



Connecticut Association of Conservation  
and Inland Wetlands Commissions, Inc.

# THE HABITAT

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Editor: Tom ODell

## Connecticut Supreme Court “Bags” Wildlife and Biodiversity as Primary Values of Inland Wetlands

### The Avalonbay/Wilton Decision

In *AvalonBay Communities, Inc. versus Inland Wetlands Commission, Town of Wilton*, the Connecticut Supreme Court ruled that Connecticut’s Inland Wetlands and Watercourses Act, “...protects the physical characteristics of wetlands and watercourses and not the wildlife, including wetland obligate species, or biodiversity.”

The decision, officially released October 14, 2003, is a substantial blow to the power of Inland Wetlands Agencies to consider one of the basic functions of wetlands and watercourses —that is, the protection and sustenance of the biological species dependent on these water resources.

This issue of *The Habitat* reviews the scope and importance of the ruling , and the limitations it imposes on inland wetlands decision-making. It also reviews and discusses the physical characteristics of wetland soils and provides a guide to the relationship between physical characteristics, uplands and potential development impacts.

While impacts to physical characteristics of wetland soils should always be considered in the decision-making process, physical characteristics are inextricably linked to the biological processes of wetlands including wildlife and biodiversity. As we go to press CACIWC is taking a lead role in organizing support for revision to Connecticut’s Inland Wetlands and Watercourses Act that will restore those functions and values to the municipal land use decision process.

— Tom ODell, Editor 🍁

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## Board Elections 2004: Thanks and Welcome!

**B**iennial election of the Board of Directors was held at the November 15<sup>th</sup> Annual Meeting. With regret, we say good-bye to Mike Aurelia, County Representative, Fairfield County; Jere Ross, Alternate County Representative, Fairfield County; Penni Sharp, County Representative, New Haven County, and Nick Norton, Alternate County Representative, New London County. The Board of Directors is deeply grateful for their combined 35+ years of service. Their experience, insight and contributions will be missed.

We welcome four new Directors for the 2-year term Jan. 1, 2004 to Dec. 31, 2005: Linda Berger, County Representative, Fairfield County; Tina Delaney, Alternate County Representative, Hartford County; Judy Preston, Alternate County Representative, Middlesex County; and Diana Ross, Alternate County Representative, New Haven County. We extend a warm welcome to these very able and experienced new Board Members, and we anticipate an enjoyable and productive working relationship with them in the future.

CACIWC also thanks the off-Board members of the Nominating Committee, Elaine Sych (CT Environmental Review Team), and Leslie Lewis (CT Dept of Environmental Protection, Greenways) for their helpful search. 🍂

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## Happy New Year from the CACIWC Board of Directors!

# Is There Life In The Wetlands? Some Preliminary Thoughts In Light of *AvalonBay Communities, Inc. v. Wilton* by David H. Wrinn<sup>1</sup>

The Supreme Court's recent decision in *AvalonBay Communities, Inc. v. Inland Wetlands Commission of the Town of Wilton*, 266 Conn. 150 (2003), restricting wildlife habitat considerations in the processing of permits to conduct regulated activities under the state's Inland Wetlands and Watercourses Act ("I.W.W.A."; "the Act"), Conn. Gen. Stat. § 22a-36 *et seq.*, is being identified as a matter that calls out for a legislative "fix." Whether the General Assembly will agree, and what specific form any such proposed amendment to the I.W.W.A. might take, are matters for future resolution. The first order of business for municipal inland wetlands and watercourses commissions right now is how to implement the Court's ruling until such time, if any, that there is legislative action. The purpose of the following discussion is to set forth some pertinent reflections upon the limits of the decision's legal reach and also some strategies for decision making in light of it.

