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Volume 22  
Number 3

# THE HABITAT

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



**CACIWC's 33RD  
ANNUAL MEETING  
& ENVIRONMENTAL  
CONFERENCE**

**NOVEMBER 13, 2010**

**ADMINISTRATIVE,  
LEGAL AND  
SCIENTIFIC SESSIONS  
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& WETLANDS  
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AGENTS**

In response to your requests, a selection of workshops is offered for new as well as experienced commissioners.

Three workshops are offered in each of these four areas:

- ★ Open Space & Resource Conservation
- ★ Land Use Law & Legal Updates
- ★ Conservation Biology, Issues & Updates
- ★ Commission Administration & Procedures

*See pages 8 & 9 for the complete list of workshops.*

## **H. Curtis Spalding, U.S. Environmental Protection Agency Regional Administrator, to Address CACIWC's Annual Conference**

H. Curtis "Curt" Spalding will be the keynote speaker at CACIWC's 33rd Annual Meeting and Environmental Conference at MountainRidge in Wallingford. He will speak on "The State of the Environment in New England; 40 Years after Earth Day" to emphasize CACIWC's conference theme of "Celebrating Four Decades of Environmental Conservation and Habitat Protection".



The year 1970 and the following decade were a historic time for national, regional, state, and local efforts to promote environmental protection and conservation. From the celebration of first Earth Day and formation of the U.S. Environmental Protection Agency (EPA) in 1970, through the organization of the Connecticut Department of Environmental Protection (DEP) in 1971, and the expansion of local Connecticut commissions in 1972, profound changes were being made in the role of government on all levels in shaping these efforts.

Mr. Spalding will discuss the progress that has been made in both improving environmental quality and preserving critical habitats in New England during the forty years since Earth Day. He will emphasize the value of local wetlands and conservation commissioners and staff in continuing their local habitat preservation efforts in partnership with state and federal agency activities.

Mr. Spalding has extensive experience in the environmental protection field as an advocate, policy analyst, and administrator. For almost 20 years, he served as Executive Director of "Save The Bay" in Rhode Island, a nationally recognized, 20,000-member environmental advocacy and education organization. He established the Narragansett BayKeeper and Habitat Restoration programs and oversaw the successful completion of the \$9 million Explore The Bay Campaign. Spalding

received his bachelor's degree from Hobart College and an M.P.A. from SUNY at Albany in Albany, NY.

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## RESOURCES

### Municipal Inland Wetland Commissioners Training Program - 2010

The CT DEP's 2010 Municipal Inland Wetland Commissioners Training Program Segment 3 will be held this fall from mid-October through mid-November. This all-day workshop will provide participants with an introduction to the rapidly expanding world of geospatial data and geographic information systems (GIS). The day will begin with an introduction to geospatial data and the science behind GIS. Next, a GIS tool created for Connecticut's municipalities, known as CTECO (Connecticut Environmental Conditions Online), will be discussed along with hands-on activities. The day will continue with a lecture on the importance of municipal parcel data including a demonstration of a GIS visualization tool that can help commissioners and staff understand and simulate land-use change in three dimensions.

Finally, the program will end with the Connecticut Agricultural Experiment Station talking about the utility of GIS for ecological research. The presentation will focus on aquatic invasive species in Connecticut's lakes and ponds and will show how GIS can improve early detection and allow a rapid response to this problem.

### It's Your Environmental 911 Call!

Your Environmental Toolkit for Properly Assessing and Addressing Development Proposals

CACIWC is pleased to provide Conservation Commissions with a new environmental toolkit pamphlet to help commissioners properly assess development proposals that may come before their town. The pamphlet includes:

- A 911 ENVIRONMENTAL CONTACT LIST
- How to be Proactive and Ready before the Environmental 911 call
- How to Properly address the potential Environmental Emergency and Professionally respond to the call

The Environmental 911 pamphlet can be viewed and downloaded from [caciwc.org](http://caciwc.org).

*More Resources, page 15*

**Editor's Note:** Conservation and Inland Wetlands Commissions can play a critical role in protecting rare and endangered plants and animals. Conservation Commissions can make identification of endangered species and their natural habitats a priority during inventory and research of undeveloped areas of the town, and then use that information to recommend their protection during land use decision processes. In this issue Ed Pawlak of Connecticut Ecosystems LLC discusses techniques for using GPS technology to enhance rare species survey (page 10). Also, in question/answer format, Attorney Janet Brooks and Ed Pawlak summarize how to access the DEP's Natural Diversity Data Base maps of rare species and natural communities locations, and review an Inland Wetlands Commission's legal protocols for protecting endangered species.

