**State of Connecticut**
**Department of Environmental Protection**
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# Protecting and Restoring Our Environment

**Annual Report 2009**

Amey W. Marrella
Commissioner

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Cover Photograph by Michael Melford Inc: White Memorial Foundation in the Litchfield Hills

**A Message from the Commissioner**

I am pleased to present The Connecticut Department of Environmental Protection (CTDEP) Annual Report for 2009. In the four decades since the first Earth Day on April 22, 1970, Connecticut has made great progress in cleaning up our air, water and lands, preserving open space and protecting wildlife. This 40$^{th}$ anniversary is a time to highlight our state's environmental progress, while recognizing the critical challenges that we still face.

Connecticut's rivers, streams, and lakes are cleaner now than they have been in the past 100 years. Rivers such as the Willimantic, Naugatuck, Pequabuck, Quinnipiac, Connecticut and Farmington, once seriously polluted, are now used for many recreational pursuits. Our public water supply reservoirs are provided a level of protection unsurpassed elsewhere in the country. More people than ever are using the state's water resources for enjoyment. Yet, in water quality management, major issues remain such as hypoxia (low dissolved oxygen) in Long Island Sound, combined sewer overflows, and nonpoint source pollution.

With regard to air quality, Connecticut has made considerable progress in reducing air pollution under the Federal Clean Air Act. Over the past 25 years, there has been tremendous progress in improving air quality by reducing emissions from Connecticut sources and other sources in upwind states. Connecticut has successfully achieved the health-based National Ambient Air Quality Standards (NAAQS) for carbon monoxide, lead, nitrogen dioxide, coarse particulate matter ($PM_{10}$) and sulfur dioxide.

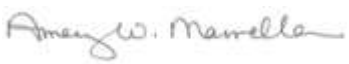
Ozone pollution during the summer months continues to be a challenge for Connecticut. This challenge continues despite a wide range of clean air strategies Connecticut has implemented that have reduced emissions from large electric generating units, manufacturing facilities, gasoline stations and other commercial operations. Most recently, CTDEP has been developing plans for attaining the NAAQS for ozone and fine particulate matter and for reducing regional haze. At the same time, we are deeply engaged in new challenges presented by climate change.

Finally, since the adoption of the State's Solid Waste Management Plan (SWMP) in December 2006, which set a goal of increasing the municipal solid waste diversion rate to 58% by the year 2024, this agency has focused on significantly reducing the amount of solid waste disposal by promoting source reduction, reuse, recycling, and composting.

CTDEP strives to ensure that when waste cannot be reduced, reused, or recycled, it will be disposed in an efficient, equitable, and environmentally protective manner.

The 40th anniversary of Earth Day reminds us of our commitment to achieving a better environment. We know there are critical tasks ahead of us. I hope you will find this report informative and that it will inspire you to do your part—whether as a citizen, an elected leader, or a company owner—to help protect Connecticut's environment.

Thank you



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## Protecting the Environment With Innovative Approaches

The Connecticut Department of Environmental Protection (CTDEP) is adopting innovative approaches as part of its continuing efforts to enhance its ability to address the complex environmental issues of the 21st century. CTDEP is undertaking Lean practices to maximize efficiency; increasing access to information with eGovernment systems; and promoting green practices at Connecticut hotels and other lodging facilities to achieve environmental gains.

### Lean Program Successes

In the summer of 2008, CTDEP launched its Lean initiative designed to identify and minimize wasted time and effort in permitting, enforcement and other programs of the agency. Lean, a continuous process improvement approach, begins with week-long "Kaizen" events where staff teams identify needed improvements and develop a one-year implementation plan.

As of March 2010, CTDEP has initiated 19 Lean projects that address processes related to environmental quality and conservation as well as business administration. Areas that have undergone Lean review include permitting, inspection, and enforcement in air, waste, and water pollution control programs; trout stocking; boating safety; requisition and purchasing; health and safety; information management; radiation registration; natural diversity database review; and forest management. Six to eight Lean projects are scheduled for summer/fall of 2010.

Through the Lean initiative, CTDEP is increasing the efficiency of the agency by eliminating wasteful and time consuming steps from various processes – all while maintaining the state's strong environmental standards. The additional environmental benefit of Lean is that improvements allow the agency to focus on its true mission of protecting the state's environment and free staff resources to address new environmental challenges.

Through Lean, extraordinary reductions have been achieved in the time it takes to review permit applications and pursue enforcement actions. These gains are noteworthy because they show that CTDEP is working to fulfill its important program responsibilities in a thorough manner and that the agency is striving to provide more timely and consistent service to the public it serves.

In this era of tight budgets CTDEP's Lean initiative is finding a way to maximize the productivity of CTDEP staff. As more innovative and efficient practices are implemented through Lean, CTDEP is able to make more effective use of staff to:

- Provide more timely decision-making
- Address new environmental challenges and meet new and expanding USEPA requirements
- Tackle emerging issues that are often related to personal lifestyle choices that impact the environment
- Promote environmental sustainability – that reduces energy costs and eliminates waste

For further information and to hear from CTDEP staff, please view CTDEP's Lean and Green Journey video: www.ct.gov/dep/lean.

## Examples of Results of Lean Events

| Lean Team/Project | Pre-Lean Goals | Post-Lean Results | Reduction/ Improvement |
|---|---|---|---|
| **Office of Long Island Sound Permit Program (Lean I – completed)**<br><br>One of the major permits of this program is the Structure, Dredging & Fill (SDF) permit. The program set out to eliminate waste in the application review process that had created extended processing times and inefficiencies, delaying permit issuance and preventing staff from undertaking new initiatives in permitting, compliance, and enforcement. The specific review covered from the permit application to issuance. | Reduce processing time of initial response letter by 85%<br>(205 to 30 days) | Average = 24 days | 88.5% |
| | Reduce processing time from application receipt to permit decision by 78% (566 to 125 days) | Average = 71 days | 88% |
| **Air Planning and Standards Division, Permit Modeling Program (Lean I – completed)**<br><br>This Division's air modeling process had impacted the timely issuance of new source review (NSR) air permits. The process reviewed included pre-permit application meeting through approval of a dispersion modeling analysis performed in support of a permit application. This analysis is particularly important for the review of new power generation projects. | Reduce processing time for modeling program review by 61% (154 to 60 days) | Average = 64 days | 58% |
| **Inland Water Resources Division, Permitting Program (Lean II – completed)**<br><br>Historical permit review processes and insufficient applications led to a substantial backlog to conduct the initial review of an application and response to an applicant for the Division's various regulatory programs (Inland Wetlands & Watercourses, Floodplain Management, Stream Channel Encroachment Line, Water Diversion, Dam Safety and Water Quality Certification). The work process review focused on the application workflow and sufficiency review processes. | Reduce response times back to applicants by 40% | Sufficiency review process being completed within 90 days (83% of the time) | 67% |
| | Collapse 7 regulatory programs into 2 technical disciplines | 7 programs to 2 technical disciplines | 65% |
| | Reduce backlog of pending applications (300 pending applications) | Backlog of pending applications = 132 | 78% |

| Lean Team/Project | Pre-Lean Goals | Post-Lean Results | Reduction/ Improvement |
|---|---|---|---|
| **Wastewater Discharge Permitting Program (NPDES)**<br>**(Lean IV – completed)**<br><br>Inefficiencies in the processing of industrial NPDES permit applications and the coordination needed with other Divisions and Bureaus had extended application processing times. The work process reviewed included the entire Industrial NPDES permit application review process. | Reduce time to process permit by 70%<br>(925 to 284 days) | Current average = 135 days (sample size is two applications) | 85% |
| **Water Enforcement Program**<br>**(Lean I - completed)**<br><br>This program operates three separate enforcement programs – Storm Water Permitting and Enforcement; Industrial Enforcement; and Field Compliance and Enforcement. Each of the program's administrative enforcement processes needed to be evaluated and standardized to improve overall enforcement program timeliness. The work processes reviewed were from the point of an issuance of a Notice of Violation (NOV), through to its subsequent next steps – either to closure or to an elevated enforcement action (i.e., draft Consent Order). | Reduce violation response review time by 50%<br>(60 to 30 days) | Average = 11.4 days | 81% |
| | Reduce time to draft enforcement document by 70%<br>(387 to 120 days) | Average = 96 days | 75% |
| | Reduce Notice of Violation (NOV) backlog by 75%<br>(998 NOVs to 250 NOVs) | Closed out 776 NOVs; Remaining 222 NOVs | 78% |
| **Solid Waste Enforcement Program**<br>**(Lean II - completed)**<br><br>The Solid Waste Enforcement Program needed to reduce enforcement processing times and inefficiencies to free capacity for new initiatives in compliance and enforcement (such as improving recycling compliance and increasing inspection rates of permitted facilities). The program evaluated solid waste enforcement processes, specifically between inspection and decision to issue formal enforcement action. | Establish electronic tracking mechanism for solid waste enforcement cases | Electronic system in place making for more efficient oversight and completion of cases | NA |
| | Reduce open enforcement cases by 10%<br>(651 to 586 cases) | Case load = 478 | 27% |

| Lean Team/Project | Pre-Lean Goals | Post-Lean Results | Reduction/ Improvement |
|---|---|---|---|
| **Storage Tank Compliance Inspection Program (Lean II - completed)**<br><br>The Underground Storage Tank Program must inspect 4,000 facilities at least once every 3 years, return facilities in violation to compliance and improve on facility compliance rates. The program's inspection process, including pre-inspection preparation, on-site inspection methods and post inspection follow-up needed to be evaluated and standardized to increase the number of inspections conducted. | Increase number of inspections from 20 to 100 per month | Exceeded goal = averaged 133 inspections per month | 565% |

**eGovernment: Electronic Systems for Reporting Air Emission and Water Discharge Data**

In February 2010 CTDEP launched a new, state-of-the-art online system for power plants, factories and other facilities to report their air emissions data electronically. The new system allows businesses and industries to streamline their reporting while giving the CTDEP instant access to the information it needs to ensure compliance with emissions permits and protect the quality of the air we breathe. It will also improve the transparency of state government by making air emissions data easily accessible in a timely manner to the general public.

Under the federal Clean Air Act, certain facilities are required to report air emissions data for pollutants such as oxides of nitrogen, volatile organic compounds, sulfur dioxide, particulate matter, carbon monoxide and lead. The emissions data is used for ambient impact analyses and strategic air planning.

The new Emissions Inventory Tracking (EMIT) system will allow Connecticut businesses and industries that face complex reporting requirements to submit annual emissions data through an online system. Under the pre-existing system, CTDEP obtained data on air emissions through a paper-based emissions statement submitted annually by the owner of a source of air pollution. The submitted data was then entered by CTDEP staff into an electronic database. The new system will benefit both the CTDEP and the regulated community in areas of efficiency, data validation, database management and retrieval of data.

CTDEP has also been working on systems for the submittal of electronic Discharge Monitoring Reports (DMRs) for water discharge permits. NetDMR is a Web-based tool developed by a consortium of state environmental regulatory agencies that allows National Pollutant Discharge Elimination System (NPDES) permittees to electronically file their DMRs directly into the United States Environmental Protection Agency's (USEPA) Integrated Compliance Information System (ICIS). NetDMR will reduce the burden on USEPA, states, and the regulated community; improve data quality; and expand the ability of both states and USEPA to target their limited resources to meet environmental goals. An essential component of NetDMR when fully implemented will be the exchange of data with ICIS allowing both permittees and the public to review DMR data specific to their discharge outfalls.

NetDMR has received approval from USEPA that it meets the requirements of the Cross-Media Electronic Reporting Rule (CROMERR). CROMERR specifies standards that govern electronic reporting to states, tribes, and local governments under USEPA-authorized programs. The CROMERR standards are designed to provide these electronic submittals with the same level of legal dependability as the corresponding paper submittals.

CTDEP regulates several hundred large onsite residential and commercial systems that are required to submit quarterly discharge monitoring reports. Reporting is currently accomplished using a cumbersome paper-based system. The new web-based Onsite Wastewater Reporting System will allow permittees to electronically submit information about their particular system and associated discharge monitoring data to CTDEP. This system will allow CTDEP to better inventory and track the performance of alternative sewage treatment systems, community sewerage systems, and large subsurface sewage disposal systems in compliance with Connecticut's Water Pollution Control Act and the federal Safe Drinking Water Act.

**Connecticut Hotels Go Green**

Beginning in May 2009, CTDEP began awarding Green Lodging certification to Connecticut hotels, motels and other lodging facilities for implementing business practices that have less impact on the environment. Achieving Green Lodging certification not only benefits the environment and the bottom line; it's a great marketing tool. Becoming a certified facility enables the owners to use the CT Green Lodging logo on any website or advertisement showing their patrons that the hotel values the environment.

The program is co-sponsored by CTDEP and the CT Commission on Culture & Tourism. To become certified, lodging owners complete a workbook where they check off environmentally smart practices that they have implemented at their facilities. A score of 100 points is needed to certify, but the workbook is filled with many more great ideas. Certification lasts for two years and owners will need to then re-certify at a higher level. This encourages continuous improvement and keeps these practices in good stead. Areas where facilities can earn points include: energy efficiency, water conservation, renewable energy (generated onsite or purchased), reduction of toxics by switching to green cleaners, landscaping with minimal use of fertilizer and pesticides, capturing waste heat and conducting green meetings and conferences.


If you would like to learn more about the program or find out which hotels in Connecticut have earned Green Lodging certification go to www.ct.gov/dep/greenlodging.