It is well to review the following facts from the case. AvalonBay Communities, Inc. ("AvalonBay") applied for an inland wetlands and watercourses permit to construct affordable housing units on property containing inland wetlands, but none of the proposed construction activities in the revised application were to be located within the regulated inland wetlands and watercourses or the associated upland review area regulated by Wilton's inland wetlands and watercourses commission ("the commission").<sup>2</sup> The commission held a public hearing and determined that proposed construction activities would have a detrimental impact upon the *upland* habitat of the spotted salamander, a wetland obligate species<sup>3</sup> sighted on the property during the application review process. The commission denied AvalonBay's permit application. The issue on appeal of the commission's final decision thus focused upon the extent of the agency's regulatory jurisdiction. As framed by the Supreme Court, the issue was whether the Act, in addition to protecting wetlands "from physical damage or intrusion" could afford protection to wildlife that "might rely on the wetlands for a portion of its life cycle." In concluding that the I.W.W.A. did not do so, the Court specifically rejected the commission's claim that the Act "should be construed liberally to include protection of the biodiversity of the wetlands." The Court therefore set forth its decision as a *limitation* on the reach of the I.W.W.A. by its own terms.

One should not underestimate the significance of the Court's approach to the statutory construction of the Act, beginning first with its invocation of *Connecticut Fund for the Environment v. Stamford*, 192 Conn. 247 (1984). That case stands for the proposition that municipal inland wetlands agencies cannot delve into environmental issues outside their specific charge set forth in the Act respecting inland wetlands and watercourses.<sup>4</sup> But in *AvalonBay*, the *CFE* citation signals the Court's view that the I.W.W.A. itself is narrower than all the subject matters that might seem logically related to wetlands and watercourses as natural resources and to their conservation and protection. The Court accomplished this narrowing construction by, essentially, "detaching" the legislative finding contained in Section 22a-36 of the Act from the rest of the statute, and by laying particular emphasis upon the definitional sections. Finally, the Court enlisted the exemptions section of the Act (Conn. Gen. Stat. § 22a-40) as an aid to its construction of the reach of the non-exempt, authorizing, sections that form the nucleus of an inland wetlands and watercourses agency's regulatory jurisdiction.

The Court emphasized that "wetlands" are defined as a soil type; that "watercourses" are merely bodies of water; and that "intermittent watercourses," are chiefly identified by permanent channels and banks. The Court further emphasized that these definitions were "narrowly drawn" and "limited to physical characteristics." Therefore, by this reasoning, wildlife *per se* was beyond the reach of the Act, and biodiversity could not be a characteristic of these natural resources afforded protection. As an aside, the Court speculated that there might be some other "extreme case" where species loss or other negative impact "might" have a "negative consequential effect" upon the physical characteristics of a wetlands or watercourse. The Court, however, gave no indication or example of what it had in mind (this is, more likely than not, a legal "place keeper"); rather, the point that the Court chose to emphasize was that the General Assembly did not allow for the term "wildlife" (or "resources," or even "biodiversity") in the definitional section of the Act.

Aside from concluding that the definitions within the Act were "narrow," the Court interpreted the legislative finding in Section 22a-36 as speaking to the protection of wildlife only "as a secondary effect of protecting the wetlands and watercourses themselves." In other words, wildlife or

*Wetlands, continued on page 4*

diversity issues were simply subordinate considerations. The reasoning of the Court in support of this observation focuses upon the “conservation of . . . wildlife” as a “non-regulated use” of wetlands and watercourses under the exemption provisions (Conn. Gen. Stat. § 22a-40(b)(1)), and upon its view that the legislative finding in Section 22a-36 deems wildlife to be “beneficial” not as “integral” to fully functional wetlands and watercourses, but only as an enhancement, and so, as a matter of secondary importance in the Act. This marks the first occasion upon which the Court has declined to use the legislative finding as a key to a broad, remedial construction of the Act.<sup>5</sup>