## JOURNEY TO THE LEGAL HORIZON by Attorney Janet P. Brooks



*In this article Attorney Janet Brooks departs from her customary format and engages in a dialog with Ed Pawlak of Connecticut Ecosystems LLC reflecting on his article in this issue about gathering data on rare species and relevance to inland wetlands commission decisions.*

*Janet:* You mention that the DEP database, known as the Natural Diversity Data Base (NDDDB), is expanded as new information is available. How accessible is that database? Is it hard to use?

*Ed:* Now that the DEP has placed the NDDDB maps on the DEP website, it is very easy to access them. The NDDDB is a compilation of all known current and historic listed species (Endangered, Threatened, and Special Concern) records and natural communities. To determine whether there are any NDDDB records on or near a subject property, go to the CTDEP Endangered Species web site, [www.ct.gov/dep/nddbrequest](http://www.ct.gov/dep/nddbrequest), click on "About NDDDB Maps". Scroll down and Click on "View Maps by Town" at the bottom of the page. Choose the town from the drop down menu, then click "Go". Click "Download Map" (note the date when the map was last updated). This will bring up a USGS topographic quadrangle map that includes the town of interest. Click the "+" button on the toolbar at the top of the page to zoom in on the map. You will note that road names are

visible at a high magnification, which will enable you to locate the property of interest.

The gray-shaded polygons on the map indicate the presence of one or more current or historic listed species records, or natural communities, somewhere inside the polygons. The exact location of a listed species record is not disclosed on the maps to discourage illegal collecting. In order to learn more information on the record(s), go to the CTDEP Endangered Species web site [www.ct.gov/dep/nddbrequest](http://www.ct.gov/dep/nddbrequest), click on

"Review/Contributing Requests". Scroll to bottom of page and click on either "Word" or "PDF" under Natural Diversity Data Base Review and Request Form. These files contain background information on the NDDDB program, along with the request form that must be filled out and mailed to CTDEP. The CTDEP will

reply with information on the species record(s) on or near the property of interest.

An NDDDB environmental review is required for regulated activities that require State permits, projects that use State funding, and activities performed by the State. The DEP encourages municipal land use commissions to use the environmental review process and to consider impacts to state listed species when making land use decisions.

*Ed:* (continuing) Once a listed species is found within a wetlands or watercourse in a proposed

*Legal, continued on page 4*

<p style="text-align: center;"><b>STATE ENDANGERED SPECIES ACT</b></p> <p style="text-align: center;">Connecticut General Statutes Title 26, Chapter 495, Section 26-303 to Section 26-315</p> <ul style="list-style-type: none"><li>• Applicable to state agencies and any actions authorized, funded or performed by state agencies</li><li>• Rarity defined on a statewide scale</li><li>• Prohibits the taking, selling</li><li>• Includes option to designate essential habitat</li></ul>
--

project area is that information alone sufficient to deny a wetlands application?

*Janet:* No. What we learned from *River Bend Associates, Inc. v. Conservation & Inland Wetlands Commission*, 269 Conn. 57 (2004) is that there must be evidence of actual adverse impact. A “concern” about the species’ fate is not likely to be sufficient. With regard to a listed species that exists on a site, the question is: is there expert opinion in the record that “connects the dots” between the species and adverse impact to it at that site? If there is no adverse impact to the species or if mitigation can eliminate that impact, the existence of the species at the site won’t be an obstacle to granting a permit.

*Ed:* Let’s say there is a documented listed species on a property proposed for development. Does a wetlands agency need to give this more weight than it would a more common, unlisted species?

*Janet:* Not necessarily. That’s because of the unique way in which wildlife is considered by wetlands agencies. We need to look at sections 22a-41(c) and 22a-41(d) of the General Statutes. (If your agency’s regulations track the DEP model regulations, you’ll find them in sections 10.5 and 10.6 of the regulations.) Section 22a-41(c) instructs us that animal and plant life is included in the definition of wetlands and watercourses.

However, section 22a-41(d) limits wildlife consideration when the proposed activity is outside of a wetland or watercourse. An agency can’t deny an application or impose conditions in granting a permit on the basis of wildlife “*unless the proposed activity will likely impact or affect the physical characteristics of such wetlands or watercourses.*”

If the regulated activity is proposed in a wetland or watercourse, the agency can deny or condition a

permit because of actual adverse impact to wildlife, listed species or unlisted.

