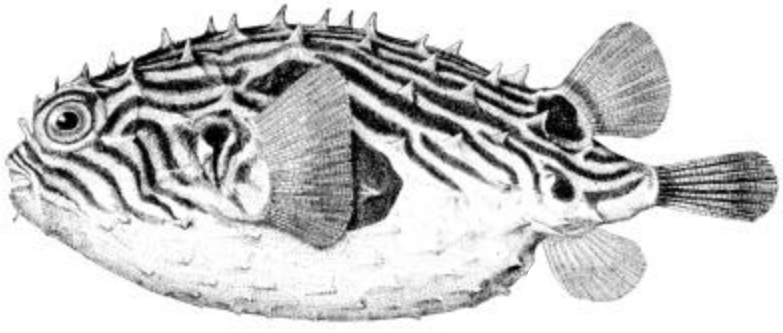


Environmental Quality in Connecticut

The 2000 Annual Report of the Council on Environmental Quality

On the Cover

Striped Burrfish
(*Chilomycterus schoepfi*)

Burrfish live along the Atlantic Coast from Maine to Brazil. This one was collected near Noank in 1874 by the U.S. Fish Commission and preserved in the National Museum (Smithsonian). H. L. Todd's 1884 sketch of that museum specimen has appeared in so many books and websites it may well be Connecticut's most famous fish.

Table of Contents

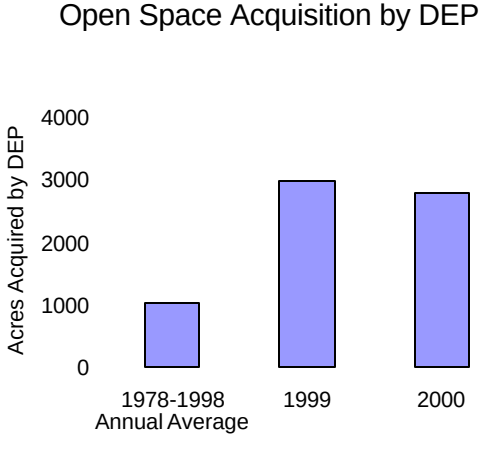
Part I

Progress Reports

Land For Life

State, Cities, Towns and Nonprofits Preserve More Than 5700 Acres

For the third year in a row, Connecticut and its municipalities maintained a brisk pace in the race to conserve 21 percent of the state's landscape. Only slightly behind the record-setting pace of 1999, the Department of Environmental Protection (DEP) preserved nearly 2800 acres of land directly, and provided grants to municipalities, water companies and nonprofit organizations to purchase 2900 more.



New in 2000: Charter Oak Open Space Trust Account

The General Assembly and Governor John G. Rowland created a third major land conservation fund: the Charter Oak Open Space Trust Account (Public Act 00-203). The DEP used this new account for the first time in early 2001 to purchase abandoned water utility land in Seymour and Oxford.

One of the reasons for the Trust Account's creation was the purchase of a western Connecticut water utility (The Bridgeport Hydraulic Company, part of the Aquarion Corporation) by a foreign company, Kelda Group Ltd. Uncertain of the long-term stability of the utility's extensive land holdings, numerous citizens, political leaders, organizations, and municipalities formed the Coalition for the Permanent Protection of Kelda Lands. The new Trust Account was but the first official response to the Coalition's concerns (though the fund is by no means limited to acquisitions of Kelda lands). In an unusual cooperative effort, fifteen municipalities contributed toward the cost of a financial analysis of alternative strategies for preserving the land (http://www.savetheland.net). Then in December, Governor Rowland announced an agreement among the state, the utility, and The Nature Conservancy (TNC) to preserve all 15,000 acres of the utility's land for approximately 90 million dollars (of which TNC will put up 10 million). If executed, the agreement will result in the State of Connecticut's largest single land acquisition ever.

One byproduct of the effort to conserve the Kelda lands was the analysis and emergence of innovative strategies to conserve utility lands. Under one such strategy, known as "asset buy-down," the cost of acquisition is paid over time by a utility's customers who eventually benefit from lower rates. This strategy could be studied for its potential usefulness in many areas of the state.

Department of Agriculture Preserves 12 Farms

The preservation of agricultural land also took an upward turn in 2000, as the Department of Agriculture purchased the development rights to 12 farms and thus ensured their permanent protection from development (see page 23). After some very lean years, the program appears to be positioned for renewed success.

What's Next?

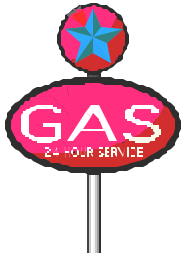
- According to comments received by the Council at its public forums throughout the state, the protection of land remains Connecticut's most important environmental concern. Behind this sentiment is a realization that land continues to be consumed for many uses, even as the population changes little. Buying land for preservation is but one element of the larger challenge to conserve Connecticut's landscape. The planning that goes into acquiring open space should be coordinated with programs that attempt to steer development where it can be most beneficial to the environment and existing communities.

- It is not always necessary to purchase land in order to conserve it. The DEP and many land trusts routinely acquire permanent conservation easements (leaving ownership in other parties' hands). The Coalition for the Permanent Protection of Kelda Lands identified a new strategy for preserving utility-owned lands called "asset buy-down," which merits a thorough evaluation of its statewide applicability.

Toxics in Our Lives

The Council concluded that state agencies were not doing enough to protect residents from unnecessary exposures to certain chemicals, including MTBE, mercury, and pesticides, in its Special Report of late 1999, *Eat. Drink. Be Wary?* (http://www.ceq.state.ct.us/rpts/eatdrink.pdf) This is still true, but much happened in 2000 that augurs a better future.

No More MTBE



The General Assembly took on the pervasive problem of MTBE in 2000 by banning its use after 2003. MTBE is a compound added to gasoline to improve combustion and reduce air pollution, but unfortunately it is very mobile in the soil and has contaminated drinking water throughout the state. Other states and the federal government also have turned their attention to the search for alternatives.

Mercury Awareness Grows

Last year's report said that despite an array of efforts to reduce mercury in the environment and to inform the public about the health risks of eating fish caught in Connecticut, state agencies still had failed to reach the majority of residents with this important information. In 2000, state agencies took four big steps toward rectifying this deficiency:

1. In March 2000 the DEP published "Toward the Virtual Elimination of Mercury From the Solid Waste Stream" which outlines essential strategies for reducing mercury pollution (http://dep.state.ct.us/wst/mercury/mercrep.htm).