It would, however, be wrong to conclude that this decision deconstructs its own precedent or renders more difficult the effective protection of inland wetlands and watercourses. The Court made plain what it was *not* deciding. It expressly stated that it was *not* interfering with the line of precedent beginning with *Aaron v. Conservation Commission*, 183 Conn. 532 (1981), and continuing through *Queach Corporation v. Inland Wetlands Commission*, 258 Conn. 178 (2001), that interpreted the Act to allow municipal wetlands and watercourses agencies to regulate outside the bounds of the resources themselves and even the setback areas designated around them (“upland review areas”) where activities were deemed likely to cause an impact upon inland wetlands and watercourses. It affirmed that Section 22a-42a(f) “merely codified” the reach of jurisdiction articulated previously in *Aaron*. Such impacts as are demonstrable as having an adverse effect upon the wetlands or watercourses are deemed “regulated activities” and thus within the jurisdiction of these agencies.

This last point is not at odds with the fact pattern of *AvalonBay*. The administrative record contained no factual findings by the commission of intrusion into or use of the wetlands or watercourses on the site as a result of the proposed construction activities. No habitat issues arose, therefore, from an impact to the wetlands or watercourses themselves (for example, elimination of habitat owing to the filling of a wetland), and the Court could have stopped its analysis of the facts at this point. If the salamander, as was argued and rejected by the Court, could be viewed as a “wetland resource,” then the ecological linkage of species to wetland in *AvalonBay* contained no findings that the destruction of some of the upland habitat of the spotted salamander would prevent the creature and the wetland from, in effect, “linking up” during the “obligate” portion of the former’s lifecycle. One must inquire, “Was it necessarily true that the impact upon upland habitat would have a cause and effect negative impact upon the wetlands?”<sup>6</sup> One may also ask on this record, “Was it likely that the salamander population could have moved from the

disturbed areas to other upland areas without impairing their relationship to the wetlands system?” Without a tight linkage to the regulated inland wetlands, the Court was left to fear that *AvalonBay* had aptly portrayed the jurisdiction of the commission as traveling “on the backs” of the salamander.<sup>7</sup> The point pursued by the Court is that focusing upon the salamander took the spotlight off the wetlands and watercourses themselves, obscuring the “primary” and necessary regulatory question “What’s happening *to* the wetlands and watercourses?”

Commissions who view their charge under the I.W.W.A. as broadly protective of the ecology of wetlands and watercourses will not draw much comfort from the regulatory decision making limitations imposed by the Court in *AvalonBay*. The Act is no longer available for the broad protection of certain species, like amphibians, that have an ecological connection to wetlands and watercourses. Nevertheless, while the decision remains in place as the law of the I.W.W.A., municipal commissions must follow and apply its reasoning. How, then? Inland wetlands and watercourses commissions should concentrate their inquiry on what effect (*i.e.*, impact) the proposed regulated activity will or will likely have upon the wetlands and watercourses proper—as set forth in the factors for consideration contained in Section 22a-41 of the Act—by considering, for example:

- Do the proposed activities involve physical intrusion, recalling that the terms “material”, “discharge” and “pollution” are defined broadly in the I.W.W.A.?
- Do the proposed activities involve filling, grading, draining or excavation, recalling that “remove” and “deposit” are broadly defined as well?
- Do the proposed activities involve siltation, the likely release of sediments or erosive discharges during site preparation or afterwards, as a result of the construction or use?
- Will the proposed activities alter or obstruct water flow?

These remain the major activities to be examined with care under the Act, and they are unaffected by the *AvalonBay* decision.

Resource inventories commonly associated with inland wetlands and watercourses applications in many communities are rendered more problematic in light of the *AvalonBay* decision. It all depends upon how the information is handled: commissions are not precluded from inquiring about habitat or diversity impacts, *but they may not make these issues the primary or sole ground for their decision making under the Act*. The rating of wetlands, for example, by their value, a place where

*Wetlands*, continued from page 4

diversity findings have been utilized, was never the object of the Act anyway: wetlands and watercourses are to be protected and conserved “because they are there.” One might even say that, in this respect, the Court has made it easier to protect such resources as vernal pools. These watercourses are part of the regulatory “inventory” whether or not there is evidence of their habitat value; their physical identification is enough for jurisdiction to attach. If evidence of habitat assessment and impact is received on the record, is it related to an impact that in turn implicates a physical characteristic? For example, if an application to put fill in a watercourse and build out a dock were to impinge upon or even eliminate a habitat area for fish, the nexus or connection between the physical characteristics of the watercourse and the habitat and the species would be easier to comprehend as authoritative but not necessarily jurisdictionally overreaching under the reasoning of *AvalonBay*. Similarly, an activity that drains or alters the course of water flow through a wetland area may have an adverse impact upon habitat and fit within the jurisdictional scheme outlined by the Supreme Court.

