



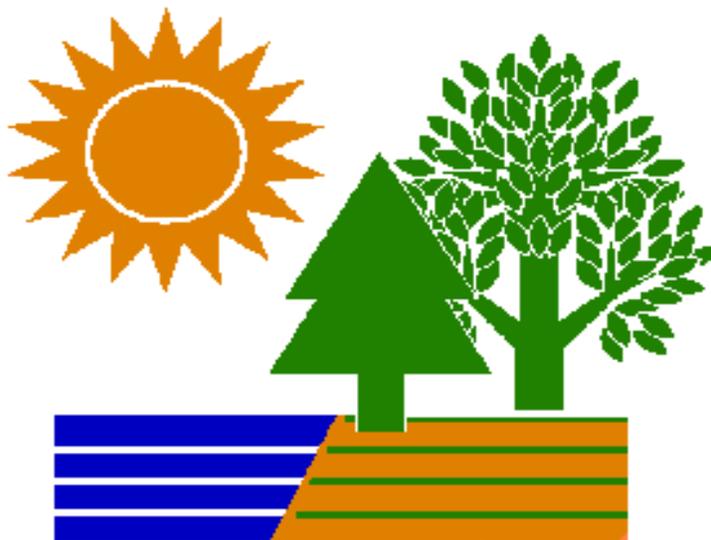
STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

79 Elm Street, Hartford, CT 06106-5127

Gina McCarthy, Commissioner

Statewide Inland Wetlands and Watercourses Activity Reporting Program

STATUS AND TRENDS REPORT *For the Year 2004*



Bureau of Water Protection and Land Reuse
Inland Water Resources Division
www.ct.gov/dep

2007

STATUS AND TRENDS REPORT 2004

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Introduction

There are approximately 510,000 acres of freshwater wetlands and watercourses in Connecticut (Metzler and Tiner, 1992). This acreage comprises approximately 16 percent of the state's surface area. In 1972, recognizing the importance of inland wetlands and watercourses, Connecticut's legislature enacted the *Inland Wetlands and Watercourses Act*, sections 22a-36 through 45 of the Connecticut General Statutes (CGS). The Act sets forth standards for the protection, preservation, maintenance, and use of inland wetlands and watercourses. Inland wetlands and watercourses ensure an adequate supply of surface and ground waters, they provide for hydrological stability and control of surface and ground waters, and they provide habitats for many forms of animal, aquatic and plant life. Activities affecting wetlands and watercourses are regulated by municipal inland wetlands agencies, with the exception of state agency projects, which are regulated by the Department of Environmental Protection's (DEP) Inland Water Resources Division.

Pursuant to CGS section 22a-39(m) of the Inland Wetlands and Watercourses Act, inland wetlands agencies are required to report their actions to the Commissioner of the DEP. Actions are reported on a statewide inland wetlands and watercourses activity reporting form and are required to be submitted on a monthly basis. While state agency actions are also reported, state agency actions accounted for only 0.4 percent of the total reported for 2004. The numbers and trends provide insightful baseline information regarding the regulation of wetlands and watercourses across Connecticut. This information allows the DEP to formulate strategies to increase the effectiveness of existing programs as well as develop new programs for protecting and restoring the state's inland wetlands and watercourses.

Executive Summary

With the passage of Public Act 87-533, the Commissioner of DEP was given authority to collect reports from municipal inland wetlands agencies regarding activities affecting inland wetlands and watercourses. While the legislation did not direct the DEP to compile, assess, or analyze the collected reports or publish any findings or conclusions, the DEP believes the reports provide the best indication of trends regarding inland wetlands and watercourses in Connecticut. The information in this Status and Trends Report is used by various state and federal agencies and provides the Connecticut Legislature with important data.

