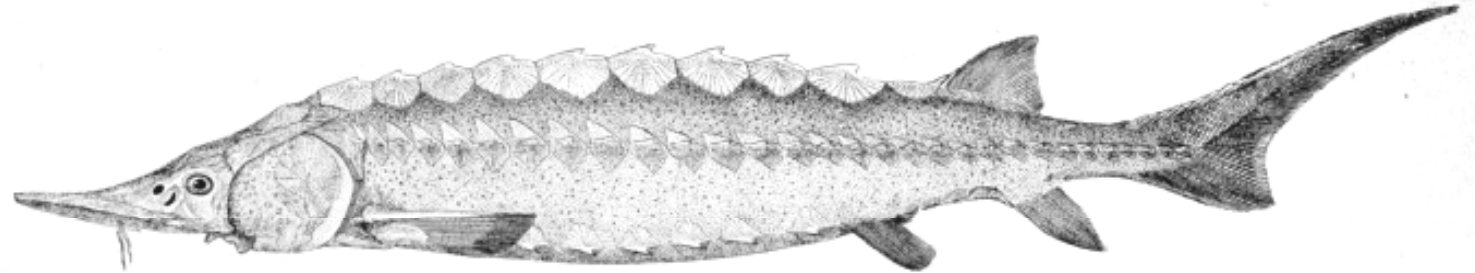


# Environmental Quality in Connecticut

The 2001 Annual Report of the Council on Environmental Quality





STATE OF CONNECTICUT

## COUNCIL ON ENVIRONMENTAL QUALITY

May 30, 2002

The Honorable John G. Rowland  
Governor of Connecticut  
State Capitol  
Hartford, CT 06106

Dear Governor Rowland:

I am pleased to submit the annual report on the status of Connecticut's environment.

In Part I of this report, the Council reports on the considerable progress the State is making on the public's top priorities, including conservation of land and reducing exposure to toxic contaminants. In Part II you will find our annual indicators of the important trends in our State's environment. This year, we introduce a new indicator showing the upward trend in the incidence of breast cancer, which might be caused in part by risk factors in the environment. Part III summarizes the Council's activities of the past year, including data from our public forums.

The Council commends your strong leadership on conservation and environmental initiatives. We stand ready to assist you and to provide any additional information you would find helpful.

Respectfully,

Donal C. O'Brien, Jr.  
Chairman

79 Elm Street, Hartford, CT 06106  
Phone: (860) 424-4000 Fax: (860) 424-4070  
<http://www.ceq.state.ct.us>

## Table of Contents

### On the Cover

Shortnose Sturgeon  
(*Acipenser brevirostrum*)

Their ancestors might have seen dinosaurs splashing through the shallows. About 800 of these large primitive fish still live in the Connecticut River, summering in the estuary and swimming upriver to spawn. The shortnose sturgeon is our state's only fish on the federal list of endangered species.



<b>PART I</b>	<b>Progress Reports</b>	
	Eat. Drink. Be Wary?	1
	Connecticut Environmental Policy Act	3
	Skyrocketing Numbers for Open Space	4
	Great Infestations	5
<b>PART II</b>	<b>Environmental Trends</b>	7
<b>PART III</b>	<b>Activities of the CEQ in 2001</b>	35
	Forecast 2003	37
	CEQ Members	38
	<b>Request for Comments</b>	40

### In Remembrance

In September, Connecticut lost a great advocate and friend of the environment with the passing of Lisa Santacroce, 38, Director of Environmental Affairs for the Connecticut Audubon Society. Lisa was a frequent and valuable participant at Council meetings. Her many accomplishments are well known. Lisa lost her life to cancer. In this year's annual report, the Council introduces a new indicator focusing on breast cancer, and dedicates this report to the fond memory of Lisa Santacroce.

## Part I Progress Reports

*Summarizing progress toward the recommendations of four previous CEQ reports*

### Eat. Drink. Be Wary?

Connecticut state agencies do not do enough to inform residents about their everyday exposures to low levels of chemical contamination in our air and water, and how needless exposures can be avoided. This was the conclusion of a special CEQ report (“Eat. Drink. Be Wary?”) published in 1999. The Council confirmed this point with five examples of common contaminants encountered daily by many Connecticut residents:

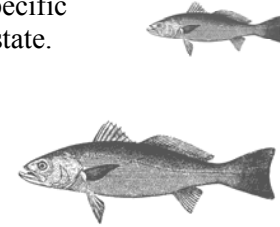


- MTBE in drinking water
- Mercury in our fish
- Pesticides in drinking water wells
- Pesticides in schools
- New homes with wells in contaminated areas

Since that report, the General Assembly enacted and Governor John G. Rowland signed several laws that would, if implemented fully, reduce exposures in several ways:

**MTBE** is the most common organic chemical found in aquifers and drinking water wells throughout Connecticut. It usually occurs in low concentrations. MTBE is added to gasoline to reduce air pollution from vehicles, but when spilled it travels rapidly through the ground and into the water. Public Act 00-175 called for elimination of MTBE from gasoline by October 2003. In March 2002, the DEP reported to the General Assembly that meeting that deadline would be difficult, perhaps impossible. The State of Connecticut has submitted a request to the federal government for a waiver of the Federal Clean Air Act, because without the waiver the only legal alternative to MTBE is ethanol. Ethanol can cause increases in some forms of air pollution. The phase-out of MTBE remains an important objective, but a large challenge remains unresolved, and the deadline looms.

**Mercury** is in our air, a product of power plants that burn coal and, to a lesser extent, incinerators that burn garbage and sewage sludge. Once in the air, mercury falls onto the ground and makes its way to lakes and streams where it enters the food chain as highly toxic methyl mercury. The Department of Public Health has advised Connecticut residents, especially children and pregnant women, to follow specific guidelines on the eating of fish caught in all lakes, ponds, rivers, and streams in the state. This advisory probably will be in effect for decades, even though Public Act 02-90 will require the elimination of mercury from many consumer products and should reduce the amount of mercury entering the atmosphere. Also, funds collected from enforcement settlements have allowed the DEP to retrieve mercury from consumers; one successful program gives digital thermometers to people in exchange for their old mercury ones. The DEP added several new languages to its waterside mercury information signs in 2001. Publicity around these efforts has raised the public's awareness of mercury's toxicity, but a coordinated campaign to inform the public still is needed.



The DEP has also improved the presentation and distribution of information that should help municipal governments in their planning to **avert new development with wells in areas of contaminated ground water**. Individual landowners might still be unaware or unheeding of potential dangers.

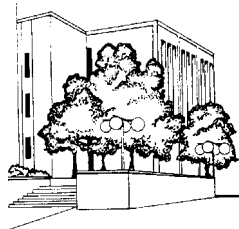
### What's Next?

In general, Connecticut still lacks an overall strategy for helping the public to avoid unnecessary exposures to everyday chemical contaminants.

Like all CEQ reports, "Eat. Drink. Be Wary?" can be read on the CEQ website: <http://www.ceq.state.ct.us/rpts/reports.htm>

## Connecticut Environmental Policy Act

The Connecticut Environmental Policy Act (CEPA) quietly yields considerable improvements to our land and water every year. At the same time, it generates high-profile and litigious controversies that obscure the Act's true purpose and result in no apparent benefits whatsoever.



CEPA is the law that requires state agencies to evaluate environmental impacts of proposed projects. It gains public attention only when things go badly.

In late 2000, the Council held a public forum to solicit ideas from the public and other agencies. In 2001 it drafted a report that analyzed CEPA's many problems and recommended possible solutions.

### What's Next?

There still are many aspects of CEPA that need work. For example: How can we make CEPA work for the type of public-private partnership that was not common when the law was passed more than thirty years ago, and for which the law is not always effective? To answer this and related questions, the Council will resume work on its special report and work alongside the other interested parties inside and outside state government.

Subsequently, the Office of Policy and Management brought all state agencies into a working group to identify and solve key problems with CEPA. At the same time, many nonprofit environmental organizations, coordinated by the Connecticut League of Conservation Voters Education Fund, prepared their own analysis and recommendations. The Council suspended work on its own report while these working groups deliberated.

For the first time in thirty years, the General Assembly made significant changes to CEPA in 2002. Public Act 02-121 will allow for more participation by the public by creating more "early warning" of impending projects. Under this law, the Council will create a new electronic publication to keep the public informed of projects.



## Skyrocketing Numbers for Open Space

Connecticut continues its record-setting pace. The DEP acquired more than 4000 acres in 2001, obliterating the previous record set two years ago. (This figure includes a few permanent conservation easements as well as the more common outright acquisitions.) Grants approved to towns and nonprofit organizations helped to protect another 3500 acres.

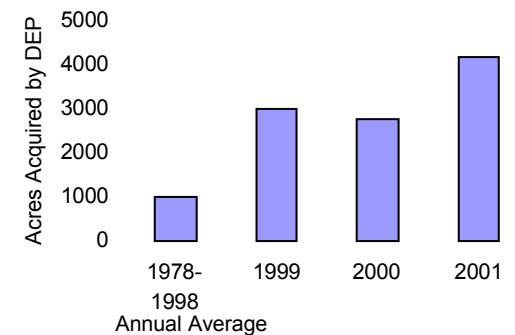
In July 2001, the DEP published “The Connecticut Green Plan: Open Space Acquisition,” the state’s first open space plan. Prepared in consultation with this Council as required by law, this plan describes the types of land the DEP looks to acquire through 2006.

Also of note, the Connecticut Chapter of The Nature Conservancy protected more than 2000 acres in 2001 and also unveiled an ambitious “Conservation Blueprint.” This plan focuses on seven geographic regions of Connecticut that represent the last remaining expanses of important ecosystems.

### What’s Next?

Already, 2002 has been assured a spot in the record books. During 2001, the State of Connecticut and The Nature Conservancy reached agreement with the Kelda Group, Ltd. to preserve more than 15,000 acres of the water utility’s land for \$90 million – the largest land conservation project in Connecticut’s history. The land was transferred in early 2002, which guarantees a new record for the year.

Open Space Acquisition by DEP





## Great Infestations

The second biggest threat to Connecticut's natural habitats is invasion by alien plants and animals (behind loss of habitat to sprawling land development.) With few natural enemies, these species grow, spread, and multiply so fast they can transform healthy ecosystems into weed-choked woodlands and waterways in just a few years. Worse, many of our native plants and animals are deprived of light, nutrients and ultimately their continued existence. Collectively, invasive species are a silent but serious environmental problem for which Connecticut is not prepared.