2. The Departments of Public Health and Environmental Protection improved the distribution and content of public information on the health risks of fish consumption, though there is no continuous program to measure the public's understanding.

3. The DEP continued its work with other states and Canadian provinces, culminating in a model state mercury reduction and education law that was introduced into the Connecticut General Assembly in early 2001.

4. With funds provided through an enforcement settlement, the DEP launched a mercury-recovery program that is intended to collect at least 2001 pounds of mercury for safe disposal. A critical component is the thermometer swap where citizens can trade in their old mercury-containing thermometers for digital ones.

What's Next?

Effective communication of environmental health risks requires a clear strategy and adequate budget. In contrast to this approach, most of the publicity efforts on mercury are pursued as opportunities arise. The same is true for the other exposures identified in *Eat. Drink. Be Wary?* including pesticides in schools, pesticides in drinking water, and drilling drinking water wells in contaminated areas. The Council recommends the creation of a strategic Toxics Information Center within a state agency to create coordinated campaigns to reach the public to help them minimize exposure to low levels of chemical contaminants.

Hunting Safety: Final Report?

For seven years, the Council has used these annual reports to chronicle the state's progress toward implementing the 42 recommendations of the 1993 Governor's Task Force on Hunting and Public Safety. During those years, the DEP improved and expanded hunting education and enforcement measures, but several recommended changes to hunting statutes were not adopted. Finally, in 2000, the legislature outlawed hunting under the influence and created a new group of crimes called "negligent hunting."

The one major Task Force recommendation that remains unfulfilled is the addition of more conservation officers. The enormous territories of some officers guarantee that many acts of negligent or criminal hunting will continue to go undetected or unpunished. The recurrence of serious incidents is evidence that the woods will never be completely safe from careless or selfish hunters. However, in the absence of any apparent public sentiment in favor of employing more conservation officers, the Council will terminate its annual reports on this topic. The public and agencies involved should note with satisfaction that most of the recommended improvements have been adopted, and the Council commends the persistent and successful efforts of all the advocates for a safer outdoors.

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 26 important areas.

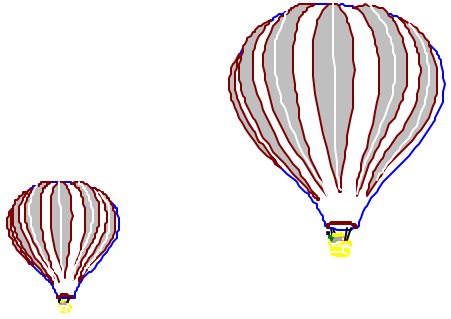
Most of these indicators are bottom-line statements of the actual condition of our air, water, land, and wildlife. The focus is on results, rather than on government programs, budgets, enforcement action, or new laws. When reviewing any indicator, the reader should note that the subtitle appearing under 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 2000, only a few -- including beach closings, shad, drinking water, and traffic -- showed downward or static trends and 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.

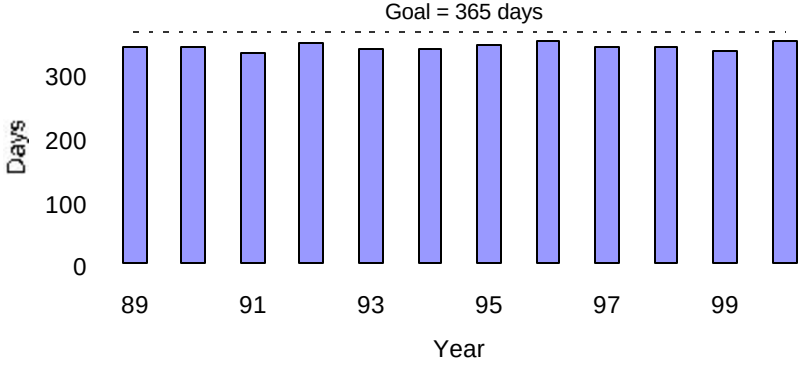
Good Air Days

Number of days that every monitoring station recorded satisfactory air quality



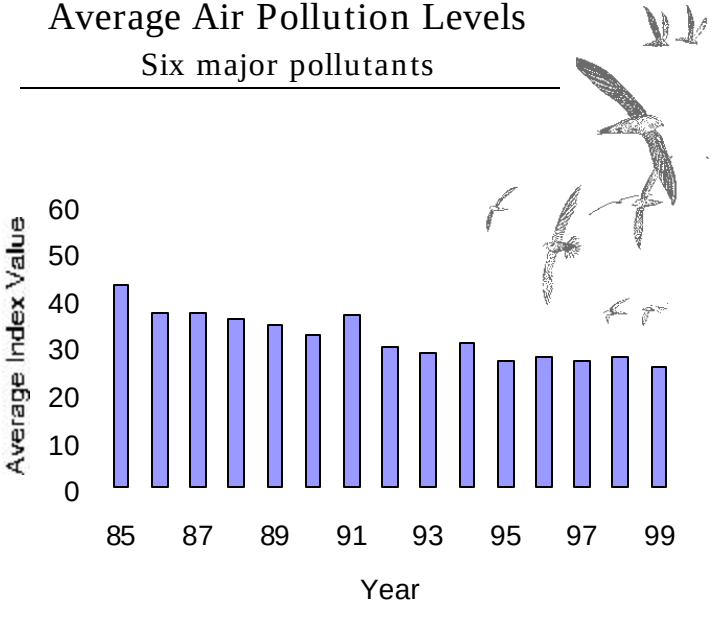
Background

"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.



Background

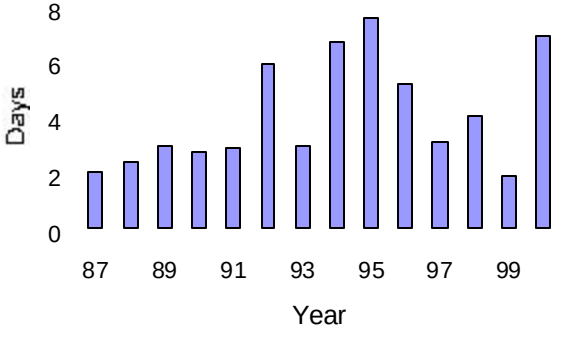
Six air pollutants -- sulfur dioxide, lead, carbon monoxide, particulates, nitrogen oxides, and ground-level ozone -- are measured across the state by the DEP. At the end of every year, the average level of each pollutant is expressed on a numerical scale, where zero would equal no pollution, and 100 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 slight improvement in the average level of all six pollutants in 1999 was due mostly to reductions in nitrogen oxide, carbon monoxide, and particulates.

