Commission. (As I belong to the commission, I hope you won’t think this immodest.)

The land came from the Massaro family, which had farmed it for generations. When John Massaro died in 2007, the farm became the town’s. In the deed, brothers John and Tony Massaro had stated that the 57 acres must be used for farming or for recreation, and they preferred farming.

Members of the Conservation Commission felt the same way. The town has many hiking trails and playing fields; a community farm would constitute a new use for town-owned open space. It would revitalize farming in a town with a rich agricultural history and make clear where food comes from. We envisioned children and teenagers from Woodbridge and nearby Ansonia helping to grow and harvest food, and perhaps even run a farm stand. Moreover, a working farm

would honor the Massaros’ legacy and respect their wishes. And because we understood that we face radical changes in weather patterns, the eventual end of a petroleum-centered economy, and health hazards arising from industrial food production, we wanted to establish a place to grow food sustainably, and close to home.

Others had a different idea. A local group, called the Fathers Baseball League, had been lobbying for two decades to build a 90-foot baseball diamond for teenage boys. The flat, idle field beyond the farmhouse looked perfect. This group seemed to have considerable political power in our town of 9,000. The Conservation Commission knew it would face a fight.

Fortunately, two members of the commission met a helpful farmer at a workshop sponsored by
farm, continued on page 9

“This rebirth seems almost miraculous. It came about through citizen activism, a lot of luck, and leadership from the Woodbridge Conservation Commission.”

farm, continued from page 8

Connecticut NOFA (Northeast Organic Farmers Association). Farmer Sam Hammer, who manages the CSA at Holcomb Farm in West Granby, proved to be a generous and invaluable advisor. The Conservation Commission asked Hammer to evaluate the Massaro property, including the quality of its soils, presence of wetlands and sources of water. Hammer found rich soils and enough water, and he made a rough plan for how to use the land.

The challenge was getting the word out. Maybe we were wrong to think that this proposal would find a constituency in town. We had to find out. Beginning

with a painfully short email list, the Conservation Commission began to publicize the potential for a community farm. In April 2007, a group of advocates, including Conservation Commission members, scheduled a public meeting at the local library about the land, advertised by a poster reading: "A community farm in Woodbridge? We can make it happen." The

poster mentioned that the project had backing from the Conservation Commission. We wondered if anyone would attend. The room was packed, and the crowd of about 70 included town officials. Hammer explained how a farm would work on the site. We got more names for our email list.

We found that many residents of Woodbridge did, indeed, want to buy food locally and valued the vistas that a farm provides. Neighbors told us they preferred a farm to a baseball field and wanted to see the barn and house fixed up (unlikely if the land was to be used for baseball). The Fathers Baseball League didn't see a problem; the farm could have most of the land, because the league just wanted the large field abutting the farmhouse. This posed two problems. First, the field they sought had the most fertile soils on the property and the best orientation to the sun. And second, we doubted we would attract a farmer to live in-house

literally yards away from a baseball field and parking lot. Hammer had advised us that the farmhouse was a great asset, as farmers want and need to live on the land they manage. Our four-bedroom farmhouse could shelter a whole farm family.

The Conservation Commission managed to attract overflow crowds of farm supporters to Board of Selectmen meetings on the issue. Commission Chair Maria Kayne orchestrated the Commission's big presentation on the farm proposal. She made sure that each speaker addressed a different issue: nutrition, conservation, the rising cost of oil for transporting food, food safety, the affection of neighbors for the

late Massaro brothers, the boon of having local food, the possibility that the farm would be a model for energy conservation and sustainability, the Massaros' wishes, the potential for involvement by schoolchildren and retired people. Speakers included college professors, gardeners, parents, an articulate 5th-grade girl, a young man who'd had cancer and told everyone that he now



2010 Family Fun Day

Photo Credit: Massaro Community Farm

wanted to eat organic food, and a former Massaro farmhand. A local resident told the history of the farm and showed vintage photos. He explained that Massaro Farm had been integral to the economy and culture of Woodbridge.

In short, we persuaded the Board of Selectmen that revival of the farm would benefit the town (and by implication, perhaps, their re-election campaigns) more than another ball field.

Meanwhile, on behalf of the town, Commission member James Urbano won a \$50,000 grant from the Connecticut Trust for Historic Preservation to begin to restore the barn. He donated many hours to overseeing the restoration. (He is a professional contractor. Another contractor, Steve Buda, later volunteered his time to supervise renovation of the house.)

farm, continued on page 10

farm, continued from page 9

Members of the Conservation Commission, from the start, wanted to incorporate an aspect of philanthropy—of sharing the wealth that the farm constitutes. In establishing the Massaro board, we all agreed that we would institutionalize this idea by requiring that the farm donate a portion of its produce to people in need.

All the members of the Conservation Commission but one joined the board of directors of the Massaro Community Farm. Since then, the farm has obtained tax-exempt status, and spun off a separate board (not tax-exempt) to run the CSA. We invited U.S. Rep. Rosa DeLauro to the farm, and she supported our successful application for a \$300,000 federal grant, which has been administered by the USDA Natural Resources Conservation Service (notably the ever-helpful Kip Kolesinskas). The grant, and others, have allowed us to build fences, buy a tractor, install irrigation, and put up two hoop houses. (The USDA grant was among the last of the earmarks, which one may simultaneously oppose in principal and celebrate in particular.) Money from the Community Foundation of Greater New Haven has allowed us to hire a part-time outreach coordinator, Melissa Waldron Lehner.

The CSA hired our farmer, who excels at teaching. He has supervised high school and college students volunteering at the farm (plus a couple of paid assistants). In August 2010 he hosted a group of incoming Yale freshmen who camped on the land and helped with the farm work. The farm has lent space for a large garden to Marrakech, an organization for disabled adults. We now have eight beehives and are preparing to plant berries and establish a small learning garden. Last fall, the farm held its second annual family fun day, which included a culinary contest, planting garlic and a farm scavenger hunt. The Working Lands Alliance gave the Conservation Commission and the Massaro Community Farm, jointly, its 2010 Pathfinder Education Award.

One goal of the Conservation Commission that has fallen by the wayside is the plan to establish an agricultural commission in town. In addition, we have spent considerable effort—and failed—to block the use of three acres of prime historic farmland (adjacent

to a small family farm that wants to expand) for the 90-foot baseball field. The Selectmen have repeatedly refused to provide money for a full study of what the Conservation Commission believes to be a better site (in terms of both conservation and planning). That site is a former gravel pit next to existing ball fields. The baseball league has ignored an offer from the middle school to use its 90-foot field. Attempts to bring the issue to a special town meeting were rebuffed by the town counsel in an opinion that the opponents' lawyer found easy to refute.

We'd be happy to talk to anyone who wants to back formation of a community farm. Massaro Farm has greatly enriched life in Woodbridge.

Our chair is Maria Kayne at kaynish@aol.com.

Cathy Shufro is a member of the Woodbridge Conservation Commission.



"Members of the Conservation Commission, from the start, wanted to incorporate an aspect of philanthropy – of sharing the wealth that the farm constitutes."

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liability, continued from page 1
 electrical service, or “machinery when attached to the
 realty, that is also within the possession and control of
 the municipality”, and also paved public through roads
 that are “open to the public for the operation of four-
 wheeled private passenger motor vehicles.”

The RLUA has been incredibly effective for 40 years
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 private landowners such as those who host a large
 portion of the 825-mile long Blue-Blazed Hiking Trail
 System. This hard-fought update to the RLUA should
 incentivize municipalities to open existing, potential,
 and future recreational lands to public recreation with
 only minimal concerns about liability. We are proud
 at the Connecticut Forest & Park Association to have
 played a significant role in making this necessary
 reform of the RLUA happen.

*Eric Hammerling is the Executive Director of the
 Connecticut Forest & Park Association (CFPA). CFPA
 and more than 70 municipal, business, and conservation/
 recreation organizations (including CACIWC) supported
 a position paper on restoring liability protection to
 municipalities. For more information on the topic including
 the position paper and a link to the legislation, visit [http://
 ctwoodlands.org/recreational-liability](http://ctwoodlands.org/recreational-liability).* 🍁

news, continued from page 2
www.caciwc.org. Would you or your company like
 to provide additional support to CACIWC? The
 website also provides a description of additional
 individual and business membership categories. Please
 consider making an additional contribution to support
 CACIWC education and outreach efforts!

5. We heard from a number of you who are interested
 in filling one of our current **board vacancies**
 following our announcement in the last issue of
The Habitat. Many vacancies remain. A full board
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legal, continued from page 7

to be acceptable. That means the contractor trusts that the staff person won't require: (fill in the blank) native plantings, a conservation easement on other land, etc., etc when repairs are necessary. (Is this sounding like your town?) The agency also trusts the staff person's judgment. This trust will be earned through the staff's continued training, above and beyond the meager statutory training requirements. The agency will have to trust that the staff/agent is part of the team to implement the wetlands act. In some towns, for a variety of reasons, the agency/staff relationship won't be based on trust. In those towns, less beneficial outcomes in emergency situations may be the norm.

More than one agent I spoke to noted the major problem that failed septic systems around lakes can be. Bringing those emergency septic repairs into the agency's regulatory ambit by a cease and restore order may be a very viable vehicle. Letting the health department be the only regulatory agency weighing in on the repairs might not provide the protection needed to the lake.

And as one agent underscored, septic systems aren't the only emergencies that can arise implicating the wetlands act. Removal of beaver dams by public works departments can rise to an emergency when public roads are flooded.

Lastly, I don't think that the wetlands agency can legally authorize in the original permit how repairs are to be undertaken at an unknown time when the exact nature of the repairs aren't known or even knowable. Even if legal, it is most likely that the repairs will be needed *after* the permit has expired.

Having an opportunity for agencies to share experiences of how they deal with emergencies with an opportunity for legal response may be a good workshop to include at an annual meeting.

Thanks to all of the staff and agents who took time to impart their experiences.

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

¹ Aaron v. Conservation Commission, 183 Conn. 532, 538-39 (1981).

² Aaron v. Conservation Commission, 183 Conn. 532, 552 (1981).

³ Cornacchia v. Environmental Protection Commission, 109 Conn. App. 346, 357 (2008). 

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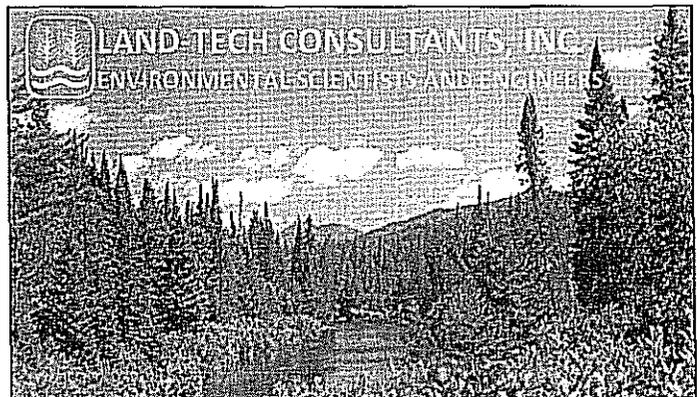
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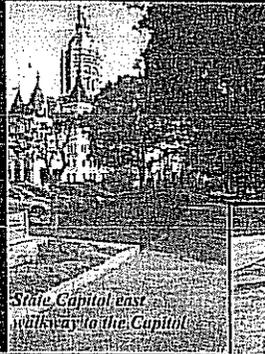
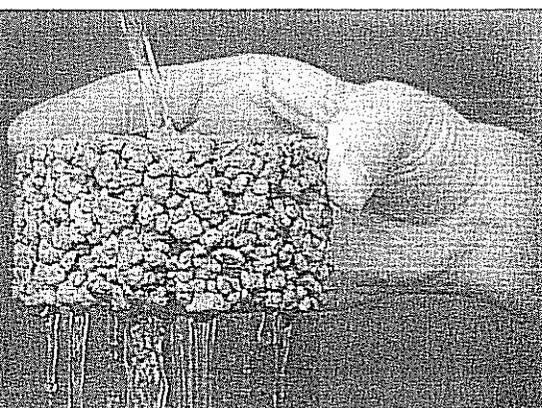


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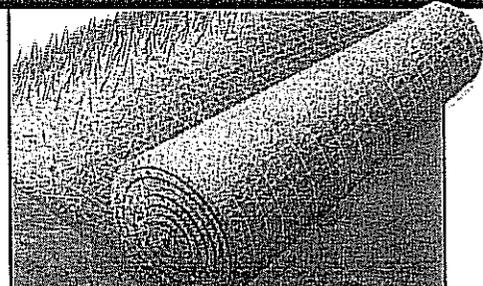
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Public Act 11-211, An Act Concerning Liability for the Recreational Use of Lands

Be it enacted by the Senate and House of
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Section 1. Section 52-557f of the general statutes is
repealed and the following is substituted (underlined)
in lieu thereof (Effective October 1, 2011):

As used in sections 52-557f to 52-557i, inclusive:

(1) "Charge" means the admission price or fee asked
in return for invitation or permission to enter or go
upon the land;

(2) "Land" means land, roads, water, watercourses,
private ways and buildings, structures, and machinery
or equipment when attached to the realty, except that
if the owner is a municipality, political subdivision
of the state, municipal corporation, special district or
water or sewer district: (A) "Land" does not include
a swimming pool, playing field or court, playground,
building with electrical service, or machinery when
attached to the realty, that is also within the possession
and control of the municipality, political subdivision
of the state, municipal corporation, special district
or water or sewer district; and (B) "road" does not
include a paved public through road that is open to
the public for the operation of four-wheeled private
passenger motor vehicles;

(3) "Owner" means the possessor of a fee interest,
a tenant, lessee, occupant or person in control of
the premises. "Owner" includes, but is not limited
to, a municipality, political subdivision of the state,
municipal corporation, special district or water or
sewer district;

(4) "Recreational purpose" includes, but is not limited
to, any of the following, or any combination thereof:
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picnicking, hiking, pleasure driving, nature study,
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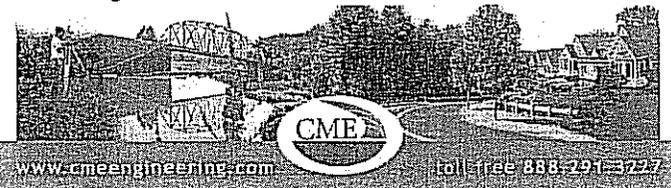


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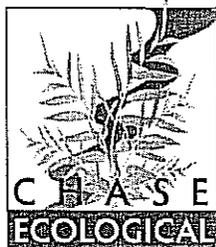
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— Course Announcement —

ET 495 / ET 500 Topics Course – Fall 2011
**Sustainable Site Design & Low Impact
Development**

Thursdays – 4:30 to 7:10 pm

Central Connecticut State University
School of Engineering and Technology is excited to
offer this course on the changing paradigm of design
practices to create sustainable projects to be taught by
Steven Trinkaus, PE of Southbury, CT, a nationally
recognized expert in Low Impact Development.

What you will learn:

- Why the current approach to stormwater management does not work,
- The history and goals of Low Impact Development (LID),
- The importance of creating environmentally sustainable sites and the many benefits that will be realized for current and future generations,
- Learn about and how to apply the Guidelines and Performance Benchmarks for “The Sustainable Sites Initiative”,
- How to apply LID strategies on the land to create developments in harmony with the natural environment,
- LID hydrologic goals and how to achieve them,
- What are LID treatment systems and how do they work,
- How to design LID stormwater treatment systems to reduce runoff volumes and remove pollutants from stormwater,
- Metrics to measure the effectiveness of LID treatment systems,
- Hear about the current “state of the art” design modifications for LID treatment systems to provide enhanced pollutant removal capabilities as developed by leading research institutions such as North Carolina State University, Villanova University, University of Maryland, and the University of New Hampshire.

Website: www.ccsu.edu. Click on following link to bring up Course Offerings page: www.ccsu.edu/page.cfm?p=6558. Then click on Fall 2011 Course Offerings and go to “Engineering Technology” for ET 495 and ET 500.



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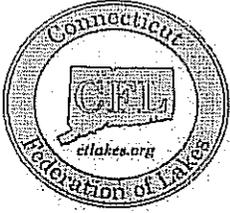
CACIWC Annual Meeting Keynote Speaker Announcement

Daniel C. Esty, Commissioner

Connecticut Department of Energy & Environmental Protection (DEEP)

To be **Keynote Speaker** at CACIWC's 34th Annual Meeting
and Environmental Conference, Saturday, November 12, 2011
MountainRidge in Wallingford, CT

Commissioner Esty was appointed by Governor Malloy to lead the new Connecticut Department of Energy and Environmental Protection (DEEP). DEEP came to life July 1, 2011, charged with the dual responsibilities of creating a new energy future for the state and protecting Connecticut's environment and natural resources. Its mission is to conserve, improve and protect the air, water and other natural resources and environment of the State of Connecticut while fostering sustainable development.



CFL News

Volume 16, Issue 1—July 2011

2011 Membership Drive

Your membership dues and tax-deductible donations help CFL to provide educational information to our members through our web site, conferences and special mailings of books and magazines. We appreciate and need your ongoing support.

Act now to join or renew your membership in the CFL with the application found in this newsletter.

We appreciate your support of the Connecticut Federation of Lakes in 2011.

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President's Message

Appreciate Your Lake During CT Lakes Awareness Week

Several months ago I was elected by my colleagues on the CFL board as the new president. I've been on the board since its inception in 1995 and have served as Treasurer and Vice President in the past. My roots in CT lakes go back as far as late 1970s when my parents, brothers and sister moved to Candlewood Lake from California. Later in the mid 1980s I worked as a student at Western Connecticut State University performing water quality monitoring on Candlewood Lake, Squantz Pond and Lake Waubeeka in Danbury. From 1990 up until 1998, I managed the Freshwater Ecology Lab at Connecticut College for Dr. Peter Siver, where we studied the changes in CT lakes since the early 1900s. Since that time I have worked for the Candlewood Lake Authority and am now the Authority's Executive Director. It has been and will continue to be an honor working with people dedicated to the well-being our valuable lakes, ponds and reservoirs.

The CFL has again asked the Governor to proclaim July 10th thru 16th as CT Lakes Appreciation Week. For a number of years now, past Governors have helped us raise awareness of the importance and preciousness of our lakes with a proclamation of this kind at this time of year. We have many reasons to appreciate our lakes. They have a profound impact on the quality of our life... many of us could not imagine not living by a lake. Lakes provide good, refreshing family fun. Whether it's a day at the beach, fishing, boating or a host of other pleasurable experiences, lakes improve our quality of life. Lakes provide habitat

for a number of Connecticut's wildlife and plant species, some of which would not be here if not for our lakes.

There are many reasons to appreciate your lake and we hope you take the time to think of those reasons during CT Lakes Awareness Week. There are also many reasons to be concerned about the health of our lakes. Invasive species, polluted stormwater runoff, and antiquated onsite sewage treatment systems are just a few. Fortunately there are those who have committed personal time to think about and help plan ways to protect our lakes. They are the board members of the CFL. But they can not do it alone. They need your help in the form of your membership and support. If you read this and care about a lake, then renew your membership or become a new member of the CFL or get your lake association to become a member. It all helps our collective cause of ensuring the health and well-being of our lakes in Connecticut.

Let me end by extending a heartfelt thanks to Bruce Fletcher, for the five years of service as the CFL's President. Dr. Fletcher is passionate about our lakes in Connecticut and that passion radiated as he ran our board meetings. Although he has passed the gavel on, we remain fortunate to have Bruce on the board of the CFL representing Bashan Lake and others across the State.

Larry Marsicano



Volunteers Needed to Take Secchi Disk Measurements

By Chris Mayne

Lakes are a wonderful resource, enhancing the lives of the people that live and recreate on them. Lakes also advance local and state economies. We need to preserve the quality of Connecticut lakes and ponds to maintain the level of enjoyment we get from them. In order to preserve our lakes and ponds we need activism at each lake and for people to get involved in understanding the lakes that they are near. One step of preservation is monitoring and observing the waterbody. Monitoring can help illuminate current and/

or future problems that may occur on the lake. The point of lake monitoring is to help prevent problems from becoming too large by catching them early through observing changes in the lake over time. Therefore, the Connecticut Federation of Lakes initiated a state-wide volunteer lake monitoring program in 2004 to estimate the status of Connecticut lakes and to get more people involved in the care of their lakes. This program is dependent on the efforts of volunteers.

The Secchi disk depth measurement (named after it's inventor and pronounced "Secky") is a standard estimate of water quality, providing a wealth of information about a lake from a simple measurement. Comparing Secchi disk depths within a lake over the season and between years allows observers to see declines or improvements in water quality. Collecting Secchi disk depths may be the start of greater activism on your lake and in Connecticut with regards to protecting and restoring our lakes.

We are looking for lake volunteers to participate in this program by providing the CFL with Secchi disk depth data. This is a chance not only to understand Connecticut lakes on a state level, but for you to get to know your lake better. In addition, this is an opportunity for the CFL to help out our members and the lakes of Connecticut on a local level. This program will only be successful by the work of dedicated volunteers. If you are interested in participating in this program please contact Chris Mayne through the CFL. Interested volunteers will be sent the appropriate information to get them started. You can find previous Secchi disk reports on the CFL website (www.ctlakes.org) under current projects.

We have asked the Governor of the State of Connecticut, Mr. Dan Malloy, to declare July 10th – 16, 2011 as Lakes Appreciation Week. This should be a great time to celebrate Connecticut lakes and enjoy the wonderful waterbodies that we love so much. I would ask that all member lakes collect a Secchi disk reading during this week if possible. In addition, the Great American Secchi Dip-In is a national event and is occurring between June 25 – July 17, 2011. The CFL and I would like to thank all of those volunteers who provided data over the past years. The program could not succeed without your participation and your support.

The DEP Budget is Too Low

By Bruce Fletcher

Marty Mador of the Connecticut Environmental Leaders group (CTEnvLeader@yahoogroups.com) reports that the level of funding for the DEP is one of the lowest in the country. They campaigned for a decade for "One Percent for the Environment." It has not happened yet.

For the fiscal year 2012 while the General Fund budget is 18.27 billion dollars, the DEP budget is 77.195 million dollars or 0.42%. For the fiscal year 2013 while the General Fund budget is 18.71 billion dollars, the DEP budget is 75.106 million or 0.40%.

Despite what comes from other DEP funding sources such as federal funds, restricted accounts or electric rate – payer funds, Connecticut taxpayers see only 40% of the One Percent goal allocated to help our fragile environment. This is not what concerned citizens/voters desire.



Phosphorus Ban in Turf Fertilizers

New Jersey, Wisconsin, and other states have legislation on the books or in the works to greatly limit phosphorus (P) in home lawn and landscape fertilizer mixes. The exceptions are if you are putting in a new lawn or planting a vegetable garden or if a soil test shows your soil is deficient in phosphorus. Bartlett Arborists have found that only 10% of their soil analyses show a phosphorous deficiency. Too much phosphorus in ponds and lakes cause excessive algae and weed growth. Phosphate pollution is a major concern because when present in excessive amounts, phosphorous contributes to a process called eutrophication or nutrient enrichment. Some of the sad consequences of excessive P loading are algal blooms including blooms of noxious blue green (cyanobacteria) algae which produce toxins, reduction in water clarity, and in extreme cases, depletion of oxygen, fish kills and other impairments.