Federal agencies have agreed on a working definition of invasive species: "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health."



From colonies of the tiny zebra mussel to stream-clogging water chestnut plants, invaders threaten to cost the state many millions of dollars. Already, state agencies and nonprofit land conservation organizations are finding they must spend hundreds of thousands of dollars to keep these species at bay. Many species will turn out to be mere nuisances, while a few, if left alone, will be ecological disasters for Connecticut.

In a special report published in early 2002, "Great Infestations," the Council reported that several state agencies are taking important steps to prepare for this problem, along with conservation organizations and the horticultural industry. Unfortunately, reliable polling data show that the Connecticut public is largely unaware of this environmental threat.

### What's Next?

Regrettably, legislation to start tackling the invasive species problem was not adopted in 2002. The Council will work with others to help prepare Connecticut.



## Recommendations from “Great Infestations”

1. **Respond Quickly.** Connecticut must develop an effective capability for rapid response to *new* reports of harmful infestations, both on public and private land.
2. **Plan the Campaign.** The Governor and General Assembly should provide the DEP the authority and funds necessary to prepare a comprehensive plan, within one year, that would define priorities for battling invasive species.
3. **Prevent Accidents.** The Governor and General Assembly should require the DEP to create information campaigns about preventing the spread of species that are introduced accidentally.
4. **Put Somebody in Charge.** The ad hoc Connecticut Invasive Plant Working Group (CIPWG) is a commendable example of cooperative work in the sphere of public policy. It should be established as an official state body.
5. **Phase Out Repeat Offenders.** We should discourage the spread of invasive species that are already established through coordinated, cooperative information campaigns, with regular examination of the campaign’s effectiveness. Also, state agencies and their contractors should not plant invasive species.
6. **Keep Dangerous Species Out.** We need to prevent *deliberate* introductions of new invasive species by discouraging their sales. This pertains to species not yet established here, and in which no Connecticut grower has a significant investment. For these, the Council recommends establishing a list of such species that by mutual agreement should never be sold, transported, or grown in Connecticut. The nursery industry should continue its voluntary educational campaign, and should work with the CIPWG to monitor the appearance of listed species on store shelves. The University of Connecticut should continue to implement its grant-funded program to monitor the spread of new invasive species in the wild.

“Great Infestations” can be viewed on the CEQ website: <http://www.ceq.state.ct.us/rpts/reports.htm>

## Part II

### Indicators of Environmental Trends

#### **“Is the environment getting better?”**

This is the question most frequently asked of the CEQ. To help answer it without bias, the Council established a set of environmental indicators which display progress (or lack of it) in 27 important areas.

Most of these indicators are bottom-line statements of the actual condition of our air, water, land, and wildlife. The focus is on results, rather than on government programs, budgets, enforcement action, or new laws. When reviewing any indicator, the reader should note that the subtitle appearing under the title describes exactly what is being measured.

Where possible, each graph illustrates progress toward a specific goal or objective of the Environment 2000 Plan. Where that plan is not relevant, the Council uses goals from other state planning documents.

The overall story told by these indicators is one of slow but steady progress. In 2001, only a few -- including air quality and drinking water quality -- showed downward or static trends, and these will receive additional attention from the CEQ in the months ahead. Even a quick review of the pages that follow will reveal that most aspects of our air, water, and wildlife have improved measurably in the last ten years.

A new indicator has been added this year: breast cancer in Connecticut. There are many complex factors that play roles in the development of cancer; according to various hypotheses, some of these factors are likely to be found in our environment. The Council suggests that the relationship between human health and the environment should be monitored more closely, and has included this indicator as a possible prototype for similar indicators.

---

## Good Air Days

Number of days that every monitoring station recorded satisfactory air quality

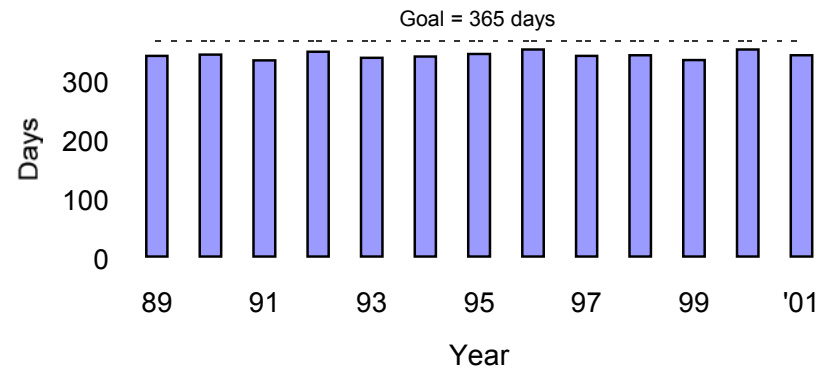
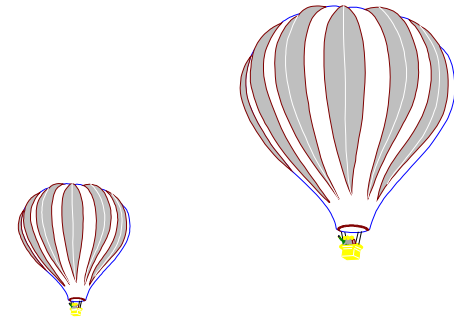
---

### Background

"Satisfactory air quality" is defined here as air that meets the health-based ambient air quality standards for all of the following six pollutants: sulfur dioxide, lead, carbon monoxide, particulates, nitrogen oxides, and ground-level ozone. Connecticut's goal was to have air that met health-based standards 365 days a year by the year 1999 (2007 in Fairfield County).

### Trends

Violations of the health-based ambient air quality standards have been eliminated for all pollutants except ground-level ozone. (Ground-level ozone is created when nitrogen oxides and volatile organic compounds react in the presence of sunlight.) Motor vehicles remain a major source of ozone-forming emissions despite improvements in tailpipe standards. Much ground-level ozone originates in states to Connecticut's west. Minor fluctuations over the last five years are the result of variable weather conditions.

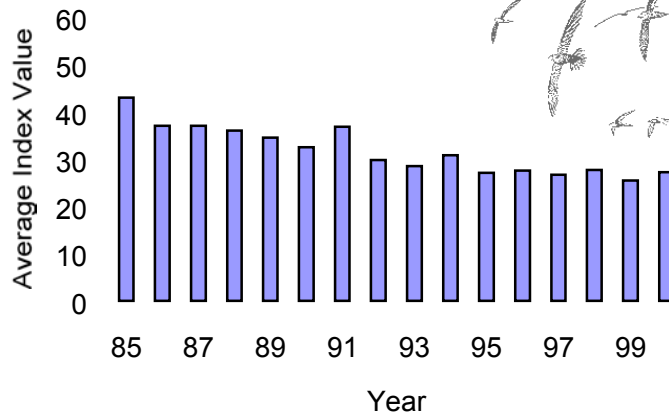


---

## Average Air Pollution Levels

Six major pollutants

---



### Background

Six air pollutants -- sulfur dioxide, lead, carbon monoxide, particulates, nitrogen oxides, and ground-level ozone -- are measured across the state by the DEP. At the end of every year, the average level of each pollutant is expressed on a numerical scale, where zero would equal no pollution, and 100 would equal the health standard for the pollutant in question. This somewhat complicated indicator shows the average level of the six pollutants.

### Trends

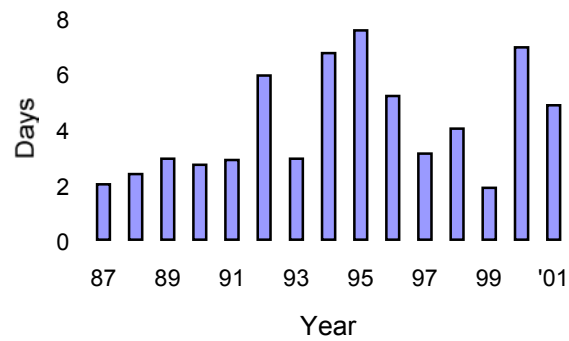
Most of the improvement since 1987 is due to reductions in carbon monoxide, sulfur dioxide, and particulate emissions. Levels of lead in the air have dropped so low that they barely register in this indicator. The rise in the average level of all six pollutants in 2000 was due mostly to a slight increase in carbon monoxide and nitrogen dioxide levels.

---

## Beach Closings

Average number of days coastal municipalities closed one or more of their beaches

---

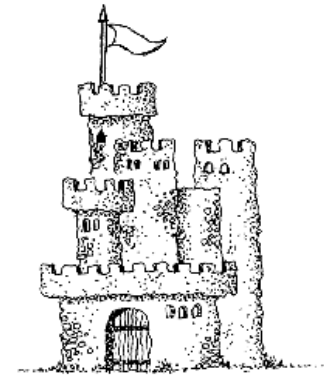


### Trends

Yearly variations are a product of rainfall patterns and incidents such as sewer-line ruptures. In 1999, the relatively dry summer led to significantly fewer closings than in previous years. The sharp increase in beach closings in 2000 was the result of a rainy summer, while the dry summer of 2001 reduced the number of closings.

### Background

Connecticut's goal is to eliminate beach closings caused by discharges of untreated or poorly treated sewage, the most common cause of elevated bacteria levels. After rain storms, runoff and overflows from combined sanitary/storm sewers are presumed to contaminate the water, prompting some towns to close beaches automatically as a precaution following a heavy rainfall. (See page 20 for more information about combined sewers.)