In summary, it is not so much the holding or conclusion of the *AvalonBay* case that is unsettling, but the overall approach of the Supreme Court to the I.W.W.A. The Court has effectively shelved the proposition that remedial legislation—of which environmental legislation is the preeminent example—should be broadly construed. This point of view leads to unfortunate interpretative results: discounting legislative findings; and reading definitional sections very narrowly. It is an orientation that appears to be at odds with statements of the Court in the past that “[t]he [I.W.W.A.] allows a wetlands commission enough flexibility to adapt ‘to infinitely variable conditions for the effectuation of the purposes of these statutes.’” *Queach Corp.*, 258 Conn. at 199, quoting *Aaron*, 183 Conn. at 541. This is not to say that *AvalonBay* should have come out differently, only that the Court may have gone farther than was necessary to reverse on the decisional record made by the Wilton commission. The outcome of this appeal mandates the exercise of care by all municipal commissions in marshalling their fact finding and, ultimately, in their decision making under the I.W.W.A.; and, one may add as a parting observation, that should be so whether the Act is further amended or not.

<sup>2</sup> The commission initially denied a request for a declaratory ruling on the revised application that no regulated activities were involved in the proposal.

<sup>3</sup> The Court noted that the spotted salamander is neither an “endangered species,” nor a “threatened species,” nor even a “species of special concern” as those terms are used in the General Statutes. Conn. Gen. Stat. §§ 26-304(8); 26-304(7); 26-304(9), respectively. It is not obvious what difference it would have made to the outcome of this decision were the spotted salamander have been characterized by one of these other designations. By the same token, it is unclear whether the fact that the Commissioner of Environmental Protection has imposed “bag limits” on the taking of spotted salamanders really made any difference to the outcome of the decision. At most, these references underscore the extent to which the Court was intimating that species concerns are suitable for separate statutory treatment and not less indirectly as might have been previously assumed through the application of the I.W.W.A.

<sup>4</sup> Air quality and noise, for example, were issues raised before the inland wetlands agency in the CFE case.

<sup>5</sup> One of the important purposes served by legislative findings is to insulate an enactment from being read too narrowly and out of step with its goals. Legislative findings are authoritative, even though they are in the nature of statements of legislative policy. In essence, they are intended to be there as a guide to interpretation. Moreover, in the context of an enactment such as the I.W.W.A. that will be primarily enforced by lay commissioners, lacking the Commissioner of Environmental Protection’s array of technical resources, the findings, as “legislative facts,” before the *AvalonBay* decision had the effect of engrafting upon every proceeding conducted by a municipal agency these important observations respecting the function and value of inland wetlands and watercourses without need for further explanation on the record.

<sup>6</sup> Whether the upland habitat of the salamander lay in the “upland review area” or beyond is a distinction without a difference in this respect. By the Court’s reasoning, neither area would, with respect to the same facts as in *AvalonBay*, have had any adverse effect upon the physical characteristics of the wetlands on the site.

<sup>7</sup> Loss of the salamander and its impact upon biodiversity did not fall within the “extreme case” that the Court had reasoned in footnote 19 “might have a negative consequential effect on the physical characteristics of a wetland or watercourse.” That a reduction in the numbers of a species that utilized the wetland as does the salamander (that is, a loss of diversity) would be deemed insufficient to support a finding of an “impact” to the regulated resource is also an indication of the Court’s narrowing focus. 🌿

## Footnotes

<sup>1</sup> The author is an Assistant Attorney General within the Environment Department of the State of Connecticut Office of the Attorney General. The views expressed herein are those of the author and do not constitute an official opinion of the Attorney General.

