

The Habitat

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

Fall 2018
volume 30 number 3



CACIWC's 41st Annual Meeting & Environmental Conference:

Managing for a Changing Climate

Saturday, November 17, 2018

We are pleased to welcome David Vallee, Hydrologist-in-Charge at the National Oceanic and Atmospheric Administration (NOAA)/ National Weather Service (NWS) Northwest River Forecast Center in Norton Massachusetts as our 2018 keynote speaker. He will present on: *“Examining Climate Trends in the Northeast and their Impacts on Riverine and Coastal Flood Behavior.”*

Our 2018 keynote speaker is uniquely qualified to discuss the ongoing impact of climate change trends and their impact on river and coastal flooding in Connecticut and throughout the Northeast.

Keynote Presentation

Much of New England has been experiencing an increasing trend in annual average temperature, annual average precipitation, and the number of heavy rainfall events over the past several decades. During this same time period, the region has experienced an increasing number of moderate to major flood episodes. These episodes have been associated with a variety of storm types and have affected the region at different times of the year. Events have included the record floods of March 2010, the spring snowmelt floods which sent Lake Champlain to record elevations, the catastrophic flooding associated with the passage of Tropical



David Vallee, Hydrologist

Storm Irene in western New England, and the remarkable thirteen inch rainstorm that struck Long Island, New York in the summer of 2014. The common threads in each episode were a persistent storm track and the ability of each storm system to tap a tropical moisture source which resulted in very heavy rainfall on already saturated ground.

The vulnerability of our coastline to tropical cyclones has never been greater. Tropical Storm Irene and Hurricane Sandy struck the region during the late summer and early fall of 2011 and 2012 respectively. The impacts along the shoreline were devastating and provided an ever present reminder of the tremendous impacts these types of storms can bring in the face of rising sea levels and a retreating coastline.

David Vallee's presentation will put into perspective the impacts from these recent and in some cases record breaking events and will do so with respect to our changing climate and its impact on storm behavior, rainfall intensity and changes in flood frequency.

Keynote Speaker

David Vallee is the Hydrologist-in-Charge of the National Weather Service's Northeast River Forecast Center. The *annual meeting, continued on page 6*

Returned Venue!

Red Lion Hotel Cromwell
100 Berlin Road (I-91 Exit 21 onto Route 372)
Cromwell, CT 06416
(860) 635-2000

In response to your comments from the 2017 meeting surveys, the CACIWC Annual Meeting Committee has returned to last year's conference facility that provided large banquet and workshop rooms, spacious, easily accessible space for displays viewing and networking, and a delicious buffet style luncheon. Please join us!

Revised Agenda!

Registration - 8:00 a.m.
Business Meeting - 8:45 a.m.
Keynote Speaker - 9:00 a.m.

For 2018, CACIWC has returned to scheduling our keynote speaker at 9:00 AM immediately following the 8:45 AM Business Meeting and before the workshop sessions. This will allow a members to network with other attendees during a relaxed buffet luncheon, free from any presentations.

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www.caciwc.org

CACIWC News

The CACIWC Board of Directors has been working to finalize details of our upcoming **41st Annual Meeting and Environmental Conference**. We are pleased to return to last year's venue in response to so many of your requests. We are also honored to host scientist David Vallee from the National Oceanic and Atmospheric Administration (NOAA)/ National Weather Service (NWS) Northwest River Forecast Center in Norton Massachusetts to serve as our 2018 keynote speaker. We are expecting an informative and dynamic keynote presentation!

While working on the conference this summer we were saddened to learn of the passing of CACIWC co-founder **Tom Odell**. In addition to serving as our President and Executive Director, Tom's long service as Editor of this publication has perhaps influenced more CACIWC members during its 44-year run than any other aspect of our education and outreach efforts. While many people have served on the CACIWC Board of Directors or worked on publication of *The Habitat* during the last four plus decades, no one person has contributed more to its long-term success than Tom Odell.

To honor Tom's many contributions to Connecticut conservation, the CACIWC Annual Meeting Committee and Board of Directors unanimous voted to **dedicate our 41st Annual Meeting and Environmental Conference to Tom's memory**. We are planning to present an illustrated history of Tom's life and many contributions to CACIWC and to conservation efforts in Westbrook and throughout Connecticut.

We welcome your contributions of personal stories of working with Tom within your town or on statewide conservation issues. Please do not hesitate to contact us at AnnualMtg@caciwc.org with any personal stories and photos.

Please join us on November 17, 2018 to help us celebrate Tom's contributions to CACIWC and his long conservation legacy throughout Connecticut!