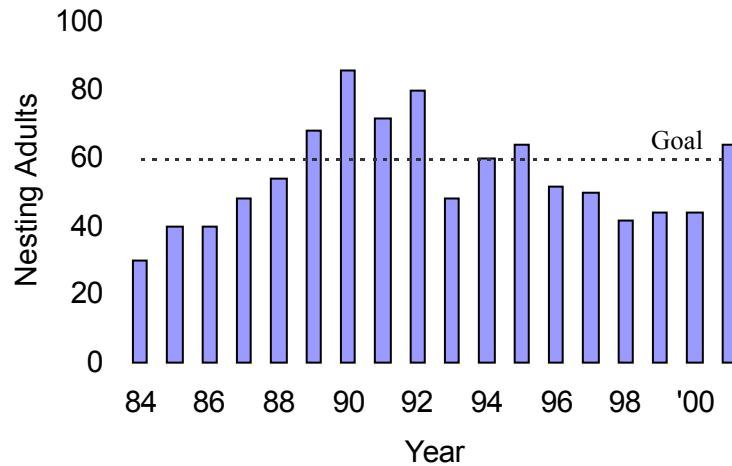


---

## Piping Plover

Number of adults nesting in Connecticut

---



## Background

Piping plovers are thrush-sized shorebirds that nest on beaches, often with least terns. Nests are frequently destroyed by human intrusion, storm tides, and predators. Nesting adults are counted and in most cases protected every spring by the DEP and volunteers working with The Nature Conservancy. The piping plover's status is "threatened." The protections afforded these plovers benefit other nesting species.



## Trends

Since protection and monitoring efforts began in 1984, nesting success has improved, resulting in more returning adults in subsequent years. Predators took a heavy toll in 1993. Yearly variations can occur when adult birds move from one state to another. While the Connecticut population has been static recently, the regional population has been increasing, suggesting that some of Connecticut's plovers might have moved. The increase in 2001 might indicate that some of these birds are beginning to return to the area.

---

## The Sound in Summer

Area (and percent) of Long Island Sound affected by hypoxia

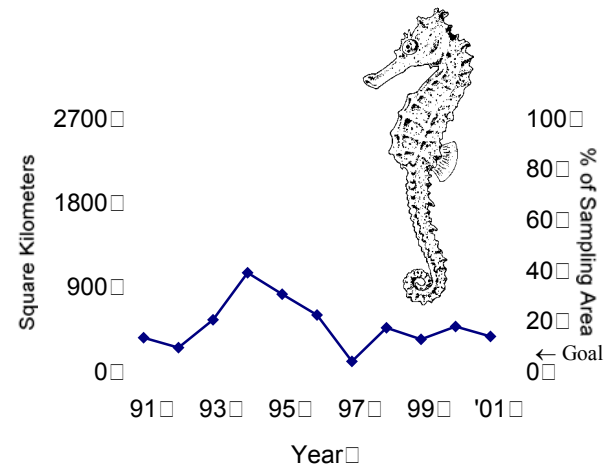
---

### Background

Hypoxia is the condition in the water when oxygen levels are too low to support desirable forms of life. (For this indicator, hypoxia is defined as less than or equal to 3 mg/l of dissolved oxygen.) Hypoxia occurs when nitrogen stimulates excessive growth of aquatic plants, which die and are consumed by oxygen-using bacteria. Weather greatly influences hypoxia, making year-to-year changes less important than long-term trends. Connecticut's goal is to eliminate the effects of hypoxia.

### Trends

All of the hypoxia has occurred in the western two-thirds of the Sound. Connecticut and New York adopted a comprehensive management plan in 1994. Year-to-year fluctuations mainly reflect weather patterns. A mild winter and a relatively cool summer, resulting in fairly uniform water temperatures, caused the significant improvement in 1997. The summers of 1999 and 2001 were dry, with less nitrogen from runoff reaching the Sound, whereas 2000 was rainy and saw slightly higher levels of hypoxia.



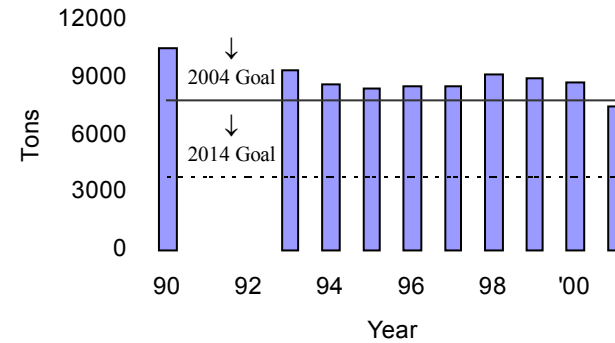


---

## Nitrogen

Tons discharged into Long Island Sound from Connecticut's sewage treatment plants and large industrial facilities

---

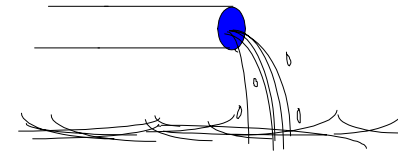


### Background

Major sewage treatment plants, along with the largest industrial nitrogen dischargers, account for 56% of Connecticut's contribution of nitrogen to Long Island Sound. (See description of hypoxia on previous page.) Overall, Connecticut's share of total nitrogen pollution is about one-third, and New York's is two-thirds. Connecticut had an initial goal in 1990 of "no net increase" or keeping nitrogen discharges at or below 1990 levels. The mid-term goal to reduce nitrogen discharges from these sources by 20% by 1995 was achieved in 1994. In April 2001, the federal Environmental Protection Agency approved the New York and Connecticut joint plan for implementing a Total Maximum Daily Load (TMDL). The TMDL is the maximum amount of pollutants that can be discharged while still allowing water quality standards to be attained. Connecticut's target for 2004 is 7840 tons (or less) per year and its final target for 2014 is 3836 tons (or less) per year.

### Trends

Connecticut's "no net increase" policy and investments in nitrogen-removal technology have been successful. The improvement in nitrogen discharge was achieved by installing nitrogen removal technology at several sewage treatment plants. Increases in 1996 through 1998 were the result of plant construction and reconstruction that caused the plants to lose some of their nitrogen removal capability during rebuilding. Significant decreases in nitrogen outputs accompany the newly approved TMDL program. Nitrogen discharge was down 12% in 2001 due to the completion of eight new nitrogen removal projects over the last two years and the dry weather in 2001.



---

## Tidal Wetlands Conservation

### Acres Degraded and Restored

---

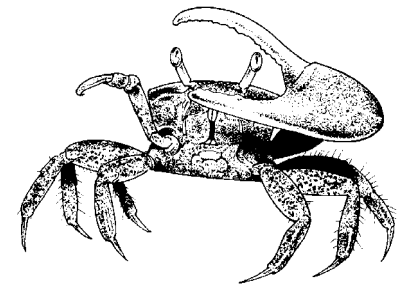
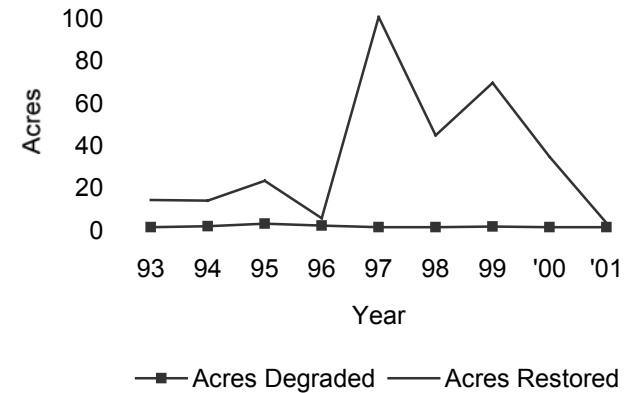
### Background

*Degraded* acreage is the area permitted for development activity by the DEP. *Restoration* includes work performed by the state as well as by landowners required by the DEP to restore wetlands as conditions of their permits. Restoration acreage is counted only where tidal flow has been restored *permanently*, and does not include minor enhancements or vegetation management. Improvements might or might not add to the state's total wetlands acreage, depending on the land's classification as wetlands or non-wetlands prior to restoration. Tidal wetlands are estimated to cover

17,500 acres of Connecticut, though no precise inventory has been completed. Connecticut's goal is to produce net increases in tidal wetland acreage and function.

### Trends

With the exception of 1995, less than one acre of tidal wetlands was lost each year to permitted development, and many degraded acres were restored. In 2001, approximately 2 acres were restored. (This reflects a conservative use of the term "restoration" that includes only those wetlands where tidal flow was restored; it does not include the many acres where work was done just to control the invasive common reed *Phragmites*.)



---

## Shellfish Beds

Acres open for commercial harvesting

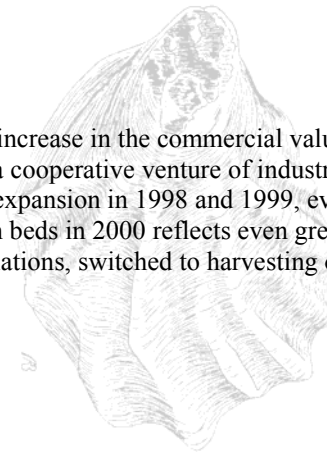
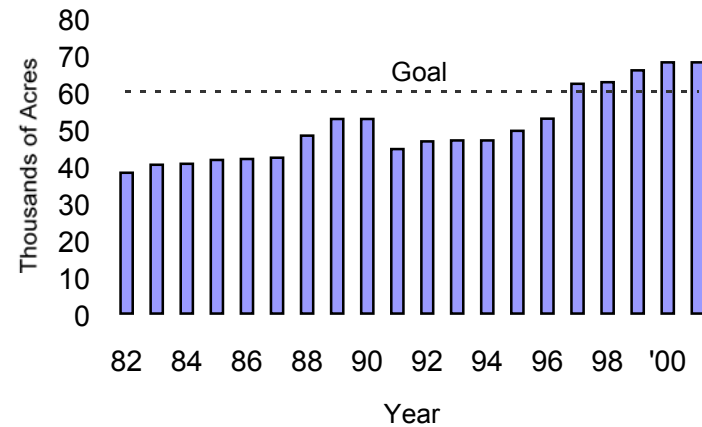
---

### Background

Connecticut's goal was to have 60,000 acres open by the year 2000, which is far fewer acres than were open a hundred years ago. The primary impediments to opening more acres are the presence of sewage discharges and the need to conduct frequent monitoring to satisfy federal health-assurance requirements. Beds are counted as open when they are clean enough and monitored sufficiently.

### Trends

The dramatic increase in 1997 was attributed largely to a decade-long increase in the commercial value of Connecticut's harvest, which prompted investments in expansion. Expansion has been a cooperative venture of industry and state government. Water quality and monitoring improvements led to modest expansion in 1998 and 1999, even as the industry saw oyster stocks depleted by disease in 1998. The expansion of shellfish beds in 2000 reflects even greater interest in the oyster industry as some lobstermen, responding to declining lobster populations, switched to harvesting oysters.