The other scenario occurs when the proposed activity is in the upland review area. Then we’re in a situation where section 22a-41(d) applies, because the regulated activity is not sited in a wetland or watercourse. Even if the proposal threatens to eliminate the entire endangered species population, whether three individuals or three thousand, the wetlands agency *can’t* deny the application or place conditions in a permit because of a likely impact on the wildlife *unless* there is evidence that the proposal will likely impact the physical characteristic of a wetland or watercourse.

*Ed:* If a wetlands agency finds that there will be a likely impact to the physical characteristics of a wetland or watercourse as a result of a regulated activity outside of wetlands and watercourses, then are they free to consider any likely impact to plants and wildlife across the property, not just those that occur in the wetland/watercourse that will be physically

impacted? Or can they only focus on the plants/wildlife that occur in the wetland/watercourse that will be physically impacted?



*Leopard Frog - An Endangered Wetland Species. Photo Credit: Peter Picone, DEP Wildlife Department*

*Janet:* That precise case hasn’t yet been decided by the Supreme Court. But there is some Supreme Court guidance from the *Unistar Properties, LLC*<sup>1</sup> case. The court concluded that a wetlands agency may request information about wildlife in the

upland review area and beyond *because the effect of development on the wildlife in those uplands may affect the physical characteristics of wetlands or watercourses.* The court did also warn that if an agency sought wildlife information from an area so remote as to be unlikely to cause an effect on wetlands or watercourses, the agency action would be arbitrary and capricious - that is, illegal.

Legal, continued from page 4

In a case released this summer, the Appellate Court affirmed the denial of a golf course and houses in a coastal forest by the Old Saybrook wetlands agency. In *River Sound Development, LLC v. Inland Wetlands & Watercourses Commission*, 122 Conn. App. 644 (2010) the court upheld the agency's denial based on the fact that the loss of wood frogs would have a negative consequential effect on the physical characteristics of the wetlands. The court did not identify or distinguish whether the wood frog is a listed species.

*Ed:* (It is not.)

*Janet:* The court went through an elaborate explanation how an adverse effect on the physical characteristic of the wetlands would come about. Relying on and quoting Michael Klemens, *the applicant's expert*, the court pointed out the substantial evidence to support that conclusion: "the wood frogs remove a lot of the detritus in the pools. The leaves' energy is transported through the wood [frog] tadpoles . . . the actual quality of the water, physical parameters of the water, are affected by wood frog tadpoles."<sup>2</sup>

Counsel for the Town of Essex, an environmental intervenor in the application which actively participated in the public hearings before the Old Saybrook wetlands agency, relied on a footnote the Supreme Court's decision in *AvalonBay Communities, Inc. v.*

*Inland Wetlands Commission*, 266 Conn. 150, 163 n. 19 (2003) to argue its case about the wood frogs. The court in *AvalonBay* held that wildlife was not within the jurisdiction of wetlands agencies, with one stated

exception: "There may be an extreme case where a loss of or negative impact on a wildlife species might have a negative consequential effect on the physical characteristics of a wetland or watercourse, but that is not the situation in the present case." In talking to the counsel for the Town of Essex I learned that there were hundreds of documented wood frog tadpoles in the Old Saybrook application. In the *AvalonBay* case there were only a handful of documented salamanders.

*Ed:* Do you mean that the size of the population matters in every instance when wildlife is considered?

*Janet:* No. In *River Sound*, the argument was made that the wood frogs constitute that "extreme example" where the loss of wildlife will have a negative consequential affect on the physical characteristic of a wetland. Since the legislature amended the wetlands statute - in the 2004 legislative session that followed the fall 2003 issuance of

the *AvalonBay* case - any likely impact or effect on the physical characteristics of wetlands or watercourses from

## Sources for Endangered Species Information

**CT DEP Endangered Species Web Site:** [www.ct.gov/dep/nddbrequest](http://www.ct.gov/dep/nddbrequest)

**NatureServe Explorer** - an authoritative source for information on more than 70,000 plants, animals, and ecosystems of the United States and Canada. Explorer includes particularly in-depth coverage for rare and endangered species. <http://www.natureserve.org/explorer/>

**The Connecticut Butterfly Atlas Project** - The Yale Peabody Museum's Division of Entomology is host to the website of the Connecticut Butterfly Atlas Project (CBAP). [http://www.peabody.yale.edu/collections/ent/ent\\_cbap.html](http://www.peabody.yale.edu/collections/ent/ent_cbap.html)  
The Connecticut Butterfly Atlas Project is sponsored by the State Geological and Natural History Survey of the Connecticut Department of Environmental Protection, the Connecticut Butterfly Association, and the Connecticut Entomological Society.

