AGENDA

Inland Wetland Agency
Regular Meeting
Monday, January 3, 2011
Council Chambers, Audrey Beck Building

Call to Order: 7:00 PM

Review of Minutes of Previous Meetings and Action Thereon:
12.06.2010 - Regular Meeting
12.14.2010 - Field Trip

Communications:
Conservation Commission: Re: W1465 - Carlson - Dunham Pond Rd
W1466 - Rich - Fern Rd
GM monthly business memorandum
- W1469 - Note statutory regulation changes are needed
- W1470 - CL&P - transmission line clearing

Old Business:
W1465 - Carlson - Single Family House - Dunham Pond Road
W1466 - Peter Rich - Fern Rd

New Business:
Modification Request:
W1468 - Storrs Center Alliance LLC - Phase 1A & 1B

New Application:
W1467 - Listro - Candide La - driveway crossing

Regulation Revisions:
W1469 - Town of Mansfield - statutory regulation revisions from 2010
These deal with the conservation and preservation easement requirements

Reports of Officers and Committees:

Other Communications and Bills:
CL&P notice re: transmission line tree & brush clearing
Connecticut Wildlife

Adjournment:

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DRAFT MINUTES
MANSFIELD INLAND WETLANDS AGENCY
Regular Meeting
Monday, December 6, 2010 1, 2010
Council Chambers, Audrey P. Beck Municipal Building

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

Chairman Favretti called the meeting to order at 7:00 p.m. Alternates Rawn and Stearns-Ward were appointed to act in the order listed if needed.

Minutes:
11-01-10 – Plante MOVED, Beal seconded, to approve the 11-1-10 minutes as written. MOTION PASSED with all in favor except Pociask who disqualified himself.

Communications:
The 12-1-10 Wetlands Agent's Monthly Business report was noted.

Old Business:
Meitzler reported that he granted an Agent approval to Barry Boyle on 108 Crane Hill Road for a 10 foot by 20 foot tarp covered storage building in the upland review area.

New Business:
W1465 - Carlson - Single Family Residence - Dunham Pond Road
Goodwin MOVED, Holt seconded, to receive the application submitted by Neal Carlson (IWA File #W1465) of the Wetlands and Watercourses Regulations of the Town of Mansfield for the construction of a single-family residence on Dunham Pond Road, on property owned by the Eric W. Carlson Revocable Trust, as shown on plans dated 9/17/10, revised through 10/01/10, and as described in other application submissions, and to refer said application to the staff and Conservation Commission for review and comment. MOTION PASSED UNANIMOUSLY.

W1466 - Peter Rich - Construction of a Garage and lean to roof on existing slabs - 42 Fern Rd
Goodwin MOVED, Holt seconded, to receive the application submitted by Peter Rich (IWA File #W1466) of the Wetlands and Watercourses Regulations of the Town of Mansfield for the construction of a garage and lean-to located at 42 Fern Road, on property owned by the applicant, as shown on plans dated 12/1/10, and as described in other application submissions, and to refer said application to the staff and Conservation Commission for review and comment. MOTION PASSED UNANIMOUSLY.

Favretti noted a Field Trip was set for 12/14/10 at 1:30 p.m.

Other Communications and Bills: Noted.

Adjournment: Favretti declared the meeting adjourned at 7:12 p.m.

Respectfully submitted,

Katherine Holt, Secretary

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MINUTES

MANSFIELD INLAND WETLAND AGENCY/PLANNING AND ZONING COMMISSION
FIELD TRIP
Special Meeting
Tuesday, December 14, 2010

Members present:	R. Favretti, M. Beal, K. Rawn, K. Holt, B. Ryan
Staff present:	G. Meitzler (Wetlands Agent, Asst Town Engineer)
	G. Padick (Director of Planning)
Other:	S. Lehman (Conservation Commission)

The field trip began at 1:35 p.m.

1. NEAL CARLSON PROPERTY - Dunham Pond Road - Proposed Single Family House and related site work, IWA File #W1465
   Participants reviewed proposed plans for a new single family home and associated improvements. Particular attention was given to the site's topography, the location of Dunham Pond and adjacent wetlands and the proposed new driveway. No decisions were made.

2. PETER RICH PROPERTY, 42 Fern Road, Proposed Garage and Shed Additions, IWA File #W1466
   Participants were met by Mr. Rich who explained plans to build a garage addition on an existing foundation and to build a lean-to addition to an existing shed. Site and neighborhood characteristics were observed. No decisions were made.

The field trip ended at approximately 2:15 p.m.

Respectfully submitted,

K. Holt, Secretary

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Town of Mansfield
CONSERVATION COMMISSION
Meeting of 15 December 2010
Conference B, Audrey P. Beck Building
(DRAFT) MINUTES

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

1. The meeting was **called to order** at 7:32p by Chair Quentin Kessel.

2. The draft **minutes of the 17 November meeting** were approved, with the substitution of "in a letter dated 10/28" for "two weeks later" in item 5.

3. IWA referrals. Lehmann's report on the 12/14 IWA Field Trip is attached.

a. **W1465 (Eric Carlson property, Dunham Pond Rd)** A single family house is proposed for a lot across Dunham Pond Rd and uphill from the pond and its associated wetlands; the lower portions of its driveway and reserve septic field lie within 150 ft of wetlands. The plan shows the driveway running straight down the slope at the north edge of the property, an alignment that could deliver large volumes of water and sediment onto the road and into wetlands beyond during a heavy rain. After some discussion the Commission agreed (motion: Silander, Lehmann; all in favor save Kessel, who abstained in virtue of long acquaintance with the Carlsons) that:

> The proposed development appears to have a minimal impact on wetlands, provided appropriate sediment controls are employed during construction and the driveway is realigned with level spreaders to reduce runoff onto the road and into wetlands on the other side.

b. **W1466 (Peter Rich property, 42 Fern Rd)** Mr. Rich proposes to expand his garage to enclose an existing concrete parking area and to erect a lean-to roof over a concrete tractor pad adjacent to a shed. A small intermittent stream flows against the footings of the parking slab beside the garage; the shed is about 65 ft from it. There was general agreement that the proposed construction would probably have a marginal impact on wetlands, given that foundations were already in place. Nobody knew whether Mr. Rich had obtained a wetland permit for them; those adjacent to the garage appear to be of recent vintage. A **motion** (Kessel, Facchinetti) that no significant negative impact on wetlands was to be expected was adopted (Dahn, Facchinetti, & Lehmann in favor, Kessel and Silander abstaining – the former in virtue of long acquaintance with Mr. Rich, the latter from concern about endorsing work that may have been done without a permit).

4. Storrs Center project. At last week's hearing, concerns were aired about the residential portion of this development turning into student housing. Its developer specializes in dorm construction, and Silander recalled that Celeron Square was initially advertised as housing for non-students. According to Facchinetti, the developer's representative responded by noting that student housing would be designed differently (suites instead of the 1- or 2-bedroom units planned for Storrs Center) and that management (as well as relatively high rents) would limit the number of students.

5. UConn Water System. Silander wondered how the University proposes to reconcile increased demand for water from the Storrs Center development (and possibly others) with supply that is currently not adequate during drought conditions. Its current plan seems to be to make up the deficit by reclaiming water: facilities for doing so are to be in place before Storrs Center needs significant water. UConn has informed the Ponde Place developers that it will not supply water for this project, either for regular or emergency use. Kessel will try to attend tomorrow's Water and Wastewater Advisory Committee meeting for an update.

6. Briefly noted.

a. **Proposed revisions to Subdivision regulations.** A hearing will be held in January.
b. **4 Corners sewer and water.** Various sources of water for this area are under study.
c. **Agronomy Farm monitoring.** Water samples will be drawn from monitoring wells tomorrow to test for pesticide residues from turf management studies at the farm.

7. Adjourned at 8:25p.

Scott Lehmann, Secretary, 16 December 2010

Attachment: Report on 10/14 IWA Field Trip

W1465 (Carlson property, Dunham Pond Rd). A single family home is proposed on a lot across the road and uphill from Dunham Pond & associated wetlands. A portion of the driveway and the reserve septic area would be within 150 ft of these wetlands. As currently drawn, the driveway runs straight down a rather steep slope to the road at the north edge of the lot and could deliver a lot of water and products of erosion to wetlands during an extreme rain event. This could be mitigated by curving the driveway up from farther south on the road – which would also improve the sight-line to the north and make it possible to drive up the east-facing slope to the house in the winter.

W1466 (Rich property, 42 Fern Rd). Mr. Rich would like to extend his garage to enclose a small adjacent parking area and to construct a lean-to against a shed to shelter a tractor pad. Both these sites are within 150 ft of wetlands; indeed, the parking area beside the garage is inches away from a small stream that descends along the driveway and to and across Fern Rd. However, the effect on wetlands is likely to be marginal, since no foundation work is required: both areas are currently surfaced with concrete.

Scott Lehmann, 15 December 2010

Memorandum: December 28, 2010
To: Inland Wetland Agency
From: Grant Meitzler, Inland Wetland Agent
Re: Monthly Business

Informational:

We have received a notice from CL & P of upcoming brush and tree clearing. Their submission indicates approval has been given by the Connecticut DEP and the Federal EPA, and includes maps with the specific lines highlighted:

- across the south part of town from the Willimantic River through the Vernon property, Stearns Farm, Beech Mountain, Mansfield Hollow and into Chaplin.
- from the Willimantic River to the UConn power station on North Eagleville Rd.

A copy of the operation plan and specifications for the work is included. These speficiations are detailed and specific. Avoidance of any spraying within 10 feet of open water is indicated. This notice indicates the contact person for further information is Matthew Colebrook, Tree Arborist at 860-665-3187.

W1419 - Chernushek - hearing on Order

3.10.09: The hearing on the Order remains open and should continue until the permit application under consideration is acted upon.
(The Order was dropped on approval of the application required in the Order.)

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

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

6.13.09: Work is underway.

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

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

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

9.12.09: I met with Mr. Chernushek today and discussed again what his

plans are for stabilizing this work site.

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

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

W1445 - Chernushek - application for gravel removal from site

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

Mansfield Auto Parts - Route 32

12.28.09: There are two cars that need to be moved. Mr. Bednarczyk indicates their payloader is down for repairs and the cars will be moved as soon as it is repaired.

1.27.10: No change - the payloader is apart with parts on order to complete repairs. It is of 1986 vontage and finding parts is a major proposition.

2.18.10: Same - they are in the process of rebuilding the engine on the payloader.

3.30.10: Same - Mr. Bednarczyk indicates a contuing problem finding engine parts.

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.

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Memorandum: December 28, 2010
To: Inland Wetland Agency
From: Grant Meitzler, Inland Wetland Agent
Re: W1465 - Carlson - Dunham Pond Rd - New SF house, minor work in buffer

plan references: map dated October 1, 2010, revised 12.22.10

This application proposes a new single family house on an existing lot on Dunham Pond Rd. No work is proposed directly in wetlands. This permit is being sought to establish approved lot status before sale.

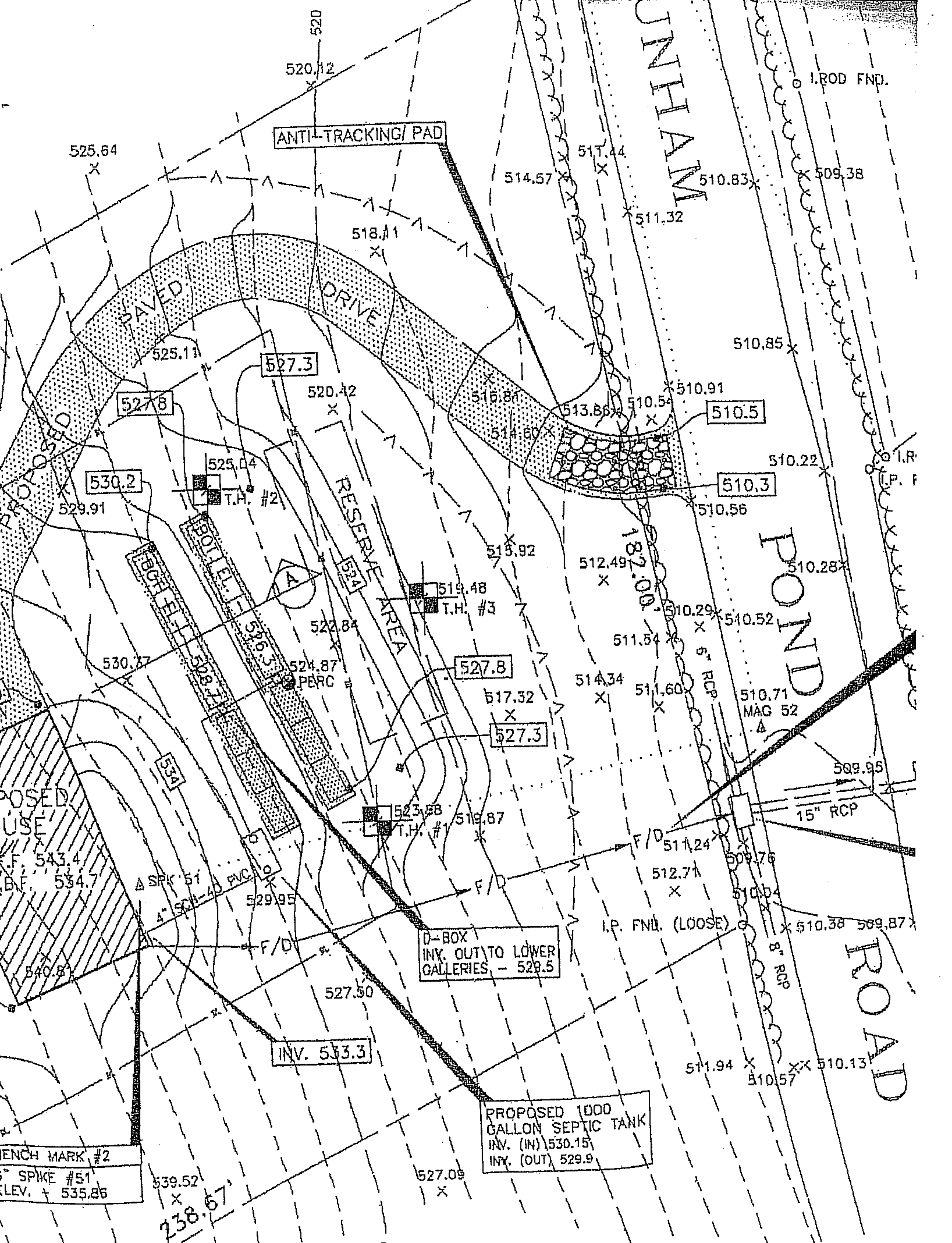
The wetlands are on the opposite side of Dunham Pond Rd (east side). There are no wetlands on the west side of the road at this location. The wetlands consist of the shrub swamp areas along the sides and north end of Dunham Pond.

The regulated area on the lot involves the first 45' of the driveway, and a small area of the fill for the septic reserve area which is located downhill of the septic system itself.

An issue with the driveway was noted on the field trip. The proposed driveway is near a curve that obstructs sight distance for cars coming from Rte 275. The driveway is also a little steep (13%) and runs straight down hill to the road edge thus having the potential for water flow to the road and winter icing. From all appearances a gentler approach to Dunham Pond Rd can be obtained by shifting the driveway intersection to the south 100'.

The December 22, 2010 map revision includes the driveway revision away from the curve in the road. Containment for flow coming down the driveway such as level spreader(s), or rain garden containment area remains to be done.

I do recommend that any approval be accompanied by a condition that the driveway be provided with appropriate treatment for runoff.


ANTI-TRACKING/ PAD
PAVED DRIVE
PROPOSED
RESERVE AREA
BOT. EL. - 526.3
BOT. EL. - 528.7
PERC
T.H. #1
T.H. #2
T.H. #3
D-BOX
INV. OUT TO LOWER
GALLERIES - 529.5
INV. 533.3
PROPOSED 1000
GALLON SEPTIC TANK
INV. (IN) 530.15
INV. (OUT) 529.9
4" SCH-40 PVC
SPK 51
F/D
MAG 52
15" RCP
6" RCP
8" RCP
I.P. FND. (LOOSE)
I.ROD FND.
182.00'
238.67'
539.52
527.09
POND ROAD
510.3
510.5
527.3
527.8
530.2
524
534
520
520.12
525.64
518.11
514.57
511.44
510.83
509.38
511.32
510.85
510.91
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509.76
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510.04
529.95
510.38
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527.50
511.94
510.57
510.13
525.04
529.91
525.11
520.12
540.81
543.4
534.7

Wetlands DRAFT Motion for: Carlson

Holt moves and _____ seconds to grant/~~deny~~ an Inland Wetlands License ~~under Section 6.2~~ under the Wetlands and Watercourses Regulations of the Town of Mansfield to Neal Carlson

(file W 1465) for construction of a single-family residence

on property owned by the Eric W. Carlson Revocable Trust

located ~~@~~ Dunham Pond Road

as shown on a map dated 9/17/10, revised through 12.22.10, ← new date noted

and as described in other application submissions, ~~and discussed at Public Hearing (if any), on~~ _____.

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

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

~~2) Maps shall not be signed until all permit requirements have been addressed;~~

2) There shall be no ~~land disturbance~~ construction activity until provisions are made for containing run-off from the driveway. These provisions shall be approved by Wetlands Agent Meitzler and added to the plans before any work begins.

Carlson

(last) This approval is valid for a period of five years (until January 3, 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.

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Memorandum: December 21, 2010
To: Inland Wetland Agency
From: Grant Meitzler, Inland Wetland Agent
Re: W1466 - Rich - Fern Rd - garage addition and shed addition

plan references:
Owner's map dated 12-01-10
Wetland Agent's map dated 12-21-10 showing erosion protection

This application proposes two work areas within 75' of wetlands as follow:

1. a lean to addition to a garden shed in upland lawn area 65' away from wetlands.

   This is to be placed on an existing slab.

2. a garage addition at the west end of an existing garage, also on an existing foundation.

   A seasonal brook flows to the rear of the existing garage. This is about 5' to 6' behind the garage and flows directly over three ledge outcrops that have controlled the flow. This section of the brook is quite stable and I did not see signs of erosion along the edges. the banks were grassed and with leaf cover shoeing little or no sign of having been washed away with recent rains.

   Placement of Stone Protection:

   This addition is to be placed on an existing foundation that appears to be of recent origin. The seasonal brook flows nearer to and meets the rear-most corner of this addition area suggesting a need for erosion protection beyond that already in place. I recommend placing additional stone along the rear of the addition to keep the brook 5' to 6' away from the rear of the addition structure.

   Transition Zone from stone placement to existing brook to west:

   Further, I suggest a transition zone starting at the west end of the addition running about 16 feet farther in which stone placed along the south side of the brook transitions from a 5' to 6' distance from the addition to an end of work on the brook at the west edge of the 16' parking area indicated. Work to stabilize this section of the brook should use natural boulders and rocks presently in this area with minor placement of smaller stone in areas that may show evidence of erosion.