---

## Osprey

Number of adults nesting in Connecticut

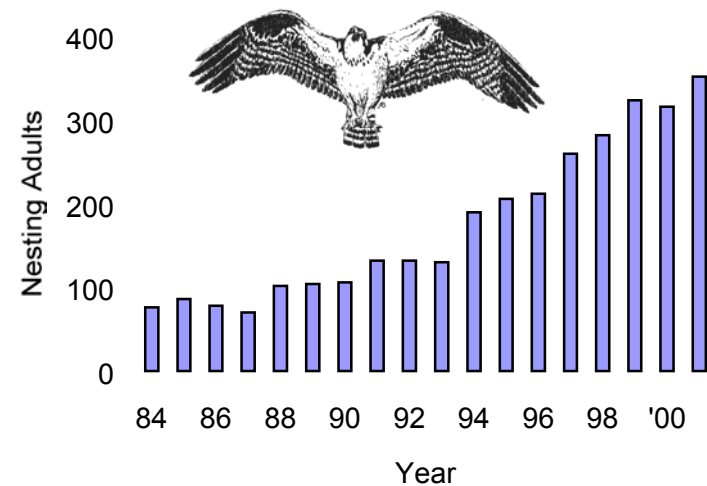
---

### Background

Ospreys are fish-eating birds of prey that live throughout the world. Locally, they nest mostly along the shoreline of eastern Connecticut, with potential to nest inland along rivers and large lakes. They require ample food supply, secure nesting sites, and an environment low in certain chemicals. The osprey's status in Connecticut is "special concern." Nesting adults are counted each year by the DEP.

### Trends

The osprey continues to rebound from its low point in the 1960s. Now, with fewer chlorinated hydrocarbons in the food chain, and after years of cooperative ventures to erect nesting platforms along the coast, nesting success continues at a rate sufficient to sustain positive growth. Several factors have led to the highest number of breeding ospreys in recent history: a record number of fledglings in recent years, installation of new predator guards on many nesting platforms, and a surge in breeding success at an area in Old Lyme considered to be the stronghold of Connecticut's osprey population.

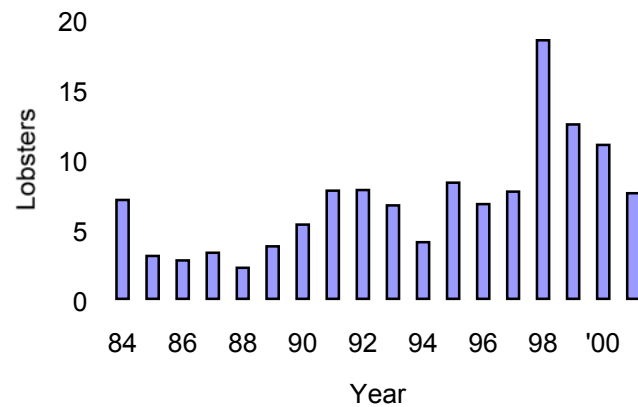


---

## Lobster

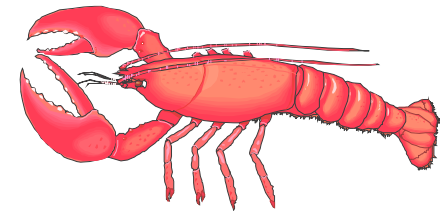
Average number caught (per tow)  
in nets of research vessel

---



## Background

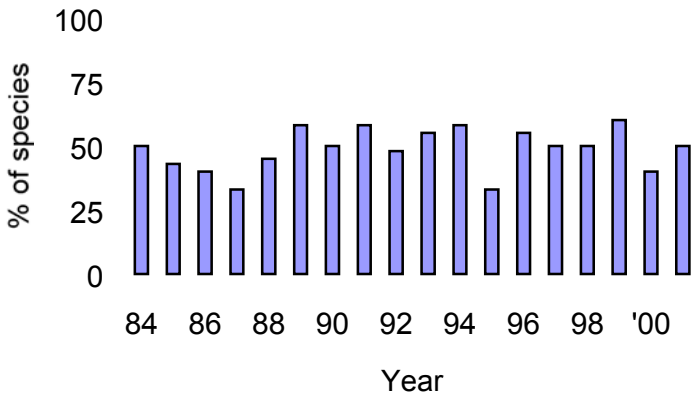
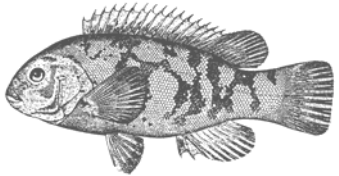
The lobster is the second most economically important marine species in Connecticut (behind oysters). This industry supports the highest number of commercial fishermen. The DEP samples lobster populations every spring by towing nets from a research vessel at randomly selected sites throughout Long Island Sound.



## Trends

Despite the sharp decrease over the last three years, the population is still near average. The decline was not distributed evenly across the Sound, and the western portion saw more of the effects. Researchers are focusing on a combination of four possible causes for the recent downturn: diseases, changes in water quality, changes in climatic conditions, and other human impacts on the Sound. They expect to report in the autumn of 2002 with more detailed explanations behind the decline. Regardless of the cause, the effects have been particularly dramatic because of the extraordinarily high population of 1998.

**Seafood Sampler**  
Percent of marine species found to be above their median population levels



**Background**

The DEP samples marine fish and invertebrates every spring and fall by towing nets from a research vessel. This indicator includes lobster, squid, and 38 species of fish (listed below) and shows general trends in their collective populations.

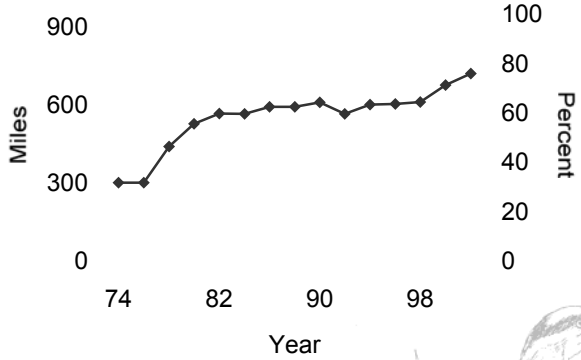
**Trends**

Scientists are unsure of the reasons behind the fluctuations in the last three years.

- atlantic herring      hogchoker      spanish mackerel      moonfish      rockling      long-horned sculpin      northern searobin      tautog
- blueback herring      american kingfish      menhaden      ocean pout      rough scad      sea raven      striped searobin
- bluefish      winter skate      american shad      little skate      striped bass      atlantic sturgeon      black seabass      alewife
- spiny dogfish      four-spot flounder      windowpane flounder      red hake      silver hake      spotted hake      spot
- scup      butterfish      smooth dogfish      summer flounder      winter flounder      cunner      weakfish      hickory shad

## Rivers

Miles supporting both aquatic life  
and swimming



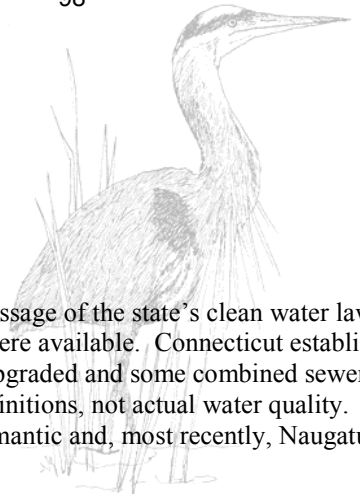
### Background

Of the state's 5800 miles of river and stream, about 930 miles are monitored and are considered in this indicator. In 1999 it was revised in an important way: in previous years, rivers were counted if they were both swimmable and fishable. However, since 1996 Connecticut residents have been advised to limit their consumption of freshwater fish, so no river in the state is technically "fishable," even if it sustains large populations of trout, bass, and other aquatic life. Since 1999, this indicator counts those rivers (or parts of rivers) that support both swimming and desirable aquatic life.

Miles of Connecticut rivers in which the fish are *not* contaminated with mercury:  
**0**

### Trends

Progress began with the passage of the state's clean water law in 1967, and accelerated in the 1970s when federal grants for sewage treatment plants were available. Connecticut established its own Clean Water Fund in 1986, which has enabled some treatment plants to be upgraded and some combined sewer systems to be separated (see next indicator). The 1992 downturn was a change in definitions, not actual water quality. Subsequent improvements occurred on the French, Shetucket, Farmington, Willimantic and, most recently, Naugatuck Rivers.

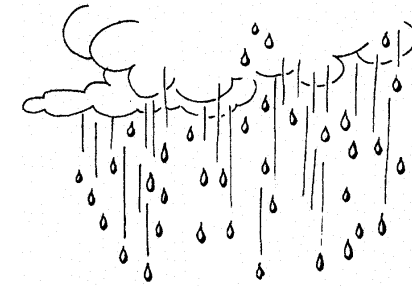
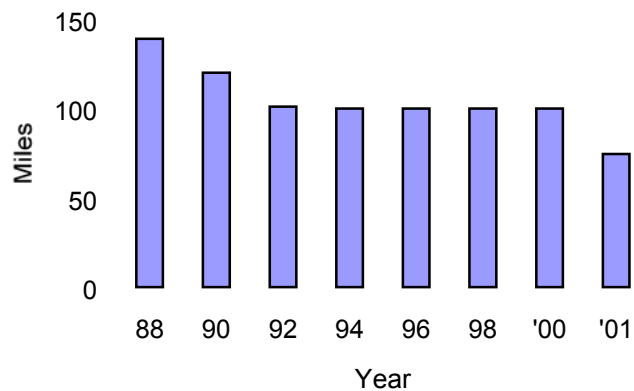


---

## Sewage Overflows

Miles of river affected by  
“combined sewer overflows”

---



### Background

In fourteen Connecticut cities and towns, sanitary sewers were built in combination with storm sewers. During storms, these systems carry more water than their treatment facilities can handle, and a combination of storm water and untreated sewage overflows directly to the rivers and Long Island Sound. The number of days when raw sewage is actually in the rivers varies with the weather and can be quite low in some years. Several systems have been separated, and Connecticut's goal is to eliminate combined sewer systems.

### Trends

Several of the combined sewer systems have been completely or partly separated since 1990, reducing the impact of untreated sewage on rivers. Projects in Derby, Shelton, and Portland have been completed very recently, but more combined sewers must be eliminated (especially upstream) before significant improvements will be seen in this indicator. The decrease in miles affected in 2001 can be attributed to the completion of projects in the towns of Waterbury, Naugatuck, and Middletown. It also reflects greater precision in the DEP's data collection and analysis.

