Environmental Quality in Connecticut

THE 1996 ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY

STATE OF CONNECTICUT

COUNCIL ON ENVIRONMENTAL QUALITY

March 31, 1997

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

Dear Governor Rowland·

I am pleased to submit the annual report of the Council on Environmental Quality for calendar year 1996

In Part One, the Council recommends steps to improve Connecticut's performance in the conservation of land and related resources Specifically, there are opportunities for modest but important actions that would greatly improve parks, forests, greenways, and the overall conservation of open space In a follow-up to recommendations of previous years, the Council is pleased to report huge improvements in the state's ability to monitor and speed the clean-up of contaminated properties

In Part Two, the Council has strengthened its successful use of Environmental Indicators as the preferred way to report changes in our air, water, land, and wildlife These indicators are bottom-line statements of the actual condition of Connecticut's environment

The Council took some unusual steps in 1996 to learn what environmental issues were of greatest concern to businesses, non-profit organizations, and the general public. The results are in Part Three.

As always, the Council stands ready to assist you or provide any additional information you may want

Respectfully,

Ron Thomas

Ronald J Thomas
Chairman

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✧ Table of Contents ✧

On the cover: American Shad *(Alosa sapidissima). "This fish needs no introduction to the Connecticut audience. It has yearly visited us, and his advent is as eagerly looked forward to as is the adjournment of the legislature."*

Illustration and quote from the First Biennial Report of the Connecticut Commission of Fisheries and Game (1896)

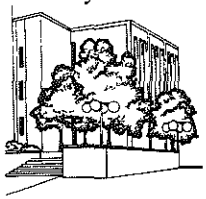
IN REMEMBRANCE

In November, Connecticut lost a great conservationist in the person of Peter M Stern of Glastonbury. His contributions to environmental improvement in the corporate, political, and non-profit worlds are known throughout the land. Mr. Stern was a valued and dedicated member of the Council from 1985 to 1991 and, among other achievements, set a demanding standard for precision and meaning in everything the Council did. If this report measures up, the Council would like to dedicate it to the fond memory of Peter M. Stern

PART I

✧ Progress Report on Connecticut's Management of Land ✧

Conserving land is Connecticut's perennial challenge. Each year, several hundred acres of undeveloped land are set aside by cities and towns, land trusts, other non-profit groups, and the state Far more acres get converted to other uses, even as thousands of previously-developed sites lay idle The dominant forces that shape Connecticut's landscape — business decisions, tax policy, and uncoordinated transportation investments — are far beyond the scope of the Department of Environmental Protection or any other state agency



Still, many state activities affect the fate of public and private lands In this year's report, the Council reviews the status of priority recommendations of recent years. They all relate to the use and conservation of land

❖ Where will Connecticut place in *The New Race for Open Space?*

❖ *Great State Parks* What forces will reverse their long-term decline?

❖ *Forestry and Communities* How can forest management on state lands yield more benefits for cities and towns?

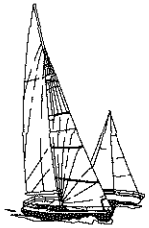
❖ How can we improve the remarkable success of *Greenways?*

❖ How does the *property tax* distort *land-use* planning by municipalities?

❖ Efficient programs that encourage *clean-up and redevelopment of contaminated properties* could pay big dividends for cities and towns, as well as reduce pressure for suburban sprawl, how are we doing?

❖ Have we done all we can to improve *safety in the woods* during hunting season?

✧ The New Race for Open Space ✧



Only one industrial state in the region has no comprehensive plan for land conservation, has no realistic target date, does little marketing of its conservation work, and has never designed or authorized a substantial acquisition program: Connecticut.

The Council documented Connecticut's chronic land conservation deficiencies in a 1996 interim report. Despite an active non-profit sector, we own less and buy less public land than almost any other state A few of the Council's other findings

- The modest goal of having 300,000 acres in state ownership has never been adopted formally by the General Assembly There is no plan for reaching that goal, and we will not reach the goal in the 21st century under current acquisition rates.

- Virtually every other northeastern state — competitors in developing the high quality of life that will attract the mobile entrepreneurs of the 21st century — has embarked on a coordinated approach to conserving key parcels of land for conservation and recreation

- The state's Recreation and Natural Heritage Trust program is ten years old, and has proven itself as an efficient tool for buying land, consistently delivering real estate to taxpayers at below market prices. It is a tool, however, and not a plan

Year of last CEQ Analysis 1996

"If Connecticut is to maintain its present important position in the industrial field, increasing attention must be given to the proper provision of outdoor recreation areas available for the use of all its citizens."

Twenty-sixth Biennial report of the Connecticut State Board of Fisheries and Game, 1944-46

Is open space essential to a strong economy? Consider the above quote from a state report of exactly 50 years ago At the time, Connecticut was winding up some of the most active land-buying years in our history. Regrettably, the report foreshadowed long declines in manufacturing *and* land conservation. Was there a connection? While the question defies definitive analysis, a survey of state, regional, and municipal activities across the nation shows land conservation to be a prominent strategy for attaining and maintaining economic growth.

Recommendations in Brief

- Establish a goal and target date in statute
- Create a plan for meeting the target date
- Maintain the Recreation and Natural Heritage Trust as the primary acquisition tool
- Expand the toolbox of land conservation, and apply all techniques toward the overall goal
- Communicate the results of land acquisition to the taxpaying public.

Interested readers should request a copy of "The New Race for Open Space" from the CEQ office for more information about these recommendations

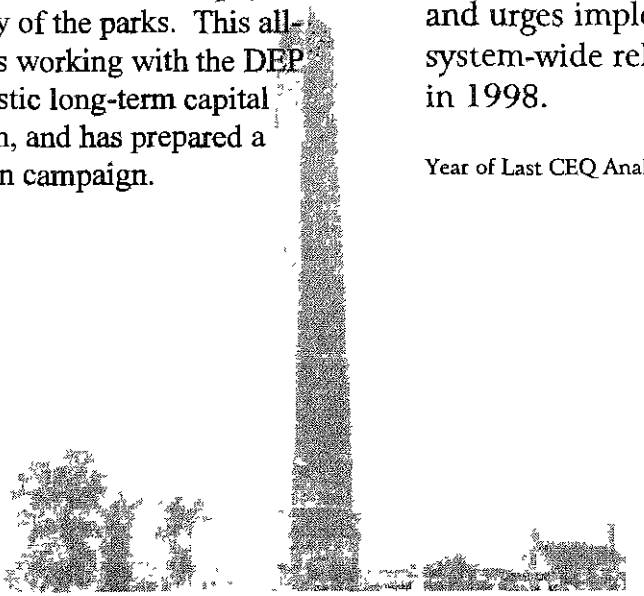
✧ Great State Parks ✧

The decline of our state parks continues. In one of the year's most positive developments, the new Friends of Connecticut State Parks, Inc. has developed into an active force for change. The Friends have documented the physical condition of many of the parks. This all-volunteer group is working with the DEP to develop a realistic long-term capital improvement plan, and has prepared a public information campaign.

Recommendation

There is no point to piecemeal or cosmetic solutions this year. The Council commends the methodical approach of the Friends and the DEP, and urges implementation of a system-wide rehabilitation campaign in 1998.

Year of Last CEQ Analysis 1995



✧ Forestry and Communities ✧

In 1996, Governor Rowland and the General Assembly appropriated funds for the DEP to hire four new foresters, the first in ten years. Forestry is one of the few measurable profit centers in state government Staff foresters are producing management plans this year for about 2400 acres of state forest (about two percent of the state's holdings), in contrast to the 1200 acres typical of previous years These management plans lead to new timber sales that in turn yield a net return for the state's General Fund.

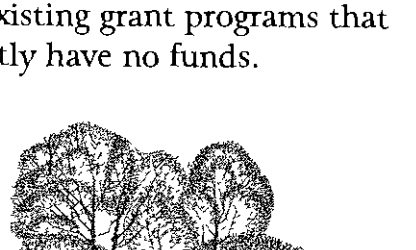
(All forestry revenue goes to the General Fund Gross revenue for Fiscal Year 1997 probably will be about $800,000; total expenses have not yet been calculated but are known to be less than the revenue)

Last year, the Council recommended more foresters to increase active forest management, but suggested that some of the net revenue should be returned to the public in the form of grants to communities for trees, parks, and greenways. It is not too late for the General Assembly to act.