Another reason to regulate phosphorus is the fact that there is a limited supply of phosphorus which accumulated in ancient marine deposits and is mined as phosphate rock. Significant phosphate deposits are located in just four countries: the U.S., China, Morocco, and South Africa. These world reserves are

projected to last less than 100 years. Since there are no known alternatives, a P shortage could severely impact world food production.

Resources: CT DEP, Wisconsin Department of Agriculture, Bartlett Tree Experts



Storm Water Runoff Here and There

"Since the Chesapeake Bay cleanup began in 1983, every source of pollution has decreased except one – storm water runoff. Runoff is a multi-headed beast. Think of all the chemicals and crud on the ground – fertilizers, trash, spilled gas and oil and antifreeze, herbicides, dirt, pet wastes. Now add water to the mix, which creates a toxic slurry that flows into ditches, creeks, storm drains and ultimately the Bay, untreated and unfiltered."

Resources: Earth Resource Systems

"Be a Part of the Pollution Solution"

"The Earth Is Not a Sewer"



From the Past President

The Connecticut Federation of Lakes can celebrate over 15 years of advocating for lakes. Since the first organizational meeting in 1995, a strong team of volunteers has continued to expand our influence with the DEP, Connecticut legislators, and the public.

We have been successful in banning the sale and transport of certain aquatic and terrestrial invasive plants in Connecticut. With support from the DEP, grants have been provided to fledgling lake groups to help them organize, educate their stakeholders, and to complete needed projects in their watersheds. Besides hosting educational workshops and conferences around the state and publishing newsletters, the CFL has developed an informative website, www.ctlakes.org.

While the CFL is pleased with its results, it is poised to do much more with your help. We mail newsletters to 468 people and organizations, but our dues paying membership is very small.

We hope you will take the LakeSmart Home Pledge (see website) and purchase 1 or 2 handsome plaques for display on your dock and front door. Encourage

your neighbors to renew or join the CFL (\$25 annually) and take the pledge as well. Also please review our advocacy priorities online and share your feedback which will be very valuable in our discussions with legislators and DEP.

Thank you to all who have continued to support the CFL over the years and to those that are renewing or joining. "It is time for Connecticut lake and ponds;" there is much to do to improve and protect our cherished water bodies.

Bruce Fletcher

"It is always the right time to do the right thing."
Martin Luther King, Jr.



Been Trained Yet?

By Bruce Fletcher

Becoming a volunteer Invasive Investigator will definitely help in the fight against the spread of aquatic invasives in your favorite lake. The DEP has expanded its existing Boating Education Assistant (BEA) Program to include volunteers called Invasive Investigators. BEAs has been visiting state boat launches since 2003 distributing information about aquatic invasives, doing safety boat checks, and looking for weed hitchhikers on boats and trailers entering and leaving boat launch areas. Trained volunteer Invasive Investigators will augment this effort by talking to visiting boaters, asking permission to inspect for weeds, surveying where they have been previously and how they have cleaned their boats and trailers before entering the next lake or river. The gathered survey information is then sent to the DEP-Boating Division every 2 weeks. Volunteers are free to visit any launch and at any time they wish.

Gwendolynn Flynn of the CT DEP at 860-447-4339 or gwendolynn.flynn@ct.gov wants to train as many volunteers as possible. She has taught 3 sessions at Candlewood Lake, one in East Haddam and just a few others to date. If you and others in your lake association want to be trained and receive an official yellow (uniform) tee shirt, please contact Wendy Flynn. This is a way we personally can help to protect our lakes and lower future costs of invasive weed management. Some lakes are spending upwards of

\$50,000 dollars a year to fight their invasives. If you love your lake and enjoy meeting new people, you can make a difference!



East Haddam Lakes Association volunteers at a DEP Invasive Investigators course taught by Gwendolynn Flynn on May 21st. A second course will be offered on July 16. Refreshments were compliments of the CFL.

Lakefront Landscaping for Storm Water Runoff on Bantam Lake

By Connie Trolle

The Solution is Simple...add a Buffer Zone or Rain Garden to Absorb Rain Water Flow and Runoff

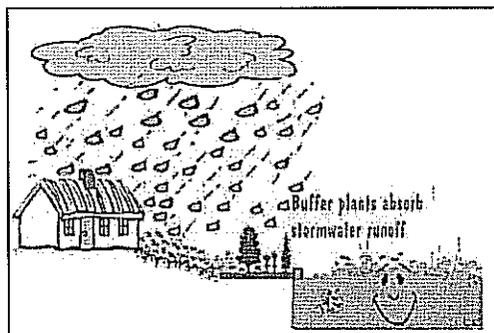
Stormwater runoff comes from rain falling on lawns, patios, beaches, mulched and rock covered areas, and driveways or from rooftops (particularly gutter downspouts) and storm drains. Once the water flow or volume exceeds the absorption ability of the surrounding vegetation, it can drain directly into the lake. This runoff water often carries bird or animal feces, insecticides, fertilizers and other pollutants which may enter the lake without any type of filtration.

Creating a Rain Garden provides a natural way to contain water runoff. Do you have an area in your yard that turns into a raging river or a sloppy puddle every time it rains? Not only does this racing water often erode soil and create havoc in one's yard, it often causes large amounts of stormwater runoff to directly or indirectly enter the lake. Usually carrying with it large amounts of sediments, fertilizers or other pollutants – all bad for our lake.

Building a rain garden simply requires creating a depression in the ground along the path of the water

flow that is designed to collect, hold and slowly allow water to reenter the surrounding ground. This process actually filters the water as it enters the ground water system. The area is typically planted with a variety of plants (preferably native) that Mother Nature has specifically designed to handle periods of intense moisture alternated with dry spells. The roots of these plants hold the surrounding soil securely in place while the plants themselves offer not only aesthetic appeal but also a habitat to native birds and animals.

Lakefront buffer zones are areas of vegetation created near the lake shore to trap sediments, excess nutrients and other pollutants. They also serve to prevent erosion and help stabilize sloped areas of the shoreline. They can be simple and natural or complex and well manicured depending on the taste of the homeowner. The idea is to at least have some kind of vegetation (beside green grass) along the lakefront area – particularly where a slope invites stormwater runoff into the lake. There are many buffer publications available on the web to assist in creating a buffer zone and choosing suitable plants. Native plants are always preferred as they are easily adaptable to the environment, requiring little to no fertilizer and also provide food and habitat to the native animals.



Sources for Additional Information

University of Connecticut Cooperative Extension System – Water Quality and the Home Landscape www.sustainability.uconn.edu/landscape/05-raingardens.html

Rain Gardens: a How-to Manual for Homeowners <http://learningstore.uwex.edu/pdf/GWQ037.pdf>

Virginia Department of Forestry – Rain Gardnes www.dof.virginia.gov/rfb/rain-gardens.shtml

University of Rhode Island – Healthy Landscapes

Connie Trolle lives on Bantam Lake; is the President of the Bantam Lake Protective Association; is the newest CFL board member; and is the first recipient of the CFL's LakeSmart Home Program Award. The LakeSmart Home Program recognizes those that strive to maintain their lakefront and home in an ecologically sustainable way for the benefit of their lake. For information on how to apply for a LakeSmart Hme Program Award, visit the CFL website at www.ctlakes.org.



About the Connecticut Federation of Lakes

By Bruce Fletcher

Everyone agrees that healthy lakes are highly valued natural assets whose beauty and recreational offerings make them irresistible to so many each season of the year. Towns with attractive lakes annually collect higher property tax revenues and benefit each year from months of "trickle down economics". These precious resources are fragile, and need constant monitoring and preventive and corrective programs. So it is no wonder that individuals, families, lake associations, towns and states proactively work to help their lakes and recognize that unprotected lakes may become damaged beyond repair.

The Connecticut Federation of Lakes (CFL) was formed in 1995 to help individuals, steering committees and established lake associations with needed guidance, advice and support. In addition, the CFL fosters an alliance of Connecticut's many pond and lake protective organizations so that Connecticut lakes can speak with a unified voice.

The CFL board members are dedicated volunteers who have first hand experience in dealing with lake and association issues. Since some board members are professional lake managers and others have masters & doctorate credentials in the science of limnology, the CFL can and does help. Recently the CFL helped pass legislation geared to curb the establishment of invasive aquatic plants in Connecticut. Boat launch monitoring, on site waste water management guidelines, and model municipal regulations and ordinances for watershed protection are current initiatives.

The CFL publishes newsletters for members full of technical information, lake profiles, management tips and news from the Connecticut Department of Environmental Protection (CT DEP). Chuck Lee of the DEP, an environmental analyst in the Bureau of Water Protection and Land Reuse, 860-424-3716, attends all the CFL Board meetings. The CFL works with the Governor to designate the annual Lakes Awareness Week and hosts educational conferences for CFL members and friends. In addition the CFL is an active full participant in NEC-NALMS (the New England Chapter of the North American Lake Management Society). We participate in their programs annually and host the 3 day conference on a rotating basis.

Lakes in Connecticut need to receive more preventive medicine. In other New England states the citizenry and legislators have pushed through bigger and better programs for lakes. If you treasure your lake, please join the CFL. With your help the CFL will continue to make a difference locally and statewide.



Contact the CFL

For more information regarding the Connecticut Federation of Lakes, visit our web site at www.ctlakes.org, contact Penny@Ctlakes.org, or write to P.O. Box 216, Windsor, CT 06095.



CFL Board

Larry Marsicano, President – Candlewood Lake
George Knoecklein, Vice President – Limnologist
Penny Hermann, Secretary, – Lake Williams
George Walker, Treasurer - Lake Lillinonah
George Benson
John Burrell, -Columbia Lake
Richard Canavan – Limnologist
Mary Ellen Diluzio - Bashan Lake
Bruce Fletcher – Bashan Lake
Bruce Lockhart, - Certified Lake Manager
Chris Mayne, - Certified Lake Manager
Tom McGowan, - Lake Waramaug
Connie Trolle – Bantam Lake

Newsletter Committee

The Newsletter Committee welcomes your input and your articles. Please send suggestions or articles to CFL, P.O. Box 216, Windsor, CT 06095 or e-mail to Penny@Ctlakes.org.

The newsletter committee includes:

Bruce Fletcher
Penny Hermann
George Knoecklein

Calendar

Upcoming Board Meetings – 3rd Wednesday of January, March, April, May, June, September, and October 7PM at Northeast Utilities, Newington, CT

CFL Application - 2011

Yes! I want to be a member of the CFL!

(Please make check payable to Connecticut Federation of Lakes)

Individual (\$25/year)

Lifetime - for individuals only (\$500)

Lake Association (\$150/year)

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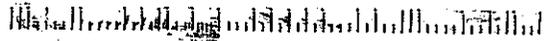
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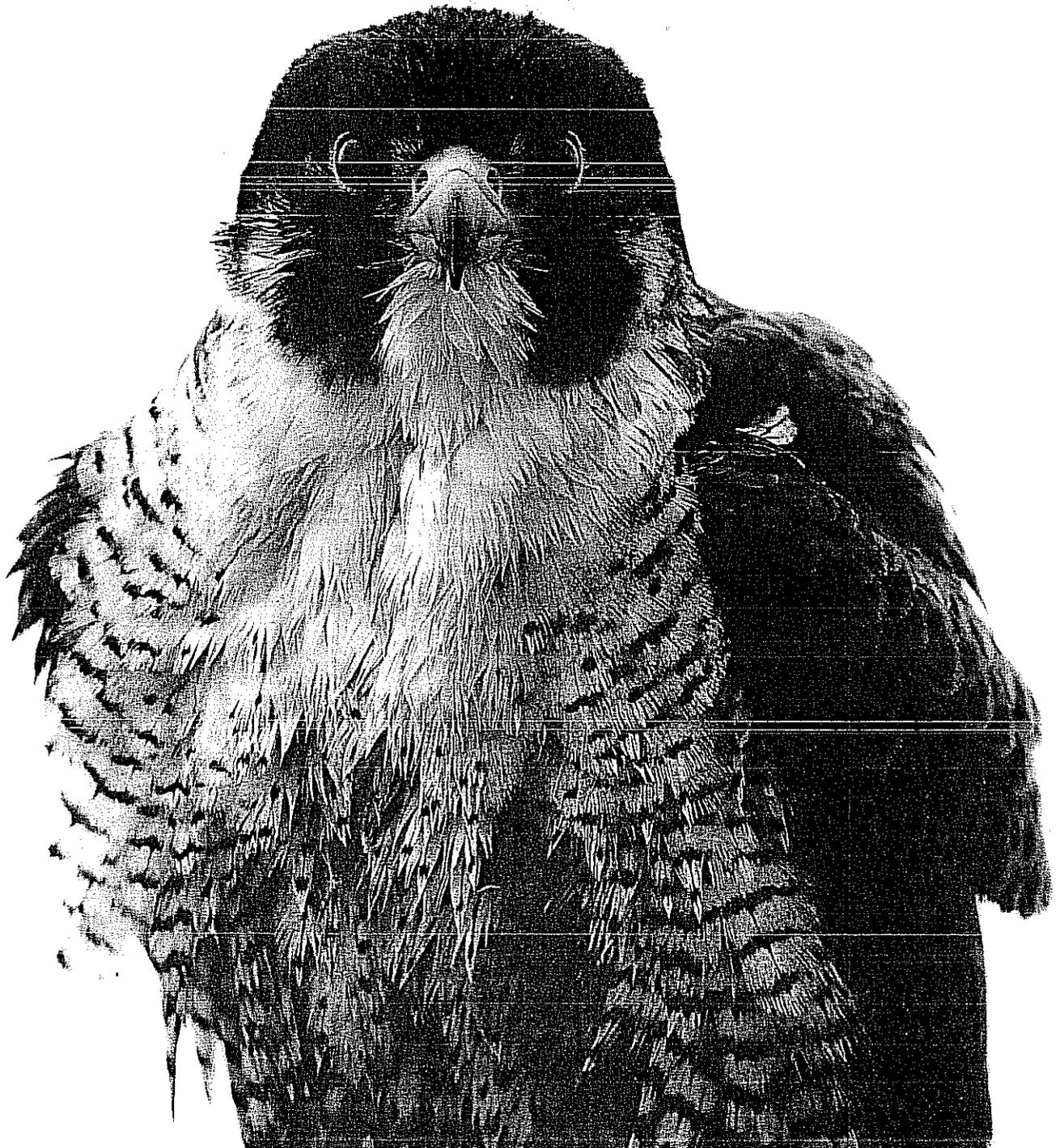
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July/August 2011

Connecticut Wildlife

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



From the Director's Desk



The power of suggestion. Suggestion is a powerful force. For example, one of our staff recently 'saw' a cougar in eastern Connecticut. He, an experienced biologist who has observed and handled hundreds of animals in research and as a sportsman, was amazed by how certain he was and for how incompatible it was with all he believed about cougars. Unable to reconcile these feelings, he put the car in reverse to confirm what he saw. To his chagrin, it turned out to be a large bobcat.

Recent reports of cougars in our midst offer a salient lesson in the distinction between what we know and what we believe. For instance, the Department has received several hundred cougar sightings over the last 25 years. We have investigated scores of sightings where there was a good prospect of finding corroborating evidence, primarily when snow cover allowed us to check for tracks. Not one of these sightings was confirmed as a cougar. Rather, the physical evidence confirmed the presence of another species. As for the rest of the reported sightings, we simply don't know what was seen.

Then came early June 2011. On June 5, a mountain lion was reported being seen on the Bucknell School campus in Greenwich. That report was accompanied by a blurry photo, an indistinct paw print, and a scat sample. A qualitative assessment of the original and recreated images led to the conclusion that the photo was likely that of a cougar. Six days later, a 140-pound adult male cougar was killed on the Wilbur Cross Parkway, in Milford. Also, a preliminary report from a private laboratory indicates the scat sample is from a cougar.

As of this writing, additional tests are being performed to determine whether the scat sample collected on June 5 was from the animal killed on the Parkway, and whether the animal was a captive or wild animal. And, as of this writing, all we really know is that one of the several hundred reported cougar sightings has been confirmed with physical evidence (well, two if you count the driver of the vehicle that struck the animal on the Parkway).

But there is something else we know – that the public believes that cougars, whether wild or captive, may be in our midst, and they are concerned for their safety, and the safety of their family, friends, neighbors, pets, and livestock. We also know that the Department has a responsibility to investigate public safety threats posed by wild animals. In fact, it would be irresponsible for us, with the mission we have, not to respond.

Rick Jacobson

Cover:

A male peregrine falcon watches as DEP biologists attach leg bands to its four chicks at the Travelers Tower in Hartford.

Photo by Paul J. Fusco

Connecticut Wildlife

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Eastern District Area Headquarters

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State Land and Private Land Habitat Management

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Web site: www.ct.gov/dep/wildlife

E-mail: dep.ctwildlife@ct.gov

Phone: 860-675-8130



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



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Horseshoe Crabs: Bell Weather Species for Our Beaches

Written by Penny Howell, DEP Marine Fisheries Division

Of all the animals living in Long Island Sound, the oldest biological lineage belongs to the horseshoe crab. Its body shape and physiology have been essentially unchanged for over 245 million years and its ancestors date back to the Paleozoic Era – older than most of the dinosaurs and far older than the human lineage. Young horseshoe crabs are called trilobites because they resemble that Paleozoic fossil species group of 500 million years ago.

The animal isn't really a crab; its taxonomic family is a single offshoot of arthropods (the phylum including crabs). Its closest living relatives are actually spiders and scorpions. Globally, there are four species of horseshoe crabs – and they all look very much alike. The horseshoe crab's unchanged anatomy speaks to the fact that it is exquisitely well adapted to its environment. This tight link between horseshoe crabs and their shallow-water habitat make them a bell weather species for the health of the beaches and near shore waters enjoyed by so many species, including our own.

Natural History of Horseshoes

The species of horseshoe crab found in Long Island Sound ranges from Maine to the Yucatan Peninsula. Horseshoes are very tolerant of wide ranges in water temperature, salinity, and bottom sediment conditions. They scavenge on a variety of small invertebrates and algae, and have been known to take advantage of seeded clam and oyster beds, becoming a bane to aquaculture farms.



Horseshoe crabs are being tagged with white circular tags during the spawning season as part of a research project to assess the status of Long Island Sound's horseshoe crab population.

Most of the time, horseshoe crabs move about Long Island Sound unnoticed. However, in late spring and early summer, mature crabs move into intertidal waters to find a mate and spawn. The smaller males come in first, searching for females by using several chemical receptors and photoreceptors ('eye spots') positioned over their armor-like shells. This mating behavior occurs primarily at night, and is timed to coincide with the new and full phases of the moon when spring tides are the highest. Once pairs are formed by a male grasping onto the back of a female, the pair moves onto the beach. The female then uses her shell to bulldoze into the sand to make a nest where she lays 90,000 eggs or more. The male follows behind and fertilizes the eggs before they are buried into the sand. The warm, moist sand makes a perfect incubator for the eggs, an evolutionary milestone in egg development repeated by sea turtles. Often, several other male crabs will join in, thereby ensuring all of the eggs are fertilized and that genetic mixing of the population is maximized. A beach full of burrowing horseshoe crabs

makes for quite a spectacular site!

Food for Shorebirds

All of this activity also attracts the attention of migrating shorebirds. Several bird species – including red knots, sand-erlings, and ruddy turnstones – have 'co-adapted' their behavior to match up with horseshoe crab spawning events. These small birds fly north from wintering grounds in Central and South America on their way to nesting grounds as far north as the Arctic, using up almost all of their body's energy reserves by the time they get to the East Coast of the United States. High energy, easy-to-find horseshoe crab eggs are just the 'fast food' they need to finish their journey on time and in good health.

Contribution to Medicine

Horseshoe crabs also provide a valuable service to modern human medicine. Over their long history, horseshoes have evolved one of the most sensitive immune systems to cope with a high diversity

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Horseshoe Crabs

continued from previous page

of bacteria. The blood clotting agent Limulus Amebocyte Lysate (LAL), found in horseshoe crab blood, can detect, immobilize, and engulf bacteria even in extremely small quantities. LAL has been used by medical facilities since the 1970s as the preferred method to screen for bacteria. Almost every injected drug, vaccine, and surgically implanted medical device is screened with LAL before use.

Necessary Research

Horseshoe crab blood and eggs also work well in attracting eels and whelks (conchs) when released in water. This feature makes horseshoes highly prized as bait for these fisheries. All three characteristics of this remarkable animal – nutritious abundant eggs, blood LAL, and blood/eggs as bait – are cause for concern. Losses due to harvest for bait and medical bleeding have raised concern as to whether local horseshoe crab populations can reproduce enough eggs to sustain themselves, as well as the shorebird species that depend on them.

The DEP Marine Fisheries Division has been involved in a multi-state management program for the last 10 years with the goal of regulating Connecticut's horseshoe crab harvest and assessing the status of Long Island Sound's population. In conjunction with Sacred Heart University (Project *Limulus*), in Fairfield, and 12 environmental organizations, DEP biologists monitor the Sound's horseshoe crabs through an annual volunteer spawning census, a long-term tag/recapture project managed by Sacred Heart faculty and students, and the DEP Sound-wide Trawl Survey.

To date, the volunteer spawning survey has identified 155 sites along Connecticut's shore where horseshoes spawn. Horseshoe crabs have been tagged at many of those sites. Recapture of the tagged animals has shown that they move throughout the Sound and spawn at several sites over their long lifetime. Numbers of spawning adults estimated from sequential recaptures at the more abundant sites range from about 2,000 to 25,000 per site each season.

When they aren't laying eggs on the beach, horseshoes tend to stay in shallow water less than 60 feet deep. Based on Sound-wide Trawl Survey catches, they are more abundant west of New Haven, with a slight increase in overall

abundance since 1992. Abundance in the eastern section of the Sound has not fared as well.

The greatest threats faced by horseshoe crabs in Connecticut are the loss of nesting beaches and disturbance of nests on the remaining beaches by people,

dogs, and other animals. There are many anecdotes of much higher horseshoe abundance before Connecticut's coastline was altered from empty beaches and open marshes to filled revetments, lawns, and sunbathers.



Menunkatuck Audubon Society Project *Limulus* coordinator Judy Knowles describes horseshoe crab ecology to volunteers.