In other news:

1. The CACIWC Board of Directors and its Annual Meeting Committee have provided the detailed program for our **41st Annual Meeting and Environmental Conference** scheduled for **Saturday**,

CACIWC news, continued on page 10

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Journey to the Legal Horizon

by Attorney Janet Brooks

Opportunity Knocks: Amend State Constitution to Protect Public Lands?

And now for something entirely different. Usually I write on a topic to help you act within the law. You know, when you act as a member of your wetlands agency, part of the executive branch, you are executing the law which was enacted by the legislative branch and has been interpreted by the judicial branch. This November 6th you have the power as an elector to make history by casting your YES vote to amend the state constitution to protect your public lands.

I could go on about the three ways in which our state Constitution can be amended,¹ but the most important point is that a simple majority of voters casting their votes (or absentee ballots) on November 6th will determine if our state Constitution will be amended to protect our state lands.

The problem:

Not too long ago and for many years it was and is the common practice for the General Assembly to entertain the sale, swapping or giving away of state-owned lands in the wee hours of the final days of a legislative session – long after the last public hearing was held by any legislative committee. What brought this practice to a head was the Haddam land swap in 2011. Authorized by a special act² (which was repealed two years later³) the Department of Energy and Environmental Protection (DEEP) was directed to transfer 17 acres of wildlife area near the Connecticut River to a private enterprise in exchange for 90 acres of upland if appraisals determined the lands to be of equal value.

As a member of the Council on Environmental Quality at the time, I joined fellow council-members in outrage over the process and the substance of the General Assembly’s actions. CEQ produced a special report in January 2014, *Preserved But Maybe Not: The Impermanence of State Conservation Lands*.⁴ Among other solutions, CEQ recommended the enactment of an amendment to the state constitution to protect our state lands.

Now it’s up to us. The Secretary of State will be posting a summary at each polling station which includes the Ballot Question (“Shall the Constitution of the State be amended . . .”), the Content and Purpose of the Proposed Amendment, the Text of the Proposed Constitutional Amendment and the Constitutional Amendment Process. As of the time this issue is being printed the Secretary of State’s office had not made this available on its website.

Do you have your 30-second pitch to make as you or your neighbors are walking dogs or locking up your bikes or you are riding in an elevator? To help you with yours, see the language in the box on page 12.

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

(Endnotes)

¹Connecticut Constitution, Article XII.

²S.A. 11-16, An Act Concerning the Conveyance of Certain Parcels of State Land and the Removal of Certain Traffic Signs.

³S.A. 13-23, An Act Concerning the Conveyance of Certain Parcels of State Land, the Boundaries of Fenwick, the Validation of Certain Town Actions, the City Point Yacht Club and Wheeler Library.

⁴You can access the report at this site: www.ct.gov/ceq/lib/ceq/Preserved_But_Maybe_Not.pdf or by going to the CEQ website: www.ct.gov/ceq, click on Publications (tab on the right), click on Special Reports and Miscellaneous Publications, see the box “The ‘Preserved’ Series,” click on “Preserved But Maybe Not.”

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The Return of the Beaver to Connecticut

by Mike Callahan

Sightings of the North American Beaver, or *Castor canadensis*, in your neighborhood results in range of reactions to different people. Some are fascinated by this interesting mammal that can greatly alter local habitats. Other see it a nuisance rodent and a destructive tree killer. Native Americans thought of beavers as “Little People” in part because they are second only to man in their ability to change their environment to serve their own needs¹. They revered the beaver as a totem animal and lived in harmony with them.

Today however, most people have limited exposure to the natural world, and beavers typically only make the news when problems occur. So discussion about this furry, aquatic mammal can be quite polarizing. We hope this article will help readers focus on its positive attributes.

Historical Perspective

Beavers have lived in North America for millennia. An estimated 60-400 million beavers are estimated to have been spread across North America when Europeans first arrived here.^{2, 3}

Over many millennia countless species evolved across the continent to take advantage of the ecological niches beavers created. Due to the myriad of species that began to rely on beaver-created habitats, beavers became a Keystone species responsible for biodiversity in North America.

Native Americans had sustainably trapped and hunted beaver for thousands of years. In contrast, Europeans had eliminated nearly all the beavers in Europe to make fashionable top hats made of felt. Beaver fur was highly coveted because it made the best felt. So upon discovering more beaver in the New World, they greedily exploited this new fur supply.

Beaver trappers were typically the first European people to explore this continent, and trading with natives for furs was common. Beaver pelts were so valuable that they were used as currency by the early settlers, and frontier wars were even fought over furs. By the time most colonists arrived most of the beaver populations had been extirpated.

Since beavers were eliminated in colonial days, their roads, towns, farms, etc. were all established in the absence of beavers. As we’ll soon see, this historical fact creates serious problems for us today.

