

THE HABITAT

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

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Subsurface Horizontal Flow Gravel Wetland and LID: A Case Study and Regulatory Recommendations

by Sean Hayden, Northwest Conservation District

Does development always have to mean environmental degradation? I don't think so. Adding a Subsurface Horizontal Flow Gravel Wetland (Gravel Wetland) to a development project may be one of the most efficient ways to protect surrounding wetlands and water quality. Used for centuries in Europe for waste water treatment, gravel wetlands have a proven track record of being extremely efficient at removing most pollutants from stormwater runoff.

The Northwest Conservation District (NCD) assisted with the installation of the first Gravel Wetland in Connecticut. Harvest Moon Timber Frame Barn wanted to build a pre-cut post-and-beam barn manufacturing facility adjacent to a drinking water supply stream in Morris, CT. The project created approximately one acre of impervious surface that required a primary stormwater treatment practice. Primary stormwater treatment practices are stormwater runoff management strategies that have proven to be the most efficient and capable at providing high levels of water quality treatment as stand-alone devices. Chapter 6 of the 2004 Connecticut Stormwater Quality Manual CT DEEP (Stormwater Manual) contains design requirements for primary treatment practices.

NCD worked in collaboration with the Morris Inland Wetland Commission and the project design engineer to create an effective stormwater treatment system. Given the slope, soil conditions, and the proximity

of the proposed development to a drinking water resource, it was decided that a Gravel Wetland would be the most effective measure for wetland and water quality protection.

Gravel Wetlands function as a biological filter. Bioretention structures are also a type of biological filter, however, instead of moving polluted stormwater vertically through one or two feet of soil media, a Gravel Wetland filters water horizontally through roots, soil and gravel for 30 or more feet. An anaerobic environment combined with a very long filter path, makes Gravel Wetlands extremely efficient at pollutant removal. The Gravel Wetland pictured on page 5 was installed at the post-and-beam project referenced above about one year ago, and it is functioning flawlessly. Regular inspections have occurred during all four seasons, and even in February (colder than normal this year) this Gravel Wetland continues to function under the ice and snow.

Gravel Wetlands are one of many stormwater treatment measures considered for use in Low Impact Development (LID) projects. One of the principle goals of LID is to use structures that mimic natural systems to treat polluted stormwater where it is generated. Gravel Wetlands have a unique ability to strip out a broad spectrum of pollutants entrained in runoff in a relatively compact structure, making them an ideal primary treatment measure for both new development and retrofitting into developed areas. While the Stormwater Manual does not contain design specification for a Gravel Wetland, comprehensive documentation of Gravel Wetlands can be found at the University of New Hampshire Stormwater Center's website www.unh.edu/unhsc. They have designed, built, and tested Gravel Wetlands for many years, and they have published both the pollutant removal efficiencies and the design specifications on their website.

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www.caciwc.org

CACIWC News Briefings

The CACIWC Board of Directors has been busy during the first few months of 2013 working to evaluate our 2012 annual meeting, tracking state legislative activity and budget negotiations, while continuing efforts to develop our new **strategic plan**. As part of the strategic planning process, we will be conducting a membership-wide survey to assess your educational needs and ensure that CACIWC is aware of any new challenges to your efforts in protecting Connecticut wetlands and other important habitats.

1. The Board of Directors has reviewed the many comments and suggestions submitted on the survey distributed at our 2012 annual meeting. If you did not have an opportunity to complete the 2012 meeting survey you can still contact us with your comments and suggestions at AnnualMtg@caciwc.org. We also very much welcome suggestions for workshop topics and speakers that you would like us to recruit for our **36th Annual Meeting and Environmental Conference**, scheduled for **Saturday, November 16, 2013...save the date!** Please send your ideas to us at AnnualMtg@caciwc.org along with any other suggestions. Watch for additional conference news in upcoming issues of *The Habitat* and on our www.caciwc.org website.

2. Although we recruited a few new directors in 2012, many **CACIWC board positions** remain unfilled. (Please see the list in this issue of *The Habitat* and on www.caciwc.org.) We were pleased to receive approval for our **bylaws amendments** during our November 17, 2012 meeting (see our website for the amended bylaws: www.caciwc.org). These amendments included the creation of several **alternate at large** positions that are not restricted to a specific county. This amendment will allow us to recruit well qualified directors from areas whose county and alternate county representatives are already filled. Please submit your name to us at board@caciwc.org if you are interested in serving *CACIWC news, continued on page 13*

CACIWC Membership Dues Are Due

Go to caciwc.org to download the membership form. Click on About CACIWC.



Appellate Court Decision “Stays the Course” on Substantial Evidence Overturning Wetlands Agency Grant of Permit and Addresses Guidance Documents

in
Estate of Casimir Machowski v. Inland Wetlands Commission,
137 Conn. App. 830, cert. denied 307 Conn. 921 (2012)

At the end of my last column I mentioned in passing that the Appellate Court ruled on the legal effect of guidance documents. Although this topic was covered in both of the sessions I offered at the 2012 CACIWC annual meeting, the Estate of Casimir Machowski case is deserving of an entire column.