Project *Limulus*

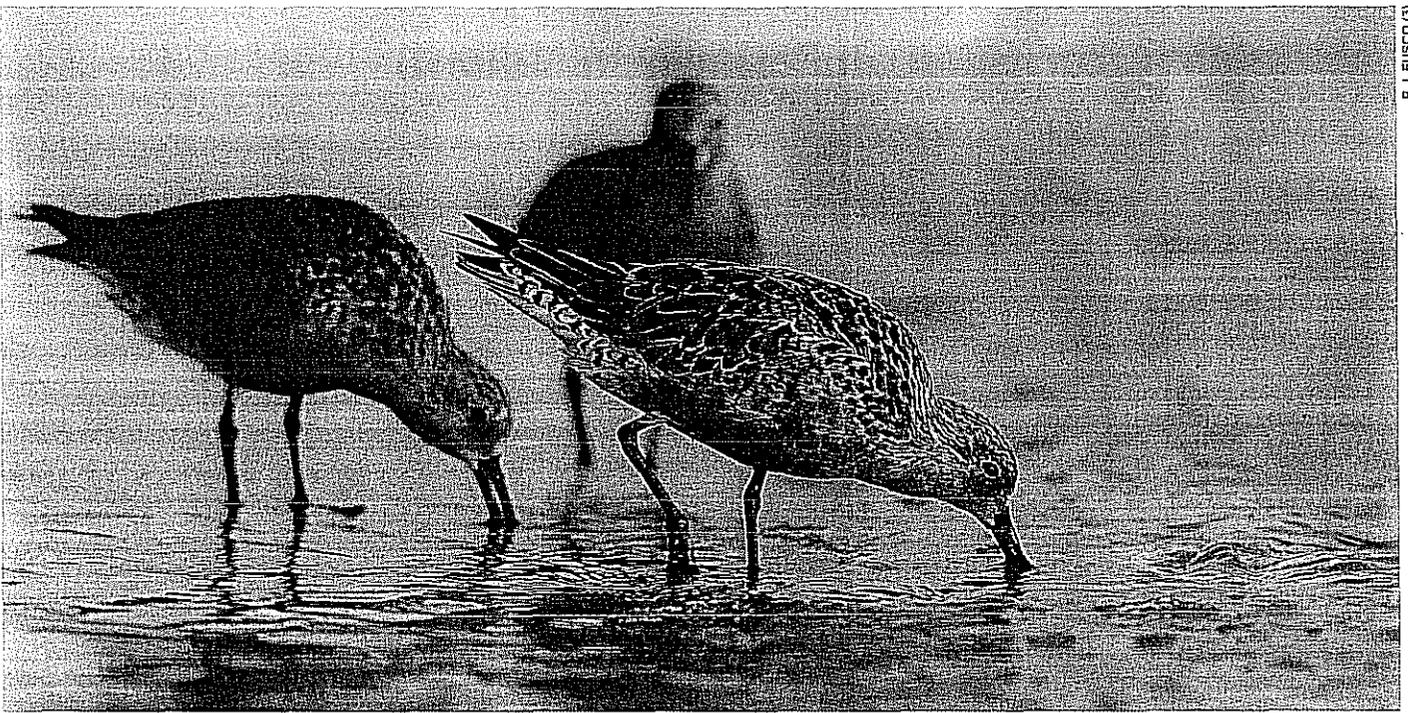
Project *Limulus* was initiated in 2003, with start-up funds from the DEP's Long Island Sound License Plate Program and the support of many different federal, state, and non-profit agencies. It is, in its most basic form, a horseshoe crab research project that relies heavily on data gathered from physically tagging and recapturing animals.

The project is an ecological study of the Long Island Sound horseshoe crab population; a community-based research program that provides opportunities for people to become active contributors to on-going scientific research; a data-gathering network to potentially direct conservation programs for the horseshoe crab; and an educational tool to increase public awareness of horseshoe crabs and their connection to the Long Island Sound ecosystem.

Horseshoe crabs are being marked throughout New York, Connecticut, Rhode Island, and Massachusetts with federal disc tags (white circular tags). If you find a horseshoe crab with a white disc, please call 1-888-LIMULUS (1-888-546-8587) to report the tag number, location (specific beach), date you found the horseshoe, and if it was alive or dead. Please return live horseshoes to the water. You also can report tags online at www.fws.gov/northeast/marylandfisheries/crab.cfm.

Horseshoe crabs have also been tagged with yellow clinch tags throughout New York and Connecticut. If you find this tag, please call 203-365-7577 to report the tag number, location (specific beach), date you found the horseshoe, and if it was alive or dead.

Citizen scientists are welcome to participate in Project *Limulus* and can attend informational and/or training sessions each spring. These sessions, which are held up and down the Connecticut coast, give a brief history of Project *Limulus* and an overview of the research, as well as provide training to volunteers on how to conduct spawning surveys and tag horseshoe crabs according to U.S. Fish and Wildlife Service spawning survey and tagging protocols. For more information, visit the Project *Limulus* Web site (www.sacredheart.edu/pages/13692_project_limulus.cfm).



Red knots are heavily dependent on the eggs of the Atlantic horseshoe crab to help them gain enough energy reserves to complete an arduous spring migration to their arctic nesting grounds.

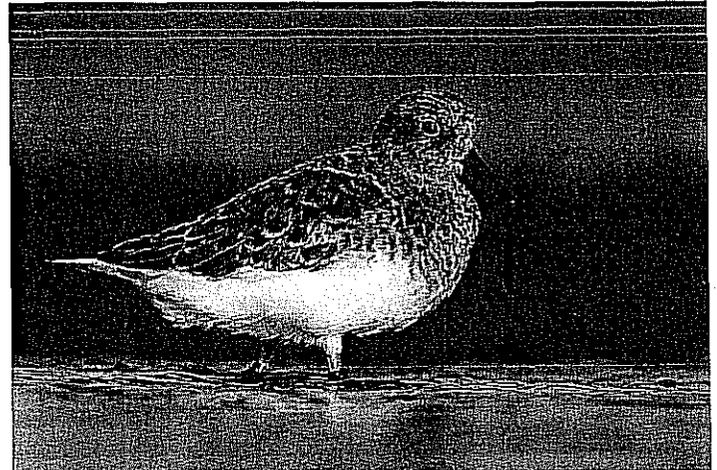
Horseshoe Crabs - The Shorebird Connection

Long Island Sound has its share of horseshoe crabs, but Delaware Bay is home to the largest horseshoe population along the Atlantic Coast. When this huge concentration of horseshoe crabs spawns, starting in spring, many of the eggs are exposed to the beach surface by waves and the digging action of mating crabs. The exposed eggs are the primary food source for migrating shorebirds making the journey from South America to the Arctic along the Atlantic Flyway. Delaware Bay is the second largest stopover location in the Western Hemisphere for northward migrating shorebirds. More than a million shorebirds fly nonstop from places thousands of miles away, such as Peru, Suriname, and Argentina's Tierra del Fuego. More than half of the total flyway population of red knots, ruddy turnstones, and semipalmated sandpipers depend on Delaware Bay's horseshoe crab eggs as a food supply high in protein and fat. Red knots arrive at Delaware Bay underweight after their long journey from southern Brazil. But, after gorging primarily on fresh horseshoe crab eggs over a two to three week period, the birds have gained enough weight to finish their journey to the Arctic and begin nesting.

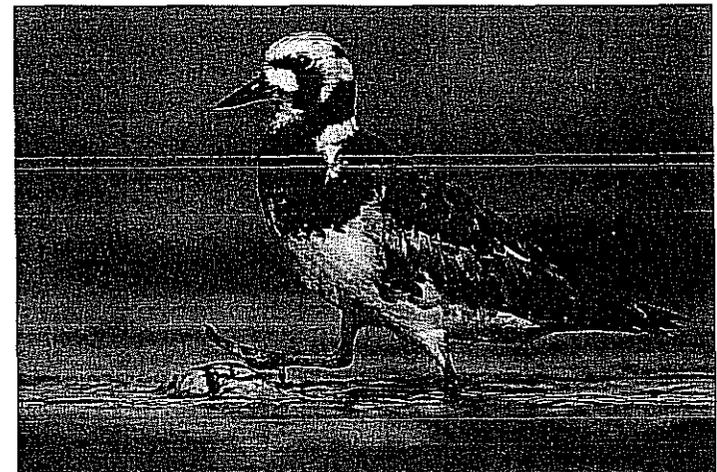
Studies have shown that, in recent years, horseshoe crab populations are declining due, in part, to harvesting of their blood for medical testing and their use as fishing bait for eel and conch. This has resulted in a decline in the shorebirds that rely on horseshoe eggs for food, in particular the red knot. If the birds cannot find any excess eggs while at the stopover area, they won't be able to double their body weight during migration. Thus, they will either be unable to fly all the way to the Arctic or, if they do make it, will not have enough energy to reproduce. These shorebirds are on a tight schedule, having to reach the Arctic by mid-June to nest and then leave for their southward migration six weeks later. When they arrive at the Arctic, it is still cold enough that little food is available. So, the birds must continue to rely on the fat built up during their stay in Delaware Bay.

In response to the decline in horseshoe crab populations, several states have limited the number of crabs that can be harvested each year. New Jersey has implemented a moratorium on harvesting the crabs. In 2009, since measures have been implemented, the number of red knots visiting Delaware Bay was estimated at 24,000, up from 18,000 the year before, but still far lower than the population of 100,000 to 150,000 of two decades ago.

Research projects, like Project *Limulus* sponsored by Sacred Heart University, in Fairfield, Connecticut, are vital to understanding the dynamics of the horseshoe crab population and to monitor its numbers.



Two other shorebird species that are heavily reliant on horseshoe crabs are the sanderling ...



... and the ruddy turnstone.

Mountain Lion Killed on Parkway in Milford

Testing underway to determine its origin

The first verified sighting of a mountain lion loose in Connecticut in over 100 years was confirmed in early June of this year. What is yet to be determined is where the animal came from. A mountain lion was seen in Greenwich on June 5. In the early morning hours of June 11, a mountain lion was struck and killed by a vehicle on the Wilbur Cross Parkway in Milford. Mountain lions have been reported to travel in excess of 10 miles per day. The location where the animal was killed was 30 miles from the original sighting six days earlier. No other sightings since have been confirmed with physical evidence. In

the absence of evidence to the contrary, the working hypothesis is that the sighting in Greenwich and Milford roadkill are one and the same. The 140-pound male mountain lion was transferred to a DEP facility for further examination and analysis to test that hypothesis.

It is believed that the mountain lion was not naturally occurring and may have been captive. The Northeast does not have a native population of mountain lions. After many decades of questioning its existence, the U.S. Fish and Wildlife Service (USFWS) declared a specific subspecies of mountain lion, the eastern cougar, extinct in March 2011. Before the June 5 sighting in Greenwich and the roadkill in Milford, the last confirmation of a mountain lion in Connecticut was sometime in the late 1800s.

The DEP is working with the U.S. Forest Service, USFWS, the University of Arizona, and the New York State Museum to conduct genetic and other testing on the mountain lion. Researchers are trying to determine if the mountain lion had a lineage from South America or

North America. Most, but not all, of the mountain lions involved in the pet trade originate from South America. If the lion's ancestry is determined to be from North America, further testing will be conducted to determine which region of the continent the animal originated from.

In addition to the genetic testing, a detailed necropsy (animal autopsy) was performed at a DEP facility by Supervisory Veterinary Pathologist Tabitha Viner, DVM DACVP, from the USFWS National Fish and Wildlife Forensics Lab. This lab, which is based in Oregon, is responsible for a wide array of wildlife-related testing. X-rays and physical exami-



Supervisory Veterinary Pathologist Tabitha Viner, DVM DACVP, from the USFWS National Fish and Wildlife Forensics Lab in Oregon, performs a necropsy on a mountain lion killed on the Wilbur Cross Parkway in Milford. Data and samples collected from the necropsy will be analyzed to help researchers determine the origin of the mountain lion.



Measurements were recorded and a cast was made of the 140-pound male mountain lion's large paw.

nation confirmed injuries consistent with a vehicle strike as the cause of death. The x-rays also revealed that the mountain lion did not have an implanted microchip, similar to ones implanted in dogs and cats to help in locating a lost pet.

The stomach and intestinal tract were examined to determine the mountain

lion's recent diet. Another planned test will examine isotope profiles in tissues, which can provide a historical record of the lion's diet, possibly shedding light on whether the lion had been eating a wild or captive diet.

Preliminary examination also revealed that the mountain lion was young (under six years of age), lean, and not neutered or declawed. These characteristics are not necessarily indicative of a captive animal. However, the fact that the lion was found so far from existing wild populations of mountain lions is a strong indication that it had been kept in captivity. It is illegal

for a private individual to keep a mountain lion in captivity in Connecticut. The DEP Environmental Conservation Police are currently conducting an investigation to determine the ownership of the animal and if it was held illegally in Connecticut or originated from captivity in another state.

A scat sample found on Audubon property in Greenwich on June 12, 2011, was submitted to the U.S. Department of Agriculture Forest Service Rocky Mountain Research Center in Montana to undergo DNA testing to determine if it was from a mountain lion. The

sample tested was collected following the reported sighting of a mountain lion in the area. Test results indicated that the scat was from the canine family (coyotes, dogs, foxes, etc.).

As of this writing, the DEP was still waiting for results from the various tests. Those involved with the investigation and testing are putting forth a large amount of effort to find answers and to thoroughly examine all of the information being collected. Results from the necropsy and the testing will be released by the DEP as soon as they are available.

Connecticut Wildlife Magazine: Celebrates 30 Years

Written by Kathy Herz, Editor

Thirty years ago, in July 1981, the Wildlife Unit (precursor to the current Wildlife Division) published the first issue of an informal newsletter that was to one day become *Connecticut Wildlife* magazine. The humble beginnings of the newsletter date back to the formation of a Public Awareness Program (now called the Outreach Program) in 1980 that was intended to "foster an appreciation for the value of wildlife, a basic understanding of wildlife management, and support for the Wildlife Unit and its programs." The program staff was tasked with launching the newsletter to "improve on communicating items of interest regarding wildlife and related matters."

In the early years of the newsletter, the number of pages varied and there were no photos or illustrations. Its initial title was SCOPE, but the name was changed to *Connecticut Wildlife* in 1993 to better reflect the content of the magazine. Black and white graphics accompanied articles for a number of years before the informal newsletter transformed into the *Connecticut Wildlife* magazine you see today – 24 pages with full-color pho-

tographs and articles that cover topics associated with wildlife, fisheries, forestry, and the outdoors.

Many of the articles have focused on Wildlife Division projects funded by the Federal Aid in Wildlife Restoration Program, such as waterfowl surveys, hunter education, deer research, and habitat management at state wildlife management areas. One of the main purposes for publishing the magazine is to inform readers about the contributions of sportsmen to wildlife conservation.

Looking back at articles in previous issues of *Connecticut Wildlife* (and SCOPE), it is amazing to see how much has changed over the past 30 years. The first issue in July 1981 reported that "two immature bald eagles were observed in Old Lyme on May 1. Bald eagle sightings in Connecticut this time of the year are an encouraging sign." Eleven years later, the July/August 1992 issue of SCOPE reported the first successful nesting of a pair of bald eagles in Connecticut since the 1950s. That year, a pair in Barkhamsted fledged two chicks. Now, in 2011, 21 active bald eagle pairs were recorded in

the state and 29 chicks fledged.

In 1988, a few articles were printed in the magazine telling readers to be aware of black bears, as the Division was beginning to receive reports of bear sightings and had found evidence that bears were establishing residency after a long absence from Connecticut. Today, articles in the magazine report about an on-going bear research project to help monitor the growing population and the increasing number of sightings and bear problems. (In 2010, the DEP received over 3,000 bear sighting reports from 115 of Connecticut's 169 towns.)

The January/February 2011 issue of *Connecticut Wildlife* launched a new era for the magazine, when staff from the other Divisions in the Bureau of Natural Resources, as well as from the Bureau of Outdoor Recreation, began to contribute articles. The "new" magazine has received rave reviews from our readers. As we keep improving the magazine and also look to the future, we hope to continue providing the information our readers expect, hopefully for at least another 30 years or more!

FREE Educational Programs this Summer at Kellogg Environmental Center and Osbornedale State Park in Derby

The Kellogg Environmental Center, a facility of the DEP Division of State Parks & Public Outreach, is dedicated to providing environmental education to youth and adults. The Center is offering several free educational programs throughout July and August, covering such topics as geology, geocaching, ferns, insects, butterflies, fishing, pond exploration, and more. Program details and dates are available on the DEP Web site at www.ct.gov/dep/kellogg. Pre-registration is suggested, but not required. All ages are welcome (unless otherwise suggested), but children must be accompanied by an adult. Please call 203-734-2513 to register or for more information. All programs are FREE, but donations are always welcome. The Center is located at 500 Hawthorne Avenue, in Derby.

Annual Wood Duck Box Checks Completed

Written by Kelly Kubik, DEP Wildlife Division

In pre-colonial times, the wood duck was likely the most abundant waterfowl species in eastern North America. Due to habitat destruction and overhunting, wood duck populations were on the brink of extinction by the early twentieth century. Fortunately, times have changed, and the wood duck is currently the third most abundant breeding waterfowl species in Connecticut, behind the mallard and Canada goose. While the dramatic rebound of wood ducks can be largely attributed to the passage of the Migratory Bird Treaty Act, their recovery also was assisted by the advent of wood duck nest boxes. Because wood ducks are cavity-nesters that do not excavate their own holes, their abundance is limited by the number of naturally occurring cavities in suitable habitat.

Early Days of Nest Boxes

The first large-scale use of wood duck boxes was by the United States Biological Survey in 1937. Initially, over 450 boxes were erected at the Chautauqua National Wildlife Refuge in Illinois. Over the next two years, Arthur Hawkins and Frank Bellrose put out 700 boxes throughout the state of Illinois. More than half of these boxes were used by wood ducks, thus revealing their management potential. These artificial nesting structures benefit



Wildlife Division seasonal resource assistant Bob Bartholomew checks a wood duck nest box this past winter. He collected data on nesting activity, cleaned and inspected the box, and added new nesting material.

more than just wood ducks. Other wildlife species, such as American kestrels, eastern screech owls, hooded mergansers, and northern flickers, use the boxes as well.

Monitoring CT Boxes

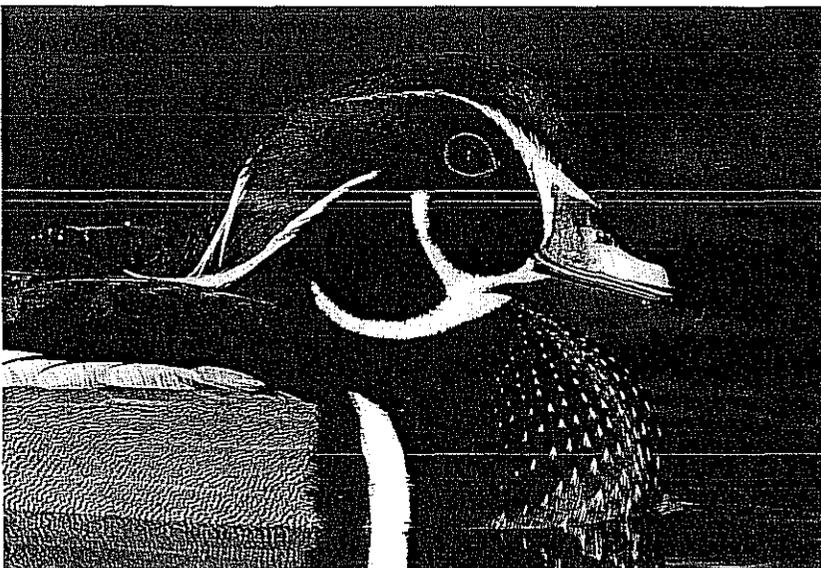
The Wildlife Division manages over 400 wood duck boxes on various state properties. Each winter, DEP staff, in conjunction with numerous volunteers,

checks are analyzed, providing the Division with information on use of the boxes and allowing management decisions to be made about the wood duck box program.

This past winter, 402 boxes were checked at 113 sites. Overall, duck use of the boxes was 62%. Wood ducks were most dominant in boxes in eastern Connecticut, while hooded mergansers were more prevalent in boxes in the western portion of the state. Twenty-three percent of the boxes checked were successful, producing 413 ducklings. Unfortunately, 42% of the boxes examined experienced some degree of nest predation.

Eighty-four percent of the boxes checked this past season were in good condition, 12% were in need of minor repairs, and the remaining four percent were classified as unusable. Thirty-one boxes were missing and 15 of these were replaced. In addition, 20 boxes were installed at various sites.

The Division often receives inquiries about assisting with projects that benefit wildlife. One such project is to volunteer to build, check, or maintain wood duck boxes in your area. For more information on wood ducks or how to volunteer with box checks, contact Kelly Kubik at kelly.kubik@ct.gov or 860-642-7239.



Mallards Continue to Dominate Breeding Waterfowl Survey

Written by Kelly Kubik, DEP Wildlife Division

Staff from the Wildlife Division completed the annual breeding waterfowl survey in April. This survey was initiated by the Atlantic Flyway Technical Section in 1989 and became fully operational in 1991. While all observed waterfowl are recorded, it is primarily designed to estimate the population sizes of black ducks, Canada geese, mallards, and wood ducks. Each state in the Atlantic Flyway, from Virginia north to New Hampshire, participates. The data derived from this survey are used in the Eastern Mallard Adaptive Harvest Management models. The results of these models are used to set duck hunting regulations in the Atlantic Flyway. Prior to this survey and other breeding waterfowl surveys initiated in 1990 for eastern Canada and Maine, waterfowl in the flyway were managed based on data collected for mid-continent waterfowl populations.

The survey is timed to coincide with peak waterfowl breeding activity in the state. All of the plots were surveyed between April 21-30, 2011. Surveys were conducted on the ground by checking all water bodies and any suitable terrestrial habitat where waterfowl could be found within the plot boundary. Per survey protocol, 20% of the plots were checked at either dawn or dusk.

A drake index was calculated for each duck species to determine if survey timing was appropriate. A high drake index indicates good timing. It shows that local duck nesting has begun and most migrants have moved north. Conversely, a low index shows the survey was conducted too early and paired migrants may still be present. An index between 0.50 and 0.75 is indicative of a well-timed survey.

This survey not only provides an index of waterfowl breeding populations, but also provides waterfowl managers with an idea of current habitat conditions. While most of Connecticut's wetlands were recharged by record snowmelt and considerable rainfall prior to the initiation of the survey, low water levels were noted in some of the surveyed plots. This was primarily due to the breaching of beaver dams or drainage associated with construction activities. Even though these types of habitat changes are inevitable over the years, they are major factors that affect breeding waterfowl populations.



P. J. FUSCO

Survey Results

Mallards continue to dominate the survey in Connecticut. The mallard estimate for 2011 was 17,148 pairs. This is a five percent decrease from 2010 and a three percent decrease from the five-year average. The mallard drake index was 0.65. Prior to this survey, the mallard population in the Atlantic Flyway was monitored by the annual Midwinter Waterfowl Survey. The breeding waterfowl survey more accurately depicts mallard population trends in the flyway because it was found that the midwinter survey underestimated the number of mallards wintering in the Northeast.

