

ENVIRONMENTAL QUALITY IN CONNECTICUT

Council on Environmental Quality 2010 Annual Report



Annual Report Home

- ▶ [Welcome](#)
- ▶ [Air](#)
- ▶ [Farm, Forest, Wetland](#)
- ▶ [Sound + Shore](#)
- ▶ [Rivers + Reservoirs](#)
- ▶ [Human Health](#)
- ▶ [Personal Impact](#)
- ▶ [About the CEQ](#)
- ▶ [Contact Us](#)

April 2011

Welcome to *Environmental Quality in Connecticut*. This edition explores the condition of Connecticut's environment through 2010.

This marks the third year of a paperless format. The Council has not printed copies in booklet form. A one-page summary will be available soon for viewing and printing.

This report illustrates clear trends in the condition of Connecticut's environment. The Council welcomes any questions, suggestions or comments you might have.



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Annual Report Home

- ▶ Welcome
- ▶ Air
- ▶ Farm, Forest, Wetland
- ▶ Sound + Shore
- ▶ Rivers + Reservoirs
- ▶ Human Health
- ▶ Personal Impact
- ▶ About the CEQ
- ▶ Contact Us

April 21, 2010

The Honorable Dannel P. Malloy
Governor of Connecticut
State Capitol
Hartford, CT 06106

Dear Governor Malloy:

I am pleased to submit the official report on the condition of Connecticut's environment for 2010.

The core of the report is a standardized set of environmental indicators by which we measure Connecticut's progress.

In the introduction, the Council analyzes the apparent stability of Connecticut's air, water, land and wildlife. For drinking water and wildlife, the lack of change is a good thing; in some other areas the constancy is not encouraging.

"Routes to Progress" are ways that Connecticut might depart from recent trends and advance more rapidly on its ambitious goals. These routes are general conclusions based on analysis of the trend data; the Council submits more detailed recommendations separately.

June will mark the 40th anniversary of the law that established the CEQ. In [last year's report](#), the Council summarized Connecticut's successes and incomplete missions since the inaugural Earth Day of 1970. This year's report is focused on the condition of the air, water, land and wildlife of today and tomorrow.

As always, the Council looks forward to providing you with any additional information or assistance that you might request.

Respectfully,

Barbara C. Wagner
Chair



Introduction

Environmental data for 2010 reveal a Connecticut that did not change much, for good or ill. If nothing is done to alter the present course, then Connecticut residents can view 2010 as a glimpse of how their state will appear for many more years. On the other hand, the state's future does not have to be bound by recent trends. The 2010 data can be used to identify promising routes to the targets that Connecticut residents have established for their air, land, water and wildlife.

Three reasons can explain why today's air, water, and wildlife appear much the same as they have for two decades:

- For a few goals, there is little room for improvement:
 - Public drinking water has been meeting health standards at consistently high rates, and in 2010 the rate was again about 99.5%.
 - Key bird species held steady. Nearly 90 piping plovers nested on Connecticut beaches in 2010, a number that meets the state's goal; maintaining this number requires continual human effort.
- Some tasks take a long, long time before goals can be reached:
 - Connecticut residents and businesses have made sizable investments in successful water pollution control projects over the past 40 years, but many miles of rivers and coast still receive raw or poorly-treated sewage and other pollutants.
 - The deep waters of Long Island Sound that have low oxygen levels during the summer showed improvement in 2010, but this was preceded by five years of decline.
 - Coastal beaches were closed slightly more often, and the cure – control of sewage overflows and polluted runoff – is not in the immediate future.
 - Residents breathed unhealthy air on 29 days in 2010, the most since 2005, even as pollution levels improved on most other days to their best levels in decades. Connecticut residents generate less air pollution nearly every year, but the state constantly is battling the weather patterns and warmer temperatures that create unhealthy concentrations of pollution. Furthermore, residents have continued to buy air conditioners and refrigerators that are not ENERGY STAR efficient; this creates greater demand for electricity from the most highly-polluting power plants on the hottest, worst-air summer days. Still, when viewed over time, the data reveal progress: every year of the 1990s had more bad air days than did 2010.
- Most environmental programs are intended to prevent undesirable, dangerous or even calamitous events. Noticeable change would be bad.

Since 1990, more than one million residents arrived here by moving or by birth and today see a Connecticut that looks very much like their first impression: considerable beauty, many rivers that are excellent for fishing but not for swimming, coastal beaches that close a few days each summer, air pollution alerts on 10 to 30 days a year, few alternatives to driving a car and many industrial properties that appear to be abandoned. Any change that is noticed is likely to be entirely negative from the observer's viewpoint: a sudden transformation of a farm or forest into a housing subdivision or commercial development, a factory's closing and decline into blight, the drying-up of a trout stream, or the intrusion of a tower on a scenic ridgeline or a dock on a favored coastline. For a sudden positive change, a greenway expansion might open a new gateway to the outdoors, but greenways also grow very slowly toward their ultimate destinations.

Exceptions: Agents of Rapid Change

A few changes have occurred quickly enough to be noticed, and some have the potential to happen with sudden devastation. In the former category, veteran Long Island Sound anglers and commercial fishermen have noticed that animals from tropical waters are showing up more often while cold-loving lobsters, which plummeted all at once in 1999, are scarce. Birdwatchers, too, record changes: Eagles and falcons that 20 years ago would have been unusual or impossible to see anywhere in Connecticut can be seen daily in the state's cities. But the real sudden movers are the invasive, non-native species that have the power to alter and even destroy ecosystems in a blink. One species of tree-destroying [beetle](#) has cost Massachusetts tens of millions of dollars and tens of thousands of trees, while another exotic [borer](#) discovered last year in eastern New York has already destroyed many tens of *millions* of trees in midwestern forests and cities. Even as those threats lurk at the borders, Connecticut residents find more lakes, ponds and woodlots infested with invading plants and animals every year. As the Council first [reported in 2002](#), invasive species remain the second biggest threat to native habitats.

The Long View: Today is Nothing Like 11-17-71, and Targets Were Missed**

Connecticut's environmental laws and investments of the last forty years have paid off in brighter skies, healthier people, bluer waters and more noticeable wildlife. The major successes and failures of the past 40 years were [summarized in last year's *Environmental Quality in Connecticut*](#), and recent trends are documented in the pages that follow. Not as well-measured and documented are the many big problems that were averted during those 40 years: for example, as noted in last year's report, "if vehicles and appliances were as polluting and inefficient as they were in 1970, Connecticut might be a disaster area."

For 20 years improvements came swiftly and visibly, but Connecticut failed to reach more than a few of its environmental targets. Basic investment in clean water, land conservation and better buildings, appliances and transportation systems will have to continue if Connecticut residents ever are to realize their ambitious goals of healthful air every day, sewage-free rivers, green fields and forests and a sustainable world where food is grown locally, materials are recycled and energy is used efficiently. If recent trends are a guide, further improvements likely will take a long time to materialize. If climate predictions are accurate, Connecticut will be working harder just to stay even against the effects of warmer temperatures and more heavy rainfalls that will tend to worsen air and water.

In our next section, "Routes to Progress," we analyze the trend data and use it to identify ways that Connecticut might depart from recent trends and advance more rapidly on its ambitious goals. Read [Routes to Progress...](#)

** November 17, 1971 was the date of the CEQ's first meeting. [Read more...](#)

Routes to Progress

Traditional permit and enforcement programs will not carry Connecticut much closer to its goals of healthful air every day, sewage-free waters, beautiful protected lands and a sustainable future where food is grown locally, materials are recycled and energy is used efficiently. So what could happen to see those goals realized in the lifetimes of today's residents? What would make the indicators jump toward the targets?

1) Continuous public and private investment in the control of water pollution

Changes in the status of the state's waterways generally have tracked levels of investment in pollution control. Progress might have been swifter but for the never-ending spread of pavement and lawns and the polluted runoff they produced. While various tactics could help to moderate future impacts (see #3 below, for example), there is no substitute for continued investment in pollution control if Connecticut is to meet its goals for sewage-free rivers and a healthy Sound. Some of this investment will have to go toward control of polluted runoff from developed areas while the rest goes to treatment of sewage. Connecticut has maintained capital funding for clean water even in most recessionary years and will need to combine such financial commitment with creative approaches to managing polluted runoff.

2) A plan for farmland, forests, parks and greenways

- For public open spaces – fields, forests, beaches – Connecticut first needs to determine how much land has been preserved already and exactly where that land is. The tools available for land conservation planning have advanced remarkably in recent years but have yet to be deployed effectively in Connecticut. Among other tools, the state needs a dynamic registry of preserved lands. Focused use of natural resource data to guide future preservation could lead to growth, not just maintenance, of threatened wildlife species.

Only when the DEP has prepared a realistic plan for reaching the state's land conservation goals can an appropriate land conservation budget be adopted. Importantly, **towns and land trusts preserve thousands of acres every year without any state money**, but the relevant indicator will advance only when 1) these data are captured and 2) the state makes progress again toward its own share of the land-conservation goal.

- Farmland preservation goals will [never be reached](#) unless 2,000 or more acres are preserved annually. Municipalities and the state have large roles to play, and in all

cases there is no substitute for public investment in the purchase of development rights: the indicator advances only when development rights are secured.

- One of the [most-wanted forms of public land](#) – greenways that include multi-use trails – continue their spread across cities and towns because of substantial local government and volunteer commitment; a commensurate commitment from the state has the potential to help hundreds of thousands of people get outside on a daily basis.

3) Growth and development in the right places

Given the state's slow population growth and surplus of vacant commercial space, Connecticut residents cannot expect to see major shifts in the built environment any time soon. Even without growth, however, there will be demand for some types of building uses that are underserved today. For decades Connecticut has been host to (and has sometimes subsidized) large commercial buildings constructed on previously undeveloped land while abandoned properties lay idle in cities and town centers. Brownfields – abandoned or underutilized sites where contamination hinders redevelopment or expansion – are serious drags on the economic life of cities and towns. Continued development in low-density locations at the expense of brownfield redevelopment will further impede progress toward the state's goals for clear air and clean water. Alternatively, sudden demand for previously-developed brownfield sites would yield several benefits at once. Development of well-designed transit stations in town centers and cities should lead to demand for commercial and residential development nearby. The return to productivity of many brownfields and the organization of daily life around transit stops in those centers would yield improvements in air and water and, for many people, everyday life.

4) Better air conditioners and refrigerators

Most days of unhealthful air are tied to hot sunny weather. On such days, air conditioners hum and refrigerators work harder. Seldom-used, highly-polluting power plants are started up to meet the extra demand. If residents' refrigerators and air conditioners were more efficient, peak demand would be substantially lower. Despite the high cost of electricity in Connecticut, most of the refrigerators and air conditioners sold here are not the efficient ENERGY STAR models, and consequently residents use and pay for more electricity than they really need and air is worse than it should be. To achieve healthful air in the summertime, Connecticut will need to do more to lower peak electricity use on hot days, and replacing wasteful appliances with efficient ones will be an important step.

Most of the forces that will shape Connecticut's future environment are outside the traditional reach of environmental agencies. The intensity and direction of private investment will play the biggest role, but the fate of the air, water and land will

nonetheless be influenced greatly by the state's policies and priorities for transportation and economic development.

The Special Pace of Remediation

There is steady progress, there is slow progress, and then there is the pace of remediation of contaminated property. Despite more than a dozen laws and programs aimed at stimulating and regulating the clean-up of contaminated properties, actual clean-up depends largely on strong demand for land in the commercial real estate market, and such demand has not been evident in most cities and towns. Many residents whose wells are contaminated with industrial chemicals have been drinking bottled or filtered water for many years, even decades, and never see any positive change to their situation. As the Council has documented elsewhere, change is needed. Remediation programs have the potential to help stimulate rapid improvements to our cities and towns when the economy improves – if those programs are overhauled in time.

Bottom Line

A very brief summary of 2010

Improved or Held Steady at a Positive Level in 2010:

- Drinking Water Quality
- Oxygen Levels in Long Island Sound
- Clean Shellfish Beds
- Bald Eagles & Piping Plovers
- Inland Wetlands

What these improvements have in common: *They are the results of effective regulatory programs and modest public capital investments.*

Declined or Held Steady at a Level Insufficient to Meet Goals:

- Beach Closings
- Forest, Field, and Farm Conservation
- Lobsters
- Sewage-free Rivers
- Days of Unhealthful Air

What these deficiencies have in common: *Most will require substantial public capital investment or, in some cases, improved strategies before goals will be met.*

Trends in Personal Impact indicators:

- Connecticut residents used electricity more efficiently at work but wasted more at home. Future electric bills might not improve: most of the refrigerators and air conditioners bought in Connecticut were not the most efficient models.
- Residents again took the bus less often, but they also drove less.
- Compliance with environmental laws remained below 90 percent for the second year in a row.