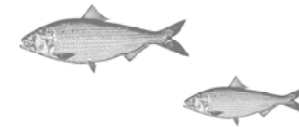


---

## Shad

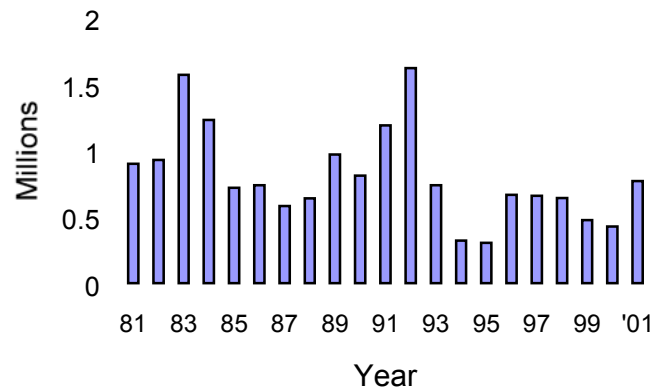
Number returning to the Connecticut River

---



### Background

The shad is an anadromous fish: born in fresh water, it lives in the ocean and returns to fresh water to spawn. Shad numbers used to be limited by dams that blocked access to spawning areas, but most major potential spawning areas in the Connecticut River and its tributaries have been made accessible with fish ladders and other improvements, including four new fishways.



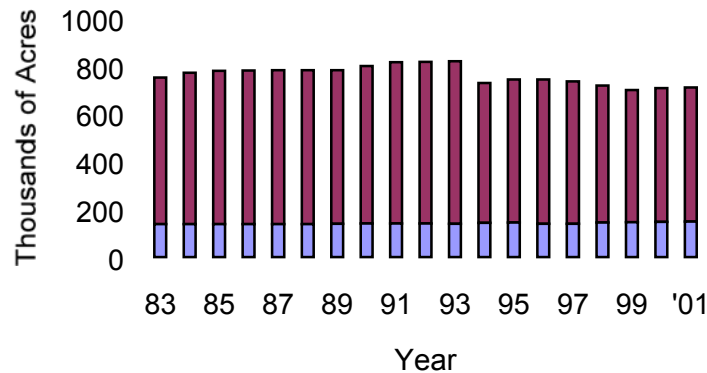
### Trends

The decline of shad in recent years was observed over most of its range (East Coast rivers). Scientists are uncertain of the cause. The number of shad that returned in 2001, however, suggest that the shad population is returning to its expected level in response to favorable environmental conditions.

On many other rivers and streams across the state, the DEP along with towns, businesses and nonprofit organizations have worked to build fish ladders and fishways that enable anadromous fish such as alewives and blueback herring to swim upstream around dams. In 2000, a fish ladder was completed at Ed Bills Pond in Lyme with partial funding from the Corporate Wetlands Restoration Partnership (CWRP). This was the second project of the CWRP, a new national collaboration of corporations, nonprofit organizations, and government agencies. The CWRP later helped with a fishway on the West River at Pond Lily Dam in New Haven. Connecticut's goal is to re-open 100 miles of dammed streams to anadromous fish.

## Forest

Combined acreage of 1) privately-owned forest that is enrolled in Connecticut's preferential tax-rate program (P.A. 490) and 2) state forest



■ State Forest ■ Private (P.A. 490)

revaluations, which prompted many landowners to enroll their land in P.A. 490 for the first time. Surveys of forest landowners show an average age of more than sixty years; the realities of inheritance will probably result in significant break-ups of large land holdings, which might be one important cause of this indicator's negative turn since 1994. The steep drop in 1998 and 1999 reflected improvement in the DEP's data management; much private land that was developed years ago was not deleted from the DEP's P.A. 490 records until 1999. Year 2000 saw the first increase in several years; about 2000 of the "new" acres were additions to state forest.



## Background

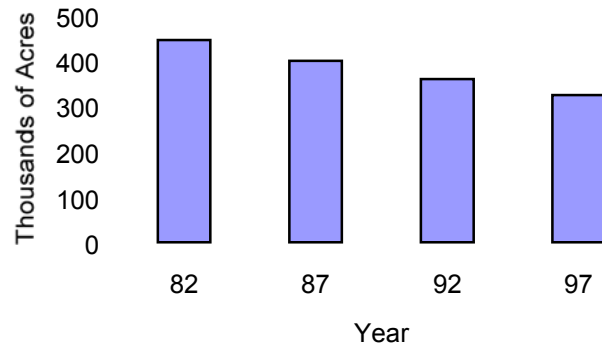
Connecticut's goal is to conserve forests for multiple use, which only can be accomplished on parcels of sufficient size. Much forest is owned in small parcels, which often have limited value for wildlife, wood production, and other uses. To be eligible for the property tax benefits under Public Act (P.A.) 490, a landowner must own 25 or more acres of forest. Though imperfect, this indicator shows trends in the state's healthiest and most beneficial forests, which are those in tracts larger than 25 acres.

## Trends

The apparent upward trend in forest acreage during the 1980s was believed to be a product of property

## Farmland

Acres of land in farms



### Trends

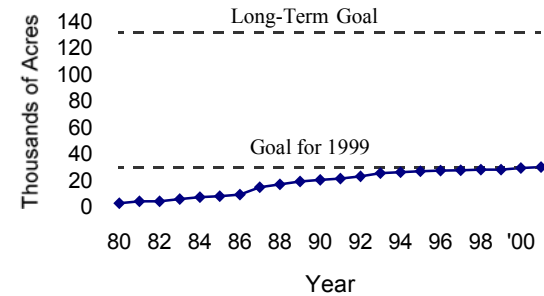
The graph above shows that farmland continues to decline at about two percent per year. The graph at right shows that the state's progress toward its long-term preservation goal has slowed but has not been unsuccessful. Two farms were approved for preservation by the Bond Commission in 1998 and none in 1999. However, a total of 19 new farms were approved for preservation in 2000 and 2001. Although two years behind schedule, the goal of preserving 28,000 acres was achieved in 2001.

### Background



The graph at left illustrates the total acreage of land in Connecticut farms, as estimated every five years by the U.S. Department of Agriculture. To preserve land for future agricultural use, the state Department of Agriculture purchases the development rights to farmland (from volunteer sellers only). This keeps the land in private ownership with strict restrictions on future nonagricultural development.

### Acres Preserved by the Department of Agriculture

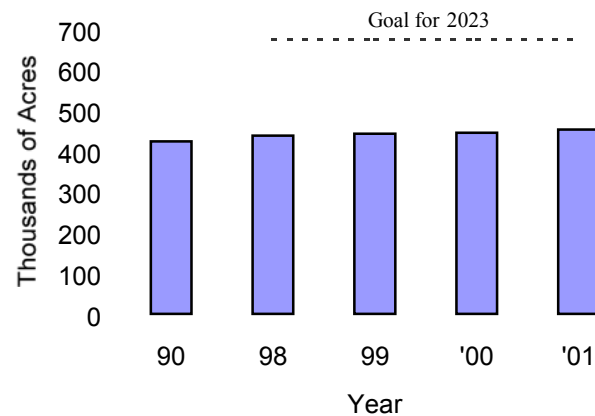


## Land for Life

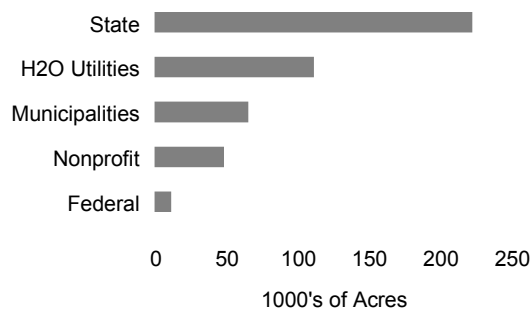
Combined acreage of five categories  
of preserved land

### Background

In 1998, Governor John Rowland declared a goal of conserving 21% of Connecticut's land area by 2023. P.A. 99-235 reinforced this goal. The graph at right shows the combined acreage of the five types of land that are included in this 21% goal. Current acreage of each land type is shown in the chart below. The types of land are: state-owned forests, parks, and wildlife management areas; Class I and II watershed lands owned by water utilities; estimated municipal open space; estimated nonprofit lands (land trusts, The Nature Conservancy, etc.); and federal conservation land.



Acres of Conserved Land  
By Ownership (as of 2001)



### Trends

Modest areas of land were preserved in the early 1990s. After Governor Rowland and the General Assembly improved the open space statutes and committed substantial funds in 1998, the DEP acquired record acreage in 1999. In 2001, the DEP set another new record when it acquired more than 4100 acres and the open space grant program helped municipalities, nonprofits, and utilities conserve another 2100 acres (see page 4 for more information).

---

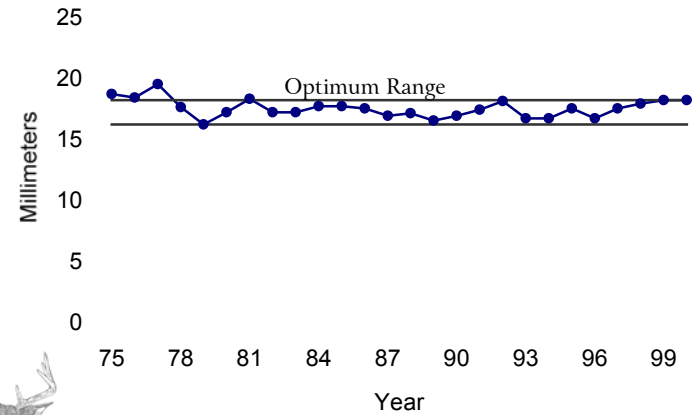
## White-Tailed Deer

Average diameter of antlers on yearling deer (one to two years old)

---

### Background

Healthy, robust young deer have thicker antlers than those that receive less nourishment. Antler beam data reflect the relative health of the deer herd as well as the condition of their habitat. Since deer share woodland and edge habitats with many wildlife species, this indicator is doubly useful. Connecticut's goal is to maintain a statewide average of at least 16-18 millimeters, and to let the average in no region of the state fall below 16 millimeters.