The Canada goose estimate for this year was 9,792 pairs. This represents a 21% decrease from the previous year and a five percent decrease from the five-year average. Numerous pairs of Canada geese were seen actively nesting and one pair was observed with a brood during the survey. The DEP has established a management goal of 7,500 breeding pairs of Canada geese in the state. This survey is used to monitor the resident goose population on a yearly basis and assess the efficacy of more liberal hunting regulations aimed at reaching the state's management goal.

The wood duck estimate for 2011 was 9,431 pairs. This is an 18% increase from 2010 and an 11% increase from the five-year average. The wood duck drake index was 0.62. Prior to the establishment of the breeding waterfowl survey, the distribution and abundance of wood ducks in the Atlantic Flyway was not well known. The survey provides a method of tracking changes in wood duck populations in the northern portion of the Atlantic Flyway.

Black ducks were observed in an inland plot for only the fourth time since 2001. The breeding black duck estimate for this year was 396 pairs. This represents a 34% decrease from 2010 and a 10% decrease from the five-year average. The black duck drake index was 0.17. This survey indicates that while black ducks are a small component of Connecticut's overall breeding waterfowl population, they are heavily reliant on the existing saltmarsh habitat in the state.

Connecticut Breeding Waterfowl Pair Estimates for Major Species

Species	2011	2010	Five-year Avg.
Black Duck	396	604	439
Canada Goose	9,792	12,415	10,344
Mallard	17,148	18,038	17,703
Wood Duck	9,431	7,989	8,489

After 32 Years, Wildlife Biologist Julie Victoria Retires

Wildlife Division biologist Julie Victoria started her association with the DEP in November 1978 when she helped out at deer check stations. At the time, she was working for the YACC (Young Adult Conservation Corps), which was a federally funded program administered by the DEP. In January 1979, she was "loaned out" from YACC to work for the Wildlife Division's Deer Program and was hired as a seasonal in May 1979. Eventually, Julie was hired permanently, continuing with the Deer Program until 1985 when she became one of the state's first "non-game" biologists after the State Legislature established the Nonharvested Wildlife Program (now Wildlife Diversity Program). Julie remained with the Wildlife Diversity Program until her retirement on July 1, 2011.

As a biologist with the Wildlife Diversity Program, Julie was responsible for coordinating and conducting projects related to invertebrates, raptors (such as bald eagles, peregrine falcons, and ospreys), shorebird species (piping plovers, least terns, and colonial waterbirds), reptiles, and amphib-



Dealing with unhappy raptors, like this adult peregrine falcon, was just part of the job for Wildlife Division biologist Julie Victoria. This was Julie's last time banding the peregrine chicks raised at the Travelers Tower in Hartford. PHOTO BY P. J. FUSCO

ians. One of her first endeavors was the initiation of the Bluebird Working Group, which brought together bird experts to design and refine an artificial nest box for bluebirds that could help

Julie Victoria: In Her Own Words

What was your best accomplishment while working for the Wildlife Division?

I hope my best accomplishment was forging good working relationships with private wildlife organizations, federal agencies, other state agencies and divisions, municipalities, volunteers, and the public.

What was your favorite species to work with?

Bog turtles and ospreys. I love looking for bog turtles, even though it requires slogging through a cold fen in May, in mud that sucks your legs in up to your thighs, to find them. It is so infrequent when I do find one that it's like hitting the jackpot – very exciting.

Ospreys are my favorite bird species. When I was growing up in Stonington in the 1960s, I can remember the electric

company taking an osprey nest off of an active power pole and moving it to a new pole that was put up just for the birds. It was dramatic, and every kid in the neighborhood monitored the whole event. Later, when I worked for DEP, I realized that event happened at a time when there were very few osprey nests in the state. Stonington was one of the towns that had a core population so I didn't even realize how rare ospreys were. Witnessing the osprey being removed from Connecticut's species of special concern list and reaching such high numbers that I can't even monitor them every year has made me very happy.

What part of your job will you miss the most?

I will miss the people the most – my co-workers, the volunteers that are integral to monitoring so many species, the

partners that I worked with from private organizations and the U.S. Fish and Wildlife Service, and the landowners whose properties I've come to love as much as they do.

What part of your job won't you miss?

The paperwork!

What do you see as the three major issues currently facing the Wildlife Division?

There are many, but the top three that come to mind are:

- 1) Loss of habitat – as the human population expands or the climate changes, wildlife habitat shrinks. Shrinking habitat leads to fewer animals or more human/animal interactions. Most human/animal interactions (like vehicle kills) end up badly for the animal.
- 2) Communication – Connecticut

reverse dramatic declines in this species' population. Bluebirds, which were once rare in Connecticut, now nest statewide, delighting residents with vibrant color and melodic song. Similar success was achieved with the restoration of Connecticut's osprey population. Julie worked tirelessly with volunteer groups to refine the design of an artificial osprey nest platform and promote its use statewide. With the help of these platforms, nesting ospreys have rebounded from an all-time low of nine active pairs in 1974 to well over 200 pairs in 2010.

Julie's efforts also extended to federally-listed species, like the threatened piping plover whose population has increased from 15 pairs along the Connecticut shoreline in the mid-1980s to currently approaching the federal recovery plan goal of 50 nesting pairs. For many years, Julie routinely gave up summer weekends or long holidays to monitor plover and least tern beach nesting areas during periods of high public use, educating the public and protecting nesting birds.

Julie served on a team of biologists that founded the Northeast Partners in Amphibian and Reptile Conservation, one of the leading conservation groups for these species. She also volunteered to help prepare a recovery plan for the timber rattlesnake as part of a proactive approach in the Northeast to avoid placing the snake on the federal Endangered Species List.

Julie is always willing to help the general public learn, understand, and appreciate wildlife. She has conducted countless interviews for print and electronic media outlets, been featured in videos promoting many programs within the DEP, and never hesitated to talk to the public about a bird seen at the beach or a snake captured in a bucket or a mussel shell found while walk-



The state endangered bog turtle was one of Division biologist Julie Victoria's favorite species to work with. Julie spent many field seasons searching wet bogs for this very rare turtle.

ing along a brook.

It is difficult to concisely detail the many ways in which Julie has contributed to projects and programs that benefit the Department, but also more importantly the wildlife species she was tasked with protecting as a public trust resource. If another program needed help, Julie was always among the first to volunteer, be it working with sportsmen at deer check or pelt tagging stations, or removing garbage from a park or beach front. No job was too big or too small. For the entire 32 years Julie worked for the DEP Wildlife Division, she could be counted on to use a no-nonsense, take-charge approach to completing tasks or doing what was best for the resource.

Wildlife magazine is probably the best communication tool the Division has ever had, but it is not enough. The readership is small. How do we educate more people about who we are, what we do, and why?

3) Lack of empathy, understanding, or outdoor etiquette by the public. There are children who don't go outside anymore and, when they do go outside, they don't always treat wildlife well. No one has taught them how to behave outdoors or minimize their impact to wildlife. So, we end up creating a No Child Left Inside program or printing a pamphlet called "Sharing the Waterways: A Code of Ethics for Wildlife Watching along the Connecticut Coast" and we still are not reaching enough people – the same people who could potentially be making environmental policy decisions in the future.

What major changes have you seen since you first joined the Wildlife Division?

I'm going to sound like a dinosaur – we didn't have PCs when I started and the computer that ran the deer lottery filled a large air-conditioned room. That old computer was a large main frame and the deer data were on magnetic storage disks as big as a spare tire donut. In the late 1970s to early 1980s, Connecticut didn't have many deer (less than 20,000), no nesting eagles or peregrines, and few ospreys.

Has anything remained the same?

The paperwork! Whoever said that the computer would create a paperless society was not in state government.

What is the most memorable event that happened during your time with the Wildlife Division?

In the 1980s, it was the opening of the Division offices at Franklin Wildlife Management Area (WMA) and Sessions Woods WMA. In the 1990s, it was the return of the bald eagle and peregrine falcon to nest in Connecticut and the banding of the first chicks. In the 2000s, it was the hiring of the several wildlife technicians and the development of Connecticut's Comprehensive Wildlife Conservation Strategy and all of the good work that has been accomplished with the extra help.

What advice do you have for your colleagues at the Wildlife Division?

Try to stay positive – the stress associated with funding and budgets will come and go as the economy changes. The current recession reminds me more than ever of conditions in 1979 when I started at the DEP.

Elusive Bird of the Marsh - The Virginia Rail

Article and photography by Paul Fusco

Rails are secretive birds that are more often heard than seen. Frequently running and hiding in thick marsh grass or cattails, they quickly slip through the dense cover with ease. They are cryptically marked in drab colors, making them even more difficult to see as they blend into their surroundings. Seldom does one venture out into the open, and then usually showing itself only for an instant before darting back into the grass. Because of their secretive behavior, the most common, and frequently the best, way to identify rails is by listening for their unique calls.

Rails are small to medium-sized ground dwelling marsh birds. They have compact bodies, short necks, and strong legs. Some rails have long bills for probing in mud, while others have short stubby bills. Their strong legs and feet are well adapted for life on the ground. When seen in flight, their legs and feet dangle behind. The term "thin as a rail" can be interpreted by the fact that rails have laterally compressed bodies that allow them to slip through the thick vegetation found in marshes.

Several species of rails are found in Connecticut, including the Virginia rail, which is the most common and wide-

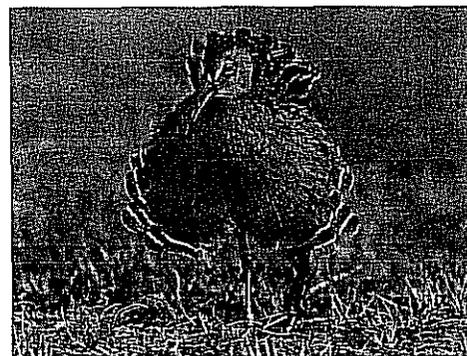
spread rail in our state. About the size of a robin, the Virginia rail has a medium-long, decurved bill. Like other rails, Virginia's have short, rounded wings and a short tail. Their plumage is mostly rusty colored. They have contrasting gray cheek patches and black barring on the flanks.

Their call is an unusual metallic two-syllable "kid-ick, kid-ick," or a descending series of quack-like calls, "wak-wak-wak-wak." Calls are frequently repeated many times.

Habitat

During winter and migration, Virginia rails may be found in coastal saltmarshes, but favor inland and brackish wetlands during the breeding season. Wetlands with a mix of cattails, sedges, and grasses are usually the most likely habitats in which to find Virginia rails. Their breeding distribution is uneven across the state – the birds are most concentrated in the wetlands of Litchfield County. In winter, some individuals may remain in Connecticut, but most spend the colder months south of Virginia.

Although Virginia rails are weak fliers, they surprisingly migrate long distances that may cover hundreds of miles. Migrating at night, they use rapid wingbeats in



low flight over water or the ground to get to their destination.

Behavior

Nests are normally built close to water in thick emergent vegetation in a marsh. The foundation can be built on mud, over water, or on downed vegetation. It is skillfully concealed with nearby vegetation that is pulled over the nest and loosely woven into a canopy, protecting seven to 12 eggs.

Young hatch in about 20 days, leaving the nest almost immediately. One parent will lead the downy black chicks to safe areas, while the other adult continues to brood until all of the eggs are hatched, which may take several days.

Using its long, curved bill, the Virginia rail catches food by probing and grabbing.

The list of food it eats includes worms, grubs, slugs, snails, beetles, caterpillars, small fish, frogs, small snakes, crayfish, and other invertebrates.

The Virginia rail will escape danger by running at remarkable speed through thick marsh vegetation. Using its thin profile and strong legs, the rail can escape even the most determined predator. A rail moves so quickly and silently that it seemingly disappears with no sign of it ever being there. Not only are Virginia rails very fast when running, but they also are capable swimmers, and can climb up reed stalks with their strong legs and feet.

Conservation

As with many species of wildlife in Connecticut and in the region, the major conservation issue is loss of habitat.





During the spring and summer months, Virginia rails can be found at inland wetland locations that offer a mix of emergent vegetation, including cattails, sedges, and grasses.

Without a place to live, reproduce, and find food, individuals in a population will die out and eventually the population undergoes decline and possibly extirpation. This is especially true of species, like the Virginia rail, that are critically dependent on specific types of habitat, such as wetlands.

The DEP estimates that Connecticut has lost between 33-50% of its original wetlands. Urban and coastal areas have been hit the hardest. For instance, the estimated loss of tidal wetlands in Fairfield County is 61%. The loss of coastal wetlands has slowed dramatically since the passage of the Tidal Wetlands Act in 1969. This act regulates the draining, filling, and excavation of tidal wetlands through a permit process. While it may be too late to reclaim some lost habitat, the Wildlife Division, along with cooperating partners, is using resources, through the DEP's Wetland Restoration Program, to restore and enhance degraded coastal wetlands.

Inland wetlands continue to be impacted by development pressure that not only destroys wetlands, but also degrades

water quality. Wetlands also are negatively affected by encroachment, which leads to further loss of quality wetland habitat. The rate of inland wetland loss has been estimated to be three to five percent per year in recent years.

Populations of wetland birds, including the Virginia rail, are monitored by DEP staff through breeding season surveys at selected wetlands across the state. Recent work shows that Virginia rails are absent from small inland marshes. In general, a minimum of 25-30 acres of emergent wetlands is needed to support Virginia rails.

Because these birds migrate at night, they are susceptible to collisions with communication towers, guy wires, buildings, and other structures. It is well documented that these structures take a heavy toll on migrating, night-flying birds. In poor weather, structures with lights are especially hazardous because the lights attract migrants. Guy wires also are extremely hazardous. In the Untied States alone, communication towers may kill up to 40 million birds a year.

More work is needed to gain a bet-

ter understanding of the distribution and breeding success of Virginia rails. Because of their secretive nature, rails are difficult to survey, and accurate population trends are somewhat uncertain. Although the Virginia rail population seems to be relatively stable in Connecticut at this time, the conservation of wetland habitat is important for maintaining a healthy population and to prevent declines.

Benefits of Wetlands

● FLOOD CONTROL

Wetlands absorb water from storms and runoff, preventing damaging floods in developed areas.

● WATER QUALITY

Wetlands act as giant filters, purifying water by removing excess nutrients and pollutants.

● EROSION CONTROL

Wetlands form buffers between water bodies and higher ground, preventing soil erosion.

● FISH AND WILDLIFE HABITAT

Wetlands serve as nurseries for fish, shellfish, and wildlife populations, including many endangered species.

● RECREATION

Wetlands are places where many people hunt, fish, hike, canoe, boat, birdwatch, and participate in the arts of photography and painting.

Looking Back at the History of Forestry in Connecticut

Connecticut is one the nation's most heavily forested states, even though it also is one of the most densely populated. During the more than 380 years of settlement in our state, Connecticut has gone through periods of deforestation and then regrowth of the forests. Today, nearly 60% of the landscape is forested. There currently are 32 forests totaling about 170,000 acres in the Connecticut State Forest system. These forests are owned by the State of Connecticut and managed through the DEP's Division of Forestry. The majority of this forestland was acquired during the early part of the 20th century — a time period in Connecticut that saw the creation of a state forestry agency, the first state forests, and the first real efforts to protect and conserve natural resources.

The early history of Connecticut's state forests was recorded in the "Wooden Nutmeg," a periodical that highlighted forest and park news during the 1930s and 1940s. The periodical contains reminiscences of the pioneers in forest and wildlife management who were members of the Park and Forest Commission and the State Board of Fisheries and Game. These agencies were the precursors to the Department of Environmental Protection, which was established in 1971. Some of the stories published in the "Wooden Nutmeg" are still relatable to current times. The authors were resource managers who built the foundation for the stewardship ethic we have today. Following is an article published in 1943 about the history of the Connecticut State Forest system.

Wooden Nutmeg, Hartford, Conn. December, 1943

History of Acquisition of Connecticut State Forests

By Chester W. Martin, Field Agent, Commission on Forests and Wild Life

The State Forest acquisition program began in 1903 (in the reign of the first Roosevelt) in the era of buggies, moustache cups and bustles, when Walter Mulford, Experiment Station Forester and ex-officio State Forester, acting under the authority granted by Chapter 175 of the Public Acts of 1901 purchased 627 acres of land in the Town of Portland at a cost of \$964.16. The purchase of this tract established the first State Forest in New England but it is doubtful if many persons at that time envisaged the growth of movement to 100,000 acres within the ensuing forty years. Indeed, except for the rapid growth of Connecticut cities and the development of the automobile with the accompanying network of hard roads, it is questionable if the system of State Forests would have reached one-half of its present total, since by 1925 there had been acquired only 11,531 acres.

In the early Twenties the importance of the State Forests as open areas for public recreation including fishing and hunting began to receive recognition and in 1923, State Forester Hawes requested the Park and Forest Commission for authority to permit public hunting and fishing on the State Forests. In 1925 Senator Frederic C. Walcott, then Chairman of the State Board of Fisheries and Game, proposed a policy of forest acquisition which would provide not only for the growing of timber but for hunting and fishing as well. This program was favorably received by the Park and Forest Commission and resulted in the establishment of a joint commission called the Commission of Forests and Wild Life. The major purpose of this new commis-



John Cordella 'Del' Reeves was the first warden/forester hired by the State to patrol Meshomasic State Forest.

DEP FORESTRY ARCHIVES

sion was to acquire land for State Forests and for public hunting and fishing. At this time it was decided that an adequate State Forest system should consist of 200,000 acres of land to be acquired within the boundaries of definite purchase areas. Professor H. H. Chapman prepared standards for purchase which are basically unchanged to date. To implement the work of the new Commission, the Legislature appropriated \$150,000 for the purchase of State Forests at a price not to exceed \$10 per acre and at the same time, in recognition of the loss of local taxes, a law was passed to enable the State to pay to the towns, a grant in lieu of taxes on the State Forest lands. Elliott P. Bronson of Winchester was employed as the Field Agent and under his skillful and able direction, the program moved forward rapidly and within the next four years the total acreage of the State Forests exceeded 50,000 acres. Then came the depressing Thirties and funds for acquisition ceased, not to be renewed again until 1939 when \$50,000 was made available

for the purchase of State Forest land.

In 1943 the Commission on Forests and Wild Life received the largest appropriation in the history of the acquisition program when \$400,000 was voted by a special act of the Assembly. To a large degree this appropriation was the result of pressure from Connecticut sportsmen who recognized that the future of public hunting and fishing depended on State-owned land. At present there is slightly more than 100,000 acres of land under the administration of the State Forester. Throughout the forty year acquisition history the movement has been guided by the continuous and intelligent effort of the Commissioners who have served their State without consideration, either financial or political. To these men and to the public spirited friends of the State Forests, who have contributed by gift of land and money, the people who love Connecticut's out-of-doors are forever indebted.

CT's Environmental Conservation Police Officers:

More than just 'Game Wardens'

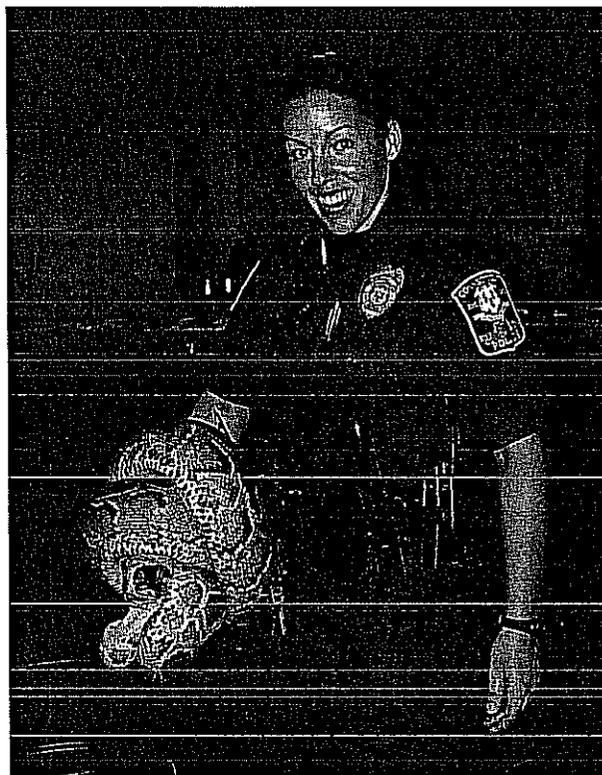
Written by Colonel Kyle Overturf, EnCon Police Division

Connecticut's Environmental Conservation (EnCon) Police Officers are appointed by the DEP Commissioner to enforce the state's fish and game, boating, recreational vehicle, and park and forest laws and regulations, as well as a majority of the state's motor vehicle and criminal laws and regulations. These officers also are appointed by the Commissioner of the Department of Public Safety with full police powers on all DEP-owned and managed lands and facilities. These dual appointments require that all EnCon Police Officers attend the Connecticut Police Officer Standards and Training Council Academy. These appointments mandate that each officer receive specialized training in such areas as natural resource protection, wildlife and plant identification, vessel and recreational vehicle operation, boating safety, commercial fisheries, shell fishing, wildlife management, tranquilizing large animals, boating accident investigation, and hunting-related shooting investigations, in addition to the statutory training

that all police officers are required to have.

Connecticut EnCon Police Officers not only have the responsibility of enforcing Connecticut's fish and game laws and regulations, but are also Deputy Special Agents of the U.S. Fish and Wildlife Service and National Marine Fisheries Service and, as such, may also enforce U.S. Federal Codes concerning the taking of fish and wildlife. Their duties in fish and game enforcement include a wide range of activities from checking sporting and commercial licenses, tags and permits to undercover assignments investigating suspected violations of fish and game laws.

The purpose of enforcing fish and game laws is to



DEP ENCON POLICE DIVISION (7)

EnCon Police Officer Bernier at a training session on how to handle exotic species.



EnCon Police Officer Concepcion with a tranquilized black bear.

ensure that the state's wildlife populations are not harvested in excess or illegally exploited for commercial gain. Excessive harvesting or exploitation of a species can lead to an overall decline of the resource. Through the enforcement of fish and game laws and regulations, EnCon Police Officers help to maintain sustainable populations of wildlife species for future generations to enjoy.

EnCon Police Officers have a long tradition of enforcing the state's fish and game laws, starting in 1895. In that year, the Commissioner of Fish and Game was created by statute. The Commissioner had the power to appoint "special protectors" who could serve anywhere in the state. They were the predecessors of state-appointed game wardens, now known as State Environmental Conservation Police Officers. At present, 52 EnCon Police Officers patrol Connecticut.

Four Peregrine Chicks Banded at Travelers Tower in Hartford

Those who are familiar with the Peregrine Watch at Travelers Tower web cam (www.falconcam.travelers.com) had the opportunity to watch the resident peregrine falcon pair tend to their nest this past spring. The female falcon and her male attendant are the same ones that have occupied the nest tray since 2007, successfully producing chicks every year (except in 2008 when there was no nesting attempt at the location). Leg bands on the two adults indicate that the female is from Massachusetts and the male (Goldeneye) comes from St. Paul, Minnesota.