Effort should be made to maintain the present natural appearance of this brook as much as feasible. The very rocky nature of the area should lend itself to this effort.

GM 12/21/10

NOTES

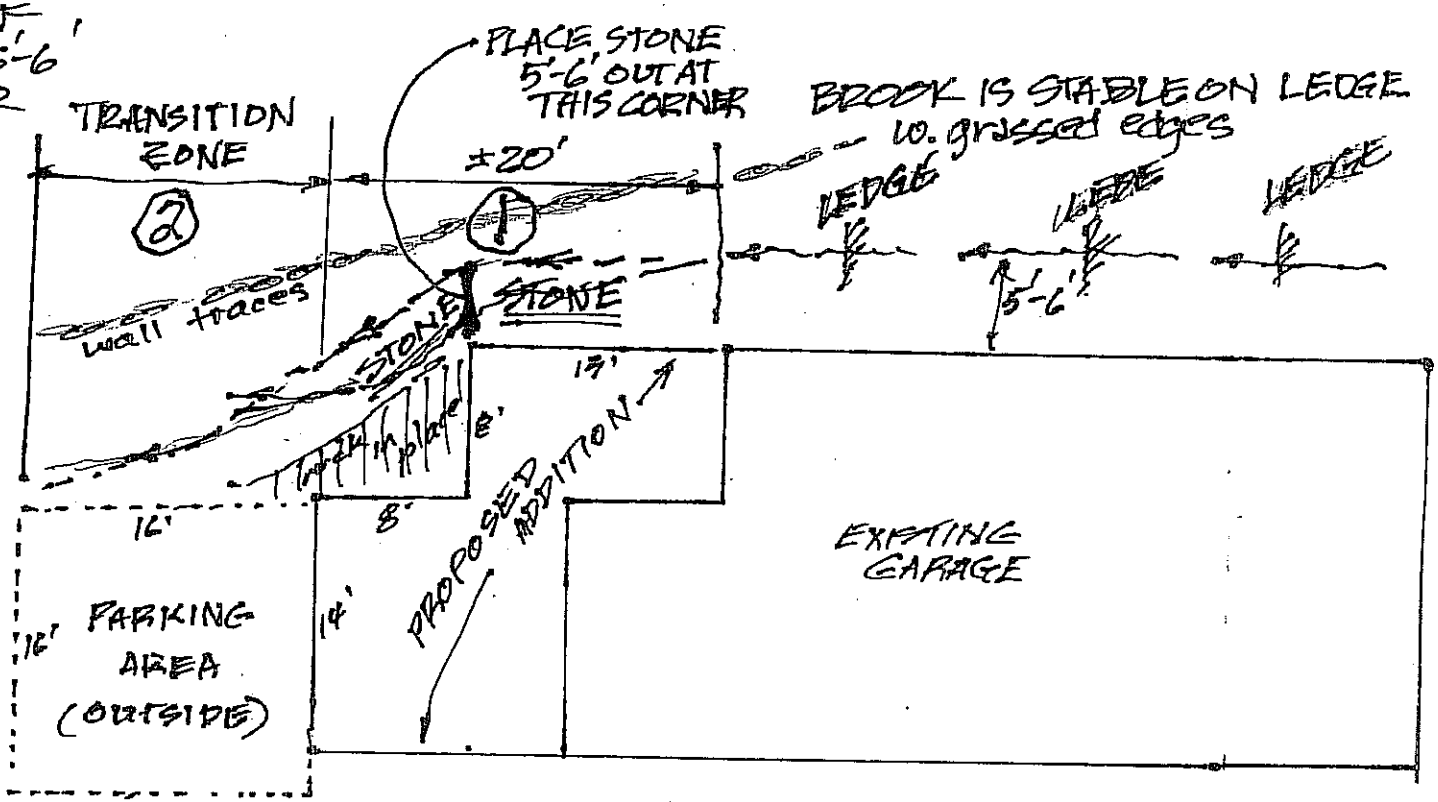
① PLACE STONE 5'-6' OUT FROM REAR OF PROPOSED ADDITION.

② START AT WEST EDGE OF AREA ONE ? PLACE STONE 5-6' OUT FROM REAR CORNER OF ADDITION.

② USE EXTRA SMALLER STONES TO PROTECT AROUND NATURAL ROCKS AND BOULDERS.

TRANSITION ZONE (2) TO END AT WEST END OF PARKING AREA WITH NO DISTURBANCE OF EXISTING BROOK.

MAINTAIN NATURAL CHARACTER OF BROOK AS MUCH AS POSSIBLE.



← to Fern Rd

Driveway area (Paved)

↓ to house

PETER RICH
file W1466
42 Fern Rd

Wetlands DRAFT Motion for: Rich

Holt moves and _____ seconds to grant/~~deny~~ an Inland Wetlands License under ~~Section [redacted]~~ of the Wetlands and Watercourses Regulations of the Town of Mansfield to Peter Rich

(file W 1466) for construction of a garage and a lean-to

on property owned by the applicant

located at 42 Fern Road

as shown on a map dated 12/1/10, revised through 12/21/10,

and as described in other application submissions, ~~and modified at Public Hearing(s) on~~ _____.

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

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

~~2) Maps shall be signed and all permit requirements have been addressed;~~

2) There shall be no construction activity on the garage addition until all the stone protection measures are in place, as outlined in Wetlands Agent Meitzler's memo and map of 12/21/10. No work shall begin until the Wetlands Agent inspects and approves these stone protection measures.

3) However, construction can begin on the lean-to at any time, as there are no wetlands issues with its construction.

4) There shall be no further additions to the garage.

Rich

(last) This approval is valid for a period of five years (until Jan. 3rd 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.

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Memorandum: December 29, 2010
To: Inland Wetland Agency
From: Grant Meitzler, Inland Wetland Agent
Re: New Business for the January 3, 2011 meeting

New Application:

W1467 - Listro - Candide La - 1 lot resubdivision

	yes	no
fee paid	x	
certified receipts	x	
map dated	11.04.2010	

This application is for a split of two present lots into three, creating one new lot. The driveway and a portion of the work around the proposed house are within the 150' regulate area. The driveway crosses a seasonal flow area.

Receipt and referral to the Conservation Commission is appropriate.

Modification Request:

W1468 - Storrs Center Alliance LLC - phasing 1A & 1B

	yes	no
fee paid	x	
certified receipts	n.a.	
map dated	12.29.2010	

This application presents phasing modification defining Phases 1A & 1B.

The project was approved in total previously with an understanding there would be phasing which was undefined at that point in time; Storrs Center Alliance LLC, W1378.

Parking modification has been added at the rear of the Bishop Center, and a short term sediment control structure has been added to contain sediment from construction in Phase 1A until Phase 1B stabilizes the areas with the final drainage improvements originally approved.

I suggest scheduling a special meeting for Tuesday, January 18, 2011 to allow for a field trip before further consideration.

Regulation Revisions:

1469 - Town of Mansfield - statutory regulation revisions

This session of the legislature made changes to the sections of the

regulations dealing with conservation and preservation restrictions. These need to be incorporated into our regulations.

See communication from the DEP in this packet.

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

FOR OFFICE USE ONLY

File # W #1467
Fee Paid 12-23-10
Official Date of Receipt 12-23-10

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 John Listro

Mailing Address 12 Candide Lane, Mansfield, CT

Zip 06268

Telephone-Home 860-453-7188 Telephone-Business

Title and Brief Description of Project
Proposed re-subdivision of two existing developed lots to create a third lot

Location of Project #12 Candide Lane & 260 Stearns Road, Mansfield, CT

Intended Start Date April 2011

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

Name Suzanne Listro / John Listro

Mailing Address S. Listro, 260 Stearns Road, Mansfield, CT 06268

J. Listro, 12 Candide Lane, Mansfield, CT Zip 06268

Telephone-Home Telephone-Business

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

Signature John P. Listro, Suzanne L. Listro date Dec 23, 2010

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

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

1) Describe in detail the proposed activity here or on an attached page. **(See guidelines at end of application – page 6.)**
Please include a description of all activity or construction or disturbance:

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

Proposed re-subdivision to create one additional lot from two existing parcels. The project does NOT propose any work or disturbance in the wetlands, but does propose a driveway between a wetland pocket and a wetland area. This project proposes to disturb the upland review area with the installation and construction of the proposed driveway, driveway culverts, and associated underground utility services

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

The application is NOT proposing any work in the wetlands, but is proposing about 25,000 sq. ft. of disturbance in the upland review area.

3) Describe the type of materials you are using for the project: The current proposal will utilize bank run gravel and processed aggregate to build the driveway, along with plastic open bottom culvert to convey stormwater

a) include ***type*** of material used as fill or to be excavated Filling gravel & proc. agg
b) include ***volume*** of material to be filled or excavated approximately 200 cu.yds. bank run gravel & processed aggregate

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).

Proposing E&S controls be installed prior to any land disturbance, proposing that no earthwork shall be performed during rain events and to maintain animal passage

Part D - Site Description

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

the land is a mix of hilly, with flat wooded valleys. The hill tops have moderate depressions mixed with flat plateaus

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.

The applicant considered sharing a drive with #260 Stearns Road, but due to grading requirements along the east side of the the existing house, and septic system this option was not pursued

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 11/4/2010

3) Zone Classification RAR-90

4) Is your property in a flood zone? _____Yes X 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
Willard J. Stearns & Sons	40 Stearns Road, Mansfield, CT 06268
Bing & Wei Wei Wang	11 Candide Lane, Mansfield, CT 06268
James V. Leta	256 Stearns Road, Mansfield, CT 06268
Daniel Helt & Mary Shea	286 Stearns Road, Mansfield, CT 06268
Joseph & Teressa Trehy	56 Candide Lane, Mansfield, CT 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_X_No___Don't Know

2) Will sewer or water drainage from the project site flow through and impact the sewage or drainage system within the adjoining municipality?____ Yes _X_ No ____ Don't Know

3) Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality?____ Yes _X_ No ____Don't Know

Part K - Additional Information from the Applicant

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

Part L - Filing Fee

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

____ $365. _____ $110. ____ $60. ____ $25. ___X $310 ($250+$60)

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.

John S. Lisitano — Dec 23, 2010

Applicant's Signature — Date

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

FOR OFFICE USE ONLY
File # W1468
W
Fee Paid 650-
Official Date of Receipt 12-30-10

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 Storrs Center Alliance, LLC Attn: Macon Toledano

Mailing Address P.O. Box 878, 233 Route 17

Tuxedo Park, NY Zip 10987

Telephone-Home Telephone-Business (845) 351-2900

Title and Brief Description of Project

Modification of Storrs Center IWA Approval of 10/01/07 (attached) for phased construction of Storrs Center Phase 1A/1B.

Location of Project East of Storrs Rd (Rte 195) on North and South side of Dog Lane.

Intended Start Date April 2011

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

Name **See Attached.**

Mailing Address

Zip

Telephone-Home Telephone-Business

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

Signature date

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

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

1) Describe in detail the proposed activity here or on an attached page. **(See guidelines at end of application – page 6.)**
Please include a description of all activity or construction or disturbance:
a) ***in*** the wetland/watercourse
b) ***in*** the area ***adjacent*** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is ***off*** your property

See attached.

2) Describe the amount or area of disturbance (in square feet or cubic yards or acres):
a) ***in*** the wetland/watercourse
b) ***in*** the area ***adjacent*** to (within 150 feet from the edge of) the wetland/watercourse, even if wetland/watercourse is **off** your property

See attached.

3) Describe the type of materials you are using for the project: _____

See attached.

a) include ***type*** of material used as fill or to be excavated _____
b) include ***volume*** of material to be filled or excavated_____

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).

See attached.

Part D - Site Description

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

N/A. The site is unchanged.

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.

N/A.

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 December 29, 2010

3) Zone Classification Storrs Center Special Design District

4) Is your property in a flood zone? _____Yes __X__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

N/A

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_X_No___Don't Know

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

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

Part K - Additional Information from the Applicant

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

Part L - Filing Fee

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

____ $365. _____ $110. ____ $60. ____ $25. **X $50 for IWA Modification**

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 — Date: 29 December 2010

BL Companies, Agent for Storrs Center Alliance, LLC

TOWN OF MANSFIELD
INLAND WETLAND AGENCY

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILL ROAD
STORRS, CT 06268
(860) 429-3330

October 2, 2007

Mansfield Downtown Partnership, Inc.
C/o Cynthia van Zelm, Executive Director
1244 Storrs Road
P.O. Box 513
Storrs, CT 06268

Re: Mansfield's IWA approval for a mixed-use town center
IWA File #W1378

Dear Ms. van Zelm,

At a meeting held on 10/1/07, the Mansfield Inland Wetland Agency adopted the following motion:

"to grant an Inland Wetlands License under Section 5 of the Wetlands and Watercourses Regulations of the Town of Mansfield to the Storrs Center Alliance, LLC (file no. W1378), for a mixed-use town center, on property owned by the State of Connecticut, Esther Warzocha, and Steve Rogers, located on the east side of Storrs Road from the Storrs Post Office Drive to Dog Lane, as shown on plans dated 6/25/2007, and as described in other application submissions. This action is based on the application submissions and information presented at a Public Hearing held on September 4, 2007 and from observations made on a field trip to the site on July 19, 2007, and in consideration of applicable regulations.

The Agency hereby finds:

1. The wetlands treatments presented represent an improvement to those important wetlands areas which are now partially degraded, by reducing the amount of sedimentation presently occurring;
2. The existing flooding of the wetlands will be controlled and the sedimentation limited by the extensive drainage control systems that are proposed;
3. The project offers long term improvement by the on-going reduction of sedimentation impacts on the site's wetlands;
4. Overall, the project will enhance the existing environmental quality of the site's wetlands;
5. Through mitigation efforts, the project's improvements outweigh the loss of two presently degraded wetland areas totaling 0.28 acres, with improvements being proposed for 3.22 acres of other wetlands on the site;
6. The project offers a considerable commitment of resources, both in the open space dedication of more than 20 acres of land important for protection of wetlands on and off the site, and in the drainage system controls designed to improve conditions for these area wetlands;
7. That a feasible and prudent alternative does not exist, based on reductions in the scope of development now proposed that were made according to the recommendations of the applicant's environmental experts. The result will be a state-of-the-art drainage system offering long term improvement to wetlands both on and off the site.

This approval is granted with the following conditions:

1. No construction permits shall be issued until acceptance by the Town of deed documents for the open space dedication areas, together with surveying pins and open space tags placed every 50 to 100 feet along the open space boundaries;
2. The drainage retention areas located directly adjacent to wetlands and all other storm water management improvements shall be completed promptly and at early stages of each phase for which they are required;
3. No construction permits shall be issued until all required State and Federal permits have been obtained. Any revisions to the Storm Water Management Plan shall be reviewed and approved by the Inland Wetlands Agency prior to installation. An additional Inland Wetlands license shall not be required unless revisions involve significant alterations to the project;
4. An Inland Wetlands license shall be required for the planned walking trails through the open space areas. Said trail design shall:
   A. Avoid proximity to the important vernal pool areas located on the open space parcel, except for an overlook area specified in comments made by Dr. Michael Klemens;
   B. Insofar as practical, the trail shall be combined with efforts to restore the stockpile areas needing stabilization in the northeasterly area near the wetland in that location;
5. Best Development Practices, as outlined by Calhoun and Klemens in their book by the same title, shall be followed;
6. Appropriate erosion and sedimentation controls (as shown on the plans) shall be place prior to construction and maintained during construction and removed when disturbed areas are completely stabilized.

This approval is valid for a period of five years (until October 1, 2012), 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, comment and determination prior to its conclusion.

If you have any questions regarding this action, please call the Planning Office at 429-3330.

This letter constitutes your license.

Very truly yours,

Katherine K. Holt

Katherine K. Holt, Secretary
Mansfield Inland Wetland Agency

Cc: Mansfield Town Council
Storrs Center Alliance LLC.
Attorney Thomas Cody
Attorney Lee Cole-Chu

CONNECTICUT DEPARTMENT OF
ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127

Gina McCarthy, Commissioner

Statewide Inland Wetlands & Watercourses Activity Reporting Form

Please complete this form in accordance with the instructions. Please print or type.

PART I: To Be Completed By The Inland Wetlands Agency Only

1. DATE ACTION WAS TAKEN: Year _____ Month _____
2. ACTION TAKEN: _____
3. WAS A PUBLIC HEARING HELD? Yes _____ No _____
4. NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:

   (print) _____ (signature) _____

PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant

5. TOWN IN WHICH THE ACTION IS OCCURRING: Mansfield

   Does this project cross municipal boundaries? Yes _____ No X

   If Yes, list the other town(s) in which the action is occurring: _____, _____
6. LOCATION: USGS Quad Map Name: Spring Hill *AND* Quad Number: 41

   Subregional Drainage Basin Number: 3207 (3207-13-1)
7. NAME OF APPLICANT, VIOLATOR OR PETITIONER: Storrs Center Alliance, LLC
8. NAME & ADDRESS/LOCATION OF PROJECT SITE: East of Storrs Rd (Rte 195) between Dog Ln and Post Office Dr

   Briefly describe the action/project/activity: Storrs Center will be a mixed-use town center at the crossroads of the town of Mansfield and the University of Connecticut.
9. ACTIVITY *PURPOSE* CODE: C
10. ACTIVITY *TYPE* CODE(S): 12, 14, 1, 10
11. WETLAND / WATERCOURSE AREA ALTERED [must be provided in acres or linear feet as indicated]:

    Wetlands: 0.29 acres Open Water Body: 0 acres Stream: 0 linear feet
12. UPLAND AREA ALTERED [must be provided in acres as indicated]: 10.3 acres
13. AREA OF WETLANDS AND / OR WATERCOURSES RESTORED, ENHANCED OR CREATED: 0 acres
    [must be provided in acres as indicated]

PART III: To Be Completed By The DEP

DATE RECEIVED: DATE RETURNED TO DEP:

FORM COMPLETED: YES NO FORM CORRECTED / COMPLETED: YES NO

REV. 2/2005

APPLICATION FOR PERMIT APPROVAL MODIFICATION
MANSFIELD INLAND WETLAND AGENCY

TABLE OF CONTENTS

PART A. APPLICANT

Storrs Center Alliance, LLC
P.O. Box 878, 233 Route 17
Tuxedo Park, NY 10987
T: (845) 351-2900
F: (845) 351-2922
Attention: Macon Toledano

Title and Brief Description of Project

Storrs Center will be a mixed-use town center at the crossroads of the town of Mansfield, CT, and the University of Connecticut. Phase 1A/1B will consist of the construction of the first three mixed-use buildings in the project, as well as the realignment of Dog Lane and the creation of the proposed Town Square. The three buildings are designated DL-1/2, TS-1 and TS-2.