Year of Last CEQ Analysis 1995

Recommendation

The General Assembly should dedicate forestry revenue, above the level collected in Fiscal Year 1997, to grants for community trees and greenways Grants can be disbursed with existing grant programs that currently have no funds.



✧ Greenways ✧

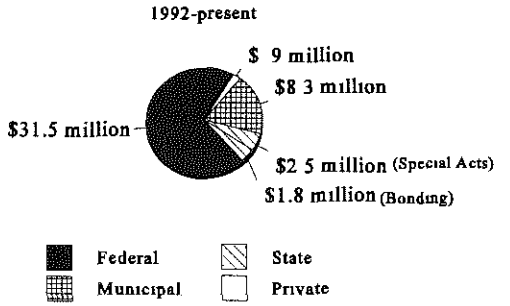
Greenways are corridors of open space that link towns, cities, and rural areas to existing parks and other points of interest. They usually follow linear features of the landscape, such as rivers or abandoned railroad beds, and often give people an opportunity to get from one place to another without having to drive. Greenways have the potential to transform the whole experience of living in Connecticut.

The Connecticut Greenways Council, created by statute in 1995, witnessed work on dozens of greenways in 1996. The Connecticut National Guard reclaimed miles of the Hop River State Park Trail (an abandoned railbed). Many thousand people enjoyed their first visit to a greenway and looked forward to many more. The DEP established a part-time Greenways Assistance Center, which has taken over some of the information collection and distribution responsibilities formerly handled by the CEQ. Most important, many dozen Connecticut residents worked locally to fulfill their greenway visions.

CONNECTICUT GREENWAYS

As the organizing principle that land conservation has previously lacked, the greenway movement is arguably the most important conservation initiative in 50 years.

Expenditures for Greenways



Since 1992, more than $45 million have been spent on Connecticut greenway projects. More than 90 percent of this is federal, municipal, corporate, and foundation funding (See chart.) The few state expenditures have been for a handful of acquisition projects. No state funds have been spent to coordinate or to try to increase the level of outside support.

Recommendation

Keep the ball rolling. The General Assembly should invest modest sums in the grant programs established (but not funded) in 1995, and in resources that would allow the Connecticut Greenways Council to really do its job. Overall support for greenways could be stimulated to far exceed whatever state funds are invested.

Years of CEQ Analysis 1991, updated 1992-95

Do you have a copy of "A Guide to Connecticut Greenways"?

It tells you where to find eight of the most popular greenways and what you can do once you're there. Published by the CEQ in partnership with the Connecticut Bicycle Coalition, free copies can be obtained from the latter at CBC, One Union Place, Hartford, CT 06103, (860-527-5200)

✧ The Property Tax and Connecticut's Landscape ✧

As described in previous CEQ reports, the property tax exerts many negative influences on Connecticut's environment.

It is just one element of the transportation/land-use puzzle that continues to challenge Connecticut. Fully fifty percent of the citizens who spoke at a CEQ public forum in Darien in 1996 identified land use and transportation as the key environmental issue for Fairfield County and for Connecticut.

Year of Last CEQ Analysis 1993

Recommendation

The General Assembly should alter those aspects of the current property tax structure that distort municipalities' attempts at good planning. The issue has many non-environmental aspects, and the Council defers to the General Assembly on the details.

The property tax particularly undermines the ability of cities and towns to plan and become the type of communities they would like to be.

✧ Clean-up and Redevelopment of Contaminated Urban Properties ✧

"A quiet revolution has overtaken environmental remediation in Connecticut."

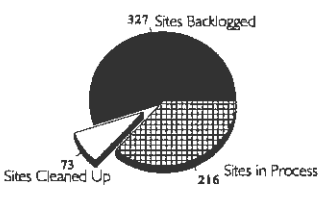
-- Gregory A. Sharp, environmental attorney and former CEQ Chairman; in 11/12/96 Connecticut Law Tribune

The property transfer law requires sellers of certain types of commercial property to investigate for possible chemical contamination and report the results to the DEP. If contamination is discovered, the buyer or seller must take responsibility for the clean-up. During the program's first ten years, every clean-up plan had to be reviewed and approved by the DEP. There were no official standards or regulations, so buyers and sellers could not assess their potential liability with any certainty. The program was also understaffed. As a result, the backlog of cases grew monthly.

In 1995, the General Assembly passed a law that allows many landowners to hire a new class of consultant, called a Licensed Environmental Professional (LEP), to assess the contamination and oversee the clean-up *without waiting for DEP approval.* (The DEP still reserves authority to require state approval of certain clean-up projects.) In 1996, the DEP adopted standards and regulations for clean-up, and the first 150 LEPs were certified on an interim basis (pending examination in 1997).

What in 1985 was a program plagued with a swelling backlog is now a smooth-running service that delegates most site clean-ups to the private sector and has virtually no backlog. Within 45 days of each submittal by a landowner, the DEP responds as to whether or not the site can be handled by a private-sector LEP. The Council can only conclude that this one-time bureaucratic logjam has been broken, and looks forward to an evaluation of the actual, environmental results in a few years. (There are still about 300 sites submitted prior to October 1995 that the Department eventually must address, but these sites do not

"The Old Way"

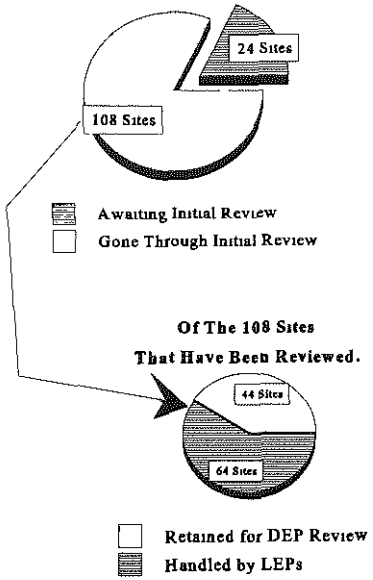


appear to be impeding economic development or threatening the environment in a way that makes action urgent)

The New Way

Status of 132 Sites Filed

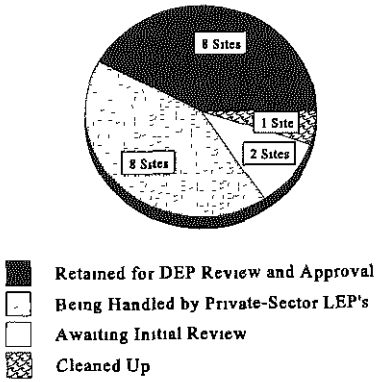
Since 10/95



Coming Clean...

Under the 1995 law, certain companies and municipalities can come to the DEP for approval of a voluntary clean-up not associated with the imminent sale of a parcel The graph below shows the disposition of the 19 voluntary submittals to date

Voluntary Submissions



✧ Safety in the Woods ✧

Following the fatal shooting of a jogger by a hunter in 1992 , a Task Force on Hunting and Public Safety was convened to review relevant laws and policies The Task Force, which was coordinated in part by CEQ staff, issued 42 recommendations. More than half of the recommendations — pertaining mostly to educational programs — have been adopted administratively by the DEP. Most of the ones requiring legislative action have failed This failure is apparently due largely to the lack of any constituency at the Capitol that advocates a safer hunting environment

A fatal hunting accident in 1996 was reported in newspapers to have occurred after the shooter had been drinking (Other violations of safety rules were also cited.) Nonetheless, the General Assembly still has not outlawed hunting under the influence of alcohol The Council on Environmental Quality, in the absence of any other party, will continue to monitor and report on legislative progress in making the woods and fields more safe.