# The Relationship Between the Properties and Features of Wetland Soils and the Adjacent Uplands

by USDA Natural Resources Conservation Service Connecticut Staff

**W**etlands and watercourses are features of Connecticut's landscape whose occurrence is dependent upon the local terrain, soil characteristics, and hydrology. Wetlands develop and watercourses exist whenever the presence of water has a dominant or pronounced effect. By occupying low-lying spots and drainages in the watershed, wetlands and watercourses are not only defined by the surrounding uplands but are also interconnected with them. Wetlands can be distinguished from uplands and other ecosystems by examining certain characteristics that relate to features such as water, soils, and biota, and characteristics related to function such as hydrology, biogeochemical cycling, habitat and food webs. As a practical basis, the State of Connecticut defines wetlands using the dominant characteristic of soil type. Wetland soils exhibit specific, well defined physical, chemical, and biological properties and features that are a reflection of the hydrology of the area. These characteristics and features are displayed in the layers (horizons) of the soil profile.

Soils develop as a result of the interaction between the five soil forming factors: the nature of the parent material, climate, organisms, topography, and time. All of these factors are affected by water, and thus the hydrology of an area is important in determining how the soil develops.

The parent material of the soil determines the textures of the soil horizons (layers), and the texture affects how readily water will move into and through the soil. Weathering of the parent material is affected by water, both in liquid and solid ice forms.

Climate determines when the water will be present and whether it will be liquid water or ice.

Decomposing flora and fauna provide organic matter and nutrients to the soil. Earthworms mix the soil, increase the availability of nutrients, and help increase the stability of soil aggregates, which in turn increase the infiltration rate of water into the soil. Soil microorganisms influence chemical weathering and facilitate the development of redoximorphic features.

The soil topography influences where wetlands are on the landscape. Water that cannot infiltrate easily into the soil will flow on the land surface to and from wetlands. The three basic hydrologic positions of wetlands on the landscape are: depressions or low spots, flood plains and

alluvial areas, and concave slopes where groundwater seepage surfaces.

There are four basic soil forming processes: additions, deletions, transformations, and translocations. These processes take place in the soil profile, and all are affected by water. Water *adds* materials by deposition of eroded sediment from uplands and by the addition of minerals that precipitate typically as the water evaporates. Water also *removes* minerals and sediment from the soil. Chemical weathering *transforms* the parent material. Soil biota *transforms* biomass into humus and decomposed organic matter. Some of the material is *translocated* in the soil profile, moved from upper soil layers to lower soil layers. For example, clays and iron are often *translocated* and redeposited lower in the soil profile. In fact, the transformations and translocations of iron are dependent on soil microorganisms and result in the formation of redoximorphic features (formerly known as mottles) which are characteristic of wet soils.

The Connecticut Inland Wetlands and Watercourses Act defines wetland soils to include "any of the soil types designated as poorly drained, very poorly drained, alluvial, and flood plain by the National Cooperative Soil Survey". The first two types are defined by the USDA Soil Survey Manual<sup>1</sup>, and are the definitions accepted by all of the National Cooperative Soil Survey partners. The second two soil types refer to soils formed in specific types of parent materials. The definitions of these soil types are:

Poorly drained: "Water is removed so slowly that the soil is wet at shallow depths periodically during the growing season or remains wet for long periods... Free water is commonly at or near the surface long enough during the growing season so that most mesophytic crops cannot be grown, unless the soil is artificially drained. The soil, however, is not continuously wet directly below plow-depth."<sup>1</sup>

Very poorly drained: "Water is removed from the soil so slowly that free water remains at or very near the ground surface during much of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown."<sup>1</sup>

It is important to note that specific depths to free water tables are not mentioned in the official definitions of drainage classes, nor are depths and amounts of

*Soils, continued on page 7*

*Soils, continued from page 8*

redoximorphic features. Specific depths to these soil characteristics are determined regionally and statewide by the soil scientists of the National Cooperative Soil Survey.