Data for several environmental indicators were unavailable for 2010 for reasons that varied from broken-down research boats to the absence of data collection systems. Nobody knows, for example, how much land in Connecticut was preserved last year, nor does anyone know how much has been permanently protected to date, because there is no system to collect such data.

Notes for This Edition

Regular readers of this report know that its key elements are the 33 indicators that describe Connecticut's environment objectively and reliably. A few changes were made this year to enhance some of the indicators:

To the group of Personal Impact indicators relating to electricity use, the Council added one that shows the percentage of air conditioner purchasers who selected highly efficient Energy Star models. (Note: it was not a majority.)

The indicator "Reviving Tidal Wetlands" was discontinued. Recent data are not comparable to older data. The Council would like to include a meaningful indicator in future editions that will reflect the status of tidal wetlands.

The Council makes improvements to this report every year, and many of them have been suggested by readers. The Council greatly appreciates their advice. Additional changes proposed by readers are in the works.

Arrowheads Explained

Above each environmental indicator on the pages that follow, readers will find an arrowhead that illustrates improvement (arrowhead up) or decline (arrowhead down) in environmental conditions. There are four variations of the arrow symbols:



The data show a positive change from the previous year. The one-year change is not always consistent with the long-term trend, which is displayed on the chart.



The data show a negative change from the previous year. The one-year change is not always consistent with the long-term trend, which is displayed on the chart.



No arrow means the data for 2010 (or the latest year available) show a very small change, positive or negative, from the previous year.



NEW! If the color is green, the indicator is unchanged at a satisfactory level; if red, unsatisfactory. If the color is orange, the lack of change is neither good nor bad.



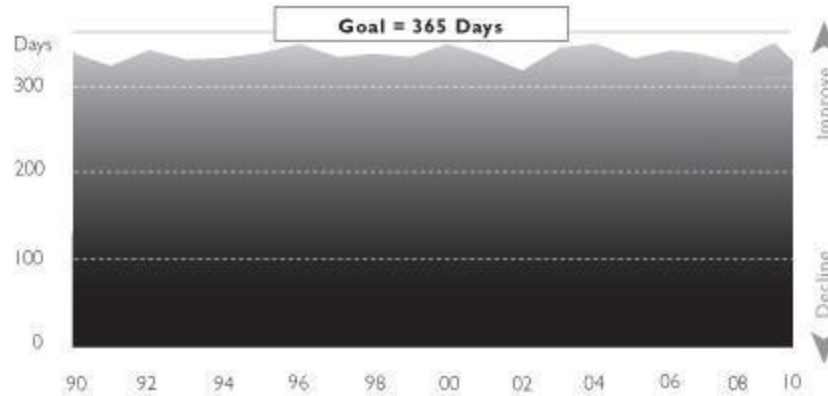
Connecticut is not on track to meet its long-term goal. This symbol is used for those indicators that, except in the most unusual circumstances, always will show some progress. ("Preserved Land" is one example.) It would be misleading to label the one-year change as "improved" if the progress is not sufficient to get the state to its goal by the established target date.

Good Air Days



Connecticut residents breathed good air on 336 days last year, which means they breathed unhealthy air on 29 days, the most since 2005.

Levels of ground-level ozone violated the standard that protects human health on 24 summer days, and fine particles violated the standard on five winter days.



A Good Air Day is a day when every [monitoring station](#) in the state records satisfactory air quality. "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, particles, nitrogen dioxide, and ground-level ozone.

Connecticut's goal is to have air that meets health-based standards for all pollutants. Violations of health-based air quality standards have been eliminated for all pollutants except ground-level ozone and fine particle pollution.

[Ozone](#) is created when nitrogen oxides and organic compounds in the air react in the presence of sunlight. Weather is a big factor in year-to-year fluctuations. 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.

In typical years, cities and towns in the western and coastal regions of the state see the most bad air days. In 2007 and again in 2009, however, inland towns had more. In 2010, the typical pattern returned, and the areas with the most bad air days were Westport (10), Danbury and Stratford (9 each).

[Fine particles](#), such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can form when gases emitted from power plants, industries and

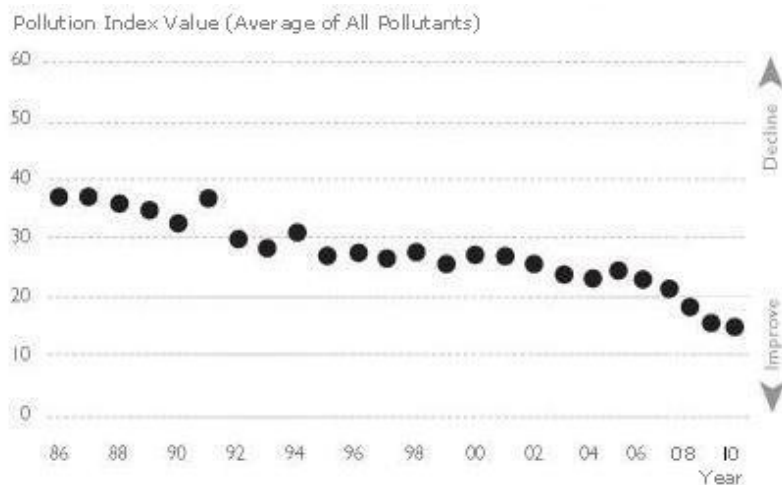
automobiles react in the air. Violations of the standard occur mostly in summer and winter, rarely in spring and fall. Most of Connecticut meets the health standard for fine particles.

Technical Note: The federal government modified the standards for fine particles in December 2006 and for ground-level ozone in early 2008. The chart above was redrawn each time to illustrate the state's historical pattern of good air days by applying the new, stricter standards to all years. The federal government is again reviewing the standards for several pollutants.

Clearing the Air



Connecticut's air in 2010 was the best in decades -- the fourth record-breaking year in a row.



The chart shows the average amount of pollution in Connecticut's air for each year. Even though the previous indicator, [Good Air Days](#), shows that there were more bad air days in 2010, the chart above shows that actually there was less air pollution, on average, when accounting for the entire year. The apparent paradox -- less pollution, more bad days -- is explained in part by the special [problems that Connecticut faces on hot summer days](#).

[Six pollutants](#) -- sulfur dioxide, lead, carbon monoxide, particles, nitrogen dioxide, and ground-level ozone -- are [measured across the state](#) by the DEP. At the end of each year, the Council expresses the average level of each pollutant on a numerical scale where zero equals no pollution and 100 represents the "unhealthful" level of the specified pollutant. The annual number for each of the six pollutants are then averaged to yield the single index value on this graph.

Following several years of measurable improvement, 2005 was the first year since 1994 to see all of the pollutants (excluding lead) get worse. In 2006, all pollutants except particles showed improvement, and in 2007 all pollutants except ground-level ozone showed improvement. Every measure except carbon monoxide showed improvement in 2008. Every pollutant showed improvement in 2009. In 2010 every pollutant except carbon monoxide showed improvement.

Preserved Land



Connecticut's goal is to preserve 21% of the state's land area by 2023, but nobody knows how much land actually has been preserved.

State law ([C.G.S. 23-8\(b\)](#)) sets a goal of conserving 21% of Connecticut's land area. [The Green Plan](#), Connecticut's official land conservation plan, establishes 2023 as the target date. That goal includes conservation land owned by towns and cities, land trusts and other nonprofit organizations, water utilities and the state. However, the Council determined in 2009 that previous state estimates of the acreage owned by municipalities and nonprofit land trusts were inaccurate. Those estimates, which were reported in previous editions of *Environmental Quality in Connecticut*, are not included in this edition.

The same law sets a goal for state ownership of land for parks, forests, and wildlife areas. Records of state-owned lands are accurate, and are reported here:

Acres (in Thousands) of State-Owned Open Space Land



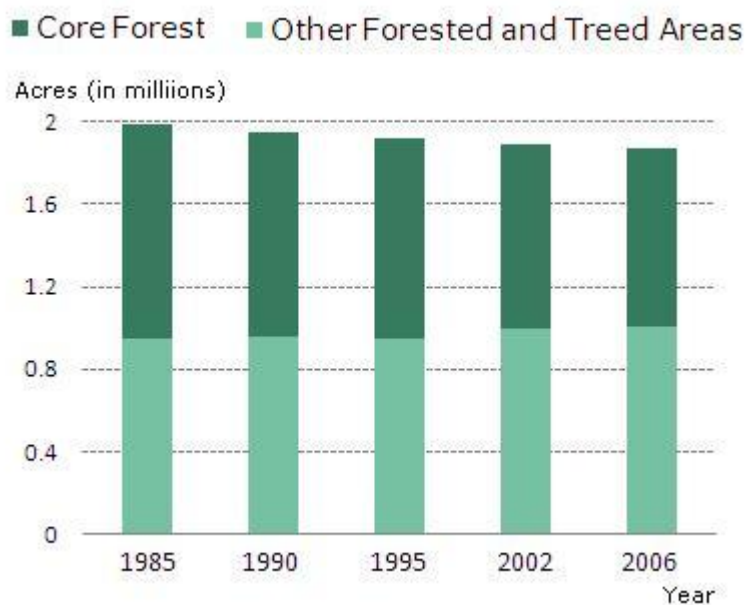
From 2000 through 2004, the pace of state land preservation was sufficient to keep Connecticut on track toward its 2023 goal, but acquisition since slowed. In 2010, the state preserved about 145 acres with state and federal funds and donations, while state grants helped municipalities and land trusts acquire 1,300 acres. To meet the state's goal, more than 11,000 acres need to be acquired annually. Many acres, probably thousands, are preserved by municipalities and land trusts each year without state grants, but this information is not reported to the state.

The absence of an accurate inventory of protected land in Connecticut is a serious deficiency. The Department of Environmental Protection has been working on an inventory for many years, but the data will be static and not up to date when and if the project is completed. To make land preservation more strategic and cost-effective, Connecticut needs a registry of protected lands.

Forest



After a century of growth and relative stability, Connecticut’s forests -- especially the most valuable core forests -- have been shrinking for two decades.



Most of Connecticut’s forests were cleared for agriculture and industry in the 19th century and then allowed to regenerate. From 1960 to 1980, the overall acreage of forest did not change much even with the rapid spread of roads, housing and commercial development. According to the [U.S. Forest Service](#), the spread of forests on abandoned farms equaled the conversion of forested land to other uses. The late 20th century brought a change, with forest acreage now declining.

This indicator shows the total acreage of forests in Connecticut. The forests are divided into core forests and other forests. Core forests are at least 300 feet from

non-forest development such as roads, buildings and farms. Forests that are fragmented or divided by roads and buildings serve some forest purposes but are not fully-functioning forest ecosystems. Fragmented forests are known to provide substandard habitat for many species of wildlife and, in many cases, less opportunity for hunting and other types of recreation.

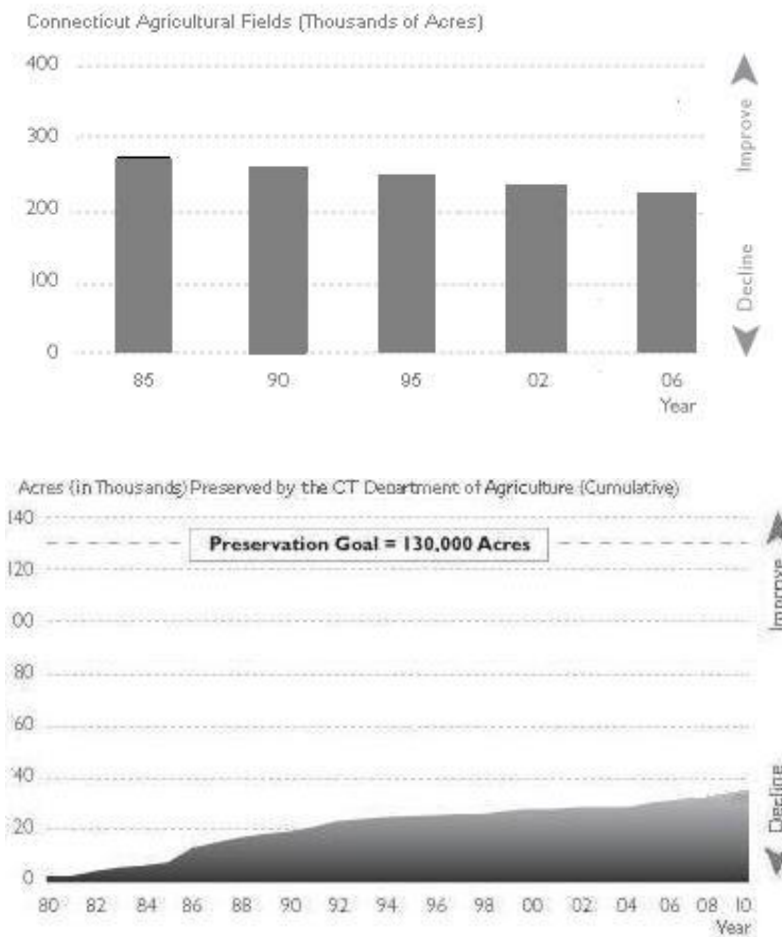
Even as the total acreage of forests might fluctuate over years or decades, the extent of core forests will always show a decline, except in rare instances where roads or developments might be abandoned and reclaimed by forests.