In Machowski the applicant proposed to construct, 18 units in 9 duplex buildings on a 16 acre parcel containing 1.8 acres of wetlands/watercourses. The project, on steep slopes in the upland review area, would require 30,000 cubic yards of fill, with 2/3 of the fill being trucked to the site. The trial court characterized the neighborhood opposition as “vehement.”¹ Both the applicant and the commission presented experts. The agency denied the application citing the following reasons: 1) there was a feasible and prudent alternative to the placing the detention basin in fill on an extreme slope; 2) the proposed location of the basin is inconsistent with the DEP 2002 Soil and Erosion and Sedimentation Guidelines; 3) the extensive fill creates an erosion hazard upgradient of wetlands. The trial court acknowledged that no activity was proposed in the wetlands with substantial work proposed in the upland review area. The trial court dismissed the applicant’s appeal, upholding the agency denial. The Appellate Court reversed and overturned the denial of the permit.

The Appellate Court found there wasn’t substantial evidence to support the agency’s denial. Specifically it found that the trial court failed to require “that there be specific evidence in the record showing that the [applicant’s] activities would adversely impact wetlands or watercourses.”² The Appellate Court

quoted extensively from the River Bend case in which the Supreme Court referred to “actual adverse impact” for the first time: “The sine qua non of review of inland wetlands applications is a determination whether the proposed activity will cause an adverse impact to a wetland or watercourse.”³

The Appellate Court reviewed the expert reports. It concluded there was no evidence that the proposed activity would have an adverse effect on the wetlands or that the amount of fill would probably erode into the

wetlands. The agency’s expert referred to “potential damage to wetlands” if the detention basin fails. “Evidence regarding potential impacts to wetlands in the event of a failure of the detention basin does not in itself amount to substantial evidence.”⁴

There was no expert opinion that 1) an adverse impact on the wetland was likely or 2) a failure of the detention basin was reasonably likely to occur.

Additionally the agency’s expert stated that the location of the detention basin was not consistent with the 2002 Guidelines for Soil Erosion and Sediment Control due to the steep slope. He acknowledged that the detention basin could work but that he “would feel much more comfortable” if the project kept away from the steep slopes.⁵ The expert did not cite any statute, standard or regulation that the proposal violated. The Appellate Court: “although they [the guidelines] may contain a set of beneficial recommendations, non-adherence does not in itself imply a likelihood of adverse impact on wetlands. The requirements of River Bend Associates, Inc. still must

legal, continued on page 4

legal, continued from page 3

be met to justify a denial in these circumstances.”⁶ Guidance documents do not constitute standards that have the force and effect of law, nor do they constitute expert opinion requiring a specific outcome. Experts may refer to guidance documents, but better be prepared to substantiate their opinions based on conditions at the site.

The neighbors testified about their past experiences with flooding in the area. The Appellate Court concluded: None of that testimony addressed “what specific impact the proposed regulated activity would have on the wetlands.”⁷

The Appellate Court concluded that all of the evidence that the agency relied on was speculative in nature. Speculative evidence doesn’t constitute substantial evidence. In the end, agencies and intervenors may wonder if the “deck is stacked against” them. Not all expert opinion is of equal value. If the expert does not believe that the data allow him/her to express an opinion that the outcome will likely occur, his/her opinion that it “might” occur is of limited value. It may assist the agency to focus on what to seek from an applicant or another expert. An expert’s “concern” is an appropriate place for departure. A “concern” is not a legitimate endpoint for an agency to rely on.

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)

¹ Estate of Casimir Machowski v. Inland Wetlands Commission, 137 Conn. App. 830, 833 (2012).

² Estate of Casimir Machowski v. Inland Wetlands Commission, 137 Conn. App. 830, 835 (2012).

³ Estate of Casimir Machowski v. Inland Wetlands Commission, 137 Conn. App. 830, 838 (2012), citing River Bend Associates, Inc. v. Conservation & Inland Wetlands Commission, 269 57, 74 (2004).

⁴ (Emphasis in original.) Estate of Casimir Machowski v. Inland Wetlands Commission, 137 Conn. App. 830, 840 (2012).

⁵ Estate of Casimir Machowski v. Inland Wetlands Commission, 137 Conn. App. 830, 841 (2012).

⁶ Estate of Casimir Machowski v. Inland Wetlands Commission, 137 Conn. App. 830, 841 (2012).

⁷ Estate of Casimir Machowski v. Inland Wetlands Commission, 137 Conn. App. 830, 841 (2012).