**Chapter 495 Endangered Species Connecticut General Statutes** - (CGS) Section 26-303 Species <http://cga.ct.gov/2009/pub/Chap495.htm#Sec26-303.htm>

**Endangered Species Slide Program** - Photos and facts about endangered species and their management in Connecticut (41 slides). <http://www.depdata.ct.gov/wildlife/slideshows/endangered/endangered.asp>

**CT DEP Endangered and Threatened Species Fact Sheets** - Over 40 downloadable Fact Sheets with pictures. [www.ct.gov/dep/nddbrequest](http://www.ct.gov/dep/nddbrequest)

*Legal, continued from page 5*

the proposed activity is sufficient to authorize a wetlands agency to deny or condition a permit because of a likely effect on wildlife. It is not necessary that the physical effect on the wetlands or watercourses result from an impact to wildlife.

*Ed:* So, the impact to the physical characteristics of the wetland or watercourse can come from activities unrelated to wildlife impacts, such as erosion during construction or elevated water temperatures due to tree clearing around the wetland/watercourse. Right?

*Janet:* Exactly. The Old Saybrook wetlands agency's denial was upheld based on the evidence in the record that the loss of the wood frog tadpoles will likely impact the physical characteristic of the vernal pools. The agency could have relied on, *if there was expert evidence in the record*, siltation from construction activities, for example. In order to establish this "extreme case" (based on the footnote in *AvalonBay*) I believe the number of tadpoles was relevant. It's not at all clear that the loss of a handful of wood frog tadpoles would bring about the same physical effect on the physical characteristics of the vernal pool.

*Ed:* Let's say there is a confirmed box turtle population on a property (Species of Special Concern). This is a facultative wetland user that mostly is found in well drained upland habitats. Can a wetlands agency deny a permit on this property due to box turtle impacts? There are many listed plant and wildlife species that are not obligate wetland users (e.g., bobolinks, sandplain insects, etc.).

*Janet:* To begin, we would need to know whether the proposed activity will occur in the wetlands or in the upland review area and beyond. If the activity will occur in a wetland, then the agency may base a denial on an impact to the confirmed box turtle population *or any other confirmed animal population - if there is substantial evidence (expert opinion) of a likely actual adverse impact to the species*. If the proposal occurs in the upland review area or beyond, the agency first must determine if there are likely effects or impacts on the physical characteristics of the wetlands or watercourses. Is this how a wildlife biologist would consider impacts to wildlife? No, but it *is* how a wetlands agency should consider the evidence.

A biologist may rate an endangered species more highly than a common one. The wetlands law does

*Legal, continued on page 7*

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Legal, continued from page 6

not. The wetlands law does allow the agency broad latitude in considering wildlife, including unlisted species, when the regulated activity will occur in wetlands and watercourses, but constrains that consideration when the activity is not.

Similar to other provisions in the wetlands law, the consideration of wildlife is not “intuitive.” It’s not what “feels” important that counts. Which path does the wetlands law dictate the agency follow? If it is the constrained path, the record must contain substantial evidence that the impact will likely negatively impact the physical characteristics of the wetlands. The *River Sound* case is one example of how an agency’s consideration of wildlife impacts was upheld. It will probably take another generation of court cases to work out the wrinkles in the 2004 legislative amendment.

*Janet:* Here are two take-away points:

- The wetlands law is egalitarian. Adverse impacts to wildlife, listed species or not, can be the basis to deny or condition a permit when the regulated activity occurs in a wetland or watercourse. Conversely, when the regulated activity occurs outside a wetland or watercourse, adverse impact to wildlife, listed species or not, that are found in a wetland or watercourse cannot be the basis to deny or condition a permit *unless* the regulated activity will likely impact the physical characteristics of a wetland or watercourse.
- Recent case law affirms that, with enough expert evidence in the record, a wetlands agency can successfully base a denial of a permit for an activity occurring outside of a wetland on the loss of wildlife that in turn will cause a physical impact to a wetland.

*Janet P. Brooks practices law in East Berlin, Connecticut and writes on wetlands issues on her blog at [www.ctwetlandslaw.com](http://www.ctwetlandslaw.com).*

#### (Endnotes)

1 *Unistar Properties, LLC v. Conservation & Inland Wetlands Commission*, 293 Conn. 93 (2009). For readers who wish to read the case online, I have written blog entries about two online methods that can be used to find Connecticut cases. See entries of January 29, 2010 and February 3, 2010 on my blog at [www.ctwetlandslaw.com](http://www.ctwetlandslaw.com).