Recommendations

All of the Task Force recommendations should be implemented eventually The Council agrees that the two priorities selected by the DEP as legislative priorities for 1997 are good ones. These are

1 A requirement that all archery hunters pass a conservation education course

2 A requirement that convicted violators pass a remedial course before they can obtain another license

In addition, the Council urges the General Assembly to adopt the following

3 Increase appropriations — by increasing license fees, if necessary — to increase the number of conservation officers

4. Prohibit hunting while under the influence of alcohol

Date of Last CEQ Analysis 1993

PART II

✧ Indicators of Environmental Trends ✧

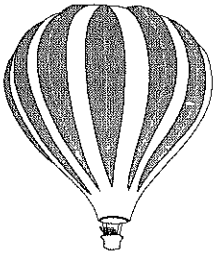
A Status Report

These indicators are bottom-line statements of the actual condition of our air, water, land, and wildlife.

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. Each indicator includes a graph, a description of the indicator (the actual thing being measured or counted), some background and a discussion of recent trends.

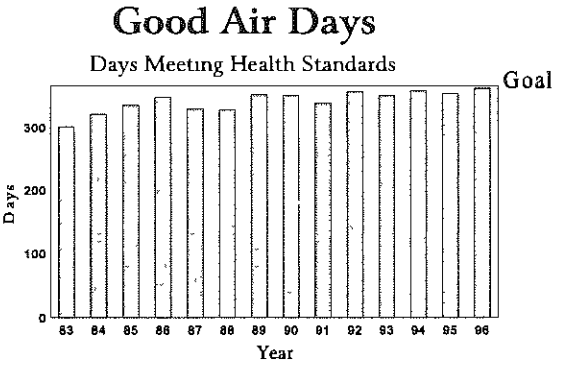
Where possible, each graph illustrates progress (or lack of it) toward a specific goal or objective of the Environment 2000 Plan. Where that plan is not relevant, the Council uses goals from other state planning documents.

✧ AIR ✧



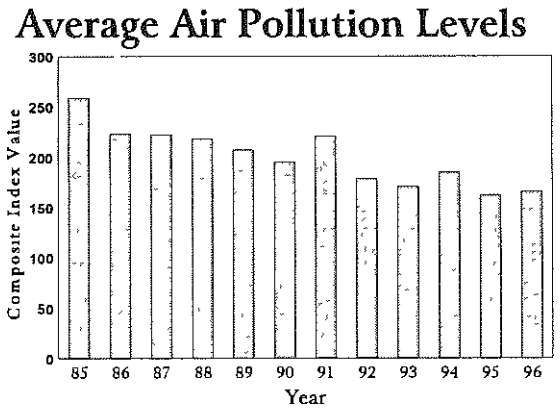
Indicator: Number of days each year that every monitoring station in the state recorded satisfactory air quality

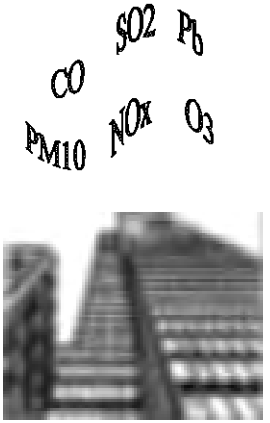
Background: "Satisfactory air quality" is defined here as air that meets or is better than the health-based ambient air quality standards for all of the following six pollutants: sulfur dioxide, lead, carbon monoxide, particulates, nitrogen oxides, and ground-level ozone Connecticut's goal is to have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



Recent Trends: Connecticut's air has shown continuous improvement Violations of the health-based ambient air quality standards have been virtually 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 great improvements in tail-pipe standards, and Connecticut is taking many steps to reduce emissions from the transportation sector to comply with the 1990 Federal Clean Air Act. Cool weather was helpful in keeping ozone levels low during the 1996 summer

Indicator: Average level of air pollution (six major pollutants combined)



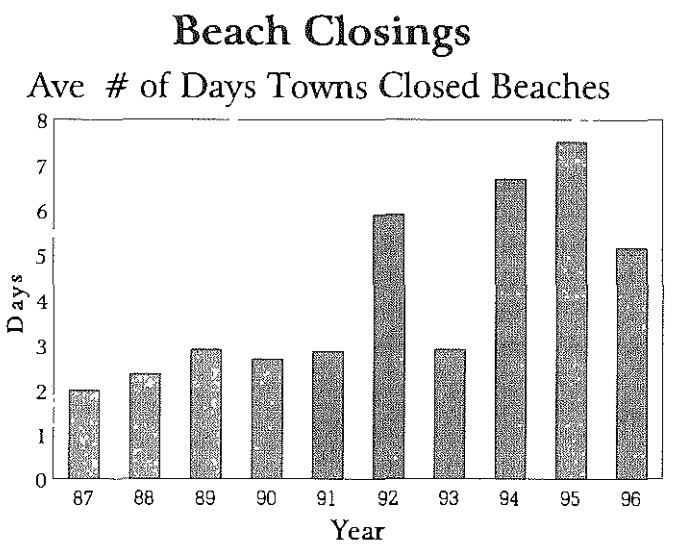


This indicator has been criticized on technical grounds by some interested readers It might be eliminated from next year's report More feedback is welcome

Background: Six air pollutants -- carbon monoxide, ground-level ozone, lead, particulates, nitrogen oxides, and sulfur dioxide -- are measured by the DEP The level of each pollutant is expressed on a numerical scale (Pollutant Standards Index or PSI) that takes into account the levels at which each pollutant, by itself, is considered unhealthful In this somewhat complicated indicator, the average levels of all six pollutants are added together, it shows general long-term trends

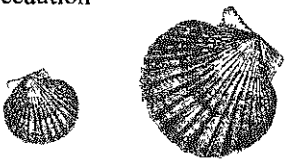
Recent Trends: Most of the drop in total pollutants since 1987 is due to reductions in carbon monoxide, sulfur dioxide, and particulate emissions.

✧ SOUND AND SHORE ✧

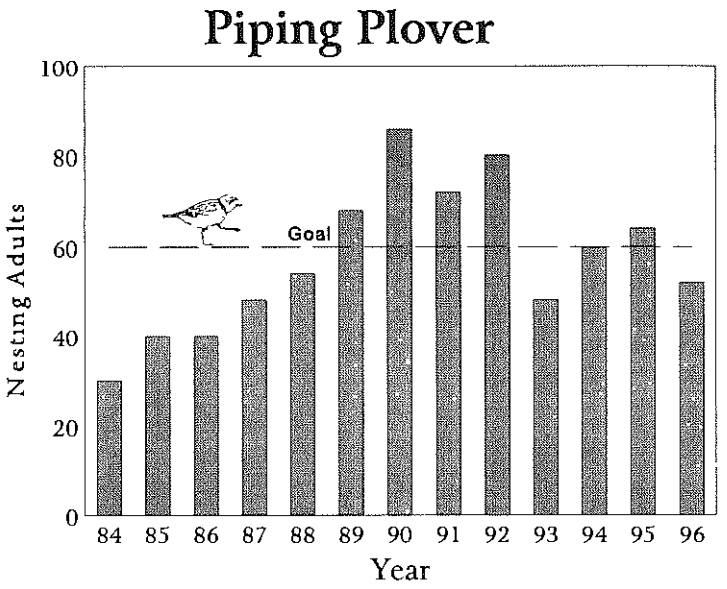


Indicator: Average number of days coastal municipalities closed one or more of their beaches

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, overflows from combined sanitary and storm sewers are presumed to contaminate the water, prompting some towns to close beaches automatically as a precaution

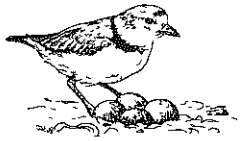


Recent Trends: Yearly variations are a product of rainfall patterns and incidents such as sewer-line ruptures In 1996, one town cited probable pollution from nearby marinas as the reason for a high number of closings On the positive side, almost half of our coastal communities had no closings at all. (Note. Graph does not include one beach in Greenwich that was closed for 75 days)



Indicator: Number of piping plovers nesting in Connecticut.