Location of Project

Storrs Center is located on Storrs Road (Route 195), across from the University of Connecticut's main campus. The Phase 1A/1B developed area will be located adjacent to and immediately east of Storrs Road, on both the north (DL-1/2, TS-1) and south (TS-2) sides of Dog Lane.

Intended Start Date

April, 2011

PART B. PROPERTY OWNERS

The Storrs Center application includes the following constituent lots:

1. Two lots owned by the State of Connecticut located east of Storrs Road and south of Dog Lane (Tax Assessor Map 16, Block 41, Lots 13, 13A and 17)

2. A portion of one lot owned by the State of Connecticut located east of Storrs Road and north of Dog Lane (Tax Assessor Map 16, Block 40, Lot 10)

3. One lot owned by Esther Warzocha located at 10 Dog Lane (Tax Assessor Map 16, Block 41, Lot 16)

4. One lot owned by Steven Rogers, *et al.*, located at 13 Dog Lane (Tax Assessor Map 16, Block 40, Lot 9)

The applicant has entered into contracts with each of the current property owners to purchase all of the properties included in this application. The consent and authorization of the current property owners will be submitted under separate cover.

PART C. PROJECT DESCRIPTION

Modification of Existing Inland Wetlands Approval

A modification to the previous IWA approval received on October 01, 2007 is requested at this time due to the fact that the applicant is proposing phased construction, commencing with three buildings, comprising Phase 1A and Phase 1B, and therefore proposed to construct only a portion of the planned infrastructure required to support these buildings, at present time. Additionally, minor changes to the site plan during detailed design efforts have created very minor changes in proposed earthwork, and a negligible (<0.1 acre) increase in disturbance in the areas adjacent to the wetland/watercourse.

The original approval contemplated the infrastructure construction for Storrs Center to be installed in two phases, north and south of a center axis that divided Phases 2 and 3. Presently, the applicant is requesting to construct Phase 1A and 1B, which is proposed to begin in April of 2011 with Phase 1A and June of 2012 with Phase 1B. The balance of the site is anticipated to be developed in subsequent phases after Phase 1A and 1B are underway.

Description of Phase 1A/1B construction or disturbance in the wetland/watercourse

Approved wetland fill is proposed in two locations in Storrs Center and is unchanged in this Modification Application. The first area of wetland fill is located at the upstream end of the northern watercourse. The total proposed fill in this "bow-tie" wetland area is approximately 10,877-ft^2 (0.25± acres). This fill will take place during Phase 1A/1B construction. The second area of proposed wetland fill is located at the upstream end of the southern watercourse and encompasses approximately 1,804-ft^2 (0.04± acres). This will take place during future construction of the village street.

As mentioned above, Phase 1A/1B construction will involve placement of fill in the northern wetland only. This "bow-tie" wetland has been documented during the previous approval as a low-value wetland resource, and will be used initially as a temporary sediment trap and detention basin, then filled completely as the village street construction takes place and permanent sediment and water quality and quantity controls are installed.

Please see attached Temporary Sediment Trap design calculations for this proposed use.

Description of all activity of construction or disturbance in the area adjacent to the wetland/watercourse

Within 150-feet of the edge of the wetlands and watercourses, approximately 10.3± acres will be altered as part of the development of the Storrs Center site. Alterations within this area include grade changes, construction of buildings, roadways and all associated infrastructure. A short retaining wall is now proposed just west of the northern watercourse.

Minor changes to the site plan during detailed design efforts have created very minor changes in earthwork, and a negligible (<0.1 acre) increase in disturbance in the areas adjacent to the wetland/watercourse.

Description of the amount or area of disturbance in the wetland/watercourse

Total proposed wetland fill is approximately 12,681 ft^2 (0.29± acres) in two locations. **This remains unchanged in this Approval Modification Application.** Total proposed temporary wetland disturbance during construction is approximately 1,156 ft^2 (0.03± acres) in one location. Areas of temporary wetland disturbance shall be restored immediately upon completion of construction.

Description of the amount or area of disturbance in the area adjacent to the wetland/watercourse

The total area adjacent to the wetlands/watercourses (within 150-feet) proposed to be disturbed and altered by the Storrs Center project is approximately 450,000 ft^2 (10.3± acres). **This remains unchanged in this Approval Modification Application.**

Description of the type and volume of materials to be used for the project

This remains unchanged in this Approval Modification Application. Significant rock excavation will be necessary for the project. It is anticipated the rock will be crushed on site and used as structural fill where appropriate. Imported, clean structural fill will be used where appropriate for other fill areas. Construction, demolition or existing debris of any form, regardless of its origin, shall be completely removed from the site and shall be legally disposed of off site.

Description of measures to be taken to minimize or avoid any adverse impacts on the wetlands and regulated areas

The erosion control plans for the site employ various erosion and sedimentation control measures set forth in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, such as silt fence, anti-tracking pads and erosion control blankets. Please see Erosion Control Plans in the accompanying plan set titled, Storrs Center, Inland Wetlands Modification Application, prepared by BL Companies, Inc., dated December 29, 2010.

PART D. SITE DESCRIPTION

N/A. The site is unchanged.

PART E. ALTERNATIVES

N/A

PART F. MAP/SITE PLAN

Map/Site Plans showing Existing Conditions and the Proposed Project

Please see accompanying plans titled Storrs Center, Phase 1A/1B Inland Wetlands Approval Modification, prepared by BL Companies, Inc., dated December 29, 2010.

Applicant's map date and date of last revision

December 29, 2010

Zone Classification

As of July 15, 2007, Storrs Center Special Design District

Is your property in a flood zone?

No, according to the FEMA FIRM, Town of Mansfield, Tolland County, Connecticut, Panels 090128 0005C and 090128 0010C.

PART G. MAJOR APPLICATIONS REQUIRING FULL REVIEW AND A PUBLIC HEARING

N/A – Existing Approval Modification only

PART H. NOTICE TO ABUTTING PROPERTY OWNERS

N/A

PART I. ADDITIONAL NOTICES

Notice to Windham Water Works (WWW)

Written notice will be provided to Windham Water Works. Copies of the letter and postal receipts will be provided under separate cover.

Notice to Adjoining Town

Not necessary as site is not located within 500 feet of an adjoining town.

Statewide Reporting Form

The Statewide Reporting Form is completed and attached.

PART J. OTHER IMPACTS TO ADJOINING TOWNS

Will a significant portion of the traffic to the completed project on the site use street within the adjoining municipality to enter or exit the site?

No.

Will sewer or water drainage from the project site flow through and impact the sewage of drainage system within the adjoining municipality?

No.

Will water run-off from the improved site impact streets or other municipal or private property within the adjoining municipality?

No.

PART K. ADDITIONAL INFORMATION FROM THE APPLICANT

Other additional information included with this application

- Plan set titled Storrs Center, Inland Wetlands Approval Modification, prepared by BL Companies, Inc., dated December 29, 2010.
- Master Stormwater Management Plan for Storrs Center – Phase 1A/1B Update, prepared by BL Companies, Inc., dated December 29, 2010

PART L. FILING FEE

The required $50 fee for IWA Modification is included with the application.

BL Companies

Storrs Center
Storrs Road and Dog Lane
Mansfield. Connecticut

Phase 1A Temporary Sediment Trap Design (TST)

Temporary Sediment Trap shall be used for disturbed sites with contributing watershed is 5 acres or less, and the intended use is 2 years or less.

A Temporary Sediment Trap has two storage requirements: one for wet storage and one for dry storage. The design id based upon the requirements of the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control handbook published by the Connecticut Council on Soil and Water Conservation in cooperation with the Connecticut Department of Environmental Protection.

The Temporary Sediment Trap shall have an initial storage volume of 134 CY per acre of drainage area, half of which shall be in the form of wet storage and the remainder in dry storage.

The contributing watershed is approximately 1.27 Acres
Therefore, 134 x 1.27 = 170.18 CY of required storage

Wet Storage Volume

Vw = 0.85 x Aw x Dw

Vw – the wet storage volume in cubic feet
Aw – the surface area of the flooded area at the base of the stone outlet in square feet
Dw – the maximum depth in feet, measured from the low point in the trap to the base of the stone outlet. (3.0 ft maximum allowed)

Minimum volume must equal 50% of 170.18 CY, which is equal to 85.09 CY or 2,297 CF

Bottom of basin = 602.10
Surface Area at Contour 604 = 3,548 SF

Aw – outlet elevation of perforated 18" HDPE riser set to 604.0 (3,548 SF +/-)
Dw – (604-602.1=1.9 ft)

Vw = 0.85 x 3,548 x 1.9

Vw = 5,730 CF or 212 CY

Dry Storage Volume

Vd = (Aw + Ad)/2 x Dd

Vd – the dry storage volume
Aw – the surface area of the flooded area at the base of the outlet in square feet
Ad – the surface area of the flooded area at the top of the outlet in square feet (Use contour 606 – 14,694 SF surface area)
Dd – the depth in feet, measured from the base of the stone outlet to the top of the stone outlet (4.0 ft maximum allowed) (606 – 604 = 2)

Vd = (3,548 + 14,694)/2 x 2

Vd = 18,242 CF or 675 CY

Total Required Storage = 170.18 CY
Total Provided Storage = 212 CY + 675 CY = 887 CY

PAGE
BREAK

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

To: Connecticut's Municipal Inland Wetlands Agencies

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

W1469

Dated: November 17, 2010

Re: 2010 Legislation and Regulations Advisory

The 2010 Legislature amended section 47-42d of the General Statutes of Connecticut with the passage of Public Act No. 10-85. Section 1 of such Public Act affects municipal inland wetlands agencies when acting on certain permit applications relating to property subject to conservation or preservation restrictions. Specifically, the new language clarifies that when a regulated activity takes place on a portion of property that is *not* restricted under the terms of a conservation or a preservation restriction, the filing of a permit application for such regulated activity may not be prohibited, and the applicant does not need to provide written notice to the holder of the conservation or preservation restriction. In addition, the new language describes the process an inland wetlands agency is to undertake if a regulated activity will occur on property for which a conservation or preservation restriction is held by a state agency.

A complete copy of Public Act No. 10-85 is attached for your use with the amended language underlined in Section 1 of such Public Act. You should plan to revise your inland wetlands agency regulations to reflect the amendments. Please note that only the revised language in section 1 of Public Act No. 10-85 is relevant to inland wetlands agencies. The provisions of section 47-42d of the General Statutes of Connecticut as amended by Public Act No. 10-85 govern until such time that your municipal regulations are amended. Section 1 of Public Act No. 10-85 goes into effect October 1, 2010.

In order to conform to Public Act No. 10-85, the following changes to the Inland Wetlands and Watercourses Model Municipal Regulations (IWWMMR) Fourth Edition dated May 1, 2006, as amended by the 2008 Legislation and Regulations Advisory dated October 14, 2008, are made:

Section 7: Application Requirements

The underlined language noted below is new and should be added to your regulations.
The bracketed ([ ]) language is deleted and should be removed from your regulations.

7.11 For any permit application involving property subject to a conservation restriction or preservation restriction, the following shall apply:

a. for purposes of this section, "conservation restriction" means a limitation, whether or not stated in the form of a restriction, easement, covenant or condition, in any deed, will or other instrument executed by or on behalf of the owner of the land described therein, including, but not limited to, the state or any political subdivision of the state, or in any order of taking such land whose purpose is to retain land or water areas predominantly in their natural, scenic or open condition or in agricultural, farming, forest or open space use.

b. for purposes of this section, "preservation restriction" means a limitation, whether or not stated in the form of a restriction, easement, covenant or condition, in any deed, will or other instrument executed by or on behalf of the owner of land, including, but not limited to, the state or any political subdivision of the state, or in any order of taking of such land whose purpose is to preserve historically significant structures or sites.

c. no person shall file a permit application, other than for interior work in an existing building or for exterior work on an existing building that does not expand or alter the footprint of [an] such existing building, relating to property that is subject to a conservation restriction or a preservation restriction unless the applicant provides proof that the applicant has provided written notice of such application, by certified mail, return receipt requested, to the party holding such restriction, including, but not limited to, any state agency that holds such restriction, not later than sixty days prior to the filling of the permit application.

d. in lieu of such notice pursuant to subsection 7.11c, the applicant may submit a letter from the holder of such restriction or from the holder's authorized agent, verifying that the application is in compliance with the terms of the restriction.

Section 10: Considerations for Decisions

The underlined language noted below is new and should be added to your regulations.
The bracketed ([ ]) language is deleted and should be removed from your regulations.

10.8 In the case of an application where the applicant has provided written notice pursuant to subsection 7.11c of these regulations, the holder of the restriction may provide proof to the inland wetlands agency that granting of the permit application will violate the terms of the restriction. Upon a finding that the requested land use violates the terms of such restriction, the inland wetlands agency shall not grant the permit approval.

10.9 In the case of an application where the applicant fails to comply with the provisions of subsections 7.11c or 7.11d of these regulations, (1) the party holding the conservation or preservation restriction, other than a state agency that holds such restriction, may, not later than fifteen days after receipt of actual notice of permit approval, file an appeal with the inland wetlands agency, subject to the rules and regulations of such agency relating to appeals. The inland wetlands agency shall reverse the permit approval upon a finding that the requested land use violates the terms of such restriction[.]; or (2) the state agency that holds such restriction may, not later than thirty days after receipt of actual notice of permit approval, file an appeal with the inland wetlands agency, subject to the rules and regulations of such agency relating to appeals. The inland wetlands agency shall immediately reverse such permit approval if the commissioner of the state agency that holds such restriction certifies that the land use authorized in such permit violates the terms of such conservation or preservation restriction.

10.10 Nothing in subsections 7.11c or 7.11d of these regulations shall be construed to prohibit the filing of a permit application or to require such written notice when the activity that is the subject of such permit application will occur on a portion of property that is not restricted under the terms of such conservation or preservation restriction.

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

Substitute House Bill No. 5117

Public Act No. 10-85

AN ACT CONCERNING CONSERVATION AND PRESERVATION RESTRICTIONS HELD BY THE STATE.

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

Section 1. Section 47-42d of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2010*):

(a) For purposes of this section, "state or local land use agency" includes, but is not limited to, a municipal planning commission, municipal zoning commission, combined municipal planning and zoning commission, a municipal zoning board of appeals, municipal inland wetlands and watercourses agency, a municipal historic district commission and any state agency that issues permits for the construction or improvement of real property.

(b) No person shall file a permit application with a state or local land use agency or a local building official or director of health, other than for interior work in an existing building or for exterior work on an existing building that does not expand or alter the footprint of [an] such existing building, relating to property that is subject to a conservation restriction or a preservation restriction unless the applicant provides proof that the applicant has provided written notice of such application, by certified mail, return receipt requested, to the party holding such restriction, including, but not limited to, any state agency that holds such restriction, not later than sixty days prior to the filing of the permit application. In lieu of such notice, the applicant may submit a letter from the holder of such restriction or from the holder's authorized agent, verifying that the application is in compliance with the terms of the restriction. If the applicant has provided written notice pursuant to this subsection, the holder of the restriction may provide proof to the state or local land use agency or local building official or director of health that granting of the permit application will violate the terms of the restriction and such agency, official or director shall not grant the permit. Nothing in this section shall be construed to prohibit the filing of a permit

application or to require such written notice when the activity that is the subject of such permit application will occur on a portion of property that is not restricted under the terms of such conservation or preservation restriction.

(c) If the applicant fails to comply with the provisions of subsection (b) of this section, (1) the party holding the conservation or preservation restriction, other than a state agency that holds such restriction, may, not later than fifteen days after receipt of actual notice of permit approval, file an appeal with the state or local land use agency or local building official or director of health, subject to any rules of such agency, official or director relating to appeals. The agency, official or director shall reverse the permit approval upon a finding that the requested land use violates the terms of such restriction; or (2) the state agency that holds such restriction may, not later than thirty days after receipt of actual notice of permit approval, file an appeal with the state or local land use agency or local building official or director of health, subject to any rules of such state or local land use agency, official or director relating to appeals. Such state or local land use agency, official or director shall immediately reverse such permit approval if the commissioner of the state agency that holds such restriction certifies that the land use authorized in such permit violates the terms of such conservation or preservation restriction. The commissioner of the state agency that holds such restriction may impose a civil penalty of not more than: (A) Five thousand dollars for a violation of subsection (b) of this section; and (B) one thousand dollars for each day that such violation continues after the applicant receives an order from such commissioner assessing a civil penalty pursuant to subparagraph (A) of this subsection.

Sec. 2. (NEW) (*Effective from passage*) (a) For purposes of this section:

(1) "Conservation restriction" has the same meaning as provided in section 47-42a of the general statutes;

(2) "Preservation restriction" has the same meaning as provided in section 47-42a of the general statutes; and

(3) "Open space land" has the same meaning as provided in section 12-107b of the general statutes.

(b) Whenever a municipality acquires any real property with the intent to place a conservation restriction, preservation restriction or other restriction on the use of such property, including acquiring property with funds specifically allocated for a conservation or preservation purpose, such municipality shall record in the land records a description of any such restriction and any applicable source of such restriction, including, but not limited to, the date of the referendum or local legislative body action that authorized such

acquisition contingent upon certain use restrictions and the source of the funding for the acquisition of such property if such funding restricted the use of such property.

(c) Whenever a municipality intends to permanently protect any municipal property by dedicating such property as a park or open space land, such municipality shall record in the land records a description of such property, the date of such dedication and the local legislative body action that authorized such dedication.

(d) The failure of a municipality to comply with the provisions of subsection (b) or (c) of this section shall not be evidence of the lack of any such conservation restriction, preservation restriction or open space land dedication.

(e) Nothing in this section shall be construed to amend or alter any other legal right or obligation of a municipality concerning open space land or park land.

(f) If a municipality fails to comply with a dedication of land as open space land or park land or the terms of a conservation or preservation restriction, the Attorney General may bring an action in the superior court to enforce the public interest in such dedication or conservation or preservation restriction.

Approved May 26, 2010

PAGE
BREAK

Northeast
Utilities System

December 15, 2010

Inland Wetlands Agency
4 South Eagleville Road
Storrs 06268

Dear Sirs:

This is to inform you of the scheduled maintenance activities by the Connecticut Light and Power Company (CL&P) on selected electric rights-of-way in your town in 2011.

At this time, we are scheduled to perform routine vegetation management in accordance with the enclosed specifications for rights-of-way vegetation control on the lines located on the enclosed maps.

The proposed maintenance will involve the selective treatment or removal of targeted vegetation species, primarily tall growing tree species as well as selected shrub and state listed invasive plant species. Our primary control method will include the use of federal and state approved herbicides to be applied in a foliar manner to the targeted vegetation during the growing season (June through October, 2011). In addition to chemical means, some locations will require selective cutting with or without the application of an approved herbicide to the cut stump to prevent resprouting of capable species (all hardwood trees and shrub species).

In addition to the foliar treatments in the summer, we are also planning on preparatory cutting (selective cutting) of tall trees and access roads beginning in January of this year. The pre-cutting of these lines will take place during the next four months and may resume after the foliar treatment period ends in October.