Technical Note: The definition and measurement of [core forests](#) is done by the Center for Land Use Education and Research (CLEAR) at the University of Connecticut as part of the [Connecticut’s Changing Landscape Project](#). The Council finds these data, derived from CLEAR’s analysis of satellite imagery, to be the most accurate data available. Satellite data is examined by CLEAR every few years; this indicator includes the most recent data available (2006).

Farmland



Connecticut preserved 1,370 acres of farmland in 2009 and again in 2010. This rate is an improvement over prior years, but the state's goal cannot be reached at this pace because farmland loss continually outpaces preservation.



The top chart shows the acreage of land being farmed in Connecticut. The bottom chart shows the cumulative acreage preserved by the Department of Agriculture.

To preserve land for future agricultural use, the Connecticut Department of Agriculture [purchases the development rights](#) to farmland from volunteer sellers. This keeps the land in private ownership with severe restrictions on future nonagricultural development. In 2008 the state

acquired development rights to seven farms totaling 675 acres. Those numbers improved in 2009 to 10 farms totaling 1,370 acres, and 16 farms covering 1,371 acres in 2010. Funds are mostly from state bonding and the [Community Investment Act](#).

Connecticut's farmland preservation goal is based on the amount of land needed for food production. [Mathematical projections](#) of the current preservation rate show the goal being reached in the 22nd century, but in reality there will not be that acreage of agricultural land remaining in the state by the end of the current century if the recent rate of loss continues. Preservation of at least 2,000 acres annually should result in success.

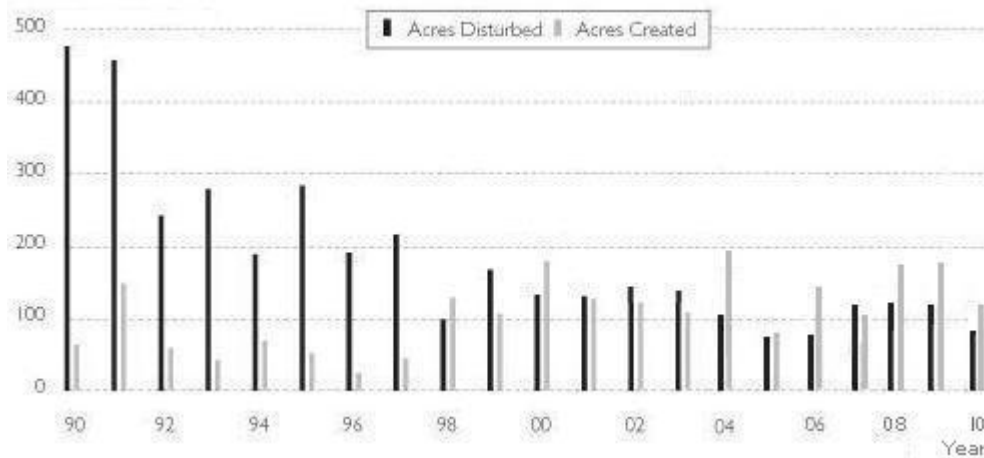
This indicator does not show agricultural land acquired for preservation by municipalities and nonprofit organizations. Several towns purchased farms in 2009 with no state assistance, and those acres are not reported or recorded at the state level. Along with a central registry of preserved open space, Connecticut needs a registry of preserved farmland to help state agencies and other organizations preserve land strategically.

Technical Note: Until 2008, the upper chart showed the total acreage of land in Connecticut farms as counted, using survey data, by the [U.S. Department of Agriculture](#) (USDA). The Council has found a superior data source in the University of Connecticut's [Center for Land Use Education and Research \(CLEAR\)](#). CLEAR staff analyzes satellite imagery to measure the actual area of fields, pastures, orchards and vineyards. In contrast, the UDA data counted all land in farms, even that which was not used for agriculture. CLEAR analyzes new satellite imagery every few years; the most recent imagery is from 2006.

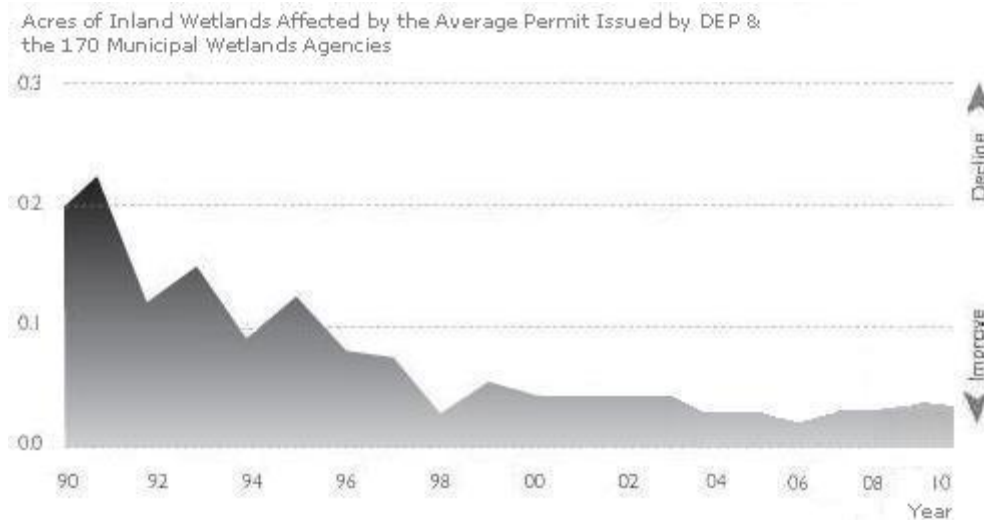
Inland Wetlands



Cities and towns have been permitting the destruction or disturbance of about 100 acres of wetlands per year.



After several years of allowing more wetlands disturbance with each individual permit, local commissions allowed less disturbance per permit in 2010.



The top graph shows the acreage of wetlands disturbed by development and the number of those acres replaced by human-made wetlands. "Disturbed" 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 (when, for example, a shallow swamp is dredged to create a pond). 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 specific goal for wetlands conservation.

Some of the ups and downs in wetlands loss since 1990 are directly related to changes in the economy and the number of wetlands applications received. To adjust for changes in the economy, the lower graph shows the area of inland wetlands affected by the *average* permit issued by municipalities. The graph shows that wetlands agencies have become more conservative since 1990. Since 2004, the average permit has resulted in disturbance of only about two one-hundredths (0.02) of an acre.

[Inland wetlands](#) are estimated to cover about 450,000 acres, or 15 percent of Connecticut's surface. More than 95 percent of the development activity in and around wetlands is regulated by municipalities with minimal oversight or supervision by the Department of Environmental Protection (DEP). In October 2008 the Council published [Swamped](#), a special report that analyzed performance of the state's inland wetlands program, including training. State law requires every municipal wetlands agency to have at least one member or staff person complete the DEP's comprehensive wetlands training program, but many municipalities do not comply with this requirement. A thorough statistical analysis found that cities and towns that had at least one trained member or staff person allowed less wetlands disturbance than towns that were not in compliance with the training requirement. [State-sponsored training](#) is more thorough and convenient than it was in the 1990s.

Technical Note: The results for 2010 should be considered preliminary as about 60 towns failed to report their permitting data to the DEP as required by law. The Council adjusts the reported data to account for the non-reporting towns, but inaccuracies are inevitable. (The Council is confident that the statistical adjustment is reasonable, because *Swamped* also examined differences in performance between towns that report to the DEP and towns that don't and confirmed that non-reporting towns are similar to reporting towns in the average amount of wetlands destruction they permit.)

No Swimming at the Beach



The average coastal town has had to close its beaches for two to four days in most years, usually because of pollution washed into the water by heavy rains. Most closings are in the western half of the state.



Connecticut's [goal](#) is to eliminate beach closings caused by discharges of untreated or poorly treated sewage, a common cause of elevated bacteria levels.

The closings of 2010 were typical: about half occurred when the water was found to contain elevated levels of bacteria, which came from polluted runoff or sewage overflows after rainstorms. Most of the others were precautionary closings, as health officials must assume that heavy rains will wash polluted runoff and/or overflows from combined sanitary/storm sewers.

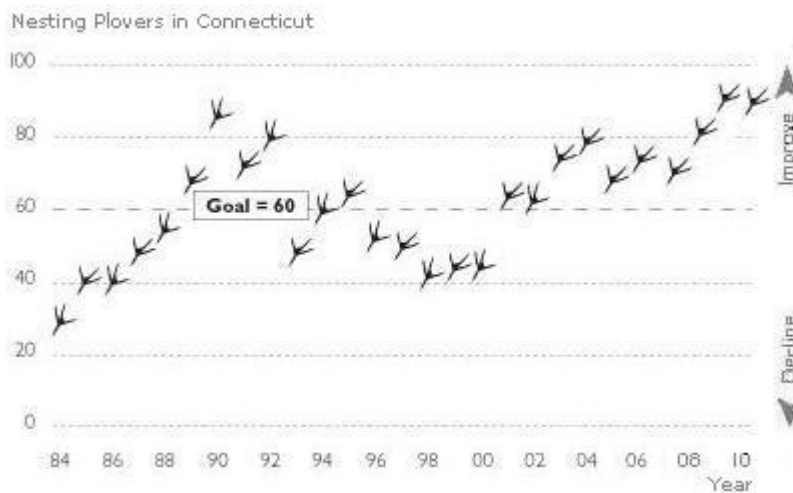
Yearly variations generally are products of rainfall patterns and unusual incidents such as sewer-line ruptures.

The Council adds up the number of days that each city and town closed one or more of its public beaches, and calculates an average.

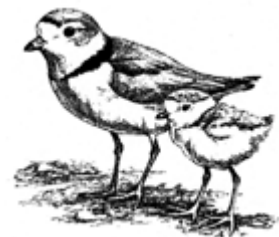
Piping Plovers on the Beach



Another good year: 86 of these small, threatened shorebirds nested on 14 coastal beaches from Fairfield to Stonington.



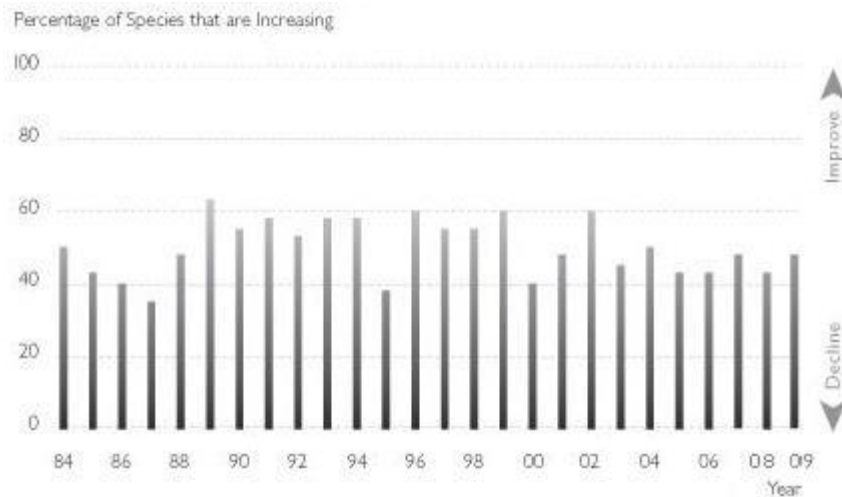
[Piping plovers](#) are small shorebirds that nest on sandy, sparsely-vegetated beaches. Human intrusion, storm tides and predators frequently destroy nests. Connecticut and the federal government classify the piping plover's status as "[threatened](#)." Nesting adults are counted and in most cases protected every spring by the U.S. Fish and Wildlife Service, the DEP and volunteers working with the Connecticut Audubon Society, The Nature Conservancy, Audubon Connecticut and local organizations such as the Milford Point/Stratford Great Meadows Friends Group. The protections afforded these plovers also benefit other nesting species, including American oystercatchers and [least terns](#), which also are threatened in Connecticut. 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.