The pace of development in Connecticut is reflected in the volume of activities our municipal inland wetlands agencies manage. Municipal inland wetlands agencies took 4,421 total actions in 2004 (**Table 1**). This represents a 1.3%

increase over the 4,365 total actions in 2003. The majority of actions, approximately 91%, relate to permitting of regulated activities. Formal enforcement actions totaled 75, representing 1.7% of the total actions. While this small percentage for enforcement actions may at first seem alarming, the DEP believes it reflects the success of municipal administration of the Inland Wetlands and Watercourses Act, and the support of our citizens for the protection of wetlands and watercourses. Based on our interactions with municipal inland wetlands agencies and agents, many enforcement and compliance issues are managed with informal actions such as phone calls and site visits that result in direct communications with property owners. The majority of persons can come into compliance with the Act as a result of such informal enforcement actions. Also, enforcement actions are often resolved through the permit application process, so some of the permit numbers include such enforcement resolution.

Overall, the DEP is pleased with the status and trends regarding inland wetlands and watercourses for 2004. It is especially encouraging to see that the no net loss-net gain of wetlands continues as the long term trend in Connecticut. The focus on the mitigation of impacts to wetlands and watercourses will need to continue as development in Connecticut impacts our landscape. Connecticut's geographic location and robust economy guarantee that our state will be in demand for development.

The Statewide Inland Wetlands and Watercourses Activity Reporting Program

In 1987, the DEP began to implement the statewide reporting program to measure and evaluate activities affecting inland wetlands and watercourses. The 2004 calendar year marked the fifteenth year of standardized reporting of municipal inland wetlands agency actions. Prior to the implementation of the reporting program, there was little information on the extent of inland wetland and watercourse impacts occurring across the state.

The DEP Inland Water Resources Division developed a standardized activity reporting form to provide for systematic and accurate reporting of local agency actions; and to establish useful data on inland wetlands losses, alterations, and management activities. The form and related instruction sheet are shown in **Appendix A**. The form has been designed such that it is easy to understand and use, each of the thirteen items on the form relate to a specific detailed instruction item. Municipal inland wetlands agencies are required to submit the statewide activity reporting form no later than the 15th day of each month to the Wetlands Management Section of the DEP's Inland Water Resources Division. In



addition, state agency permit actions are also reported. The reporting form may be revised as necessary to reflect legislative or other changes.

When filling out the statewide activity reporting form, municipalities and state agencies are asked to provide: the town, the name of the applicant, the USGS Quad map name, subregional drainage basin number, the type of project, the purpose for the project, the area of wetland alteration, the area of open waterbody alteration, the area of stream alteration, the area of wetland creation, upland area altered, the reporting month, the action the agency took on the application, and if a public hearing was held. Stream alterations are reported in linear feet while wetland and open waterbody alterations and creations are reported in acres. All reported activities are classified by codes which identify one or more of 12 activity types (i.e. filling, excavation, and culverting) and relate to one of 15 activity purposes (i.e. residential, commercial, municipal, agriculture).

It is important to note that for each purpose there is one or more associated activity types. For example, wetlands may have been altered for the purpose of a new residential development that required two types of activities, filling as well as excavation.

To manage over 4,000 reports submitted in any one year, the DEP Wetlands Management Section maintains a statewide Inland Wetlands and Watercourses Activity Reporting Form database. The information from each reporting form is entered into this database and the operating system is programmed to compile and present the data in a useful format. The operating system also provides the opportunity to filter the data for errors such as a 0.1 acre alteration being reported as a 10 acre alteration. Errors are corrected with input from the appropriate municipalities. As a result, the DEP Wetlands Management Section obtains realistic estimations on the acreage of wetland and watercourse alterations each year and what specific types of projects and activities are causing the alterations.

Inland Wetlands Agency Actions

For 2004 we received 4,421 forms. Table 1 below summarizes each action reported and filed on the Statewide Inland Wetlands and Watercourses Activity Reporting Form.



Table 1. Total Actions Reported for 2004.