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P R O U D L Y M A D E I N T H E U S A

gravel, continued from page 1

Many streams and rivers in Connecticut are listed on the “Connecticut 303(d) Impaired Water” list. The number one source of water quality degrading pollutants in Connecticut is untreated stormwater runoff from impervious surface. To minimize the growth of, and reduce the list of streams and rivers on the Impaired Water List, the land use management community needs to start requiring primary stormwater treatment, such as a Gravel Wetland, for land use



Excavated Treatment Cells Before Addition of Gravel

change projects that create polluted stormwater runoff. This is important because most development projects become a permanent source of water quality degrading pollutants. The first step in mitigating this problem would be to incorporate the Stormwater Manual into municipal land use regulations. Then the land use management community can require that all land use change projects (development and redevelopment) be held to the major concepts and rec-



Excavated Treatment Cells Filled With Gravel

ommendations detailed in the Manual. In addition, the Stormwater Manual now has an LID Appendix that details the major principles and concepts of LID planning and design.

I don’t mean to imply that development can occur everywhere because we now have the practices and principles of LID. All development has impacts on the environment that need to be balanced with a property owner’s wishes, and LID is a paradigm that can help the land use management community minimize environmental degradation.



Complete and Vegetated Gravel Wetland

Many states have already adopted comprehensive LID design regulations that require projects to be built to a prescribed standard. It has been proven many times over that developing land to the principals and standards of LID is cheaper, more efficient at water quality and wetland protection, and more attractive as compared with conventional development practices. The municipal land use management community should require the implementation of all the principles of LID on all permanent land use change projects. In reality, there is no down side.

For additional information please contact Sean Hayden, Executive Director, Northwest Conservation District; Phone: Phone 860.626.7222; Email: seanhayden@conservect.org.

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WE APPRECIATE YOUR SUPPORT! THANK YOU!

As of March 3, 2013, the following Town commissions have supported CACIWC through membership dues for the 2012-2013 fiscal year (July 1, 2012 – June 30, 2013). If your Commission is not on the list, please encourage your commission to join. For a membership dues form go to caciwc.org, click on About CACIWC, scroll to Membership and download form; or email todell@snet.net. If we are in error we apologize and would appreciate knowing. Member Commissions receive a copy of The Habitat for each commissioner if dues have been paid. Please consider joining as a sustaining member (SUS).

CC = Conservation Commission
IW = Inland Wetlands Commission

CC+IW = Combined Commission
Z+IW = Zoning/Inland Wetlands Commission

Andover	CC		Fairfield	IW		Oxford	CC	(SUS)
Ansonia	CC	(SUS)	Franklin	IW		Oxford	IW	(SUS)
Ansonia	IW	(SUS)	Glastonbury	CC+IW	(SUS)	Plainfield	CC	
Ashford	CC		Goshen	CC		Plainfield	IW	
Ashford	IW		Goshen	IW		Plainville	CC	
Avon	IW		Granby	CC		Plainville	IW	
Avon	CC		Granby	IW		Plymouth	CC+IW	
Barkhamsted	CC		Greenwich	CC	(SUS)	Pomfret	IW	
Barkhamsted	IW		Greenwich	IW	(SUS)	Preston	CC	
Beacon Falls	CC		Griswold	CC+IW	(SUS)	Preston	IW	
Beacon Falls	IW		Groton	CC		Redding	CC+IW	(SUS)
Berlin	CC		Groton	IW		Ridgefield	Z+IW	
Bethany	CC	(SUS)	Guilford	CC		Ridgefield	CC	
Bethany	IW	(SUS)	Guilford	IW		Roxbury	CC	
Bethel	IW		Haddam	CC		Roxbury	IW	
Bethlehem	IW		Haddam	IW		Salem	CC+IW	(SUS)
Bolton	CC		Hamden	IW		Seymour	CC	
Bolton	IW		Hamden	CC		Sharon	IW	(SUS)
Bozrah	CC+IW		Hampton	CC		Shelton	CC	
Branford	CC		Hampton	IW		Sherman	IW	
Branford	IW		Harwinton	IW		South Windsor	CC+IW	
Bristol	CC+IW		Hebron	CC		Southbury	IW	
Brookfield	CC		Kent	CC		Sprague	CC+IW	(SUS)
Brookfield	IW		Killingworth	CC		Sterling	IW	
Brooklyn	CC		Killingworth	IW		Stonington	IW	
Brooklyn	IW		Lebanon	CC		Thomaston	IW	
Canaan	CC+IW		Lebanon	IW		Thompson	CC	
Canterbury	IW		Ledyard	IW		Thompson	IW	
Chaplin	IW		Lisbon	CC		Tolland	CC	
Chaplin	CC		Lyme	CC+IW		Tolland	IW	
Cheshire	IW		Madison	IW		Trumbull	CC	
Cheshire	CC		Manchester	CC		Trumbull	IW	
Clinton	CC+IW		Manchester	Z+IW		Vernon	CC	
Columbia	CC		Mansfield	Z+IW	(SUS)	Vernon	IW	
Columbia	IW		Middlebury	CC		Wallingford	CC	
Coventry	CC		Middlefield	IW		Wallingford	IW	
Coventry	IW		Milford	CC		Warren	CC+IW	(SUS)
Cromwell	CC		Milford	IW		Washington	IW	(SUS)
Cromwell	IW		Monroe	CC+IW		Waterford	CC	(SUS)
Darien	CC+IW	(SUS)	Montville	IW		Watertown	CC+IW	
Deep River	CC+IW		Naugatuck	IW		West Hartford	CC	
Durham	CC		New Canaan	Z+IW		West Hartford	Z+IW	
Durham	IW		New Canaan	CC		Westbrook	CC	
East Haddam	CC		New Fairfield	CC+IW	(SUS)	Westbrook	IW	
East Haddam	IW		New Hartford	CC	(SUS)	Westport	CC+IW	
East Hampton	CC		New Hartford	IW	(SUS)	Wethersfield	IW	
East Hampton	IW		New London	CC+IW		Willington	CC	
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East Lyme	CC		New Milford	IW		Wilton	CC	
East Lyme	IW		Newtown	CC		Wilton	IW	
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Eastford	CC		Norfolk	CC		Windsor	IW	(SUS)
Eastford	IW		North Branford	CC+IW		Windsor Locks	CC	
Easton	CC+IW		North Haven	IW		Windsor Locks	IW	
Ellington	CC		North Stonington	CC		Woodbridge	IW	
Ellington	IW		Norwalk	IW	(SUS)	Woodbury	CC	
Enfield	CC		Old Lyme	IW		Woodbury	IW	
Enfield	IW		Old Saybrook	CC		Woodstock	CC	
Fairfield	CC		Old Saybrook	ft		Woodstock	IW	