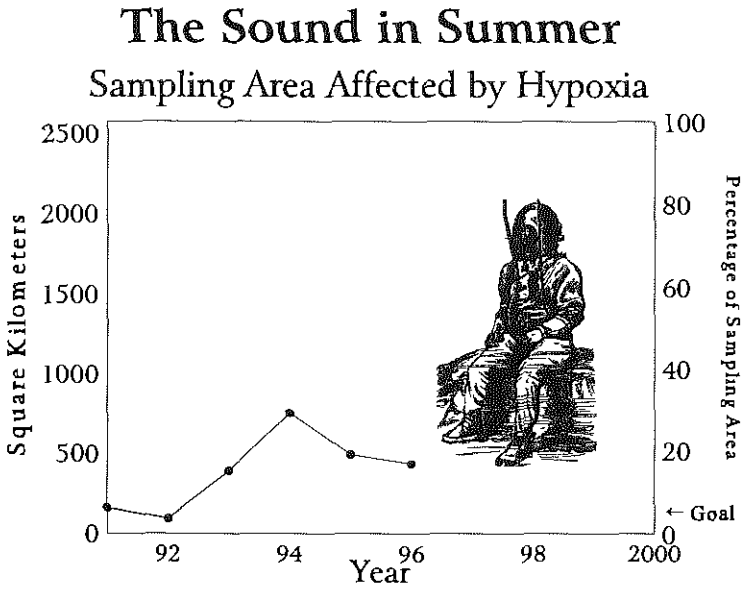
Background: Piping plovers are thrush-sized shorebirds that nest on beaches, often with least terns Nests are frequently destroyed by human intrusion, storm tides, and predators Nesting adults are counted (and in some cases, protected) every spring by the DEP and volunteers working with The Nature Conservancy The piping plover's status is "threatened"



Recent Trends: Since protection and monitoring efforts began in 1984, nesting success has improved, resulting in more returning adults in subsequent years Yearly variations can occur when adult birds move from one state to another Predators took a heavy toll in 1993. Rats and vandals reduced nesting success in 1995 In 1996, adverse weather delayed breeding, and predators destroyed many nests before hatching could occur.

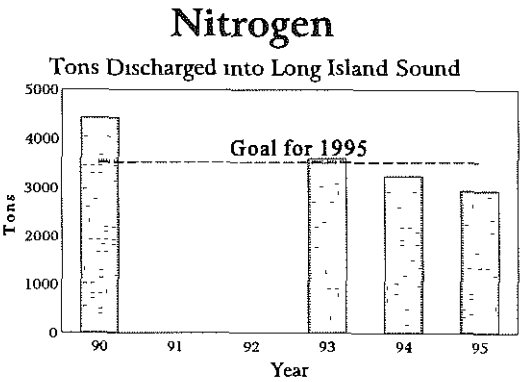
Indicator: Square miles (and percent) of the Sound that hypoxia affects each year

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

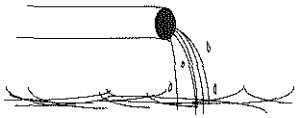


Recent Trends: More years of data are required to assess true trends Year-to-year fluctuations mainly reflect weather patterns All of the hypoxia has occurred in the western two-thirds of the Sound Connecticut and New York adopted a comprehensive management plan in 1994.

Indicator: Tons of nitrogen discharged into Long Island Sound from Connecticut's coastal sewage treatment plants and large industrial facilities.



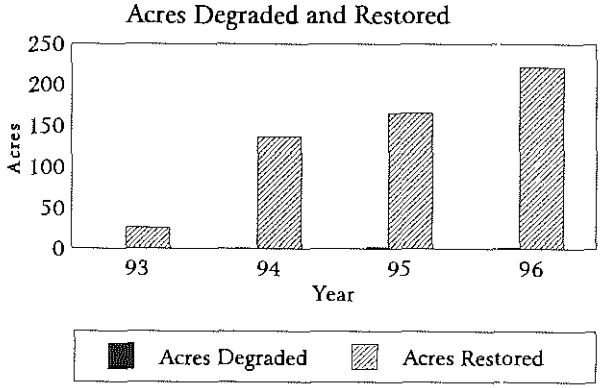
Background: Connecticut's 18 coastal sewage treatment plants from Greenwich to Branford , along with the three largest industrial nitrogen dischargers, contribute 10% of the nitrogen enrichment going to Long Island Sound (see description of hypoxia on previous page) Connecticut had an initial goal in 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 already achieved by 1994 A long-term goal will be based on the scientific modeling now underway



Recent Trends: Connecticut's "no net increase" policy and investments in nitrogen-removal technology have been successful The improvement in nitrogen discharge in 1995 can be attributed to an increase in the number of sewage treatment plants retrofitted for nitrogen removal.

Indicator: Acres of tidal wetlands degraded and acres restored

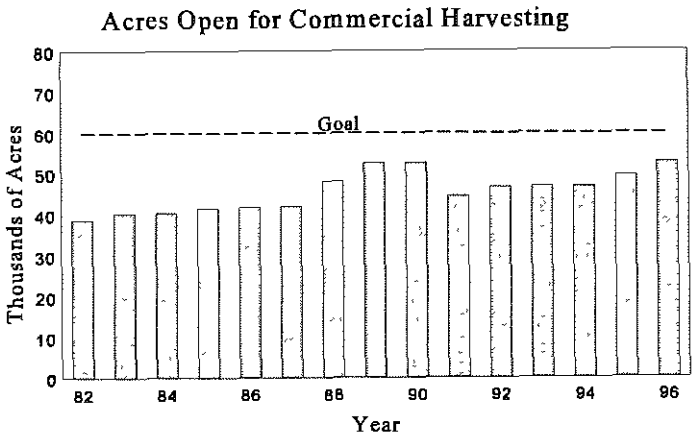
Tidal Wetlands Conservation



Background: Degraded acreage is the area permitted for development activity by the DEP Restoration includes activity by the state, as well as by landowners required by the DEP to restore wetlands as conditions of their permits 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 wetlands acreage and function

Recent Trends: Data are available from only the past four years. With the exception of 1995, less than *one acre per year* of tidal wetlands was lost to permitted development, and many degraded acres were restored. The apparent increase in degradation in 1995 is a statistical recording of damage that actually occurred more than 20 years ago. The DEP's restoration efforts continue to expand, with 1996 seeing an increase in restored acres due to wetland restoration projects.

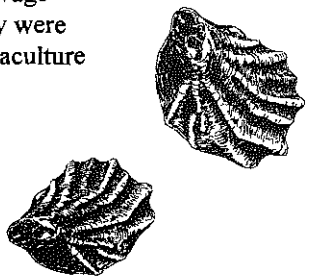
Shellfish Beds



Indicator: Acres of commercial shellfish beds that are clean enough and monitored sufficiently to allow them to be open for harvesting

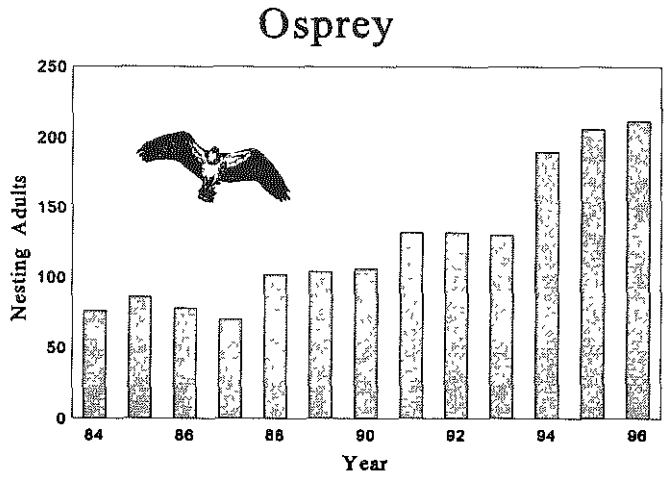
Background: Connecticut's goal is to have 60,000 acres open by the year 2000, which is far fewer acres than were open a hundred years ago. The primary impediments to opening more acres are the presence of sewage discharges and the need to conduct frequent monitoring to satisfy federal health-assurance requirements

Recent Trends: Although the commercial value of Connecticut's harvest has risen substantially over the past decade, opening additional beds has been difficult because of long-term sewage discharge problems. In 1995, the industry expanded into some areas that previously were closed, after the waters there were upgraded. The Department of Agriculture's Aquaculture Division plans to work with coastal towns to better assess some beds that are now closed, more monitoring might show that some beds are clean enough to allow harvesting during periods of low precipitation