Beavers Return

Top hats and furs eventually went out of fashion, but by then the only surviving beavers were in remote areas.

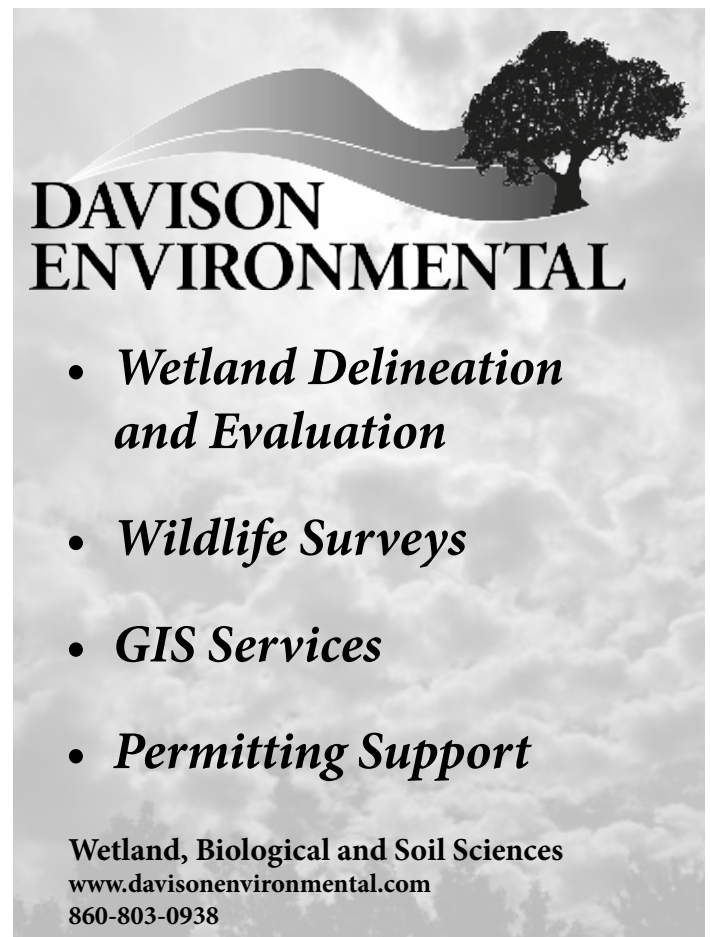
Nevertheless, no longer hunted and often protected by wildlife managers who recognized the ecosystem values that beavers offered, throughout the 20th century these resilient animals slowly rebounded.⁴ Probably the most dramatic and innovative reintroduction program occurred Idaho. In 1948 to establish beaver colonies in remote areas without roads, Idaho Fish and Game biologists dropped a total of 76 beavers from planes inside parachuted wooden crates! The first parachuted beaver was named Geronimo. Amazingly, all but one of the beavers survived their landings and they successfully established colonies in the remote wilderness.⁵

Beaver recolonization in Connecticut was less dramatic but also successful because many colonial farms had reverted to forest, and since beaver pelts were no longer valuable the interest in trapping was limited.

The Beaver Cycle

As beavers returned, so did an important natural cycle that had been missing from our landscape.

When beavers open the forest canopy by damming streams and cutting down trees they create new ecological niches
beaver, continued on page 5



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and transition zone habitats where various species thrive. Many of our threatened and endangered species require these vanishing habitats at some stages of their lives.⁶ Beaver activity creates “Mosaic Habitats” which continue to disappear, negatively impacting species such as turtles, bats, and grouse according to the current annual report of “Environmental Quality in Connecticut”.⁷

So while killing trees in and around a beaver pond appears destructive, these dead trees create critical habitats for honeybees, wood ducks, swallows, herons, and others, and also allow grasses, sedges, bushes and saplings to grow on the perimeter of the pond. These plants provide habitat variety, food and cover for foraging animals.

Since beavers prefer not to travel far from the water, eventually they exhaust their woody food supply. When this happens the beavers will move to a new location. Then their dams develop leaks and the ponds drain out. The rich pond sediment gives rise to a lush, grassy meadow. Eventually successional shrubs and trees become established, and after 10-15 years there is enough woody vegetation to attract new beavers. Then the beaver cycle repeats itself. This natural beaver cycle creates a series of successional habitats that support biodiversity.

While opening the tree canopy creates valuable land-based habitats, it also allows sunlight to reach the water where it triggers an explosion of aquatic biological activity. Algae and aquatic plants grow in the sun-drenched, nutrient rich water. This organic material supports microscopic organisms, which are eaten by a variety of invertebrates. These become food for fish, birds and mammals. An entire food chain is created which is why beaver ponds become magnets for wildlife. This biodiversity makes beavers our prototypical Keystone species and nature’s ecosystem engineers.⁸

Why Give a DAMn?