Editors Note: Conservation and Inland Wetlands Commissions can provide a very beneficial community service by notifying community leaders and the general public about the impact of phosphorus on water quality and the recent legislation that regulates the use of phosphorus on established lawns. The following article is reprinted with permission.

Soil Nutrient Analysis Laboratory

6 Sherman Place, Box U-102, Storrs, CT 06269-5102 • Phone: 860-486-4274, Fax: 860-486-4562

Your Lawn and The New Phosphorus Law

Last May the Connecticut legislature passed a bill regulating the use of phosphorus on established lawns. The bill went into effect on January 1, 2013. This legislation was enacted because of a little known fact about phosphorus: it is the number one cause of declining water quality in fresh water lakes and ponds in Connecticut.

Anyone who has purchased fertilizer knows that each package comes with a guaranteed analysis or grade consisting of three numbers such as 5-10-5. These numbers stand for the percent, on a dry weight basis, of nitrogen, phosphorus as phosphate and potassium as potash contained in that particular fertilizer. Fertilizers contain these three nutrients because they are often needed by cultivated plants in larger quantities than most native soils can supply for optimal plant growth. Plants need a number of other elements too, but they are usually supplied either by the soil itself or by additions of limestone and organic matter.

Typically nitrogen is associated with green leafy growth and that is why many lawn fertilizers have an analysis like 24-2-8, where the nitrogen content is proportionately high relative to the phosphorus and potassium. Phosphorus is essential for root growth and

flowering, and potassium helps regulate water movement as well as increasing the plant's ability to withstand stresses like disease and winter injury.

When fertilizers, either organic or synthetic, are applied in the correct amounts and at the appropriate times during the growing season, plants will do well and the risk of nutrients entering water bodies will be minimized. Both nitrogen and phosphorus will cause problems when they enter lakes, streams, ponds and other water sources. Because phosphorus especially is low in concentration in native water sources, even the addition of small amounts will stimulate the growth of algae and other water plants and the water body will become eutrophic. As the lush aquatic plant growth dies and decomposes, oxygen levels in the water body become reduced often resulting in fish kills. The bottom line is that phosphorus contamination results in lakes that are undesirable for swimming, fishing and other recreational activities.

The phosphorus that enters water bodies primarily comes from wastewater treatment plants, failing septic systems and fertilizers. Many towns are spending large sums of money to reduce phosphorus from wastewater

phosphorus, continued on page 14



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Paying For Open Space: Are You Prepared?

Is your Commission considering applying for a grant to preserve an important open space? If so it is likely you will need to campaign locally for the 40-50% matching funds required by most grant programs. Outlined below is a campaign strategy the Westbrook Conservation Commission (CC), partnering with The Trust for Public Land (TPL), used successfully for gaining public support for a \$2.2 million open space fund used, in part, for matching state and federal open space grant programs.