Actions Reported for 2004	Numbers Reported
Permits Issued ¹	3,028
Permits Denied	144
Permits extended/amended	131
Map Amendments	153
Enforcement Actions	75
Jurisdictional Rulings ²	121
Agent Approvals	766
Appeal of Agent Approvals	3
TOTAL	4,421

Permitted Wetland and Watercourse Alterations and Creations

Connecticut’s Inland Wetlands and Watercourses Act defines “wetlands” and “watercourses” separately. As a result, data on wetland and watercourse impacts are collected and reported separately. In addition, inland wetland agencies are asked to report “open water body alterations”. This occurs primarily when a pond or a lake is dredged or filled. **Table 2** below shows the acres of permitted wetland and open waterbody alterations reported on the Statewide Inland Wetlands and Watercourses Activity form for 2004.

¹ Permits issued may include activities permitted in upland review areas (buffers) which may result in no wetland alteration, conversion or loss.

² Jurisdictional rulings may include actions determining that no permit is required or that an activity is exempt. Jurisdictional rulings may result in alteration, conversion or loss of wetlands or watercourses.

Table 2. Acres of Permitted Wetland and Open Water Body Alterations reported for 2004.

Area Altered	Acres Reported
Wetlands	79
Open Waterbody	39

Reports on watercourse alterations include the total length of a river, brook, stream, or other watercourse directly altered as a result of an action taken by the agency. **Table 3** below shows permitted stream alterations in linear feet reported on the Statewide Inland Wetlands and Watercourses Activity Reporting Form.

Table 3. Linear Feet of Permitted Stream Alterations reported for 2004.

Area Altered	Linear Feet
Streams	24,580

On occasion, wetlands are created as a component of projects. Such creations may be accomplished as compensation for wetland alterations and/or impacts from development activities. **Figure 1** below shows the acres of permitted wetland alterations and creations reported for the period of 1992 to 2004.

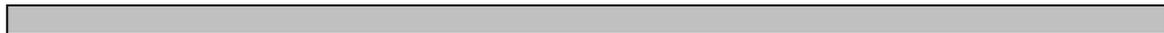
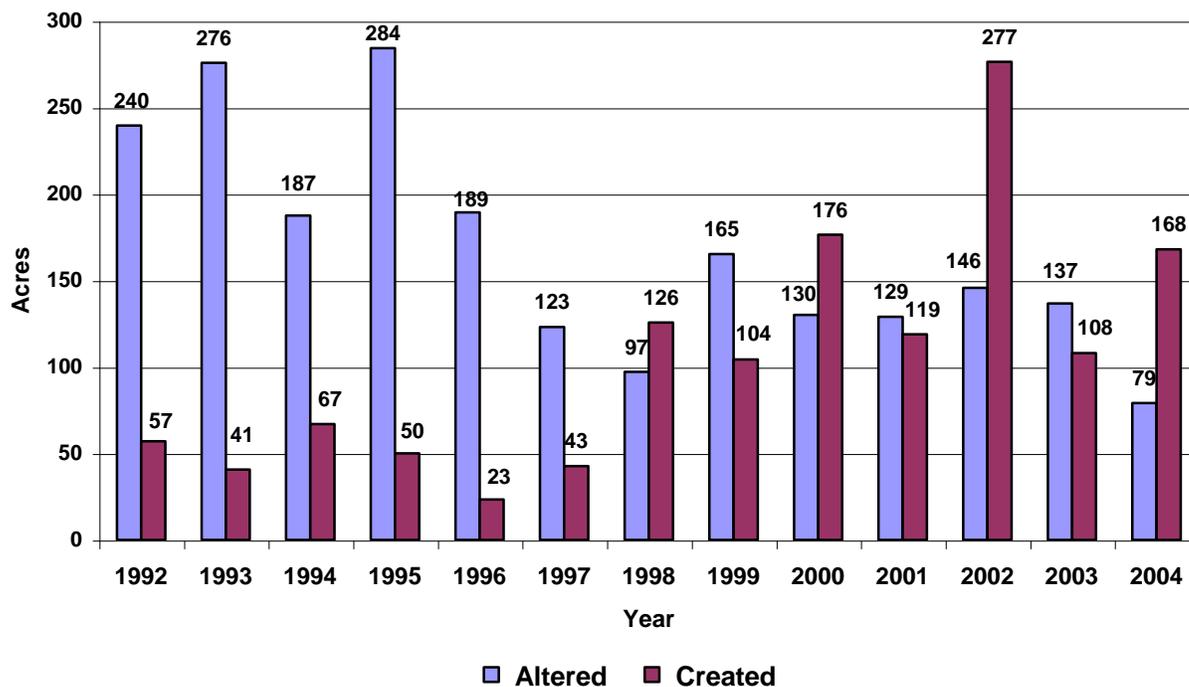