As if biodiversity weren’t enough, there are many other benefits to having beavers on our landscape.

Beaver dams actually *improve* stream flow and water quality.⁹ Extreme stream flows are modulated by dams that function as natural sponges to reduce damaging peak flows and erosion during high runoff events, and increase low stream flows during droughts by slowly releasing stored water.

Water quality is also improved by the algae, plants and sediment in the ponds. How? They remove suspended particles, process organic wastes, and capture toxic heavy metals, pesticides and fertilizers from runoff in streams. These wetlands serve as the “Earth’s Kidneys”.¹⁰

Want more benefits? Beaver ponds also recharge our drinking water aquifers, stabilize the water table, and help repair incised streams. As a result beavers are currently being relocated in western states such as WA, OR, ID, CO and UT for their free stream restoration, water storage, and salmon and trout restoration services.

Beaver Problems

Remember all our infrastructure that was built in the absence of beavers? That is a big reason we have beaver problems today.

As beavers returned they entered a highly altered landscape due to human development. So when they began to dam their ancestral streams, conflicts with humans sometimes occurred and our two species would butt heads.

Initially problematic beavers were relocated to uninhabited areas. However, as the number of these isolated sites diminished, lethal control became the primary management tool. Lethal beaver management remained the only viable beaver control method for decades. However, over the past 20 years great strides have been made to resolve beaver- human conflicts nonlethally in order to retain the benefits of beavers.

beaver, continued on page 10

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center provides detailed water resource and life-saving flood forecasting services to National Weather Service Forecast Offices and the hundreds of federal, state and local water resource entities throughout the Northeast and New York.

David has worked for the National Weather Service for 30 years, serving in a variety of positions including Intern Meteorologist from 1987-1993 at both the Boston and Providence offices, Senior Service Hydrologist at the Taunton Weather Forecast Office from 1993-2000 and as Science and Operations Officer from 2001-2006. David has extensive experience leading hydrometeorological forecast and warning operations and directing weather research and training programs. David has served as the NWS lead investigator with the State University of New York, at Albany, on a multi-year project addressing Land-Falling Tropical Cyclones in the Northeastern United States. This work has improved the forecasting of heavy precipitation associated with these land-falling tropical cyclones as well as developing a better understanding of the mechanisms which lead to the recurvature and rapid acceleration of tropical cyclones as they approach the Northeast. David led the initiative to develop a short-range ensemble river forecast system which leverages short range numerical weather prediction guidance to drive a suite of probabilistic river forecasts for the region.

Recently, he has been leading an effort at the Northeast River Forecast Center to examine changes in precipitation and temperature patterns across New England and its impact on flood behavior.

David is most known locally for his outreach and education work on the behavior of New England Hurricanes, including many appearances on local radio and TV networks as well as the Weather Channel, the History Channel and the Discovery Channel. He has been the recipient of numerous regional and national awards including the prestigious National Isaac Cline Award for Leadership.

David is a graduate of Lyndon State College. He is a life-long resident of Rhode Island, living in the northeast part of Cumberland. He considers it a tremendous privilege to be serving the people of the very region he calls home.

Conference Workshops

Our conference will include four revised and updated workshop tracks with topics on conservation biology and our changing ecosystem, legal and regulatory updates and issues, climate adaptation and water management, and strengthening and enhancing our tools. Individual workshops will focus on strategies for preserving municipal open space, planning for flood resistant stream crossings,

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wetlands law for new commissioners, the giant hogweed and other invasive plants in Connecticut, important efforts of landscape architects, tackling aquatic invasive plants, wetlands law and regulation updates, climate impacts on the hemlock woolly adelgid, encouraging local conservation with student power, wetlands application site plan review, understanding your P&Z and ZBA, and Connecticut breeding and migratory bird populations.

Our conference venue will also host a revised layout of new and informative displays in an arrangement that will promote open discussions and networking opportunities among our members and other conference attendees. Please note that our CACIWC's 41th Annual Meeting & Environmental Conference will again start 30 minutes earlier this year to accommodate our new keynote speaker plenary session. Be certain to arrive early to pick up your badge and registration materials in time to be in your seats for the 8:45 AM business meeting. Our early registration deadline is **October 12, 2018** to enable us to provide the early estimate of our attendees required by our venue. We anticipate a large crowd this year so register early to avoid disappointment! Watch for additional conference news and information on this website. Please direct any questions on our annual conference to us at: AnnualMtg@caciwc.org. 🍀



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CACIWC's Environmental Conference Workshops

SESSION 1 (10:15 - 11:15 AM)

A1. "Update on Invasive Plants in Connecticut"

Charlotte Pyle, PhD, Co-chair, Connecticut Invasive Plant Working Group (CIPWG)

We are past believing that it is possible to eradicate invasive species in Connecticut, but it's not time to fold up the tent and do nothing. This workshop first will cover early detection of invasive species populations, in particular, where in the landscape to focus efforts. The status of Giant Hogweed will be discussed. Secondly, although broad-scale eradication is not possible, local management of invasive plants is do-able. Connecticut Conservation Commissions can offer insights on what is valued within a town and promote taking a long term view. Strategies for deciding What/Where/When/How to manage invasives for the long-term will be presented.