In wetlands locations, we have received the approval of the Connecticut Department of Environmental Protection (DEP) to apply herbicides that are approved for use in wetland areas by the state DEP and the U.S. Environmental Protection Agency (EPA). Applications of herbicides are only allowed to areas where there is no standing water. In the event the location contains standing water during the proposed application period, the spraying will be postponed.

At this time, we are schedule to perform routine vegetation management in accordance with the enclosed specifications for rights-of-way vegetation control on the lines located on the enclosed maps.

This letter serves as our notice of the proposed maintenance and I ask that if you have any questions on the proposed work or enclosed specifications that you contact me directly at (860) 665-3187.

MWC/aj
Enclosures

Sincerely,

Matthew W. Colebrook
Transmission Arborist
Connecticut Light & Power Company

PAGE
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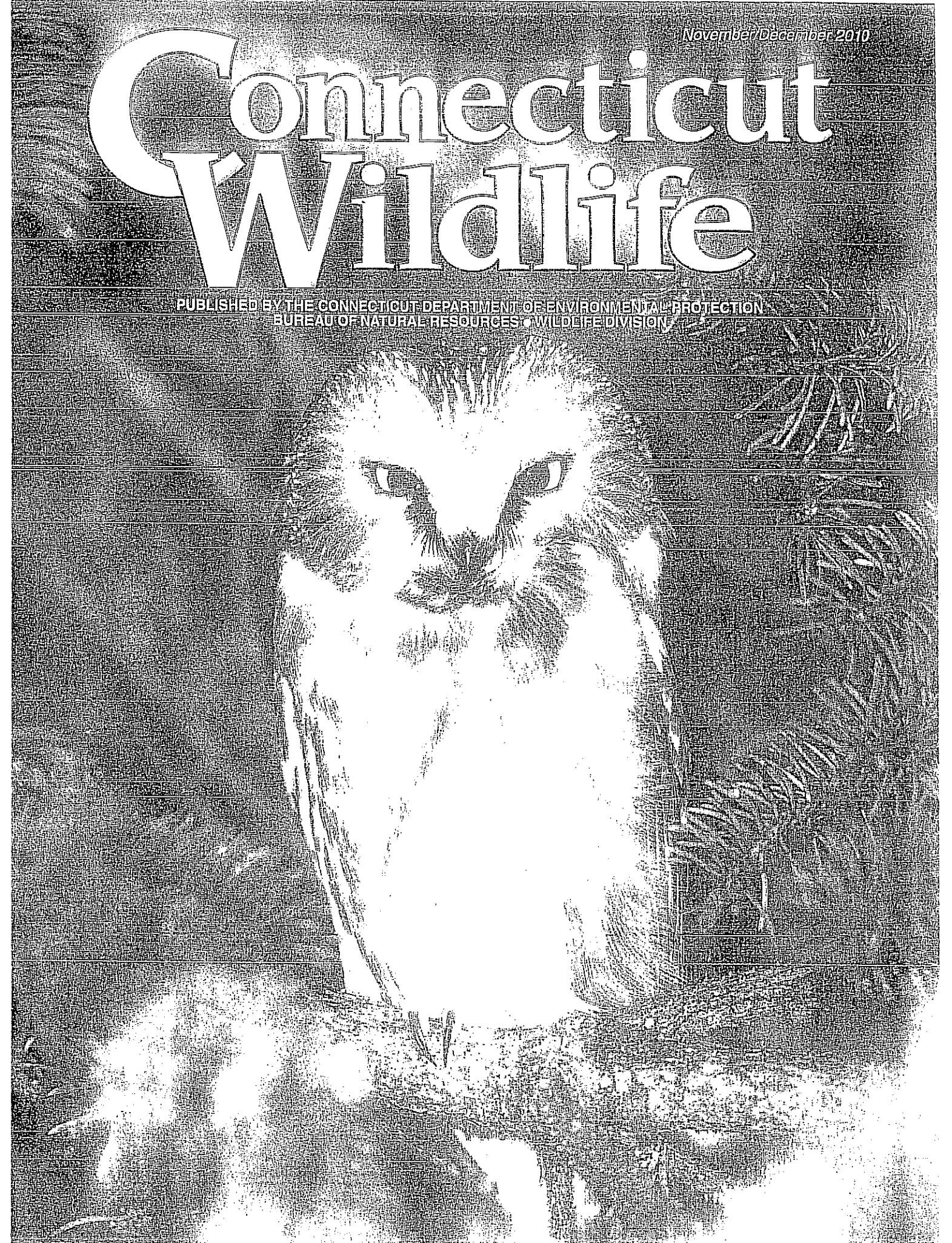
November/December 2010

Connecticut Wildlife

PUBLISHED BY THE CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF NATURAL RESOURCES • WILDLIFE DIVISION



Eye on the Wild

Connecticut Hunting & Fishing Appreciation Day 2010

After many months of hard work and planning, the Friends of Sessions Woods and DEP cosponsored a fun-filled day of free activities on Saturday, September 25, at the Wildlife Division's Sessions Woods Wildlife Management Area in Burlington (see page 9 to learn more). The idea to hold a "Connecticut Hunting & Fishing Appreciation Day" transpired with the non-profit Friends group. Friends wanted to show its appreciation to sportsmen and women for their contributions to the conservation of Connecticut's natural resources by sponsoring a special day to celebrate hunting and fishing. Why hold such an event at Sessions Woods? The acquisition of this property, which is used by hikers, school and scout groups, hunters, and anglers, was made possible through the Federal Aid in Wildlife Restoration Program. Federal aid also was instrumental in the establishment of the Sessions Woods Conservation Education Center. Hunters and anglers pay taxes and special fees on hunting and fishing equipment to help fund wildlife and fish management, habitat restoration, and other conservation programs.

One of the goals of CT Hunting & Fishing Appreciation Day was to hold a free event that would draw the participation of not only hunters and anglers, but families and others interested in the outdoors. The last Saturday in September was chosen for the event because it also is National Hunting and Fishing Day. However, several fairs and festivals also are held all over the state on the same day. The organizers of CT Hunting & Fishing Appreciation Day knew they had a tremendous task in front of them. Friends offered financial support and also obtained grants from the Main Street Community Foundation, and the Clinton S. Roberts Foundation. Organizers invited other DEP Divisions, sportsmen's organizations, and local outdoor equipment retailers to participate. They also planned a multitude of activities and presentations for all ages. Everyone did their best to spread the word about this new event.

When September 25 arrived with its warm, sunny weather, the people steadily came to Sessions Woods, curious about CT Hunting & Fishing Appreciation Day. They left happy and pleased with the activities and programs. Most surprising of all was the number of families with children that attended. CT Hunting & Fishing Appreciation Day turned out to be the perfect family outing. The organizers accomplished their objective of getting families outdoors and introducing them to a whole new world of wildlife and fisheries conservation and outdoor activities. Feedback from attendees and participants (volunteers, sportsmen's groups, retailers) has all been positive.

The Wildlife Division would like to extend its appreciation to everyone who worked hard to make CT Hunting & Fishing Appreciation Day a resounding success.

Kathy Herz, Editor

Cover:

Northern saw-whet owls spend the winter in Connecticut, roosting in dense evergreens near their hunting grounds. Read the article on page 3 to learn more about a project to improve their winter roosting habitat.

Photo courtesy of Paul J. Fusco

Connecticut Wildlife

Published bimonthly by

State of Connecticut
Department of Environmental Protection
Bureau of Natural Resources
Wildlife Division
www.ct.gov/dep

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Circulation Trish Cernik

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State Land and Private Land Habitat Management

Connecticut Wildlife magazine (ISSN 1087-7525) is published bimonthly by the Connecticut Department of Environmental Protection Wildlife Division. Send all subscription orders and address changes to *Connecticut Wildlife*, Sessions Woods WMA, P.O. Box 1550, Burlington, CT 06013. Subscription rates are $8 for one year, $15 for two years, and $20 for three years. No refunds. Periodical postage paid at Burlington, CT, and additional entry offices. Postmaster: Please send all address changes to *Connecticut Wildlife*, P.O. Box 1550, Burlington, CT 06013.

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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.

The DEP is an affirmative action/equal opportunity employer and service provider. In conformance with the Americans with Disabilities Act, DEP makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities who need this information in an alternative format, to allow them to benefit and/or participate in the agency's programs and services, should call 860-424-3051 or 860-418-5937, or e-mail Marcia Bonitto, ADA Coordinator, at Marcia.Bonitto@ct.gov. Persons who are hearing impaired should call the State of Connecticut relay number 711.

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Restoring Winter Roosting Habitat for the Saw-whet Owl

Written by Peter Picone

Habitat is the foundation of wildlife's existence and, for some species, special habitats can become even more important seasonally. This is the case with the Northern saw-whet owl, which uses evergreen roosting cover during late fall and winter.

The saw-whet is Connecticut's smallest owl. It hunts for white-footed mice in the darkness of night. After their hunting forays, the owls seek the protective cover of evergreens. Saw-whets winter in Connecticut, roosting in dense evergreens near their winter hunting grounds. Evergreens provide important thermal cover during the cold winter months and protection from larger avian predators during daylight hours. Saw-whets also occasionally store captured prey on evergreen branches for later consumption.

As forests age, evergreens like red cedar are displaced by oaks, hickories, and maples. Without forest management, shade-intolerant, early colonizers, such as red cedar, die off in 25 to 30 years.

The Wildlife Division received a U.S. Department of Agriculture Wildlife Habitat Incentives Program (WHIP) grant to restore evergreen habitat at a saw-whet owl winter roosting site on state land in New Haven County. Restoration and enhancement of evergreen habitat was accomplished by clearing away hardwood tree competition around existing evergreens (known as daylighting); and planting new evergreens in clusters near former and current winter roosting areas.

The daylighting of evergreens and site preparation for plantings was accomplished in 2008 with the use of a "brontosaurus" mower. This large apparatus has a drum-chop mowing head that chomps, grinds, and mulches woody vegetation to ground level. Habitat managers consider this machine one of the best tools of the trade to improve sunlight conditions and restore young forests.

In fall 2009 and spring 2010, red cedar, white pine, white spruce, and Norway spruce were planted by Division staff and volunteer Master Wildlife Conservationists in areas cleared by the brontosaurus. Fencing was placed around the cedars to protect them from deer browsing as they are a preferred winter food for deer. Some of the planting stock (bare root white pine, Norway spruce, white spruce) was donated by Richard Jaynes of Broken Arrow Nursery, in Hamden. As the planted evergreens grow, they will improve and retain the Northern saw-whet owl's winter roosting sites on the property.

The Division is grateful to its partners who helped facilitate this habitat restoration project, especially the USDA Natural Resource Conservation Service, DEP Parks Division, Master Wildlife Conservationists, and New Britain High School invasive plant management volunteers.

Peter Picone is biologist with the Wildlife Division's Habitat Management Program

P. J. FUSCO

The northern saw-whet owl uses evergreen cover for roosting and protection in winter.

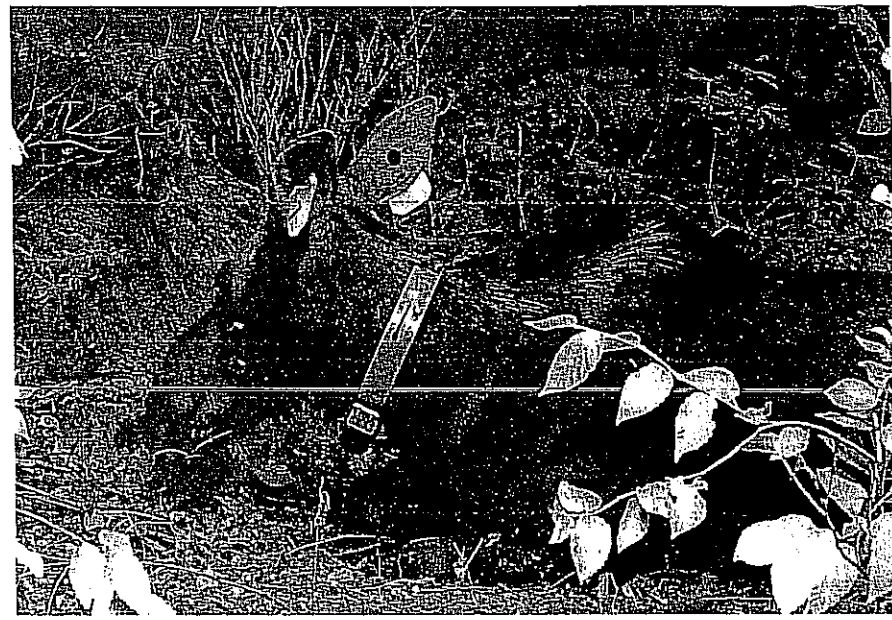
P. PICONE, HABITAT MANAGEMENT PROGRAM

Master Wildlife Conservationists plant evergreens to improve winter roosting habitat for saw-whet owls.

The Future of Moose in Connecticut

Written by Andrew LaBonte

Moose are one of North America's largest land mammals and the largest member of the deer family (Cervidae). An adult moose stands six feet tall at the shoulder and can weigh up to 1,400 pounds. Moose are well adapted for the cold weather of the northern portion of their historic range, which includes the northeastern United States and eastern Canada (including Newfoundland), and westward to the Great Lakes.

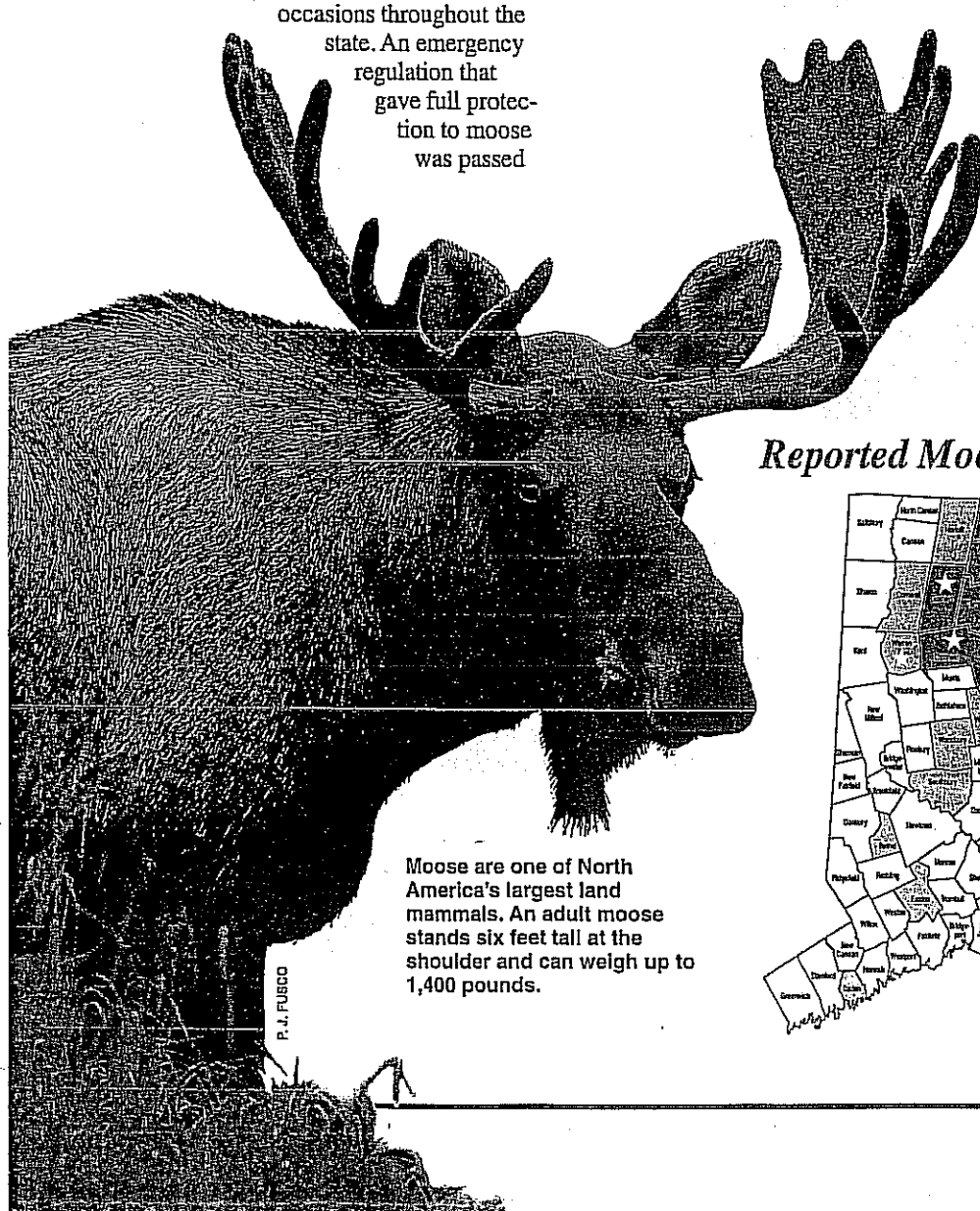


A. LABONTE, DEER PROGRAM

To better assess the future existence of moose in Connecticut, moose are being captured, radio-collared, and ear tagged as part of an ongoing project.

Historic Accounts of Moose

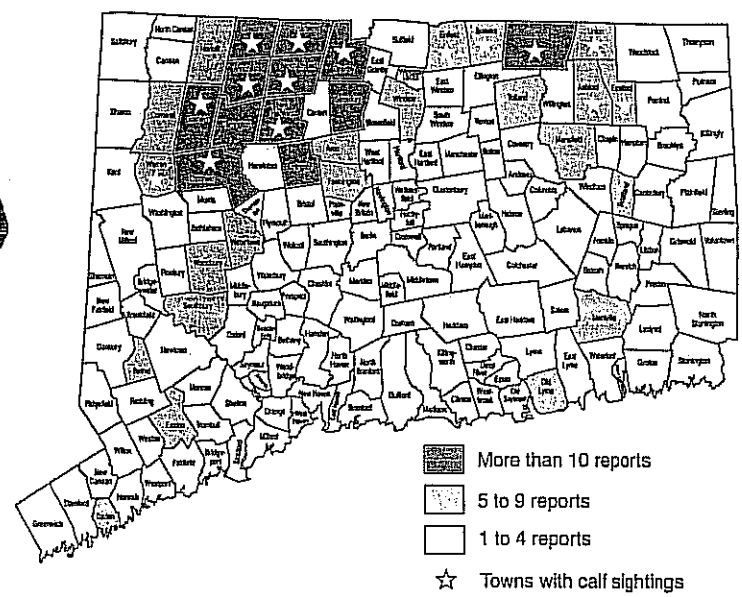
Historic accounts suggest that moose existed in Connecticut, but were extirpated sometime in the early eighteenth century. According to the Connecticut State Archaeologist, no archaeological deposits of moose exist, indicating that moose, if truly ever native, likely occurred in low numbers. Beginning in the early 1900s, moose were reportedly seen on a few occasions throughout the state. An emergency regulation that gave full protection to moose was passed in 1956. Wandering moose occasionally were reported through the early to mid-1990s; however, there was no evidence that a resident population existed. In 2000, the first sighting of a cow with a calf was documented, confirming the establishment of a resident population. Since 2000, a growing number of public and hunter sightings of moose and an increase in moose-vehicle accidents indicate the population continues to expand. The population was conservatively estimated at 74 moose in 2008.