# Compliance Assurance

The mission of the CTDEP is to protect the public health and welfare and to conserve, improve and protect the natural resources of the State of Connecticut. As trustee of the environment for present and future generations, the CTDEP assures compliance by controlling pollution through regulation, enforcement, and licensing procedures; by managing the State's parks and forests and other recreational amenities; and by developing and coordinating compliance assistance and educational programs with other public and private agencies.

The CTDEP carries out its mission in a way that encourages the social and economic development of the State while preserving the natural environment and the life it supports. It is the policy of CTDEP to achieve the highest level of environmental protection for the citizens of Connecticut by use of traditional enforcement methods together with financial, regulatory, and compliance assistance, including the facilitation and promotion of pollution prevention techniques, to produce a comprehensive compliance assurance program. Appropriate use of the various means of compliance assurance will protect public health and the environment in the most cost-effective manner.

## CTDEP Develops Compliance Assistance Initiatives for Small Businesses and Small Quantity Generators of Hazardous Waste

### Small Commercial Businesses

During 2009, CTDEP offered a compliance assistance program directed at small businesses such as garden centers, retail home improvement centers, pool supply centers and hardware stores. The purpose of this assistance was to make retail facilities in Connecticut more aware of environmental regulatory requirements. Due to the size and nature of their business, this sector often gets overlooked, or falls outside the focus of traditional regulatory programs.

This initiative included the development of best management practices (BMPs) for proper waste, stormwater, and pesticide storage and handling. These BMPs focus on specific practices that are capable of preventing and minimizing groundwater and surface water pollution as a result of day-to-day activities in this sector. The BMPs have been published in

an easy to read guide entitled, *"Environmental Best Management Practices Guide for Small Businesses."* In addition to being available on the CTDEP web site, a copy of this guide was mailed to all known garden centers, retail home improvement centers, pool supply centers and hardware stores in Connecticut.

In addition to the Guide, CTDEP provided outreach training opportunities to over a thousand small commercial businesses, as well as speaking engagements at trade organization meetings.

**Small Quantity Generators of Hazardous Waste**

The compliance assistance initiative for Small Quantity Generators (SQG) of Hazardous Waste included updating and improving the CTDEP's existing guidance manual. The result was a user friendly guide entitled *"A Road Map to RCRA: Small Quantity Generator Requirements."* This handbook covers such topics as proper waste management, waste minimization and recycling and includes exercises to help the SQG better understand the relevant topics.

In addition to the handbook, the SQG universe was invited to attend free training seminars. The seminars are designed to improve the understanding of and compliance with Connecticut's Hazardous Waste Regulations by businesses in the commercial and industrial sectors. Attendees are provided with the SQG handbook, a student workbook including the training presentation and exercises, and a short final quiz for summary of the material reviewed during the training.

CTDEP is also in the process of developing an e-learning tool that will provide on-line interactive training for all categories of hazardous waste generators. The on-line training is being developed to assist facilities in meeting the initial and annual training requirements for generators of hazardous waste.

**"Clean Marina" Certifications on the Rise**

During 2009, 12 additional marinas earned "clean marina" certification, joining the 15 previously certified. The CTDEP Clean Marina Program is a voluntary program that encourages marina operators to reduce nonpoint source pollution associated with the operation of recreational boating facilities in Connecticut's inland and coastal waterbodies, and promotes clean water and clean air. Nonpoint sources of pollution occur when water

runs over land, picks up pollutants, and deposits them in surface waters. The U.S. Environmental Protection Agency (EPA) cites nonpoint source pollution as a leading cause of water quality problems throughout the United States. Any marina, boatyard, or yacht club on any inland or coastal body of water in Connecticut that meets the established criteria is eligible for voluntary certification as a Clean Marina.


To become certified as a Connecticut Clean Marina, marina operators must show that their facility operates in compliance with all applicable environmental regulatory requirements, and illustrate voluntary operation at standards above and beyond compliance in seven categories: mechanical activities, painting and fiberglass repair, hauling and storing boats, fueling, facility management, emergency planning, and boater education. Certified Clean Marinas are authorized to fly a Clean Marina flag and to use the Clean Marina logo on their publications and letterhead. CTDEP also promotes certified Clean Marinas through the Clean Marina Program public outreach efforts.

Some of the voluntary efforts that these facilities have undertaken to reduce their impact on the environment include switching to green cleaning products, prohibiting the disposal of fish waste in the marina basins, refraining from using any pesticides or fertilizers on site, providing convenient recycling containers for customers and staff to use for plastic, glass and metal food and beverage containers, and providing clean boating information to customers in the ships stores. Many of the facilities also offer spill proof oil changes to customers, provide oil/water separation services to remove oil from bilge water, use native plantings in the landscape, provide bags for customers to pick up pet waste for proper disposal, and recycle shrink-wrap both in the fall and spring from customers' boats.

**Phase I of "Tire Pond" Closure Completed**

Located off of State Street and straddling the town line between Hamden and North Haven is a massive unpermitted landfill of tires known as the "Tire Pond." The Tire Pond is a former clay quarry that supported manufacturing of bricks and operated until the 1950's. Following the discontinuance of clay removal operations, the quarry pit was filled with water

from the adjacent Quinnipiac River. The original tire pond occupied an area of approximately 26 acres and is estimated to be 140 feet deep in some locations. During the late 1970's the tire pond was utilized by the property owners of the site for the unpermitted disposal of tires. This illegal use involved depositing tires into the water body, a practice that continued, despite efforts by the state to stop it, until 1995 when by order of the CTDEP, the practice was finally discontinued. The actual number of tires disposed at the tire pond is unknown, but estimates have ranged from 15 to 30 million tires.

CTDEP has been pursuing enforcement against the owners of this site for over 30 years, and in conjunction with the Office of the Attorney General and the Chief State's Attorney's Office, have pursued both criminal and civil legal actions as well. To date there are numerous court orders in the state's favor. Penalties of about six million dollars, including fines, clean-up costs and interest, have been awarded and are owed to the state and Town of Hamden. The most culpable owner was incarcerated following a criminal conviction in 2003. In January 2009, the state won another lawsuit against the owners of the site and was successful at "piercing the corporate veil" of an affiliate company of the owners.


The most notable achievement this year at the Tire Pond was the elimination of exposed tires and open water through a strategic and multi-year filling effort coordinated by CTDEP under a court order dating back to 2001. For a variety of reasons (i.e. abatement of a serious potential fire hazard, mosquito breeding concerns, etc.) CTDEP fought to cover the tires in the pond. To date, over one million cubic yards of soil and sediment has been approved and utilized to fill the tire pond.

The final objective of this effort is to cap and close the tire pond with a stable surface area in a manner that integrates the beneficial use of approved fill materials into the site's closure and renders the site suitable for future land use activities. All fill materials placed at the tire pond are evaluated against a site specific analytical protocol before they are approved for use. Recent filling efforts have been divided into two major phases.

- *Phase I* - involved filling of the remaining open water body and the covering of the exposed tires.
- *Phase II* - involves the placement of additional fill material on top of the former open water body to create an engineered stable landform, and surcharge the tire disposal area.

### $1.8 Million Settlement with Industrial Laundry Company for Harmful Emissions

In February 2010, CTDEP and the Office of the Attorney General (AGO) entered into a $1.8 million settlement with an industrial laundry facility for emitting toxic substances that threatened public health as well as improperly managing hazardous waste and illegally discharging wastewater. G & K Services Inc. (G & K) operates an industrial laundry facility in Waterbury where it launders uniforms, floor mats, mops, garments, linens, continuous roll towels, and dust products. Located within close proximity to residential homes, G&K's emissions created a nuisance odor, prompting complaints from neighbors. A state investigation confirmed unsafe emissions that could be irritating and damaging to lungs, eyes and skin.

Under a stipulated judgment, G&K will pay $1.8 million in penalties. The settlement provides $1.189 million in penalties to the state's General Fund; $111,000 to CTDEP for unpaid fees; and $500,000 to the City of Waterbury for environmental projects to benefit Waterbury citizens. The settlement prohibits G&K from laundering industrial towels in Connecticut until it strictly adheres to all applicable environmental regulations. It also includes provisions for G&K to switch to more environmentally friendly detergents that do not contain alkyl phenol ethoxylates (APEs), which in wastewater discharges can be are toxic at low levels and are suspected endocrine disruptors.

G&K violated its air permits and state regulations by failing to install proper pollution control equipment on its washers and failing to obtain required permits for the construction and operation of its industrial dryers, which are considered a stationary source of air pollution. G&K's industrial dryers have the potential to emit more than 50 tons of VOCs annually.

### Bridgeport Energy to Pay $298,000 in Civil Penalties

In December 2009, CTDEP entered into a consent order with Bridgeport Energy, LLC to address past emission violations at the company's power generating facility in Bridgeport. The consent order requires Bridgeport Energy to pay a $298,000 civil penalty for the alleged violations. In addition, Bridgeport Energy has paid $345,500 in past due emission fees and

spent close to $1 million on the acquisition and installation of new pollution control equipment to address the violations.

Bridgeport Energy operates two electricity-generating turbines at 10 Atlantic Street in Bridgeport. Through a review of submitted data, the CTDEP became aware that the company was not properly monitoring and recording carbon monoxide emissions during periods of startup and shutdown on the turbines and had under-reported their emissions. CTDEP directed Bridgeport Energy to begin collecting carbon monoxide data during periods of startup and shutdown to determine the magnitude of emissions during these periods.

CTDEP determined that the company under-reported annual carbon monoxide emissions and that the annual carbon monoxide limit was exceeded in calendar years 2003, 2004 and 2006. The excess emissions were attributed to the release of uncontrolled emissions during frequent startups and shutdowns of the facility's turbines. In addition to the emissions violations, the facility was also cited for monitoring, recordkeeping and reporting violations associated with carbon monoxide. Bridgeport Energy agreed to pay a $298,000 penalty for these violations.

Bridgeport Energy is required to pay an annual emission fee based upon the amount of emissions released by the facility. To account for the excess emissions that went unreported in the past the company was required, by regulation, to pay an additional $345,000 in fees to CTDEP.

In response to the violation, the company installed equipment to clean up their emissions. Bridgeport Energy purchased and installed oxidation catalysts on each turbine to reduce the amount of carbon monoxide released to the atmosphere. Additionally, the company installed high-range carbon monoxide monitors to record emissions during the startup and shutdown of the turbines. The total investment to correct the violations was approximately $980,000.

The consent order requires Bridgeport Energy to submit an application for a permit modification that incorporates the facility's new control equipment and carbon monoxide monitors. It will also include new requirements and limits for carbon monoxide emissions during periods of startup and shutdown.

**CRRA and Covanta Enter Consent Orders for Air Emissions Violations at Plants in Wallingford and Hartford**

In November 2009, CTDEP entered into consent orders with the Connecticut Resource Recovery Authority (CRRA) and Covanta for cases involving air emissions violations at trash-to-energy plants in Wallingford and Hartford that will improve operating procedures at these facilities and provide funding for new municipal recycling initiatives. Covanta operates both facilities under contract with CRRA. The CTDEP will continue to ensure that the facility is in compliance with all permit requirements.

The Wallingford consent order includes a payment of $355,000 to a CTDEP fund for environmental projects as the result of a violation of permit limits for dioxin emissions at the Wallingford facility. These funds will be used by CTDEP to assist municipalities in strengthening recycling programs, which will save money for cities and towns by reducing their costs for refuse disposal.

The dioxin violations at the plant were discovered during the facility's annual performance tests conducted on May 23, 2007. Follow-up testing on October 9 and 10, 2007 showed that dioxin emissions from the plant were back within permitted limits. The consent order also addresses violations at this facility stemming from the failure to properly perform quarterly audits on the facility's continuous emissions monitoring equipment during the third quarter of 2006. The consent order also requires CRRA to submit a report detailing the cause of the excessive dioxin emissions; conduct more frequent tests for dioxin emissions from 2009 through 2013; and to evaluate the environmental impact of the increased use of carbon to control dioxin emissions.

The Hartford consent order includes a provision for installing a new monitoring system to provide continuous ammonia emissions data from the Hartford plant as a result of violations of permit limits for ammonia emissions at this facility. The presence of ammonia in the air contributes to the formation of fine particulate matter, a federally regulated air pollutant.

The system is expected to cost approximately $70,000 and will be the first of its kind at a Connecticut trash-to-energy facility. The monitoring system will provide continuous real time data concerning ammonia emissions to ensure compliance with permit limits. It will help provide opportunities to minimize ammonia emissions and PM2.5 emissions in the ambient air.

**Failure To Restore Damaged Tidal Wetlands Results in $100,000 Civil Penalty**

In October 2006, CTDEP issued a cease and desist order against Michael and Terry Lynn Liebig for destroying about 4,500 square feet of tidal wetland on the Thames River in Uncasville by creating a beach and constructing an 11-foot wide, 50-foot long concrete boat ramp into the waterway. The Liebigs never sought local, state or federal permits for the work. Following issuance of the order the Liebigs agreed to rip out the landing and restore the wetland. When they failed to do so, CTDEP referred the case to the Office of the Attorney General to file a lawsuit to enforce the order.

The case resulted in a judgment against the Liebigs issued by the Superior Court in July 2009 that requires removal of the boat ramp, restoration of the damaged tidal wetlands and payment of a $100,000 civil penalty. The penalty is one of the largest ever for a tidal wetlands law violation in Connecticut.