B1. "Wetlands Law for New Commissioners"

Janet Brooks, Attorney at Law, LLC

This workshop will provide a basic introduction to all the important legal concepts of wetlands law in a generalized approach suitable for new members of your town's inland wetlands and watercourse commission. More experienced commissioners who want a refresher may also find it useful. You will learn about the agency's jurisdiction over "regulated activities" and what it can do legally about exempt activities. You will be prepared to incorporate an environmental intervenor into your proceedings. For those new to agency proceedings, you will leave with general guidelines for conducting public hearings and applying the burden of proof in a variety of settings (permits, exemptions and enforcement).

C1. "Planning for Flood Resilient and Fish Friendly Road-Stream Crossings in the Housatonic Watershed"

Lindsay Keener-Eck, MS, Conservation Projects Manager, Housatonic Valley Association (HVA)

Streams and roads have many points of intersection that require a road-stream crossing structure. Road-stream crossings (e.g., bridges and culverts) can be barriers to fish and wildlife movement. Many structures lack the hydraulic capacity to handle increasingly frequent flooding. HVA has developed a process for creating Town-scale Road-Stream Crossing Management Plans. These plans aid municipalities in planning for and financing replacement of high-priority crossing structures, as well as incorporating Best Management Practices into future culvert and bridge design. This workshop will discuss HVA's management planning process, and related issues.

D1. "Strategies, Challenges, and Opportunities in Protecting Municipal Open Space"

Attorney Amy Blaymore Paterson, Executive Director, Connecticut Land Conservation Council (CLCC)

The problem: Your town owns land that the public assumes is permanently protected, until a proposal is presented to convert it for use for a new municipal building or some other purpose. In this workshop, we'll look at some of the available tools and legal mechanisms available to protect municipal open space, discuss some of the strengths and challenges associated with each, and explore opportunities to work with your local land trust to help achieve your town's conservation goals. We'll also discuss current and proposed funding options for acquiring and managing municipal open space at the local and state level.

SESSION 2 (11:30 AM - 12:30 PM)

A2. "Climate Impacts on Eastern Hemlock Sustainability"

Carole Cheah, PhD, Research Entomologist, Valley Laboratory, The Connecticut Agricultural Experiment Station (CAES)

Eastern hemlock is a critical component of many forest and riparian ecosystems. Hemlock forests in Connecticut have been under threat by two non-native and seriously damaging insect pests, hemlock woolly adelgid (HWA), and the elongate hemlock scale (EHS). Biological control of HWA has been the major strategy in Connecticut to manage HWA infestations since 1995. This presentation will discuss the interplay of complex abiotic and biotic interactions affecting eastern hemlock sustainability and survival in a changing climate.

B2. "2018 Wetlands Law and Regulations Update with Question and Answer Session"

Mark Branse, Halloran & Sage, LLP;

Janet Brooks, Attorney at Law, LLC

These wetlands attorneys has been brought back by again popular demand to keep you current with recent legislative and proposed regulatory changes and the latest state Supreme Court and Appellate Court cases. A large portion of this workshop will also include the question-and-answer session that you ask for each year. To support the discussions, Attorney Brooks asks attendees to bring a copy of an order issued by their commissions and a notice of violation, if they are used.

C2. "Invasive Aquatic Plants in Connecticut Lakes and Ponds"

Gregory J. Bugbee, Associate Scientist, Department of Environmental Sciences, Connecticut Agricultural Experiment Station (CAES)

Invasive aquatic plants have become an increasing management problem for many local communities. This workshop will review the results of recent surveys conducted in Connecticut lakes that document the persistence and distribution of various invasive plant species. The biotic and abiotic parameters governing why invasive aquatic plants occur in certain sites are reviewed along with methods for controlling these species with minimum impacts on the aquatic ecosystem and human populations. The importance of proper seasonal timing of control methods, as well as the use of physical control methods and biological control agents, will also be discussed.