Going Public: Developing Citizen Support for An Open Space Program

Establish Credibility and Support Network

- Establish open space preservation as a community project and priority.
- Form Open Space Committee to focus on open space program. Westbrook established a Subcommittee of the Conservation Commission. Subcommittee provided monthly reports to CC.
- Enlist representatives from community groups and public for developing and implementing open space program. Examples are the Land Trust, Garden Club, Board of Recreation.
- Enlist an Advisory Board from Planning and Finance Commissions, UConn Extension Center-NEMO, Regional Planning.
- Make sure all meetings are publicized: establish relationship with local news reporters-keep them informed. E-mail and phone calls work.
- Develop a “Show and Tell” presentation of plan for open space preservation: Goals, objectives, selection criteria, brochures, maps.
- Conduct public meetings to introduce town landscape and natural resources using GIS/parcel map overlays. Use educators and natural resource professional(s) to explain how maps are used.
- Utilize visuals such as GIS and parcel maps to connect “their neighborhood and homes” with roads, watersheds, and natural resources.
- Engage public to assist with developing criteria for prioritizing open space preservation and acquisition. Hold facilitated workshops.

Develop Funding Options for Open Space Acquisition

- Develop Community Fiscal Portrait to support capital expenditure for open space acquisition.
- Identify other funding options: State-matching funds, Federal funds, Non-profit funding.
- Establish a separate Fund Raising Committee to receive donations or work with land trust to receive donations.
- Formulate Open Space Acquisition and Funding Recommendations.

Gain Support of Town Officials

- Land acquisition proposals must be approved by Planning, Selectmen, Board of Finance, Town Meeting and, likely, Town Referendum (dependent on town charter requirements).
- Keep town officials and land-use staff informed; when appropriate request time on agenda; invite them to public forums.
- Each commission or board usually has monthly meetings; keep time-line for meeting with those you will need for approval and support.
- Provide relationship of open space program to Plan of Conservation and Development. Planning Commissions are required by State Statute to recommend to Selectmen actions to be taken on land acquisition.
- Request town official comments and recommendations, including recommended funding options.
- Be prepared to answer questions.

Maintain a Constant Information/Education Campaign

- Ask for someone to coordinate campaign outreach.
- Use a variety of media and other information sources.
- Develop a schedule for news releases, public meetings and announcement.

Plan Open Space Funding Campaign

- Establish Campaign Calendar (see page 9).
- Establish a non-profit “Committee to Conserve Open Space” to campaign for public and private funds. (Per State statutes, Conservation Commissions cannot campaign for funds.
- Elect officers for the Committee; Open a non-profit bank account to receive donations.

Sample Campaign Calendar for Open Space Referendum
Adapted from Trust for Public Land Model

Activity	Implementation	Who
10 to 14 WEEKS BEFORE VOTING DAY		
Local Support - contact key organizations	Arrange for meetings, prepare presentations; organize committees	CC
Fact Sheet - Q&A	Draft; circulate to CC members for comment	CC
Campaign fund raising	Set up a Political Action Committee (PAC)	CC
News articles Press release	Prepare content (rationale for open space preservation, etc.); obtain comment from CC members; submit to media	TPL / CC
Set up website, facebook, other e-media	Prepare content: maps, photos of parcel, rational for preservation etc.	Website Committee

6 to 10 WEEKS BEFORE VOTING DAY

Obtain approval / support from Boards	Arrange meeting dates with Boards for approvals as required by charter and State statute, and as desired.	TPL/CC
Plan walks on parcel	Invite public to walk and see property.	CC / LT
Print Fact Sheet	Distribute to all residences, post around town.	All

4 to 6 WEEKS BEFORE VOTING DAY

Letters to Editor	Prepare 2 to 3 per week; identify contributors, local leaders.	CC
Calls to residents	Call Land Trust members; residents near open space parcel.	CC / LT
Yard Signs	Prepare lawn signs; put out 4 weeks before vote day.	CC/TPL

2 WEEKS BEFORE VOTING DAY

Public Meeting	Presentation, information materials, maps, literature	CC / TPL/ LT
Letters to Editor	Continue publications.	CC

TPL = Trust for Public Land; CC = Conservation Commission; LT = Land Trust

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Contact Executive Director Jim Langlois of the Connecticut Concrete Promotion Council
 912 Silas Deane Hwy., Wethersfield, CT 06109 • tel.: 860.529.6855 • fax: 860.563.0616 • JimLanglois@ctconstruction.org

Council on Environmental Quality Releases “Environmental Quality In Connecticut” For 2012

The state Council on Environmental Quality reviewed environmental data for 2012 and concluded that the indicators used to measure Connecticut’s environmental health did not show many signs of improvement.

The Council delivered its annual report on the condition of the state’s environment to Governor Dannel P. Malloy, noting that this document marks the 40th anniversary of the Council’s inaugural report.

“Connecticut’s environment is resistant to improvement,” the report begins, highlighting a consistent trend of recent years. This year, the short-term indicators pointed to more declines than improvements.

The Council’s report, Environmental Quality in Connecticut, presents long-term and short-term trends for about 30 indicators. Regarding the short-term changes, the report says, “In light of Connecticut’s persistent efforts to control pollution and manage its resources, some of the declines of 2012 are particularly frustrating”:

- more bad air days (that is, days when the air over some or all of the state does not meet standards set to protect human health),
- more widespread hypoxia (insufficient oxygen) in Long Island Sound,
- land conservation results that fell short of Connecticut’s long-term goal.