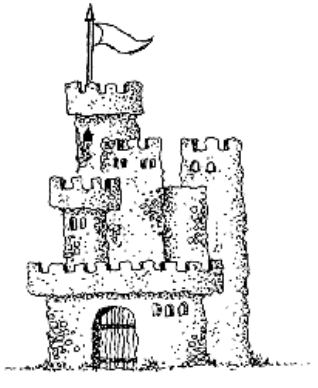
Beach Closings

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, 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.)

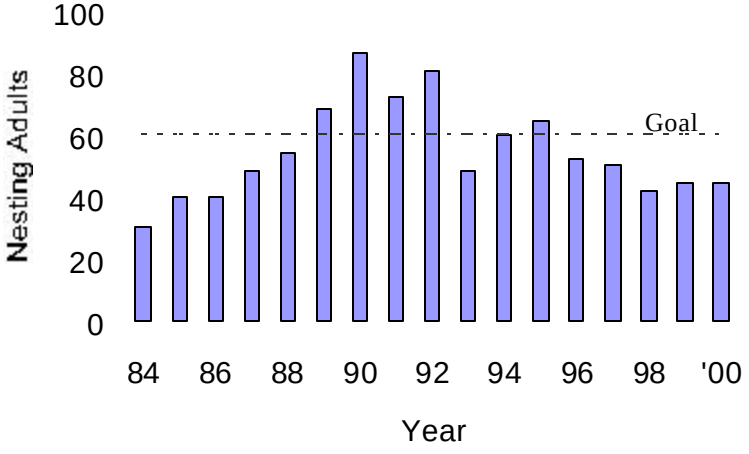


Trends

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.

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

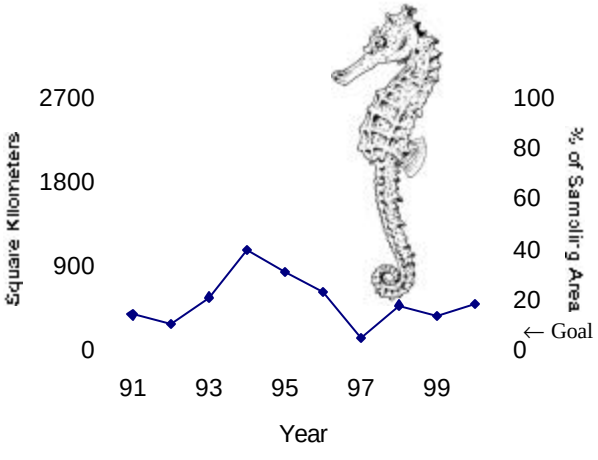
Since protection and monitoring efforts began in 1984, nesting success has improved, resulting in more returning adults in subsequent years. Predators took a heavy toll in 1993. Yearly variations can occur when adult birds move from one state to another. While the Connecticut population has been static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

The 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.

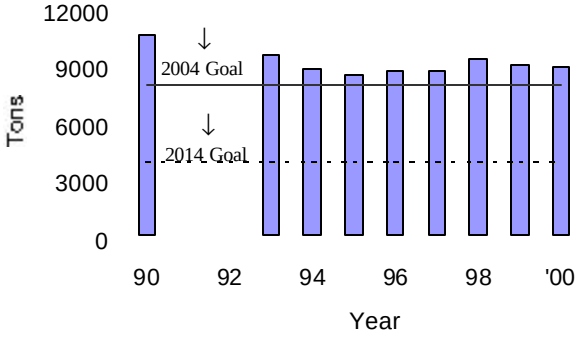


Trends

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. The significant improvement in 1997 was caused by a mild winter and a relatively cool summer, resulting in fairly uniform water temperatures. The summer of 1999 was dry, with less nitrogen from runoff reaching the Sound, whereas 2000 was rainy and saw slightly more hypoxia.

Nitrogen

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

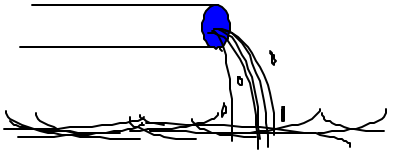


Background

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 should accompany the newly approved TMDL program.

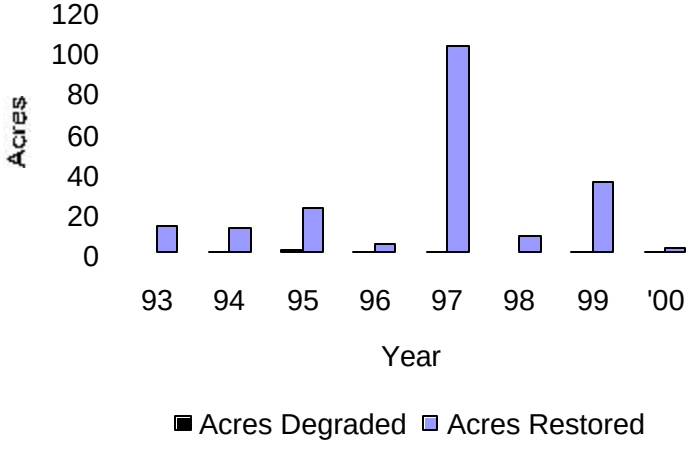


Tidal Wetlands Conservation

Acres Degraded and Restored

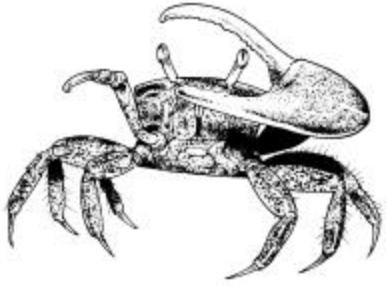
Background

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 wetlands acreage and function.



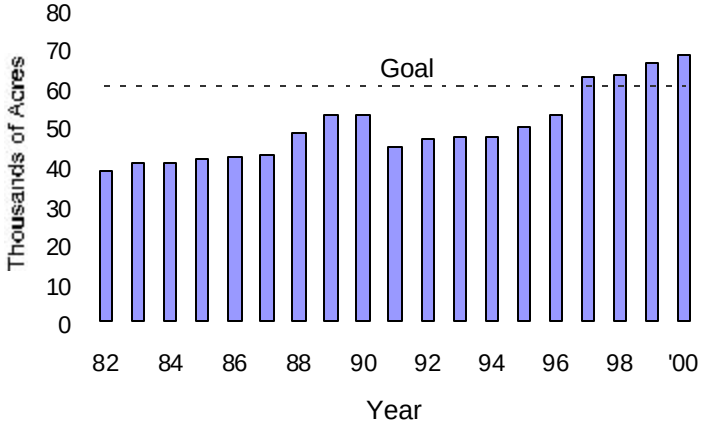
Trends

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 2000, two and a half acres were restored.