D2. "Landscape Architects and Extraordinary Wetland Management"

William Kenny, ASLA, PWS, William Kenny Associates LLC

Landscape architects are strategically positioned through natural abilities, training, and experience to realize extraordinary and sustainable success in wetland management. In this presentation, we will review a variety of factors that discuss how a landscape architect can contribute to the success of projects. Topics include mitigation/wetland rehabilitation, resource-sensitive design, and the ability to educate owners, regulators, and the development team on the core issues impacting a site's wetlands and watercourses and the most sustainable means of realizing project objectives.

Conservation Biology &
Our Changing Ecosystem

Legal and Regulatory
Updates & Issues

Climate Adaptation &
Water Management

Strengthening and Enhancing
Our Commission Tools

Saturday, November 17, 2018

SESSION 3 (2:00 - 3:15 PM)

A3. "Migratory and Breeding Birds in Connecticut; An Update"

Min T. Huang, PhD, Migratory Bird Program Leader, Connecticut Department of Energy and Environmental Protection (DEEP)
Studies of migratory song and game birds are continuing to reveal information on species whose populations have increased and which may be in decline as a result of fragmented or lost habitats, climate changes and other factors. Dr. Huang will provide an update on the Connecticut Bird Atlas project, a statewide project collecting data on which birds are breeding within our state. He will also review efforts to control Canada Goose populations, which are adversely impacting habitats in many communities. The role of local Conservation Commissions in contributing to all of these efforts will also be discussed.

B3. "The Other Half: All About Planning & Zoning and the Zoning Board of Appeals"

Steven Sadlowski, AICP, Zoning Enforcement Officer & Inland Wetlands Agent; Town of New Hartford; Attorney Branse, Halloran & Sage, LLP

This workshop will be a primer on how Planning and Zoning (P&Z) Commissions and Zoning Boards of Appeals (ZBA) work. It will look at their history, authority, the various permits they issue and how they interface with the Wetlands and Conservation Commissions. Just think, you will finally know the real difference between a Special Exception, a Variance and a Site Plan Review! During the Q&A session, Attorney Branse will discuss how Conservation Commissions and Inland Wetlands Commissions can work more effectively with their local PZCs.

C3. "Wetland Application Site Plan Review Tool"

Edward Pawlak, MS, Registered Soil Scientist, Certified Professional Wetland Scientist, Connecticut Ecosystems, LLC
Wetlands scientists and associated professionals have long sought methods to provide a uniform and consistent approach to wetland application reviews. This workshop will introduce a tool that standardizes and expedites wetland application reviews. The tool consists of a comprehensive checklist of items that are relevant to wetland applications and includes an appendix, which provides explanations, definitions, additional information, and website URLs for many of the items. This tool is being made available at no charge on a website for use by wetland professionals, inland wetlands commissioners and their staff. The workshop will review examples of site plan reviews where the tool was utilized and discuss its value for other applications.

D3. "Fueling Local Conservation with Student Power and Mapping Technology"

Laura Cisneros, PhD, Natural Resources Conservation Academy (NRCA), UConn, Dept. of Natural Resources & the Environment
The University of Connecticut's Natural Resources Conservation Academy (NRCA) trains intergenerational (teen and adult) teams in natural resources science and mapping technology that results in local conservation projects. The result is a "win" for the team, community, and environment. Participants in this workshop will leave with an understanding of how NRCA programming facilitates statewide conservation efforts by teens and adult conservation advocates, become familiar with two mobile mapping technologies and their use in myriad conservation projects, and learn how student engagement can support their conservation efforts.

SCHEDULE FOR THE DAY

Registration & Breakfast	8:00 – 8:45 am
Welcome & Business Mtg.	8:45 – 9:00 am
Keynote Speaker Panel	9:00 – 10:00 am
Break 1	10:00 – 10:15 am
Session 1 Workshops	10:15 – 11:15 am
Break 2	11:15 – 11:30 am
Session 2 Workshops	11:30 am – 12:30 pm
Break 3	12:30 – 12:45 pm
Luncheon	12:45 – 1:45 pm
Break 4	1:45 – 2:00 pm
Session 3 Workshops	2:00 – 3:15 pm
Final display viewing	3:15 – 3:30 pm



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November 17, 2018 in this issue of *The Habitat*. We are pleased to announce that, based on your positive feedback, we are returning to the Red Lion Hotel Cromwell (formerly known as Radisson Hotel Cromwell) for our 2018 conference. Watch for and additional conference news along with a detailed listing of the conference workshops and the 2018 registration form and payment link on our www.caciwc.org website. Please contact us at AnnualMtg@caciwc.org with any questions on our event.

2. The Board of Directors is very grateful to the growing number of commissions who already renewed their **CACIWC 2018-19 membership dues** prior to our annual meeting. For those who have not yet done so, it is not too late to send in your 2018-19 membership dues and qualify for up to a *\$25 discount on each individual registering for our annual conference*. Please note that you may also renew and pay by credit card using our on-line registration form. A copy of the current renewal forms and additional information can be found on our website: www.caciwc.org.