2 *River sound Development, LLC v. Inland Wetlands & Watercourses Commission*, 122 Conn. App. 644, 655 (2010). The *River Sound* case and the *AvalonBay* case are hyperlinked in the July 30, 2010 blog entry. 

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# CACIWC's Environmental Conference Workshops

## — SESSION 1 —

(\* Denotes Advanced Workshop)

### A1. "Promoting CT Greenways & Trails"

by Representatives of the Greenways Council & Laurie Giannotti, CT DEP Liaison to the CT Greenways Council

A growing number of greenway open space corridors are being recognized throughout Connecticut. Greenways can connect existing protected areas, preserve a scenic ridge, waterway, or other scenic landscape, and provide access to natural areas for outdoor recreation. This workshop will review highlights of the state's existing greenways and scenic trails and review the process of preparing nominations for official state greenway designation.

### \*B1. "Wetlands Law in 2010: Case Law, Legislative & Regulatory Update"

by Janet Brooks, Attorney at Law, LLC; David Wrinn, CT Attorney General's Office; Mark Branse, Branse, Willis & Knapp, LLC

This trio of wetlands attorneys has been brought back by popular demand to keep you current with the latest state Supreme Court and Appellate Court cases. You'll hear about an enforcement case involving the farming exemption, and the Old Saybrook wetlands agency's successful denial of the wetlands application filed by The Preserve in which the Appellate Court upholds jurisdiction over areas outside the wetlands/watercourses and upland review areas and affirms the denial based on wildlife concerns.

### C1. "Invasive Plant Update"

by Donna Ellis, Uconn Extension Educator and Co-Chair, Connecticut Invasive Plant Working Group (CIPWG)

The Connecticut Invasive Plant Working Group gathers and conveys information on the presence, distribution, ecological impacts, and management of invasive species. This workshop will highlight the challenges faced by municipal land-use commissions and staff in the identification and control of invasive plants as well as outlining methods of promoting growth of native species as part of local open space management planning.

### \*D1. "Working with the CT Siting Council"

by Linda Roberts, Exec. Director & Melanie Backman, Staff Attorney, CT Siting Council

This workshop will review the composition, jurisdiction, and review process of the Connecticut Siting Council. Ms. Roberts and Attorney Backman will outline opportunities for inland wetlands and other land-use agencies to review and comment on proposed projects being evaluated by the Siting Council. They will also discuss the different ways in which conservation commissions and other municipal boards may formally participate in the Council's adjudicatory process, including the important "pre-file" process.

## — SESSION 2 —

(\* Denotes Advanced Workshop)

### \*A2. "Public Act 490 (PA 490): CT's Current Use Tax for Farmland, Forest Land and Open Space Land"

by Joan Nichols, Government Relations Specialist, Connecticut Farm Bureau Association

In 1963 the Connecticut General Assembly enacted Public Act 63-490, *An Act Concerning the Taxation and Preservation of Farm, Forest or Open Space*, commonly referred to as "PA 490". This act has become one of the most important laws to help preserve an agricultural, forest, and natural resource land base in Connecticut. This workshop will highlight key aspects of PA 490 and contents of the 2010 PA 490 Guide, published by the CT Farm Bureau Association.

### B2. "Wetlands Law, Q&A"

by Janet Brooks, Attorney at Law, LLC; David Wrinn, CT Attorney General's Office; Mark Branse, Branse, Willis & Knapp, LLC

This is the question-and-answer session that you have asked that we bring back again this year! No presentation by the attorneys. Just your questions. Just their answers.

### C2. "Stopping the Emerald Ash Borer & Asian Longhorned Beetles & Other Threats to CT Forests"

by Christopher Martin, Director, CT DEP Forestry Division

Two new pests have been recently discovered that threaten Connecticut forest species. The Asian longhorned beetle (ALB) was first found near NYC in 1996, Worcester, MA in 2008 and Boston in July of this year. The Emerald Ash Borer (EAB) has recently been found within 25 miles of the Connecticut border. This workshop will review the detection and control strategies developed by the DEP and other agencies and discuss steps that local commissions and staff can take to support these state and regional efforts.

### \*D2. "Riparian Corridors: New Research, Restoration and Protection Initiatives"

by Dr. Juliana Barrett, CT Sea Grant Program, UConn & Chet Arnold, UConn, Department of Extension Center for Land Use Education and Research (CLEAR)

Riparian corridors provide many environmental benefits, including wildlife habitat and water quality protection. The workshop discusses the recent land cover study by CLEAR, showing changes to riparian corridors in CT from 1985 to 2006. Review of a recent Sea Grant & CLEAR initiative on riparian area protection in the Niantic River Watershed, and town commission participation in the project. New website tools and other resources will be demonstrated.