Shellfish Beds

Acres open for commercial harvesting



Background

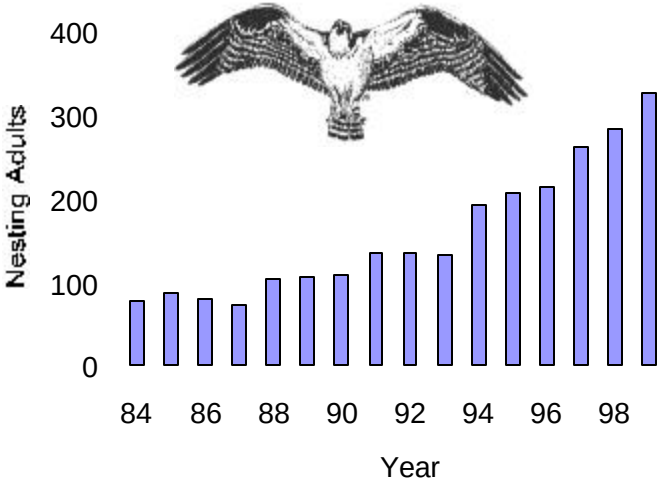
Connecticut's goal was to have 60,000 acres open by the year 2000, which is far fewer acres than were open a hundred years ago. The primary impediments to opening more acres are the presence of sewage discharges and the need to conduct frequent monitoring to satisfy federal health-assurance requirements.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

Trends

The dramatic increase in 1997 was attributed largely to the increase in the commercial value of Connecticut's harvest over the past decade, 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 depleted 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.

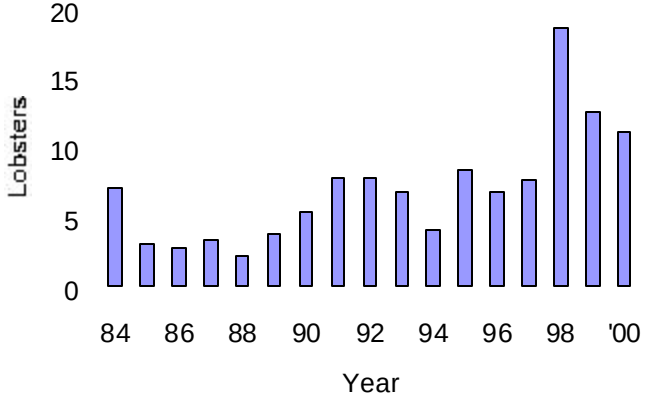
Trends

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 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.

New!

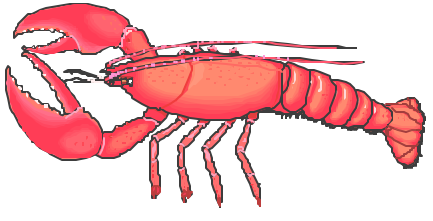
Lobster

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.



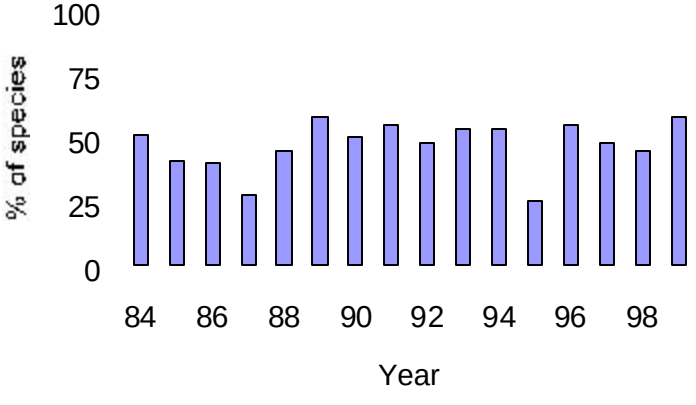
Trends

Despite the decline of the last two years, the population is still above average. The decline was not distributed evenly across the Sound, and the western portion saw more of the effects. Researchers are focusing on three possible causes for the recent lobster population downturn: diseases, changes in water quality, and other human impacts on the Sound.

New!

Seafood Sampler

Percent of marine species found to be above their average (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.

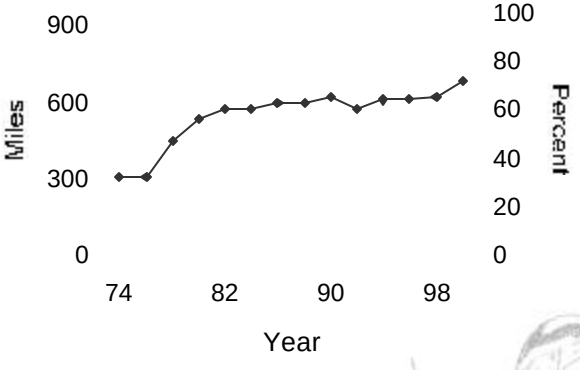
Trends

In 1999, the majority of species appeared to be increasing in abundance.

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 classified as suitable for both swimming and supporting aquatic life



Background

Of the state's 5800 miles of river and stream, about 950 miles are defined as "major" 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 fresh water fish (see page 4), so no river in the state is technically “fishable,” even if it sustains large populations of trout, bass, and other aquatic life. To be counted now, a river must be suitable for swimming and supporting aquatic life.

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

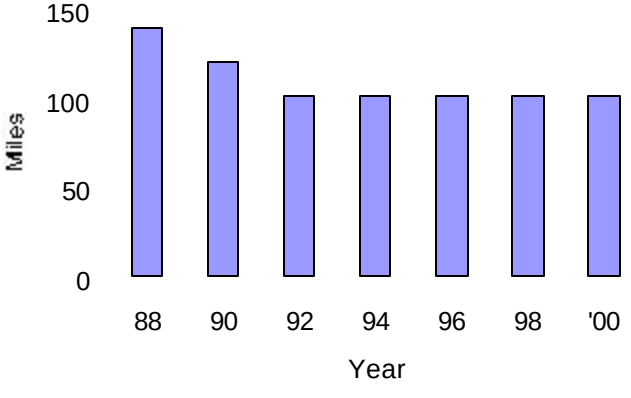
0

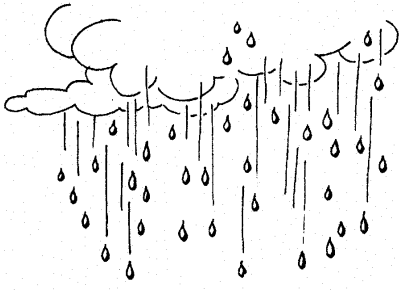
Trends

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, and Willimantic Rivers and, most recently, the Naugatuck River.