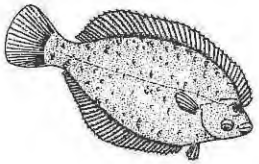
Indicator: Number of adult osprey that nest each year in Connecticut

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



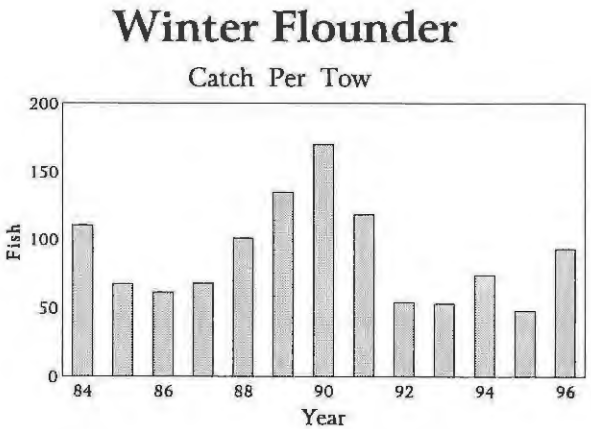
Recent Trends: The osprey continues to rebound from its low point in the 1960s Now, with fewer chlorinated hydrocarbons in the food chain, and after years of cooperative ventures to erect nesting platforms along the coast, nesting success continues at a rate that will sustain positive growth The increase in osprey this year is believed to reflect the number of breeding age ospreys returning to Connecticut This generation probably fledged in 1993.

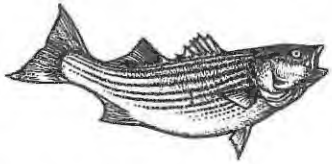
Indicator: Average number of winter flounder caught (per tow) in nets of research vessel.



Background: The DEP samples marine fish populations every April, May, and June by towing nets from a research vessel. Winter flounder was selected as an indicator species because it is commercially important, is counted regularly, and does not migrate far beyond Connecticut's shores.

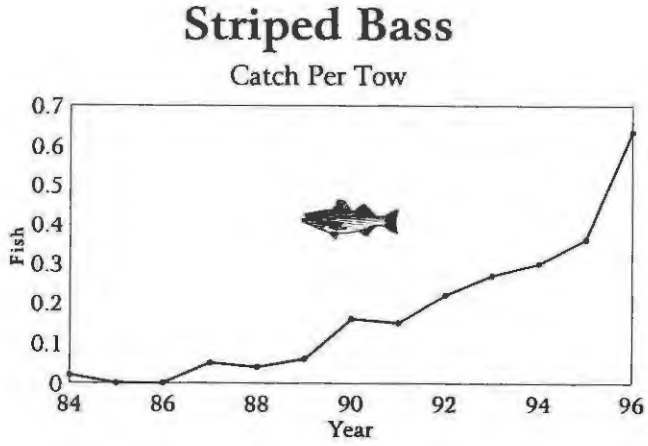
Recent Trends: The downturn in winter flounder populations in the 1990s is attributed by the DEP to increases in harvest, caused in part by harvest restrictions on other species. Some year-to-year variation can be caused by variations in the weather. The modest 1994 increase was caused by a surge of two-year-old fish, but adult flounder were at their lowest levels ever, and fell even farther in 1995. Scientists attribute this year's increase to another surge of young fish, possibly from the 1994 population.





Indicator: Average number of striped bass caught (per tow) in nets of research vessel.

Background: The striped bass is a predatory fish that migrates along the eastern shore of North America and enters major rivers to spawn. It is an important game fish. Much of what happens to the striped bass population is beyond Connecticut's control, but this state cooperates in regulating harvest. The DEP samples fish populations every April, May, and June by towing nets from a research vessel.

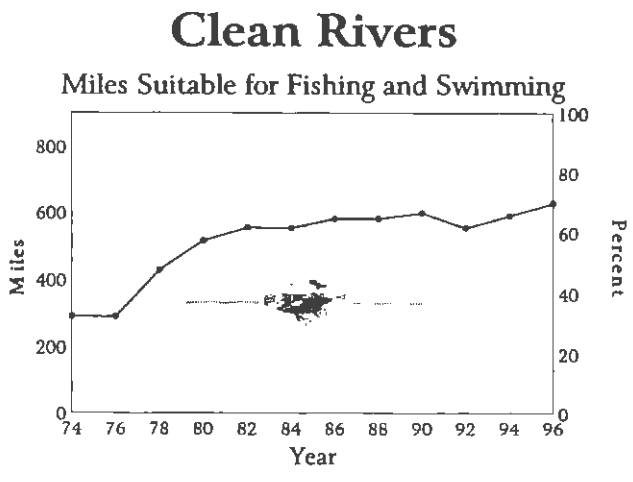


Recent Trends: Low population levels in the early 1980's spurred cooperation among coastal states to impose conservative restrictions on fishing. Current regulations allow an angler to keep only one striped bass of legal size (28 inches) per day. Regulations were even more restrictive in recent years, and were successful in allowing the striped bass' recovery. This year's increase may be attributable to cleaner and more productive spawning areas in the Chesapeake Bay.

✧ RIVERS ✧

Indicator: Miles of major Connecticut rivers and streams classified as suitable for both fishing and swimming.

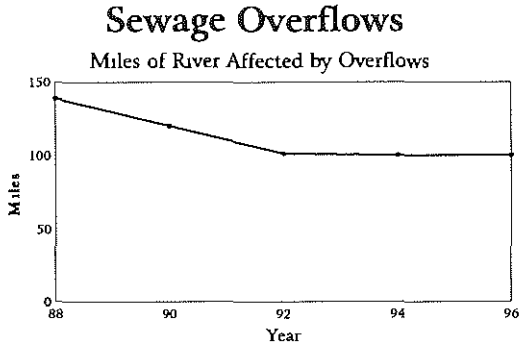
Background: Of the state's 5800 miles of river and stream, about 900 miles are defined as "major" and are considered in this indicator. The definition of "major" and the water quality data are from the DEP's biennial Water Quality Report to Congress. This indicator is a good, but not perfect, measure of water quality. Some miles are clean enough for swimming and to support fish but cannot be classified as "fishable" because the fish contain chemicals from industrial discharges that have long ceased. Also, some "fishable" miles are not considered "swimmable" because of intermittent sewage overflows. The state goal is to have all major miles fishable *and* swimmable by 2005.



Recent Trends: Progress was rapid 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. Recent improvements occurred on the French, Shetucket, Farmington, and Willimantic Rivers.

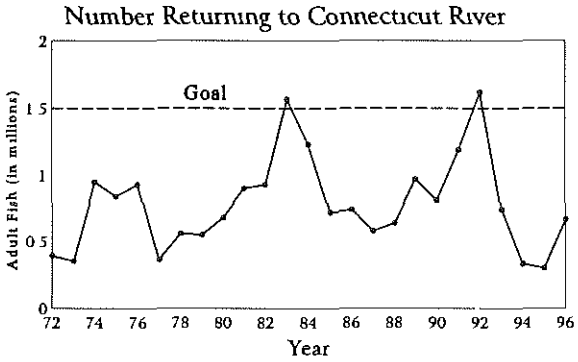
Indicator: Miles of river affected by "combined sewer overflows "

Background: Sewer systems in fourteen Connecticut cities and towns were built with sanitary and storm sewers combined. 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. The number of days when raw sewage actually is 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



Recent Trends: Several of the combined sewer systems have been wholly or partly separated, reducing the impact of untreated sewage on rivers

Shad



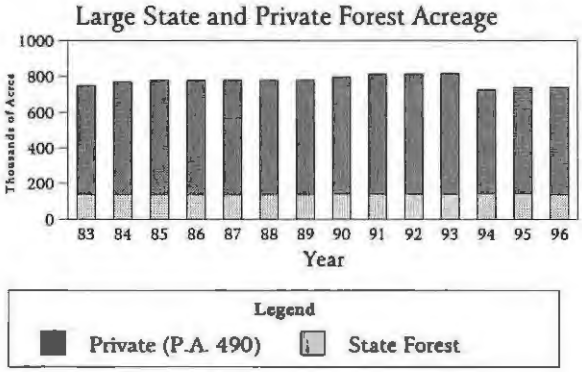
Indicator: Estimated number of American shad that return each year to the Connecticut River

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

Recent 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 increase in 1996 is likely due to a good return of fish born in 1991 and 1992.