This year, the peregrine pair was seen preparing the tray for nesting around March 16 and the female began incubating the first egg on March 21. Four eggs were laid by March 29. After almost a month of incubating, the first chick hatched on April 28, followed by the others on or around May 1. Web cam watchers then had the opportunity to watch the pair care for their young, feeding them and keeping them warm during the fluctuating spring weather.

On May 20, a team from the DEP, which included Wildlife Division biologists Julie Victoria and Jenny Dickson, placed leg bands on the four healthy chicks, two males and two females. The letters and numbers on the colored U.S. Fish and Wildlife Service bands can be identified through a spotting scope, which helps biologists track the movements of these young peregrines after they leave the area.



A leg band is placed on one of four peregrine falcon chicks hatched on the Travelers Tower in Hartford. Two males and two females fledged from the nest.

The peregrine nest, known as an aerie, is on the 21st floor of the Travelers Tower in downtown Hartford. The nesting tray, which was first installed in 1984 and then replaced in 2001, is on a ledge of the tower that overlooks Constitution Plaza and the Connecticut River. In 1997, the first peregrines to nest on the tower since the late 1940s were "Amelia" and an unidentified male attendant. Amelia was captive bred (in Minnesota) and brought to Rochester, New York, in 1994 where she was raised to fledging and released through hacking.

In 2000, the Peregrine Watch at

Travelers Tower web cam was launched, the first of its kind at that time in Connecticut. Now in its eleventh year, the web cam has enabled teachers, students, and wildlife watchers to see and learn about the life cycle and habits of this state threatened species. When the web cam was first established, only two pairs of peregrine falcons were nesting in Connecticut – the Travelers Tower pair and a pair in Bridgeport. Currently, in 2011, 13 pairs of peregrine falcons attempted to nest throughout the state.

The Peregrine Watch at Travelers Tower web cam (www.falconcam.travelers.com) is made possible through a partnership among The Children's Museum, the DEP, and Travelers.

Update on Nesting Bald Eagles and Peregrine Falcons

The Wildlife Division and several dedicated volunteers monitored the nesting activities of bald eagles and peregrine falcons throughout the spring and summer. Twenty-three pairs of the state threatened bald eagle were present in Connecticut; two were territorial and 21 were active. Of the 21 active nests, three pairs failed to produce chicks and 18 pairs fledged a total of 29 chicks. Due to inaccessibility or safety concerns about the nest tree, only five chicks in four nests were handled by Wildlife Division biologists and fitted with leg bands.

Thirteen active pairs of the state threatened peregrine falcon were present in the state this year, although two pairs failed to nest successfully. Biologists were able to access nine nests to document 25 chicks.

Connecticut Bald Eagle Nests

New Haven County – 3 active pairs; 5 chicks fledged

Hartford County – 1 territorial pair; 6 active pairs; 1 pair failed; 8 chicks fledged

Middlesex County – 3 active pairs; 1 pair failed; 3 chicks fledged

New London County – 4 active pairs; 7 chicks fledged

Litchfield County – 4 active pairs; 1 pair failed; 5 chicks fledged

Tolland County – 1 housekeeping attempt

Fairfield County – 1 active pair; 1 chick fledged

Trout Parks Offer Family Friendly Fishing Opportunities

Written by Neal Hagstrom, DEP Inland Fisheries Division

Would you like to know about a perfect place to take your children or grandchildren fishing for the first time? Or, maybe you just want to go to a place where you have a really good chance of catching a trout? One of the DEP's 11 Trout Parks may be the place to go. Trout Parks are a pond or river section with a family friendly environment. They all are located in state or town parks, which usually have picnic tables and bathrooms facilities — items all high on the list of requirements for a family outing. The landscaped nature of most parks ensures safe, easy shoreline access for children, seniors, and persons of limited mobility.

But, having a good family friendly environment isn't enough. You have to catch fish! At the Trout Parks, we've tipped the odds in your favor. To accomplish this, the DEP stocks large numbers of trout into the ponds or river within the Trout Park before Opening Day and once every seven to 10 days until Memorial Day. A mixture of brown, brook, rainbow, and even tiger trout make up the stockings. As a bonus for a few lucky anglers, about a dozen larger trout (2-10 lbs.) are mixed into these stockings.

The fish stockings and regulations for

the Trout Parks are designed to ensure that novice anglers can catch fish. We want every new angler to love fishing, and there is no better way to get them hooked on fishing than a great first day. On a typical Connecticut trout stream, only 50% of the fishermen catch a trout on any given day and most of those fish are caught by the more skilled anglers. Typically, 75% of people, regardless of skill level, will catch at least one fish each day of fishing at a Trout Park. Odds are, if you take a kid fishing at a Trout Park, one of you will hook a fish — you just have to be prepared to hand off your rod to the rookie.

Anglers are more successful at Trout Parks because there is a reduced creel limit of two-fish per day. Fish also are stocked frequently and with a large proportion of rainbows and brook trout, which are twice as easy to catch as brown trout. By stocking every seven to 10 days, catch rates are kept up so that typically there are no days when the waters are fished out. This ensures good fishing all spring, not just on Opening Day. The two-fish per day creel limit spreads the catch around among more anglers and discourages any one angler from taking too many, leaving more for the next angler.



N. HAGSTROM, DEP INLAND FISHERIES

The DEP's 11 Trout Parks are family friendly and offer kids and novice anglers a good chance at catching a fish.

Connecticut Trout Parks Stocked for Opening Day

All sites are stocked prior to Opening Day and often during the spring fishing season.

- Black Rock State Park, Watertown
- Chatfield Hollow State Park, Killingworth
- Southford Falls State Park, Oxford
- Stratton Brook State Park, Simsbury
- Wharton Brook State Park, Wallingford
- Wolfe Park, Monroe
- Valley Falls Pond, Vernon

Other Trout Parks:

- Day Pond, Colchester
- Kent Falls State Park, Kent
- Natchaug River, Eastford
- Spaulding Pond, Norwich

Pictorial Guide to Freshwater Fishes of Connecticut

This new 242-page guide to the fishes of Connecticut is the first to present multiple, high resolution, full-color photos of most New England and all Connecticut freshwater fish species. This easy-to-read book contains detailed information for each fish species on identification, distribution, size, abundance, habits, and how to observe and catch them. It will appeal not only to anglers, nature lovers, and teachers, but also to scientists and the general public. The book is available for \$19.95 (plus tax and shipping/handling) from the DEP Store (www.ct.gov/dep/store, or 860-424-3555).

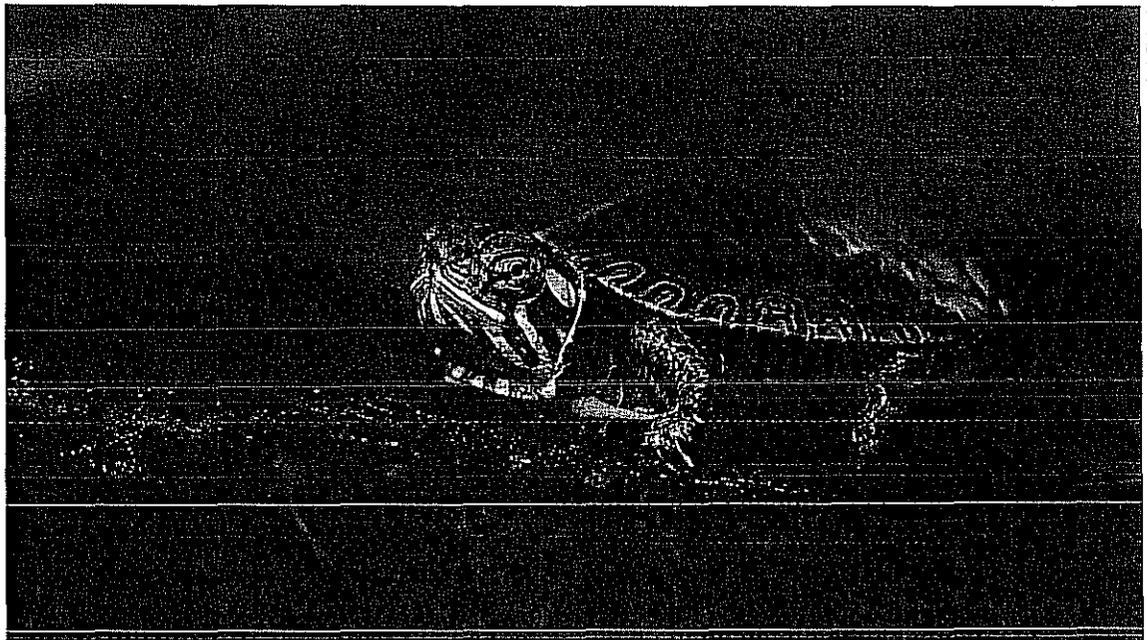
2011 Year of the Turtle: *Keep Wild Turtles Wild*

Turtles are a common sight during the spring and early summer nesting season. They cross roads in search of nest sites, come into yards to dig their nests and lay eggs, and bask in the warm sun. If you come across a turtle, especially one in your yard or crossing a road, you may be tempted to take it as a pet. However, you should NOT. The Wildlife Division cautions that turtles should be left in the wild, both for your own good and the good of the turtle.

Removing individual turtles from the wild, including hatchlings, can have a huge impact on the local population. Turtle populations require high levels of survivorship -- every individual is important to the population's stability. A turtle must live for many years and reproduce numerous times in order to replace itself in the population. Losing adult turtles, particularly adult females, is a serious problem that can lead to the eventual local extinction of a population.

Keep in mind that caring for a pet turtle is not as easy as you may think. They require specific temperatures, diets, and lighting for digestion and shell health. Cages must be kept clean as turtles can carry salmonella. And, turtles live a long time -- 50 to 100 years for a box turtle.

Once the novelty of having a turtle as a pet wears off, the owner is faced with



Removing individual turtles from the wild, including hatchlings (like this painted turtle hatchling), can have a huge impact on the local population. Turtle populations require high levels of survivorship -- every individual is important to the population's stability.

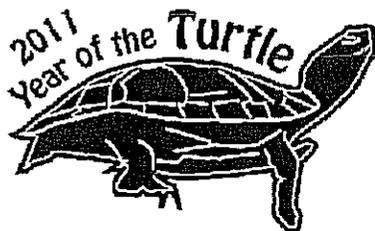
a decision of what to do with it. Captive turtles, whether they were collected from the wild or bought at a pet store, should never be released to the wild. Released turtles rarely survive, frequently introduce undetectable respiratory diseases to wild populations, and in the case of non-native species, may harm native turtle populations. The best way to enjoy turtles is to watch them in their native habitat. Help keep wild turtles wild and leave them where you find them.

For more information about turtles and turtle conservation in Connecticut, visit the DEP's "Year of the Turtle" Web page at www.ct.gov/dep/yearofturtle. You also can visit the Partners in Amphibian and Reptile Conservation's (PARC) Web site at www.yearoftheturtle.org.

Turtle Q&A

Q: What should I do if I find an injured turtle?

A: The most common causes of turtle injuries (most often resulting in death) are strikes by vehicles and lawn mowers. Turtles with minor injuries, such as damage to the outer rim of the shell, should be left where they were found. Turtles are resilient and should recover from most minor injuries. Major injuries, such as a large open wound or cracked shell, need care from a wildlife rehabilitator or veterinarian. The Wildlife Division maintains a list of volunteer wildlife rehabilitators who care for reptiles and amphibians. The list can be obtained from the DEP Web site at www.ct.gov/dep/wildlife (click on "Nuisance/Distressed Wildlife"), or by calling the Division's Hartford office at 860-424-3011.



"Top 25 Turtles in Trouble" Interactive Flip Cards Now Available

In February 2011, the Turtle Conservation Coalition released the report "Turtles in Trouble: The World's 25+ Most Endangered Tortoises and Freshwater Turtles." A set of online informational flip cards was recently released that focus on the Top 25 species in the report. You will find a photo of each species on the front of these interactive cards, and an overview of the species' status, global distribution, and information on the threats to each species on the reverse side. These cards may be accessed on the Partners in Amphibian and Reptile Conservation (PARC) Web site at parcplace.org/YOT_flip_cards/index.html.

The first place winning entries in the Turtle Art Contest for Kids will be featured in the September/October issue of Connecticut Wildlife.

Painted Turtle

Chrysemys picta picta.

Description

Painted turtles are commonly found around quiet bodies of water. These brightly colored turtles gain their name from colorful markings along the head, neck, and shell. They often can be observed basking on logs and rocks around a body of water and will quickly scoot into water if threatened or disturbed.

The medium-sized painted turtle can be distinguished by its dark shell, which has olive lines running across the carapace (upper shell), dividing the large scutes (scales). The margin of both the carapace and plastron (bottom shell) have black and red markings. The head, neck, and limbs have yellow stripes. The plastron is typically yellow, but may be stained a rust/red color. Males can be distinguished from females by their long front claws, long tail, and smaller size. The carapace of adults usually measures from 4.5 to six inches in length.

Range

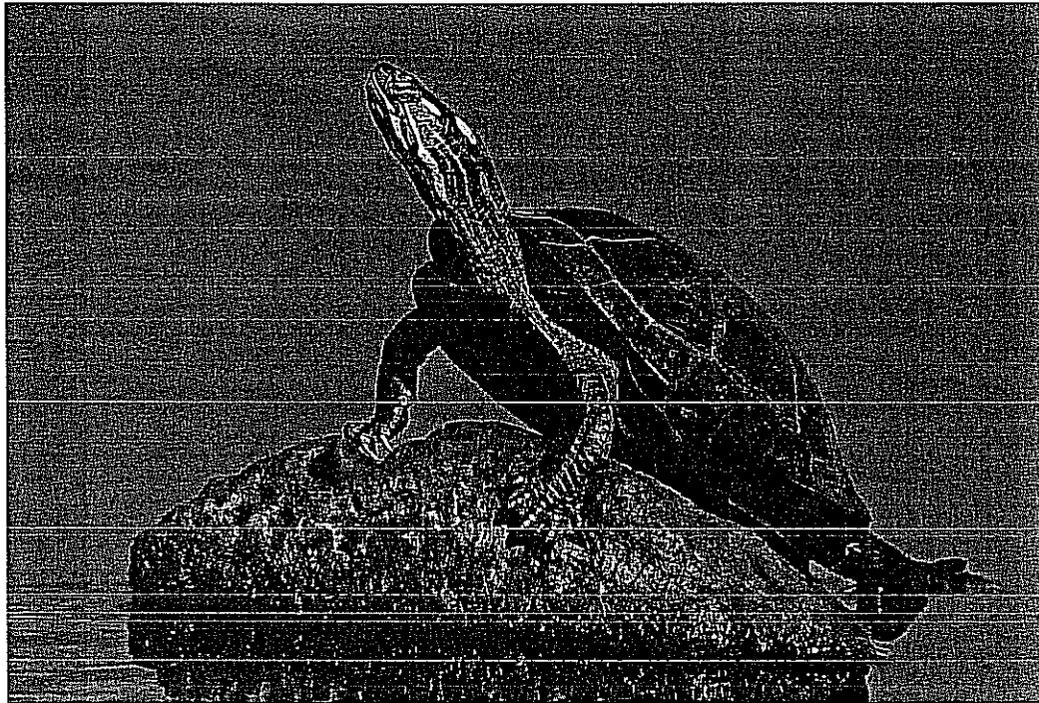
The painted turtle is the most widely distributed North American turtle, and the only one with a range across the entire continent. This species ranges from coast to coast through the northern United States and southern Canada, south to the Gulf of Mexico from Louisiana to southwestern Alabama.

The painted turtle is Connecticut's most numerous turtle species. There are four subspecies of painted turtles in the United States. Two subspecies, the eastern painted turtle (*Chrysemys picta picta*) and the midland painted turtle (*Chrysemys picta marginata*), are closely related. As subspecies, they can and do interbreed to produce offspring known as "intergrades." While Connecticut is home to only one – the eastern painted turtle – intergrades do occur throughout the state, probably as remnants from the retreating glaciers, but are more prevalent west of the Connecticut River.

Life History

The breeding period for painted turtles is from March to mid-June, with peak breeding time in April. Males perform an elaborate mating ritual. They face the females and wave their long front claws. After breeding, the females will leave the water to dig a nest to deposit their eggs. Eggs are laid sometime between May and July. The nest is usually within a few yards of water, but may be up to a half mile away. Females may travel significant distances, crossing roads, to find optimal nesting sites. The nest is a flask-shaped cavity in the ground. After the eggs (2 to 11, but typically 5 to 6) are deposited, they are covered with layers of soil and left to develop on their own. Females may lay two clutches per year. The incubation period is 72 to 80 days.

The sex of the young is determined by the temperature of the nest; cooler temperatures favor males, warmer temperatures



favor females. The hatching period is late August to early September. Young turtles from late clutches may overwinter in the nest, emerging in spring. After emerging from the nest, the young instinctively seek out the security of water.

Nests are often preyed upon by raccoons and skunks. Sometimes 90% or more of turtle nests are lost to predators. The young also are taken by raccoons, skunks, foxes, herons, other birds, snakes, and large predaceous fish. The adults are rarely taken by predators.

Painted turtles are thought to live between 20 to 40 years and reach sexual maturity at approximately 10 years of age.

Habitat and Diet

Primarily aquatic, painted turtles inhabit quiet shallow pools, rivers, lake shores, wet meadows, bogs, and slow-moving streams. They prefer pools with suitable basking sites and a soft, muddy bottom that is rich in aquatic vegetation. The turtles are commonly observed basking on rocks and logs, even on top of one another. Opportunistic, painted turtles can be found in brackish tidal waters and salt marshes. The turtles spend the winter hibernating in mud or decayed vegetation on pond bottoms, emerging earlier than other turtles, typically in March. This omnivorous turtle feeds only under water on aquatic plants, aquatic insects, crayfish, snails, small fish, tadpoles, mussels, and carrion.

Conservation Concerns

Being hit by vehicles while crossing roads is a significant source of mortality to this species. The turtles crossing roads are often gravid (pregnant) females searching for nesting sites.

There is concern that native painted turtles are facing competition for food and basking sites from non-native red-eared sliders (*Trachemys scripta elegans*) that have been released into the wild by pet owners who no longer want to care for these exotic pets.

Spotted Turtle

Clemmys guttata

Description

The spotted turtle is characterized by a smooth, bluish-black carapace (top shell) with yellow-orange spots. The carapace is made up of a combination of scales (scutes) and bones, and it includes the ribs and much of the backbone. This turtle is sometimes referred to as the "polka-dot turtle," as the number of spots can range from a single dot to multiple dots per scute. The plastron (bottom shell) is yellowish-tan with dark markings. The sides of the head and chin are often marked with reddish-orange to yellow blotches, and the forearms may also be bright orange.

Spotted turtles are small, only growing to about 4.5 inches in length and weighing between one half to three-quarter pounds. Males are distinguished by a tan chin, brown eyes, concave plastron, and a longer, thicker tail. Females have a more domed shell, yellow chin, and orange eyes. Hatchling spotted turtles are one to 1.5 inches long when born.

Range

The spotted turtle has a somewhat disjunct range in North America. It occupies the eastern portion of the Great Lakes region from Ontario south to Illinois and west to Michigan. It also is found along the eastern seaboard from southern Maine south to Florida.

Habitat and Diet

Spotted turtles are found throughout the Connecticut lowlands, close to slow-moving bodies of water. They use shallow water bodies, including unpolluted bogs, pond edges, ditches, marshes, fens, vernal pools, red maple swamps, and slow-moving streams. Water bodies with a soft, murky bottom and abundant aquatic vegetation are preferred. Spotted turtles will seek out other wetlands if their habitat becomes unsuitable. Upland habitats also are used for nesting, aestivating, and travel corridors between wetlands.

The spotted turtle is omnivorous, feeding on aquatic plants, small fish, snails, worms, slugs, spiders, tadpoles, and small crustaceans. Interestingly, this species will only feed under water.

Life History

Spotted turtles emerge from hibernation in early spring, usually in March, and begin looking for mates. After breeding, the females leave the breeding pools in search of nesting areas. They may travel a good distance and, in many instances, are killed when crossing roads. Preferred nesting sites are generally located in open, upland habitats, such as a meadow, field, or the edge of a road. The female digs a nest cavity with her hind legs and feet, and then lays about three to four eggs.



P. J. FUSCO

She covers the eggs with soil, smoothing it over by dragging her body over the ground. The eggs hatch in mid-September through October, but some hatchlings may overwinter in the nest and surface the following spring. Sex of the hatchlings is determined by the temperature and humidity of the nest.

Due to this turtle's small size, predation is high, especially for hatchlings. Mammals, such as raccoons and muskrats, often prey on spotted turtles, as do some birds and predaceous fish. Spotted turtles are thought to live 25 to 50 years and reach sexual maturity at eight to 10 years of age.

Spotted turtles are active only during daylight, and spend the night under water on the pond bottom. They are often seen basking on logs or rocks during spring and summer, but may retreat to an aquatic or terrestrial spot (under the leaf litter) when there is intense heat. This summer "hibernation" is called aestivation.

Conservation Concerns

The spotted turtle is not a state-listed species but is recognized by experts as declining in Connecticut. The isolation and decline of populations are attributed to collection for the pet trade industry; the alteration, loss, and fragmentation of habitat; habitat succession; road mortality; and predation. Relatively low reproductive rates, coupled with the above-mentioned threats, make spotted turtles extremely susceptible to population declines. They are sensitive to pollution and toxic substances, and will disappear rapidly from habitats with declining water quality.

Mortality associated with crossing roads is especially problematic given that the turtles that cross roads are often pregnant females in search of a nesting site.

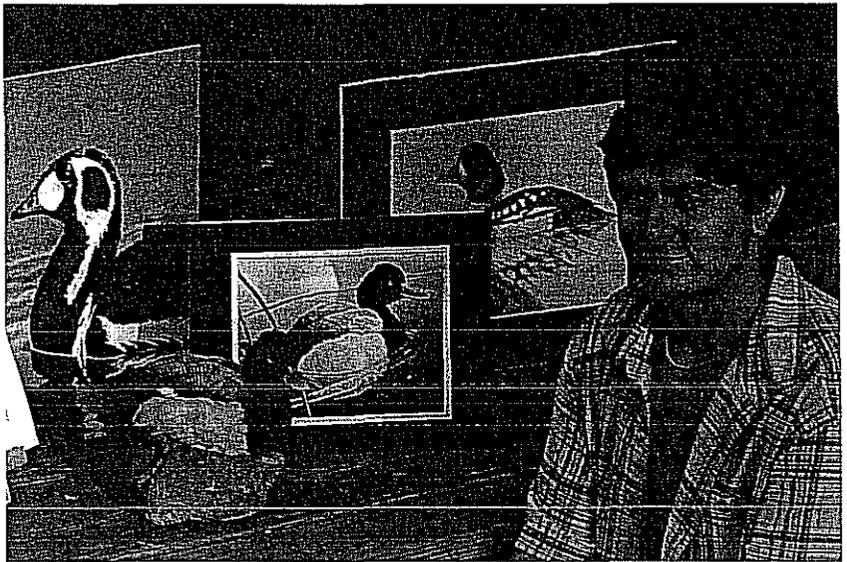
Every individual turtle collected from the wild to become a pet has a profound effect because each turtle removed is no longer able to be a reproducing member of that population.