Sewage Overflows

Miles of river affected by
"combined sewer overflows"





Background

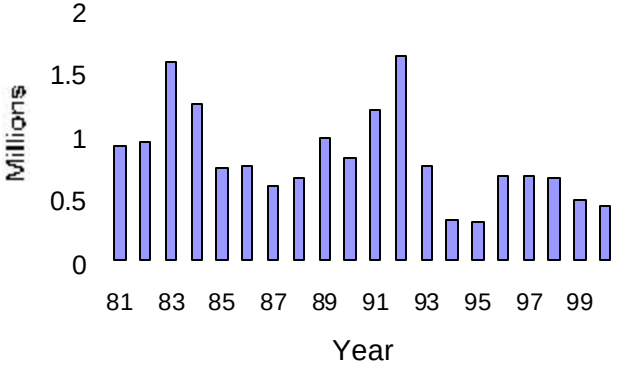
In fourteen Connecticut cities and towns, sanitary sewers were built in combination with storm sewers. During storms, these systems carry more water than their treatment facilities can handle, and a combination of storm water and untreated sewage overflows directly to the rivers and Long Island Sound. 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 the improvements will be seen in this indicator.

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.

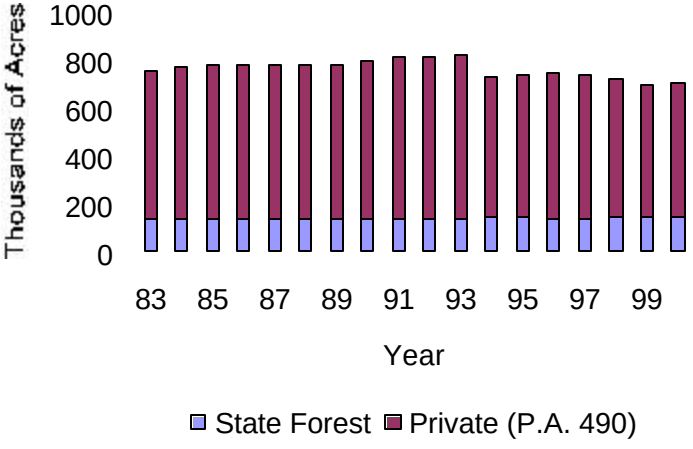
Trends

The decline of shad in recent years was observed over most of its range (East Coast rivers). Scientists are uncertain of the cause.

Fish ladders and fishways, which enable anadromous fish such as alewives and blueback herring to swim upstream around dams, have been built on many other rivers and streams in the state. In the past year, 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 CRWP 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



Background

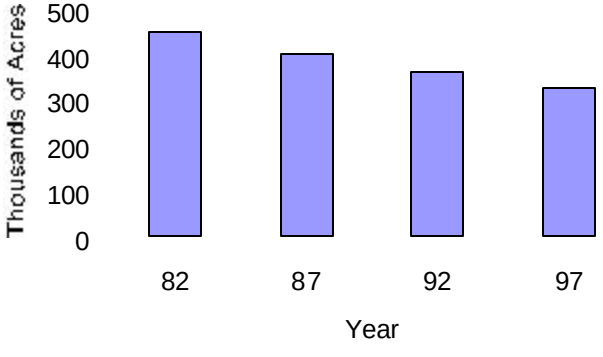
Connecticut's goal is to conserve forests for multiple use, which only can be accomplished on parcels of sufficient size. Much forest is owned in small parcels, which often have limited value for wildlife, wood production, and other uses. To be eligible for the property tax benefits under Public Act (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 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.

Farmland

Acres of land in farms



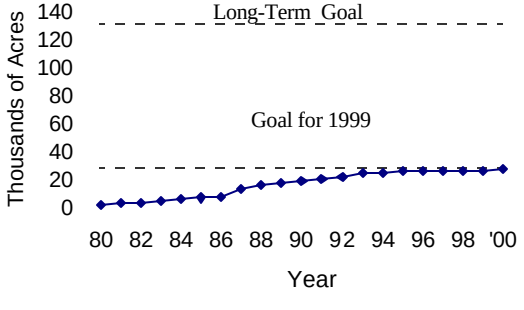
Background

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.

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 preservation goal has slowed. Two farms were approved for preservation by the Bond Commission in 1998 and none in 1999. However, 12 new farms were approved for preservation in the year 2000.

Acres Preserved by the Department of Agriculture

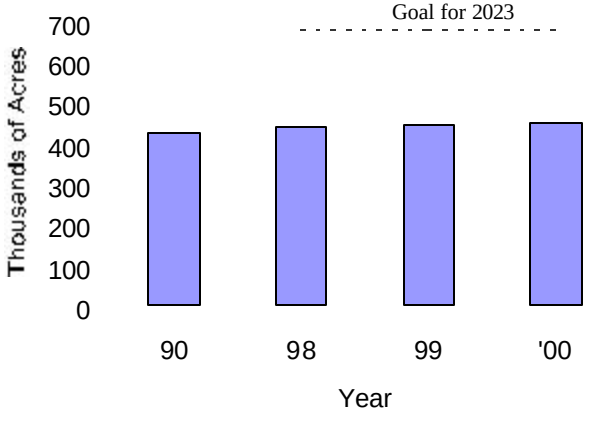


Land for Life

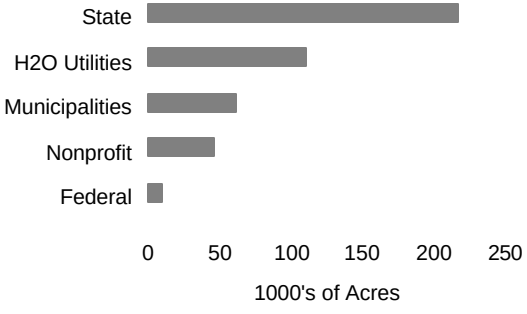
Combined acreage of five categories of preserved land

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 Category (2000)