**Marinas Get On Board to Properly Manage Wastewaters**

CTDEP and the Connecticut Marine Trades Association (CMTA) have been working cooperatively over the last several years to provide education, outreach and technical assistance to marinas that engage in vessel bottom pressure washing activities to ensure that the wastewaters generated from these activities are managed in an environmentally sound manner in compliance with state and federal environmental laws. Given the difficulties in moving an industry from long-standing practices to regulatory compliance, along with the need for the industry to explore and implement environmentally appropriate treatment and disposal measures, CTDEP initiated a targeted compliance initiative.

In May of 2009, the CTDEP and CMTA negotiated a resolution that provides an enforceable timeframe for marinas to come into compliance with existing state and federal requirements for the management of wastewaters generated from vessel bottom pressure washing activities. If by September 30, 2009 a marina signed onto the terms and conditions of a consent order that was developed cooperatively by the CTDEP and CMTA, the marina was given until December 31, 2010 to come into full compliance.

The consent order requires marinas to implement the Best Management Practices ("BMPs") set forth in the 2002 Clean Marina Guidebook for the interim management of vessel bottom pressure washing wastewater; prepare and complete plans and specifications for the design, construction, installation, operation and maintenance of any measures for the containment,

collection, treatment, storage, discharge and/or hauling of vessel pressure washing wastewaters; file all required applications for and obtain all local and state permits, licenses or approvals; and submit certification that all the required actions have been completed.

More than 50% of marinas in the state have either entered into the consent order or have indicated that they are already in compliance with the vessel pressure washing requirements. The remaining facilities are being prioritized by CTDEP for inspection and any necessary follow-up measures to bring them into compliance.

**Enforcing Solid Waste Requirements**

Two recent court decisions illustrate how important it is for solid waste transfer stations to be properly permitted and compliant with permit conditions to assure that solid wastes are managed in an environmentally protective manner.

In 1997, the CTDEP initiated legal action against Joseph Cammarota d/b/a Target Disposal Service and Camm of Stamford, Inc., a solid waste hauler and operator of unpermitted solid waste facility. CTDEP obtained numerous court injunctions and Cammarota was found in contempt of court on five separate occasions. In 2009, the case went to trial and the court found the defendant was operating transfer stations at two locations. The Judge imposed $276,814 in civil penalties and outstanding fines from previous court actions along with a permanent injunction for both sites to immediately cease bringing solid wastes to and/or operating a solid waste transfer station, and to remove and dispose of all remaining solid wastes remaining at the sites.

In the second case of Associated Carting, Inc., D.C. Waste Management Inc. located in Milford, and Success Inc. located in Stratford, CTDEP in 2007 discovered several unpermitted solid waste facilities operated by the defendants and obtained temporary and permanent court injunctions to prohibit them from operating a transfer station and from creating a discharge without a permit to the waters of the state. In January 2010, the court affirmed the injunctive provisions and levied a civil penalty in the Associated Carting, Inc. and D.C. Waste Management, Inc. and Success, Inc. cases totaling $583,500. In addition to the injunctions and penalties, the Judge resolutely affirmed that Success, Inc., as property owner, did in fact also operate a transfer station, thus affirming CTDEP's definition of a transfer station. Lastly, the Judge also affirmed the ability of CTDEP to take any action, not restricted to orders, regarding violations of the Solid Waste Management Regulations.

**Environmental Justice Public Participation Plans**

In January 2009, a new law became effective to ensure that Environmental Justice Communities are provided enhanced notice leading to meaningful public participation in certain permitting processes. Connecticut General Statute Section 22a-20a, along with the CTDEP's existing Environmental Justice Policy, requires applicants seeking a permit for a new or expanded "applicable facility" that is proposed to be located in an "environmental justice community," to file an Environmental Justice Public Participation Plan with and receive approval from the CTDEP ***prior*** to filing any application for such permit.

During 2009, CTDEP developed guidance, templates and a Public Participation Plan form to assist applicants in preparing the participation plan and associated documents that are required to comply with the new law. In 2009, five Environmental Justice Public Participation Plans were submitted and approved by the CTDEP. The Plans initiated two successful community environmental benefit agreements. The City of New Haven agreement will result in significant reductions in emissions at an existing electricity generating plant that requested a permit for expansion. In addition, New Haven will receive funding in the amount of $500,000 for projects that will have the maximum benefit to air quality in the neighborhoods surrounding the facility. The second community environmental benefit agreement in the City of Bridgeport will result in funding to start a civilian conservation corp.

**Brownfields Development**

In July 2009, Governor M. Jodi Rell signed a bill that will help developers proceed more quickly with the clean-up of contaminated brownfields sites and creates greater incentives for municipalities and economic development entities to participate in reuse of these underutilized properties. The new law, Public Act No. 09-235, *An Act Concerning Brownfields Development Projects*, will help the state reuse valuable properties thereby helping to preserve our undeveloped land.

A brownfield site is real property where expansion, redevelopment, or reuse is complicated by the presence or potential presence of pollution, and which property is unused or significantly underused. Restoring these sites to productive use is not only good environmental policy but helps revive local economies through job creation and expanded community development. This law will help remove some of the hurdles for developers, who see great potential in these idle properties and municipalities who are eager to see them revitalized.

The 2009 Public Act includes deadlines for achieving remediation milestones at sites subject to the state Property Transfer Act. Prior amendments to the Property Transfer Act in 2007 created a three year window for CTDEP to audit final cleanups performed under the supervision of a private Licensed Environmental Professional (LEP), giving all parties certainty that after three years the cleanup will not be questioned. The 2007 amendment also clarified the requirement to complete site investigations within two years, which will aid developers who are interested in reusing brownfields, but who need to know the magnitude of the pollution at a property when they are evaluating potential development. These amendments in 2007 and 2009 to the Property Transfer Act will create a greater universe of sites with complete investigations that will be ripe for redevelopment and will help more sites complete the cleanup process in a timely manner. Future owners and developers will be able to make decisions on brownfields based on actual information and more properties will achieve cleanup.

The Public Act also establishes a program –the Abandoned Brownfields Cleanup Program – that will eliminate a brownfield developer's obligation to investigate and remediate pollution that on the property prior to their acquisition. This program is available for important economic development projects at properties that have been unused or significantly underused for at least ten years, properties where the polluter is not unable to clean up the pollution, and for developers that agree to cleanup the pollution on the brownfield. The program is administered by the Office of Brownfield Remediation and Development, at the Department of Economic and Community Development (DECD), in consultation with CTDEP.

The legislation also streamlines regulatory criteria for the redevelopment of brownfields located in the floodplain, when state resources will be provided to the project. Reuse of these brownfields, which are often historic mills, are often critical to economic and community development efforts. In addition, the CTDEP and the DECD recently agreed to a series of new administrative reforms that will expand the activities allowed under the agencies' general permit process that will make mill redevelopment projects more user-friendly and efficient. Inclusion of these new activities, such as environmental remediation, dredging projects, structural rehabilitation of historic and residential buildings approved by this streamlined process will not be subject to the formal CTDEP floodplain certification process.

Other key provisions of the public act includes:

- Expanding liability protection for municipalities that acquire brownfields or enter a brownfield property to perform pollution investigations;
- Creating a new process whereby LEPs can approve cleanups prior to completing long-term monitoring or other steps that occur after most of the active cleanup is complete; and
- Permitting any party, rather than just owners or municipalities, to enter into a voluntary remediation program.

Connecticut has dedicated more than $22.3 million for brownfield remediation and related development activities. The state also recently applied for $2.3 million in federal stimulus funds for brownfield redevelopment. The Office of Brownfield Remediation and Development has been an active partner in assisting numerous developers around the state.

Also in 2009, the Remediation Division used Lean techniques to improve the application and approval process for Environmental Land Use Restrictions (ELURs). An ELUR is a deed

restriction that an owner grants to CTDEP at a property subject to state cleanup laws, to lock in an owner's intent to restrict future use of the property and to prevent exposure to contaminated soil or groundwater that will be managed in place in a manner that is safe for current uses. The ELUR is an optional remedy approach, and is very common at brownfield sites. A Lean team developed process and information improvements that will continue the trend of faster and better ELURs: the average time for applicants and CTDEP to get from initial submittal to a final ELUR has been trending down – from approximately 16 months five years ago, to roughly eight months a year ago, and now heading to three months as a result of the Lean team's work. Continuous process improvements such as this will aid those who cleanup polluted sites and those that wish to redevelop this valuable land.

**New Website with Digital Maps and Data on State's Environment and Natural Resources**

CTDEP and the University of Connecticut Center for Land Use Education and Research (CLEAR) launched a new website in December 2009 called Connecticut Environmental Conditions Online (CT ECO) that includes the latest and most accessible online maps and tools for viewing Connecticut's environmental and natural resource information.

The new CT ECO website, www.cteco.uconn.edu, includes environmental and natural resource information for Connecticut such as protected open space, farmland soils, wetland soils, aquifer protection areas, water quality classifications, and drainage basins. Each can be viewed separately or in conjunction with other environmental and natural resource information. In addition, CT ECO includes several sets of high resolution imagery. Local agencies and the general public will find CT ECO easy to use and a valuable tool as they plan their land use options.

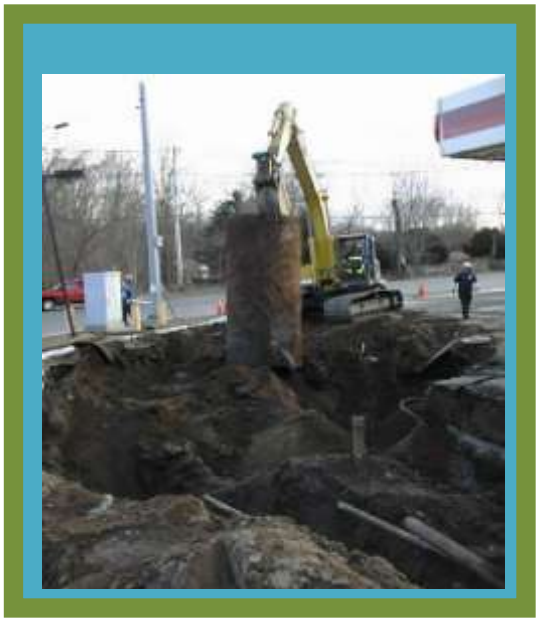
CT ECO was one of several initiatives undertaken following Governor M. Jodi Rell's Executive Order No. 15, which set the state on a path toward "Responsible Growth," and action on this issue in the 2007 session of the General Assembly. These initiatives have been overseen by an Office of Responsible Growth, formed under the Intergovernmental Policy Division of the Office of Policy and Management, and an Interagency Steering Council that consists of representatives of key state agencies.

CT ECO uses advanced software that combines internet and geographic information system (GIS) technology. A previous collaboration between UConn and CTDEP, the Community

Resource Inventory, provides basic natural resource maps for every town in the state to users online. CT ECO builds upon this approach, providing many additional data layers and offering multiple and flexible ways to access maps and data.

**CTDEP Receives $2 Million in LUST Recovery Act Stimulus Funds**

This year, CTDEP entered into a Leaking Underground Storage Tank (LUST) Recovery Act cooperative agreement with the US EPA and was awarded $2 million in American Recovery and Reinvestment Act (ARRA) of 2009 funds to identify, assess and cleanup federally regulated LUST sites.



The funding is part of the $200 million appropriated under the ARRA to address LUST sites nationwide. The funds will be used for oversight of the assessment and cleanup of leaks where the responsible party is unknown, unwilling, or unable to finance the cleanup. The sites are typically abandoned gas stations or bulk re-sale heating fuel facilities. In addition to cleaning up sites and protecting Connecticut's groundwater, this project is expected to create and/or retain jobs and release the burden a contaminated property may pose to redevelopment and new economic activity.

In order for a site to be eligible for cleanup using Recovery Act funds, the CTDEP needed to search past inspection records, perform on-site compliance inspections, and finally collect subsurface samples to determine if a release had occurred. During the summer and fall CTDEP relied upon its Geoprobe subsurface sampling equipment and on-site testing mobile laboratory at twelve abandoned locations to determine if a release of petroleum had occurred. To find potential abandoned sites, over 1,000 past UST compliance inspection reports were reviewed and on-site UST compliance inspections were done at over sixty locations. The impetus was to find abandoned sites with federally regulated USTs that leaked and released petroleum into the subsurface environment.

As a next step, CTDEP will complete subsurface investigation work at seven abandoned leaking underground storage tank sites and begin cleanup actions at four sites.

According to the US EPA, leaks from underground storage tanks are the most common source of groundwater contamination and petroleum is the most common contaminant. Groundwater supplies drinking water for about sixty percent of the state's population-two million of our state's 3.5 million residents. Protecting this natural resource is essential for the health and safety of Connecticut's residents.

**705 Acres on Skiff Mountain Protected from Development**

Six properties on Skiff Mountain in northwest Connecticut have been permanently protected from development. Combined, the properties total 705 acres and all are now protected from future development through conservation easements funded by the U.S. Forest Service Forest Legacy Program. The State of Connecticut will manage the easements.

After The Trust for Public Land (TPL), a national conservation organization, protected 445 acres of land on Skiff Mountain in 2003, a group of landowners approached TPL to support permanent protection of their properties. Now these conserved properties will establish important linkages to more than 7,000 acres of protected local, state, and federal forest and recreation lands, including Macedonia Brook State Park, the Appalachian Trail, and many land trust-managed lands.