### Trends

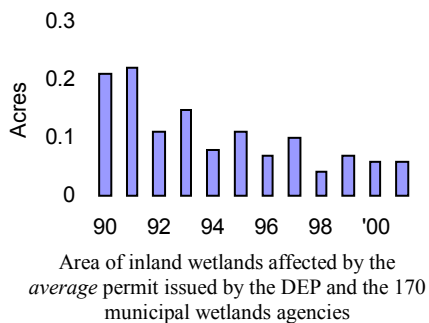
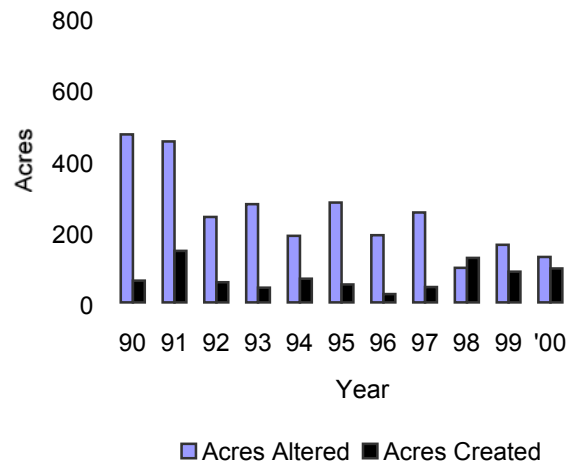
Connecticut's deer population appears to stay within the targeted range. Minor fluctuations in herd health from year to year probably reflect fluctuations in food availability and winter conditions. The herd has remained in good health over the past few years.

## Inland Wetlands Loss

Acres altered each year by development activity permitted by the DEP and 170 municipal wetlands agencies

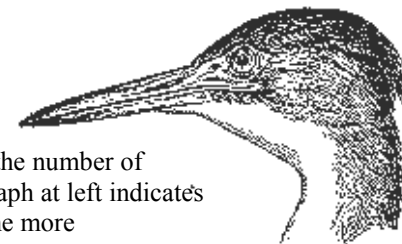
### Background

The graph at right shows the acres altered and the number of those acres replaced by human-made wetlands. "Altered" wetlands are those affected directly by human activity, which can range from total destruction (when the wetlands are filled and built upon) to conversion from one type to another (as, for example, from shallow marsh to open water). No attempt is made here to evaluate the success of the created wetlands or their value relative to the natural wetlands altered. There is no goal for wetland loss; inland wetlands are estimated to cover about 450,000 acres, or about 15% of Connecticut's surface.



### Trends

Some of the ups and downs in wetlands loss since 1990 are directly related to changes in the economy and the number of applications received. However, the graph at left indicates that wetlands agencies also have become more conservative.

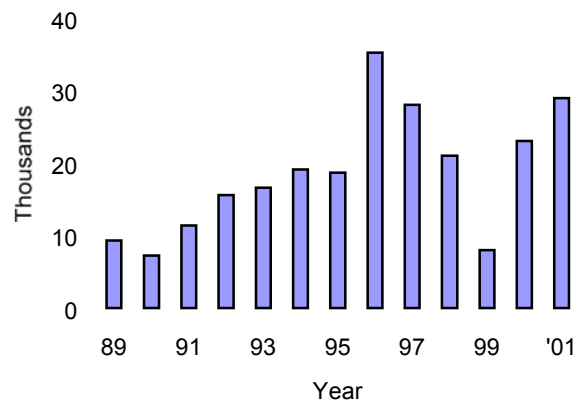


---

## Wood Duck

Estimated number of adults  
nesting in Connecticut

---

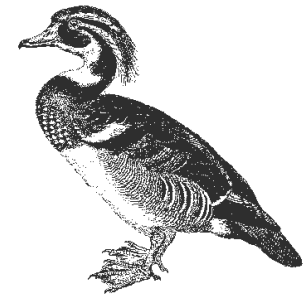


### Trends

Increases in wood duck numbers through 1996 were due to favorable weather conditions and the placement of nesting boxes near ponds and wetlands. Many Connecticut citizens have assisted in this effort. Although the 1998 numbers appear to show a downturn, it is likely that a concentration of ducks at one of the sampling plots led to estimates that were too high in 1996 and 1997. The apparent sharp drop in 1999 numbers also might be due to a change in sampling techniques. Year 2000 and 2001 estimates are back at the average level.

### Background

Wood ducks are medium-sized waterfowl that nest in hollow trees and human-made boxes near fresh water throughout eastern North America, including inland Connecticut. They require relative seclusion, unpolluted inland wetland habitat, and protection from over-hunting (which almost caused the bird's extinction earlier this century). Many other species share these habitat requirements. Population estimates are made annually by the DEP.



---

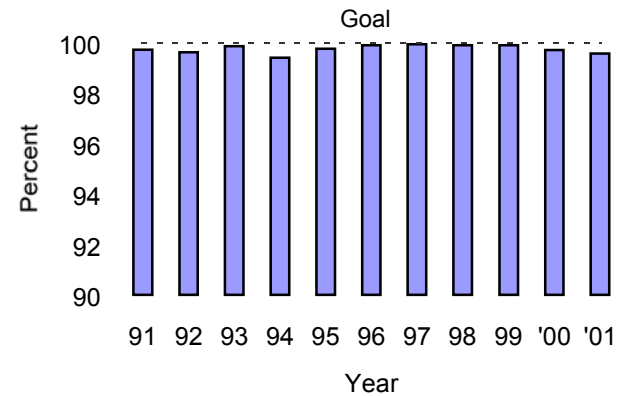
## Drinking Water

Percentage of public water being delivered that meets all standards

---

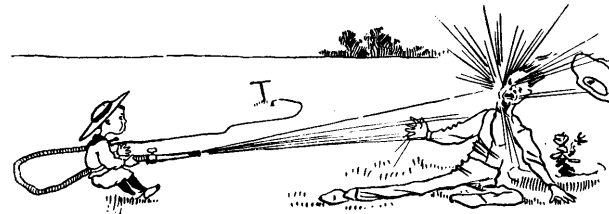
### Background

Every public water utility submits monthly water quality reports to the Department of Public Health. This indicator shows the percentage of monthly reports that show full compliance, after weighting the reports to account for the number of people each utility serves.



### Trends

Though problems persist, they occur most frequently with small systems serving relatively few households. This indicator would show more fluctuations if the larger systems failed to deliver good water, since it takes into account the number of people served by each system. For example, one large system had problems that persisted for approximately three months, resulting in the observed decline in 2001.





---

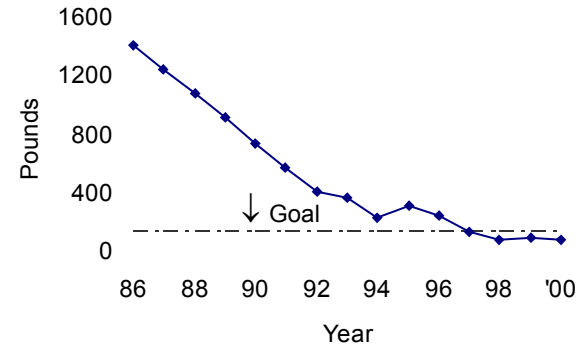
## Garbage Burial

Average resident's share of municipal solid waste buried in landfills within Connecticut

---

### Background

Disposal of municipal solid waste by burial in landfills is the least desirable management option; it ranks behind recycling, source reduction, and resource recovery (i.e., incineration for energy recovery). This indicator charts progress toward the goal of reducing reliance on landfills, which has been the goal of state solid waste policy since the 1970s. Connecticut's plan calls for reducing the average resident's landfill contribution to about 170 pounds per year.



### Trends

Since 1986, six resource recovery plants have begun operation, collection of recyclables has improved to account for at least 24% of municipal waste, some manufacturers have reduced the weight of products and packaging, and some consumers have altered buying habits. These factors allowed dozens of landfills to close as they became full or as federal regulations prohibited their continued operation.

---

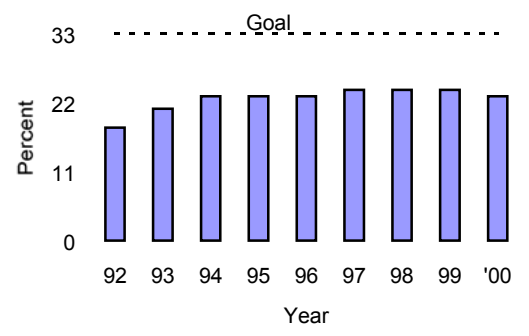
## Recycling

Percentage of municipal solid waste collected for recycling

---

### Background

The General Assembly established a goal of reducing *and* recycling 40% of Connecticut's municipal solid waste stream by the year 2000; the DEP has calculated that this would require 33% of the waste to be recycled (with the other 7% disappearing through waste reduction). The actual numbers shown in this graph are probably low, as some recycled materials, such as batteries and bottles returned for deposit, can not be counted.



### Trends

The statewide average has been holding steady, fluctuating between a disappointing 23% and 24%. More stable markets for collected materials are expected as manufacturers continue to invest in factories that use recycled materials. Small businesses, municipalities and residents will need to improve their recycling efforts if Connecticut is to meet its goal.

---

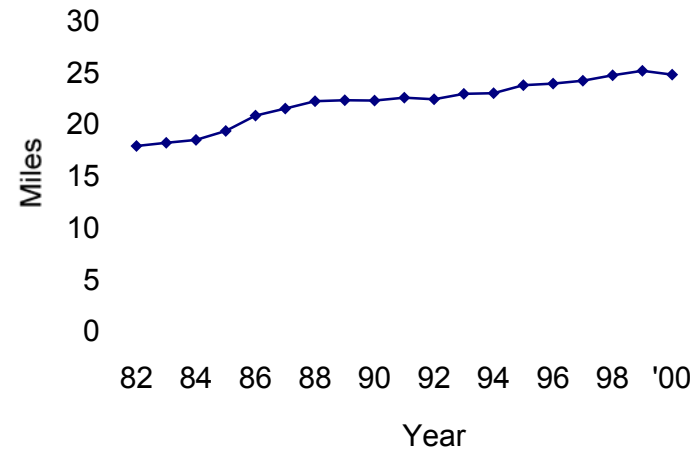
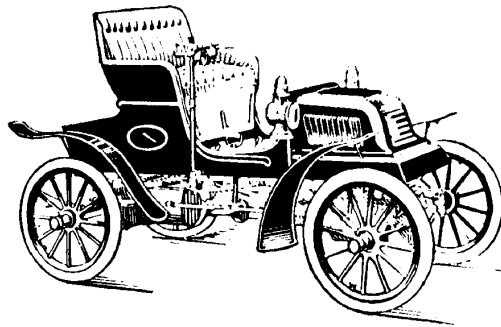
## Driving Our Cars

Number of miles that the average Connecticut resident drives a vehicle every day

---

### Background

Driving a car is probably the most environmentally damaging activity a Connecticut resident will engage in. Trucks and the increasingly-popular sport utility vehicle cause even greater damages. Impacts are direct (air pollution, oil leakage, etc.) and indirect (stimulating demand for new roads). The Department of Transportation (DOT) estimates total miles driven each year in Connecticut.