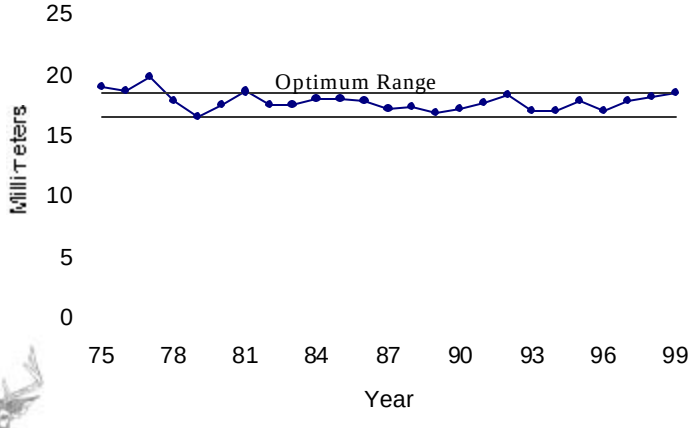


Trends

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 mid-1998, the DEP acquired nearly three times the typical number of acres over a six-month period, and acquired record acreage in 1999. In 2000, the DEP acquired nearly 2800 acres and the open space grant program helped municipalities, nonprofits, and utilities conserve about 2900 acres.

White-Tailed Deer

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



Background

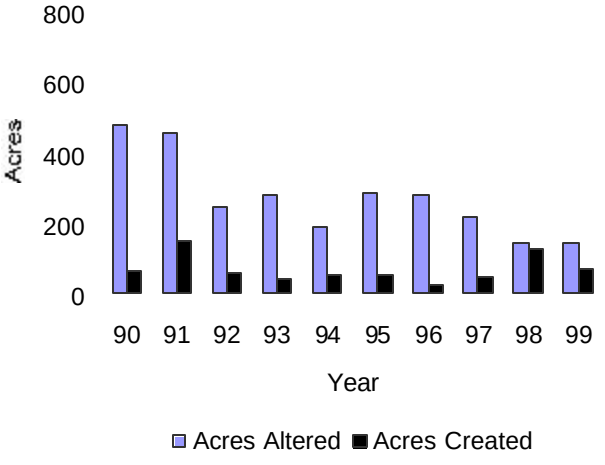
Healthy, robust young deer have thicker antlers than those that receive less nourishment. Antler beam data reflect the relative health of the deer herd as well as the condition of their habitat. Since deer share woodland and edge habitats with many wildlife species, this indicator is doubly useful. Connecticut's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

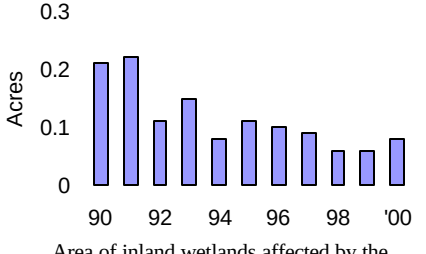
Inland Wetlands Loss

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.



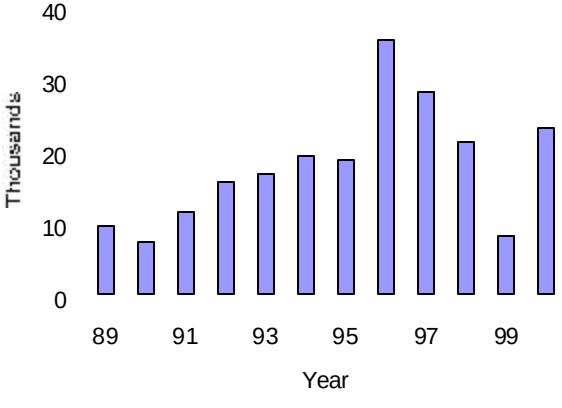
Area of inland wetlands affected by the *average* permit issued by the DEP and the 170 municipal wetlands agencies

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.

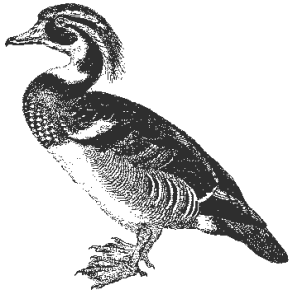
Wood Duck

Estimated number of adults nesting in Connecticut



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.

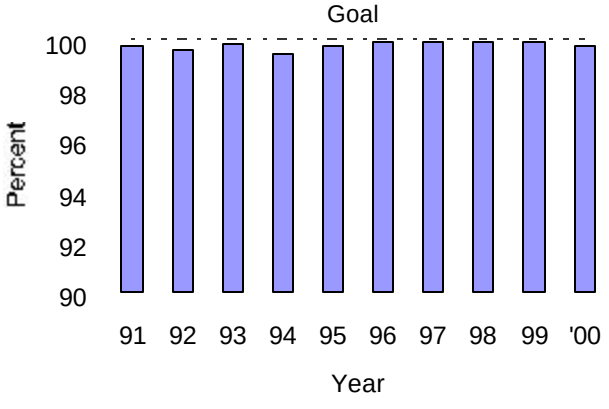


Trends

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 estimates are back at the average level.

Drinking Water

Percentage of public water being delivered that meets all standards

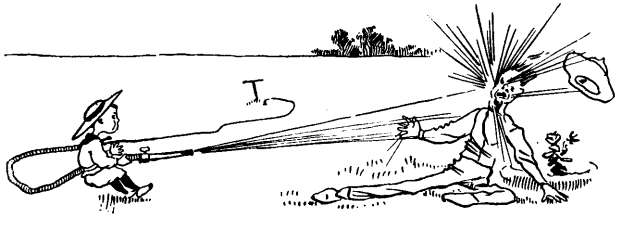


Background

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.

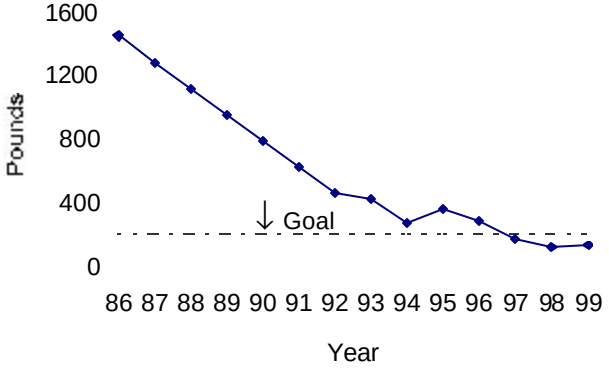
Trends

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.