Alluvial soils form in sediment deposited by streams. Flood plain soils form in the nearly level alluvial plain that borders a stream and are subject to flooding unless protected artificially. These soils are often better drained than the poorly drained soils, but are still considered to be Connecticut state wetlands because they are subject to flooding.

The hydrology of all of these wetland soils encompasses a period of time when water is at or near the surface of the soil. The time period may be longer, as is the case with poorly drained and very poorly drained soils, or shorter with the better drained alluvial and flood plain soils. The water may be present as a result of surface and subsurface flow from uplands to a lower topographic location, ponding of rain water, or from flood waters of a stream or river.

These unique characteristics of wetland soils are linked to the surrounding uplands. Therefore, upland habitats play an important role in protecting the characteristic structure and function of wetland soils. Any alterations in uplands usually affect wetlands.

Our current development patterns,<sup>2</sup> construction techniques, planning and zoning regulations, health code, and a lack of natural resource based planning has created significant impacts on the ecosystem goods and services<sup>3</sup> that wetlands provide. Because of the integral relationship between upland areas as the *contributing watersheds* of wetland soils, a review of the relationship of “physical characteristics” of wetland soils to adjacent uplands is helpful (Table 1). It is important to understand that some of the potential impacts of development can be mitigated or lessened by the use of BMP’s (Best Management Practices), updated regulations, standards and codes, and smart growth concepts that incorporate natural resource information.<sup>4</sup>

In addition, although the focus is on “physical characteristics” of wetland soils, it is well understood by soil scientists that the physical, chemical, and biological characteristics of wetland soils and their relationship to upland areas are inextricably linked.

For additional information please consult the listed references.

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**TABLE 1: RELATIONSHIPS BETWEEN PHYSICAL CHARACTERISTICS, UPLANDS AND POTENTIAL DEVELOPMENT IMPACTS**

CONNECTICUT WETLAND SOIL “PHYSICAL CHARACTERISTICS”	RELATIONSHIP TO ADJACENT “NON-WETLAND” UPLANDS	SOME POTENTIAL IMPACTS TO WETLAND SOIL “PHYSICAL CHARACTERISTICS” FROM TRADITIONAL DEVELOPMENT ON UPLANDS <sup>2</sup>
Higher accumulations of <b>organic matter</b> in the surface layer (poorly drained soils, very poorly drained soils)	Plant materials (roots, leaves, twigs) wash or drop into wetlands; wetter conditions from seasonal saturation from water supplied by uplands slows decomposition of organic materials	<ul style="list-style-type: none"> <li>• Increased runoff adds additional sediments and organic matter</li> <li>• Decreases/changes in seasonal groundwater levels create drier conditions; organic matter decomposes faster, with less accumulation</li> <li>• Changes to the vegetation community change the rate of organic matter accumulation</li> </ul>
<b>Saturated conditions</b> near soil surface during the growing season (soil pore spaces filled with water) (poorly drained soils, very poorly drained soils)	Seasonal ground water level and fluctuation defined by surface runoff, infiltration, and percolation over and through upland soils to downslope depressional areas	<ul style="list-style-type: none"> <li>• Drainage systems associated with development reduce/change the depth of the water table and the length of saturation by reducing base flows to wetlands soils</li> <li>• Areas with municipal water/no sewer, sewer, and individual wells can change baseflow and saturation of wetland soils</li> <li>• Increased runoff changes time-of-year and part of the soil profile is saturated</li> </ul>