“The improvements of 2012 were few in number and modest in scale,” the report says, noting that:

- Shoreline beaches were closed for fewer days in 2012 than in 2011, but the number of closings in 2012 still was well above the long-term average.
- Public drinking water improved, with 99.8 percent of all water piped to customers (2.8 million people) meeting health standards. That percentage was 99.7 in the previous year. The potential to improve further actually is limited because Connecticut has excelled in protecting public drinking water for many years. The report notes that Connecticut is among the very best states in delivering safe drinking water to customers of public water systems.
- Two “personal impact” indicators -- miles driven and bus trips taken by the average resident -- improved.

CEQ, continued on page 11



- * Low Impact Development Analyses, Designs & Regulations
- * Design of Stormwater systems for water quality improvement and volumetric reductions
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CEQ, continued from page 10

This year's report also calls attention to changes in Long Island Sound: sea level is rising at a faster rate, the water is warming, and southern species of fish are moving in as colder-water species move out. The Council says that the state needs to pay attention to the gradual changes, as gradual changes can become sudden changes.

The report also notes that many of the persistent problems in Connecticut's environment, including summertime air pollution and low oxygen levels in the Sound, are made worse by a warming climate.

The Council makes recommendations to the Governor and General Assembly separately from this annual status report. Nonetheless, the Council suggests in this report that, "The key ingredients of a cleaner Connecticut are relatively simple and few in number:

- more efficient and technologically-advanced heating and cooling equipment and vehicles;
- investment in the basics of sewage treatment, land conservation, parks and other essential services;
- better patterns of land development and transportation, including a strategy for dealing with the rising Sound and,
- restoration of rivers, wetlands, parks, trails and greenways by state and local governments as well as nonprofit organizations and heroic individuals."

This year's report is designed to be read online and features several innovations including interactive graphs and a summary page, "2012 at a Glance." Some additional data for 2012 are expected in the weeks ahead, and readers are encouraged to sign up through the Council's website to receive notices as the report is updated.

The Council on Environmental Quality submits Connecticut's annual report on the status of the environment to the Governor pursuant to state statutes. Additional responsibilities of the Council include review of construction projects of other state agencies, publication of the twice-monthly Environmental Monitor, and investigation of citizens' complaints and allegations of violations of environmental laws. The Council is a nine-member board that is independent of the Department of Energy and Environmental Protection (except for administrative functions). The chairman and four other members are appointed by the Governor, two members by the President Pro Tempore of the Senate and two by the Speaker of the House.

The annual report, Environmental Quality in Connecticut, is available on the Council's website at www.ct.gov/ceq/AnnualReport.



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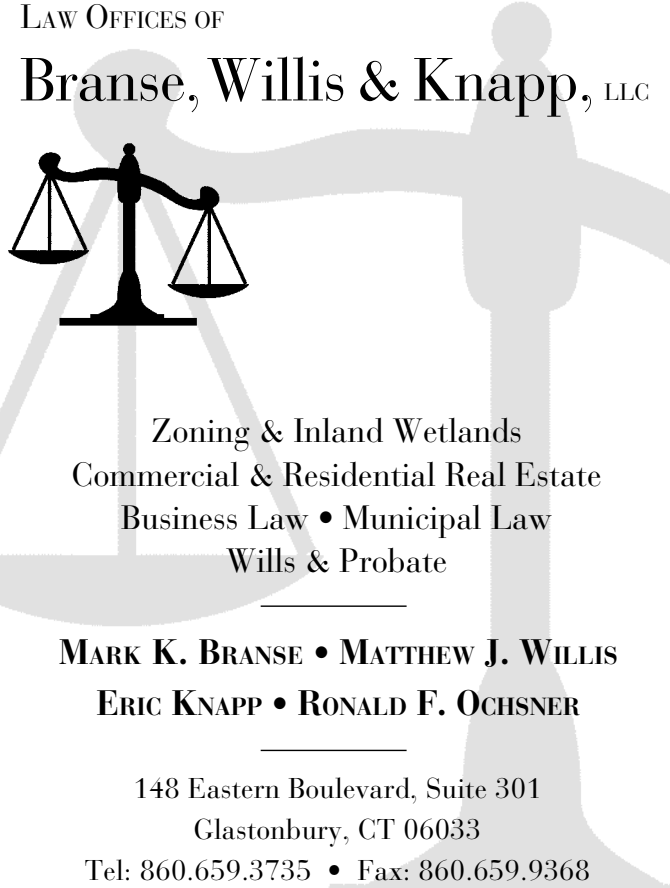
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Community Farms Preservation Program

The newly created Community Farms Preservation (CFP) program is geared toward smaller farms and requires a municipal partner. It has resulted in 24 new municipalities entering into cooperative agreements with the Connecticut Department of Agriculture during the last year alone. These efforts have led to 11 new CFP program applications.