Figure 1

Acres of Permitted Wetland Alterations and Creations per Year



In 2004, there were 79 acres of permitted wetland alterations and 168 acres of permitted wetland creations. By comparison, in 2003, there were 124 acres of permitted wetland alterations and 107 acres of permitted wetland creations.

Permitted Wetland and Watercourse Alteration Activity Types

The reporting form provides activity type codes which best characterize the activity being reported. **Appendix B** shows the number and percentage of permits issued in 2004 for each activity type.

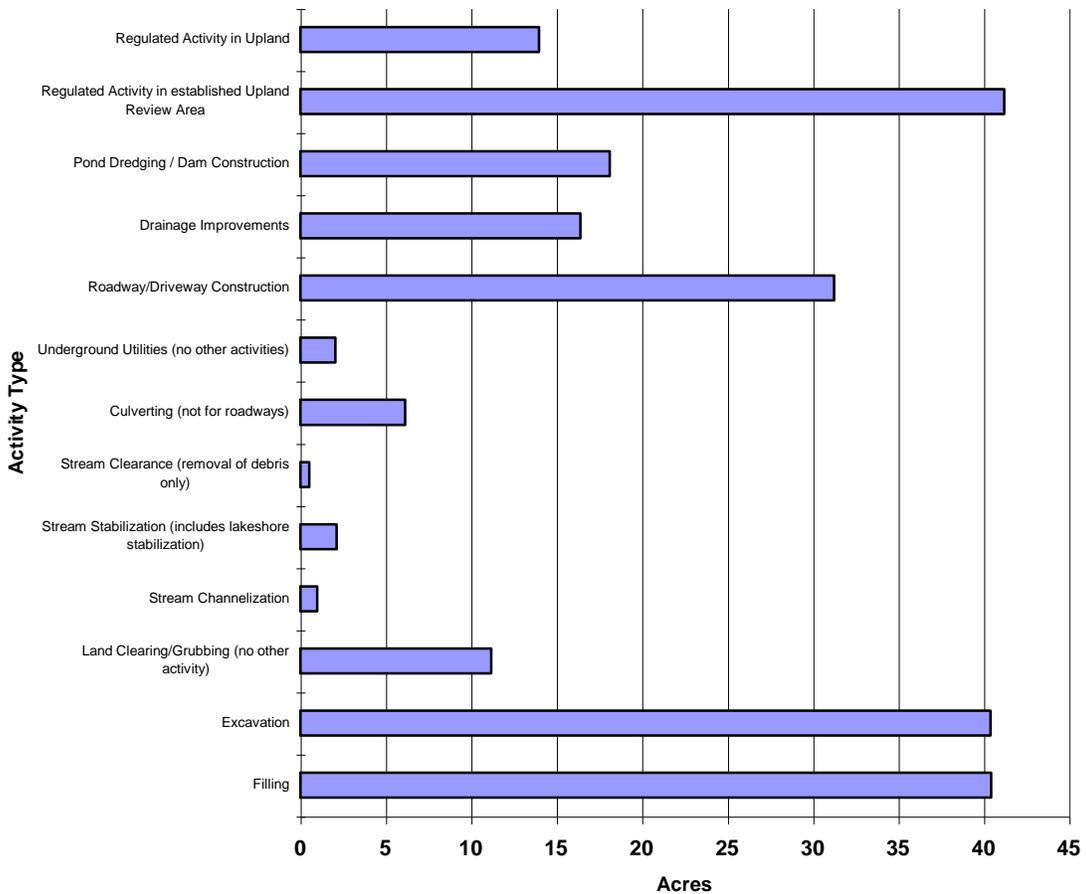
The activity types accounting for the most wetland and watercourse alterations for 2004 were filling, excavation, and roadway/driveway construction. Excavation accounted for 22.7 percent of permitted activity types, filling accounted for 16.9 percent of permitted activity types, and roadway/driveway construction accounted for 11.9 percent of permitted activity types in 2004. In addition, for 2004 the permits issued for actions in the upland review area (buffer/setback) and in the