✧ LANDSCAPE ✧

Forest



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

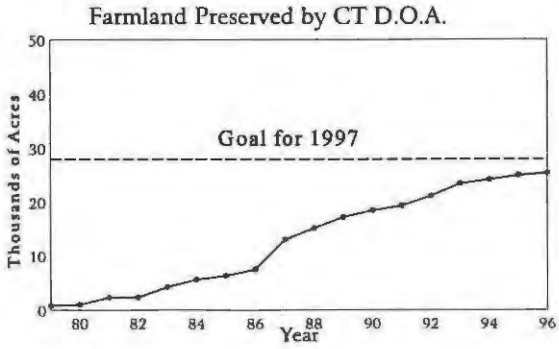
Background: Connecticut's goal is to conserve forests for multiple use, which can only be accomplished on parcels of sufficient size. Much forest is owned in small parcels which often have limited value for wildlife, wood production, and other uses. To be eligible for P.A. 490, a landowner must own 25 or more acres of forest. Landowners enroll for ten years. Though imperfect, this indicator shows trends in the state's most healthy and beneficial forests, which are those in large tracts.

Recent Trends: The apparent upward trend in forest acreage during the 1980s is believed to be a product of property 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 an important cause of this indicator's negative turn in 1994.

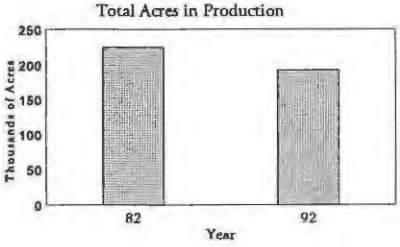
Indicator: Acreage of agricultural land preserved by the Department of Agriculture.

Background: The graph at right illustrates cumulative totals. Land is preserved when the Department purchases the development rights to farmland (from volunteer sellers only), which keeps the land in private ownership with strict restrictions on future development.

Farmland



Cropland

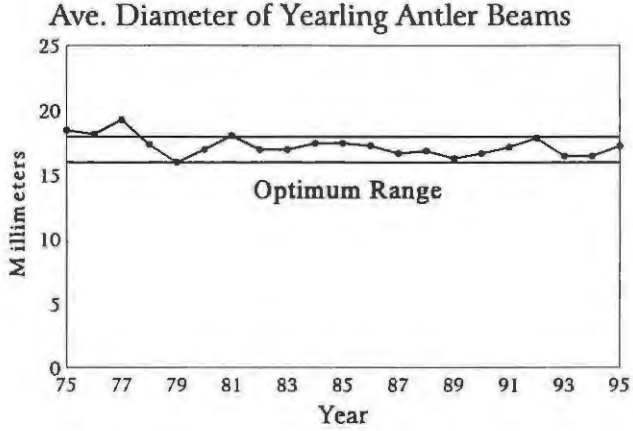


Recent Trends: The state's progress toward its goal has slowed after twelve years of steady progress. As the graph at left reflects, economic pressures continued to drive far more acreage out of production than was preserved. A new federal program, initiated in 1996, could provide one million dollars for farmland preservation. However, the state must provide matching funds before being reimbursed by the federal government. No state funds were allocated in 1996; one farm was approved for preservation by the Bond Commission early in 1997.

Indicator: Average diameter of antlers on yearling deer (i.e. deer one to two years old.)

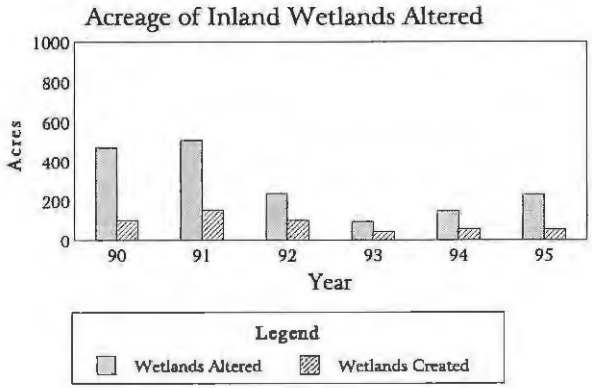
Background: Healthy, robust young deer have thicker antlers than those which receive less nourishment. Antler beam data reflect the relative health of the deer herd as well as the condition of their habitat. Since deer share woodland and edge habitats with many wildlife species, this indicator is doubly 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.

White-Tailed Deer



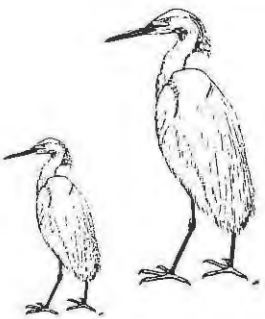
Recent Trends: Connecticut's deer population appears to stay within the targeted range. The recent increase in antler beam diameter is due primarily to plentiful acorn crops in the last two years.

Inland Wetlands Loss



Indicator: Acres of inland wetlands altered by development activity permitted by the DEP and 169 municipal wetlands agencies.

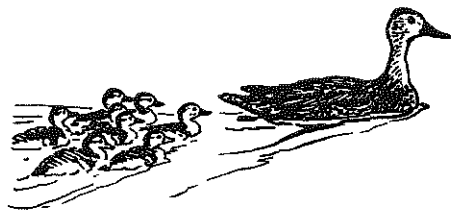
Background: The graph shows the acres altered and the number of those acres replaced by human-made wetlands. No attempt is made here to evaluate the success of the created wetlands or their value relative to the natural wetlands altered. There is no goal for wetland loss; inland wetlands are estimated to cover about 450,000 acres, or about 15% of Connecticut's surface.



Recent Trends: Some of the ups and downs in wetlands loss since 1990 are directly related to changes in the number of applications received (which is why the following indicator is also included).

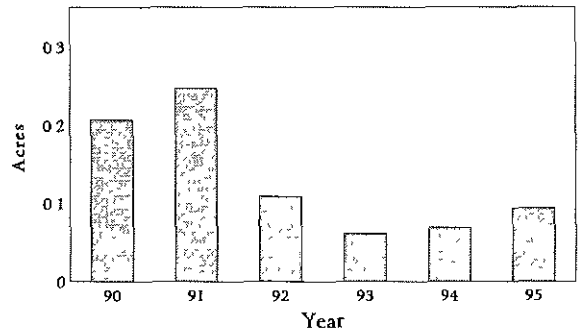
Indicator: *Average* area of inland wetlands affected by each permit issued by the DEP and the 169 municipal inland wetlands agencies.

Background: This data gives some indication of the relative strictness or permissiveness of these agencies from year to year, regardless of the number of permits sought



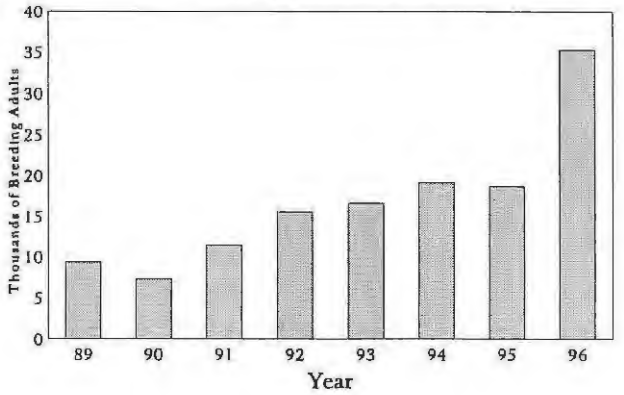
Inland Wetlands Conservation

Acres Altered Per Permit Issued



Recent Trends: Averaging less than one-tenth of an acre lost with each permit issued, the DEP and municipalities have apparently become more protective of wetlands since 1991

Wood Duck



Indicator: Estimated number of adult wood ducks that nest each year in Connecticut.