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

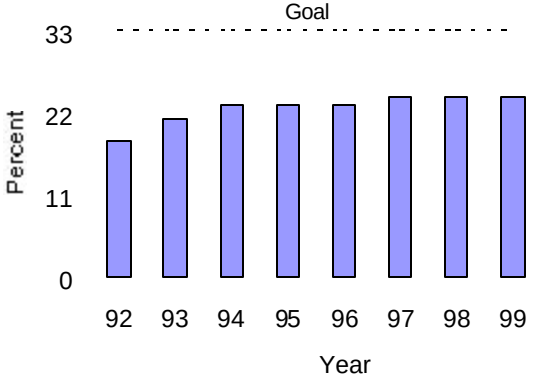
Since 1986, six resource recovery plants have begun operation, collection of recyclables has improved to account for at least 24% of municipal waste, some manufacturers have reduced the weight of products and packaging, and some consumers have altered buying habits. These factors allowed dozens of landfills 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.

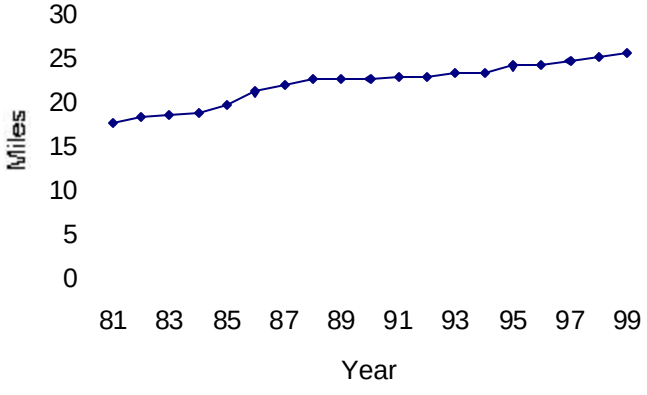


Trends

The statewide average has been holding steady at a disappointing 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.

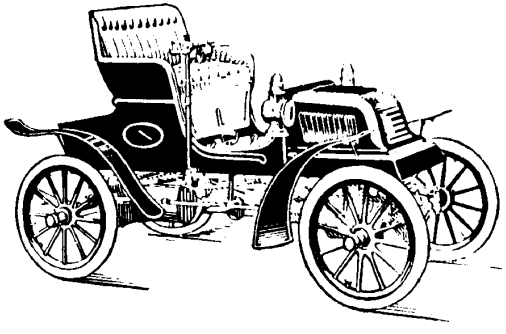
Driving Our Cars

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.

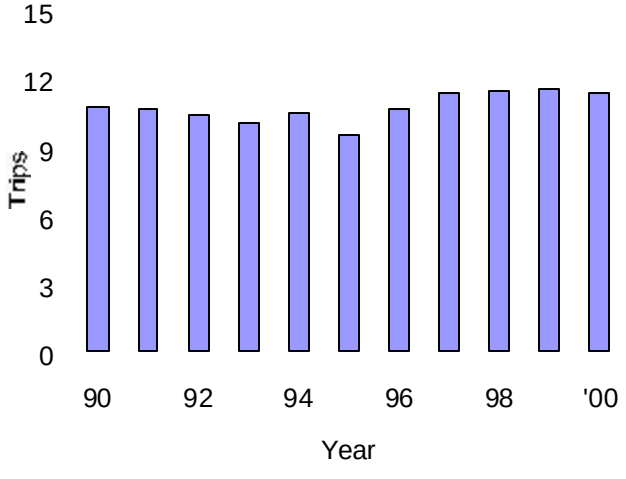


Trends

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. Also, greater employment in 1999 led to greater need for and access to cars for people previously unemployed.

Taking the Bus

Number of local bus trips taken by the average Connecticut resident



Background

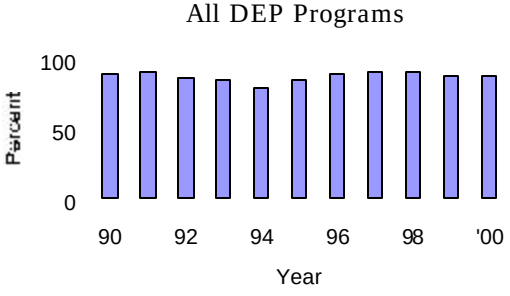
Riding a bus is just one alternative to the negative environmental impacts of driving a car. Ridership data are collected by the DOT.

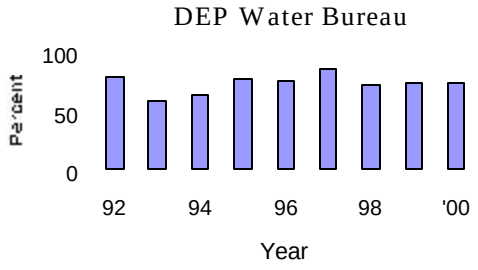
Trends

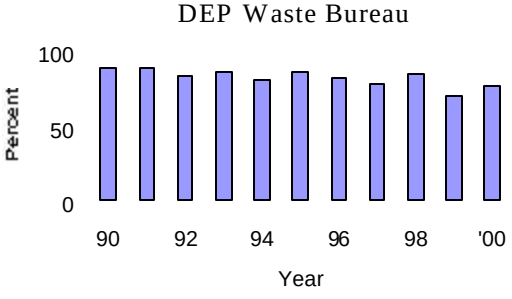
Bus ridership in Connecticut decreased slightly in 2000, in contrast to increases in national bus ridership. Full employment (correlated with affluence and an increased incidence of car use), in conjunction with more elderly and disabled people using paratransit rather than regular bus service, could account in part for Connecticut's ridership decline. The earlier progress was probably due in part to improvements in bus routing and the successful efforts of some companies to encourage transit use by employees.

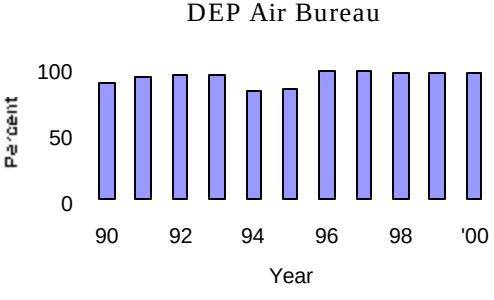
Compliance

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.

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Part III
Activities of the Council on Environmental Quality in 2000

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 Town of Enfield, Northeast Utilities, Clearwater Systems LLC, National Audubon Society, Seeking Alternatives for the Environment, Connecticut Waterfowl Trust, Connecticut League of Conservation Voters, Farmington River Watershed Association, Connecticut Fund for the Environment, Connecticut Water Company, People's Action for Clean Energy, Citizens' Awareness Network, Connecticut Coalition Against Millstone, Office of Policy and Management, Department of Public Health, and Department of Environmental Protection.