P. J. FUSCO

Moose are one of North America's largest land mammals. An adult moose stands six feet tall at the shoulder and can weigh up to 1,400 pounds.

Reported Moose Sightings 2000-2009



Limits to Population Expansion

Continued expansion of the moose population in Connecticut may be limited by several factors, including quality of habitat and food resources, weather, and disease. Optimal habitat has been described as areas dominated by early successional vegetation offering a wide variety of tree stand types and age classes that provide both mature conifer cover and open, disturbed areas for forage. Connecticut forests are primarily mature, with 78% percent of trees greater than 60 years of age. This condition provides plenty of cover from weather. However, during much of the year, moose prefer young forest stands with high stem densities and quality food that can meet the demands of their diet (40-50 pounds of food per day). Moose may expend more calories searching for food than they can consume if the density of optimal forage species is low.

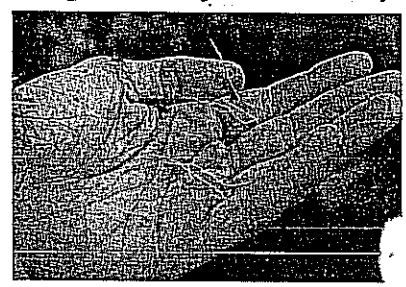
Impact of Temperature and Habitat

Warm temperatures might restrict the southern range expansion of moose into areas with otherwise adequate forest habitat. Moose have difficulty dissipating surplus heat when there are warm temperatures, which can lead to heat stress. Heat stress can lead to reductions in overall activity, influencing feeding time and consumption rates, and can result in weight loss. Average daily temperatures in Connecticut exceed temperature thresholds for moose 200-300 days out of the year. Temperature readings recorded from a GPS-collared moose in northwest Connecticut revealed that the moose was exposed to temperatures above heat stress temperatures 86% of the time.

A model evaluating the suitability of Connecticut's landscape for moose was developed, based on quality and quantity of habitat and temperature. Three counties were classified as unsuitable for moose based on density of roads and humans. The total potential moose in Connecticut is 1,359, based on moose densities derived from the model. Potential moose concentration varied geographically across the state. The areas most suitable for moose exist along the Massachusetts border in northeastern and northwestern Connecticut.

Impact of Insects and Disease

In addition to the challenges associated with finding adequate food and keeping cool throughout the year, moose also face the challenge of coping with insects and disease. Moose can be harassed by biting flies to the point where their health is impacted because they are forced to move into less desirable habitat to escape the flies. Winter ticks, also known as "moose ticks," can significantly impact the health of moose. Unlike the deer tick, the moose tick feeds on one host throughout its life cycle, which begins when eggs hatch into larvae in summer. Larvae are picked up when a moose passes by vegetation where eggs were laid. The larvae remain on the moose through the nymphal and adult stages where they continue to feed until they drop off in May. As many as 50,000 ticks have been reported on moose in several Canadian Provinces. The consequences of heavy tick loads are excessive grooming, hair loss, and even death. Moose with an extensive tick infestation are often referred to as "ghost moose" because they appear to be a light-colored, pale grey instead of dark brown.



Moose and deer ticks found on a moose captured in Hartland in 2009.
PHOTO BY P. LEWIS, DEER PROGRAM

A neurologic disease known as "moose sickness" is caused by a brain worm that is found in deer in eastern and central North America. Larval stages of the worm are shed by deer and found on their feces. Intermediate hosts, such as snails and slugs, pick up the larvae. As moose feed on vegetation, snails and slugs are incidentally ingested. The worms carried by the snails and slugs penetrate the wall of a moose's stomach during digestion and migrate along nerves until they reach the vertebral wall. There they enter the tissue of the spinal cord and continue to migrate towards the brain. Brain worm infestations are known to cause weakness in the hindquarters, turning of the head and neck to one side, fearlessness, lethargy, rapid eye movement, blindness, circling, and the inability to stand. Moose infected with brain worm may not always exhibit signs of infection. Brain worm also may not be the direct cause of death. However, the condition has been associated with declines in moose populations throughout North America since symptoms were first documented in Minnesota in 1912. Although deer are the usual host for the worm, they rarely become ill from it.

During 2005, a Connecticut moose became sick and died in Burlington and another displaying symptoms associated with brain worm was euthanized in Goshen. In 2009, a third moose that was behaving oddly in Hartland was captured and later had to be euthanized after it was unable to regain mobility. All three moose were examined at the University of Connecticut and showed infestations of brain worm. This past August, an adult female moose that displayed signs of brain worm (lameness and limited ability to stand) was immobilized in Cromwell and relocated to northwestern Connecticut, where it had the best chance of survival. The moose died the following day. Although the ultimate cause of death was unclear, it is likely that stress from either disease or injury, in combination with stress associated with capture and relocation, was too much for the animal.

Collecting Data

To better assess the future existence of moose in Connecticut, moose are being captured, radio-collared, and ear tagged as part of an ongoing project between the DEP, University of Connecticut, and Northeast Wildlife Damage Management Cooperative, along with additional cooperation from the Metropolitan District Commission. Information is being collected on age, weight, general health, habitat use, and survival of moose.

A female moose that was captured in March 2009 and had been missing since May 2009 was recently observed with a calf in Hartland. The cow had given birth to a calf earlier this year and both have been seen with a bull collared in January 2010 for the past month.

Anyone who observes a moose in urban areas of Connecticut should contact the Wildlife Division's Franklin office at 860-642-7239 or Sessions Woods office at 860-675-8130 during office hours (Monday through Friday, 8:30 AM-4:30PM), or DEP Emergency Dispatch (860-434-3333) after hours. All other observations can be reported on the DEP Web site at www.ct.gov/dep/wildlife.

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

Blue Spots and Spade Feet:

DEP study is focused on two of New England's rarest amphibians

Written by Kevin J. Ryan

Bucolic eastern Connecticut, with its gently rolling hills and scenic farm fields, is a herpetological hot spot. The region is home to two of New England's rarest amphibians: the eastern spadefoot toad and the pure-diploid blue-spotted salamander.

If "spadefoot" and "pure diploid" are terms that leave you wondering, you're in good company. Although the DEP identified the spadefoot and bluespot as "Species of Greatest Conservation Need" in its 2005 Comprehensive Wildlife Conservation Strategy and both species are endangered in Connecticut, surprisingly little is known about either animal. So, in an effort to learn more about these animals' habits and preferred habitats and to better guide conservation strategies, DEP partnered with the University of Maine Department of Wildlife Ecology and CTHerpConsultant, LLC, in 2008 to gather much-needed data on these species. The overarching goal of this study is to determine the best way to guide development in a way that supports persistence of these species. At the time of this writing, the study is in its third year, and a fourth and final season is planned for 2011.

Eastern Spadefoots: Desert Animals Stuck in Desert Ways

Little-known and somewhat misnamed, eastern spadefoots are not, in fact, true toads like our ubiquitous American and Fowler's toads. Somewhere between a toad and a frog, these desert amphibians are believed to have evolved from a common ancestor in the arid southwestern United States and northern Mexico. Over millennia, spadefoots expanded their ranges and evolved into separate species. Presently, there are six species west of the Mississippi River and one east – the eastern spadefoot. In New England, known spadefoot populations are usually found in river valleys at sites below 200 feet in elevation.

Even the most ardent spadefoot enthusiast will admit that they are odd-looking animals, and it doesn't take a trained eye to tell them apart from Connecticut's other anurans (frogs and toads). Eastern spadefoots are considerably less warty than true toads, have vertical pupils like those of a pit viper, and bear a whitish, lyre-shaped pattern on their backs. They owe their name to the sharp-edged, spade-like projections on their hind feet called tubercles which are used for corkscrewing themselves into underground burrows. Digging burrows – which can be up to six feet deep – are a relic response to life in the deserts in which these animals evolved. Connecticut isn't exactly arid, but these burrows still allow spadefoots to avoid predators and desiccation.

Another trait that harkens back to desert origins is their arrhythmic, explosive breeding events. While every other amphibian in New England adheres to a predictable, annual breeding cycle, spadefoots wait for intense rains in spring or summer to initiate truly explosive events lasting anywhere from one night to several days. These events are best identified by raucous calling reminiscent of the cawing of crows. Yet, for all this sound and fury, a given population may go years without breeding. These periodic emergences gave rise to the myth that spadefoots remain underground, completely inactive, for years at a time. (Spadefoots do emerge periodically at night to feed.)

When they do breed, the resulting offspring bear yet another desert adaptation. Because water in the desert dries up quickly, larval spadefoots everywhere develop accordingly. Eggs can hatch in only a few days and, under the right conditions, it takes a mere two weeks for a tadpole to transform into a juvenile. Other "rapidly" developing anurans, wood frogs for example, take two to three months to develop into froglets.

T. MAMMONE

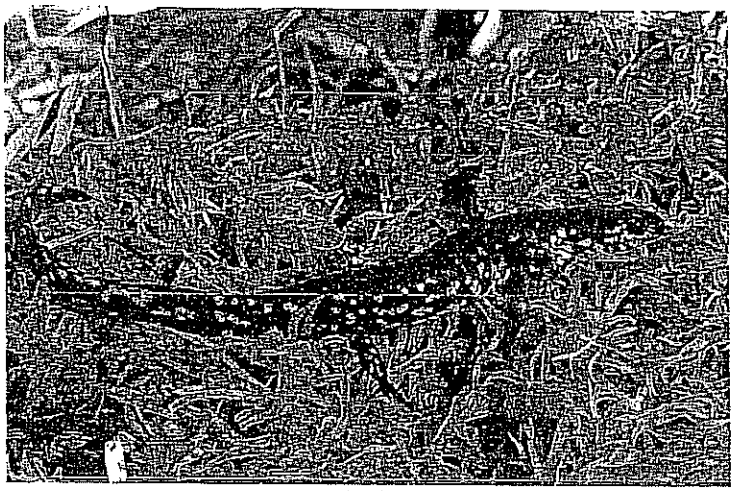
The eastern spadefoot toad has a characteristic lyre-shaped pattern on its back. This toad is listed as an endangered species in Connecticut.

While adapted to conditions other amphibians would find prohibitive, no amount of evolutionary conditioning has prepared the spadefoot for its current challenge—human-dominated landscapes. Spadefoot populations have been extirpated due to development, including one well-known population near New Haven which was extirpated in the 1930s – presumably to urbanization.

At the natural edge of their range and up against the ticking clock of seemingly inevitable land-use conversion, there is still time to safeguard the future of this odd little creature. Several populations are still known from the northern portion of the Central Connecticut Lowland, and more recently, spadefoots have been discovered in the Quinebaug River watershed in eastern Connecticut. As we learn more about their life history, we are better able to guide development for the mutual benefit of both species.

Pure-diploid Blue-spotted Salamanders: Normal Is Unique

Blue-spotted salamanders are one of several species of Connecticut salamanders belonging to the family Ambystomatidae, the mole salamanders. Individuals



SHINKIEWICZ

A pure-diploid blue-spotted salamander from the Quinebaug Valley. This amphibian is listed as an endangered species in Connecticut.

of this family are most often encountered on warm, rainy, spring nights when they undertake annual breeding migrations en masse to their ancestral breeding wetlands. Adult mole salamanders use wetlands only for several weeks during spring (with the exception of the marbled salamander, which breeds in the fall), spending the rest of their lives in forests adjacent to breeding wetlands.

The story of blue-spotted salamanders is a complicated one. Throughout much of New England, most salamanders we call "bluespots" are actually part of a genetic mélange which stemmed from the hybridization of two species millions of years ago. By and large, then, a bluespot isn't just a bluespot...unless it is. To better understand this, let's take a step back.

Most land-dwelling vertebrates are "diploid," meaning they have two sets of chromosomes: one from an individual's mother and one from its father. Salamanders in unisexual populations are "polyploid," meaning that they have multiple sets of chromosomes – in some cases up to five. In a given ambystomatid salamander, these extra chromosome sets can be from several other closely-related species. For Connecticut's bluespots, those extra sets come from the Jefferson salamander.

If the species' genetic ambiguity wasn't strange enough, its sexual habits are guaranteed to raise eyebrows. Populations of these hybrid species complexes generally consist only of females. Yet, despite having no males, they still need male sperm to reproduce. During the breeding season, female unisexual salamanders "steal" sperm from males of closely-related species. Male salamanders release sperm packets in the water of breeding areas before the females arrive. Once the females arrive at the breeding areas, they deposit the sperm packets in their bodies. The "stolen" sperm initiates egg development, but generally, the genetic material is not incorporated into the young. This type of sperm-stealing reproduction has been recently termed "kleptogenesis."

At first blush, this sort of reproductive strategy may seem unusual. Yet, throughout New England's wetlands, genetically muddled female salamanders use sperm from unrelated males every spring. The rare exceptions occur in three known populations of sexually reproducing, genetically pure blue-spotted salamanders — on the eastern tip of Long Island, New York at Montauk; in the Hockomock Swamp in Massachusetts; and in the Quinebaug River watershed in eastern Connecticut. These diploid populations are thought to be of the same lineage which remained geographically isolated from the unisexual, kleptomaniacal masses after the last glaciation.

The rare, puritan diploid bluespots look a little different from their complex cousins. Genetically pure blue-spotted salamanders are the smallest of Connecticut's mole salamanders; they are black with blue or bluish-white spots on the sides of the body and tail. Their narrow heads taper to a rounded snout. Unisexual blue-spotted salamanders tend to be larger, brownish, and have considerably wider heads.

Most studies of blue-spotted salamanders focus on genetics of unisexual populations, and little is known about their life history. Most published studies on the species recognize that they were working with unisexual populations, but do not attempt to reconcile their ecology with their genetics. Studying the ecology of diploid bluespots serves as a baseline for examining the influence of other species' genes on unisexual populations.

Connecticut Study

The current Connecticut study is taking place at two field sites in the eastern part of the state that are both inhabited by eastern spadefoots and pure-diploid blue-spotted salamanders. Specifically, the objectives of this study are to assess the animals' breeding population sizes, fidelity to breeding sites, movement patterns to and from breeding wetlands, the proportion of juveniles surviving to become adults, and non-breeding habitat use. Tried-and-true methods complement a few new techniques to collect information on both animals.

Pitfall Trapping

Pitfall trapping is a technique used in ecological studies to capture small animals, such as insects, small mammals, reptiles, and amphibians. It allows researchers to determine the species present on a site, and to estimate population size. Due to problems with indiscriminate capture, the Wildlife Division currently only permits pitfall traps to be used for long-term permitted studies like this one.

Species composition, as determined by pitfall trapping, also gives clues to possible between-species competition for breeding sites and/or food resources; aids in the assessment of potential predator-prey interactions; and gives insight into facultative use of pools by other species.

The layout of pitfall trap arrays at research sites surrounds breeding pools and compartmentalizes the habitat types present. This allows the assessment of population-wide movements.

Blue-spotted salamanders and eastern spadefoots captured in pitfall traps are surgically implanted with Passive Integrated Transponders (PIT tags). PIT tags are glass-encased microchips that emit a unique identification number when scanned by a reading device. From that moment on, each animal with a PIT tag is identifiable at the individual level, and subsequent recaptures can be tracked.

Radio-telemetry

A subset of blue-spotted salamanders and spadefoots toads have been implanted a with radio-transmitters, allowing their every move to be tracked. Each time an animal shifts its location, a suite of macro- and micro-habitat information is recorded, including canopy cover, leaf litter depth, and soil temperature. Habitat information is recorded at two random sites for each animal location to compare the habitats that study animals are using versus other available habitats.

continued next page

Blue Spots and Spade Feet

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PIT Tag Scanning

PIT tags are being employed as a novel method of detecting blue-spotted salamanders in situ via methodical scanning with a PIT tag reading device equipped with a modified antenna. The ordeal is reminiscent of a person searching for buried treasures with a metal detector. Locating salamanders in this fashion allows for the examination of habitat use at both coarse and fine scales. If salamanders are found using a habitat disproportionately to the amount of a particular habitat, then the salamanders may be exhibiting a preference for that habitat type. As with telemetry, microhabitat information is collected at each salamander location.

Toad-totes

To collect data on non-breeding emergences of eastern spadefoots, the antenna of another type of modified PIT tag reading device, dubbed a "toad-tote," is placed over the burrow of a PIT tag-implanted individual. The reader subsequently records the animal's PIT tag number as well as the date and time the tag number was recorded. Once a spadefoot emerges from its burrow and moves away from the antenna, its tag is no longer read, which is reflected in the stored data in the PIT tag reader. When the spadefoot returns to its burrow, the reader again begins to record the PIT tag number. Collecting data in this fashion provides an assessment of when and for how long spadefoots emerge. Comparing emergence data to weather information will be helpful in determining what spurs spadefoots to the surface for both breeding and non-breeding emergences. This knowledge may in turn be useful for conducting presence/absence surveys as new sites can be searched when spadefoots are likely to be active.

Spadefoot searches

To discover new localities of eastern spadefoots in eastern Connecticut, researchers have been searching at night during presumed peak spadefoot activity periods. Surveys have been concentrated on areas identified by the "Predicted Spadefoot Toad Habitat Map" created by Wildlife Division technician Kate Moran. The map is based on a Geographic Information System (GIS) model which incorporates elevation and soil characteristics of known spadefoot locations to predict further areas of suitable habitat (see "GIS Aids in Identifying Potential Spadefoot Toad Habitat," in the July/August 2009 issue of *Connecticut Wildlife*).

An Opportunity to Act

Amphibians are sentinels of planetary health – the proverbial canaries in a coal mine – and they are declining worldwide more rapidly than any other vertebrate group, including birds and mammals. In North and South America, nine species have been extirpated in the past 100 years and the present existence of another 117 species remains unknown. Of North and South America's 1,187 amphibian species, 39% face extinction, 337 of which are classified as critically endangered.

In the northeastern United States, habitat degradation, loss, and fragmentation have been identified as the main causes of decline in amphibian species.

The best-intentioned conservation efforts risk crumbling if their foundation is not one of sound science. While much of the Northeast experiences significant industrial, commercial, and residential development, eastern spadefoots and blue-spotted salamanders face greater and greater habitat loss. And, while it is a logical enough response for concerned citizens to wring hands and decry bulldozers, solid research into how these animals make their living can be used to guide most development around them. Their long-term viability hinges on the public's understanding of the value of biodiversity, the dedication of scientists logging long hours in the field and lab, and willingness of local planning departments and the development community to be open to changes in business as usual.