upland beyond such area represent a significant percentage of total activity types (33.9 percent). It is useful to understand not only the number of reported permits for each activity type, but also how many acres are associated with each activity type. **Figure 2** below shows how many permitted wetland and watercourse acres were associated with all activity types. The acres noted for Regulated Activity in Upland and Regulated Activity in Established Upland Review Area do not reflect wetland and watercourse alterations; these indicate indirect effects as a result of activities adjacent to wetlands and watercourses. Excavation was involved in the alteration of 41 acres, filling was involved in the alteration of 41 acres, and road/driveway construction was involved in the alteration of 32 acres of the permitted wetlands and watercourses alterations in 2004.

Figure 2

Acres of Wetlands and Watercourses Associated With Permitted Activity Types for 2004



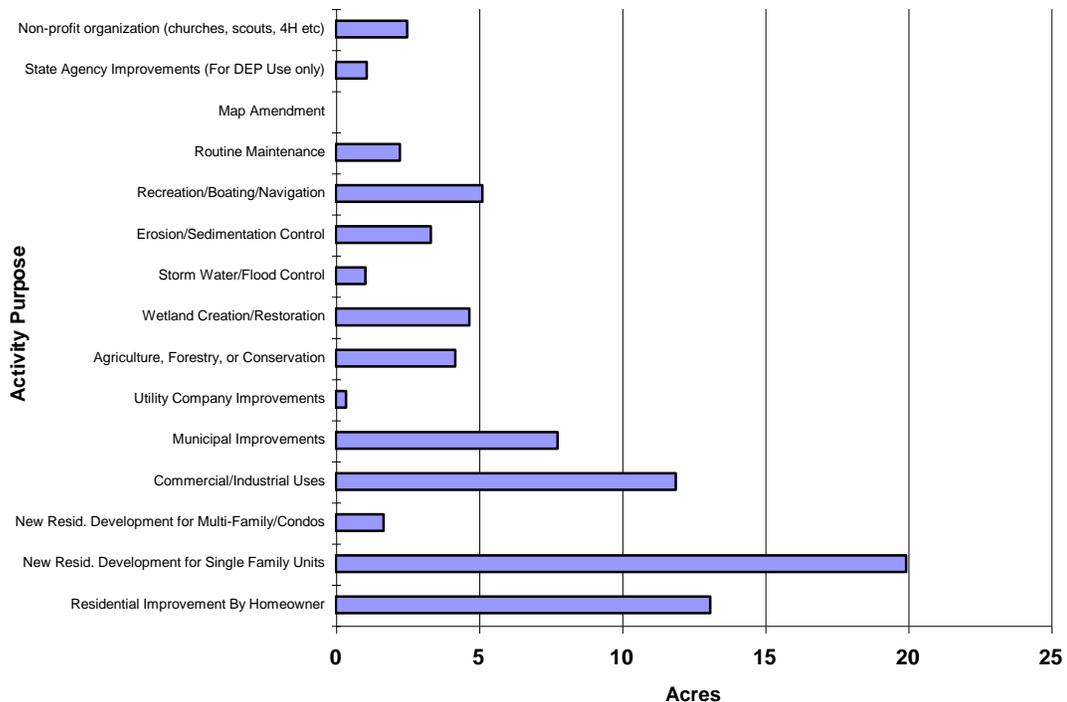
Permitted Wetland and Watercourse Alteration Activity Purposes

Permitted activities occur for a single purpose, whether it is a commercial development, municipal improvement, or agricultural activity. **Appendix C** shows the number and percentage of permits issued in 2004 for each activity purpose.