**TABLE 1: RELATIONSHIPS BETWEEN PHYSICAL CHARACTERISTICS, UPLANDS AND POTENTIAL DEVELOPMENT IMPACTS (Con't.)**

CONNECTICUT WETLAND SOIL “PHYSICAL CHARACTERISTICS”	RELATIONSHIP TO ADJACENT “NON-WETLAND” UPLANDS	SOME POTENTIAL IMPACTS TO WETLAND SOIL “PHYSICAL CHARACTERISTICS” FROM TRADITIONAL DEVELOPMENT ON UPLANDS <sup>2</sup>
<p><b>Anaerobic conditions</b> (oxygen not available to soil organisms or plant roots at or near the growing surface during the growing season) (poorly drained soils, very poorly drained)</p>	<p>Depends upon fluctuations of seasonal groundwater during the growing season supplied by surface and groundwater from upland watershed</p>	<ul style="list-style-type: none"> <li>• Same as saturated conditions</li> <li>• Changes in saturation and time of year of saturation may increase or decrease anaerobic conditions</li> <li>• Sedimentation from uplands may increase the depth to saturation, causing drier aerobic conditions</li> </ul>
<p>Presence of <b>redoximorphic features</b> (mottles) at or near the surface of the soil (poorly drained soils, very poorly drained soils)</p>	<p>Depends upon fluctuations of seasonal groundwater during the growing season supplied by surface and groundwater from upland watershed</p>	<ul style="list-style-type: none"> <li>• Same as saturated conditions</li> <li>• Changes in seasonal saturation may lead to decreased or increased redoximorphic features</li> <li>• Increased runoff changes time of year when parts of the soil profile are saturated</li> </ul>
<p>Accumulation of <b>sediments and organic matter</b> from flooding events (flood plain soils &amp; alluvial soils)</p>	<p>Saturation of upland soils leads to surface runoff in the watershed; amount and timing of runoff, stream dynamics and stream bank erosion determine amounts.</p>	<ul style="list-style-type: none"> <li>• Increased runoff and/or decreased baseflow changes frequency, depth, and duration of flooding events</li> <li>• Changes to streamside vegetation, runoff and baseflow, and increases in road sand may cause downcutting and /or bank erosion with corresponding increases or decreases in sedimentation</li> </ul>
<p><b>Seasonal flooding</b> over channel banks causing saturation, recharge, scour and deposition (flood plain soils &amp; alluvial soils)</p>	<p>Saturation of upland soils leads to surface runoff in the watershed; amount and timing of runoff, stream dynamics and stream bank erosion determine flooding duration and extent</p>	<ul style="list-style-type: none"> <li>• Same as accumulation of sediments</li> <li>• Changes in the watershed from culverts, bridges, streamside vegetation and wetlands saturation can change duration, location and storage, and release of floodwaters</li> </ul>
<p><b>Landscape position:</b> Depression or low spot Concave slopes Adjacent to watercourse</p>	<p>Concave slopes, depressions, and areas along watercourses capture surface runoff and groundwater flow</p>	<ul style="list-style-type: none"> <li>• Changes to direction and concentration of surface flow and baseflow through and over the soil landscape caused by grading and altered or human designed drainage systems change the amount of water accumulating in the wetland soil landscape positions</li> </ul>

### Footnotes

<sup>1</sup>USDA NRCS, Soil Survey Manual, USDA Handbook #18, page 73 (1993)

<sup>2</sup>Examples of traditional development include non-cluster housing, curbed roads, catch basins to storm sewer system, large areas of paved surfaces.

<sup>3</sup>Identifying “ecosystem goods” is a way to give recognition to the role ecosystems play in the production of natural resources products. Examples might include birds, timber, and food crops. “Ecosystem services” are the outcome of processes occurring within ecosystems valued by people – examples might include storage of flood waters, nutrient cycling and habitat for plants and animals.

<sup>4</sup>Technical assistance is available from Connecticut’s five Conservation Districts - for a list go to [www.conservect.org](http://www.conservect.org).