Kevin J. Ryan is a graduate research assistant from the University of Maine Wildlife Ecology Department

Zebra Mussels Discovered in Lakes Zoar and Lillinonah

The aquatic, invasive zebra mussel has been discovered in Lake Zoar and Lake Lillinonah, two large impoundments on the Housatonic River in western Connecticut. This is the first report of a new infestation since zebra mussels were discovered in Connecticut in 1998 in East and West Twin Lakes in Salisbury. It is uncertain if the mussels found in Lakes Lillinonah and Zoar are the result of downstream migration from upstream sources or a separate introduction.

Zebra mussels have the potential to cause much damage by displacing native mussels, clogging power plant and industrial water intakes, affecting public drinking water distribution systems, and disrupting aquatic ecosystems. This invertebrate can spread from one water body to another through boating and fishing activities if proper precautions are not taken.

The zebra mussel is a black and white-striped bivalve mollusk, which was introduced into North American waters through the discharge of ship ballast water. Since its discovery in Lake St. Clair (Michigan/Ontario) in 1988, the zebra mussel has spread throughout the Great Lakes, Mississippi River system, and most of New York State.

Zebra mussels have specific water chemistry requirements, and are limited to waters with moderate to high calcium concentrations and pH. In Connecticut, suitable habitat for zebra mussels is mostly limited to a number of water bodies in western portions of the state.

Signs are being posted at Lakes Lillinonah and Zoar to alert the public about the presence of the zebra mussels and what precautions should be taken to prevent their spread. The DEP will continue to monitor these lakes and others throughout the state. Possible sightings of zebra mussels and other aquatic nuisance species should be reported to the DEP Inland Fisheries Division at 860-424-3474. More information can be found on the DEP Web site (www.ct.gov/dep). Look for an in-depth article about zebra mussels in a future issue of *Connecticut Wildlife*.

CT Hunting & Fishing Appreciation Day Is a Huge Success

Written by Kathy Herz, Photography by Paul Fusco

The DEP and Friends of Sessions Woods cosponsored Connecticut Hunting & Fishing Appreciation Day on September 25 at the Sessions Woods Wildlife Management Area in Burlington. This first-time event was a huge success as approximately 1,000 people, mostly families, attended. There were activities for all ages, along with interesting programs and workshops about hunting and fishing, target shooting, 3-D archery, casting pools, and hunting dog demonstrations. The Congress of Rough Riders of Naugatuck provided scheduled demonstrations of Cowboy Action Shooting. Most importantly, attendees had the opportunity to speak face-to-face with DEP staff from the Wildlife, Inland and Marine Fisheries, Law Enforcement, Boating, and Forestry Divisions, as well as with representatives from over 30 conservation, hunting, and fishing organizations. Attendees age 16 and older were able to enter a drawing for door prizes, including a kayak, shotgun, and fly-rod.

Children participated in several fun activities and crafts, such as track making, face painting, a blindfolded ropes course, and a scavenger hunt. Those who completed the scavenger hunt received a bird identification book and were automatically entered into a drawing for a backyard wildlife gift package.

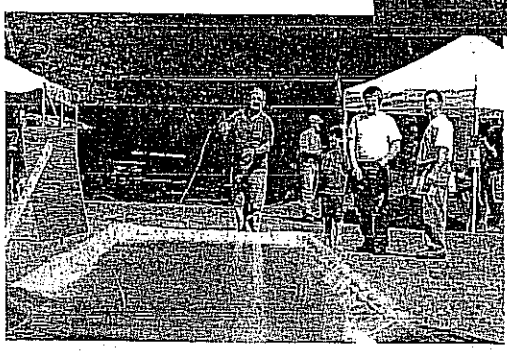
Financial support for the event was provided by the Friends of Sessions Woods, the Main Street Community Foundation, and the Clinton S. Roberts Foundation.

A certified range safety officer helps a youngster as he shoots a .22 rifle at a target.

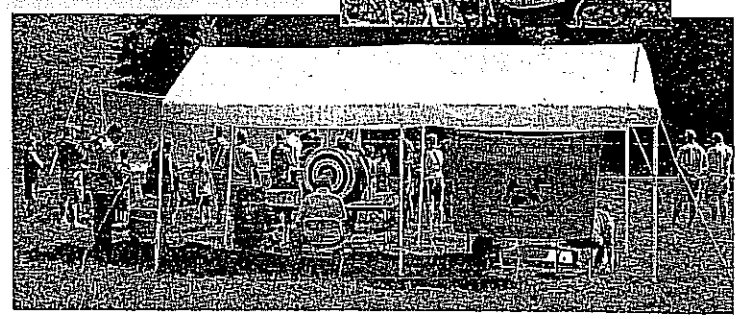
Friends of Sessions Woods members staff the welcome table.

The hands-on wildlife quiz was a popular activity.

Those who attended Hunting & Fishing Day were able to make turkey calls, learn about forestry and boating in CT, observe Cowboy Action Shooting, and practice flycasting.



Attendees age 16 and older were able to enter a drawing for door prizes (left). Archery was another popular activity (right). Conservation Education/Firearms Safety instructors were on hand to provide instruction.



Large and in Charge - The Great Black-backed Gull

Article and photography by Paul Fusco

Gulls are common and familiar birds to most Connecticut residents. Some species breed here, some migrate through the state, and some spend the winter. Ten species of gulls regularly occur in Connecticut at one time of year or another. Among them is the largest gull in the world, the great black-backed.

The great black-backed gull is a resident, meaning that individuals can be found in Connecticut year round. The population in our region has increased dramatically since the first half of the twentieth century. The great black-backed is an opportunist that has adapted to taking advantage of human-related food sources. Landfills and trash along the shoreline, including fishing waste, provide a readily accessible source of food.

The strong, heavy bill of the great black-backed gull is frequently used for catching and killing prey.

Description

Great black-backed gulls share the same body structure as other members of the gull family, except they are bigger. They have long, broad wings; a short, rounded tail; and webbed feet. Adults have a black back and black topside to their wings (mantle). The head, body, and wing undersides are snowy white. First year immatures have contrasting back markings, a pale head, and a black bill.

With a body length of 32 inches and a wingspan of up to five and one-half feet, the great black-backed is truly an impressive and powerful bird. The large bill is strong and stout. It has a slight hook that is used to catch and kill prey, and tear flesh. Adults have a red spot on their lower mandible that chicks will peck at to get the adults to feed them.

Distribution

Common within their range, great black-backed gulls are found on both sides of the north Atlantic. Their breeding range extends from the middle Atlantic states north along the coasts of the Canadian Maritime provinces to southern Greenland, Iceland, and the coast of Europe from Scandinavia to Portugal. Although they are primarily sedentary, many withdraw from the northernmost latitudes in winter. Some birds may move as far south as coastal Florida and inland to large rivers or lakes as far west as the Great Lakes.

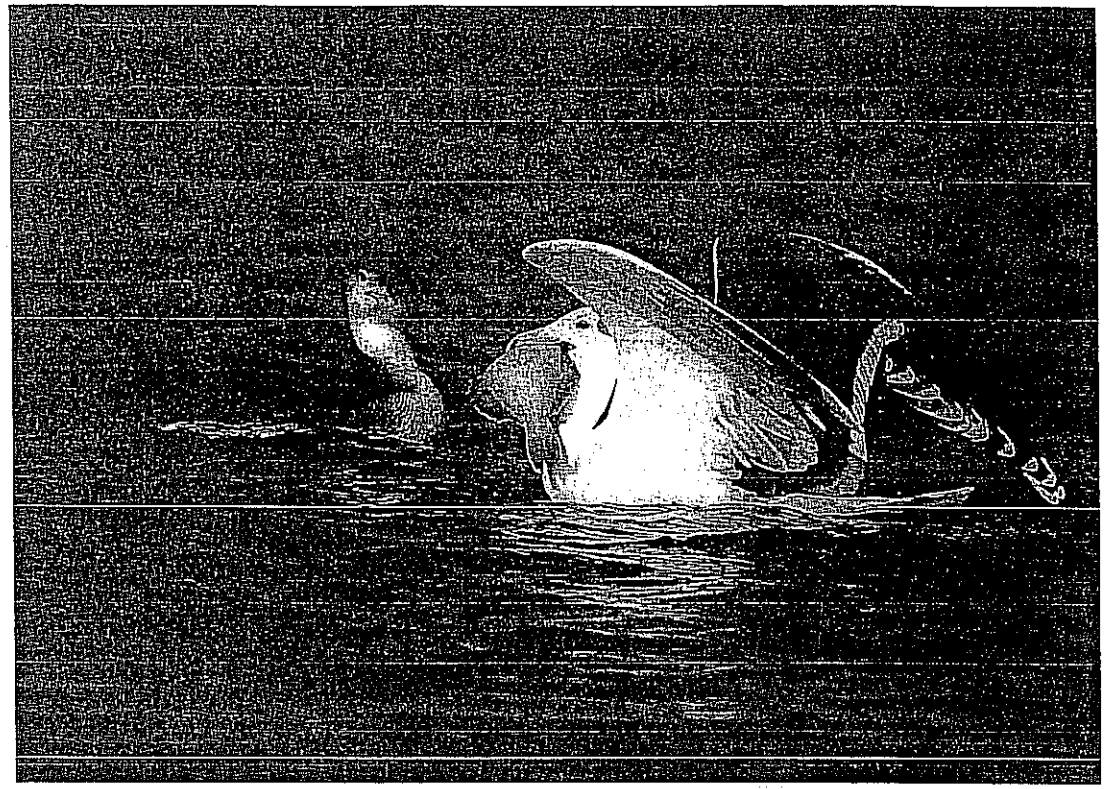
Great black-backed gulls are primarily coastal species. They often seen foraging far out at sea as they are known to follow feeding humpback whales and tuna to take advantage of smaller fishes that may be forced to the surface. The scientific name, *Larus marinus*, is both descriptive and fitting, meaning ravenous bird of the sea.

Above, a gull calls in an aggressive posture, while at right, a great black-backed gull exits the water carrying a freshly-killed black skimmer fledgling.

Behavior

Gulls are expert fliers, using minimal energy by gliding and soaring to cover large distances in their search for food. The great black-backed is capable of covering extreme distances as it surveys its coastal and open water domain. Like an eagle, it can be seen riding the wind to circle high above the shoreline, dropping down in smaller circles to join a feeding group on the water.

It is the great black-backed gull that takes control in a group of other gulls. Its domineering behavior is so aggressive that no smaller gull dares to challenge it. Even amongst themselves, great black-backed gulls will sometimes battle one another for dominance to the point of injury. Attacks are carried out by using their powerful wings, feet, and sometimes bill to mercilessly subjugate their opponent. In fact, injuries are one of the principle causes of death in the population.



A great black-backed gull starts to make off with its catch of flounder as a common loon looks on.

Along with scavenging, most gulls feed on small fish and invertebrates, including mollusks. The great black-backed gull also is a ruthless predator that is known to attack and kill chicks and adults of other birds, including puffins, murres, ducks, terns, skimmers, and smaller gulls. These gulls are known to knock smaller birds out of the air, coming in to kill them once they hit the water. Great black-backed gulls also are pirates, regularly robbing other seabirds of their catch.

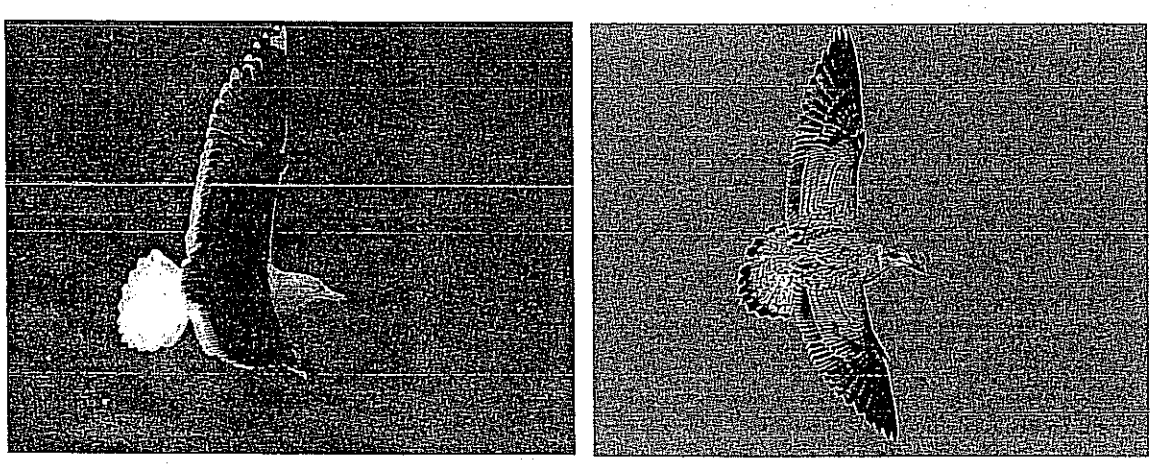
Great black-backed gulls usually start breeding at four to five years of age. They nest singly or in loose colonies on small rocky or grassy islands, barrier beaches, and other isolated coastal areas that are free of mammalian predators.

Conservation and Management

Along with many other avian species, great black-backed gulls were once widely hunted for their eggs and feathers. That practice was halted when two bird conservation laws, the Lacey Act (1900) and Migratory Bird Treaty Act (1918), were passed, preventing exploitation. Since that time, the population has been increasing and slowly spreading southward. On this side of the north Atlantic, the great black-backed was once constrained to the Canadian Maritimes. The first documented nesting in Massachusetts was in the 1930s, and Connecticut followed with its first nesting in the 1950s.

When great black-backed gulls are in close proximity to sensitive nesting colonies of terns and other seabirds, problems sometimes develop. The gulls have the capacity to greatly impact nesting and productivity of the other species. The smaller birds, along with their eggs and chicks, are highly vulnerable to the aggressive predatory behavior of the larger gull. In some situations, whole colonies of terns and other seabirds can be at risk of total nesting season failure or colony abandonment.

Wildlife managers in the Northeast region have undertaken measures to control populations of great black-backed gulls at sensitive locations to provide better nesting opportunities for endangered and threatened birds. Some of these measures have had success in protecting a few of the region's tern colonies.

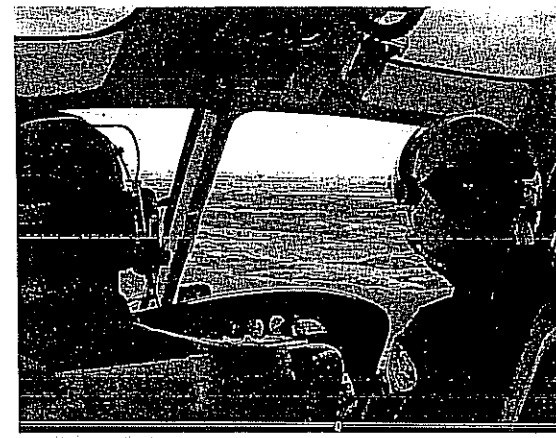


Both adults (left) and immatures (right) exhibit long, broad wings and short, rounded tails. Adults have a black mantle (topside of wings and back), while young birds have contrasting markings with a pale head.

Paul Fusco is the Art Director and Wildlife Photographer for the Wildlife Division's Outreach Program

2010 Atlantic Population Canada Goose Banding:
A Personal Experience

Written by Kelly Kubik



K. KUBIK, MIGRATORY BIRD PROGRAM

Airplanes, helicopters, and boats are the primary means of transportation in the remote Ungava Peninsula in northern Quebec, Canada.

Three distinct populations of Canada geese are present in Connecticut during certain times of the year. Two are migratory, spending their winters in the state. The third is a year-long, resident population. One of the two migratory populations is the Atlantic Population (AP). These geese nest primarily on the Ungava Peninsula in Nunavik, in northern Quebec, Canada, and spend the winter from Massachusetts southward to the Chesapeake Bay region of the Atlantic Flyway.

Banding at Breeding Grounds

The Atlantic Population was once considered the largest Canada goose population in North America, peaking at nearly one million birds during the 1970s. Unfortunately, the AP suffered a precipitous population decline during the late 1980s and early 1990s that led to the closing of the regular Canada goose hunting season in the Atlantic Flyway in 1995. After this closure, waterfowl managers decided that AP geese needed to be monitored directly on their breeding grounds rather than on their wintering grounds, as was traditionally conducted. Part of this new monitoring program was the initiation of a breeding ground banding program in 1997. This banding project is conducted in two separate regions on the Ungava Peninsula: Hudson Bay and Ungava Bay.

This pre-season banding program is vital to the management of AP Canada geese, not only in Connecticut but throughout the entire Atlantic Flyway. The data derived from this project are essential for monitoring adult and juvenile survival rates, timing and distribution of harvest, and population delineation. The program is a collaborative effort between the Arctic Goose Joint Venture, Canadian Wildlife Service, Ducks Unlimited Incorporated, Makivik Corporation, Nunavik Hunting, Fishing and Trapping Association, United States Fish and Wildlife Service, and the Atlantic Flyway Council, of which the Connecticut Department of Environmental Protection is a member.

Corralling Geese by Helicopter

This year, I participated in the pre-season banding of Atlantic Population geese along the Hudson Bay for a second time. On August 5, 2010, I arrived in the Inuit community of Puvirnituq via a seven-hour plane ride from Montreal, Quebec. I subsequently rendezvoused with an Ontario Ministry of Natural Resources (OMNR) helicopter that took me 40 miles south to our lodge on the Polemond River. There were nine individuals in our camp and we worked in two separate banding groups. I was a member of a four-person crew that was also comprised of an OMNR pilot, OMNR engineer, and a waterfowl biologist from Delaware. The other banding crew in the camp included a helicopter pilot from Nunavik Rotors and four Canadian Wildlife Service employees.

P. LABONTE- CANADIAN WILDLIFE SERVICE

One of the banding crews consisted of (left to right) Rob Hossler (Biologist from the Delaware Division of Fish and Wildlife), Chuck Brown (OMNR Engineer), Gord Bain (OMNR Pilot), and Kelly Kubik, author and Connecticut Wildlife Division Technician.