The three most common permitted wetland and watercourse alteration activity purposes for 2004 were new residential development for single family units, residential improvement by a homeowner, and commercial/industrial uses. New residential development for single-family units accounted for 30.4 percent, residential improvement by a homeowner accounted for 37.0 percent, and commercial/industrial uses have accounted for 9.9 percent of all permitted wetland and watercourse alteration activity purposes. **Figure 3** below shows how many wetland acres were altered for each activity purpose in 2004. Agriculture, forestry, or conservation accounted for 4 acres, new residential development for single family units accounted for 20 acres, commercial/industrial uses accounted for 12 acres and residential improvement by a homeowner accounted for 13 acres of wetland alterations in 2004.

Figure 3

Purpose for Permitted Wetland and Watercourse Alterations in Acres for 2004



Discussion

The data for 2004 indicate that the mitigation of permitted wetland alterations is a continuing trend in Connecticut. Figure 1 shows that for 2004, 79 acres of wetlands were permitted to be altered while 168 acres were authorized to be restored, enhanced or created (hereafter referred to as created). This trend toward no net loss – net gain of wetlands is easily observable from Figure 1, especially since 1998. Prior to 1998, the data show that alterations were exceeding creations by as much as 8 to 1. Since 1998, total creations have exceeded total alterations with the seven year average from the period of 1998 to 2004 being 1.3 acres created for each acre altered. A total of 1,078 acres of wetlands were created and 883 acres of wetlands were altered during the 1998 to 2004 period for a net gain of 195 acres. Figure 4 shows the net gain or loss of wetlands in acres for this seven year period and Figure 5 shows such data as a ratio of wetlands created to wetlands altered.

Figure 4

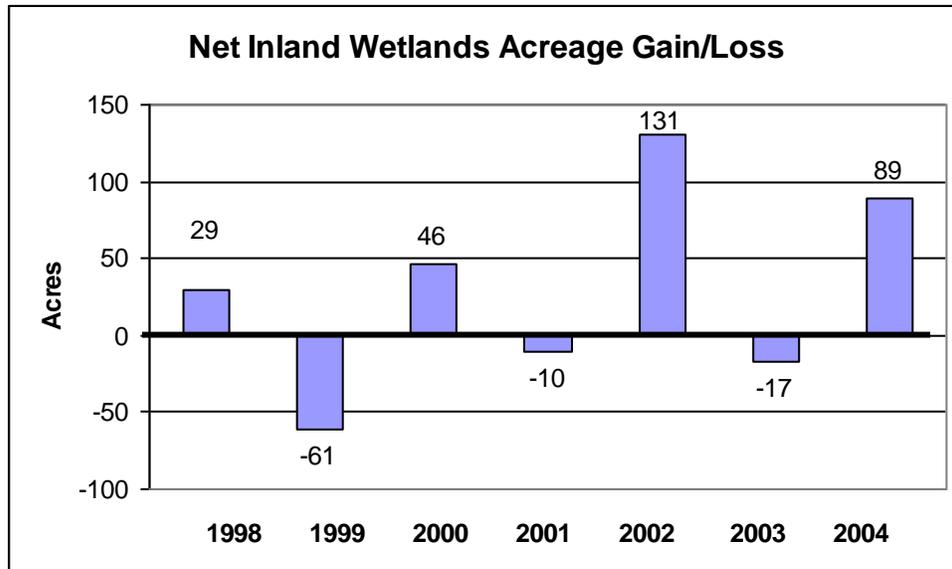
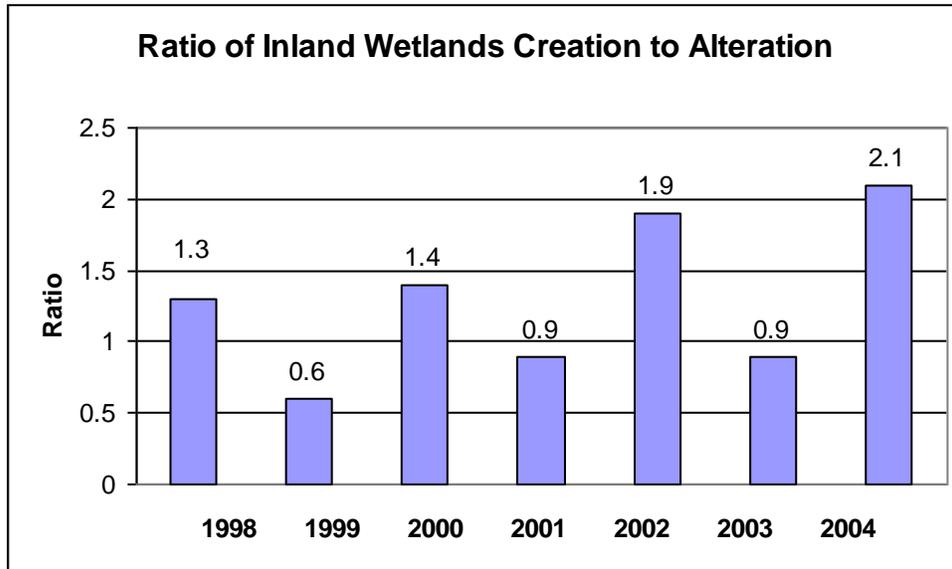