Over the last six years, TPL has worked with the state CTDEP, the Connecticut congressional delegation, and the U.S. Forest Service to assemble funding from the Forest Legacy Program (FLP) to support the purchase of the conservation easements.

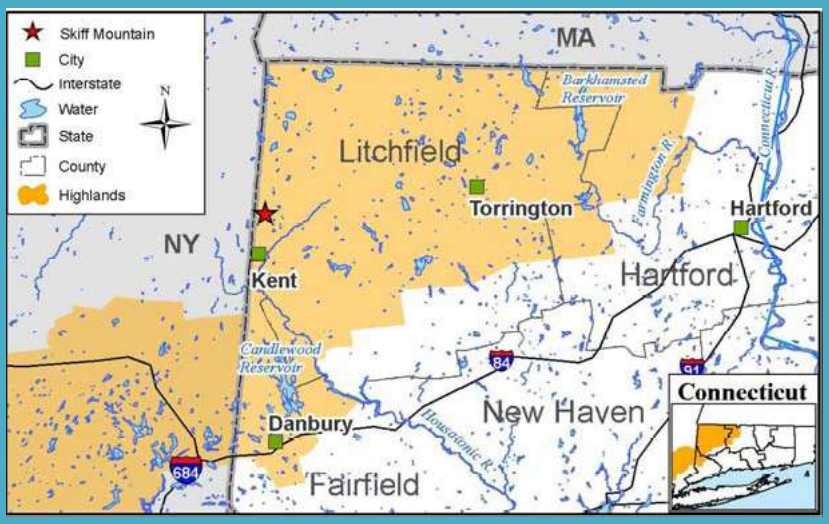
To fund the purchases of the conservation easements, two separate federal appropriations totaling $1.97 million were secured from the FLP by the Connecticut Congressional delegation, including U.S. Senators Christopher Dodd and Joseph Lieberman and U.S. Congressman Chris Murphy. The easements, worth more than $8 million, are being purchased by the state for less than $2 million, thanks to the considerable generosity of the landowners.

Conservation of the six Skiff Mountain properties adds to a belt of forest within the viewshed of the Appalachian Trail, making its protection of both regional and national significance. Skiff Mountain was identified as a priority by the Litchfield Hills Greenprint Program, managed by the Housatonic Valley Association and established with support from TPL. The Greenprint identifies Skiff Mountain as a top forest conservation opportunity for Southern

New England. Skiff Mountain is also a key feature in the nationally significant Highlands region—a 2 million acre forest, farm, and watershed complex stretching from eastern Pennsylvania through New Jersey and New York to northwest Connecticut.

Predominately forested, the properties provide important habitat for larger mammals, including bear, bobcat, and coyote, that require large tracts of unbroken forests. The Skiff Mountain properties also support declining songbird species, such as golden-winged warbler, blue-winged warbler, and wood thrush.

Skiff Mountain provides important habitat for bears, bobcats, fishers, and coyotes, in addition to migratory bird species, such as golden-winged warbler, wood thrush, wormeating warbler, and blue-winged warbler, that rely on intact forests for breeding, foraging, and migration. The State-listed endangered northern harrier, and threatened coopers hawk and great egret are also found here. Skiff Mountain is typical of Connecticut's northern uplands transitional hardwoods zone with northern red oak, white ash and black birch. Northern hardwoods–sugar maple, beech, yellow birch, white oak, black oak, shagbark hickory, and bitternut hickory– are also present. Skiff Mountain is part of the Housatonic River Watershed, which begins in Massachusetts and drains to the Long Island Sound. Macedonia Brook, Skiff Mountain's subwatershed, is a Class A stream and contains native brook trout, blacknose dace, longnose dace, and tessellated darter.



# Clean Water

**Proposed Regulations To Better Protect State's Rivers and Streams**

In October 2009, CTDEP proposed new stream flow regulations as required by Section 26-141b of the Connecticut General Statutes. The Statute directs CTDEP to develop regulations that would expand the coverage of the stream flow standards and regulations to include all rivers and streams, rather than only those stocked with fish, as was the case previously. The statute further directed CTDEP to develop standards that balance the needs of humans to use water for drinking, washing, fire protection, irrigation, manufacturing, and recreation, with the needs of fish and wildlife that also rely upon the availability of water to sustain healthy natural communities.

The proposed regulations were made available for public review and comment in October 2009 and it is anticipated that the final proposed regulations will be released during the summer of 2010.

Given the complexity of, and interest in, this topic, the comment period was 114 days rather than the 30-day comment period typically provided for regulatory matters. A formal public hearing on the proposed regulations was held on January 21, 2010. All comments submitted to CTDEP in writing or offered at the public hearing were considered in the development of the proposed final regulations. The proposed final regulations must be approved by the Legislature's Regulations Review Committee.

These proposed regulations were developed through a three year process of extensive review and study that involved scientists, university professors, river advocates, fishery experts, agricultural interests and water companies.

The need for streamflow regulations was heightened in July, 2002, when the case of Waterbury v. Washington brought attention to the issue of stream flow and water rights in Connecticut. The cities of Waterbury, Middlebury, Watertown and Wolcott sought to maintain their water withdrawals from the Shepaug River for their public water supply. Waterbury had been diverting water from the Shepaug River since 1917. Concerned residents downstream from Waterbury's diversions who believed Waterbury's withdrawals

were causing summer flow conditions to slow, brought the matter to CTDEP and the Department of Public Health (DPH). Waterbury sought a declaratory judgment that their water withdrawal and operation of the Shepaug dam was not violating those downstream users. This court decision involved a resolution including a flow regime for the Shepaug that allowed for both human use and ecological flows. In large part in response to the court case, Public Act 05-142 was passed in 2005 and requires CTDEP to develop "Minimum Water Flow Regulations." That Fall, the Fenton River's flow fell to zero, attributable to water withdrawals by the University of Connecticut and surrounding areas, which further punctuated the need for revised streamflow regulations.

## Water Quality

### *Connecticut Receives Stimulus Funds For Wastewater Treatment Infrastructure Improvements*

The State of Connecticut received $48.5 million in federal stimulus funds to help dozens of municipalities – large and small – repair and update aging water and sewer infrastructure with projects that will create immediate jobs for construction workers, designers and engineers.

The projects were selected after an extensive public comment and hearing process and expands the number of projects supported through the Clean Water Fund (CWF). The $48.5 million in stimulus funds from the American Recovery and Reinvestment Act of 2009 (ARRA) provides an additional $85 million for clean water projects because of the "leveraging" benefit of the CWF. Through bonding proposed by Governor Rell and approved by the state Bond Commission, the state now has $270 million available for clean water projects.

The types of projects include:

- Combined sewer overflow (CSO) projects to separate storm and sanitary flows from combined sewers to minimize the number and volume of overflows.
- Denitrification projects at water pollution control facilities to remove nitrogen from discharges. High levels of nitrogen contribute to lower levels of dissolved oxygen in Long Island Sound – which has a severe impact on plant and aquatic life.
- Sanitary sewer construction projects to address failing septic systems.

- Infiltration and inflow removal projects that will result in less extraneous flows entering sanitary sewer collection systems. This will translate into less overflows and allow for more stable operation of treatment plant.
- Green infrastructure projects that include a demonstration project for the grounds of the State Capitol and other nearby state office buildings that would infiltrate wet weather runoff into the ground rather than piping it into the combined sewer system.
- Projects to use alternative and renewal energy technologies to reduce the costly demand for electricity at waste water treatment plants.

The communities chosen for clean water projects range from the state's largest – Bridgeport – to smaller towns such as Marlborough and New Hartford. Many of these projects are deemed "shovel-ready," meaning they have obtained all the necessary permits and are ready to go out to bid. One of the largest design and construction projects is a $66 million sewer overflow system for the Metropolitan District Commission.

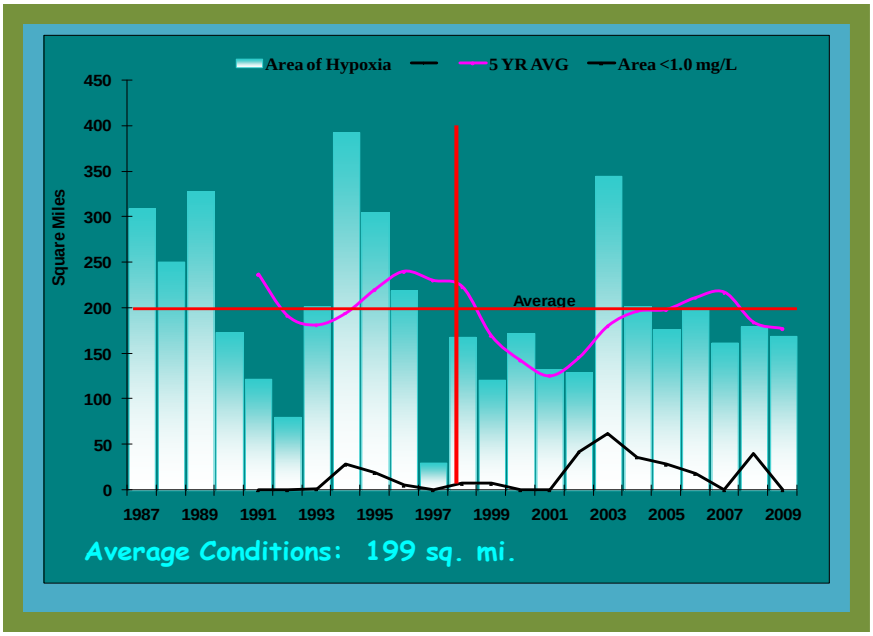
***Charting Progress in Long Island Sound***

Hypoxia, the condition of low levels of dissolved oxygen, impacts up to half of Long Island Sound's bottom waters each summer. The primary cause is excess nitrogen, which enters the Sound through a variety of sources. Primary sources of nitrogen include sewage treatment plants, nonpoint sources (e.g., from lawns, septic systems and farms), atmospheric deposition of nitrogen oxides from automobiles and power plants to our west, and stormwater runoff from urbanized areas. Nitrogen is also found as a natural component of the Sound's physical environment, but human sources have greatly enriched the load of nitrogen to the Sound.

Although other nonpoint, stormwater and atmospheric sources will need to be reduced to completely remedy the amount of excess nitrogen, of special concern are the 105 sewage treatment plants ("STPs") in CT and NY that discharge the largest amount of nitrogen into the Sound or its tributaries.

The figure on the next page illustrates how the trend towards decreasing nitrogen discharges from both point and nonpoint sources has resulted in less area affected by hypoxia over time. The 5-yr average is falling and only one year (2003) substantially exceeded the long-term average area impacted of 199 sq. mi. This improvement is despite a warming trend, which makes hypoxia worse.

***Area and Trend of Hypoxia in Long Island Sound***




As part of the Long Island Sound Study partnership (comprised of CTDEP, NYDEP, and USEPA, Regions 1 and 2), the 2001 hypoxia management plan is being revised using new modeling and research to review nitrogen management targets. This adaptive approach will ensure comprehensive and effective nitrogen load management planning to restore the water quality of Long Island Sound. The revised plan will identify nitrogen management targets for other states within the watershed that contribute to the problem. The partnership is also promoting low cost alternatives, primarily engagement of the public to act responsibly with property management, watershed initiatives, fertilizer use and septic system maintenance.

**New Website Provides Innovative Ways to Explore Long Island Sound**

The University of Connecticut (UCONN), in cooperation with the CTDEP has enhanced a dynamic website that allows users to explore Long Island Sound with state-of-the-art oceanic technology and a host of new video programs.

The images and videos can be viewed at www.lisrc.uconn.edu/explorelis. The site also describes the various habitats in the Sound, discusses its history and geology, and provides information on how its environment is affected by human activity.

The site was originally developed in 2007 with a $24,000 grant from the CTDEP Long Island Sound License Plate Fund and a collaboration between the University's National Undersea Research Center (NURC) and the Long Island Sound Resource Center, a UCONN-CTDEP joint organization.

New website features expand upon offerings like the virtual Underwater Tour of Long Island Sound, which now includes high-definition footage of dives and videos of different underwater habitats. The improved site also incorporates underwater maps of the Sound that have been generated by a partnership between the National Oceanic and Atmospheric Administration (NOAA), the U.S. Geologic Survey (USGS) and the CTDEP with the underwater imagery gathered by NURC. These maps were developed using multibeam sonar and produce satellite-like images of seafloor topography.

**Watershed Based Planning**

***Supplemental Environmental Project Funding to assist Municipalities in the Farmington River Watershed With Low Impact Development***

Supplemental Environmental Project (SEP) Funding from an enforcement settlement was made available in early 2009 to ten Connecticut municipalities within the Farmington River Watershed to assist in developing revisions to local land use ordinances to promote Low Impact Development (LID) that would lead to less stormwater runoff and improved water quality in the basin. LID techniques manage stormwater runoff by imitating the natural movement of water in the environment. LID decreases the volume of runoff and improves water quality by infiltrating, filtering, storing and evaporating stormwater.

The ten towns in the watershed were awarded funding for a Municipal Land Use Evaluation project to support the development of revisions to current land use ordinances to encourage LID techniques in future development activities. These towns include: Avon, Barkhamsted, Colebrook, East Granby, Harwinton, New Hartford, Plainville, Simsbury, Torrington, and Winchester. These towns will develop local land use committees to oversee the project, hire external expertise as needed for their town (including but not limited to planning, legal and/or engineering) and submit draft revisions as applicable to their town.