Open Space & Resource Conservation Track

Land Use Law & Legal Updates Track

Conservation Biology, Issues & Updates Track

Commission Administration & Procedures Track

**Saturday, November 13, 2010**

— **SESSION 3** —  
(\* Denotes Advanced Workshop)

**\*A3. "The Use of GPS Technology in Rare Species Surveys"**

by **Edward Pawlak, Connecticut Ecosystems, LLC**

The DEP Natural Diversity Data Base (NDDDB) list of rare species has grown from 498 in 597. There is an ever-greater need for rare species surveys to determine whether listed species occur on properties where development is proposed. Attendees will learn how to find the NDDDB maps on the internet, and how GPS technology can be used in rare species surveys. Guidance for land use agencies on how to evaluate the credibility, results and conclusions of a rare species survey will be given.

**\*B3. "Working with Your Local P&Z"**

by **Attorney Mark K. Branse, Branse, Willis & Knapp, LLC**

This workshop will discuss how conservation commissions can work effectively with their town's planning & zoning commission throughout the application review process. The use of local Plans of Conservation and Development to promote the long-term protection of important habitats within their town will also be discussed.

**C3. "Fishers & Moose in CT: Changing Mammal Population Dynamics"**

by **Andrew LaBonte, Wildlife Biologist, CT DEP Wildlife Division**

Although sporadic moose sightings were reported in Connecticut in the early 1900s multiple sightings did not begin until the 1990s with an average of six per year. DEP now estimates the Connecticut population at around 100. The fisher was reintroduced into western Connecticut starting in 1988. This workshop will provide information to help commissioners and staff respond to public inquiries, and will offer suggestions on supporting state efforts to track and study these animals and other mammalian species.

**D3. "Pesticides, Wetlands & Watercourses"**

by **Bradford Robinson, Supervisor, CT DEP Pesticide Unit**  
Many CT towns are citing an increasing number of lakes, ponds and streams that are experiencing an overgrowth of aquatic plants. These overgrowth problems can greatly affect biodiversity and the recreational value of the water body. The workshop will describe the biology of invasive aquatic plants, including various methods of control. Federal regulations that affect pesticide use will be reviewed along with CT DEP permit requirements. The session will also provide an opportunity for local commissioners and agents to better understand their role in management of these issues.

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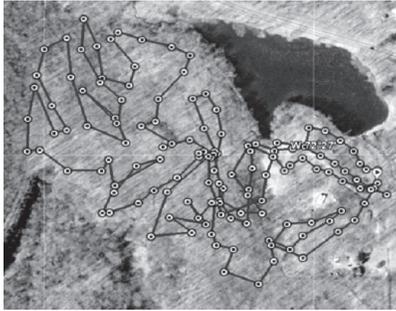
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# Rare and Endangered Species Survey Using the GPS

“Tracking Feature” by Edward M. Pawlak, PWS, Connecticut Ecosystems LLC

We are witnessing a long-term decline in many plant and animal species across Connecticut, primarily due to habitat loss and fragmentation. Maps of current and



historic records of Endangered, Threatened and Special Concern Species are maintained by the Department of Environmental Protection (CTDEP) Natural Diversity Data

Base. These maps are updated and expanded as new records are discovered, and when species are listed or de-listed by the DEP. Every five years technical committees established by the CTDEP review the status of the species lists and recommend changes based upon their knowledge of population trends. Since its inception in 1992, the list has grown from 498 to 597 species (a 20 percent increase).

As a result of this trend, it is increasingly likely that development projects will be proposed on properties that either contain or are near a listed species record. Because of this, there is an ever-greater need for rare species surveys, conducted by qualified professionals, to determine whether listed species occur on these properties.

Municipal land use commissions and state/federal regulatory agencies must consider many factors when assessing whether the results and conclusions of a rare species survey are credible. Relevant criteria include the training and experience of the investigator(s), time of year and time of day when the survey was performed, habitats that were surveyed, and search level effort (e.g., number of survey hours, number of cover objects turned over, etc.) Weather conditions at the time of the survey (and in some cases, prior to the survey) are an important factor for some wildlife species (e.g., many reptiles and amphibians are inactive in very hot weather, and thus less likely to be seen.) A primary consideration is the habitats that

were searched during the survey, and the amount of area covered within these habitats. It is also important to understand how much of the overall project site was searched during initial reconnaissance inspections directed at identifying critical habitats that would warrant species survey efforts.