At a special public forum in Hartford, the Council invited agencies and the public to share their perspectives on the good and bad aspects of the Connecticut Environmental Policy Act (CEPA). Some of the organizations presenting testimony were the Rivers Alliance of Connecticut, Connecticut Audubon Society, Connecticut River Watershed Council, Environment and Human Health, Inc., Department of Transportation and Office of the Attorney General. Their observations and insights helped greatly to focus the Council's subsequent research on CEPA.

In March, the Council held a meeting and public forum in the Weston Town Hall. Residents and local officials from many towns in Fairfield County told the Council what they saw as the biggest environmental problems in that region (see table on next page). This public forum marked the beginning of the Council's second tour of the state. Just months before, in October 1999, the Council concluded its first three-year effort to hold public forums in all regions of the state. After a special-topic (CEPA) forum in Hartford in November, the second tour of the state resumed in February 2001 in Guilford.

What the Council Heard

Topics Addressed at CEQ Public Forums in Weston and Guilford

	% of Speakers*
Land Conservation (water utility lands, ridgelines, coastal lands)	74%
Water Quality (aquifer protection, stormwater, drinking water)	35%
Land Use (sprawl vs. smart growth, property tax system)	32%
Pesticides (contamination in drinking water, lack of information)	29%
DEP staffing (enforcement, parks maintenance)	16%
Toxic Materials (chemicals in products, contamination, emergency response)	16%
Air Pollution	10%
Wetlands Conservation (tidal and inland)	10%
Connecticut Environmental Policy Act	10%
Need for Environmental Education	6%

* Many speakers addressed more than one topic.

Communication

The Council launched its improved web site in October (http://www.ceq.state.ct.us). The web site provides information about Council meetings and activities to a wider audience while saving paper and money.

Solving Problems

The Council received and helped solve complaints on a variety of complicated problems in 2000, including the spraying of pesticides, potential sale of water utility lands, and clearing of trees around a state construction project. More projects than usual were reviewed under the Connecticut Environmental Policy Act (CEPA). Recurrent controversies involving CEPA led the Council to spend considerable time reviewing and preparing a special report on the Act for publication in 2001.

Forecast 2002

The End of Sprawl "Land use and transportation are inextricably linked. When the two types of policy are not coordinated, sprawl results." (1990 Annual Report of the Council on Environmental Quality). Connecticut's challenge is to find success stories where transportation investments and good local planning have come together to stimulate development of businesses, parks, 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.

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 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 *reduce* per capita electricity consumption and avoid the need for some of the power plants that have been proposed.

Invasive Species The invasion of exotic species is the second biggest threat to Connecticut's natural habitats (second only to habitat loss). "Exotics" are a problem worldwide and have taken their toll on many Connecticut species, landscapes, and waterways. Some invasive exotic species were introduced by accident, others on purpose for aesthetic enjoyment or in flawed attempts to control problems such as soil erosion. The Water Chestnut from Eurasia found its way with human help to the Hockanum River, where it grew so thick in places it impeded fishing, canoeing, or any other use. A partnership of agencies, organizations, and volunteers made an effort in 2000 to harvest the plants as a step toward eradication. Potentially, the plant's seeds could work their way downstream and trigger an ecological disaster.

State agencies have begun to lay the plans for a war against the enormous problem of invasive exotic species. In 1999, the DEP adopted a policy intended to provide consistent guidance for DEP activities involving planting and habitat disturbance. Previously, the planting of exotic species was a common occurrence on state lands. The Connecticut Invasive Plant Working Group, organized in 1997, is a consortium of individuals, organizations, and agencies focused on providing information and management strategies. Eventually, the problem will require significant expenditures.

Impact Statements: Protection or Paperwork? The Connecticut Environmental Policy Act requires state agencies to evaluate the environmental impacts of proposed capital projects before deciding to move forward. The law was enacted 30 years ago. Millions of dollars are spent by agencies to produce environmental impact evaluations, but the results vary greatly. The Council has been working to identify those aspects of the law that remain valuable, and find solutions for improving or removing aspects that are not. The Council intends to complete its review in 2001.

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.

CEQ MEMBERS

Donal C. O'Brien, Jr. (Chairman) Resident of New Canaan. Original charter member of CEQ, 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 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, CT Waterfowlers Association and Theodore Gordon Flyfishers.

Thomas F. Harrison. Resident of Avon. Partner in the Hartford-based law firm of Day, Berry & Howard LLP. Member, 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 Vice Chair, CT Chapter, Air & Waste Management Association. 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 Three-Term Town Councilor of Ledyard. 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. 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. Manager,

Environmental Regulatory Affairs, Northeast Utilities. Member, Edison Electric Institute's Energy & Environment Committee and Clean Air Strategy Group. Policy Committee of the Utility Solid Waste Activities Group. Editorial Advisory Board, New England's Environment. Advisory Board, CT Corporate Wetlands Restoration Partnership. Member, New England Council's Environment Committee. Member, Simsbury Conservation and Inland Wetlands Commission. Member, CT Bar Association's Environmental Section. Adjunct Faculty, Rensselaer at Hartford. Past Member, various DEP rulemaking and legislative advisory committees including Remediation Standards, Environmental Permitting, Environmental Industry Initiative, Water Quality Standards, and Land Use/Aquifer Protection. Past Member, State Emergency Response Commission and CT Advisory Commission on Intergovernmental Relations. Past Director, CT Business and Industry Association's (CBIA) Environmental Policies Council.

Earl W. Phillips, Jr. Resident of Middle Haddam. 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. *Brownfields Law and Practice: The Cleanup and Redevelopment of Contaminated Land,* CT Chapter (Matthew Bender), *Environmental Law Practice Guide,* Connecticut Chapter (M. Bender). Adjunct Instructor of Environmental Law, Wesleyan University and Rensselaer Polytechnic Institute (Hartford Graduate Center). Chairman, Environmental Section, National Institute of Municipal Law Officers.

Ann H. Sherwood. Resident of Stamford. 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; Registered Professional Engineer; Diplomate American Academy of Environmental Engineers; Advisory Board Member, The Sound High School; National Science Foundation 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; Past-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 Kate Shearer (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.

The Council also extends its gratitude to the many people who responded to previous reports. Several readers suggested ways to improve the environmental indicators. They cannot be acknowledged here by name, but most of their suggestions have been included (or will be soon).

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

Find up-to-date information about Council meetings, forums and reports throughout the year at 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.

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
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