The purpose of this new pilot CFP program is to encourage locally supported farmland preservation on smaller farms that have excellent agricultural soils and contribute to local economic activity, but which may not be eligible for other protection programs.

For municipalities to qualify, they must enter with the Connecticut Department of Agriculture into cooperative agreements that do the following:

- recognize farmland preservation in the municipal plan of conservation and development
- establish an agricultural commission and/or program for farmland preservation
- inventory local farmland resources
- establish local scoring criteria for prioritizing local farms
- designate or have a local funding mechanism
- request identification of locally important farmland soils through the USDA (see page 16).

Acre by acre, the Connecticut Department of Agriculture's Farmland Preservation Program continues working toward its long-time goal of protecting 130,000 acres of farmland, including 85,000 acres of cropland. In the year ahead—as recommended by the Connecticut General Assembly's Legislative Program Review and Investigations Committee in its December 2012 Results Based Analysis—the Farmland Preservation Advisory Board will be conducting research, study, and review of this goal to determine if an adjustment is appropriate.

In total, the program has now preserved farms in 75 of Connecticut's 169 municipalities and in all eight counties. Development rights acquisitions now total 296 farms and 38,546 acres, or 30 percent of the program's goal.

If you are aware of farmers thinking of preserving their farm or farmland, the Connecticut Department of Agriculture welcomes their application. Applications are accepted on a continuous basis. Preserved farms have met minimum eligibility requirements and have successfully competed with other priority farms for farmland preservation funds. Owners of farms ineligible for this program may be referred to other state or federal programs, or to local land trusts. For an application or more information, please call 860-713-2511 or visit www.ct.gov/doag. 

Agricultural Resources


Planning for Agriculture Guide - 2nd Edition

“Planning for Agriculture: A Guide for Connecticut Municipalities.” is a joint initiative of American Farm Land Trust and the Connecticut Conference of Municipalities. This publication has been a key resource for Agriculture Commissions and is a good guide for Conservation Commissions interested in promoting agriculture as part of their open space program. The 2nd Edition provides updates on resources, grant programs, legislation and case studies that will be very useful to agricultural producers and municipal decision-makers alike. The full document can be downloaded at <http://tinyurl.com/Planning4AG>.

Farmland ConneCTions Guide

The Farmland ConneCTions guide, produced by UConn Extension and American Farmland Trust, is meant to assist municipalities, land trusts, and other institutions with leasing farmland to keep protected lands in productive agriculture. The guide can be downloaded at http://www.farmland.org/documents/FINAL_AFTFarmlandConneCTions_lo.pdf.

Connecticut Department of Agriculture Grant & Loan Programs

Information about the state's Farmland Restoration Program and the Community Farms Program, both in their first year can be found at <http://www.ct.gov/doag/cwp/view.asp?a=1366&q=499192>. 

CACIWC news, continued from page 2


as one of our vacant county representative, alternate county representatives or in one of the new alternate at large representative positions.

3. Are you too busy to join the board at this time but would enjoy working on CACIWC issues? We are forming several additional **CACIWC advisory committees** to help us with our education and outreach efforts, help us select new goals and objectives for our updated strategic plan, or participate in the review of legislative initiatives. Let us know by sending your name and interest area to us at board@caciwc.org.


4. To help promote the next generation of Connecticut conservationists, the CACIWC Board of Directors has accepted a role in the **Connecticut Science & Engineering Fair (CSEF)** for Connecticut secondary school students. As I write this column, CACIWC Board Treasurer Charles Dimmick and I are preparing to serve as coordinating judges for the environmental science awards in this year's CSEF. The CACIWC Board will be conducting other activities to increase interest in conservation and wetlands protection among Connecticut students this year. Watch this column for more information!

5. **Membership dues** are an essential part of our operating budget. They support various CACIWC programs including our Annual Meeting, educational materials, and *The Habitat*. During the next few months you will be receiving a reminder and renewal form for the 2013-14 membership year, which begins on July 1, 2013. A copy of this form and additional information will be placed on our website: www.caciwc.org. Would you or your company like to provide additional support to CACIWC? The website also provides a description of additional individual and business membership categories. We will very much appreciate any additional contributions to support CACIWC education and outreach efforts!

Please do not hesitate to contact us via email at board@caciwc.org if you have questions or comments on any of the above items or if you have other questions of your board of directors. We thank you for your ongoing efforts to protect wetlands and conserve natural resources in your town!

Alan J. Siniscalchi, President 

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phosphorus, continued from page 7

discharges, and many are working with homeowners that reside near water bodies to rectify problems with septic systems. The Connecticut legislature decided that the decline in water quality was significant enough to merit restrictions of phosphorus-containing fertilizers on established lawn areas. Golf courses and agricultural land are exempt from this regulation. What will this law mean for those responsible for maintaining a lawn area? If seeding or sodding a new lawn area or overseeding an existing lawn, no changes to your fertilizer regimen is needed. Typically new plantings of any crop benefit from the addition of some phosphorus to aid in root growth establishment so turfgrass starter fertilizers or complete garden fertilizers can be used at rates recommended on the package or by a soil test report.