### Trends

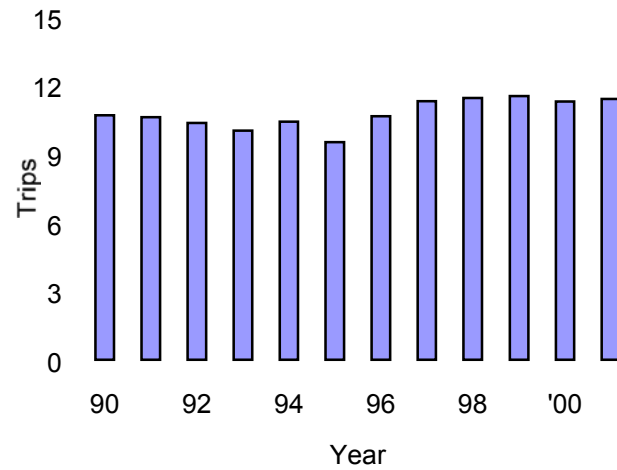
Every year until 2000, the average Connecticut resident drove more miles than he or she did the previous year. The reasons are complex and include the fact that most new development is accessible only by car. In 2000, for the first time, the average Connecticut resident drove fewer miles than the year before. Unfortunately, an increase in population still led to an overall increase in traffic.

---

## Taking the Bus

Number of local bus trips taken by the average Connecticut resident

---



### Background

Riding a bus is just one alternative to the negative environmental impacts of driving a car. Ridership data are collected by the DOT.

### Trends

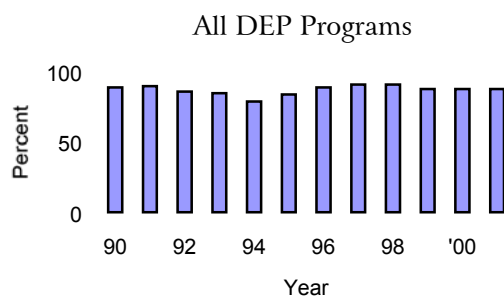
The slight increase in bus ridership in 2001 was consistent with a nationwide trend. Recent improvements were probably the product of better bus routing and the successful efforts of some companies to encourage transit use by employees.

---

## Compliance

Percentage of facilities found to  
be in compliance with  
environmental laws

---

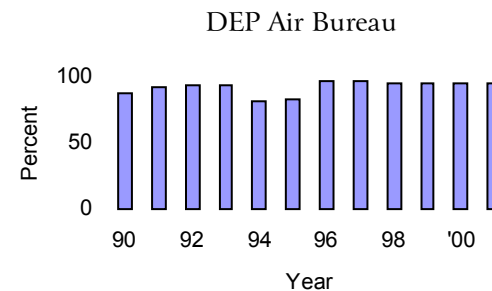
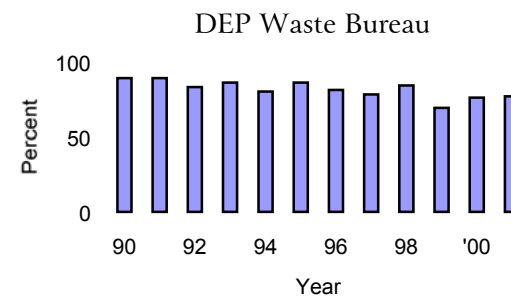
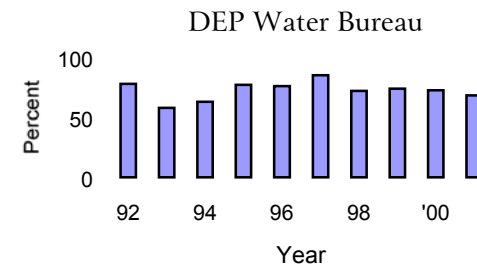


### Background

This indicator shows the approximate percentage of inspections performed by the DEP that found the inspected facilities in full compliance with pertinent environmental laws and regulations.

### Trends

The overall downturn in compliance in 1999 appeared to be due to the discovery of more violations in waste programs. Year-to-year fluctuations can occur when the DEP turns its attention to types of facilities where non-compliance is common. Short-term downturns might not reflect serious problems if the long-term trend is toward full compliance.





---

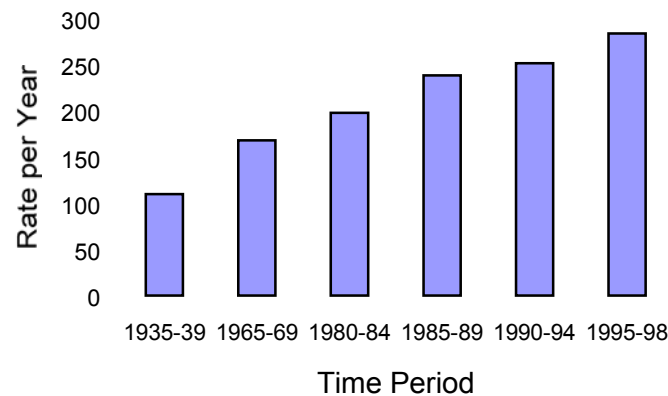
## Breast Cancer in Connecticut

Number of new cases per 100,000 women aged 50 to 54

---

*The Council is proposing the addition of this indicator to the permanent set of indicators of Connecticut's environment. Your comments are invited (see page 40).*

### Background



The graph shows the number of women, of every 100,000 women in the state aged 50 to 54, in whom breast cancer is detected each year. While some breast cancers are linked to genetic factors, the majority are associated with non-genetic factors including diet, reproductive history, lifestyle, and external agents. There are numerous hypotheses connecting certain chemicals to breast cancer. Other hypotheses point to different environmental causes, including nighttime lighting and proximity to nuclear reactors. These factors, if significant, do not appear to be as important statistically as a woman's own reproductive history, but it is important to note that breast cancer rates vary greatly in different parts of the country, and that Connecticut has the highest incidence of breast cancer among the fifty states (though a few states do not report). (Source: American Cancer Society, years 1994-1998)

### Trends

There is little doubt that some of the increase since 1980 is attributable to better detection methods. But better detection, which might save lives by allowing for earlier treatment, cannot be responsible for all of the apparent increase in new cases.

### Commentary

The Council intends to include more human health indicators in future annual reports where the statistics are reliable. Breast cancer is not the only cancer for which Connecticut is above the 50-state average. It is third highest in non-Hodgkin's lymphoma (male and female), second in male and third in female bladder cancer incidence rates. The reasons for the high rates and long-term upward trends in some cancers are complex and elusive, but deserve the state's full attention.

## Part III

### Activities of the Council on Environmental Quality in 2001

#### Listening to the Public

The Council continues to rely greatly on the informed public to help identify possible deficiencies in state environmental policy as well as corrective actions. At regular monthly meetings, the Council heard from the Department of Environmental Protection, State Resource Strategies, Environment and Human Health, Inc., Sierra Club, Residents for Appropriate Development, Connecticut Fund for the Environment, Department of Transportation, Rivers Alliance of Connecticut, National Audubon Society, Working Lands Alliance, University of Connecticut, and many individual citizens and elected officials.

At a forum in Guilford, the Council invited the public to share their views on what they thought the state was doing well for the environment, and what needed improvement. Some of the organizations presenting testimony were the Town of Guilford, Friends of Connecticut State Parks, Coalition for the Permanent Protection of Kelda Lands, several local land trusts, The Nature Conservancy, Committee to Save the Guilford Shoreline, Town of Greenwich, Long Island Sound Assembly, Guilford Preservation Alliance, Connecticut Water Company and Connecticut Audubon Society, as well as private citizens.

The Council held a similar public forum in Windham. In addition to the many individuals and elected officials who spoke, there were officials of the Windham Water Commission, Windham Regional Chamber of Commerce, Working Lands Alliance, Willimantic Housing Authority, Windham Regional Council of Governments, Town of Windham, Town of Mansfield, and a local waste handling company. As always, the Council learned of many concerns of eastern Connecticut residents. Quite a few pertained to the rapid expansion of the University of Connecticut (UConn).

## What the Council Heard

Topics Addressed at CEQ Public Forums in Guilford and Windham

	<b>% of Speakers*</b>
Topics Specific to the University of Connecticut	44%
Land Conservation (open space, water utility lands, ridgelines, coastal lands)	37%
Water Quality (aquifer protection, stormwater, drinking water)	35%
Land Use (sprawl vs. smart growth, transportation, property tax system)	26%
DEP Funding (enforcement, parks maintenance, recycling program)	19%
Environment and Human Health (asthma, pesticides, air quality, toxics)	14%
Water Quality (stormwater, sewer policies, drinking water)	12%
Wetlands Conservation (vernal pools)	5%
Connecticut Environmental Policy Act	2%
Hunting Safety	2%

\* Many speakers addressed more than one topic.

After touring the UConn campus in Storrs in July, the Council held a special forum in August to hear from citizens, including legislators, concerned about the many development projects being planned or built by the University. Over several weeks, the Council reviewed the University's relationship to environmental laws, and issued its conclusions and recommendations in early 2002.

Also in 2001, the Council worked with the DEP in preparation of The Connecticut Green Plan: Open Space Acquisition, the state's first plan for conserving land. It also prepared a draft report on problems with the Connecticut Environmental Policy Act and possible solutions. Please see Part I of this report for more information on both of these topics.

The Council modified its web site and is proud that it meets the guidelines for accessibility for all types of web browsers, including those used by sight-impaired citizens.