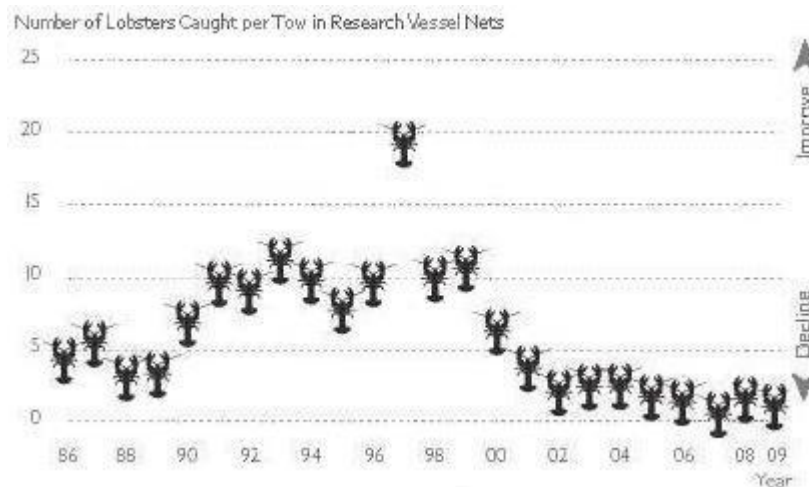
Life in Long Island Sound



About half of the fish species in Long Island Sound are increasing:



The American Lobster is still scarce:



The Council is not able to update this indicator for 2010 because it relies on data from the Long Island Sound Trawl Survey conducted every spring and fall by the DEP. The DEP was unable to complete the survey in 2010 because its research vessel, the *John Dempsey*, was in disrepair.

[Researchers](#) are focusing on a combination of four possible causes for the dramatic downturn in lobster populations since 1999: disease, changes in water quality, changes in climatic conditions,

and human impacts to the Sound. Research to date suggests that a trend toward warmer water temperatures is an important factor in the decline of lobsters. The autumn 2007 trawl yielded the lowest number in at least 20 years. The autumn 2009 trawl (illustrated on the chart above) showed a slight decrease, and the spring 2009 trawl (not shown) yielded the lowest totals on record.

The DEP [samples marine fish, squid and lobster](#) populations every spring and fall by towing nets from a research vessel. The top graph shows general trends in the collective populations of lobster, squid, and 38 species of fish. In 2005 through 2009, fewer than half of these species were as common as they were in the 1980s and 1990s. From 1984 through last year, about half of the species showed a decline. Scientists are unsure of the reasons behind the declines and fluctuations of recent years. One possible explanation for the decline of some prey species is the population growth of striped bass and other predators. Over recent years, some [colder-water species such as Winter Skate and Atlantic Herring have declined](#) as [warmer-water species such as Scup and Northern Sea Robin have increased](#) along with the average annual [temperature](#) of the Sound.

Technical Note: The top graph shows trends in 38 species of fish plus Long-finned Squid and American Lobster. The number displayed for any year is the percentage of these 40 species that were above their long-term average populations.

Declined through 2009

- Windowpane Flounder
- Fourspot Flounder
- Tautog or Blackfish (shown)



Increased through 2009

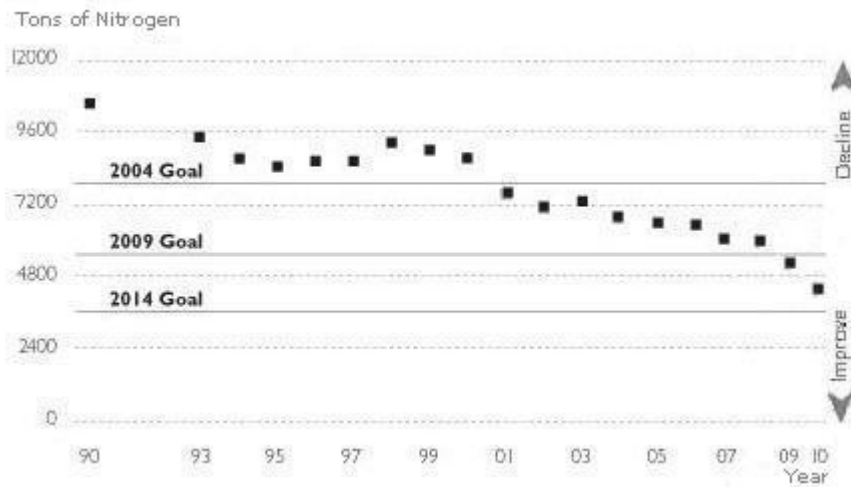
- Moonfish
- Summer Flounder
- Long-finned Squid (shown)



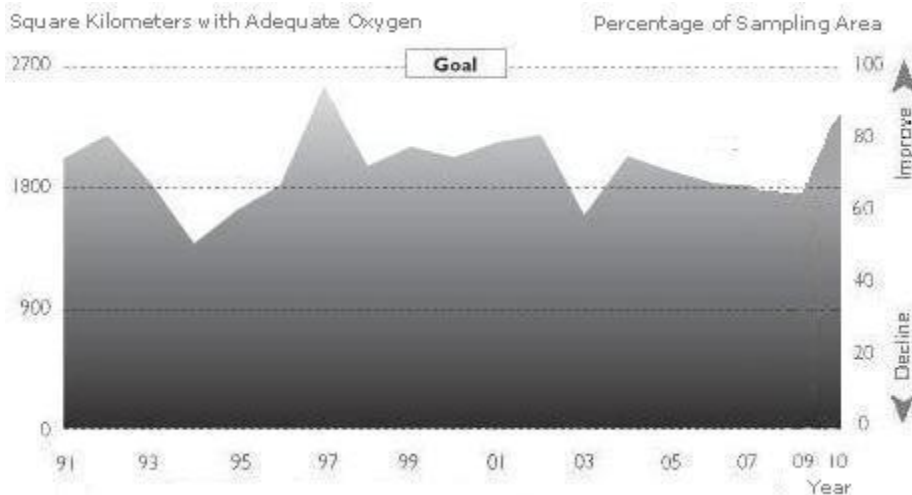
Pollution in Long Island Sound



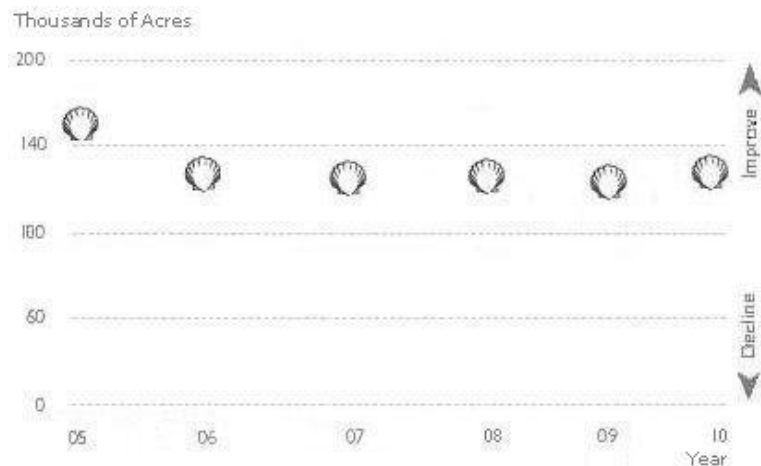
The amount of nitrogen dumped into Long Island Sound and its tributaries affects oxygen levels in the water. Connecticut has been reducing nitrogen discharges to Long Island Sound and has met all targets to date:



After five years of decline, the area of the Sound with adequate oxygen levels took a sudden jump in 2010:



The area of shellfish beds unconditionally approved for harvesting improved slightly in 2010:



Hypoxia is a condition in the water when oxygen levels are too low to fully support desirable forms of life, including fish and lobsters. (For this indicator, hypoxia is defined as less than or equal to 3.5 mg/l of dissolved oxygen.) Hypoxia occurs when the nitrogen in pollution stimulates excessive growth of aquatic plants, which die and get consumed by oxygen-using bacteria. Connecticut's goal is to "eliminate the adverse impacts of hypoxia resulting from human activities."

Hypoxia occurs predominantly in the western portions of the Sound. Weather greatly influences hypoxia, making year-to-year changes less important than long-term trends.

To reduce the nitrogen inputs that cause hypoxia, Connecticut and New York adopted a [comprehensive management plan](#) in 1994 and built upon that plan with a new agreement in 2002. The top graph tracks the amount of nitrogen discharged to the Sound and major rivers by 79 sewage treatment plants, 3 large coastal industrial facilities, and a group of industrial sources in the Naugatuck River watershed. Connecticut's investments in nitrogen-removal technology from many of those plants have been successful.

Large uncontrolled quantities of nitrogen enter Long Island Sound when rains carry fertilizer from residents [lawns](#) along with the pollutants that have accumulated on [pavement](#). Overall, Connecticut's share of the total nitrogen pollution in Long Island Sound is about one-third, and New York's is two-thirds. 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.

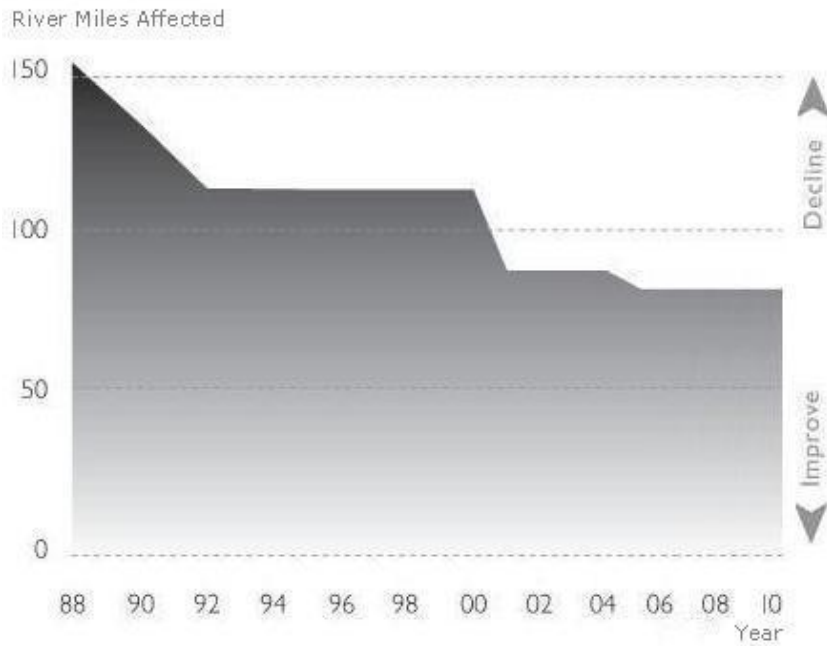
The Connecticut Department of Agriculture's [Bureau of Aquaculture and Laboratory Services](#) monitors shellfish beds and classifies them according to their potential for the harvesting of healthful, uncontaminated shellfish. The third graph above shows the acreage of shellfish beds that are unconditionally approved for harvesting because they are generally unaffected by pollution. (Even areas that are fully approved may be closed as a precaution following exceptional rainfalls of three or more inches.) Aquaculture experts have suggested that the volume of runoff from lawns and pavement is increasing and flowing further into the sound, resulting in the shrinkage of the shellfish beds that are fully approved. However, 944 acres of beds near the coast of Westport that were downgraded in 2006 were restored to fully approved in 2010.

Technical notes: The second graph shows the area of Long Island Sound that had adequate oxygen levels throughout the year. The sampling area (2700 square kilometers) does not include the whole Sound (3400 square kilometers). The areas not sampled are shallow waters (less than two meters deep) near shore, which generally do not experience hypoxia; embayments; the eastern end of the Sound, which is not expected to experience hypoxia; and an area in the far western end, which probably becomes hypoxic in most years. In 2004, the DEP redefined hypoxia to include waters with less than or equal to 3.5 mg/l of dissolved oxygen (replacing the older 3.0 mg/l standard). The areas of adequate oxygen were then recalculated for all years.

No Swimming in the River

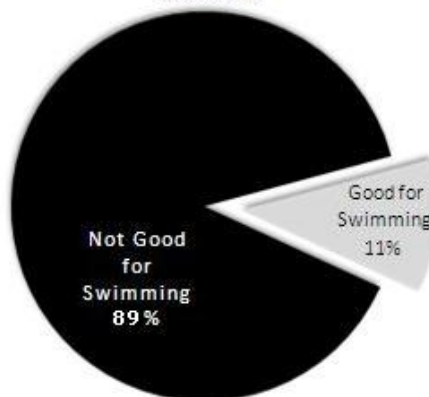


About 80 miles of rivers receive overflows of raw sewage during storms.