3. Your commission's ongoing support of our membership dues has become even more critical in recent years as the costs of hosting our annual meeting and environmental conference have substantially increased. Would you or your company like to provide additional support to CACIWC through **contributions or a dedicated sponsorship**? Our website provides a description the various sponsorship categories, along with additional individual and business membership categories. Please consider making an additional contribution to enable us to continuing providing our Saturday annual conference!

4. **Improved membership communication** is an important goal of our strategic plan. Our Membership Coordinator & Database Manager Janice Fournier extends her thanks to all of you who provided us with their updated email address as part of their 2018-19 membership renewals. Please be certain to provide updated emails and other contact information when you register for this year's annual meeting. These updated emails and other contact information will help us improve communications with all of you.

Please do not hesitate to contact us at board@caciwc.org if you have questions or comments on any of the above items or have suggestions for your board of directors.

We thank our members for all of your ongoing efforts and hope to see you at our 41st Annual Meeting and Environmental Conference!

~ Alan J. Siniscalchi, President 🍁

That being said, nonlethal management is not feasible everywhere. In my experience beaver trapping remains the most viable option in 25% of beaver-human conflicts. However, new beavers will be always be attracted to good habitat so if trapping is chosen it will need to be done indefinitely. This is one of several reasons I feel beaver removal should only be used as a last resort.

There are many advantages of using non-lethal beaver management tools. First and foremost, properly designed and installed flow devices are extremely effective at limiting the size of beaver ponds and protecting human infrastructure. Second, they allow us to safely maximize valuable wetland and mosaic habitat acreage. Third, nonlethal beaver management is usually the most cost-effective method to manage beavers since the solutions are long-term, versus the typical short-term success of trapping.^{11, 12} Fourth, coexisting is more humane. In CT and most states it is illegal to relocate wildlife, so all trapped beavers must be killed. And finally, where feasible, coexistence with beavers promotes a culture of respect, balance and proper stewardship for our environment.

Effective Nonlethal Methods

Understanding how and why beavers do what they do is necessary to properly manage them.

There are currently a wide variety of devices that can effectively prevent infrastructure damage from beavers at road culverts and manmade dam spillways, and there are effective pipe systems that can be installed through freestanding beaver dams to control ponds at safe levels. Since 1998 I have personally installed over 1,400 of these successful water control devices with Beaver Solutions LLC. These successful water control devices are commonly known as flow devices, Beaver Bafflers, or Beaver DeceiversTM.¹³

Blocked road culverts are the most common beaver issue we see. To a beaver, a culvert pipe through a roadbed looks like a hole in a dam. With a little work they can "repair" the hole and turn the roadbed into a large dam. Good for the beaver, bad for us. A blocked road culvert can quickly cause serious health and safety issues, damage to infrastructure and a major expense and headache for highway departments.

Fortunately, it is rare that a road culvert cannot be protected from beavers. Depending upon the site characteristics different culvert protection devices can be used, such as a Diversion Dam or Fence, a Keystone Culvert Fence, or a Fence and Pipe flow device. When designed and installed professionally, all these devices have at least a

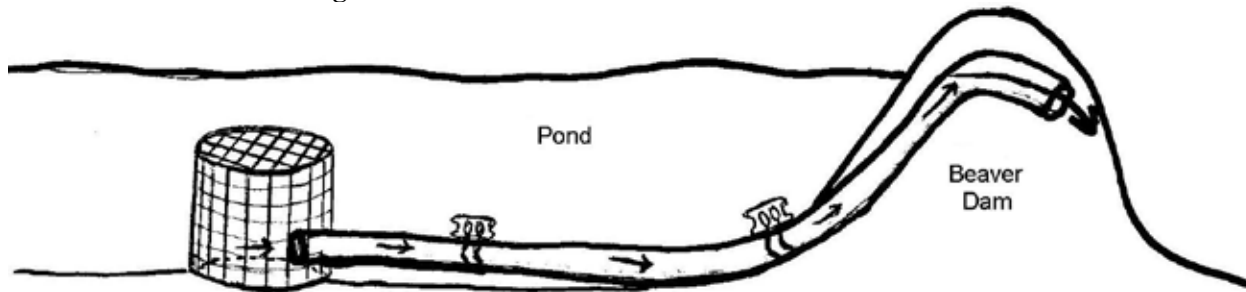
beaver, continued on page 11

beaver, continued from page 10

96% success rate and we can guarantee their effectiveness. These flow devices can also be successfully used on other manmade structures such as manmade dam spillways and retention ponds. Many examples and testimonials can be found at www.beaverinstitute.org.