Workshops have been held for the towns using funding from Clean Water Act (CWA) 319 Nonpoint Source (NPS) grants covering topics in addition to LID including impervious cover, stormwater, streamflow and wetlands.

***Evaluation of CTDEP's Tools to Promote LID***

CTDEP was awarded $150,500 under the CWA, Section 604(b) American Recovery & Reinvestment Act (ARRA) to evaluate CTDEP's regulatory tools to promote better site design and incorporate LID practices to minimize stormwater runoff volume and pollutant loads for new land use development projects. Internal and external stakeholders will be invited to participate in the evaluation to identify performance goals, criteria and mechanisms for incorporating LID best management practices (BMPs) and pollution prevention practices into, for instance, CTDEP's stormwater general permits.

This process will continue through 2010 and conclude with a report that will identify approaches and make recommendations for meeting the goals and objectives of this evaluation.

An additional $334,500 from the CWA, Section 604(b) American Recovery & Reinvestment Act (ARRA) was also provided for six other projects for water quality management planning. See http://www.ct.gov/dep/recovery for more information.

***Eagleville Brook Impervious Cover TMDL and Nonpoint Source Best Management Practices Recommendations***

In 2009, the CTDEP initiated an innovative Impervious Cover Total Maximum Daily Load (TMDL) and Nonpoint source best management practices recommendations project to support the impervious cover-based TMDL for Eagleville Brook. The Eagleville Brook watershed, a 303(d) listed waterbody, is located on the University of Connecticut (UConn) campus in Mansfield, Connecticut. This TMDL, approved by the United States Environmental Protection Agency (US EPA) in February 2007, is the first in the nation based not on a specific pollutant(s), but on impervious cover, a landscape indicator that integrates the many impacts of urban development.

Over the past several years, CTDEP has invested considerable research and analysis into the impact of stormwater runoff from developed areas on water quality. In particular, CTDEP has focused on how water quality changes in response to increasing intensity of development. With increasing intensity of development comes more hard surfaces - like roofs, driveways, roads, parking lots and sidewalks. During a storm event, rainwater runs off these surfaces, rather than percolating into the ground - therefore these surfaces are known as impervious cover. CTDEP identified a strong correlation between the amount of

impervious cover in a watershed and the diversity of macro invertebrates in a stream. As the impervious cover increases, the diversity decreases.

As part of the Impervious Cover Total Maximum Daily Load (TMDL) and Nonpoint source best management practices project in 2009, GIS data collection, field surveys, monitoring and expert discussions were conducted to determine specific methods by which UConn and the Town of Mansfield communities can address the TMDL, and monitor progress toward the TMDL goals, through a watershed-based management plan. CTDEP also provided education and technical assistance for the Town of Mansfield Land Use Board as well as others such as the New England Interstate Water Pollution Control Commission (NEIWPCC) and the Connecticut Association of Wetland Scientists. The objectives of this project are to: (1) create specific implementation information for use in a TMDL Water Quality Management Plan for Eagleville Brook and, for the use of UConn and the Town of Mansfield in watershed planning; (2) identify opportunities for best practices that can be implemented in the near term, and; (3) through these processes, document a general methodology by which other regulated communities and entities can address impervious cover-based TMDLs.

The Eagleville Brook TMDL sets a national precedent for environmental regulation that is based on solid research data, but also recognizes the practical aspects of local land use practices. If it can be demonstrated that communities and other regulated entities can use the framework of impervious cover to guide progress in implementing a watershed-based plan, this precedent can become a nationally applicable model.

***Website Mapping Tool to Locate Nonpoint Source Projects Across Connecticut***

The CTDEP Nonpoint Source program developed a mapping tool to assist stakeholders in locating nonpoint source management implementation projects funded by Clean Water Act (CWA) 319 grants across the state. http://www.depdata.ct.gov/maps/nps/npsmap.htm

Grant recipients including municipalities, conservation districts, watershed associations and other nonprofit organizations can use this mapping tool to locate implementation projects across the state as well as in their watersheds. This mapping tool links the location of the Best Management Project (BMP) in the Connecticut watershed to the BMP project summary. Future tools and assistance will include updates to this map based on CTDEP resources and stakeholder input.

**Beneficial Use of Manure**

CTDEP Supplemental Environmental Project (SEP) funds were provided to Freund's Farm, Inc. in East Canaan for a project to construct alternative technologies for managing dairy facilities to address water quality issues caused by land application of surplus dairy manure. Freund's Farm has 265 cows that each produce 100 pounds of manure per day. The nitrogen and phosphorus in the manure can negatively impact the environment. The SEP funds were used to purchase and install equipment needed to operate a compost dairy manure planting pot production facility.

The facility produces CowPots™, a revolutionary pot made with 100% renewable composted cow manure. CowPots™ are manure-fiber based seed starter pots, which allow for unrestricted root growth creating stronger, healthier plants. These earth-friendly "pots you plant" are an exciting high-performing alternative to plastic and peat pots. The manufacture of plastic pots creates pollution and because the plastic cannot be recycled, it also contributes to solid waste problems. Peat pots have their own set of environmental issues, mainly that the large-scale removal of peat from bogs is destroying precious wildlife habitats and it takes centuries for a peat bog to regenerate. CowPots™ can be planted directly into the soil with the plant. These pots can withstand months in the greenhouse, and within 4 weeks of being planted in the ground they dissolve and continue to act as a fertilizer.

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# Materials Management

Since the adoption of the State's Solid Waste Management Plan(SWMP) in December 2006 which set a goal of increasing the municipal solid waste diversion rate to 58% by the year 2024, CTDEP has focused its efforts on significantly reducing the amount of solid waste requiring disposal through promoting source reduction, reuse, recycling, and composting. Consistent with the solid waste hierarchy, CTDEP strives to ensure that when waste cannot be reduced, reused, or recycled, it will be disposed in an efficient, equitable, and environmentally protective manner. The following strategies are examples of CTDEP's commitment to accomplishing the goals of the SWMP.

**Connecticut Takes SMART Action on Waste Management and Reducing Greenhouse Gas Emissions**

During 2009, the CTDEP continued to encourage municipalities to implement SMART (Save Money and Reduce Trash) or PAYT (Pay as You Throw) waste management programs. SMART is a method of charging for trash disposal based on the amount disposed. A handful of Connecticut municipalities have joined the over 7,000 communities nationwide that have successfully implemented SMART programs. The increased recycling and source reduction achieved through unit-based pricing not only reduces disposal costs, but is linked to environmental benefits as well – i.e. conservation of natural resources, reduced water use, reduced emissions of air and water pollutants, energy savings, and reduction in green house emissions.

The CTDEP Solid Waste Management Plan calls for a 58% diversion rate by 2024. Landfills in Connecticut are closed to municipal trash and only a small number accept bulky waste. The more recently closed landfills will continue to generate methane for years to come. Limiting the amount of trash that is added to bulky waste landfills—burned in waste-to-energy facilities or transported long distances for disposal—are important considerations in reducing greenhouse gas emissions.

The Connecticut Climate Change Action Plan includes source reduction and recycling as key strategies to reduce greenhouse gas emissions. The Action Plan includes 55 different strategies, and recycling 40 percent of municipal solid waste falls within the top ten actions in terms of quantity of projected greenhouse gas reductions.

Once people get SMART about waste management and make the connection between reducing costs and reducing trash, most towns find that people move from producing more than 900 pounds of trash per person per year to about 500 pounds per person per year through better recycling and simply producing less trash. This is a big immediate cost savings to towns, and a first step in controlling future costs. The reduced rate of trash disposal is typical of other SMART towns that have made the switch to unit-based pricing.

If every town in Connecticut switched to SMART waste management and achieved a 40 percent diversion rate, then Connecticut would eliminate an estimated 595,000 MTCE (Million Ton of Carbon Equivalent) from the atmosphere-the equivalent of taking 446,250 cars off the roads.

**CTDEP Proposes E-Waste Regulations**

In July of 2007, the State of Connecticut adopted a new law concerning the recycling of household electronics ("e-waste"). This law enables Connecticut to manage an ever-growing portion of the solid waste stream. The new E-waste law is intended to provide residents with convenient and free opportunities for recycling their computers, televisions and monitors.

CTDEP published its proposed regulations in the Connecticut Law Journal on September 22, 2009 and the final regulations are expected in the summer of 2010. Publication of the draft regulations opened a public comment period which ended on October 30, 2009. The proposed regulations include an important producer responsibility component. Manufacturers of electronic equipment sold in Connecticut would pay the cost of transporting and recycling unwanted electronic equipment. The proposed regulations would only be applicable to consumer or household generated e-waste. E-waste generated by business, commercial or governmental entities is subject to regulation under existing federal and state hazardous and solid waste management regulations.

All comments received were reviewed by the CTDEP and considered in the development of the proposed final regulations. The proposed final regulations must be approved by the Legislature's Regulations Review Committee before they take effect. The proposed final regulations:

- add printers to the list of covered electronic devices (CED)
- establish a process for approving recyclers
- set standards for operation, accounting and auditing of approved recyclers

- establish a system for determining each manufacturers' share of administrative costs and qualified reimbursable costs
- set municipal requirements for providing collection opportunities to residents.

Manufacturers of the CEDs would have to register with the CTDEP, and pay an annual fee the State will use to administer the recycling program. Registered recyclers would collect the e-waste from municipal transfer stations and other locations and submit the bill to the manufacturers. Towns currently recycling e-waste from their residents pay about $300 per ton. Under the new program, the towns would have their e-waste picked up and recycled at no expense.

When the law takes effect, approved recyclers would be able to submit bills to manufacturers for the transportation and recycling of their products. Municipalities would have collection programs in place by that time and residents would then recycle their CEDs at no cost. On January 1, 2011, there will be a disposal ban for all CEDs, meaning no CEDs may be placed in the trash.

The program would ensure that lead and other metals in e-wastes are managed properly, which reduces risks to the environment. Careful disposal of these items is important because computer monitors and televisions can contain leaded glass, while materials such as beryllium, mercury, cadmium, nickel, zinc, silver and gold can be found in printed circuit boards. Cadmium can also be found in batteries and mercury can be present in backlighting. Tons of material would be removed from the waste stream, reducing the volume of municipal solid waste.

**Promoting Beneficial Use of Solid Waste**

In October 2009, CTDEP was authorized to issue individual Beneficial Use Determinations (BUDs). As solid waste disposal costs in Connecticut continue to increase, one of the priorities of CTDEP is to promote the beneficial use of certain solid waste materials that otherwise would be burned or landfilled.

Companies can now request a BUD authorization for the reuse of their former solid waste product under certain conditions. Some examples include the following reuse applications:

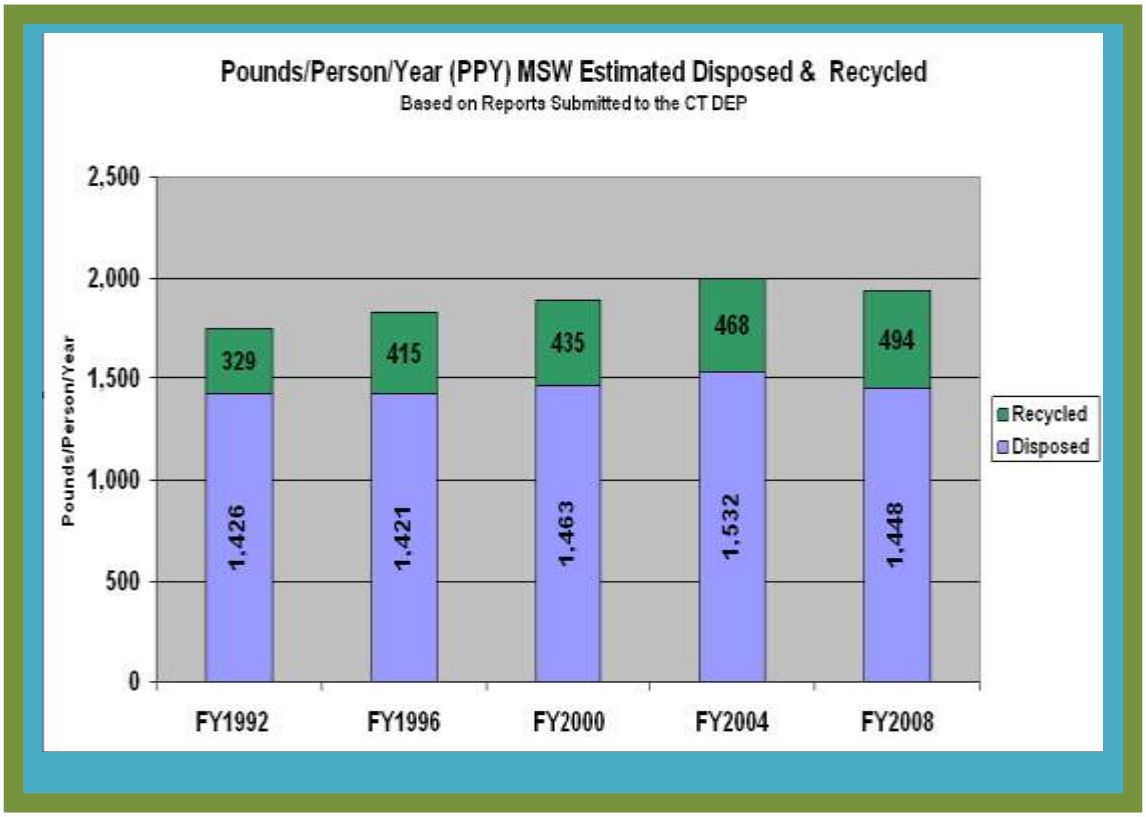
- the reuse of coal ash as an effective substitute for aggregate in concrete, cement and asphalt production;
- the reuse of water treatment solids as an acceptable amendment in land applications and composting operations; and

- the reuse of gypsum wallboard (sheetrock) in the manufacturing of new wallboard and/or as an effective substitute for aggregate in concrete and cement production.