Background: Wood ducks are medium-sized fowl that nest in hollow trees and human-made boxes near fresh water throughout 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). This is a good indicator because many other species share similar habitat requirements. Population estimates are made annually by the DEP.

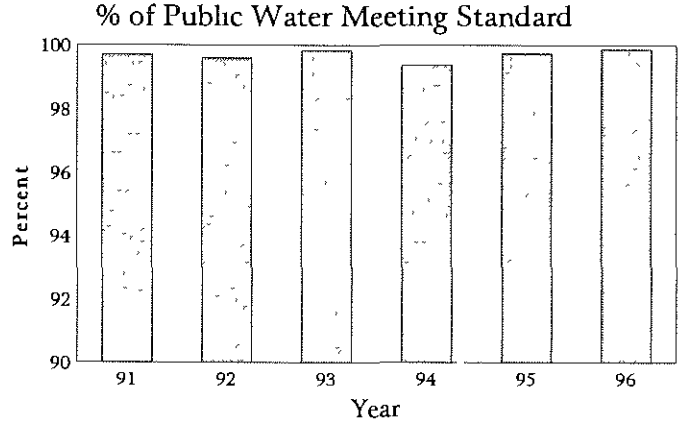
Recent Trends: Recent increases in wood duck numbers are due to favorable weather conditions and to the placement of artificial nesting boxes near ponds and wetlands. Many citizens have assisted in this effort. The unusually high count this year might reflect changes in observations, not in actual population. A late spring with heavy rains and flooding probably destroyed early nests, which delayed successful nesting, and may have made the ducks more visible to scientists conducting population surveys.

Indicator: Percentage of public water being delivered that meets the standards.

Background: Each public water utility reports water quality monthly This indicator shows the percentage of monthly reports that show full compliance, after weighting reports to account for the number of people each company serves

Recent Trends: Though problems persist, they tend to occur more frequently with small systems. Such problems do not greatly affect this indicator, which is intended to take into account the number of people each system serves

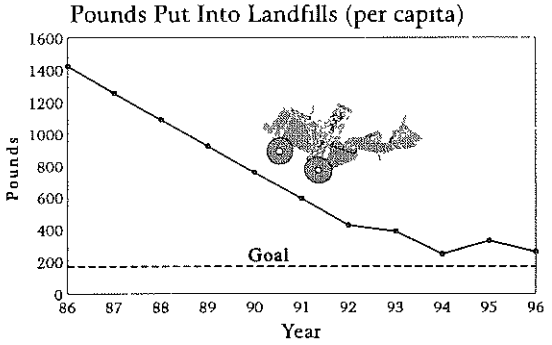
Drinking Water



✧ DAILY LIFE ✧

These last five indicators do not show trends in the condition of Connecticut's environment Rather, they report trends in activities of Connecticut residents which can be expected to affect the environment.

Garbage Burial



Indicator: Average resident's share of municipal solid waste that gets buried in landfills within Connecticut

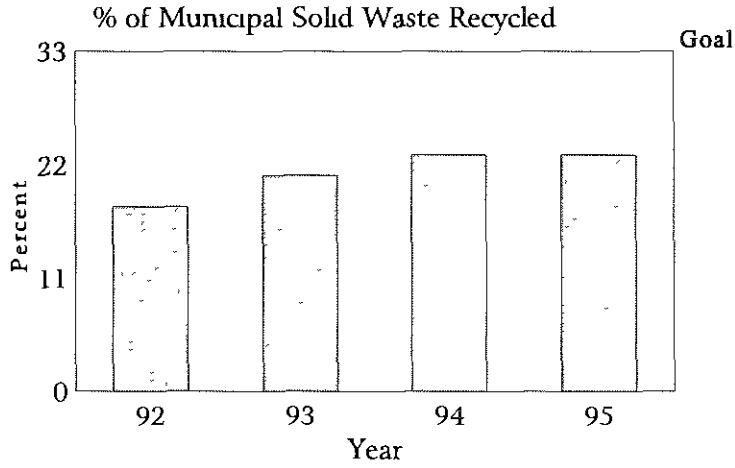
Background: Disposal of municipal solid waste by burial in landfills is the least desirable management option, it ranks behind recycling, source reduction, and resource recovery (i e., incineration for energy recovery). This indicator charts progress toward the goal of reducing reliance on landfills, 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.

Recent Trends: Since 1986, five resource recovery plants have begun operation, collection of recyclables has zoomed to 23% of municipal waste, 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

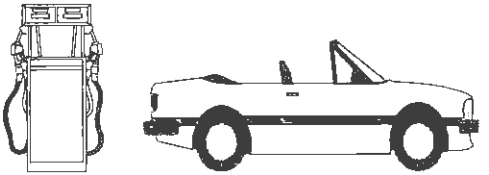
Indicator: Percentage of municipal solid waste collected for recycling.

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



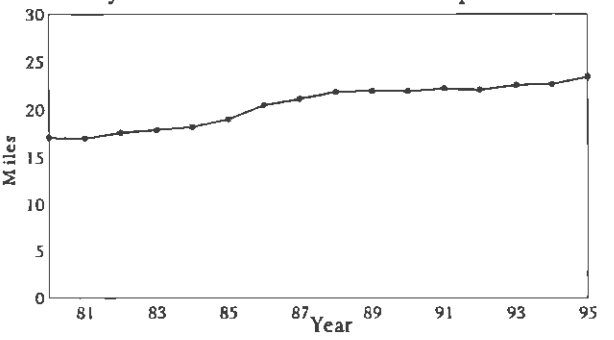
Recent Trends: The statewide average held steady in 1995, (which might reflect a change in data collection rather than an actual lack of progress). Some of this waste may have been disposed of in nonreporting facilities in earlier years Some municipalities exceed 25% Market demand for some recyclables increased drastically in 1994, but went down again last year More stable markets are expected as manufacturers invest in factories that use recycled materials.

Indicator: Number of miles the average Connecticut resident drives a vehicle every day.



Driving Our Cars

Daily Vehicle Miles Traveled Per Capita



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). DOT estimates total miles driven each year in Connecticut.

Recent Trends: Each year, the average Connecticut resident drives 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.

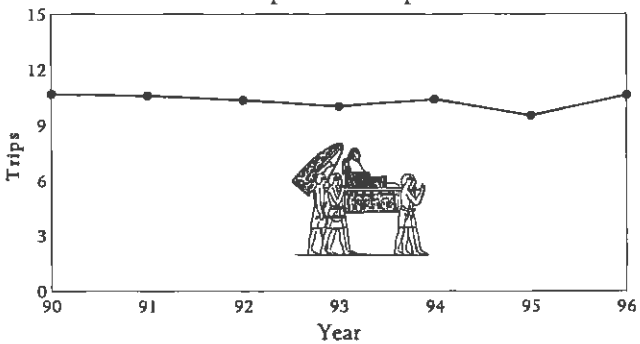
Indicator: Number of local bus trips taken by the average Connecticut resident during a year.

Background: Riding a bus is just one alternative to driving a car. Ridership data are collected by the DOT.

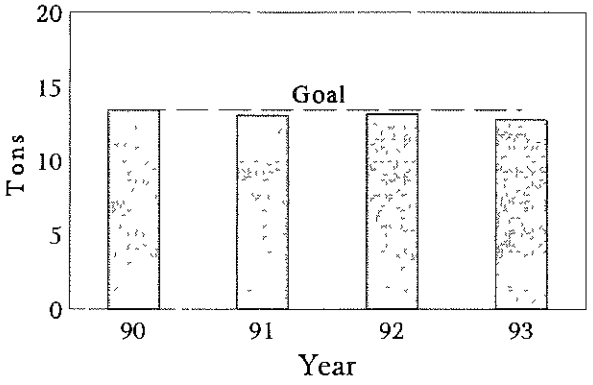
Recent Trends: Mass transit has not been successful in displacing the single-occupant vehicle which, though wasteful and damaging to the environment, appears to have deep historical roots. The year 1994 saw the first increase in bus ridership in several years. Perhaps it was the product of employers' efforts to reduce driving by employees.