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Connecticut Council on Soil and Water Conservation, 2002. Connecticut Guidelines for Soil Erosion and Sediment Control. Bulletin No. 34. Connecticut Department of Environmental Protection. 402 p. 🍁

## Dues Are Due!

Dues for fiscal year 2003-2004 were due July 1, 2003. Renewal membership forms were sent to each commission at that time. Payment of dues ensures that your commission receives a copy of *The Habitat* for EACH commissioner. **If your commission has not yet made the dues payment, please do so as soon as possible.**

If you think your dues may not have been paid and you want to check on payment status, call Executive Director Ann Letendre at (860)875-4623. Membership forms are available on the website, [www.caciwc.org](http://www.caciwc.org), and click on ‘About CACIWC.’ 🍁

# Is The *AvalonBay-Wilton* Supreme Court Decision Impacting Inland Wetlands Applications In Your Town?

CACIWC needs your help to identify ongoing inland wetlands permits that are (or may be) threatened by the *AvalonBay-Wilton* decision. Are applicants resubmitting based on the decision? Will the decision threaten inland wetlands in your town?

If the answer is YES to any of the above please contact CACIWC as soon as possible. The information will be used to support legislation to restore biology, including wildlife and biodiversity in the decision making process.

Contact Tom ODell, 860-399-1807; email [todell@snet.net](mailto:todell@snet.net) or call Mike Aurelia at (203)622-9297; email [maurelia@optonline.net](mailto:maurelia@optonline.net). 🍁

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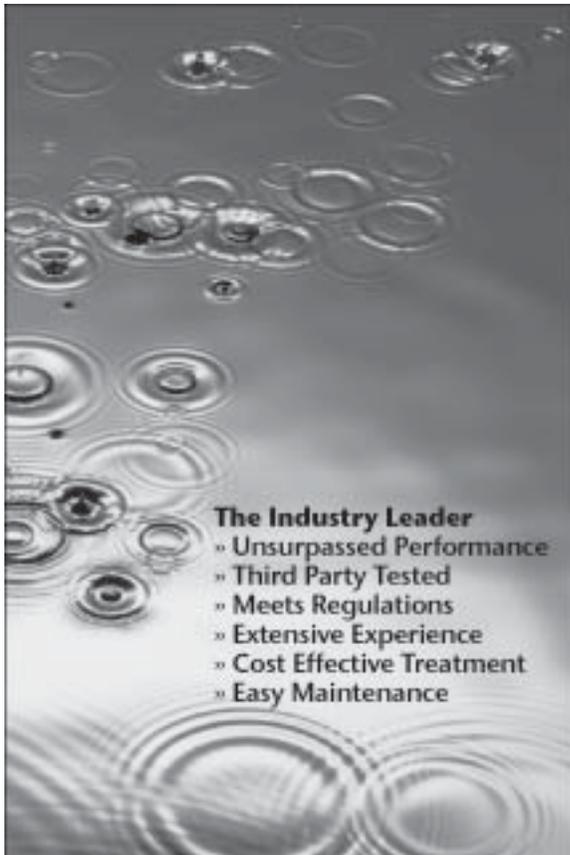


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## CACIWC E-News and List Serve

**Are you – and/or your commission - interested in an E-newsletter or ‘List Serve’?** If there is sufficient interest from our member commissions, we’ll do it! Please let us know if you would like to join a list serve, and/or if you would like to receive an e-newsletter. Contact Tom ODell at [todell@snet.net](mailto:todell@snet.net), call (860)399-1807, or mail a note to Tom at 9 Cherry St, Westbrook, CT 06498. Please include: (1) your name and address, (2) the name of your commission (Conservation, or Inland Wetlands, or combined), and (3) your town.

**‘List Serve’** is a low-stress way for commissioners to share information, ask questions, find resources, solicit advice, post notices. Messages are given and received from a common website. A message posted by a member is automatically sent to all others. Members can choose to receive them individually or in a batch. Identities are confidential and are not used for any other purpose.

**E-news** will provide monthly information on meetings, seminars, conferences, legislative news, and other updates that will assist commissioners. To receive E-news a commission and /or commissioner will provide an email address to CACIWC. Content will be only news that is relevant to commissions. 🍁

**Fall 2003**

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### THE HABITAT

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