Hand-held GPS technology is revolutionizing the way that rare species surveys are conducted and reported. The “Track” feature, standard on hand-held GPS units, can create relatively accurate maps of a rare species survey route. At the start of the survey the biologist selects the Track creation unit (e.g., time or distance), as well as the Track interval (e.g., number of minutes, number of feet.)

So, for example, the GPS unit can be programmed to create a Track every time the user moves a linear distance of 100 feet, or at one-minute



intervals. The resulting Tracks data set can be printed out, superimposed on a topographic map or aerial photograph, to illustrate the survey route and the habitats that were investigated on a given date (see embedded maps.) A Track Route map tells a reviewer which habitats were investigated during a rare species survey, critical information when assessing the validity of a survey.

*Rare, continued on page 11*



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Rare, continued from page 10

A GPS unit can also provide important real-time spatial information to the rare species surveyor. When investigating remote sites that are distant from a road, the GPS unit can quickly bring the user to a designated survey start point. This can be accomplished by determining the latitude/longitude coordinates of the start point from topographic map software, and inputting this to the GPS unit as a Waypoint. The GPS navigation features can then be used to direct the user to the Waypoint. The user can also create a Waypoint at the vehicle at the start of a survey, allowing a for quicker exit from the field at the end of the day. These navigation features allow for more survey time, and less time wasted “bushwacking”.

Many hand-held GPS units can display a USGS topographic map, or reasonable facsimile, on the screen. The Track route can be superimposed on this topographic map, providing the user with a real-time map of the route that has been surveyed at any point in time. This allows the user to adjust the travel route, if necessary, in order to thoroughly cover the survey area, and to ensure that all areas of interest are surveyed.

If a target species is observed, its exact location can be determined by creating a Waypoint on the GPS unit. The Waypoint, along with longitude/latitude, can be displayed on a topographic map for inclusion in the survey report, and in the report of the record to the CTDEP Natural Diversity Data Base.

The use of hand-held GPS technology should be an integral component of all rare species protocols.



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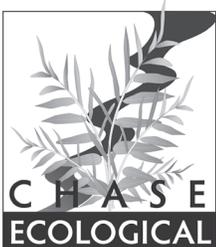
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# Water Trails Program Promotes Paddling to Protect Rivers

by Diane Edwards

## “If you paddle it, you will protect it.”

That’s the premise behind the Water Trails Program of the Rivers Alliance of Connecticut. Begun in 2008 when Rivers Alliance merged with the newly formed Connecticut Water Trails Association, the program encourages non-motorized use of the state’s recreational waterways while promoting river conservation values.

In recent years, river advocates around the country have been establishing “water trails” as a way to encourage people to enjoy and appreciate local rivers. Tangentially, these efforts also help communities by boosting tourism and educating citizens about river-related environmental issues, such as the importance of riparian buffers and wetlands.

Sometimes called blue trails or blueways, water trails are similar to hiking trails and greenways — except, of course, that they’re on rivers or other watercourses. The American Canoe Association (ACA) uses five criteria to define a water trail:

1. The trail is a contiguous or semi-contiguous waterway or series of waterways that are open to recreational use by paddlers.
2. The trail has public access points for paddlers.
3. The trail is covered by a map, a guide, signage or a web site that is of reasonable quality and detail and is available to the public.
4. Published or printed materials for the trail communicate low-impact ethics to trail users.
5. The trail is supported or managed by one or more organizations.

Through the Water Trails Program, Rivers Alliance collaborates with national recreational entities, watershed groups, regional agencies, towns and other entities, as well as with individuals, to publicize existing and soon-to-be water trails. It serves as a clearinghouse for guidebooks, maps and other information, some of it available on the Rivers Alliance web site ([www.riversalliance.org](http://www.riversalliance.org)). The site currently lists eight designated water trails in Connecticut: the Essex Canoe/Kayak Trail, the Housatonic Valley River Trail, the Quinnipiac River Canoe Trail, the Mattabesset River Canoe Trail, the Mystic River Water Trail, the Norwalk Islands Canoe/Kayak Trail, the Old Lyme Canoe/Kayak Trail, and the Willimantic River Trail. Rivers Alliance recently was awarded a grant to expand this site, with funds from the National Recreational Trails Program administered by the CT DEP Recreational Trails and Greenways Program.