Throughout the state, only 11% of rivers and streams are classified as being clean enough for swimming and other water contact sports.

Percentage of Rivers and Streams Suitable for Swimming



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. Several of these combined sewer systems have been completely or partly separated since 1990, reducing the impact of untreated sewage on rivers. The improvement in 2001 can be attributed to the completion of projects in the towns of Waterbury and Naugatuck. In 2005, the Jewett City project was completed, eliminating overflows of raw sewage into the Quinebaug River.

Connecticut's goal is to eliminate the effects of raw sewage discharges from combined sewer systems. Progress is slow because of the extraordinary [expense](#) of separating the sewers.

The pie chart illustrates the percentage of the state's rivers that fully support recreation. This is an estimate based on sampling and statistical analysis by the DEP. Most streams are not monitored directly. The current figure of 11 percent is taken from a draft report that will be submitted this year by the Department of Environmental Protection to the United States Congress. The [2008 edition](#) of that report estimated the percentage to be 15.

Is There Water in the River?

(Better 40 Years Late Than Never)

January 21, 2010: The Department of Environmental Protection held a public hearing on proposed Stream Flow Standards and Regulations, specific to the hydrological and ecological character of each stream and requiring release from storage under certain conditions to augment flow.

June 23, 1970: *"The Water Resources Commission, with the advice of the Board of Fisheries and Game, should be authorized to establish and regulate minimum stream flows...Flows must be tailored to fit the hydrological and ecological character of each stream as established by the minimum demands of aquatic life. Authority should include the power to augment flow from storage..."*

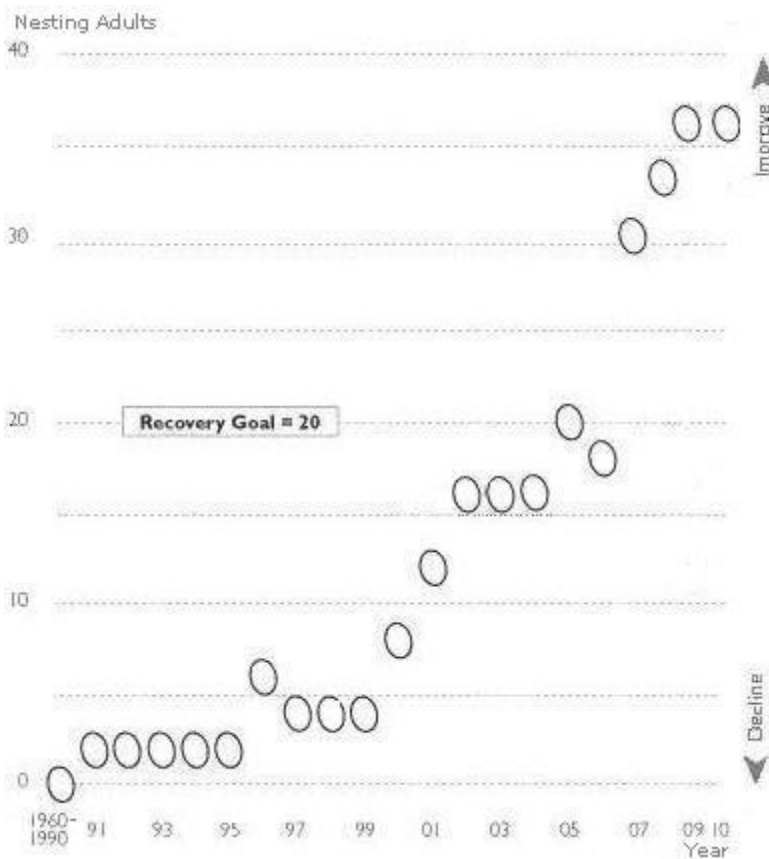
Governor's Committee on Environmental Policy, Recommendation #48

Update: As of early 2011, the DEP is working with interested parties to develop regulations that are acceptable to the General Assembly's Regulations Review Committee, which rejected without prejudice two previous versions in 2010.

Bald Eagles



Bald eagles have come back to Connecticut, even to cities. The chemical pollutants that interfered with their reproduction have been controlled, and large trees along fish-rich rivers offer good nesting sites.



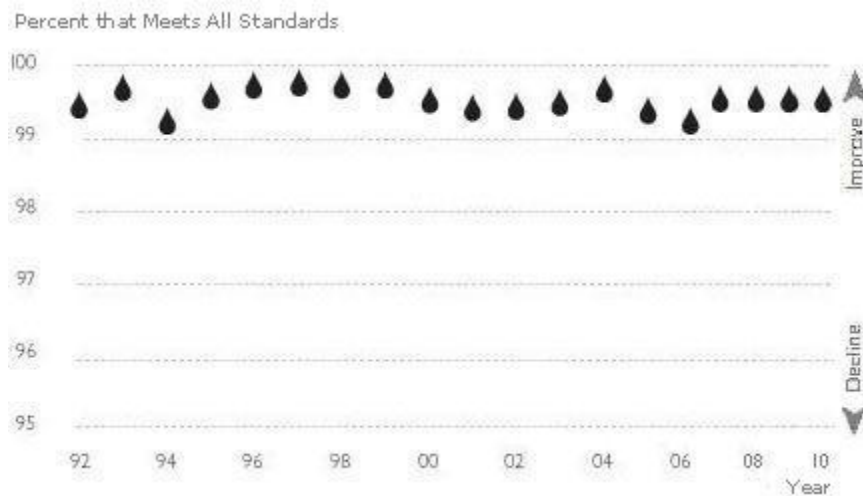
[Bald eagles](#) stopped breeding in Connecticut in the 1950s. The species declined throughout the lower 48 states and was declared endangered in 1967. A variety of environmental conditions harmed the eagle, including the widespread use of certain chemicals ([chlorinated hydrocarbons](#)) that accumulated in its prey (mostly fish). When those chemicals were banned and polluted waterways were improved, the bald eagle was able to reproduce again. Young eagles were reintroduced into nearby states in the 1980s, and a pair found their way to Connecticut in 1991 and successfully raised a family in 1992. Many more pairs have since found acceptable nesting habitat on land protected by government and private landowners including utility companies. The DEP monitors the eagles with the assistance of the Bald Eagle Study Group and other volunteers.

The federal government [removed the bald eagle from its list](#) of threatened and endangered species in 2007. In 2010, Connecticut changed the eagle's in-state status from endangered to [threatened](#). The [Northern States Bald Eagle Recovery Plan](#) established a goal for Connecticut of 20 breeding birds (10 nests), which was reached for the first time in 2005. The population of bald eagles is included as an indicator because the eagle is representative of species, especially predators, that share similar habitat requirements: large areas of relatively undisturbed land near rivers or lakes where the birds can find adequate supplies of fish and other prey that are – very importantly – only minimally contaminated.

Drinking Water



All of the large water companies delivered water that met health standards in 2010. Violations occurred only in small systems.



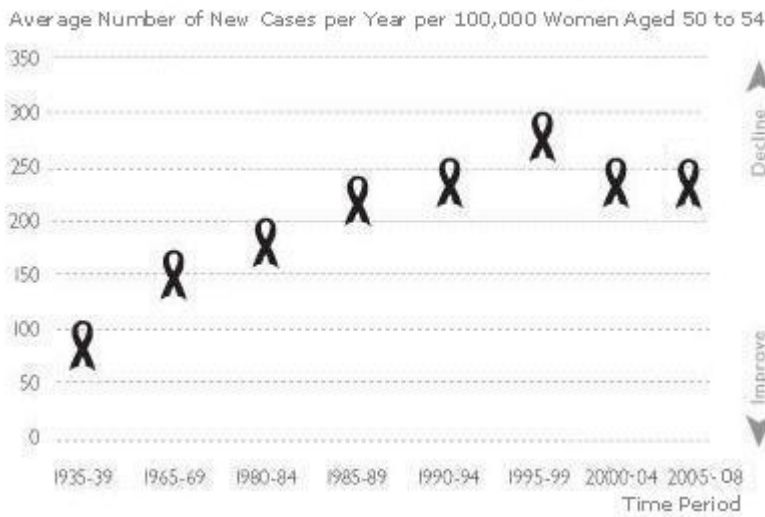
Every public water utility submits monthly [quality reports](#) to the Department of Public Health. This indicator shows the percentage of monthly reports that demonstrate full compliance, after weighting the reports to account for the number of people served by each utility. Though long-term problems persist, they occur most frequently with small systems serving relatively few households. This indicator would show greater fluctuations if the larger systems failed to deliver good water. As in most years, most of the contamination problems of 2006 occurred in small systems, but a few short-term problems in larger systems caused this indicator to show a downturn for a second consecutive year. The pattern was similar in 2007 but showed improvement and in 2008 through 2010 was unchanged. The most commonly encountered contaminants included bacteria and byproducts of disinfection, with an assortment of other chemicals and radioactive substances.

Customers of the Metropolitan District Commission who remember the precautionary notice to boil their water in April of 2009 might be wondering why no drop in water quality is shown in the data for 2009. The history of this warning is that copepods & rotifers were detected in the treated water at one of the MDC facilities. These two organisms are not in themselves harmful; they exist naturally in the environment and can be found in just about any surface water reservoir. A warning was issued while an investigation was undertaken to determine if there were any other organisms present that could pose a health threat. At no time was any drinking water standard violated because these organisms are unregulated under the federal Safe Drinking Water Act. There are no mandated testing requirements for these organisms because they do not pose a human health concern.

Breast Cancer in Connecticut



Connecticut has the highest incidence of breast cancer among the 50 states, but has seen improvement since a peak in the late 1990s.



Of every 100,000 women in the state aged 50 to 54, a number will discover each year that they have breast cancer. That number is depicted in this graph. (The council presents data on this one age group, rather than on the entire female population, to control for factors such as changes in the average age of the larger population; age 50 to 54 was selected as a representative age group and is used in each year's report.) To minimize year-to-year fluctuations, groups of years are averaged together. (In other words, each data point on the graph shows the number of new cases in a single

year, but that year is actually the average of five years.) While some breast cancers are linked to genetic factors, most are associated with non-genetic factors including diet, reproductive history, lifestyle, and external agents.

Breast Cancer as an Environmental Indicator

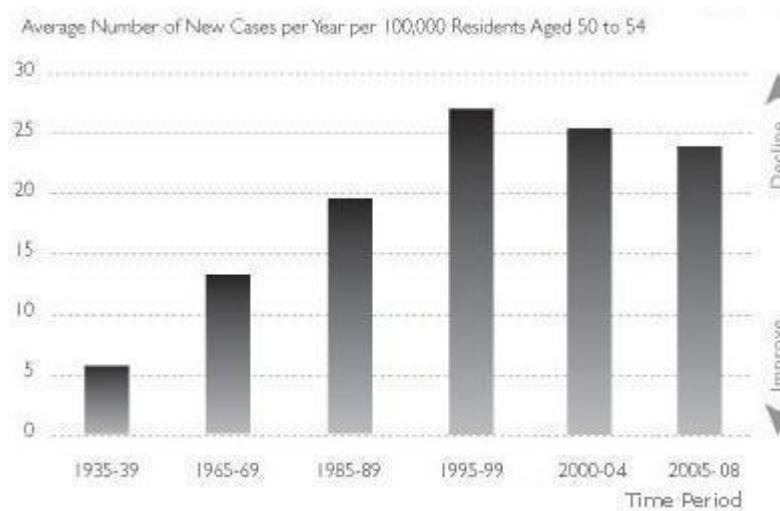
There are numerous studies connecting certain chemicals and other [environmental factors](#) to breast cancer. These factors, if significant, do not appear to be as important statistically as a woman's own reproductive history, but it is important to note that breast cancer rates vary greatly in different parts of the country. Among the fifty states, Connecticut has the highest incidence of breast cancer; this assessment is based on average incidence rates from 2003 through 2007, the latest years for which 50-state data are available. (Source: [North American Association of Central Cancer Registries](#)).

The rate of new cases showed improvement in 2000 through 2004 (using the average of the five years) and has held steady for the four-year period of 2005 through 2008 (the most recent years for which Connecticut data are available).

Non-Hodgkin's Lymphoma



The reasons for the steep increase in this cancer during the 20th century are not well understood, but exposures to specific pollutants and chemicals are potential factors. Since 1999, the picture has improved.