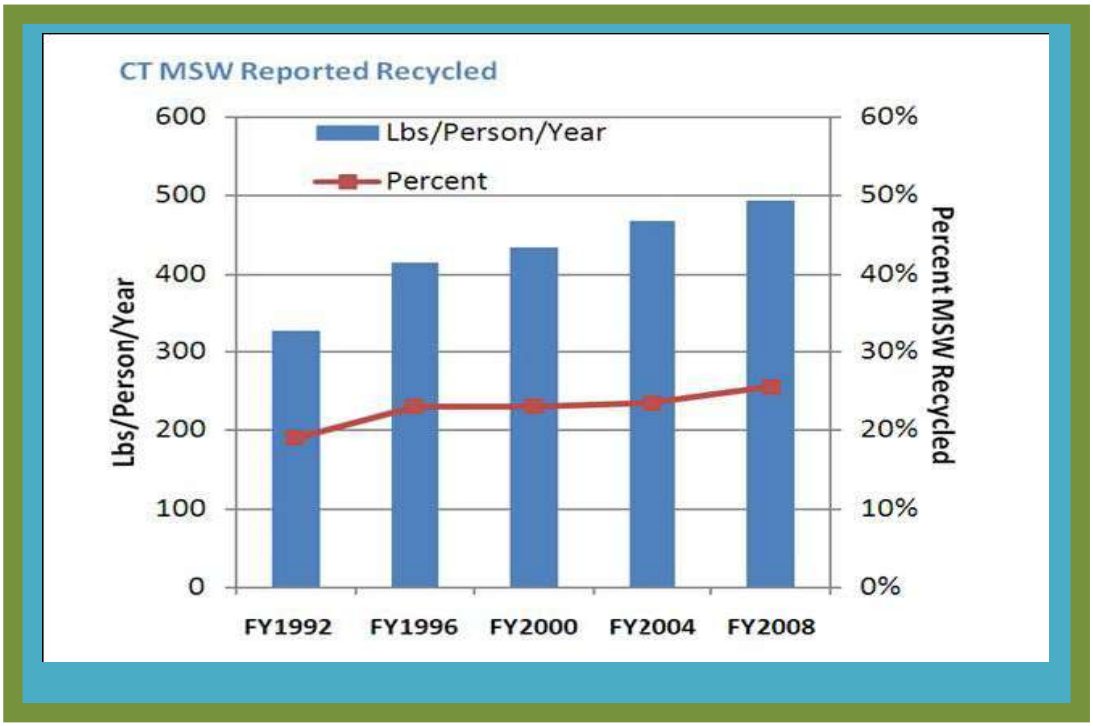
This BUD authority will assist the State of Connecticut in reaching the amended Solid Waste Management Plan goal of 58% reduction and recycling by 2024. The reuse of these former waste streams will also reduce truck and rail transportation in Connecticut, i.e., all of which will contribute to reducing emissions of both traditional air pollutants and greenhouse gases.

**Connecticut Municipal Solid Waste (MSW) Reported Disposed and Recycled[1]**

Connecticut mandatory recycling legislation was adopted in the late 1980's and became effective in 1991. It has been estimated that the CT MSW recycling rate before 1990 was probably between five and ten percent. The following graphs demonstrate how the recycling rate has increased since 1992.



**Pounds/Person/Year and Percent Connecticut MSW Estimated Recycled FY1992 through FY2008**




[1] *CT recycling tonnages presented above are conservative figures, since they* ***do not include****: (1) most of the glass, metal, and plastic recycled through the CT bottle deposit law infrastructure;(2) automobile scrap metal; (3) waste oil recycled by businesses or garages; (4) storage batteries recycled through the CT storage battery deposit infrastructure; (5) much of the commercially recycled electronics, scrap metal, etc. ; (6) material recycled by direct haul from generator to end market or to out-of-state destinations since these tonnages may not be represented in the reports submitted to the CTDEP.* ***Glass aggregate reported used as alternative landfill cover is not counted as recycled and is not included in the recycling tonnages presented above.***

## CTDEP Expands Recycling Web Information

During 2009, CTDEP expanded and improved the recycling resources available on the CTDEP website. With budget cuts, staff reductions, and increased demands on resources, the CTDEP has been relying more heavily on the Internet as a tool to reach the general public and other stakeholders. The new and reworked pages have lots of new information, are organized more logically and have a fresh format that includes photos, inspiring quotes, color, and in-set boxes. Below are links to some of the new pages:

Reduce/Reuse/Recycle (RRR) Gateway Page: This page was redesigned to be more user-friendly and is the gateway page to all the other RRR pages. It has more relevant links to the most popular topics, a bulletin board to announce hot topics of short duration, and added links for related topics, such as Climate Change and Waste.

Waste Reduction Main Page: Explains what waste reduction is and how it's different from recycling. It offers ideas on how to start reducing the quantity and toxicity of our trash, as well as a myriad of waste reduction resources. Reuse Main Page: Discusses why reusing things and buying durable goods are important. It offers many other links to reuse resources, such as reuse centers and reuse organizations. Recycling Main Page: A source for just about everything we have on-line about recycling. It has many links to recycling resources, and also a history of the familiar "chasing arrow" recycling symbol.

Municipal Recycling Resource Center: This is a new section of the website dedicated to helping municipalities find recycling information. New or recently released/updated pages include an on-line Form to update a municipality's recycling contact information, SMART (PAYT), Full Cost Accounting Survey, Recycling Collection Systems, Municipal Recycling Reporting Forms, What Do I Do With…?, and the State Electronics Challenge.

School & Institution Recycling Main Page: This page directs visitors to Grade School Recycling Resources and College/University Recycling Resources. Other institutional recycling information will go here as it is developed. The Grade School Recycling Resources section is completely new and links visitors to pages on Getting Started, Expanding Your School Recycling & Waste Reduction Program, Going Beyond the 3R's, and an Environmental Speakers/Presenters/Performers List.

All the above hot links can be found through www.ct.gov/dep/recycle.

**CTDEP Inspections Now Include Business Recycling Assessment**

During FFY '09, CTDEP began including the Business Recycling checklist as part of the solid and hazardous waste inspection process. This checklist facilitates quick assessment for compliance with the mandatory recycling law in accordance with Section 22a-241b of the Connecticut General Statutes. The checklist can determine not only which businesses may be out of compliance with the recycling law, but also which haulers are knowingly mixing solid waste with items designated for recycling pursuant to Section 22a-241b, a violation of Section 22a-220a(f) of the Connecticut General Statutes. If a formal enforcement action such as an order is pursued as a result of the rest of the inspection process, then audit language will typically be included in the order requiring the violator to undertake a review of their recycling practices to identify deficiencies and correct as needed. These two practices were identified as priority recommended enforcement strategies in the Solid Waste Management Plan to bring recycling awareness and compliance to the forefront and to achieve higher recycling rates.

# Clean Air and Climate Change Challenges

Connecticut's air quality continues to improve each year; however, as the latest science further informs our understanding of the public health impacts associated with air pollution, the challenges of ensuring healthy air for all of Connecticut's citizens continues to grow. In addition, new mandates under the federal Clean Air Act (CAA) continue to drive CTDEP's efforts. New workloads, coupled with diminished resources, require the CTDEP to continually improve internal processes, using tools such as LEAN, to identify and to implement the most resource efficient solutions to address our air quality and climate change challenges. In 2009, the CTDEP air quality program focused on identifying and implementing cost-effective and resource efficient solutions recognizing the CTDEP's role in our state's ongoing economic recovery efforts. In addition, CTDEP continued its efforts to link clean air and energy programs to provide the citizens of Connecticut clean air and access to affordable and reliable electricity. Clean, affordable and reliable energy is as crucial for economic health as it is for public health. With respect to climate programs, 2008 was a landmark year for climate-related initiatives in Connecticut, but 2009 was equally important as programs matured and demonstrated great potential to improve both our environment and our bottom line.

**Air Quality**

Numerous air pollutants contribute to overall air quality with primary impacts on public health and secondary impacts on public welfare. As the CTDEP strives to ensure clean healthy air for Connecticut's citizens, the Department clearly recognizes that multi-pollutant strategies are best suited to address our interrelated air quality challenges, especially those that have far reaching secondary impacts, such as mercury and its effect on fish consumption, nitrogen deposition's effect on Long Island Sound and the impact of greenhouse gas emissions on climate change. The CTDEP is working towards identifying and implementing cost-effective and resource efficient solutions for many air pollutants such as, particulate matter pollution, including diesel emissions and other fine particulates ($PM_{2.5}$), ozone precursors (oxides of nitrogen and volatile organic compounds), greenhouse gases, and hundreds of air toxics. The CTDEP is also working to empower and build the capacity of local governments to address localized air quality issues related to wood smoke, excessive vehicle idling and noise.

**Multi-Pollutant Reduction Strategies**

CTDEP's focus remains centered on the need to attain and maintain all health-based federal air quality standards as well as implementing other federally mandated regulatory programs as they are updated and refined by US EPA. The CTDEP continues to evaluate control strategies necessary to meet air quality goals. Historically, goals were defined on a pollutant specific basis; as compliance costs escalate and resources diminish, CTDEP continues to explore new approaches designed to gain efficiencies. CTDEP seeks to design and implement multi-pollutant strategies based on multi-dimensional goals that will simultaneously achieve several key objectives, such as meeting national standards and federal regulatory requirements, promoting energy efficiency, reducing fuel consumption and seeking out non-traditional partners through both economic incentives and educational outreach. This effort will include fossil fuel combustion sources like electric generating units, industrial, commercial & institutional boilers, process sources as well as residential boilers and mobile sources like diesel buses.

**Meeting Federal Air Quality Standards**

A critical function of the CTDEP's air quality program continues to focus on efforts related to achieving federal health-based air quality standards in a manner that is both cost-effective, resource efficient and flexible in establishing a level playing field for Connecticut's business and industry so that they are not unreasonably disadvantaged by federally mandated environmental requirements.

CTDEP, while engaging in new challenges such as climate change, remains committed to meeting federal health based air quality standards. Connecticut has made considerable progress in reducing air pollution under the federal CAA. Over the past 25 years, there has been tremendous progress in improving air quality resulting from emission reductions by Connecticut and other upwind states. Connecticut has successfully reached attainment with the National Ambient Air Quality Standards (NAAQS) for carbon monoxide, lead, nitrogen dioxide, coarse particulate matter ($PM_{10}$) and sulfur dioxide. Connecticut has also effectively demonstrated that current air quality meets the 1997 8-hour ozone NAAQS and the 2006 fine particulate matter ($PM_{2.5}$) NAAQS. Attainment designations and associated clean data determinations by EPA signify that all regions of the state are in compliance with all the health-based standards for each of these pollutants. Nevertheless, CTDEP must remain vigilant because federal air quality standards are subject to periodic review and tightening.

As the understanding of air pollution's affects on public health improves, the issuance of more stringent NAAQS is a certainty and is already underway for several pollutants including ozone, fine particulate matter, nitrogen dioxide and lead.

**Ozone Attainment Strategies**

Ozone is a pervasive pollutant and is responsible for serious health impacts. Both ozone and $PM_{2.5}$ can adversely affect human health, especially children and people with asthma or heart disease. With regard to ozone attainment, the strong downward trend in 8-hour ozone design values as shown in Figure 1[1] indicates a significant improvement in reducing ozone. In 2008, as required by the CAA, CTDEP submitted a plan to US EPA that detailed efforts intended to attain the 1997 8-hour ozone NAAQS by 2010; this standard is 84 parts per billion (ppb). Based on recent upwind reductions in states that contribute to our air quality problems, the implementation of local control programs in Connecticut, and other exigencies such as a cooler than average summer temperatures, low cost natural gas and the overall economic slowdown, Connecticut's air quality currently meets the 1997 8-hour ozone NAAQS.