Figure 5



What happened in 1998 that turned Connecticut from a state with a net loss of wetlands to a state that is now showing an average net gain? The DEP believes that the foundation of such change began in 1996. In 1996, the Inland Wetlands and Watercourses Act was substantially amended. One such amendment was to section 22a-41(a)(4) of the Act which provided express authority to consider mitigation and condition permits to provide for the restoration, enhancement, and creation of wetlands and watercourses. At the same time, the DEP was beginning to develop a comprehensive training program for inland wetlands commissioners and agents. While prior to 1996 the DEP provided for municipal training, the comprehensive program focused on the statutory authority of municipal inland wetlands agencies and benefited from dedicated funding from the Federal EPA. The comprehensive program provided numerous opportunities for the DEP to explain the express authority for mitigation in the Act as a result of the 1996 amendments. Further, the DEP revised the Inland Wetlands and Watercourses Model Municipal Regulations to include mitigation as an item in the section of the regulations dealing with application requirements. The majority of municipalities adopted the new model regulations. Regulatory authority reinforced by way of the comprehensive training program has resulted in more municipalities seeking mitigation opportunities through the regulatory process and the data reflect such change.



Another significant trend is the regulation of activities outside of wetlands and watercourses. In 1997, the DEP published the guidance document titled "Guidelines Upland Review Area Regulations Connecticut's Inland Wetlands & Watercourses Act". This document describes the legal basis for the regulation of activities outside of wetlands and watercourses and recommends that municipal inland wetlands agencies regulate activities within 100 feet of inland wetlands and watercourses. The majority of municipal inland wetlands agencies in Connecticut are routinely regulating activities in the upland review area; many have used the DEP publication as a catalyst to increase their upland review area to 100 feet while some municipal inland wetlands agencies routinely regulate at distances greater than 100 feet. The data for 2004 show that 34 percent of the activity types reported were located in an upland review area (**Appendix B**). This is essentially the same as the 33 percent figure reported for 2003. In addition, the number of agent approvals continues to increase. The 766 agent approvals in 2004 (**Table 1**) represent a slight increase (approximately 2 percent) over agent approvals for 2003. This shows that attention continues to be focused on the upland review area as agent approvals are restricted by the Inland Wetlands and Watercourses Act to areas outside of wetlands and watercourses. The number of agent approvals also indicate that more municipal inland wetlands agencies are taking advantage of the administrative convenience and time savings that the agent approval process provides.

The largest percent of activity purposes reported in 2004 was associated with the construction or improvements for residential and commercial development (**Appendix C**). This total figure of 80 percent is unchanged from the 80 percent reported in 2003. Residential development is clearly the major purpose reported at 70 percent versus 10 percent for commercial/industrial development. According to the Connecticut Economic Digest, a joint publication of the Connecticut Department of Labor and the Connecticut Department of Economic and Community Development, 11,837 housing starts were permitted by Connecticut's municipalities in 2004, for an average of 70 permitted housing starts per municipality. Because of such a robust housing market, one would expect residential development to result in the largest amount of permitted wetlands alterations. The data for 2004 show such trend with residential development ranked ahead of commercial/industrial uses and municipal improvements (**Figure 3**).