Second Place in Nationals for CT Junior Duck Stamp Artist

Every year, the Connecticut Waterfowlers Association (CWA) sponsors the Junior Duck Stamp competition for young Connecticut artists. Members of CWA judged over 125 entries received this year in four groups from kindergarten through grade 12 and chose, as Best of Show, an oil on canvas painting of a drake lesser scaup by 17-year-old Matthew Messina, of Avon. As a student of well-known wildlife artist Kathy Goff, Matthew has been studying drawing, painting, and sculpting animals and birds at the Farmington Valley Arts Center in Avon. His painting took first place in Group IV, which includes students in grades 10-12. Matthew's painting was sent to the U.S. Fish and Wildlife Service to compete in the 2011 Junior Duck Stamp Art Contest, and it was awarded with second place in the national competition.

Matthew has created winning entries for the Connecticut Junior Duck Stamp Program for the past two years. He chose to paint the lesser scaup for his Duck Stamp entry this year because of its expression and pattern. A beautifully mounted scaup was used as a model for Matthew's painting. He plans to study ecology, wildlife conservation, and the arts in college.

The Connecticut Waterfowlers Association presented Mat-



thew with a framed 2006 Junior Duck Stamp print at the CWA Annual Spring Dinner to recognize his accomplishment. Congratulations to Matthew on his achievement, and to all of the Connecticut junior artists who participated in the Connecticut Junior Duck Stamp Competition.

Thank you to Kathy Goff for contributing to this article.

What Is the Junior Duck Stamp Program?

The Junior Duck Stamp Program exposes hundreds of thousands of youth each year to wetlands, National Wildlife Refuges, and art concepts. The Junior Duck Stamp Conservation and Design Program is a dynamic art and science program designed to teach wetlands habitat and waterfowl conservation to students in kindergarten through high school and help reconnect youth with the outdoors. The program guides students, using scientific and wildlife observation principles, to communicate visually what they have learned through an entry

into the Junior Duck Stamp art contest.

The first place design from the national contest is used to create a Junior Duck Stamp for the following year. Junior Duck Stamps are sold by the U.S. Postal Service for \$5 each. Proceeds support conservation education and provide awards and scholarships for the students, teachers, and schools that participate in the program.

More information about the Junior Duck Stamp Program is on the U.S. Fish and Wildlife Service Web site at www.fws.gov.

The Wildlife Observer



Do you have an interesting wildlife observation to report?

Please send your story with photos to:

Wildlife Observations, DEP Wildlife,
P.O. Box 1550, Burlington, CT 06013, or
e-mail: dep.ctwildlife@ct.gov

Paul Natoli, from New Milford, sent in a photograph of five bluebird chicks that hatched in a backyard bluebird nest box in early May. Paul wrote: "As a project during this long winter, I built this nestbox with my children (5 and 3 years old). During late winter, we put the nest box in our yard and it did not take long for bluebirds to start building the nest. To keep my kids involved with the progress, we would check on the nest every other day. I feel it is important to remind parents to keep their kids involved with nature instead of sitting in front of a TV or playing video games. I see many kids today that don't have a clue about nature and wildlife and/or do not appreciate it. Thanks for the good work that you do."



Subscribe to DEP's Free E-newsletters

The DEP launched two free electronic newsletters in April 2011 for the business community and municipal officials. Subscribers to *Your Business and the Environment* and *Your Local Environment* will receive updates on new policies, programs, regulations and laws, grants and funding opportunities, and "success stories," among other topics.

The DEP also publishes several other E-newsletters, such as *Sound Outlook* (Long Island Sound topics and issues), *P2 View* (pollution prevention), and *The Torrent* (floodplain management).

If you are interested in receiving any of these newsletters electronically, go to www.ct.gov/dep/newslettersubscription to sign up. You will only be sent the newsletters you sign up for and you can unsubscribe at any time.

20th Annual CT Envirothon Competition at Rocky Neck State Park

The morning started out cloudy and rainy, but the sun broke through during the afternoon as the 20th Annual Connecticut Envirothon competition took place on May 19, 2011, at Rocky Neck State Park in East Lyme. Forty-three teams representing 28 high schools and one home school registered for the event. Teams, which were comprised of five students each, took exams in five environmental subjects, including wildlife, forestry, soils, aquatics, and a current issue (coastal marshes and estuaries). The team with the highest cumulative test scores in the five subject areas wins first place standing.

Teams arrived early in the morning at the Rocky Neck State Park pavilion and the competition started promptly at 8:00 AM. Teams walked to five different testing stations scattered throughout the park where they took written and practical tests at four of the stations and gave an oral presentation at the "current issue" station.



The Envirothon Team from Housatonic Valley Agriscience earned first place in the 2011 Envirothon competition.

The team from Housatonic Valley Agriscience finished in first place this year. Housatonic Valley Regional High School placed second, while Litchfield High School placed third.

Peter Picone, DEP Wildlife Division (Chair of the wildlife station for 19 of the 20 years of the Connecticut Envirothon.)

Connecticut Hunting & Fishing Appreciation Day

September 24, 2011, is Connecticut Hunting & Fishing Appreciation Day at Sessions Woods Wildlife Management Area in Burlington. This free event, which is sponsored by the Friends of Sessions Woods and the Wildlife Division, celebrates the contributions of hunters and anglers to the conservation of Connecticut's natural resources. Fun activities for all ages are planned, along with educational programs and workshops about hunting and fishing. Anyone interested in fish and wildlife, not just hunting and fishing, is encouraged to attend this fun and informative event. Best of all, it is free to attend!

So, mark your calendar. Come practice your shooting and casting skills. Talk to DEP biologists about wildlife and fisheries. Learn some tips about getting that big buck or hooking that monster bass. Be sure to bring the kids and grandkids. Older children will be able to test their skills on the rifle and archery ranges and perhaps win some prizes. Younger children will be able to enjoy playing games, learning about wildlife, and making crafts. Food will be available for sale. But, if you want, bring your own lunch to enjoy. Activities will begin at 10:00 AM and continue throughout the day until 4:00 PM.

A list of specific activities and presentations, as well as a schedule for the day, will be posted on the DEP Web site at www.ct.gov/dep/HuntFishDay as the date approaches. You may also contact the Sessions Woods office at 860-675-8130 (Mon.-Fri., 8:30 AM-4:30 PM) for more information. The Sessions Woods Wildlife Management Area is located at 341 Milford Street (Route 69), in Burlington.



Wildlife Division Staff Notes

Besides the retirement of biologist Julie Victoria in July (see page 10), the Wildlife Division also has said good-bye to three other staff members.

Wildlife technician Carrie Pomfrey, who worked on the Beaver and Deer Damage Programs, moved back to her home state of Virginia to work as wildlife biologist at Fort A.P. Hill in Virginia. Fort A.P. Hill which is located east of Fredericksburg, about half way between Washington D.C. and Richmond, has 76,000 acres of land primarily used for military training. Carrie is involved with wildlife habitat management of the property and is working on several wildlife research projects.

Wildlife technician Christina Kocer, who worked with small mammals and bats, is now the White-nose Syndrome National Assistant Coordinator with the U.S. Fish and Wildlife Service in Hadley, Massachusetts. She is assisting the National Coordinator in facilitating the activities of a multi-agency white-nose syndrome (WNS) investigation. WNS is a disease that is responsible for the unprecedented die-off of over one million bats throughout the eastern region of North America since its discovery in 2007. The disease is rapidly spreading west.

Clerk Lauren Pasniewski, who worked for the Conservation Education/Firearms Safety (CE/FS) Program at the Division's Sessions Woods office, took a new position with Massachusetts Audubon. Lauren had worked closely with the volunteer CE/FS instructors, ensuring that class supplies were available and students received their hunting safety certificates.

Their colleagues at the Wildlife Division wish them well in their new career endeavors.

Calendar of Events

- May-August..... Respect fenced and posted shorebird nesting areas when visiting Connecticut beaches. Also, keep dogs and cats off shoreline beaches to avoid disturbing nesting birds. Herons and egrets are nesting on offshore islands in Long Island Sound. Refrain from visiting these areas during the nesting season.
- Dispose of fishing line in covered trash containers or specifically marked recycling receptacles. Improperly discarded fishing line is a hazard for wildlife. A list of recycling receptacle locations is available at www.ct.gov/dep/whatdoidowith.
- Aug. 13-14 **44th Annual Sharon Audubon Festival**, at the Sharon Audubon Center, located on Route 4 in Sharon. The festival features two days of various nature programs and hikes throughout the Audubon property, live animal presentations, musical performances, vendors, food, and more. Gates are open from 9:30 AM-5:30 PM, and admission will be charged. For more information, contact the Audubon Center at 860-364-0520 or www.sharon.audubon.org.
- September Report use of bluebird nest boxes by sending in a Bluebird Nest Box Survey card to the Wildlife Division. Cards are available by calling 860-675-8130.
- Sept. 24 National Hunting and Fishing Day and Connecticut Hunting & Fishing Appreciation Day.

Programs at the Sessions Woods Conservation Education Center

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

- Aug. 6 **Dragonfly Walk**, starting at 1:00 PM. Join Master Wildlife Conservationists Carol and Henry Perrault for an exciting look into the world of dragonflies. Henry and Carol will introduce participants to dragonfly natural history and identification in this two-mile round trip visit to the beaver marsh at Sessions Woods.
- Sept. 24 **Connecticut Hunting & Appreciation Fishing Day**. See page 22 for more information.

Great Park Pursuit Outdoor Recreation Challenge Family Days

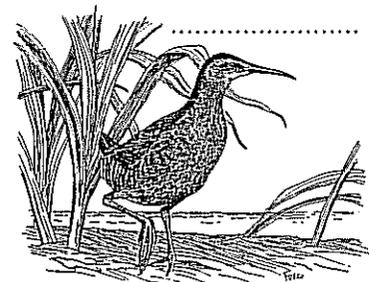
The DEP is hosting a series of Great Park Pursuit Outdoor Recreation Challenge Family Days, which are themed around various outdoor recreational activities. Go to www.nochildleftinside.org to learn more about the Challenge.

- Aug. 13 **Family Swimming Day** from 9:00 AM – 3:00 PM. Check the Web site (www.nochildleftinside.org) to find out the location.
- Sept. 10-11 **Family Camping Day**. Check the Web site (www.nochildleftinside.org) to find out the location.
- Oct. 8 **Family Biking Day** from 9:00 AM – 3:00 PM. Check the Web site (www.nochildleftinside.org) to find out the location.

Hunting and Fishing Season Dates

- Sept. 1-30 Early squirrel season.
- Sept. 15-Nov. 15 First portion of the deer and turkey bowhunting season on state land (season extends until Dec. 31 on State Land Bowhunting Only Areas).
- Sept. 15-Dec.31 Deer and turkey bowhunting season on private land (private land bowhunters in deer management zones 11 & 12 may hunt deer until January 31, 2012).
- Consult the 2011 Connecticut Hunting and Trapping Guide and 2011 Angler's Guide for specific season dates and details. Printed guides are available at more than 350 locations statewide -- including town halls, bait and tackle shops, DEP facilities, and commercial marinas and campgrounds. The guides also are available on the DEP Web site (www.ct.gov/dep/hunting or www.ct.gov/dep/fishing). Go to www.ct.gov/dep/sportsmenlicensing to purchase Connecticut hunting, trapping, and fishing licenses. The system accepts payment by VISA or MasterCard.

Connecticut Wildlife



Subscription Order

Please make checks payable to:
Connecticut Wildlife, P.O. Box 1550, Burlington, CT 06013

Check one:

- 1 Year (\$8.00) 2 Years (\$15.00) 3 Years (\$20.00)

Name: _____

Address: _____

City: _____ State: _____

Zip: _____ Tel.: _____

Check one:

- Renewal
 New Subscription
 Gift Subscription

Gift card to read: _____

Donation to the Wildlife Fund:

\$ _____

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



Request for Authorization Form for General Permits Administered by the Inland Water Resources Division Including:

DEP USE ONLY	
App. No.	_____
Co./Ind. No.	_____

- General Permit For Habitat Conservation (DEP-IWRD-GP-003)
- General Permit For Lake, Pond and Basin Dredging (DEP-IWRD-GP-004)
- General Permit For Utilities and Drainage (DEP-IWRD-GP-005)
- General Permit For Minor Structures (DEP-IWRD-GP-006)
- General Permit For Minor Grading (DEP-IWRD-GP-007)
- General Permit For Dam Safety Repair and Alteration (DEP-IWRD-GP-008)

Notice to Requesters: Please complete this form in accordance with the instructions (DEP-IWRD-INST-003-008) to ensure the proper handling of your request for authorization. Print or type unless otherwise noted. You must submit the *Permit Application Transmittal Form* (DEP-APP-001) and the applicable total fee with this form.

Notice to Municipal Agencies: This is a request for authorization submitted to the Department of Environmental Protection (DEP) pursuant to CGS Section(s) 22a-45a (Inland Wetlands and Watercourses), 22a-349a (Stream Channel Encroachment Lines), 22a-378a (Diversion of Water), or 22a-411 (Dam Safety). In accordance with such sections, the municipal agencies listed in Part VIII of this request for authorization and any other person, may submit written comments to DEP concerning the activities described herein no later than **thirty-five days** after the date this request for authorization was submitted to such agencies or DEP, whichever date is later. **All correspondence regarding this request for authorization must identify the name of the requester and the name of the general permit (see above).** No activity is authorized under these general permits unless it is approved, in writing, by the Commissioner of DEP.

Submit *comments* to: INLAND WATER RESOURCES DIVISION
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Call the Inland Water Resources Division General Permit Program should there be any questions: 860-424-3019 or 860-424-3706, Monday through Friday, except holidays, from 8:30am to 4:30pm.

Part I: Requester Information

1. Fill in the name of the applicant(s)/requester(s) as indicated on the *Permit Application Transmittal Form* (DEP-APP-001):

Applicant/Requester: **University of Connecticut**

Mailing Address: **31 LeDoyt Road**

City/Town: **Storrs**

State: **CT** Zip Code: **06269**

Business Phone: **860.486.4925**

ext. _____ Fax: **860.486.1213**

Contact Person: **Chris Renshaw**

Title: **Firefighter**

- Enter a check mark if there are co-requesters. If so, label and attach additional sheet(s) with the required information as supplied above.

Part II: General Permit Type and Fee Information

Enter a check mark in the appropriate box(es) to indicate the activity(ies) which is(are) the subject of this request for authorization and the program that applies to each activity. Please complete one request for authorization form for each site. Each site may encompass several activities. The fee for each activity is \$1000.00, unless otherwise indicated. For municipalities, the 50% discount applies. The request for authorization will not be processed without the total fee. Please enter the fee for each activity and the total fee submitted in the spaces provided.

4 Proposed Activity	This request for authorization is for 4 (check each program that applies):				Fee
	State Action Inland Wetlands (CGS 22a-45a) (No Fee)	Stream Channel Encroachment Lines (CGS 22a-349a)	Water Diversion (CGS 22a-378a)	Dam Safety (CGS 22a-411)	
Habitat Conservation (DEP-IWRD-GP-003)					
<input type="checkbox"/> Placement of boulders w/in stream channels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Installation of fisheries enhancement structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Removal of invasive species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Beaver management activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Streambank stabilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lake, Pond And Basin Dredging (DEP-IWRD-GP-004)					
<input type="checkbox"/> Dredging of lakes and ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Dredging of sedimentation, detention or retention basins	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Utilities And Drainage (DEP-IWRD-GP-005)					
<input type="checkbox"/> Placement, repair or replacement of cables, conduits and pipelines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Placement, repair or replacement of support structures for overhead cables or wires	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Drainage system maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No Fee
<input type="checkbox"/> Repair or replacement of culverts or bridges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Installation of small storm drainage systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Repair or installation of septic systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Construction of permanent irrigation systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Construction of temporary irrigation systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Installation of water monitoring structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> Installation of dry hydrants	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 Proposed Activity	This request for authorization is for 4 (check each program that applies):				

	State Action Inland Wetlands (CGS 22a-45a) (No Fee)	Stream Channel Encroachment Lines (CGS 22a-349a)	Water Diversion (CGS 22a-37Ba)	Dam Safety (CGS 22a-411)	Fee
Minor Structures (DEP-IWRD-GP-006)					
<input type="checkbox"/> Construction of a post supported structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Construction of hoop houses and green houses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Placement of structures on land whose elevation is above the stream channel encroachment line base flood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Demolition of an existing structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Backfilling of foundations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Construction of minor additions to an existing facility for the purpose of providing handicap accessibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Flood proofing of existing structures (including elevating structures in accordance with FEMA standards)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Construction of structural appurtenances to an existing structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Installation of permanent fencing that is open to flood flows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Installation of permanent solid wall fencing closed to flood flows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Minor Grading (DEP-IWRD-GP-007)					
<input type="checkbox"/> Minor landscaping, construction of paths, trails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Plan for the maintenance of boat launch facilities and beaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No Fee
<input type="checkbox"/> Grading for temporary access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Wetland creation or enhancement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Roadway widening	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Construction of nature access structures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

4 Proposed Activity	This request for authorization is for 4 (check each program that applies):				Fee
	State Action Inland Wetlands (CGS 22a-45a) (No Fee)	Stream Channel Encroachment Lines (CGS 22a-349a)	Water Diversion (CGS 22a-378a)	Dam Safety (CGS 22a-411)	
Dam Safety Repair and Alteration (DEP-IWRD-GP-008)					
<input type="checkbox"/> Installation of riprap erosion protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Installation or restoration of embankment fill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/> Repair or alteration of structural components of a dam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Total fee submitted with this request for authorization					\$1000

Part III: Authorization Type

If this request is for a renewal of an approval of authorization, you *must* complete Parts I through III and Parts VIII and IX; complete the remaining parts of the form *only* if it is different than your previous submittal. Please provide the following:

Permit or Authorization Number(s)	Expiration Date:	Description of Activity
-----------------------------------	------------------	-------------------------

Part IV: Associated Party Information

1. List primary contact for departmental correspondence and inquiries, if different than the requester.

Name: **University of Connecticut Fire Department-Storrs**

Mailing Address: **126 North Eagleville Road**

City/Town: **Storrs**

State: **CT** Zip Code: **06269**

Business Phone: **860.486.4925**

ext. Fax: **860.486.1213**

Contact Person: **Chris Renshaw**

Title: **Firefighter**

2. List attorney or other representative, if applicable.

Firm Name:

Mailing Address:

City/Town:

State: Zip Code:

Business Phone:

ext. Fax:

Attorney:

3. Owner of the property or facility, if different than the requester:

Name:

Mailing Address:

City/Town:

State: Zip Code:

Business Phone:

ext. Fax:

Contact Person:

Title:

Requester's interest in the subject property:

option holder lessee other (specify): **Property conservation**

4. List consultant(s) employed or retained to assist in preparing the request for authorization or in designing or constructing the activity. Please enter a check mark if additional sheets are necessary, and label and attach them to this sheet.

Name: **Connecticut Department of Environmental Protection-Forestry**

Mailing Address: **79 Elm Street**

City/Town: **Hartford**

State: **CT** Zip Code: **06106**

Business Phone: **860.295.9523**

ext. Fax:

Contact Person: **Will Hochholzer**

Title:

Service Provided: **Wetlands Delineation**

Part V: Site Information

1. Site Location:

- a. Name of facility, if applicable: **University of Connecticut 'Depot Campus'**

Street Address or Description of Location: **Adjacent to the Bergin Correctional Institution located at 251 Middle Turnpike.**

City/Town: **Storrs**

State: **CT**

Zip Code: **06268**

Project No., if applicable:

- b. Tax Assessor's Reference: Map Block Lot

(Assessor's reference is not required if requester is an agency of the State of Connecticut.)

- c. Latitude and Longitude of the approximate "center of the site" in *degrees, minutes, and seconds*:

Latitude: **41°48'35.5896"**

Longitude: **-072°18'01.8000"**

Method of determination (check one): GPS USGS MAP Other

If a USGS Map was used, provide the quadrangle name:

- d. In case of an existing dam structure, the CT Dam Inventory Number:

2. Name of the wetland or watercourse involved with or adjacent to the subject activity:

Un-named tributary to the Willimantic River

3. Is the subject activity located in a public water supply watershed? Yes No

If yes, provide the name of the water utility:

4. Is the activity which is the subject of this registration located within the coastal boundary as delineated on DEP approved coastal boundary maps? Yes No

If yes, and this registration is for a new authorization under the general permit or for a modification of an existing general permit, you must submit a *Coastal Consistency Review Form* (DEP-APP-004) with your registration as Attachment C.

For forms or assistance, please call the Permit Assistance Office at 860-424-3003.

5. Is the project site located within an area identified as a habitat for endangered, threatened or special concern species as identified on the "State and Federal Listed Species and Natural Communities Map"? Yes No

Date of Map: **12/1/2010**

If yes, complete and submit a *Connecticut Natural Diversity Data Base (CT NDDB) Review Request Form* (DEP-APP-007) to the address specified on the form.

When submitting this request for authorization, please include copies of any correspondence to the NDDB, including copies of the completed CT NDDB Review Request Form, any field surveys, and any other information which may lead you to believe that endangered or threatened species may or may not be located in the area of your existing or proposed permitted activity, as Attachment D.

Has a field survey been conducted to determine the presence of any endangered, threatened or special concern species? Yes No If yes, provide:

Biologist's Name: **The NDDB was reviewed and the project is not located**

Address: **within a shaded area for a state listed sp.**

and submit a copy of the field survey with your application as Attachment D.

Part V: Site Information (cont.)

6a. Is the subject activity within a watercourse or floodplain? Yes No

If yes: Provide the land surface area draining to the site of the subject activity:

 acres or square miles

6b. Will the subject activity be within a FEMA floodway? Yes No

- (i) If yes, and the subject activity is the construction of a culvert or a bridge, submit, as Attachment E, the certification by a licensed engineer, together with the hydraulic analysis in support thereof, that such culvert or bridge is designed in accordance with accepted engineering practices and conforms to the applicable flood management standards and criteria under 44CFR Chapter 1, Part 59 through 79, inclusive.
- (ii) If the requester has a Flood Management (FM) Certification for the subject activity, provide the FM certification number:

7. Existing Conditions

a. Describe the present and intended use(s) of the property on which the subject activity is proposed.

Presently the proposed location provides storm water detention and serves as a local recreational fishing area. The intended use of the location is to maintain the present use, as well as equip the water source with a dry hydrant strictly for emergency fire protection.

Check if additional sheets are attached to this page.

b. Describe all natural and man-made features including wetlands, watercourses, fish and wildlife habitat, floodplains and any existing structures potentially affected by the subject activity. Such features should be depicted on the site plan (*Attachment B*). In the case of maintenance and repair or improvements to an existing dam, describe the condition of the structure which necessitates such work.