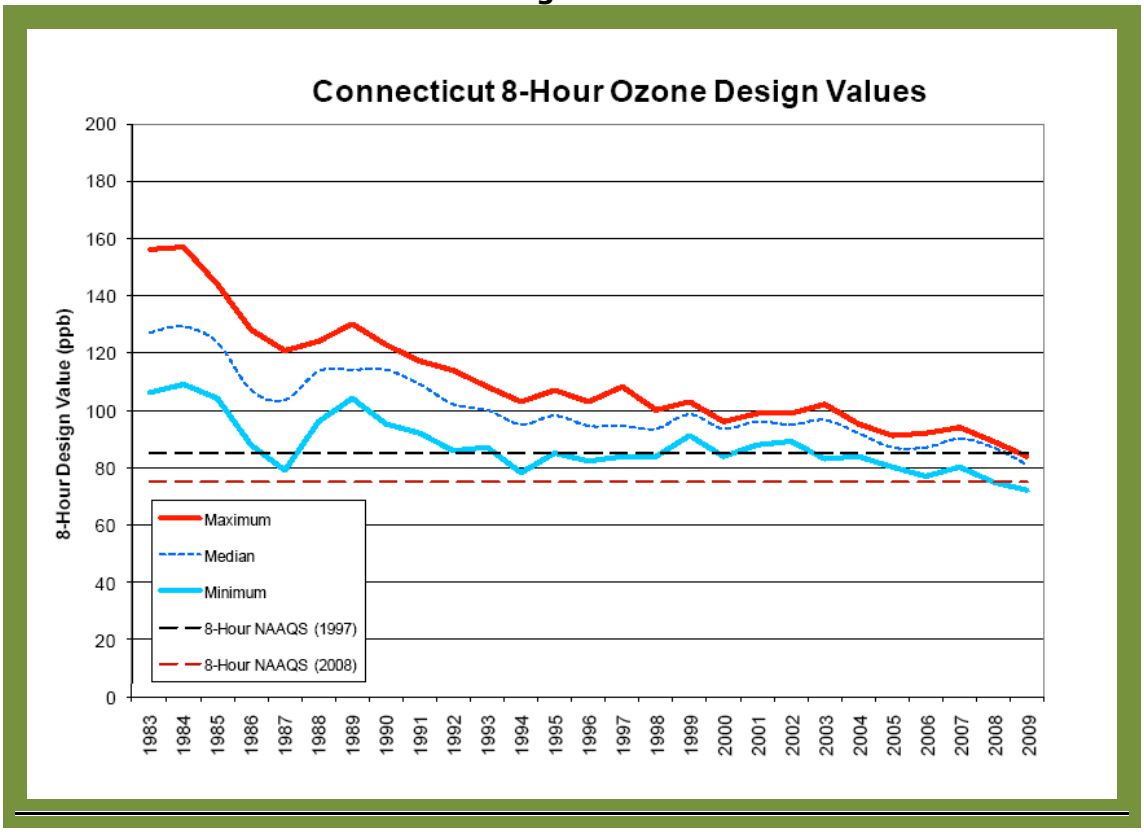
The US EPA periodically reviews each NAAQS and will strengthen them if supported by new scientific data. With respect to ozone, US EPA's periodic reviews pose an additional challenge for Connecticut's future efforts. On March 12, 2008 US EPA lowered the effective ozone 8-hour standard of 84 ppb to 75 ppb. Then on January 19, 2010 US EPA proposed to reconsider the 2008 standard and strengthen it to between 60 and 70 ppb. If adopted as expected in the summer of 2010, the revised standard represents a potential strengthening of between 20 to 40 percent from the 84 ppb standard. The practical effect of a much lower ozone standard is that Connecticut will need to significantly reduce emissions of ozone precursors. A greater share of emission reductions will be expected from upwind areas that contribute to Connecticut's air quality problem, but Connecticut will also be required to act to ensure that air pollution emitted in our state does not interfere with downwind states efforts to meet the new ozone NAAQS.

The CTDEP is working with its sister states and members of the Ozone Transport Commission (see www.otcair.org) to develop plans and recommendations for national and

[1] Figure 1 shows that improvements in Connecticut's peak ozone levels have been dramatic over the past 25 years, with the highest measured ozone design values decreasing from nearly 160 ppb in 1983 to 84 ppb in 2009 (compared to the health standard of 75 ppb). The ozone design value at a given monitoring site is calculated as the 3-year average of the fourth highest daily 8-hour value each year.

regional actions, such as more stringent controls on power plants, industrial sources and motor vehicles, that will assist Connecticut and other states impacted by transported air pollution in their efforts to attain the even more protective ozone NAAQS expected to be finalized by EPA in the summer of 2010. The adoption by EPA of sufficiently stringent national programs to control multiple pollutants, such as ozone and $PM_{2.5}$ precursors, will be critical to Connecticut's efforts to attain ozone and $PM_{2.5}$ NAAQS planned for 2010 and beyond.

**Figure 1**




**Mobile & Area Sources**

Cars, trucks and buses all contribute to Connecticut's air quality challenges and CTDEP's efforts in 2009 recognized this fact and leveraged over $5 million from the federal Diesel Emissions Reduction Act (DERA), the federal American Recovery and Reinvestment Act (ARRA) and the Connecticut Clean School Bus Act to reduce diesel emissions that impact both the environment and the passengers on these vehicles.

In 2009 a total of 416 Connecticut school buses were retrofitted with emission controls under the Connecticut Clean School Bus Program, reducing children's exposure to fine particulate matter, which can aggravate asthma, bronchitis and other cardiovascular conditions. In addition to school buses, ARRA funds enabled the CTDEP to install emission controls on all of the eligible trucks in its maintenance fleet. A portion of these funds has been allocated to the Connecticut Department of Transportation (ConnDOT), which, by the end of 2009, had begun to retrofit its fleet of snowplowing dump trucks with pollution control equipment. ConnDOT's entire fleet of eligible snowplowing dump trucks should be retrofitted by the end of 2010. ARRA funding has also been directed to a truck stop electrification (TSE) project at the Port of New Haven for a 14-space electrified parking lot within the Port District to accommodate trucks that are awaiting entry into Port terminals. This project, which should be completed in 2010, will allow truck drivers to have heat, air conditioning and electricity for in-cab appliances without idling their truck engines.


ARRA funds were also awarded to ConnDOT for the installation of pollution control equipment on construction vehicles used on highway projects. Construction equipment will be retrofitted through expansion of the Connecticut Clean Air Construction Initiative (CCIA). CCIA established minimum specifications for construction equipment emission controls that must be incorporated into the terms and conditions of the base contract for highway construction associated with the "Q Bridge" project in New Haven. This grant will allow ConnDOT to expand the contract specifications to other projects in Fairfield and New Haven Counties by providing funds for up to 170 of the retrofits required by the new contracts.

CTDEP also understands the impact of light duty vehicles on air quality and has adopted the California Low Emission Vehicle (LEV) program, which is yielding significant emission reductions from this sector. In 2009, CTDEP amended the LEV program to clear the way for the introduction of advanced technology vehicles into Connecticut. The LEV program also requires a new "environmental performance label" intended to educate consumers as to how their vehicle choice compares to other vehicles in terms of air quality and climate impacts.

However, vehicles and fuel operate as a system and the fuel used in vehicles also impacts emissions. In addition to emission standards, fuel standards are key strategies for reducing emissions. The Federal Clean Air Act (CAA) requires that certain areas that exceed the National Ambient Air Quality Standards for ground level ozone use reformulated gasoline – this includes Connecticut. Additionally, the federal Energy Policy Act of 2005 included a national renewable fuel standard which includes the ramp up of the production of ethanol from sources such as corn-based ethanol. Under the Energy Independence and Security Act the renewable fuels component to transportation fuels ramps up from 9 billion gallons in 2008 to 36 billion gallons in 2022. Renewable fuels, while intended to promote energy security, have been shown to increase emissions of certain air pollutants. On December 30 of last year, Governor Rell, along with the governors of 9 Northeastern and Mid-Atlantic states, signed a Memorandum of Understanding to consider a low carbon standard for transportation and "potential" heating fuels in the region. Through this regional effort and other in-state efforts, CTDEP is continuing to explore new clean fuel programs, reducing the use of passenger vehicles, as well as the future infrastructure needs of emerging technologies such as electric and plug-in hybrid electric vehicles.

**Energy & Air Quality**

As stated above, CTDEP's mission centers on providing clean and healthy air for Connecticut's residents through the attainment and maintenance of the health-based federal NAAQS. US EPA is in the process of updating several NAAQS (e.g., ozone, nitrogen dioxide, sulfur dioxide, fine particulate matter and lead). CTDEP is also keenly aware of the interrelationship between meeting air quality goals, controlling ratepayer costs and ensuring the reliability of the bulk electric system. CTDEP continues to explore and develop new approaches that take into account the manner in which the regional bulk electric grid operates. CTDEP found, for example, that on the highest electric demand days (HEDD) during the summer, emissions in Connecticut increased significantly because older inefficient load-following boilers were called to operate more than on a typical summer day. CTDEP entered into a regional commitment to reduce HEDD emissions and then developed a strategy that took into account developing energy market conditions that are making these units less and less economic to operate, the construction and operation of new highly efficient electric generation units, the construction and energizing of new electric transmission lines, and significant ongoing investment in energy efficiency and renewable energy to achieve timely and significant emission reductions from these sources.

Electric dispatch modeling performed by electric distribution companies (EDCs) in support of their energy planning requirements shows that up to five older inefficient load following boilers could be retired by the end of 2013. These units are no longer needed to support reliability and are no longer subsidized by funds generated through the imposition of federally mandated electric congestion fees on Connecticut ratepayers. The EDCs' modeling shows these units are simply no longer economically viable in burgeoning regional energy market known as the Forward Capacity Market (FCM). These unit retirements could result in significant emission reductions of 25.8 TPHEDD of NOx. This is a 47% reduction from the July 26, 2005 baseline and more than double the Connecticut's regional commitment to reduce HEDD emissions. CTDEP continues to pursue an integrated energy strategy as members of the Connecticut Energy Advisory Board (CEAB), the Connecticut Clean Energy Fund (CCEF) and the Energy Management and Conservation Board (ECMB) to support energy efficiency as the resource of first choice and investments in clean renewable generation as ways to deliver clean, reliable and cost-effective energy to Connecticut residents.

To meet the 1997 8-hour ozone NAAQS, CTDEP implemented a wide array of control strategies on a wide range of industrial activities, beginning with those strategies with the lowest cost emission reductions. In order to meet the anticipated 2010 8-hour ozone NAAQS, initial regional emissions screening modeling indicates emission reductions on the order of 70% will be needed. Under the Global Warming Solutions Act, Connecticut must achieve reductions of greenhouse gases by over 80% by 2050. Achieving this level of emission reductions in Connecticut will require continued coordination and cooperation among energy and environmental planners and further highlights the need to build upon the successful foundation laid during the development of the 2009 Integrated Resource Plan (IRP).

The IRP is a legislatively mandated energy planning process whereby the two largest electric distribution companies (EDCs) in Connecticut jointly produce a plan, which projects the electric energy resources required by the state over 3, 5 and 10 year planning horizons. The IRP planning process includes opportunities for public review and comment and submission to the CEAB for review, potential modification and approval. After an initial review process by the CEAB, the Connecticut Department of Public Utility Control (CTDPUC) reviews the IRP and orders its implementation by the EDCs. In a significant policy statement, the authorizing IRP legislation views energy efficiency as a capacity resource of first choice and requires the CTDPUC to oversee electric power procurement contracts for the state, while requiring that these contracts include all cost effective energy efficiency.

Connecticut's future with respect to energy will be focused on achieving the right investment balance for the state in terms of investments in both energy efficiency and in-state renewable sources.

Against the backdrop of the tightening 8-hour ozone NAAQS, CTDEP and US EPA are collaborating in an ongoing effort to quantify the air quality benefits associated with Connecticut's significant ongoing investments in energy efficiency and renewable energy programs. A fully funded energy efficiency program provides over $90 million dollars per year for energy efficiency programs, resulting in annual energy savings of 60 megawatts (MW)/year, which is enough energy to power 35,000 homes. With respect to renewable energy, Connecticut's renewable energy portfolio standard (RPS) program now requires a minimum percentage of our electric demand be met with renewable sources of energy such as wind, solar, hydro-electric, fuel cells, sustainable biomass and energy efficiency. In 2005 the RPS is 4.5% and grows to 27% by 2020 (20% must be from Class I, 3% must be from Class I or II, and 4% must be from Class III sources). Whether Connecticut will meet the requirements of the RPS program will be an ongoing discussion of the CEAB leading into 2020. By 2016, EPA believes the RPS could contribute in the range of 1,782 – 2,878 tons per year of emission reductions towards Connecticut's ozone attainment efforts. If Connecticut's energy efficiency program grows to 100 MW/year by 2016, then it is possible for energy efficiency to contribute an equal, or greater, amount of emission reductions.

**Assisting and Empowering Local Governments**

Local governments are critical partners with CTDEP and are, in many instances, better prepared to address certain air quality challenges, especially those related to wood smoke, vehicle idling and noise. In addition, the CTDEP seeks to partner with municipalities to enable the development and implementation of local climate sustainability and adaptation programs.

***Wood Burning***

While wood burning provides an alternative source of energy, wood smoke can impact public health and create nuisance odors. Because of the continuing wood smoke complaints, CTDEP collaborated with the Department of Public Health, regional health officials and municipalities to develop outreach materials for 2010 that will educate the public about ways to reduce impacts of wood burning on themselves and their neighbors. CTDEP has found that local proactive intervention is critical to reducing public health impacts and potential nuisance complaints that are associated with wood burning.

In addition to fireplaces and campfires associated with casual entertainment, there are two wood burning sources primarily used to produce space heating or hot water: woodstoves and outdoor wood burning furnaces (OWFs). In 2009, CTDEP responded to 162 complaints based upon wood smoke from OWFs. In two instances in 2009, orders were issued by the CTDEP to require compliance by the owner of an OWF and one case was referred to the Office of the Attorney General.

In order to take a proactive approach that is accessible to community leaders and advocates alike, the CTDEP continued distribution of OWF brochures to educate consumers of all siting requirements for these units. Nonetheless, due to Connecticut's variable terrain, compliance with the siting requirements does not guarantee elimination of nuisance odors and wood smoke complaints. Given this fact, CTDEP partnered with Middlesex Community College to develop a brief video based on the popular "Mythbusters" series entitled "Waste Busters" in order to demonstrate best practices for wood burning.