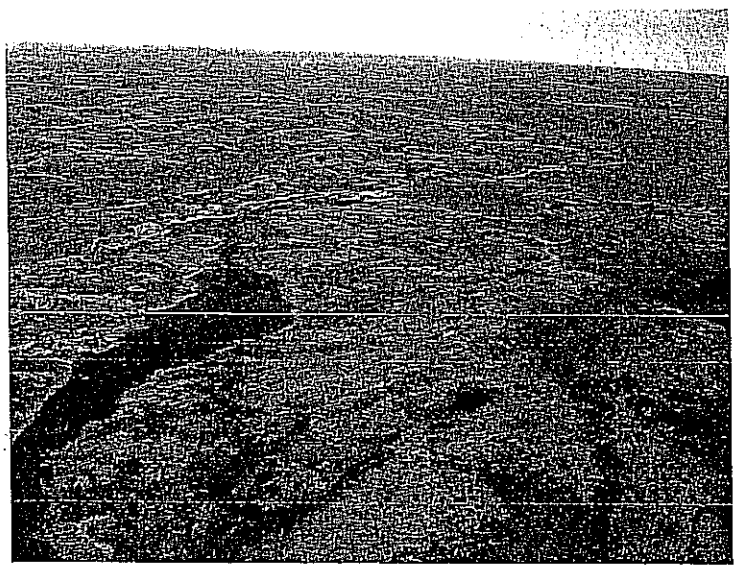
While banding geese in this remote sub-arctic region is similar to the resident Canada goose banding that occurs in Connecticut, it does have some very distinct differences. Because this area is comprised of roadless wilderness, a helicopter was used to locate, drive, and corral the geese into a portable net. After the geese were captured, we separated the goslings from the adults and then sexed and banded each goose. We also recorded the band numbers of any birds that were banded in previous years. To increase the probability of not capturing any molt migrant resident geese, only flocks of molting geese that contained goslings were caught. Skull mea-

K. KUBIK, MIGRATORY BIRD PROGRAM (3)

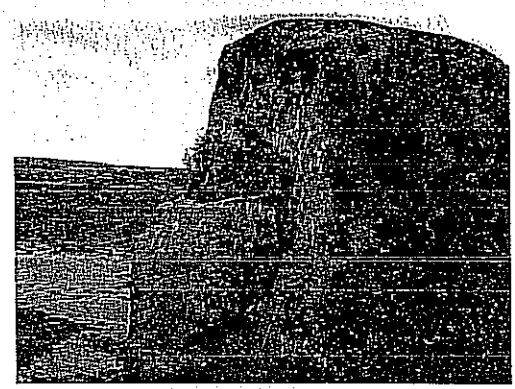
An A-Star B2 helicopter was used to local, corral, and drive molting geese into a portable net. The net was carried in a container attached to a skid on the helicopter.

surements were taken on approximately 10% of the geese that were caught. These measurements allowed us to differentiate between other subspecies of Canada geese that were encountered.

Our camp banded 2,398 geese, which included 1,015 adults and 1,383 goslings. Eighty-one previously banded adults also were recaptured. The two groups conducted banding between August 6 and August 14, 2010. We made 84 catches with an average capture size of 30 geese. All of the captures occurred in an area that ranged approximately 115 miles north to south along the northern Hudson Bay coast and extended 25 miles inland. Collectively, the banding operations along Hudson Bay and Ungava Bay banded a total of 4,594 AP geese this past year. Overall, productivity of AP geese in 2010 was classified as moderate to good.



The topography of the study area in northern Quebec consists of numerous ponds, lakes, rivers, and rocky outcroppings intermixed among the tundra.



A nesting rough-legged hawk was one of the many wildlife species we observed while working in this area.

Kelly Kubik is a wildlife technician for the Wildlife Division's Migratory Gamebird Program. The Atlantic Flyway Council, through the existing Cooperative Canada Goose Project, provided the funding for Kelly to travel to Canada to assist with this project.

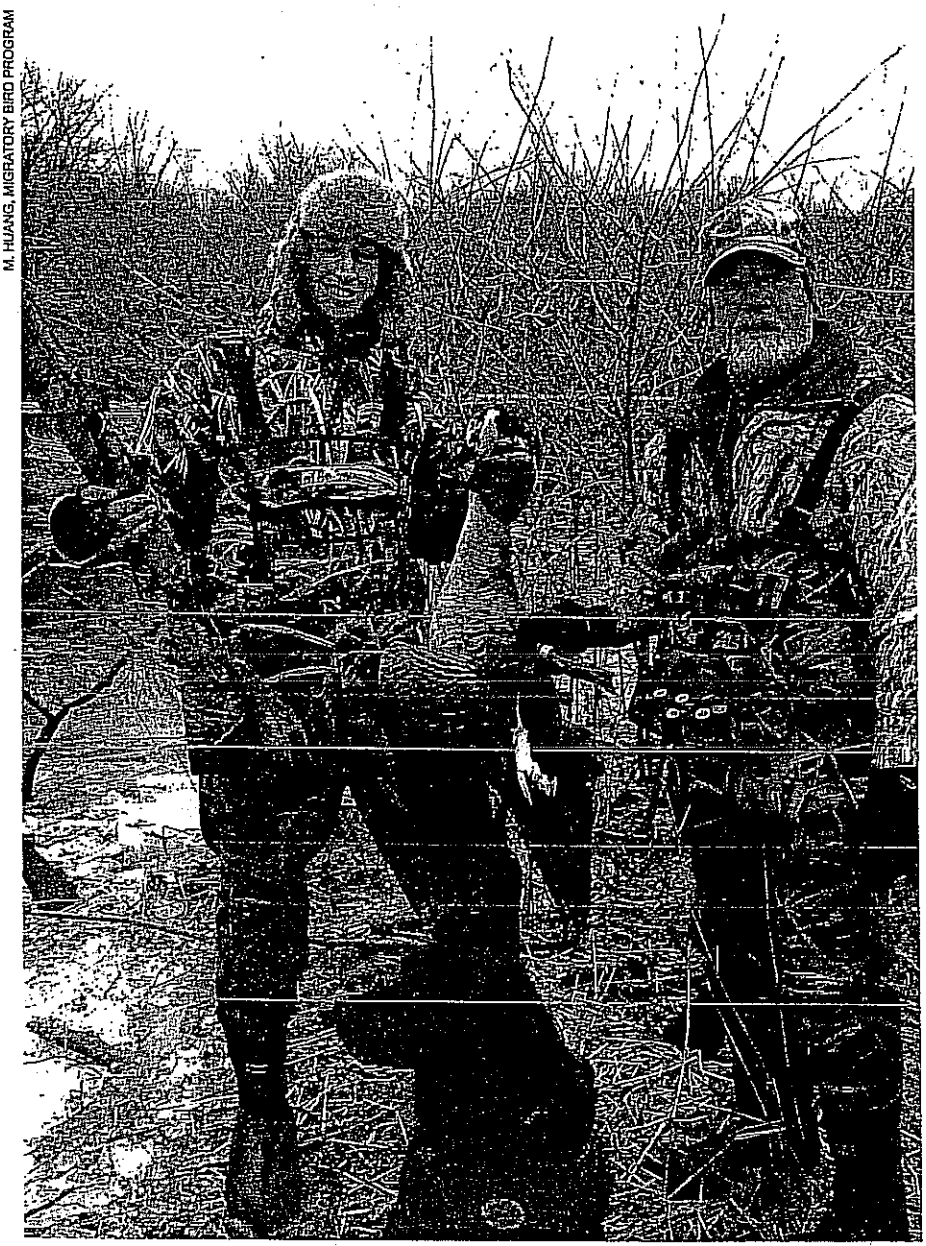
Waterfowl Hunters in CT, an Aging and Declining Population

Written by Min T. Huang

Participation in waterfowl hunting in Connecticut and throughout North America has been declining since the 1980s. The reasons for this decline are varied, including low duck populations in the 1980s, steel shot requirements enacted in the late 1980s, closure of the Canada goose seasons in the Atlantic Flyway in the mid-1990s, and a general loss of interest. Changes in society, lack of leisure time, and a changing population demographic also are likely causes. The gradual decline in the number of waterfowl hunters is not unique. Participation in hunting, in general, is declining.

Increasing recruitment and retention of waterfowl hunters in Connecticut, for the short and long-term, is crucial as waterfowlers are the single most ardent supporters of wetland habitat conservation. Waterfowl hunters constitute a small percentage of total hunters in Connecticut, but their contributions to conservation programs are significant. The sale of annual Connecticut Duck Stamps to waterfowl hunters has provided over one million dollars that have been used exclusively for the acquisition, enhancement, and restoration of over 1,700 acres of inland and tidal wetlands since 1993. Many of these hunters also belong to nonprofit waterfowl organizations that annually raise funds to benefit not only waterfowl but all wetland dependent wildlife. Developing meaningful strategies for recruiting and retaining waterfowl hunters requires looking at a broad array of factors that affect participation.

M. HUANG, MIGRATORY BIRD PROGRAM



Retired Wildlife Division Assistant Director Greg Chasko (right) is an avid waterfowl hunter and former head of the Division's Waterfowl Program. He has made an effort throughout the years to mentor younger hunters interested in gaining the skills necessary to become a "waterfowler."

Assessing Waterfowl Hunters

Starting in 2004, the Wildlife Division has sent two comprehensive surveys to over 1,000 waterfowl hunters. Objectives were to assess the demographics of waterfowl hunters in Connecticut but, most importantly, to gauge levels of participation, motivations for hunting, and satisfactions derived from participation.

It is clear that Connecticut's waterfowl hunter population is aging. The average age of a waterfowl hunter in the state is approximately 46, with over 20 years of waterfowl hunting experience. Annual participation is high, averaging around 85%. However, despite hunting seasons that have become more liberal in recent years, the number of days spent waterfowl hunting is decreasing. This decline can be attributed to changes in other commitments, decreasing access to hunting spots, and using limited recreational time to hunt other species, such as deer. Hunters that reported not participating in the past one or two seasons cited the same reasons as active hunters for spending fewer days hunting. At least 26% of "dropout hunters" cited lack of access to hunting areas as the overriding reason for not participating. Twenty percent cited other commitments as keeping them from waterfowl hunting, and 18% said that they hunted other species instead of waterfowl with their limited time.

Participation in Hunting

The factors that motivate hunters to participate in the activity and the satisfactions they derive from participating also can provide meaningful insight into how to maintain and recruit hunters. Spending time outdoors with family and friends has the greatest influence on participation by

active waterfowl hunters. This is in stark contrast to the motivations of hunters that reported not hunting in the past year or two. Those "dropout" hunters were more motivated by the desire to harvest ducks than any other factor.

Despite hunting seasons that have become more liberal in recent years, such as the resident goose season, a recent Wildlife Division survey found that waterfowl hunters are spending less time hunting waterfowl.

Satisfaction from Hunting

The factors that governed the satisfaction derived from a given hunt also were different between active participants and non-participants. Most participants gained satisfaction from a hunting experience through spending time outdoors with family and friends, working with hunting dogs, and seeing wildlife in general, ducks in particular. "Dropout" hunters were more inclined to derive satisfaction from taking a lot of shots on a hunt or harvesting a given number of ducks. Seeing wildlife and just being outdoors did not resonate as much with this group as it did for the hunters who participated annually.

Differences Between Active and "Dropout" Hunters

The differences in expression between active hunters and "dropout" hunters shed some light on why those who are dropping out may not continue to pursue duck hunting. Previous studies have found that hunters that pursued their sport for achievement-related reasons were more likely to drop out than those that were motivated by appreciative-related reasons. Motivations for non-participants in Connecticut to hunt ducks were less appreciative-related than for those who did participate. Non-participants were not as motivated to hunt for reasons such as merely spending time outdoors, nor were they inclined to list spending time with friends or family as highly as participants.

These motivational preferences were further exemplified in the factors that each group identified as important toward their overall satisfaction. Non-participants were more likely to derive their satisfaction from harvest-related factors than were participants. For instance, firing a lot of shots (achievement-related) on a given duck hunting trip was a greater determinant of satisfaction for non-participants. Appreciative-related satisfactions, such as working with a hunting dog and honing one's individual hunting skills, also were not as important to non-participants as they were for participants. These differences point to the need to foster an identity in potential duck hunters. Hunters going into the field to experience more than just the harvest are more likely to remain hunters and conservationists for life, rather than transients.

Mentoring Is Crucial

Duck hunting is a specialized sport; it involves a great investment in time, equipment, and skill. Recruitment may be difficult if hunting access to some areas is not easy, initial experiences are not characterized by high satisfaction, and there is a lack of parental/mentor influence. One of the tools that has been touted as a way to introduce new hunters to the sport has been the establishment of Youth Waterfowl Hunter Training days by the U.S. Fish and Wildlife Service. Unfortunately, only 5% of hunters have been mentored during a youth hunt day and only 15% of hunters have mentored a youth at one of these special days. Numerous studies have indicated that participation in hunting, particularly a specialized segment such as waterfowl hunting, takes a great deal of mentoring. An overwhelming 91% of hunters said that they were mentored in becoming a waterfowl hunter by a parent, relative, or close friend.

How to Increase Participation?

The reasons for participation and dropout of waterfowl hunters are numerous and their interactions complex. It is clear, however, that longtime waterfowl hunters continue to hunt waterfowl for many reasons other than merely harvesting ducks. There is an appreciation for being in a marsh with a dog and friends that is borne over many experiences and years of trial and error. Given the way that new waterfowl hunters are brought into the fold (mentoring), it is critical that waterfowl hunters give back to the sport in more than just financial ways.

The factors identified by hunters as deterring participation, such as lack of access, are issues that are difficult but not impossible to address by state agencies. Concerted efforts to increase access and potentially create more permit-only areas are merely a matter of resource allocation and diligence. More importantly, perhaps, is developing ways to foster a greater appreciation for the totality of experiences that is waterfowl hunting in new and perspective waterfowl hunters, not just the shooting and harvesting aspect.

From a conservation standpoint, it also is apparent that hunters who are annual participants were more likely to be a member of Ducks Unlimited or some other conservation organization. Many dropout hunters reported not being a member of such an organization or had recently suspended membership. The focus should not only be on how to recruit new waterfowl hunters, but also on maintaining those that already participate and fostering more mentoring from existing participants. This might be the key to maintaining the waterfowl tradition.

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

FROM THE FIELD

Fees and Credits for Fishing and Hunting Licenses, Permits, and Tags

Legislation was approved and signed into law in April during the 2010 session of the Connecticut General Assembly reducing many of the fees for sportsmen's licenses and permits. This was followed in June by legislation authorizing a credit to be applied against the fee for any 2011 sportsmen's license, permit, or tag when purchase of a license, permit, or tag had been made at the higher prices in place between October 1, 2009, and April 14, 2010. The credit amount will be the difference between the higher amount paid during that time period and the amount set by the new fee structure established on April 14, 2010.

Credit redemption is not available from town clerks, retail vendors, or through DEP's Online Sportsmen Licensing System. You must purchase your 2011 license, permit, or tag by mail or in person at one of the following DEP facilities to obtain a credit (2011 licenses/permits/tags will be available starting December 1, 2010):

- **Marine Headquarters**, 333 Ferry Road, Old Lyme; 860-434-6043; Mon.-Fri. 8:00 AM-4:00 PM,
- **Eastern District Headquarters**, 209 Hebron Road (Route 66), Marlborough; 860-295-9523; Mon.-Fri. 8:30 AM-4:00 PM
- **Western District Headquarters**, 230 Plymouth Road, Harwinton, 860-485-0226; Mon.-Fri. 8:30 AM-4:00 PM
- **Franklin WMA**, 391 Route 32, Franklin, 860-642-7239; Mon.-Fri. 8:30 AM-4:00 PM
- **Sessions Woods WMA**, 341 Milford Street (Route 69), Burlington, 860-675-8130; Mon.-Fri. 8:30 AM-4:00 PM
- **DEP Main Office**, 79 Elm St, Hartford, **License & Revenue Office**, 860-424-3105; Mon-Fri 9:00 AM-4:00 PM and the **DEP Store**, 860-424-3555; Mon.-Fri. 9:00 AM-3:30 PM

Mail-in Option: A form to purchase your license, permit, or tags by mail when redeeming a credit will be available on-line at www.ct.gov/dep/sportsmensfeereduction after December 1, 2010.

To see a running tally of the 2010 archery deer harvest, go to www.ct.gov/dep/hunting and click on "2010 Archery Deer Harvest Update."

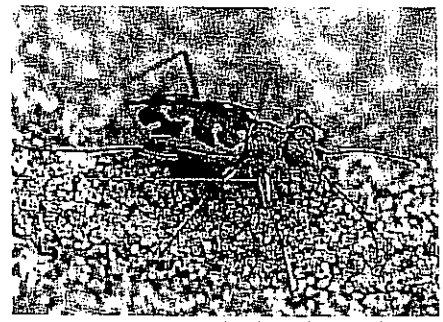


PHOTO BY P. J. FUSCO

Puritan Tiger Beetle Update

The 20th year of adult Puritan tiger beetle surveys at current and historic sites was completed in 2010. The Puritan tiger beetle is a federally threatened and state endangered species. It only occurs in New England on sandy beaches along the Connecticut River and in Maryland along the shores of the Chesapeake Bay. This handsome beetle has a two-year life cycle, spending one year as a grub-like larva feeding until emerging the next summer as a mature adult to mate and lay eggs.

Puritan tiger beetle larvae are fascinating in their own right. After a tiger beetle egg hatches, the larva digs a burrow to live in for the next year. The larva is specialized to live inside this burrow and is not often seen outside of it. It will sit in the burrow and wait for a prey item, often a spider or ant, to get close to the entrance, and then it will pop out and grab its meal. The larva has recurved spines on its back to anchor it into the burrow and keep it from getting pulled out by prey during an ambush.

The Puritan tiger beetle, like many other species, seemed to be affected by the unusually warm weather experienced this past spring, and emerged about two weeks earlier than in past years. Peak numbers of adult beetles were observed during the third week of June in 2010. Peak numbers typically are observed in the first or second week of July.

Overall, since surveys began 20 years ago, the number of adult beetles observed at Connecticut sites has either increased or remained stable. This is good news, but there still is much work to be done. Habitat management is needed at a few sites and the search continues for new locations as sandy beaches are often ephemeral due to the scouring and deposition processes of a river system. These small victories are to be savored though, as there are many hurdles and chronic issues that plague endangered species recovery.

Section 6 of the federal Endangered Species Act has provided funding for the Puritan Tiger Beetle Project.

Laura Saucier, Wildlife Diversity Program

Shelter for Bluebirds

The Wildlife Division is offering bundles of rough-cut lumber to groups free-of-charge for building bluebird nest boxes. The wood can be reserved by **organized groups only** on a "first come, first serve" basis beginning November 1, 2010. Group leaders should contact Wildlife Division technician Geoffrey Krukar at 860-675-8130 (Mon.-Fri., 8:30 AM-4:00 PM) or send an E-mail to Geoffrey.Krukar@ct.gov to make a reservation. Requesters must provide the following information: contact name, group name, mailing address, daytime phone number, E-mail address (if available), and number of bundles requested (limit 3 per group). Fifty bundles will be available by January 2011. Each bundle of wood yields approximately 15-20 nest boxes. The lumber consists of planks, and all groups will be responsible for cutting the wood to the correct dimensions. Only one request per group will be accepted, and participants will be mailed information packets which contain box designs and instructions, directions to a pick-up location, and claim tickets. When notified, groups will be responsible for picking up their wood at either Sessions Woods Wildlife Management Area, located at 341 Milford Street (Route 69) in Burlington, or at DEP Eastern District Headquarters, located at 209 Hebron Road (Route 66) in Marlborough.