*Exploring the Mattabesset River. Photo Credits: Staff, CT River Coastal Conservation District.*

The Water Trails Program also promotes responsible stewardship of Connecticut waterways, by

providing conferences and educational materials and supporting river-related events. Other activities of the program include demonstrating to towns and local businesses the economic value of healthy waterways, and advocating boating safety.

Rivers Alliance encourages other organizations and individuals to get involved with the Water Trails Program. For more information or to volunteer, e-mail [rivers@riversalliance.org](mailto:rivers@riversalliance.org) or call 860-361-9349.



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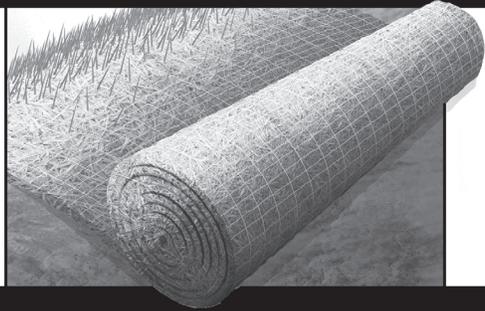
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# New Educators at UConn's CLEAR for Land Use and Water Resources

The UConn Center for Land Use Education and Research (CLEAR) is pleased to announce the hiring of a new Educator, Dr. Michael Dietz, and a new Land Use Educator, Bruce Hyde. Mike is a low impact development expert (among others things), and has returned to UConn after 4 years as an Assistant Professor and Extension Specialist with Utah State University to take over the reins of the CT NEMO Program. He also will be contributing to CT Sea Grant's sustainable coastal community development (SCCD) program. Bruce Hyde is an AICP certified planner who has worked in the planning field for over 30 years, serving in a wide variety of positions from city planner to regional planner to private sector consultant. Bruce will be heading up CLEAR's Land Use Academy, as well as developing other planning-oriented educational programs.



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## MORE RESOURCES

### New Web Site Provides Innovative Ways to Explore Long Island Sound

The University of Connecticut (UConn), in cooperation with CT DEP has enhanced a dynamic website that allows users to explore Long Island Sound with state-of-the-art oceanic technology and a host of new video programs.

The images and videos can be viewed at [www.lisc.uconn.edu/exploreelis](http://www.lisc.uconn.edu/exploreelis). The site also describes the various habitats in the Sound, discusses its history and geology, and provides information on how its environment is affected by human activity.

### The CT Department of Environmental Protection 2009 Annual Report - Protecting and Restoring Our Environment

The 2009 report is divided into two main sections. The first section highlights the Department's accomplishments in the following areas: (1) Protecting the Environment With Innovative Approaches; (2) Compliance Assurance; (3) Landscape Stewardship; (4) Clean Water; (5) Materials Management; (6) Clean Air and Climate Change Challenges; (7) The Great Outdoors; and (8) CTDEP is Green Too. The second section of the report features enforcement and permitting outcome and output measures.

To view the report, please go to <http://www.ctgov/dep/lib/dep/enforcement/reports/2009annualreport.pdf>.

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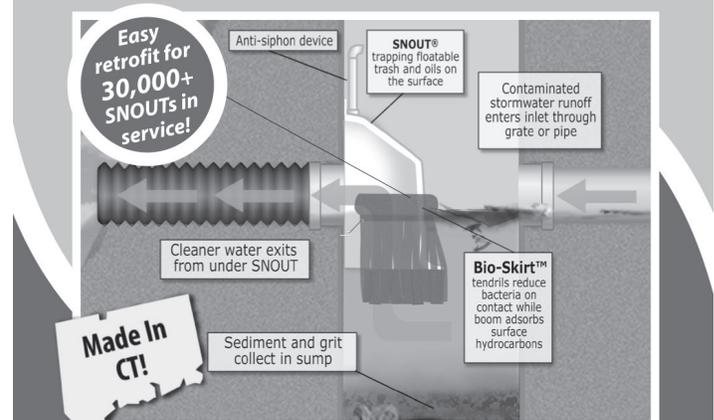
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## Keynote Speaker and Address

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Protection Agency (EPA) Region 1,  
New England Office,

will speak about

"The State of the Environment in New  
England; 40 Years After Earth Day"

*(See page 1)*

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*See pages 8 and 9 for details.*

## CACIWC 2010 Annual Recognition Awards

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1. Wetlands Commission of the Year
2. Conservation Commission of the Year
3. Wetlands Commissioner of the Year
4. Conservation Commissioner of the Year
5. Commission Agent or Staff of the Year

Please see [www.CACIWC.org](http://www.CACIWC.org) for the nomination  
form and additional information. Completed nomi-  
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