Taking the Bus

Per Capita Bus Trips



Tons of CO_2 Emitted Per Capita



Indicator: Average Connecticut resident's contribution of carbon dioxide (CO_2) to the atmosphere, from all types of fuel combustion

Background: Carbon dioxide is added to the atmosphere primarily through the burning of fossil fuels These fuels are used in manufacturing, electricity generation, transportation, and the heating of buildings. Carbon dioxide, along with other gases, may play an important role in global warming, which could contribute to a rise in sea level over time

Recent Trends: The goal for CO_2 emissions is the 1990 level In 1992 and 1993, use of residual oil by power utilities decreased. Data for more recent years are not available

PART III

✧ 1996 Activities of the Council on Environmental Quality ✧

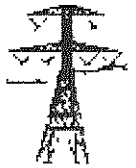
Research and Communication

The biggest change for the Council in 1996 was the adoption of a new format for its reports Instead of publishing only the annual environmental quality report required by statute, the Council has begun to release the products of its research in interim reports Each is published in a long version and a short version. The annual report now includes summaries of these interim reports Advances in computer and printing technology have made these publications possible on the Council's modest budget

The first of these interim reports was published by the Council in November It is entitled "The New Race for Open Space," and is summarized briefly in Part I of this report.

Prior to publication of each interim report, a draft version is circulated to representative agencies and non-governmental organizations known to have an interest in the topic These organizations are invited to comment, at meetings open to the public, on the Council's conclusions and recommendations while they are still in draft form.

The Council has begun work on two more interim reports on topics of much urgency: the opportunities for Connecticut-based clean-energy technologies to benefit from electric utility deregulation, and the question of how to properly measure environmental enforcement and compliance These will be published in 1997.



Also in 1996, the Council produced "A Guide to Connecticut Greenways" in partnership with the Connecticut Bicycle Coalition This brochure was an outgrowth of the Council's former involvement with The Greenways Committee (succeeded by the Connecticut Greenways Council). The Council held a small amount of money in a special fund left over from the printing of the Committee's final reports, and was pleased to have the opportunity to

match the Bicycle Coalition's contributions toward this brochure

Meeting with the Public

The Council relied extraordinarily on the informed public to help identify the areas in which Connecticut's environmental policies are deficient At meetings, the Council heard from representatives of the United Technologies Corporation, Department of Transportation, Department of Environmental Protection, Department of Economic and Community Development, Connecticut Forest and Park Association, Regional Plan Association, Environmental Law section of the Connecticut Bar Association, Aquarion Corporation, Land Conservation Coalition of Connecticut, and others

In October, the Council held a field meeting at General Dynamics' Electric Boat Division facilities in Groton to learn more about how life-cycle environmental analysis is being used in the design of the next generation of submarines

In December, the Council experimented when it held a meeting at the Darien Town Hall — its first public meeting in Fairfield County — and invited the public to speak. More than 50 people showed up Municipal officials, regional planners, representatives of conservation groups, and interested individuals told the Council what they saw as the biggest environmental problems in that region This proved to be extremely helpful in the Council's evaluation of statewide environmental trends. The Council intends to hold similar meetings in other parts of the state

Solving Problems

The Council received and helped solve complaints, as usual, on a variety of complicated problems in 1996 Alert citizens helped to identify unresolved problems in (for example) pesticide applications near a reservoir without proper licensing, possible shortcomings in state agency environmental assessments, and activities on state lands

As always, the Council stands ready to work with Governor Rowland, the General Assembly, other agencies, and all citizens in meeting the environmental challenges that confront Connecticut.

What the Council Heard In Fairfield County	
TOPIC	% of Speakers*
Poor land use planning continues to make serious traffic problems worse	50
Open space, parks, and greenways — not enough!	50
Long Island Sound Fisheries depletion by out-of-state boats, dredging; non-point pollution, and need to continue implementing comprehensive management plan	35
Rivers need for legislation to protect buffer zones	21
Acid rain, air quality, emissions testing	14
Wetlands protection	14
Regulation of septic systems	14
Electric utility deregulation: risks to the environment	7

*some speakers addressed more than one topic.

The Council also received valuable information on the barriers to rail-freight transportation, and Route 7.

✧ C.E.Q. MEMBERS ✧

Ronald J. Thomas (Chairman) Resident of Darien. Attorney with the law firm of Buckley, Treacy, Schaffel with offices in Darien, CT and New York Special Master, U.S District Court of CT. Co-founder and co-chairman, state Federalist Society, Lawyers Division Co-founder, CT Bar Association's Corporate Counsel Section Past President, The Corporate Bar Association Founder and President, American Corporate Counsel Assn., NYC, and member of national board of directors Founder and Chairman, Republican National Lawyers Assn., CT Admitted to Bar, CT and NY. Member, Darien Environmental Protection Commission.

Daniel J. Alfieri. Resident of Hebron Process Engineer with Danaher Tool Group Member, Hebron Board of Education Former Chair, Hebron Public Safety Committee Member and Past Chair, Hebron Republican Town Committee Member, Association for Gravestone Studies, CT Business and Industry Association Environmental Policies Council.

Stephen A. Bolton. (Member until 1/97) Resident of Andover Project Engineer, Pratt & Whitney Aircraft Graduate studies in Operations Research at the University of Hartford Member, Andover Conservation Commission

Stephen H. Broderick (Member until 12/96) Resident of Eastford. Extension Forester, UConn Cooperative Extension System. Co-founder and director, Eastern CT Forest Landowners' Assoc Director, Southern New England Forest Consortium Member, CT Urban Forest Council, CT Forest Stewardship Committee Past Chair, CT Forest Legacy Program Committee, CT Tree Farm Program, Northeast Forest Resources Extension Council, Brooklyn Conservation Commission

Marian R. Chertow Resident of New Haven Director, Industrial Environmental Management Program, Yale School of Forestry and Environmental Studies Director, Environmental Reform the Next Generation Project, Yale Center for Environmental Law and Policy Editorial Board, *The Journal of Industrial Ecology* and *BioCycle* Magazine Board of Directors, Technology for CT, Inc , Tax-Exempt Proceeds Fund, Shubert Theater, National Urban Fellows, Inc. Advisory Board, Alliance for Environmental Innovation

Susan D. Merrow. Resident and First Selectman, Town of East Haddam. President, CT Conference of Municipalities Member, Advisory Committee for the Silvio Conti 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

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

Richard A. Sherman. Resident of Mansfield Center. Architectural designer and construction manager. President, Mansfield Commonground. Charter Member, Transit Alliance of Eastern Connecticut. Chairman, Mansfield Transportation Advisory Commission. Member, Mansfield Planning and Zoning Commission Design Review Panel, Kirby Mill Advisory Commission. Host, "A Distant Shore," WHUS Radio.

Wesley L. Winterbottom. Resident of West Hartford. Professor and Coordinator of Environmental Toxicology and Science Program; Director, Center for Teaching Excellence, Gateway Community Technical College. Registered Professional Engineer; Diplomate American Academy of Environmental Engineers; Advisory Board Member, The Sound High School, Ward College of Technology (University of Hartford), New England Board of Higher Education; Advanced Environmental Technology National Science Fellow, Univ. of Northern Iowa; ANSI/GETF Certified ISO 14000 Trainer; President-Elect, CT Consortium for Enhancing Learning and Teaching; Former Administrative Supervisor, CT Department of Environmental Protection. Member, West Hartford Conservation Commission. Director, New Haven Board of Education Summer-Tech Program.

On the Council's 25th Anniversary...

The year 1971 saw the introduction of the microprocessor and the creation of the CEQ. The former, though one of the smallest of manufactured objects, has changed the shape of civilization by enhancing the availability of needed information; the latter, though one of the smallest of public agencies, strives to do the same.

Readers:

We would like to hear from you

The Council is always pleased to hear what you think of its reports. Many people have offered criticisms and suggestions in response to previous reports, and as a result several changes have been made or are underway

Does this report give you the information on Connecticut's environment that you need? Is something missing?

Mail: 79 Elm Street, Hartford, CT 06106

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✧ Acknowledgments ✧

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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 9-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 --- 1996

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Amston

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