Flooding problems from freestanding beaver dams are managed differently. Often a device called a Flexible Pond Leveler pipe system can lower and maintain a beaver pond at a level that will not threaten human interests (see diagram, below). This pipe system works because the fencing on the pipe intake keeps the beavers far enough from the inlet so they do not feel or hear water flowing into the pipe. If the beavers cannot detect the flow of water into the pipe they do not try to block it. The height of the pipe in the dam controls the pond level.

Flexible Pond Leveler Diagram



Another common beaver complaint is tree chewing. Fortunately, valuable specimen trees or other mature trees that people value can be readily protected from beaver chewing with simple and inexpensive methods such as tree trunk fencing or a paint-sand mixture applied to the base of the tree. Again, successful techniques with instructions and pictures can be found at www.beaversolutions.com or www.beaverinstitute.org.

Unlike most parts of the country, Connecticut residents and municipalities are fortunate to have access to both Do-It-Yourself assistance with the Beaver Institute, Inc. (www.beaverinstitute.org), and professional beaver control with my company Beaver Solutions LLC. I founded the Beaver Institute as a charitable 501(c)3 nonprofit to give people the option to manage beaver problems themselves. There is a wealth of useful information and many other resources on both websites that can successfully guide people how to resolve beaver conflicts with proven techniques.

In conclusion, although these four-legged, furry “Little People” can present serious challenges, cost-effective, long-term, environmentally-friendly and humane management options exist to resolve conflicts. Connecticut Conservation Commissions and Inland Wetland officials have an important role to play by educating others about the

many benefits of beavers, advocating for coexistence with beavers wherever feasible, and enforcing statutory restrictions on human development in wetland resource areas. This enlightened approach can save the taxpayers money, and protect and improve the natural environment that we and all living things rely upon.

Mike Callahan is the President of Beaver Institute, Inc., and the owner of Beaver Solutions LLC.

(Endnotes)

¹www.animalfactsencyclopedia.com/Beaver-facts.html.

²<https://en.wikipedia.org/wiki/Beaver>.

³www.ohiohistorycentral.org/w/American_Beaver.

⁴B. Baker and E. Hill, (2003) *Wild Mammals of North America: Biology, Management, and Conservation*. 2nd ed., Johns Hopkins University Press, Baltimore, MD, pp. 288-310.

⁵<http://boisestatepublicradio.org/post/parachuting-beavers-idahos-wilderness-yes-it-really-happened#stream/0>.

⁶www.epa.gov/wetlands/why-are-wetlands-important.

⁷K. Wagener, *The Habitat*, CACIWC Newsletter, (2017) Vol. 29, No. 4, p.6.

⁸https://en.wikipedia.org/wiki/Ecosystem_engineer.

⁹Terry, N & Bañuelos, G. (2000) *Phytoremediation of contaminated soil and water*. CRC Press LLC.

¹⁰<https://blog.epa.gov/blog/2014/06/wetlands-earths-kidneys/>.

¹¹Mitigating infrastructure loss from beaver flooding: A cost-benefit analysis, Hood, G. et. al. (Dec. 2017) *Human Dimensions of Wildlife*, pp. 1-14.

¹²An Analysis of the Efficacy and Cost of Flow Devices along Roadways in Virginia, (2008) Boyles, S and Savitzky, B, *Univ. of Calif. Davis*, pp.47-52.

¹³“Beaver Deceiver” is a trademark of Skip Lisle at Beaver Deceivers International. 🍄

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[Sponsored content, continued]

Constitutional Amendment: Vote “YES” on November 6th to Protect Your Public Lands

Voting “Yes” will amend the state constitution to require that **BEFORE** any state-owned public lands can be sold, swapped, or given away by the General Assembly, the following conditions must be met:

(1) a PUBLIC HEARING on a bill limited to the specific state land being proposed for transfer; and
(2) a 2/3 VOTE by each chamber of the General Assembly IF the public lands are held by the CT Department of Energy & Environmental Protection (e.g., State Parks and Forests), or the CT Department of Agriculture (e.g., state-owned farmland or easements).

Why is this necessary?

To ensure sunshine and public input to protect your public lands with a public

hearing on a specific bill **BEFORE** the land no longer belongs to the state.

Why a 2/3 Vote Requirement for DEEP and DoAg lands?

These state agencies both have missions that include protecting land in its natural state for the public:

- CT DEEP: “to provide for the protection, enhancement and management of the public forests, parks, open spaces and natural area preserves” (CGS § 22a-5(3)).
- CT Dept. of Agriculture: “to encourage and promote the development of agriculture in the state” (CGS § 22-3).

~ Provided by Janet P. Brooks