## Forecast 2003



**Energy Efficiency vs. Pollution** The Connecticut Siting Council predicts a 10 percent increase in the average Connecticut resident's consumption of electricity by 2015 because of greater use of electric appliances. If this prediction is fulfilled, Connecticut will face many needless disputes over the siting of new power plants and transmission facilities, as well as more air pollution and water consumption. With the efficiencies available now in new appliances, lighting, and building materials, Connecticut should be able to achieve economic growth while reducing per capita electricity consumption. With greater efficiency, some power plants and transmission lines and their attendant controversies can be avoided.

**Light Nights** Considerable outdoor lighting is wasted, which means the energy is also wasted. This is evident in the amount of light being directed to where it is unwanted, unneeded, and useless: into the sky and into people's homes. Recent research found impacts to human health from exposure to light at night. Connecticut needs to use electricity more efficiently, and the elimination of wasteful outdoor lighting would be a logical next step.



**The End of Sprawl?** "Land use and transportation are inextricably linked. When the two types of policy are not coordinated, sprawl results." This was a conclusion of the 1990 Annual Report of the Council. Now it is common knowledge that transportation, planning and tax policies have an enormous influence on the shape of our towns and cities. Connecticut's challenge is to find success stories where transportation investments and good local planning have come together to stimulate development of businesses, parks, high-quality housing, and public attractions – and then figure out how to replicate those successes in every community that wants to grow and develop in the way it desires.

## CEQ MEMBERS

**Donal C. O'Brien, Jr. (Chairman)** Resident of New Canaan. Original charter member of Connecticut Council on Environmental Quality, 1971. Retired partner in the law firm of Milbank, Tweed, Hadley & McCloy. Former member, CT Council on Environmental Quality (1971-1976). Former member, CT Fish and Game Commission (1971-1972). Chairman, Board of Directors, National Audubon Society. Board of Directors, Waterfowl Research Foundation. Chairman, Board of Directors, Atlantic Salmon Federation. Founder, Director, Connecticut League of Conservation Voters. Former Vice-Chairman, Board of Governors, The Nature Conservancy. Former President, International Council for Bird Preservation. Founder and Chairman Emeritus, American Bird Conservancy. Chairman Emeritus, Quebec Labrador Foundation. Former Director/Trustee, Delta Waterfowl Foundation, CT Waterfowlers Association and Theodore Gordon Flyfishers.

**Thomas F. Harrison.** Thomas F. Harrison. Resident of Avon. Partner in the Hartford-based law firm of Day, Berry & Howard LLP. Member and Chairman, Avon Board of Finance. Board of Directors, Connecticut League of Conservation Voters. Executive Committee and Past Chairman, Environmental Law Section, CT Bar Association. Board of Directors and Chair, CT Chapter, Air & Waste Management Association. Board of Directors, Audubon Connecticut. Advisory Council on the Environment, MetroHartford Chamber of Commerce. Environmental Professionals Organization of CT. Small Business Compliance Advisory Panel, CT Department of Environmental Protection. CT Environmental Forum. Adjunct Instructor of Environmental Law, Rensselaer Polytechnic Institute (Hartford Graduate Center). Former Member, Avon Inland Wetlands Commission.

**Eric M. Janney.** Resident of Mystic. Partner in the law firm of O'Brien, Shafner, Stuart, Kelly & Morris with practice focusing on real estate, business and municipal law. Former four-term member and Moderator, Groton Representative Town Meeting. Member, Copp Park Advisory Board. Secretary, Groton Parks Foundation. Member, Board of Directors, Housing Opportunities for People, Inc. Member, Government Relations Committee, Mystic Chamber of Commerce.

**Susan B. Mendenhall.** Resident and Four-Term Town Councilor of Ledyard, currently serving as Chairman. Member, Land Use/Planning/Public Works Committee. Former Member, Finance Committee. Council Liaison to Inland Wetlands and Watercourses Commission, Zoning Commission, Ledyard Emergency Planning Council. Former Council Liaison to Senior Citizens Commission, Economic Development Commission, Board of Education. Past Member, Board of Directors of The Connecticut Institute for Municipal Studies. Member, Property Tax Reform Commission. Former Stock Trader, Investment Corporation of Virginia. Former Tax Consultant. Member, Navy League.

**Susan D. Merrow.** Resident and First Selectman of East Haddam. Member, Northeast Advisory Committee, Trust for Public Land. Member, Sierra Club National Political Committee. Former President, CT Conference of Municipalities. Advisory Committee, Silvio Conte National Fish and Wildlife Refuge. Former President, National Board of Directors, Sierra Club. Author, *One for the Earth: Journal of a Sierra Club President*. Former Executive Director, Common Cause in CT. Former Co-Chair, CT Greenways Committee.

**Richard A. Miller.** Resident of West Simsbury. Counselor, Environmental Management, Policy and External Affairs. Editorial Advisory Board, New England's Environment. Founding Board Member, CT Corporate Wetlands Restoration Partnership. CT Bar Association's Environmental Section (Executive Committee 1994-97). Member, Simsbury Conservation & Inland Wetlands Commission, Simsbury Land Conservation Trust, and Farmington River Watershed Association. Served on numerous appointed state boards and commissions, including Remediation Standards, Environmental Permitting, Environmental Industry Initiative, Water Quality Standards, Land Use/Aquifer Protection, State Emergency Response Commission and CT Advisory Commission on Intergovernmental Relations. Steering Committee, CBIA Environmental Policies Council.

**Earl W. Phillips, Jr.** Resident of Middle Haddam, village of East Hampton. Partner with the law firm of Robinson & Cole LLP and Chair of its Environmental Practice. Executive Committee, Environmental Section of the CT Bar Association. Member, past and present DEP Advisory Committees, including E-2000, Waste, and Water. Executive Steering Committee, CBIA Environmental Policies Council and Chairman of its Hazardous Waste Section. Multiple publications, including: *Brownfields Law and Practice: The Cleanup and Redevelopment of Contaminated Land*, CT Chapter (Matthew Bender), *Environmental Law Practice Guide*, Connecticut Chapter (Matthew Bender). Adjunct Instructor of Environmental Law, Wesleyan University, University of Connecticut, and Rensselaer Polytechnic Institute (Hartford Graduate Center). Chairman, Environmental Section, National Institute of Municipal Law Officers.

**Ann H. Sherwood.** Resident of Kent. Paralegal in the law firm of John V. A. Murray, P.C. Member, Board of Managers, Appalachian Trail Conference. Connecticut Coordinator, Appalachian Trail Conference Land Trust. Trails Chairperson, Connecticut Chapter, Appalachian Mountain Club. Registered advocate, Office of Protection and Advocacy For The Disabled. Registered activist, Americans For Our Recreation and Heritage and the Appalachian Mountain Club. Former board member and President, Connecticut Association of Paralegals, Inc. Founding board member and past President, Springdale Neighborhood Association. Former Clubwide Conservation Chairperson, Appalachian Mountain Club (1998-2000). Former member, Conservation Program Committee, Advisory Board to Board of Directors, Appalachian Mountain Club. Former Member, Advisory Board, Cornerstone Bank. Former Member, Corporation of United Way, Stamford.

**Wesley L. Winterbottom.** Resident of West Hartford. Professor and Coordinator of Environmental Science and Toxicology, Water Management and Wastewater Programs, Gateway Community College. Instructor of Environmental Issues, Eastern Connecticut State University; Fullbright China Seminars Abroad Program Scholar. Registered Professional Engineer, Diplomate American Academy of Environmental Engineers. National Science Foundation Fellow Advanced Technology Environmental Education Center, University of Northern Iowa. ANSI/GETF Certified ISO 14000 Trainer. Faculty Advisor, Mt. Rainer National Park, Rocky Mountain National Park, Western Arctic National Parklands. Board Member, Northeast Partnership for Environmental Technology Education. President, Connecticut Consortium for Enhancing Learning and Teaching. Past-Director, Gateway Community College Center for Teaching Excellence.

## Acknowledgments

The Council appreciates the work of its staff -- Karl Wagener (Executive Director) and Melissa Ryan (Environmental Analyst) -- in drafting this report for review by the Council and preparing the final version for publication. Interns provide valuable assistance, and the Council notes the special contributions of Lindsey Kravitz (Connecticut College), Timothy Bishop (University of New Hampshire), Jessica Mosher (Trinity College) and Christian Sterling (Trinity College). The Council also appreciates the assistance of the many people in the Departments of Environmental Protection, Agriculture, Transportation, and Public Health who provided data. The Council especially thanks the many citizens, businesses, and organizations that offered information and viewpoints to the Council throughout the year.

## Memo to Readers:

We would like to hear from you. Does this report give you the information on Connecticut's environment that you need? Is something missing?

Mail: 79 Elm Street, Hartford, CT 06106

Phone: 860-424-4000 (Staffed 8:00 to 5:00; messages can be left 24 hours a day)

Fax: 860-424-4070

E-mail: [karl.wagener@po.state.ct.us](mailto:karl.wagener@po.state.ct.us)



Find up-to-date information about Council meetings, forums and reports throughout the year at [www.ceq.state.ct.us](http://www.ceq.state.ct.us)



## COUNCIL ON ENVIRONMENTAL QUALITY

The duties of the Council on Environmental Quality are described in Sections 22a-11 through 22a-13 of the Connecticut General Statutes. The Council is a nine-member board that works independently of the Department of 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 Council's primary functions include:

- 1) Submittal to the Governor of an annual report on the status of Connecticut's environment, including progress toward goals of the "Environment 2000" statewide environmental plan, with recommendations for remedying deficiencies of state programs;
- 2) Review of state agencies' construction projects; and
- 3) Investigation of citizens' complaints and allegations of violations of environmental laws.

In addition, under the Connecticut Environmental Policy Act and its attendant regulations, the Council on Environmental Quality reviews Environmental Impact Evaluations that state agencies develop for major projects; the Council must be consulted when disputes arise regarding any agency's finding that its project will not cause significant environmental impact.

### COUNCIL MEMBERS --- 2001

Donal C. O'Brien, Jr. (Chairman)  
New Canaan

Thomas F. Harrison  
Avon

Eric M. Janney  
Mystic

Susan Mendenhall  
Gales Ferry

Susan Merrow  
East Haddam

Richard A. Miller  
West Simsbury

Earl W. Phillips, Jr.  
Middle Haddam

Ann H. Sherwood  
Kent

Wesley Winterbottom  
West Hartford

---

Karl J. Wagener  
*Executive Director*

Melissa S. Ryan  
*Environmental Analyst*