The site is home to two man-made ponds with the existence of maintained earthened burms and dams (numbered 7801 and 7802). The upper pond is the location of the proposed dry hydrant. It is bordered by a small fringe of wetland soil and associated vegetation and is surrounded by maintained lawn. The pond has a concrete drainage pipe for runoff from the nearby driveway and a small wooden fishing platform, approximately 10 feet from the proposed excavation site. These structures, including the earthen burm and dam will not be disturbed.

Check if additional sheets are attached to this page.

Part VI: Project Summary

1. Regulated Activity

Describe the activity which is the subject of this request for authorization including the reason for conducting or maintaining the activity. If the subject activity is to be conducted on an existing dam, describe the specific nature and location of maintenance, repair or improvement activities relative to the dam structure itself.

The activity includes the installation of a fire protection dry hydrant for emergency water supply and will serve as a model in cooperation with the Department of Energy and Environmental Protection on correct installation and maintenance of dry hydrants for state-wide fire and public works representatives with the goal of achieving improved Insurance Services Office (ISO) ratings.

Check if additional sheets are attached to this page.

2. Initiation of Activity

When does the requester plan to initiate construction of the subject activity?

Fall 2011

3. Construction Activity Details

Provide the following information about the subject activity's impact on wetlands, watercourses or floodplains (all such details must also be depicted on the site plan included in this request for authorization as *Attachment B*):

- a. Volume of proposed fill: <1* cubic yards
- b. Area of proposed fill: acres
- c. Volume of proposed excavation: 57.8 cubic yards
- d. Area of proposed excavation: ** acres
- e. Area of any clearing, grubbing of land, or other alteration of the land: .009 acres
- f. Describe the volume and area of any *temporary* fill, the purpose of such fill, and when it will be removed.

None.

***Strictly topsoil used to re-establish original grade and for re-seeding grass along the length of the disturbed ground above the dry hydrant pipe.**

****The material that will be excavated will be reused to backfill the trench after the pipe is installed to restore the work area's original grade.**

Check if additional sheets are attached to this page.

Part VI: Project Summary (cont.)

4. Plan for Maintenance of Boat Launch Facilities and Beaches

Provide the following information if the subject activity involves maintenance of boat launch facilities and beaches as described in Section 3(a)(2) of the General Permit for Minor Grading (DEP-IWRD-GP-007)

Include as Attachment F, a Plan for Maintenance of Boat Launch Facilities and Beaches.

Go to Part VII of this form; do not complete items (5) through (9) of Part VI.

5. Drainage Maintenance Plan

Provide the following information if the subject activity is drainage maintenance as described in Section 3(a)(3) of the General Permit for Utilities and Drainage (DEP-IWRD-GP-005).

Include as Attachment G, a Drainage Maintenance Plan.

Go to Part VII of this form; do not complete items (6) through (9) of Part VI.

6. New, Replaced Or Modified Drainage System(s)

Provide the following information if the subject activity involves the placement, replacement, or other modification of a drainage system:

- a. $Q_{10} =$ $V_{10} =$
Is energy dissipator or inlet/outlet protection provided? Yes No

Riprap/stone size:

Pad dimensions are:

If there is more than one pad, provide additional pad dimensions on a separate sheet.

Check if additional sheets are attached to this page.

- b. Include as Attachment H, adequate design computations which show that such activity is designed in accordance with accepted engineering practices and conforms to the applicable flood management standards and criteria, including standards for floodproofing of structures, established in Section 25-68d of the General Statutes and Sections 25-68h-1 through 25-68h-3, inclusive, of the Regulations of Connecticut State Agencies (RCSA).

7. Floodproofing of Structures

Have the structures been designed according to the standards for flood-proofing of structures established in the RCSA Sections 25-68h-1-3? Yes No

8. Activities Involving Dams

Provide the following information if the subject activity involves maintenance, repair or improvement of an existing dam, or construction of a low hazard dam as described in Section 3(a) of the General Permit for Dam Safety Repair and Alteration (DEP-IWRD-GP-008) (all such details must be depicted on the site plan, Attachment B):

- a. Include as Attachment I, an engineering report, as described in Section 4(c)(2)(L) of the General Permit for Dam Safety Repair and Alteration (DEP-IWRD-GP-008).

b. *Pond Characteristics:*

Surface area:

acres

Drainage area:

acres or

square miles

Volume at spillway elevation:

acre feet

Part VI: Project Summary (cont.)

c. *Dam Characteristics:*

Maximum height: _____ feet

Total length: _____ feet

Type of construction (e.g., earth, concrete masonry, timber etc.):

Type of spillway (e.g., weir, drop inlet, ogee, etc.):

d. *Fill in Watercourses:*

Does the subject activity involve placement of fill material in the existing brook, stream, river or impoundment? Yes No

If yes, describe the volume of such fill, its engineering characteristics and intended purpose:

Check if *additional* sheets are attached to this page.

9. Best Management Practices

Describe the pollution prevention and best management practices that will be implemented during construction and operation of the proposed activity to: minimize disturbance and pollution of floodplains, wetlands, and watercourses; maintain an uninterrupted stream flow; and prevent flooding or other environmental damage. Show erosion and sedimentation controls in Attachment B, include pretreatment of stormwater runoff.

The following BMP will be used in the installation of the dry hydrant:

Appropriate silt fencing with hay bales around excavation site to prevent erosion and also around removed fill before being reused in covering installed pipe. The silt fencing and hay bales will remain in place as appropriate until seeded grass is re-established.

On the access road to Bergin Correctional Facility, adjacent to the proposed site, filter fabric will be placed over the storm drain to prevent any influx of sediment from entering the waterbody during construction.

The appropriate removal of soil and sediment from the excavation equipment tires shall be performed before said equipment utilizes the roadways adjacent to the proposed site.

Care will be taken to protect the existing storm water drain pipe and wooden structure used for public recreational fishing during the construction process.

Check if additional sheets are attached to this page.

Part VII: Supporting Documents

In addition to the documents described in Parts V and VI of this form, your request for authorization must include a location map (*Attachment A*) and a site plan (*Attachment B*). For directions as to the information that should be depicted on such maps and plans, please review Section 4(c)(2) of the applicable general permits.

Please enter a check mark by the attachments as verification that *all* attachments have been submitted with this request for authorization form. When submitting any supporting documents, please label the documents as indicated in this part (e.g., *Attachment A, Location Map, etc.*) and be sure to include the requester's name as indicated on the *Permit Application Transmittal Form*.

- Attachment A: Location Map: A depiction, on an 8.5" x 11" copy of the relevant portion of the most recent version of the United States Geologic Survey topographic map (Scale 1:24,000), of the exact location of the property at which such activity will be conducted.
- Attachment B: Site Plan: please review Section 4(c)(2) of the applicable general permits:
- Attachment C: *Coastal Consistency Review Form* (DEP-APP-004), if applicable
- Attachment D: A copy of the NDDDB Review Request Form (DEP-APP-007) and the NDDDB response thereto, and any biologist's report on endangered, threatened or special concern species, if applicable.
- Attachment E: Certification of a licensed engineer, as described in Section 4(c)(2)(M) of the General Permit for Utilities and Drainage (DEP-IWRD-GP-005), for work involving the construction of culverts or bridges.

For guidance, please refer to *Model Hydraulic Analysis, Supplemental Guidelines for Preparing Hydraulic Analyses in Permit Applications Submitted to the Inland Water Resources Division* (DEP-IWRD-GUID-001, Rev. 02/13/02).
- Attachment F: Plan for Maintenance of Boat Launch Facilities and Beaches, as described in Section 3(a)(2) of the General Permit for Minor Grading (DEP-IWRD-GP-007), if applicable.
- Attachment G: Drainage Maintenance Plan, as described in Section 3(a)(3) of the General Permit for Utilities and Drainage (DEP-IWRD-GP-005), if applicable.
- Attachment H: Design Computations, as described in Section 4(c)(2)(L) of the General Permit for Utilities and Drainage (DEP-IWRD-GP-005), for work involving placement, replacement, or other modification of a drainage system.
- Attachment I: Engineering Report, as described Section 4(c)(2)(L) of the General Permit for Dam Safety Repair and Alteration (DEP-IWRD-GP-008) for work related to a dam.
- Attachment J: Other information provided by requester (list):

Part VIII: Notice to Municipal Agencies

You must submit a complete copy of your request for authorization to the municipal wetlands agency, zoning commission, planning commission or combined planning and zoning commission, and conservation commission of each municipality which is or may be affected by the subject activity. Enter the **names and addresses** of the municipal agencies which were provided a complete copy of your request for authorization, including all of its attachments, the date such copy was submitted, (Date of Service) and the Type of Service (check one). Note: the department can not authorize your proposed activity until thirty five (35) days after the date of your service to the municipal agencies.

Wetlands Agency:

Name: **Town of Mansfield Inland Wetlands Agency**

Address: **4 South Eagleville Road**

City/Town: **Storrs-Mansfield** State: **CT** Zip Code: **06268**

Date of Service: **7/28/2011** Type of Service: First class mail Certified mail Hand delivery

Conservation Commission:

Name: **Town of Mansfield Conservation Commission**

Address: **4 South Eagleville Road**

City/Town: **Storrs-Mansfield** State: **CT** Zip Code: **06268**

Date of Service: **7/28/2011** Type of Service: First class mail Certified mail Hand delivery

Planning Commission:

Name:

Address:

City/Town: State: Zip Code:

Date of Service: Type of Service: First class mail Certified mail Hand delivery

Zoning Commission:

Name:

Address:

City/Town: State: Zip Code:

Date of Service: Type of Service: First class mail Certified mail Hand delivery

Combined Planning and Zoning Commission:

Name: **Town of Mansfield Planning & Zoning Commission**

Address: **4 South Eagleville Road**

City/Town: **Storrs-Mansfield** State: **CT** Zip Code: **06268**

Date of Service: **7/28/2011** Type of Service: First class mail Certified mail Hand delivery

Check this box if the agencies of another municipality were served a copy of this request for authorization and attach to this page additional sheets listing the agency names and addresses where a copy of the request was mailed or delivered, the date of such service and the type of service used.

Part IX: Requester Certification

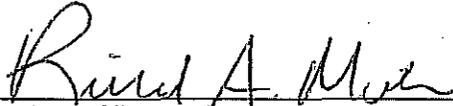
The requester *and* the individual(s) responsible for actually preparing the request for authorization must sign this part. A request for authorization will be considered incomplete unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.

I certify that this request for authorization is on complete and accurate forms as prescribed by the commissioner without alteration of the text.

I certify that a complete copy of this request for authorization, including all documents attached thereto, was sent by regular or certified mail or was hand delivered to the municipal wetlands agency, zoning commission, planning commission or combined planning and zoning commission, and conservation commission of each municipality which is or may be affected by the subject activity.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with Section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute."



Signature of Requestor

7/20/11

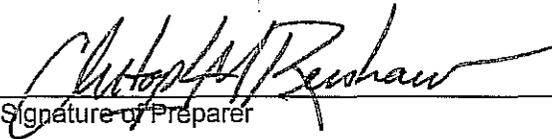
Date

Richard A. Miller

Name of Requestor (print or type)

Dir., Enviromental Policy

Title (if applicable)



Signature of Preparer

7/25/2011

Date

Chris Renshaw

Name of Preparer (print or type)

Firefighter

Title (if applicable)

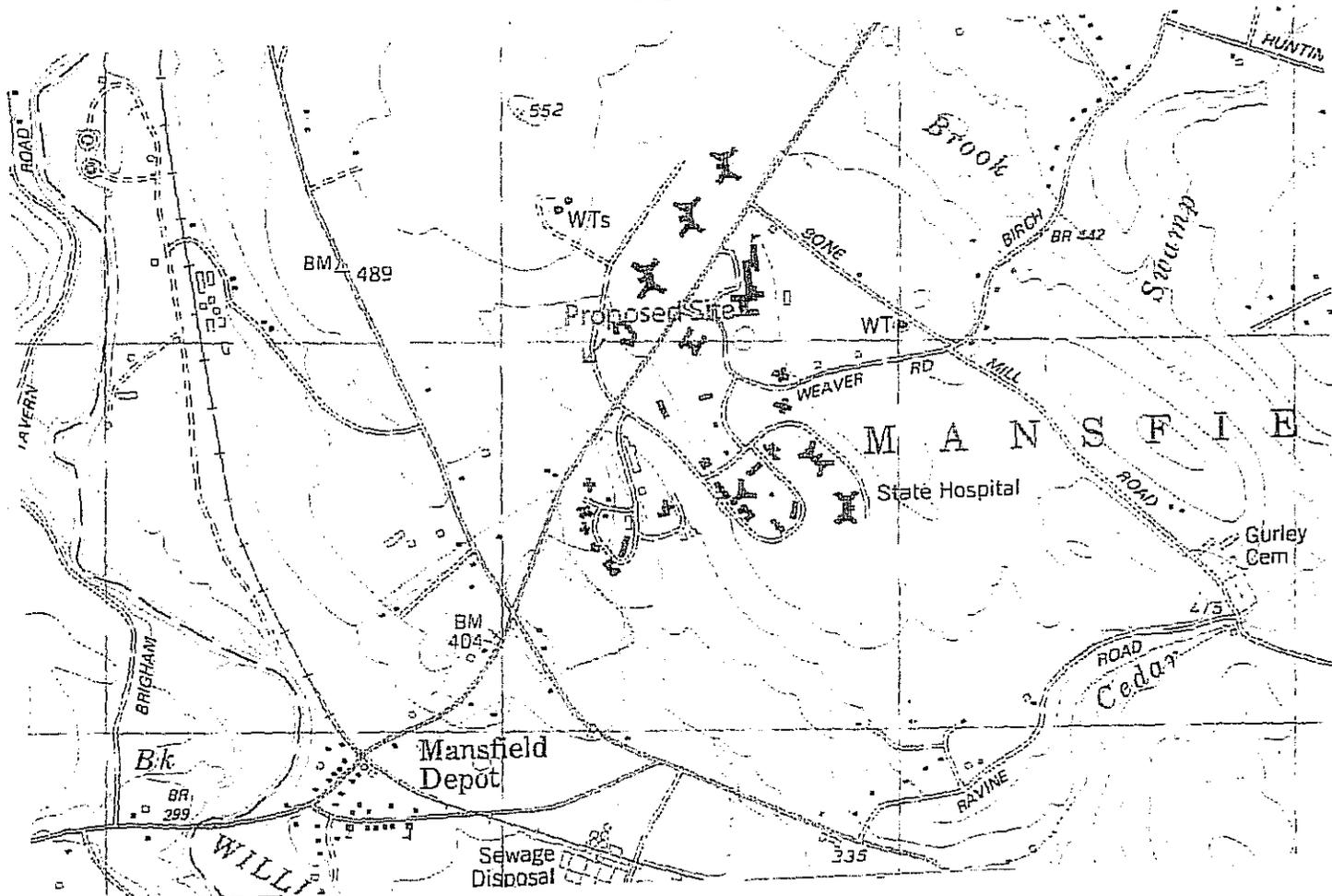
- Please enter a check mark if additional signatures are necessary.
If so, please reproduce this sheet and attach signed copies to this sheet.

Note: Please submit the total general permit fee and the original and two copies of your completed *Permit Application Transmittal Form* and *Request for Authorization Form* and all documents attached to and a part thereof to:

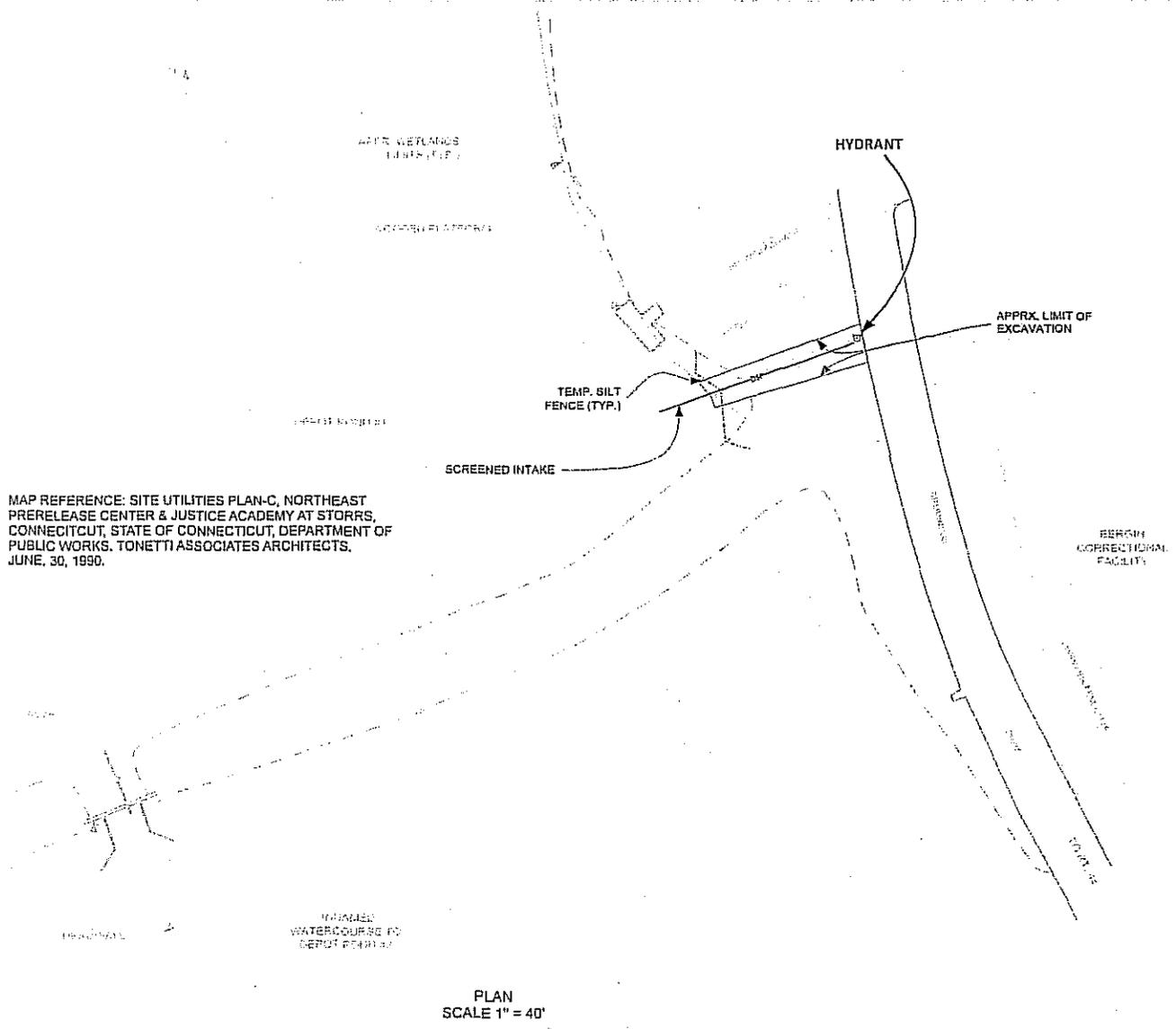
CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

And submit one complete copy of your completed *Request for Authorization Form* and all documents attached to and a part thereof to each municipal agency listed in Part VIII.

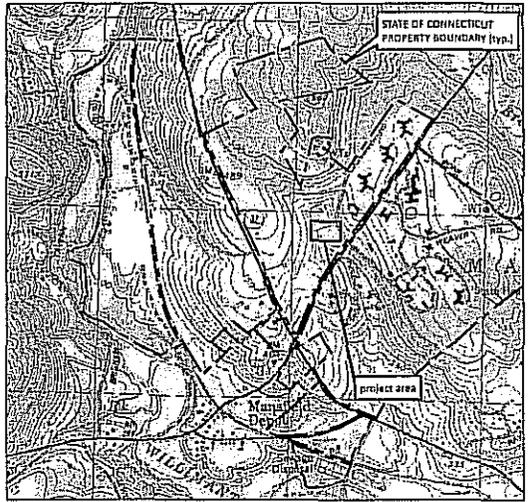
Attachment A
University of Connecticut Fire Department
Dry Hydrant Project
Site Location Map



USGS topographic map Scale 1:24,000



MAP REFERENCE: SITE UTILITIES PLAN-C, NORTHEAST PRERELEASE CENTER & JUSTICE ACADEMY AT STORRS, CONNECTICUT, STATE OF CONNECTICUT, DEPARTMENT OF PUBLIC WORKS, TONETTI ASSOCIATES ARCHITECTS, JUNE, 30, 1990.



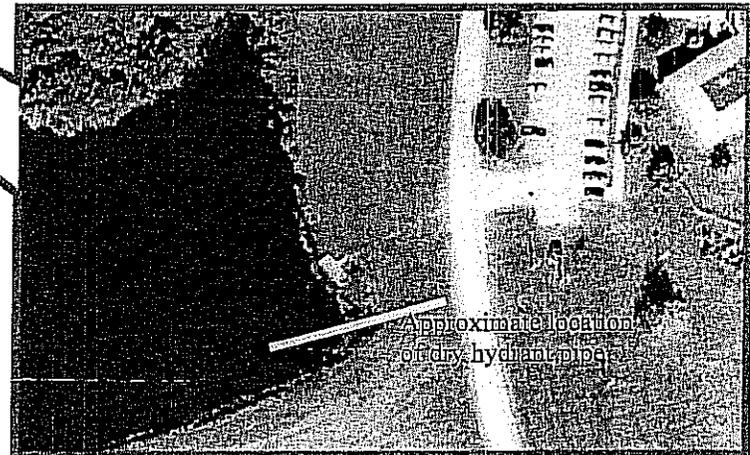
USGS Coventry Quad, 1:24,000 (1" = 2,000 ft)

ATTACHMENT B - SITE PLAN
PROPOSED DRY HYDRANT AT DEPOT POND #1
University of Connecticut, Depot Campus
Mansfield Depot, CT

March 25, 2011
 scale as noted
 prepared by: Jason Coite, Environmental Compliance Analyst
 University of Connecticut Office of Environmental Policy

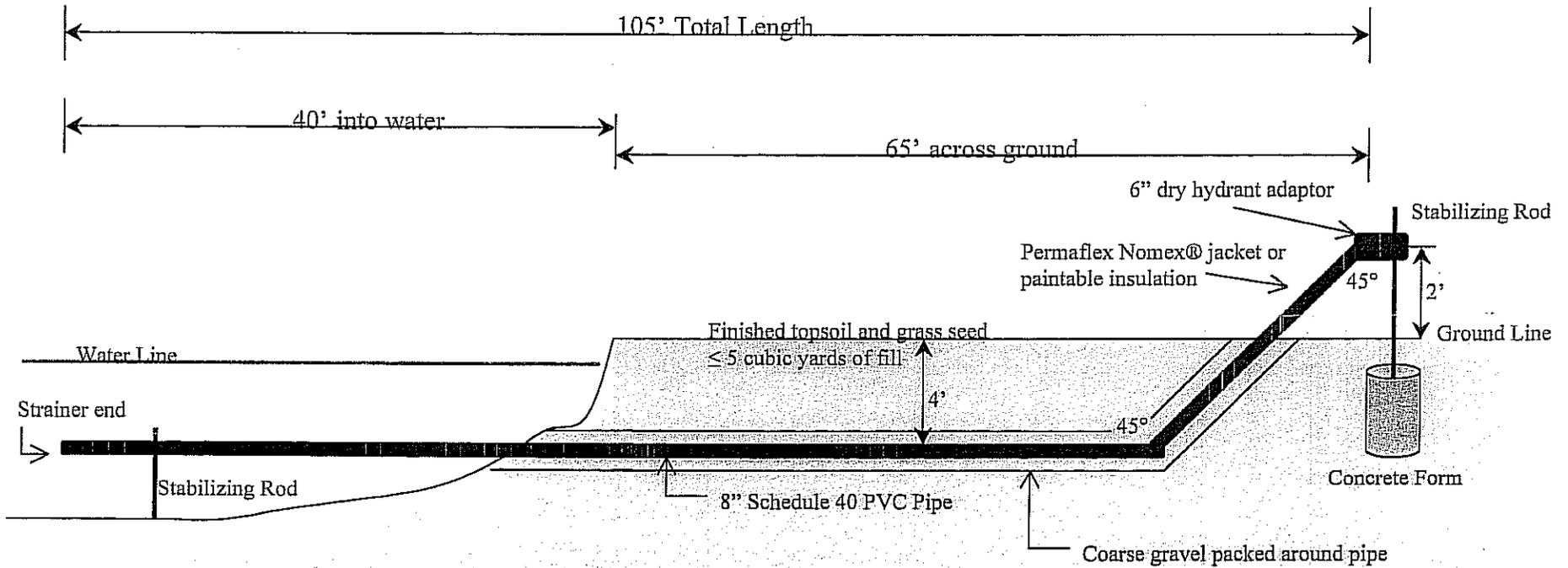


University of Connecticut Fire Department
Depot Campus Dry Hydrant Project 2010
Attachment B





University of Connecticut Fire Department
Depot Campus Dry Hydrant Project 2010
Attachment B



Note: Drawing for representative purposes only, not to scale.