Participating groups will be expected to construct, erect, and monitor the bluebird boxes throughout the nesting season (March-July). To be eligible to participate in future years, an annual report of box usage must be sent to the Wildlife Division.

Restoration Project at Long Beach West

A ceremony was held in late September 2010 to break ground for a project to restore Long Beach West, in Stratford, one of Connecticut's longest stretches of barrier beach. The project, supported by nearly $1 million in American Recovery and Reinvestment Act stimulus funding, involves demolishing the dilapidated remnants of a former summer community, removing debris and contaminants, and ultimately re-establishing 35-acres of beach to its natural state for people and wildlife.

U.S. Congresswoman Rosa DeLauro joined officials from the U. S. Fish and Wildlife Service and numerous project partners for the ground breaking ceremony at the project site.

The restored beach, which has been designated as an internationally significant area by the National Audubon Society, will provide critical habitat for migratory birds, including the state and federally threatened piping plover and state-threatened least tern; rare plants; and other wildlife. Passive public access to the beach also will be restored.

Raccoon

Procyon lotor

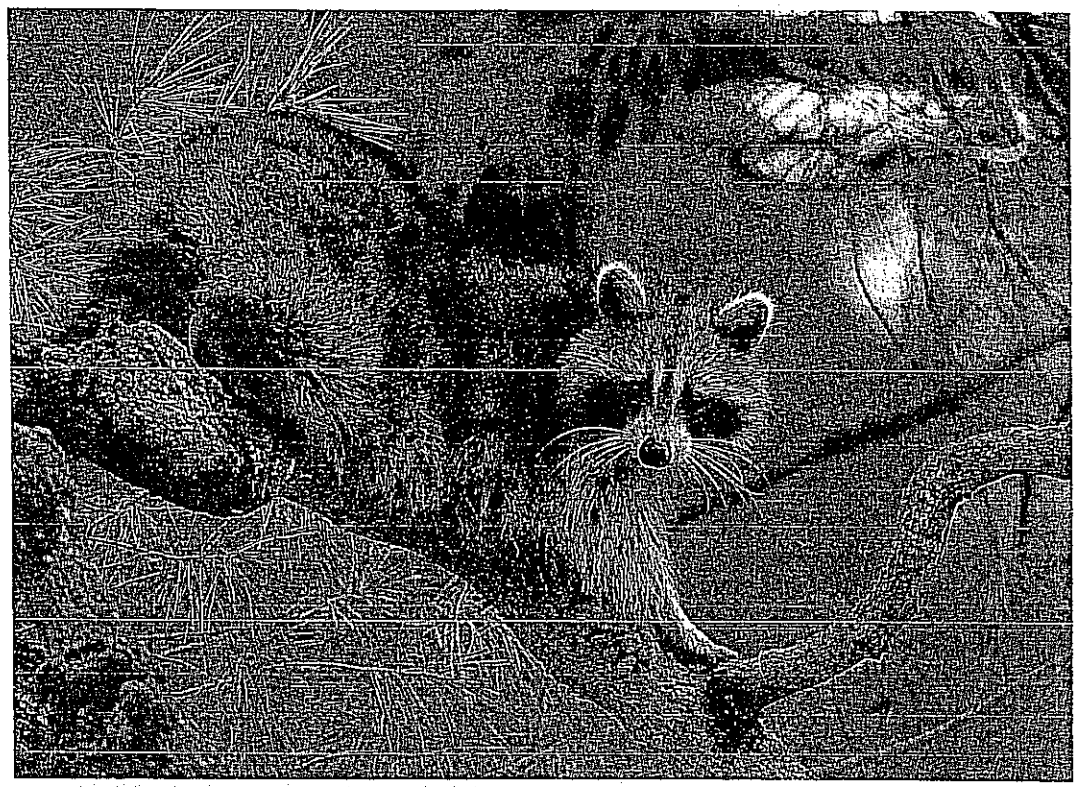


PHOTO BY P. J. FUSCO

Background

Raccoons are common throughout Connecticut. The state's expanding human population has probably benefited this opportunistic species; concentrations of people provide easy access to food sources, such as garbage, gardens, and bird feeders. Raccoons are adaptable, thriving in a large variety of habitat types. They are abundant in urban, suburban, and rural areas.

The raccoon has been an economically important furbearer in Connecticut due to its abundance and pelt value. Raccoons are harvested each year during the regulated hunting and trapping seasons, providing recreation for many Connecticut sportsmen and helping to control local raccoon populations.

Range

Raccoons range from Canada and throughout the United States (excluding the high elevations of the Rocky Mountains and much of the Southwest) into Mexico and Central America.

Description

One of the most easily recognized furbearers, the medium-sized raccoon is distinguished by a black mask across the eyes and cheeks and black rings around the bushy tail. Long, thick fur gives raccoons a typical gray-brown color, with variations ranging from sienna to silver. Other characteristics include short, slightly rounded ears bordered by white fur, and a long, pointed snout. Most adults weigh between 10 and 20 pounds, with males typically larger than females. Raccoons range in length from 23 to 38 inches, including the tail.

Habitat and Diet

Raccoons prefer wooded areas near streams, ponds, and marshes but are highly adaptable and can live in agricultural areas and in close proximity to human developments. They make their dens in tree cavities, abandoned woodchuck or fox burrows, rock crevices, brush piles, chimneys, attics, sheds, and other structures.

Opportunistic and omnivorous, the raccoon has a varied diet that includes fleshy fruits, mast (especially acorns, hickory nuts, and beechnuts), grains, invertebrates (particularly crayfish and insects), rodents, young rabbits, birds, turtles and their eggs, fish, and carrion. Raccoons are known for raiding garbage, agricultural crops, chicken coops, and pet food left outdoors.

Life History

Raccoons breed in late winter or early spring. The male does not remain with the female after breeding. The young are born in April or May after a 63-day gestation period. Females produce one litter per year, with an average of four cubs per litter. The cubs are born blind, helpless, and are covered with yellowish-gray fur. After 30 to 40 days, the cubs leave the den and will travel with the female for short distances to search for food. At three to four months, the cubs begin to forage on their own.

Interesting Facts

Raccoons are most closely related to the weasel (Mustelidae) and bear (Ursidae) families. They have keen senses of hearing, sight, and touch, but taste and smell are less well developed.

The front and hind paws of raccoons have five digits each. The dexterous front paws enable the raccoon to grasp and manipulate food items. Raccoons are excellent climbers, and can descend a tree head first.

Raccoons are primarily crepuscular (active at dawn and dusk) and nocturnal (active at night). They occasionally venture out in daytime, but that does not mean that they are diseased. Raccoons often adjust their feeding schedules, especially in spring when rearing their young. They may "den up" during the coldest periods in late fall and winter; however, this is not true hibernation, and the animals will wander out during warm spells.

Generally, raccoons are not social, but some pairs and families travel together.

Raccoons, especially large populations, prey on birds and their nests. In Connecticut, they often raid bluebird nest boxes that are not protected with predator guards. They also are problematic for herons and egrets on offshore islands where repeated predation can cause abandonment of the entire colony.

Diseases

Raccoon Rabies: Raccoon rabies first appeared in Connecticut in 1991 and raccoons are the primary carriers of this virus in the northeastern United States. Other mammals, including dogs, cats, skunks, foxes, woodchucks, and livestock, also have been infected with rabies. The following symptoms may indicate an

infection from rabies, distemper, or other diseases: unprovoked aggression, impaired movement, paralysis or lack of coordination, unusually friendly behavior, and disorientation. Daytime activity alone is not indicative of a raccoon with rabies; other symptoms also must be obvious. Contact with any wild or stray animal should be avoided, especially if it is behaving abnormally. Report sick or strange-acting animals to the local police, animal control officer, or the DEP. Contact your local health department or visit the DEP Web site (www.ct.gov/dep/wildlife) for more information on rabies.

Canine Distemper: Other diseases, such as canine distemper, can cause neurological symptoms similar to rabies. Distemper is a common disease that is usually fatal. However, it is not transmissible to humans and most domestic dogs are vaccinated against this virus.

Roundworm: Raccoons are primary carriers of roundworm, which is shed in raccoon feces. The roundworm rarely causes problems for raccoons, but it can be dangerous to other mammals, including humans. A person can become infected if he or she comes into contact with an item that is contaminated with raccoon feces. Therefore, it is important to keep children's sandboxes covered as raccoons may use them as latrine sites.

Management of Problems

Because of their ability to coexist with humans, raccoons can become a nuisance when they damage gardens, raid garbage cans, or inhabit human structures. They can be especially destructive on farms, where they feed heavily on crops. Because they may carry rabies, problem raccoons cannot be relocated, and only specified wildlife rehabilitators can accept injured or orphaned raccoons for rehabilitation with certain restrictions.

There are several preventive measures that homeowners can take to control or reduce problems from raccoons:

Do Not Feed or Touch Raccoons: Raccoons are wild animals. Feeding, whether directly or indirectly, may cause them to lose their fear of people.

Secure Garbage: Keep garbage in tightly closed containers. Store containers in an outdoor storage bin or in a garage or shed, and set out garbage on the morning of pickup instead of the night before. Run a rubber strap, rope, or wire through the lid and attach to the can handles. Placing ammonia directly in the can may help to repel raccoons. Keep compost in secure, vented containers to prevent access.

Feed Pets Indoors: Pet food should not be put out outside. Outdoor pet food inadvertently feeds a variety of wildlife species, including raccoons. Raccoons that congregate at a feeder also can facilitate the spread of diseases from raccoons to other wildlife or domestic animals. Livestock food should be stored in secure containers and not left outside where it is available to raccoons. Bird feeders should be placed away from trees or other structures that can be climbed by raccoons.

Eliminate Potential Denning Areas: Close off openings under porches and buildings. Seal any openings that lead into sheds or attics.

Eliminate Access Points: Raccoons can easily access roofs by climbing trees, downspouts, vines, or a trellis located near the house. Roofs and chimneys should be well-maintained to prevent raccoons from entering houses. Replace loose shingles and repair any holes near the eaves of the roof. Limiting access to the roof by trimming trees and shrubs also may be helpful.

The simplest and most effective, permanent solution to the problem of raccoons living in a chimney is to cap it. However, there may be young present, depending on the time of year. If the young are old enough to climb out, cap the chimney after the raccoons have left for the night. Sometimes, a female raccoon can be encouraged to move her young to another location by the use of repellents, such as ammonia or moth balls, combined with a light and noise from a portable radio placed near the damper.

Install Fencing: Electric fences may help to keep raccoons out of gardens. Wires must be spaced close together and close to the ground to be effective.

Hunting and Trapping: On farms, where more effective methods are needed to control a large number of animals, hunters and trappers can harvest problem animals on the property during the regulated hunting and trapping seasons or by special permit at other times of the year.

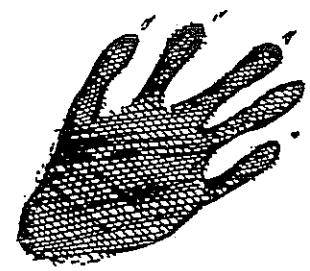
P. J. FUSCO

Because of their ability to coexist with humans, raccoons can become a nuisance when they raid garbage cans, damage gardens, and inhabit human structures.

Tracks

Front 2¼" Long

Hind 3¼" Long



Raccoon tracks are easily identified by the five long toes on each foot. The front foot is shaped somewhat similar to a human hand. Tracks are usually paired, with the front and hind tracks positioned next to each other as the animal walks along.

Wildlife Calendar Reminders

Programs at the Sessions Woods Conservation Education Center

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

Dec. 11 ..... **Children's Program: Wildlife Tracks & Signs,** starting at 1:30 PM. Learn about wildlife tracks indoors with Natural Resource Educator Laura Rogers-Castro and then head outside for a short walk to look for animal signs. Children also will make a wildlife track to take home. An adult must accompany all children. Meet in the exhibit area of the Conservation Education Center.

Jan. 9 ..... **12 Practical Tips for Successful Wildlife Photography,** starting at 1:30 PM in the education center. Wildlife photographer and Master Wildlife Conservationist Gary Melnysyn will provide participants with 12 tips to successful wildlife images. Gary's beautiful images will support a discussion on each tip. This will be an open forum that encourages questions about photo techniques or the wildlife itself. Gary recently returned to Connecticut after working as a National Park Service Ranger in Yellowstone National Park. He has travelled throughout North and Central America concentrating on digitally documenting a variety of wildlife species.

Hunting Season Dates

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, 2011).

Nov. 17-Dec. 7 ..... Private land shotgun/rifle and revolver deer hunting seasons.

Shepaug Bald Eagle Observation Area to Open on December 26

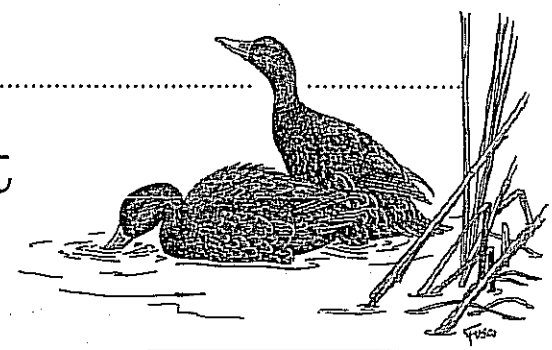
The Shepaug Bald Eagle Observation Area, in Southbury, opens for its 26th season on December 26, 2010. The Observation Area is run by FirstLight Power Resources, a GDF SUEZ Energy North America company, which owns and operates several hydroelectric facilities along the Housatonic River.

Observation times are Wednesdays, Saturdays, and Sundays between 9:00 AM and 1:00 PM from Sunday, December 26, 2010, through Wednesday, March 16, 2011. Although admission is free-of-charge, advance reservations are required and will be taken beginning on Tuesday, December 7. To make reservations for individuals, families, and groups, call toll-free at 1-800-368-8954 between 9:00 AM and 3:00 PM on Tuesdays through Fridays.

The Shepaug Observation Area is one of the top eagle viewing areas in New England. It is a popular spot for eagles in winter when the turbulence below the dam keeps the water from freezing, and the fish below the dam provide a ready food source. Local experts report an average of eight eagles feeding per day. Other birds seen at the area include red-tail hawks, sharp-shinned hawks, goshawks, great blue herons, and a variety of waterfowl.

Specialists will be on site with high-powered telescopes to help visitors see the eagles in action and to answer questions about America's national symbol. Visitors are encouraged to dress warmly because the observation area is unheated and to bring binoculars, if possible, given the limited number of on-site telescopes.

The 2010 Connecticut Hunting and Trapping Guide and 2010-2011 Migratory Bird Hunting Guide are on the DEP Web site (www.ct.gov/dep/hunting), and also at town halls, DEP facilities, bait and tackle shops, and outdoor equipment stores. Go to www.ct.gov/dep/sportsmenlicensing to purchase Connecticut hunting, trapping, and fishing licenses, as well as all required deer, turkey, and migratory bird permits and stamps. The system accepts payment by VISA or MasterCard.



Connecticut Wildlife

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)

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Address: _____

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Donation to the Wildlife Fund:

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

Connecticut Wildlife

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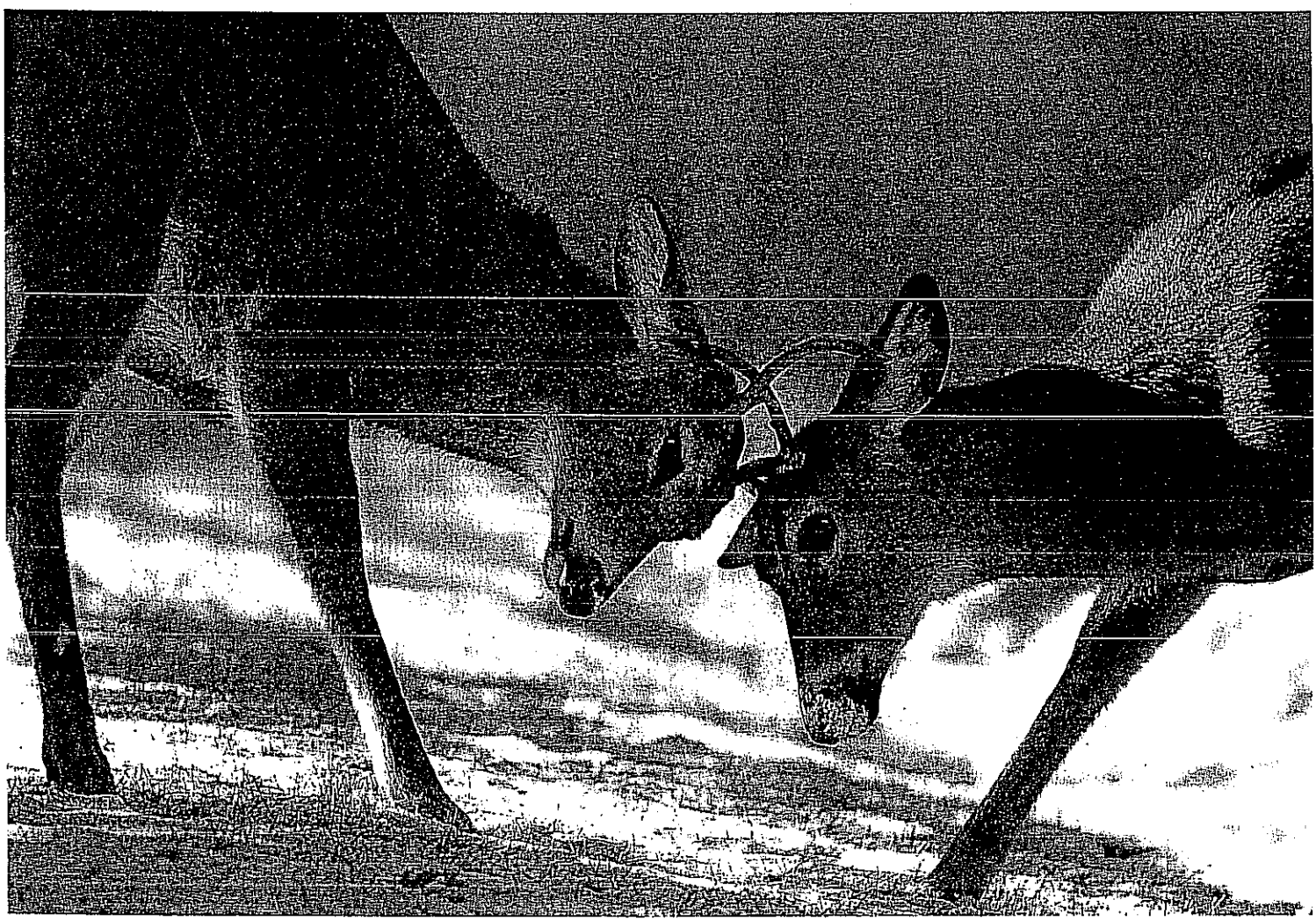

Two young bucks square off in a battle to practice the skills they will need in later years when the confrontations will be much more serious.