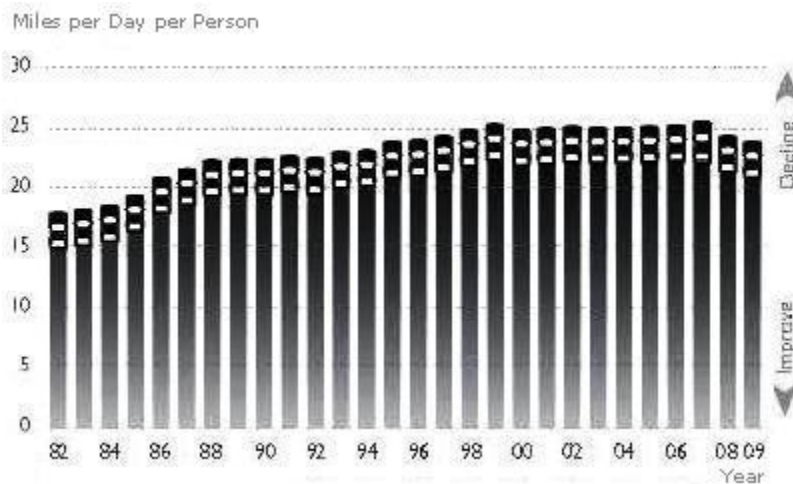
[Non-Hodgkin's lymphoma](#) is a cancer of the lymphatic system. It begins in the lymphoid tissue which contains lymphocytes, white blood cells that help the body fight infections. Lymphocytes travel throughout the body and can carry abnormal lymphocytes, spreading the cancer. The data for this indicator are from the Department of Public Health's [Tumor Registry](#), which records all known cancer cases in the state. (Please see the note on the previous page, under Breast Cancer in Connecticut, about the use of the 50 to 54 age group.) Non-Hodgkin's lymphoma has increased markedly since record keeping began. The reasons are not well understood, though the rise of Acquired Immune Deficiency Syndrome (AIDS) since the 1980s accounts for some cases. Several studies also cite [environmental factors](#), including exposure to diesel exhaust and certain fertilizers, pesticides, and chemicals. In 2000 through 2004 and again in 2005 through 2008 (the most recent years for which data are available), the annual rate of new cases showed improvement.

Only five states see higher incidence rates for this cancer among women: Maine, Vermont, Michigan, Wisconsin and Washington. Among men, only Minnesota and Washington have higher rates. These comparisons are based on the latest years for which 50-state data are available: for women, they are the average incidence rates from 2003 through 2007. (Source: [North American Association of Central Cancer Registries](#)). For men, they are the rates from 2002-2006 as published by the [American Cancer Society](#).

Driving Our Cars



Nearly every year for 25 years, the average Connecticut resident drove more miles than he or she did in the previous year. That trend shifted into reverse in 2008.



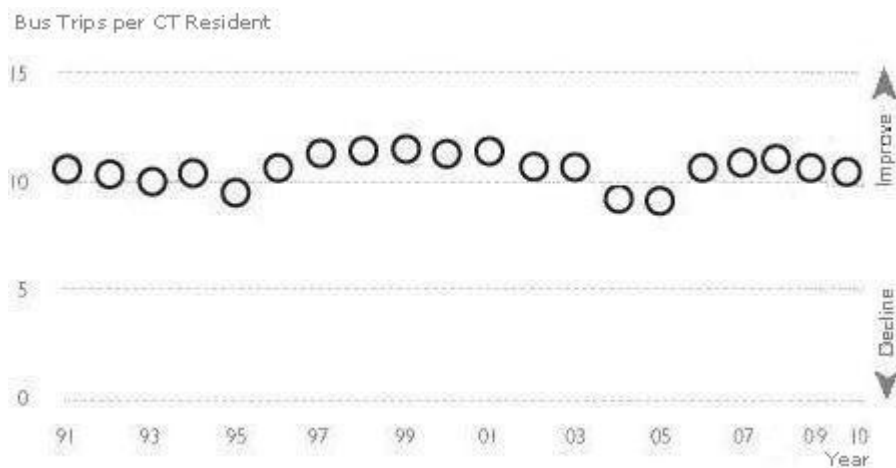
Driving a car, truck or sport utility vehicle is one of the most environmentally harmful activities a Connecticut resident will engage in personally. Impacts are direct (air pollution, oil leakage, etc.) and indirect (stimulating demand for new roads). The Department of Transportation estimates the total miles driven each year in Connecticut. Every year through 2007, the average Connecticut resident drove more miles than in the previous year. The reasons are complex and include the fact that most new development was accessible only by private vehicle. In 2009 (the latest year for which data are available), Connecticut drivers continued the reversal they began in 2008.

*Personal Impact indicators illustrate trends in behavior or practices that can be expected to influence the condition of tomorrow's air, water, land and wildlife.

Taking the Bus



The average Connecticut resident took the bus slightly less often in 2010.



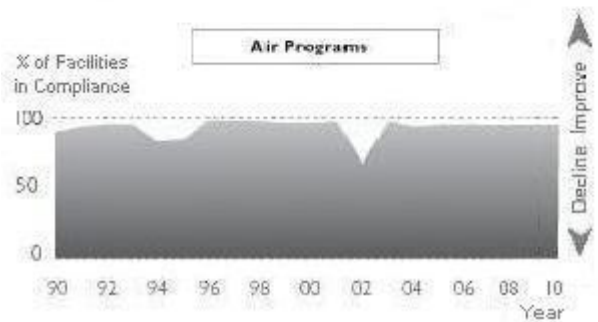
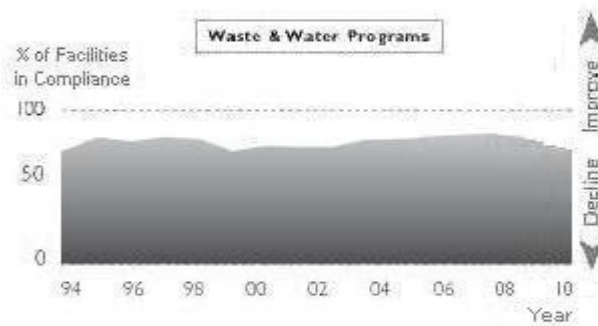
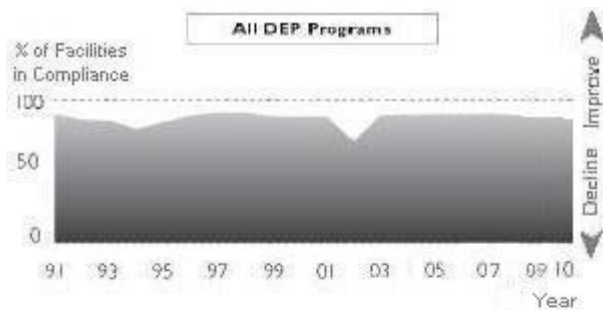
The number of local and commuter bus trips taken by the average resident has changed very little over 20 years. [Riding a bus](#) is just one way to avoid the negative environmental consequences of driving a car. Ridership data are collected by the Department of Transportation. Ridership rose about six percent in 2006, perhaps in response to high gasoline prices, and improved again slightly in 2007 and 2008. Ridership declined in 2009 and again in 2010.

* Personal impact indicators illustrate trends in behavior or practices that can be expected to influence the condition of tomorrow's air, water, land and wildlife.

Compliance



For the first time since 2005, the overall rate of compliance with environmental regulations was below 90% in 2009 and was lower again in 2010.



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. (Monitoring data self-reported by permit holders are not included.) The sharp downturn in 2002

was due to a large number of minor violations in one air quality program ([Stage Two Vapor Recovery](#) at gas stations). Short-term downturns might not reflect serious problems if the long-term trend is toward full compliance.

The overall compliance rate rarely has been better than 90%. Generally, compliance with air quality regulations is higher than with waste and water regulations. The average compliance rate for all programs declined from 90% in 2008 to 88.6% in 2009 and to 86% in 2010.

The number of inspections declined between 1997 and 2007, increased in 2008 and declined in 2009 and 2010.

Some industrial sectors require fewer inspections than they did a decade ago because the number of active facilities has declined. The relationship between the number of inspections and rate of compliance is not clear. The stability of the compliance rate in the face of ever-diminishing staff resources might be regarded as a success for the DEP. However, the failure of the state to advance affirmatively toward the goal of full compliance is apparent.

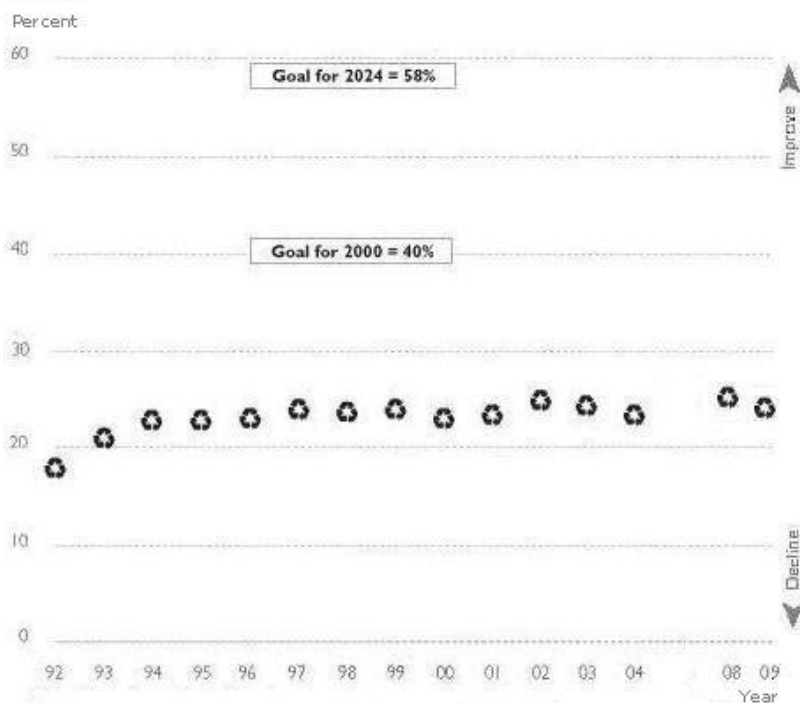
*Personal Impact indicators illustrate trends in behavior or practices that can be expected to influence the condition of tomorrow's air, water, land and wildlife.

**Some inspections of compliance with air quality regulations are conducted by the Department of Consumer Protection pursuant to an agreement with the DEP; these inspections also are used in calculating of compliance rates.

Recycling



Some municipalities and regional waste authorities have reported greater participation in recycling programs since adopting [single-stream](#) recycling in the last three years. However, the statewide average remains well below the goal.



The General Assembly established a goal of reducing and recycling 40% of Connecticut's municipal solid waste stream by the year 2000 ([Sec.22a-220\(f\)](#)). That goal was never met, and the consequences have been enormous. Hundreds of thousands of tons of waste are shipped out of Connecticut each year, putting thousands of diesel trucks on the highways for trips of many hundred miles. One consequence of this needless truck traffic is the yearly addition of 300,000 or more pounds of diesel pollutants into the air. Another consequence is financial: a ton that is recycled instead of burned or landfilled can save a municipality, hauler or resident from \$40 to \$93, according to a 2010 [report](#) of the Legislative Program Review and Investigations Committee.

As total tonnage of waste has grown the percent that is recycled has not. In 2006, the DEP amended the [State Solid Waste Management Plan](#) to include a goal of diverting 58% of Connecticut's municipal solid waste stream from disposal by 2024. This would be accomplished through recycling, composting and waste reduction (such as use of lighter packaging material). If this goal is met, Connecticut will be able to manage all of its garbage without exporting it.

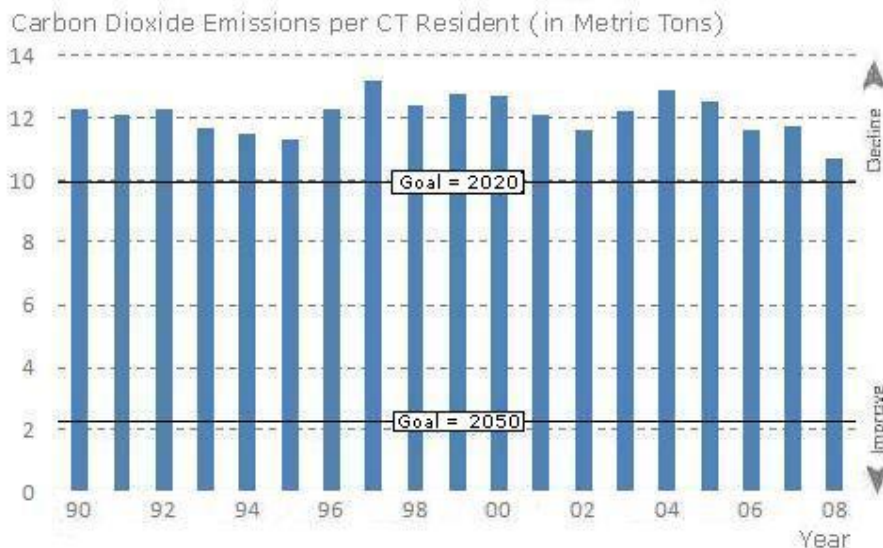
This indicator was discontinued in 2008 because statewide data collection halted after 2004. The Council brought it back last year when the DEP compiled data for 2008.