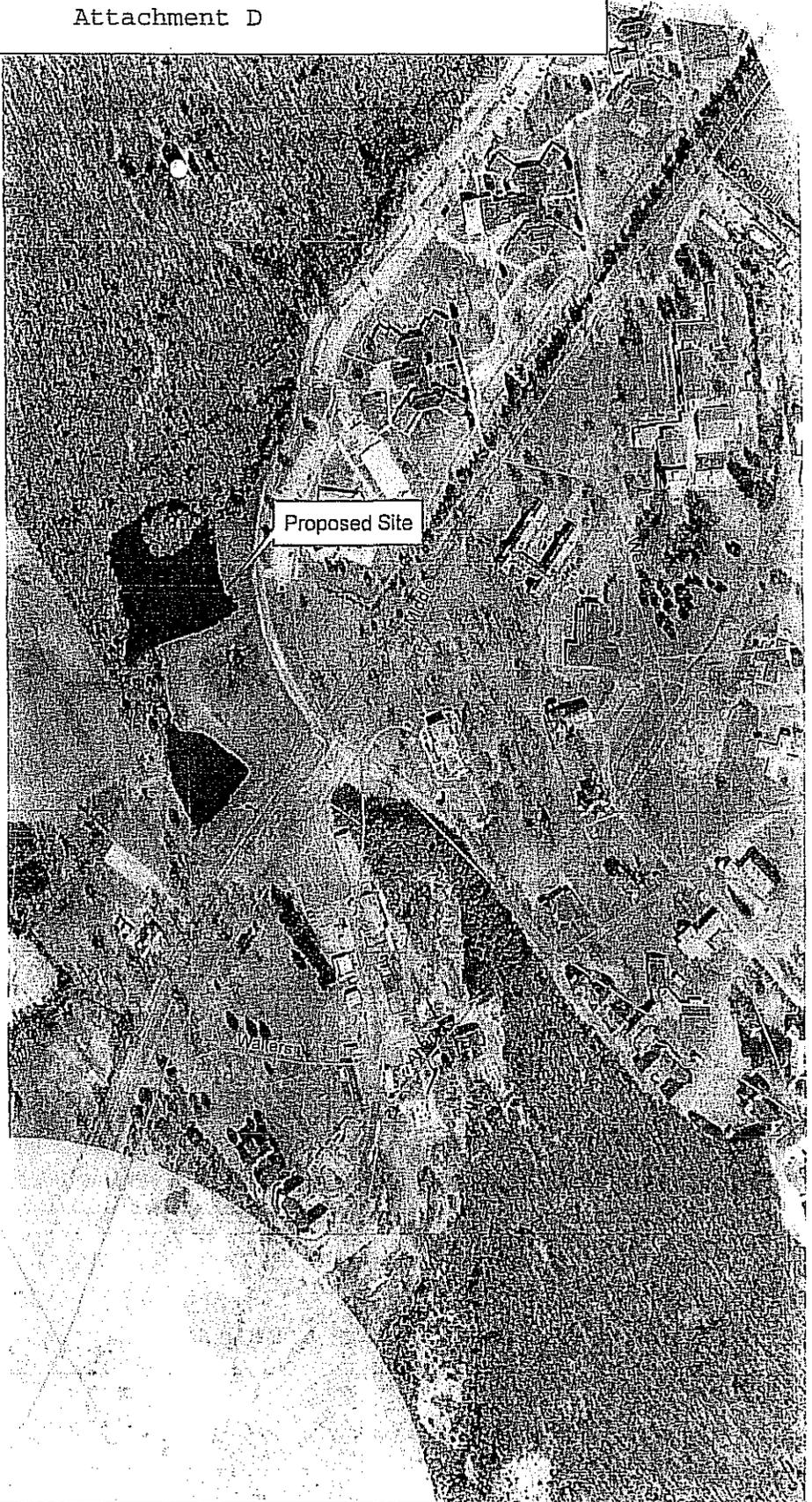
University of Connecticut Fire Department Dry Hydrant Project NDDB Areas

Attachment D

Staford

Proposed Site

Old Colony

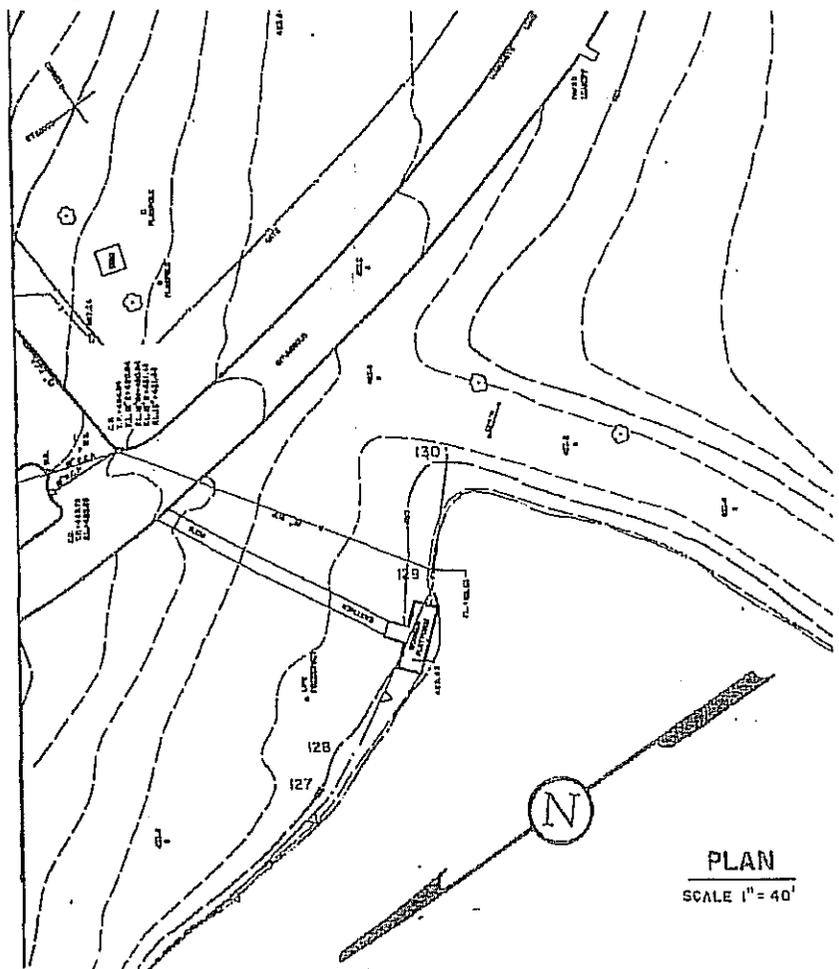


Dry Hydrant Soils Mapping Report

On August 27, 2010 a soil delineation was conducted on the property of the University of Connecticut, Depot Campus, across from the Bergin Correctional Institution at 251 Middle Turnpike Storrs, for the purpose of providing an assessment of the impact of a dry hydrant installation to wetland soils.

Based on archived ortho-digital photos and NRCS soils information the pond and soils within the area of the installation are manmade, and were likely created in the mid 1900's. The mapping units assigned by NRCS are Udorthents. These are soils that have been graded or disturbed by human activity, as is the case in this instance. The pond was established by the creation of an earthen berm, located along the south side of the pond. The map shown here is

a snapshot of a section of a map prepared in 1990 for site work that was conducted in the area. The upper pond where the dry hydrant installation is proposed is mainly surrounded by man-made upland soils that are now maintained lawn. The topography sloped down into the pond with a narrow fringe of wetlands approximately two feet from the edge of the waterbody. Soils were evaluated beginning at 12 inches from the water edge and redox features were found within 12 inches of the surface. Sampling was conducted again at 36 inches from the water edge and redox features were found within the first 12 inches below a dark A horizon. Sampling was then conducted at 74 inches from the water edge and no redox features were found. The wetland was then delineated based on elevation between the culvert outflow and the earthen berm, and visually indicated by pink wetland delineation flagging.



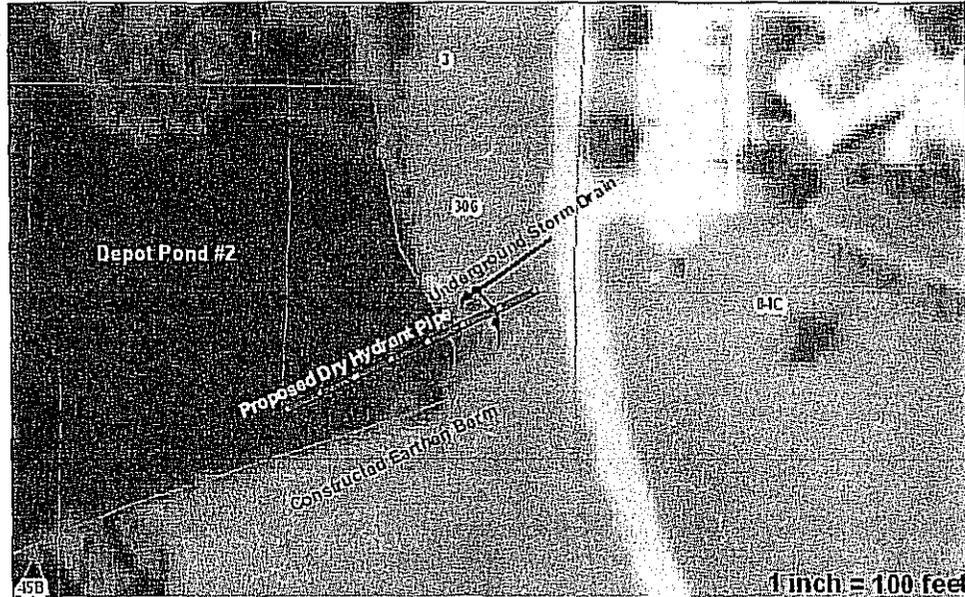
Currently the area is grassy and maintained within a few feet of the ponds edge. The pond edge is fully vegetated, with Speckled Alder (*Alnus rugosa*), and Nannyberry shrubs (*Viburnum lentago*), and Porcupine Sedge (*Carex hystericina*).

The impact to wetland soils with the installation of a dry hydrant will be minimal.

UCONN Fire Department
 Depot Campus Dry Hydrant Project
 University of Connecticut
 Mansfield, CT



Soils Map



NRCS Soils Information

	3 Ridgebury, Leicester, Whitman soils
	306 Udorthents, Urban Land Complex
	45B Woodbridge fine sandy loam, 3-8% slope
	84C Paxon and Montauk fine sandy loam, 8-15% slope
	Wetland Edge Delineated 8/27/2010

The area between the storm drain outflow and the earthened berm were delineated on 8/27/2010.

Findings were similar to those reported in the 1990 site plan prepared by Tonetti Associates Architects and Mark K Morrison Associates LTD, for the State of Connecticut Department of Public Works. The previous soil scientist was John Ianni.

The edge is currently marked in the field by pink "wetland delineation" flagging.

Appendix

Photo #1

Shows pond and upslope in approximate location of dry hydrant installation. Nannyberry, speckled alder are present along shore edge, and porcupine sedge,



Photo #2

Concrete culvert support structure visible, wetland boundary begins at the south end of concrete.

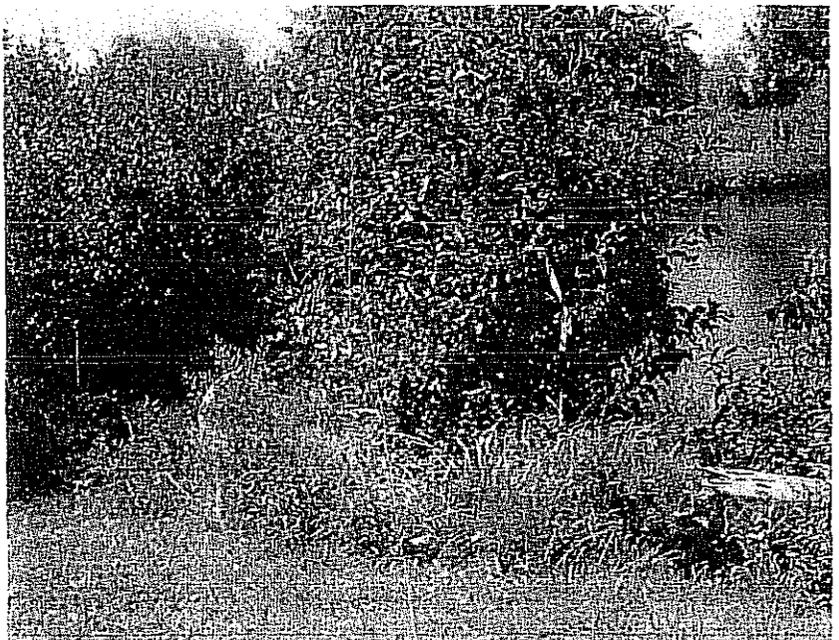
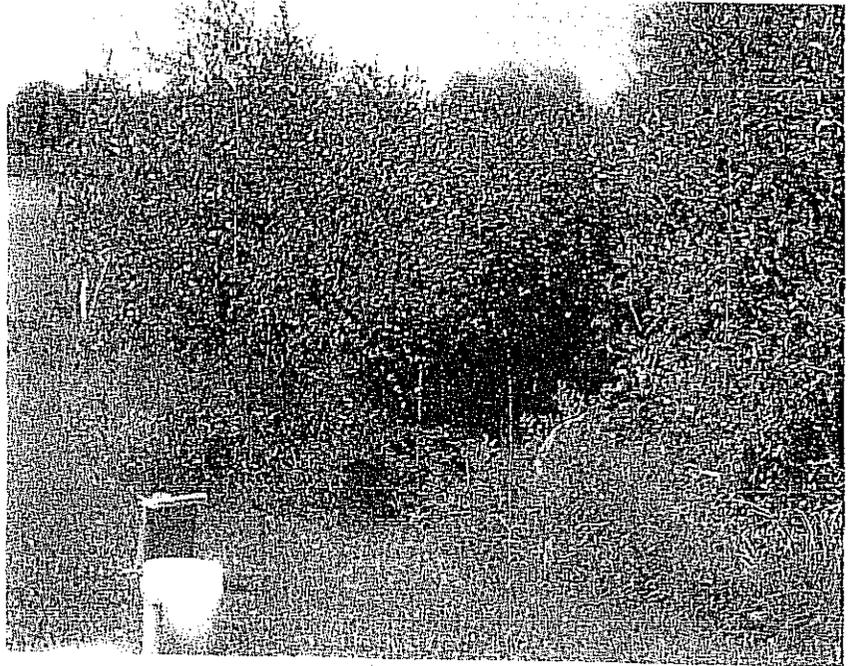


Photo #3

Extent of wetland area has been delineated by pink flagging. Wetland Boundary follows pond edge and is defined by topography. Wetland delineation ends at earthen berm.



1990 Map Reference

<p>SCALE</p> <p>DATE</p> <p>PROJECT</p> <p>NO. 100</p>	<p>PREPARED BY: MARIAN ASSOCIATES, P.C. IS RESPONSIBLE FOR THE DESIGN OF THE PULP MILL FACILITY LOCATED ON THIS SITE.</p> <p>UNDER CONTRACT TO: MARIAN ASSOCIATES AND WATER SUPPLY DIST. UTILITIES.</p> <p>FOR: THE STATE OF CONNECTICUT.</p> <p>THE BASE PLAN AND PRELIMINARY GRADING AND OTHER SITE UTILITIES WAS PREPARED BY OTHERS AND IS REFERENCED OVER THE SITE OFFERING AND OTHER PLAN SHEETS FOR THIS PROJECT.</p>	<p>WETLANDS WERE FIELD DELINEATED BY CERTIFIED SOIL SCIENTIST, JOHN DEWITT ON APRIL 29, 1990 AND SUBSEQUENTLY SURVEYED BY MARIAN ASSOCIATES.</p> <p>WETLAND DELINEATION</p> <p>THE WETLAND BOUNDARY ON THIS SITE WERE IDENTIFIED IN THE FIELD USING THE METHODS FOUND IN CONNECTICUT P.D. 15-123 AND 15-124 (C.F.R. 15-123). THE WETLAND BOUNDARY IS SHOWN ON THIS PLAN SHEET AS A PINK FLAGGING LINE BY OBSERVATION OF THE FIELD SURVEY.</p> <p>John Dewitt SOIL SCIENTIST DATE</p>																													
<p>RECEIVED</p> <p>JUL 13 1990</p> <p>C. R. BLANK, JR.</p> <p>CONNECTICUT DEPARTMENT OF PUBLIC WORKS</p>	<p>MARIAN ASSOCIATES, P.C.</p> <p>1000 Main Street New Britain, CT 06110</p> <p>TEL: 860-234-1111</p> <p>FAX: 860-234-1112</p>	<table border="1" style="width: 100%;"> <tr> <td colspan="2" style="text-align: center;">STATE OF CONNECTICUT</td> </tr> <tr> <td colspan="2" style="text-align: center;">DEPARTMENT OF PUBLIC WORKS</td> </tr> <tr> <td colspan="2" style="text-align: center;">SITE UTILITIES PLAN - C</td> </tr> <tr> <td colspan="2" style="text-align: center;">REVISIONS</td> </tr> <tr> <td style="width: 10%;">NO.</td> <td style="width: 10%;">DATE</td> <td style="width: 80%;">REVISIONS</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td colspan="2">DRAWING PREPARED BY MARIAN ASSOCIATES ARCHITECTS</td> <td rowspan="2" style="text-align: center; vertical-align: middle;"> <p>RECEIVED</p> <p>STATE OF CONNECTICUT</p> <p>DEPARTMENT OF PUBLIC WORKS</p> <p>OFFICE OF THE REGISTERED PROFESSIONAL ENGINEER</p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>REGISTERED PROFESSIONAL ARCHITECT</p> <p>REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT</p> <p>REGISTERED PROFESSIONAL SURVEYOR</p> <p>REGISTERED PROFESSIONAL CIVIL ENGINEER</p> <p>REGISTERED PROFESSIONAL ELECTRICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL MECHANICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL CHEMICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL METALLURGICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL AERONAUTICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL AGRICULTURAL ENGINEER</p> <p>REGISTERED PROFESSIONAL FORESTRY ENGINEER</p> <p>REGISTERED PROFESSIONAL MINING ENGINEER</p> <p>REGISTERED PROFESSIONAL CIVIL ENGINEER</p> <p>REGISTERED PROFESSIONAL ELECTRICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL MECHANICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL CHEMICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL METALLURGICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL AERONAUTICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL AGRICULTURAL ENGINEER</p> <p>REGISTERED PROFESSIONAL FORESTRY ENGINEER</p> <p>REGISTERED PROFESSIONAL MINING ENGINEER</p> </td> </tr> <tr> <td colspan="2">DRAWING CHECKED BY MARIAN ASSOCIATES ARCHITECTS</td> </tr> <tr> <td colspan="2">DRAWING DATE 01-11-90</td> </tr> <tr> <td colspan="2">DRAWING NO. 01-11-90</td> </tr> </table>	STATE OF CONNECTICUT		DEPARTMENT OF PUBLIC WORKS		SITE UTILITIES PLAN - C		REVISIONS		NO.	DATE	REVISIONS										DRAWING PREPARED BY MARIAN ASSOCIATES ARCHITECTS		<p>RECEIVED</p> <p>STATE OF CONNECTICUT</p> <p>DEPARTMENT OF PUBLIC WORKS</p> <p>OFFICE OF THE REGISTERED PROFESSIONAL ENGINEER</p> <p>REGISTERED PROFESSIONAL ENGINEER</p> <p>REGISTERED PROFESSIONAL ARCHITECT</p> <p>REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT</p> <p>REGISTERED PROFESSIONAL SURVEYOR</p> <p>REGISTERED PROFESSIONAL CIVIL ENGINEER</p> <p>REGISTERED PROFESSIONAL ELECTRICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL MECHANICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL CHEMICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL METALLURGICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL AERONAUTICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL AGRICULTURAL ENGINEER</p> <p>REGISTERED PROFESSIONAL FORESTRY ENGINEER</p> <p>REGISTERED PROFESSIONAL MINING ENGINEER</p> <p>REGISTERED PROFESSIONAL CIVIL ENGINEER</p> <p>REGISTERED PROFESSIONAL ELECTRICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL MECHANICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL CHEMICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL METALLURGICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL AERONAUTICAL ENGINEER</p> <p>REGISTERED PROFESSIONAL AGRICULTURAL ENGINEER</p> <p>REGISTERED PROFESSIONAL FORESTRY ENGINEER</p> <p>REGISTERED PROFESSIONAL MINING ENGINEER</p>	DRAWING CHECKED BY MARIAN ASSOCIATES ARCHITECTS		DRAWING DATE 01-11-90		DRAWING NO. 01-11-90	
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