Established lawns do not have high phosphorus requirements and once optimum amounts are established in the soil you will supply sufficient phosphorus for good growth simply by leaving grass clippings on the lawn. The new legislation prohibits the application of lawn fertilizers containing phosphorus on established lawns unless a soil test, done within the past two years, shows that phosphorus is deficient and phosphorus needs to be applied. A quick glance at some name brand fertilizer websites shows that many of the larger companies have no-phosphorus synthetic fertilizers available, most likely in response to the growing number of states that are passing laws restricting phosphorus fertilizer use.

The biggest challenge is going to be for those wanting to maintain their lawns using natural organic lawn fertilizer products because it is much easier to manufacture chemical fertilizers that do not include phosphorus than it is to remove phosphorus from an organic fertilizer or soil amendment such as fish meal or compost.

Some choices for materials that contain low or no-phosphorus include: Corn gluten (9-0-0) or bloodmeal (12-0-0) can be used to supply nitrogen to lawns, and greensand (0-0-3) and sul-po-mag (0-0-22) may be used to supply potassium. There are a few blended organic fertilizers that are appropriate for lawns and that do not contain phosphorus.

Any fertilizer, soil amendment or compost that contains less than 0.67% phosphorus is exempt from the phosphorus restriction. Composts made from only

leaves typically contain low amounts of phosphorus and could be used to topdress established lawns to improve organic matter levels if necessary. We recommend you test any compost or soil amendment for phosphorus content before application. The University of Maine (<http://anlab.umesci.maine.edu/>) and Penn State University (<http://aasl.psu.edu/>) have laboratories that test compost for nutrient content.

The legislation also restricts the application of phosphorus-containing fertilizers to lawn areas between December 1 and March 15. The University of Connecticut, however, recommends applying fertilizers, to lawns or to any other plants, only between April 15 and October 15 when plants are typically still actively growing.

No fertilizers containing phosphorus can be used on lawn areas that are less than 20 feet away from any body of water unless applied with a drop spreader, rotary spreader with a deflector or targeted liquid spray in which case the application may be within 15 feet of a water body. Phosphorus containing fertilizers are also not to be applied to any impermeable surface. The CT Department of Agriculture is responsible for enforcement of this law.

If you have questions about the phosphorus legislation or soil testing, you can call the Soil Nutrient Analysis Laboratory (860) 486-4274 from 8:30 am to 4:30 pm Monday to Friday.

by Dawn Pettinelli & Thomas Morris, UCSNAL 3-2013

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Invasive Plants Council Annual Report

Connecticut's Invasive Plants Council's 10th annual report is now available online; visit www.cipwg.uconn.edu/ipc.html and select "2012 Annual Report." The report highlights actions undertaken in Connecticut to address problems caused by terrestrial and aquatic invasive plants.

The report highlights:

- Continued coordination of water chestnut control and removal throughout the Connecticut River,
- Ongoing efforts to inform the public about threats from invasive plants and to gather information on new infestations,
- Continuation of efforts by the green industry (led by the Connecticut Nursery and Landscape Association) to phase out 25 of the highest-seed producing varieties of Japanese barberry by 2013,
- Evaluating new species for listing, including some species of running bamboo,
- Adding mugwort (*Artemisia vulgaris*) to the list of potentially invasive plants in Connecticut. 🍁

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Editor's Note: Conservation Commissions could take the lead by asking the highest ranking town official to request CT NRCS for assistance in identifying farmland soils as part of their open space planning.

How to Request Locally Important Farmland Soils Designation

From the Connecticut Natural Resources Conservation Service

1. The highest ranking elected official for your town requests, in writing, to the CT NRCS State Conservationist, that they would like our assistance in the identification of farmland soils of local importance. Why they want this designation should be included (have areas that are farmed that are not Prime or Statewide Important farmland; to enhance efforts in identifying important lands to protect, etc.). Send to: Lisa Coverdale, State Conservationist, USDA NRCS, 344 Merrow Road, Suite A, Tolland, CT 06084.

2. NRCS receives the letter of request and runs an analysis of the soils and soil map units in the town that have the potential to be farmland of local importance, based on physical and chemical properties and agricultural limitations and potential. NRCS develops a spatial map layer that displays the new designated soils.

3. The list and map are sent to the town for review. If the list and map are accepted by the Town, the highest ranking elected official signs and returns it to NRCS.

4. It is then official and can be used for planning and land protection efforts. Areas that have designated local important farmland soils are placed in Section II of the CT eFOTG at <https://efotg.sc.egov.usda.gov/treemenuFS.aspx> under soils information.

The entire process which is provided at no cost to the town can be completed quite quickly depending on the time it takes to route the paperwork and obtain signatures. 