*Personal Impact indicators illustrate trends in behavior or practices that can be expected to influence the condition of tomorrow's air, water, land and wildlife.

Climate Changers



The average resident is causing less carbon dioxide to be put onto the atmosphere, a result of lower petroleum consumption.



Certain gases in the air function like the glass of a greenhouse: they allow the sun's energy to pass through the atmosphere to the ground, then trap the heat that radiates from the ground. They often are called "greenhouse gases." Worldwide, [a build-up of greenhouse gases](#) is contributing to the ongoing rise in temperature. Carbon dioxide is not the only greenhouse gas nor even the most powerful, but carbon dioxide emissions are far greater in quantity than

the other greenhouse gases. The chart shows the total emissions of carbon dioxide emitted from the burning of petroleum, natural gas and coal in Connecticut divided by the population.

A 2008 [state law](#) set two goals for reducing greenhouse gas emissions: reduce statewide emissions to 10 percent below 1990 levels by 2020 and 80 percent below 2001 levels by 2050. The chart above shows emissions per Connecticut resident, not total emissions, and therefore displays the goals after adjusting them to account for the larger population that is projected for 2020 and 2050. There are expected to be hundreds of thousands more people living in Connecticut in 2020 and 2050, so the average resident will have to work that much harder to reduce carbon dioxide emissions if the statewide goal is to be met.

Most human-generated carbon dioxide results from the combustion of fuels in houses, businesses, power plants, and vehicles, and the last of these is the largest source.

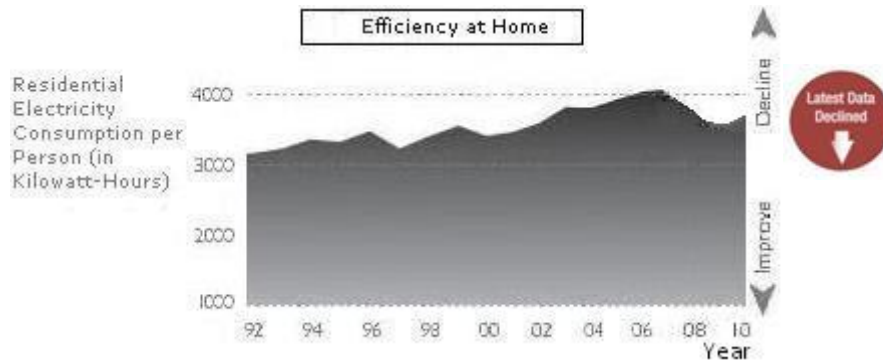
Connecticut is more energy-efficient than the nation as a whole, and the average Connecticut resident's contribution to global climate change is less than the average American's.

Technical Note: The Council has changed the data source for this indicator. In previous years, data was available for all greenhouse gases, not just carbon dioxide. However, to bring the chart more up to date, the Council switched to a source that includes carbon dioxide only. Because the other gases are emitted in small quantities, the carbon dioxide data by themselves give an accurate picture of trends in greenhouse gas emissions. The most recent data available, even for carbon dioxide alone, are from 2008.

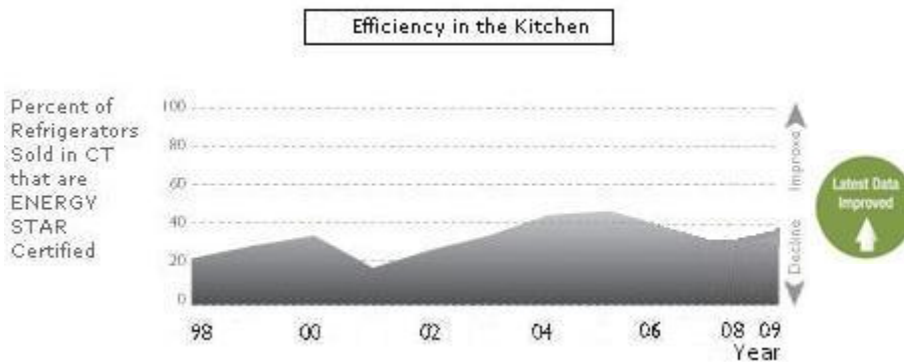
Electricity at Home and Work

At Home:

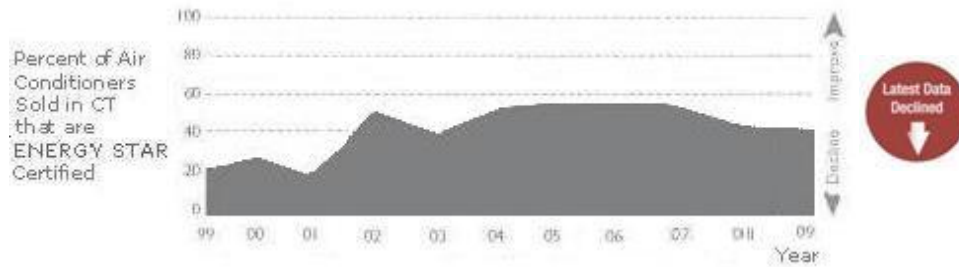
The average Connecticut resident used more electricity at home in 2010.



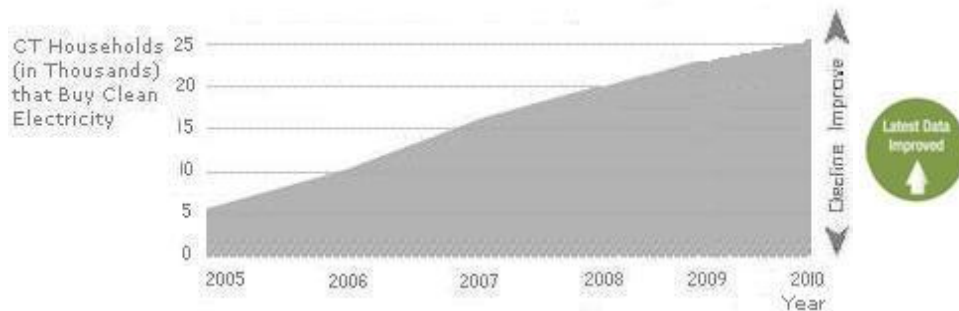
Households are buying more electricity than they need: most of the refrigerators and air conditioners sold in Connecticut are not the most efficient models.



Even as a slightly higher percentage of refrigerator buyers bought ENERGY STAR models (above), fewer bought ENERGY STAR air conditioners (below).

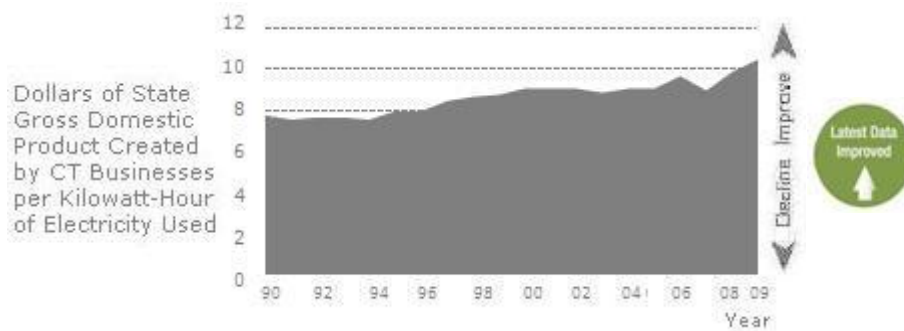


Thousands of households have been signing up annually to buy electricity generated by renewable energy sources through the [CTCleanEnergyOptions](#) program.



At Work:

For two years in a row, Connecticut businesses have used electricity more efficiently to produce goods and services.



Efficiency At Home: Residents reversed course in 2010 and used more electricity at home. During the previous three years, the average Connecticut resident had been using less. Even during that period, according to the [Connecticut Siting Council](#), many Connecticut residents who had been using electricity more efficiently on most days tended to use more during summer heat waves. The result had been slower growth in year-round electricity use but greater peak summertime consumption. The increase in summertime consumption has had significant environmental consequences. On the hottest days, Connecticut’s base-load power plants are

unable to meet the additional demand, and older fuel-burning plants are brought on line. Because they are used sporadically, many of these older plants are permitted to operate with more lax pollution control requirements. As a result, state residents [generate the most air pollution on the hottest summer days when air quality is already bad](#).

The vast majority of Connecticut's electricity is generated from nuclear energy and the combustion of natural gas, oil and coal. Hydropower, solar and other renewable resources are small but growing sources of electricity. Each source, renewable or not, has its own [negative environmental consequences](#). Reducing those consequences will require Connecticut households to use electricity much more efficiently. Such efficiency can be attained in part with [ENERGY STAR](#) appliances.

Efficiency in the Kitchen: In a typical home, the refrigerator consumes more electricity than any other appliance. (Central air conditioning uses more but is not in everyone's home.) To be labeled [ENERGY STAR](#) efficient, a full-size refrigerator must operate using at least 20% less energy than the federal standards for household appliances.

ENERGY STAR appliance [sales](#) are reported by retailers to the ENERGY STAR program. In 2009 (the most recent data available), 38% of refrigerators bought by Connecticut consumers were ENERGY STAR efficient. Despite a modest increase in 2009, this percentage has declined since its peak (44%) in 2005.

Sales trends for ENERGY STAR **air conditioners** are no more encouraging: sales dropped in 2009 to 42% from 44% in 2008.

Sales trends for other ENERGY STAR appliances (not shown) have varied. ENERGY STAR clothes washers were 55% of sales in 2009, slightly above the previous peak (51%) of 2005. ENERGY STAR dishwashers were 75% of sales, down from 94% in 2006.

[Public surveys](#) have shown conclusively that most people are aware of the ENERGY STAR label and what it means, so reasons other than awareness must be addressed to boost ENERGY STAR labeled products and stem the ongoing waste of electricity in homes.

The ENERGY STAR program was created in 1992 as a joint effort of the U.S. Environmental Protection Agency and the U.S. Department of Energy to identify and label energy efficient products. By consuming less electricity, ENERGY STAR products help to reduce air pollution and greenhouse gas emissions.

Buying Cleaner Energy: The [CTCleanEnergyOptions](#) program enables customers to sign up to purchase electricity from renewable sources that include wind and low-impact hydroelectric (water power) New sign-ups increased nearly 20% over the previous year. The electricity that actually enters these houses is not necessarily from renewable sources. The consumer who elects this option is paying for the generation of renewable electricity on the regional electric grid. This reduces the amount of electricity that otherwise would be generated by nuclear, coal, oil and natural gas-fired generating plants, all of which create pollution. [CTCleanEnergyOptions](#) is a collaborative program administered by the [Connecticut Clean Energy Fund](#).

Efficiency at work: The bottom graph shows trends in the efficiency with which Connecticut's economy uses electricity to produce goods and services. Connecticut's businesses generally have been producing more goods and services with less electricity.

[State Gross Domestic Product](#) (GDP) represents the total value of goods and services produced within the state in a single year. Payment to employees constitutes about 60% of the GDP. In 2009 (the most recent data available), Connecticut's GDP was \$198 billion (in 2005 dollars),

a five percent decrease from 2007, while electricity consumption by Connecticut's industrial and commercial sectors decreased by 11%. The long-term positive trend demonstrates that with advances in energy efficient technology it is possible for Connecticut's economy to continue growing while using less electricity.

*Personal Impact indicators illustrate trends in behavior or practices that can be expected to influence the condition of tomorrow's air, water, land and wildlife.

Activities of the CEQ in 2010

Research and Reports

The Council published *Environmental Quality in Connecticut* in April 2010 as a completely paperless, web-only report. As it coincided with the fortieth anniversary of the first Earth Day, the Council looked back on the legislative hearings that led to the creation of the DEP and the CEQ. In reviewing the 1971 hearing transcripts, the Council found it interesting, almost humorous, that the majority of speakers opposed creation of the DEP. (Support for establishing a CEQ was unanimous.) The Council also summarized the state's environmental record since that time. [Read more](#) about those years in the introduction to last year's report. Page | 40

The Council is required to recommend legislation for "identifying the deficiencies of existing programs and activities." The Council [published those](#) in January 2011.