Permitted wetlands alterations associated with agriculture, forestry or conservation totaled 4 acres in 2004, a significant reduction from the 26 acres reported in 2003. The number reported for 2003 has been typical for this activity purpose since 2000 and such purpose usually results in the second or third highest amount of permitted wetlands alterations in Connecticut following residential and commercial development. This is not unexpected since the Connecticut Inland Wetlands and Watercourses Act provides an exemption for certain agriculture, forestry or conservation operations and uses. Inland wetlands agencies have authority to review and affirm that an exemption applies

in a particular case, nevertheless exempted activities can result in wetland and watercourse alterations.

What happened in 2004 that resulted in this significant reduction? The DEP is unsure, but it may simply be due to the fact that this activity purpose was less frequently proposed in 2004 (**Appendix C**). Agriculture, forestry or conservation purposes totaled only 2.7 percent of the total of activity purposes in 2004 as opposed to 3.4 percent in 2003. In any case, it will be interesting to see if this trend continues into future years or if this reduction in 2004 is a one-time event.

Non-Reporting Towns

While the majority of towns have complied with the current reporting requirement, there is a need for the DEP to assure complete reporting of wetland actions and to comprehensively assess state-wide wetland losses. To address this issue, the DEP notifies the non-reporting towns of the reporting requirements and establishes a date by which all 2004 actions must be reported. Prior to such notice, 45 towns had not reported any 2004 actions, after such notice only 28 towns remained that had not report any 2004 actions. Towns which fail to report may be subject to revocation of authority to regulate inland wetlands and watercourses pursuant to section 22a-42d-1 of the Regulations of Connecticut State Agencies. Late-filed forms are processed by the DEP upon receipt.

For More Information

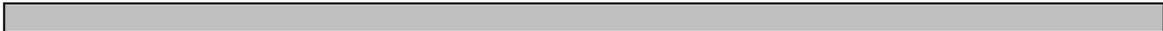
To obtain information regarding the Connecticut Inland Wetlands Management Program contact the DEP at (860) 424-3019 or write to:

Department of Environmental Protection
Inland Water Resources Division
Wetlands Management Section
79 Elm Street
Hartford, CT 06106

Appendix A

Appendix A

Appendix A



Appendix B

Permitted Wetland and Watercourse Alteration Activity Types Reported for 2004

Activity Type	Number	Percent
Filling	1,255	16.9
Excavation	1,686	22.7
Land Clearing/Grubbing	236	3.1
Stream Channelization	23	0.3
Stream Stabilization	66	0.9
Stream Clearance	22	0.3
Culverting	86	1.2
Underground Utilities	109	1.5
Roadway/Driveway Construction	884	11.9
Drainage Improvements	441	5.9
Pond Dredging/Dam Construction	103	1.4
Regulated Activity in established Upland Review Area	1,833	24.6
Regulated Activity in Upland	695	9.3
TOTAL	7,439	100

Appendix C**Permitted Wetland and Watercourse Alteration Activity Purposes Reported
for 2004**

Activity Purpose	Number	Percent
Residential Improvement by Homeowner	1,116	37.0
New Residential Development for Single Family Units	918	30.4
New Residential Development for Mult-Family/Condos	64	2.1
Commercial/Industrial Uses	299	9.9
Municipal Improvements	178	5.9
Utility Company Improvements	13	0.4
Agriculture, Forestry, or Conservation	82	2.7
Wetland Creation/Restoration	57	1.9
Storm Water/Flood Control	44	1.5
Erosion/Sedimentation Control	36	1.2
Recreation/Boating/Navigation	60	2.0
Routine Maintenance	63	2.1
Map Amendment	13	0.4
State Agency Improvements	12	0.4
Non-profit organization	64	2.1
TOTAL	3,019	100