Review of State Projects and Programs

For the second year in a row, the Council commented extensively on a proposal by the Office of Policy and Management to amend the [Environmental Classification Document](#) (ECD) used by most agencies. The ECD lists the types of projects for which agencies might have to prepare an Environmental Impact Evaluation. The Council pointed out that the proposed ECD did not mesh with the 1978-era regulations of the [Connecticut Environmental Policy Act \(CEPA\)](#), which the DEP has declined to revise despite a major statutory overhaul of CEPA in 2002. Through this and other efforts, the Council is helping to [make CEPA the efficient planning tool](#) that was envisioned rather than the bureaucratic hurdle it sometimes is, and to help agencies produce short, concise environmental impact evaluations.

An example of the way in which CEPA can be a bureaucratic hurdle was brought to the Council's attention by municipal officials in 2009 in connection with a private construction project on state airport land. The Council worked with numerous organizations and legislators in 2010 to revise CEPA in a way that allows such private developers to speed the environmental review process considerably while maintaining independent state oversight; another potential benefit of [P.A. 10-120](#) is less cost to taxpayers for environmental reviews of projects on state property.

In December, the Council received complaints and inquiries about a state grant for a boat launch facility that was awarded without the environmental review and public notice required by CEPA. After review, the Council advised the Commissioner of Environmental Protection of the applicability of CEPA; as of April 2011 this matter had not been resolved.

Council research found that one of the most polluting power plants in the state is in Hartford and generally is used only on the hottest days of the year when air quality already is at its worst. The Council [noted the connection](#) between this excessive emission of particle pollution and inefficient air conditioning.

The [December 21, 2010 edition of the *Environmental Monitor*](#) included a letter from the Secretary of the Office of Policy and Management, to the Commissioner of Environmental Protection confirming that the DEP would retain permanent custody and control of about 13 acres of wooded land near the Thames River. The land formerly was part of the Norwich State Hospital property. The Council [recognized](#) this transaction as the first "free acquisition" of open space that resulted from the 2007 [law](#), which had been recommended by the Council, that allows for public comment and environmental review of proposed transfers of state land, and commended the citizens whose actions led to this success.

Following up on the research and recommendations of [Swamped](#), the Council held a roundtable meeting in October with people representing municipal commissions, consultants, homebuilders, agricultural and conservation organizations and other state agencies. As a result, the Council put forth new legislative recommendations for enhancing the training available to members of municipal inland wetlands agencies. Read the [minutes of the roundtable meeting](#).

The Council continued to receive questions and concerns about proposed telecommunications towers. Recommendations were submitted to the Connecticut Siting Council on several aspects of siting procedures, particularly involving improvements to the consideration of scenic impacts, an ongoing project of the CEQ. The Siting Council adopted a recommendation that applicants be required to analyze scenic impacts on public waterways. The CEQ also recommended improving notice to residents who will have a view of a proposed telecommunications tower.

Citizen Complaints

As noted in last year's report, citizens of Haddam spoke to the Council about contamination of land and groundwater that has existed in their community for more than 25 years. Among many issues, the apparent lack of remedial action by one company was of particular note, as the company had been required by the DEP to investigate the contamination and prepare a clean-up plan. The Council decided to follow this case in detail in order to learn more about the adequacy of existing laws and programs. In April 2010, the Council wrote to the DEP recommending enforcement action against the company in question. In July, the Council wrote to Governor M. Jodi Rell describing the ongoing problems, the lack of action, and the need for changes and consolidation in state remediation and potable water programs. The DEP began legal

action against the company in late 2010, but there are many more components of the Tylerville solution, none of which are advancing with any apparent urgency.

The following are a sample of the many other complaints investigated in 2010:

- Diversion of stormwater from a university campus into a drinking water supply watershed without a permit.
- Weakness of laws regarding illegal felling of trees by a trespassing party on private land (a perennial source of complaints).
- Removal of a stand of pitch pine trees (a state conservation priority) from municipal land that had been purchased partially with a state grant.
- Proposed sales of Seaside Regional Center and other state properties and the potential loss of public access to shoreline property. (Update: In February 2011, the Office of Policy and Management published a notice in the Environmental Monitor indicating that public access to the shore at the Seaside Regional Center property would be preserved through an easement.)

The Council researched all of the complaints it received and offered recommendations to the relevant state agencies, where warranted. Some problems, such as illegal tree removal on private property, will require legislative action to correct.

The Word from Haddam

The Council periodically holds public forums in different parts of the state to learn what environmental topics are most on residents' minds. The information presented at these forums has been extremely useful to the Council.

In April 2010, the Council heard from citizens and municipal officials in Haddam. Dozens of residents turned out for the 5:00 P.M. forum and spoke about numerous environmental problems, many involving the actions and responsibilities of state agencies. The Council investigated all of them and responded to each speaker. Many investigations led to actions by state agencies and/or recommendations for legislation. Read a [complete summary of the speakers and the issues they raised](#).

At regular monthly meetings, the Council heard from organizations including the DEP, Department of Public Health, Connecticut Siting Council, Land Trust Alliance, Advocates for a Maromas Plan, Mansfield Conservation Commission, Town of Oxford's Economic Development Director, Citizens for Clean Groundwater, Rivers Alliance of Connecticut, and others.

Many people across the state expressed their concerns during 2010. The Council worked to address them all, and truly appreciates the efforts people made to bring environmental problems to light. The Council looks forward to helping citizens and agencies solve the challenges of 2011 and beyond.



Creation of the CEQ...

...was the central recommendation of the 1970 Governor's Committee on Environmental Policy. In the spring of 1971, the General Assembly adopted and Governor Thomas Meskill signed Public Act 872 which created the CEQ and the DEP. They put great faith in a panel of nine citizens to properly characterize Connecticut's entire environment, identify deficiencies and recommend solutions. The current members of the Council judge that their predecessors fulfilled that faith in outstanding fashion, and work to build on their success.

Council Duties

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 responsibilities include:

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

In addition, under the [Connecticut Environmental Policy Act \(CEPA\)](#) and its attendant regulations, the Council on Environmental Quality reviews Environmental Impact Evaluations that state agencies develop for major projects. The Council publishes the Environmental Monitor (<http://www.ct.gov/ceq/monitor.html>), the official publication for scoping notices and environmental impact evaluations for state projects under CEPA; and the official publication for notice of intent by state agencies to sell or transfer state lands.

CEQ Members

Barbara C. Wagner (Chair)

Resident of Glastonbury. Attorney with law office in Glastonbury, specializing in commercial and residential real estate. Member, Glastonbury Town Council, 2000-2010. Co-Founder and Board Member of Town Center Initiative, addressing walkability issues in Glastonbury's center. Board of Trustees, Diamond Lake Land Trust. Former member, State Open Space and Watershed Land Acquisition Board.

M. Howard Beach

Resident of Simsbury. Conservation & Zoning Compliance Officer / Planning Analyst, Town of Simsbury. Member, Simsbury Conservation / Inland Wetlands Commission from 1980 to 2004, Chairman from 1994 to 2004. Member, Board of Directors, The Farmington River Watershed Association, 2004 to 2006. Life Member and past Board Member, Simsbury Land Conservation Trust. Founding Member, Farmington Valley Biodiversity Project. Member, Simsbury Open Space Committee, 1999 to 2004. Member, CT Developers Council. Member, Government Affairs Committee, Simsbury Chamber of Commerce. Masters Degree in Environmental Law from Vermont Law School.

Janet P. Brooks

Resident of Middletown. Attorney with law office in East Berlin with a practice in environmental, administrative and land use law. Member of the Connecticut Bar Association Planning & Zoning Section and Environment Section. Co-author of *Connecticut Environmental Protection Act*, Volume 15 of the Connecticut Practice Series published by Thomson West. Formerly Assistant Attorney General in the Environment Department of the Connecticut Attorney General's (AG's) Office for 18 years enforcing the state's environmental laws running the gamut from noise, odor, water pollution, air pollution, pesticides to habitat protection and preservation of land. While at the AG's Office, coordinated the wetlands appeal practice and developed the legal training for wetlands commissioners for DEP's annual training. Recipient of 1984 German Marshall Fund grant to study the effect of citizen participation on hazardous waste clean-ups in four European countries. Based on those experiences, authored a chapter published in *America's Future in Toxic Waste Management: Lessons from Europe*. Staff Attorney for five years at the Connecticut Fund for the Environment, Inc., representing citizens groups in administrative and court proceedings. Began practice of law assisting the Middletown City Attorney in the city's opposition to the utility company's burning of PCB waste oil within the city boundaries.

Liz Clark

(Appointed September 2010)
Resident of West Hartford.

Bruce R. Fernandez

Resident of Farmington. Retired after 18 years owning and managing a software business serving insurance companies and independent agencies. Prior to that, was a consulting engineer specializing in energy efficient power plants and paper mills, Vice-President of Operations of a small utility serving Bronxville, NY and a jet engine design/test engineer. Masters degrees in Engineering and Management. Served in United States Army Corps of Engineers as small unit commander; served in Viet Nam and ten years in Army Reserves. Member, Board of Directors, Farmington Land Trust.

Karyl Lee Hall

Resident of Branford. Attorney with the Connecticut Legal Rights Project. Formerly, with Murtha Cullina, the Connecticut Fund for the Environment and Connecticut Legal Services. Co-Chair, Branford Conservation Commission. Co-chair, Scenic Roads Advisory Committee for Routes 146 and 77. Member, Advisory Board, Branford Land Trust. Vice President, Citizens for Branford's Environment, 2002-2009. Connecticut Bar Association Pro Bono Service Award, 2003. Former Co-chair, State Implementation Plan [for Air Management] Revision Advisory Committee.

John M. Mandyck

(Served through January 2011)

Resident of West Hartford. Vice-President of Government and International Relations, Carrier Corporation. Directs environmental sustainability activities on domestic and international levels. Former Director of Government Relations for the Greater Syracuse Chamber of Commerce. International Advisor to the China Green Building Council.

Richard Sherman

Resident of Chaplin. Architectural designer and construction manager of earth sheltered, passive solar and energy efficient residences. Former CEQ Representative to the Route 6 Advisory Committee (during previous term on CEQ). Charter Member, Transit Alliance of Eastern CT, and Citizens for a Sensible Six. Former Organizer, the Progress and Equity Partnership. Member of CEPA Working Group, League of Conservation Voters of CT. Former President, Northeast Chapter of ACLU-CT Board of Directors. Member of Peoples Action for Clean Energy (PACE) and Northeast Sustainable Energy Association (NESEA). Former Chair, Mansfield Transportation Advisory Committee. Former President, Mansfield Commonground. Member, Mansfield Planning and Zoning Design Review Panel. Former Chair, Mansfield Democratic Town Committee. Host and producer of the radio show, "A Distant Shore" on WHUS (91.7 FM, Storrs). Former Public Affairs Director of WHUS. Stopover host, American Tour d'Sol solar electric car race.

Ryan Suerth

(Served through July 2010)

Resident of Madison. Attorney with the firm of Saxe Doernberger & Vita, P.C., where he represents insurance policy holders in disputes with their insurers. Served for four years in the U.S. Army, including a one year deployment to Baghdad, Iraq. Served as legislative aide to former Connecticut Congressman Rob Simmons advising Mr. Simmons on a variety of issues, including transportation. Member, Madison Land Trust.

Norman VanCor

Resident of Harwinton. Owner of Buy Safe Home Inspection, LLC, and Mizzentop Antiquities. Served in United States Marine Corp in Viet Nam. Awarded the Navy Cross, Vietnamese Cross of Gallantry and other decorations. One of first ten inductees to CT Veterans Hall of Fame. Former Director, Yankee Energy in sales, marketing, government relations, communications. Founding member and President Emeritus, Quinnipiac River Watershed Association. Former member Rivers Advisory Committee. Former Chairman, Southington Conservation Commission. Former host of radio program on environmental topics. Former President, Southington Water Works. Former member, Board of Directors of Operation Fuel. Active Pheresis donor at American Red Cross with over 37 gallons of whole blood and platelet donations. Former Volunteer Hunter Safety Instructor for the DEP Conservation Education Program. Certified Master Gardener.

Acknowledgments

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The Council especially thanks the many citizens, businesses, and organizations who offered information and viewpoints to the Council throughout the year.

The Council also appreciates the work of its Executive Director, Karl Wagener, and Environmental Analyst Peter Hearn in drafting this report for review by the Council and preparing the final version for publication.

The Council notes the valuable contributions of two interns: Christopher Cech of the University of Connecticut and Jeremy Wilcox of Eastern Connecticut State University. Both contributed greatly to the research and production of this report.