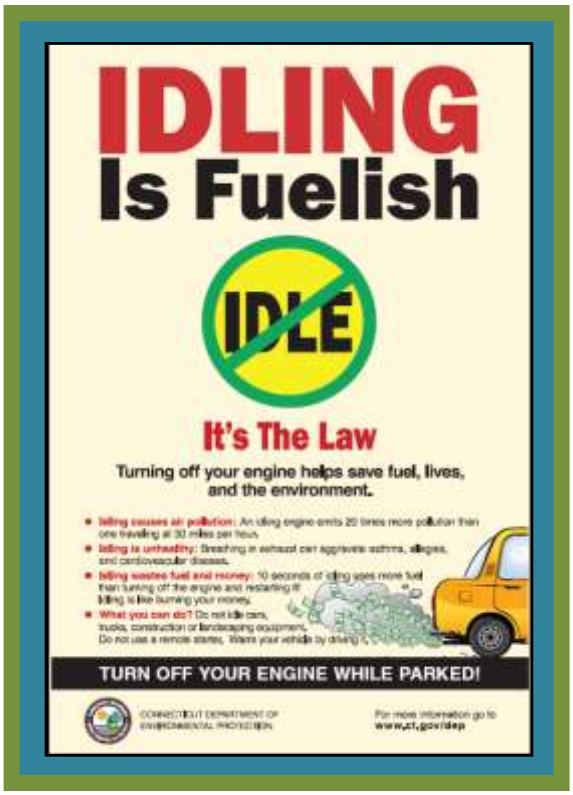
All resource materials related to this initiative are available on the CTDEP Wood Burning Webpage.

***Anti-Idling Initiatives***

Reducing emissions from idling motor vehicle engines is one of the most cost efficient and effective strategies for improving air-quality in Connecticut today. Idling unnecessarily emits air toxics, other chemicals and fine particulate matter into the air contributing to regional haze and acid rain. Idling is unhealthy for humans and a financial waste. In 2009, many of Connecticut's drivers still were not aware that regulations prohibit vehicles from unnecessary idling for more than three minutes. CTDEP ensures compliance by monitoring rest areas, schools, truck stops, and commercial delivery points and responding to complaints. In 2009, CTDEP responded to eight complaints based upon idling, and conducted five routine inspections relating to idling vehicles. Given the nature and duration of idling related violation, it is often more effective for local authorities to respond to complaints. CTDEP intends to continue working to educate local officials as to their existing authority to enforce anti-idling restrictions while advocating for additional necessary authority for municipalities.

In 2009, CTDEP also pursued nontraditional measures to promote anti-idling awareness. This is necessary given the challenge associated with addressing a regulated community that does not lend itself to traditional regulatory enforcement mechanisms due to the magnitude of sources and potential instances of noncompliance. First, CTDEP updated its

anti-idling webpage in April of 2009 to be a more useful educational tool to address anti-idling, see CTDEP Anti-Idling Webpage. Second, CTDEP created and distributed mock citations to drivers informing them about Connecticut's idling restrictions. These informational "tickets" were distributed to drivers around state facilities in partnership with both the Connecticut Department of Motor Vehicles (CTDMV) and ConnDOT. Additional outreach will include distribution of 10,000 11" by 17" laminated anti-idling posters for placement in public venues to further inform and educate the general public on Connecticut's anti-idling message.




***Municipal Climate and Sustainability Outreach***

CTDEP, through the Governor's Steering Committee on Climate Change, planned and spearheaded the first-ever Municipal Summit on Climate Action in March 2010. Over 185 volunteers from municipal clean energy task forces and municipal officials, representing over 50 different towns, attended the summit. Thirty-eight speakers, most of which were town representatives, shared their success stories on local climate actions. Participants heard presentations on the new climate change website and a broad range of climate actions including energy efficiency, clean energy, recycling, reducing vehicle miles traveled, local foods, smart growth, greener schools, and GHG inventories and planning. Visit www.ctclimatechange.com and click on "towns" to view the municipal climate action maps, resources, and videos of the presentations from the summit.

**Climate Change**

Climate change continues to be a central focus of the CTDEP's efforts. Full implementation of Public Act 08-98, An Act Concerning Global Warming Solutions (GWSA), will take considerable effort and resources. As required under GWSA, CTDEP published a baseline inventory. A final version of the inventory along with all supporting appendices can be found at http://www.ct.gov/dep/cwp/view.asp?a=2684&q=322070&depNav_GID=1619.

CTDEP continues to move forward on other provisions in GWSA such as the development of a comprehensive list of greenhouse gas reduction strategies and modeling scenarios.

**Regional Greenhouse Gas Initiative**

In January 2009, CTDEP initiated implementation of the Regional Greenhouse Gas Initiative (RGGI). RGGI is a 10-state cap-and-trade program designed to stabilize, and then reduce by 10%, carbon dioxide ($CO_2$) emissions from large fossil fuel-fired electric generating units (EGUs) by 2018. 2009 was the first year of a three year compliance period, at the end of which, each EGU owner or operator will need to surrender one $CO_2$ allowance for each ton of $CO_2$ emitted.

The hallmark of RGGI is that most $CO_2$ allowances are auctioned rather than given away to regulated sources for free as has been the case in previous cap-and-trade programs. Given the limited technology available to control EGU $CO_2$ emissions, the design of the RGGI program called for revenue to be generated through auctions and then used to reduce electric system demand by investing the auction proceeds in energy efficiency and renewable energy programs. A regional auction was held in each calendar quarter of 2009, generating significant auction proceeds for Connecticut.

The distribution and use of auction proceeds is directed by both statutory and regulatory requirements, and the framework is based on the combined public benefits charge[2] paid by all electric ratepayers to support renewable energy and energy efficiency programs overseen by the Connecticut Clean Energy Fund (CCEF) and the Connecticut Energy Efficiency Fund (CEEF), respectively. Using this model, 92.5% of the auction proceeds are directed as follows: approximately 80% is invested in energy efficiency programs (further divided among the two electric distribution companies, Connecticut Light & Power (CL&P) and United Illuminating (UI), and the Connecticut Municipal Electric Energy Cooperative (CMEEC) based on relative market share) and about 20% is invested in renewable energy programs through the CCEF. Table 1 shows the amount of funding provided to each entity in 2008-09.

[2] The Combined Public Benefits Charge appears on UI and CL&P electric bills and is paid by all customers. This charge collects the money used to support the Connecticut Energy Efficiency Fund (billed at three mills/kWh, that is, 3/10ths of a cent per kWh) and the Connecticut Clean Energy Fund (billed at one mill/kWh, that is, 1/10th of a cent per kWh). The Combined Public Benefits Charge also recovers the costs that the Connecticut Department of Public Utility Control assigns to the Systems Benefit Charge.

**Table 1**

**2008-09 RGGI Funding Distribution**

| Energy Efficiency Program Funding (CL&P, UI and CMEEC) | Renewable Energy Program Funding (CCEF) |
|---|---|
| $18,444,560 | $6,103,955 |

**Benefits of RGGI $CO_2$ Allowance Auctions**

***Energy Efficiency***

Connecticut is a national energy efficiency (EE) leader. The state's program has been ranked as one of the top three national EE programs each year since 2000 by the American Council for an Energy Efficiency Economy. Connecticut's EE programs are implemented by the electric distribution companies or EDCs (CL&P and UI) within their service territories. The Energy Conservation Management Board (ECMB) oversees the programs in conjunction with the Connecticut Department of Public Utility Control (DPUC), which maintains direct regulatory oversight of the EDCs and their program budgets. DPUC oversight ensures accountability and that program funds are used only for EE programs and related expenses.

Given the framework established by the ECMB and the DPUC, and the statutory requirement to invest RGGI auction proceeds to benefit ratepayers, CTDEP proposed to utilize the state's existing clean energy structure for investment of RGGI proceeds for ratepayer benefit as required by Section 22a-200c of the Connecticut General Statutes. In so doing, the RGGI funds are put to immediate use – usually within several weeks of each auction.

According to the ECMB[3], in 2009 the CEEF programs, which include the RGGI funds noted above:

- Helped 1,344 Connecticut small business save energy and money;
- Helped 1,819 Connecticut commercial, industrial and municipal customers save energy and money; and
- Helped to reduce operating costs and improve productivity in Connecticut's commercial and manufacturing industries.

[3] *An Investment in Connecticut Energy Efficiency, Report of the Energy Conservation Management Board, Year 2009 Programs and Operations*, March 1, 2010

In addition, an independent study[4] commissioned by CEEF, CCEF, CL&P, UI and the Department of Economic and Community Development (DECD) analyzed the size of Connecticut's green jobs marketplace and its economic impact. The study showed that 2,675 jobs are directly attributed to energy efficiency. These jobs create $137 million of employment income, at an average of $50,000 per year across all industry segments (residential, small business, commercial and industrial). Furthermore, another 4,280 indirect and induced jobs can be attributed to energy efficiency activity in Connecticut. These indirect jobs result from purchases made by companies in the energy efficiency industry and the subsequent job impact from increased household and business spending.

***Clean Energy***

According to the Connecticut Clean Energy Fund (CCEF), there are currently 31 clean energy projects in the pipeline, with funding requests of $11,204,955. It is anticipated the RGGI funds will allow CCEF to approve an additional 16 municipal projects. Over the past year, municipal projects that have been approved for public schools and municipal buildings include the Smith School in West Hartford, Pomfret Community School, Wilton High School and the East Haven Town Hall.

***Global Warming Solutions Act***

The Connecticut Global Warming Solutions Act (GWSA or the Act) passed in 2008 (Section 22a-200a of the Connecticut General Statutes(CGS)) set Connecticut forward on a path towards reducing greenhouse gas to levels that sound science demonstrates are necessary to avert the most damaging aspects associated with a changing climate. Until there is federal climate legislation, the GWSA will be the most significant driver for future climate change actions in Connecticut. The GWSA sets the following mandatory GHG reduction targets for the state:

- By January 2020, reduce GHG emissions to 10% below 1990 levels; and
- By January 2050, reduce GHG emissions to 80% below 2001 levels.

Pursuant to the Act, CTDEP is required to:

- Publish on its website a baseline inventory of greenhouse gas emissions to establish a baseline for such emissions in the state and publish a summary of greenhouse gas emission reduction strategies by December 2009;

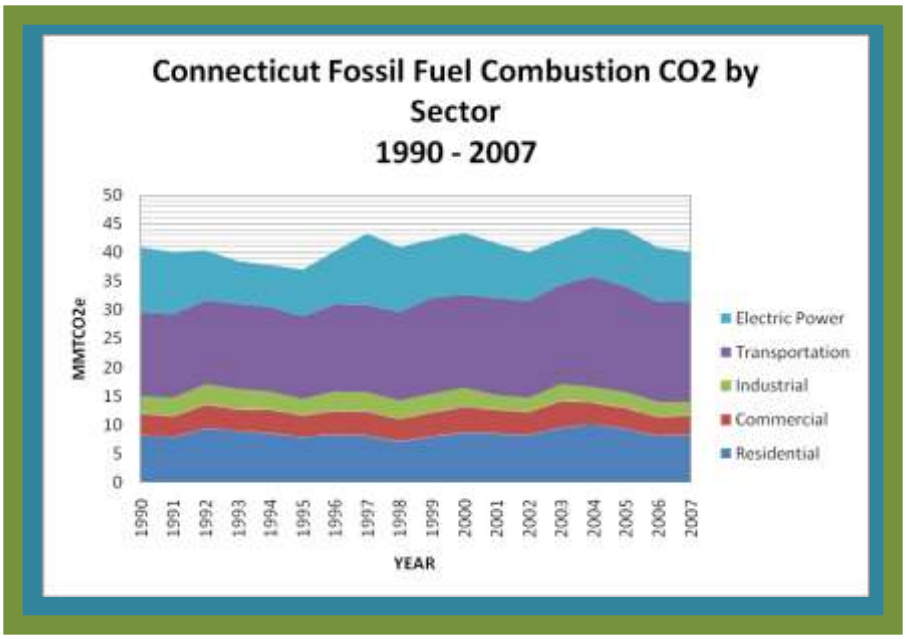
[4] *CT Renewable Energy/Energy Efficiency Economy Baseline Study. Phase I Deliverable*, March 27, 2009, Navigant Consulting

- Publish on its website by July 2010 the results of greenhouse gas reduction modeling scenarios, including, but not limited to, the evaluation of potential economic and environmental benefits and opportunities for economic growth based on such scenarios;
- Analyze greenhouse gas emission reduction strategies and, after an opportunity for public comment, make recommendations by July 2011 on which such strategies will achieve the greenhouse gas emission levels specified in the Act; and
- Beginning in July 2012 and every three years thereafter, develop with an opportunity for public comment, a schedule of recommended regulatory actions by relevant agencies, policies and other actions necessary to show reasonable further progress towards achieving the greenhouse gas emission levels specified in the Act.

**Greenhouse Gas Inventory**

CTDEP developed a 2009 Connecticut Greenhouse Gas Inventory as required by the GWSA. The inventory shows that over 90% of all greenhouse gas emissions in Connecticut result from the combustion of fossil fuels and that Connecticut's greenhouse gas emission reduction targets are based on 1990 baseline emissions of 44.3 million metric tons carbon dioxide equivalent (CO2e). While 1990 is a baseline year for Connecticut and many other GHG Inventory programs, the 1990 base year does not hold any programmatic significance.

In order to develop cost effective control programs, sources of greenhouse gas emissions must be identified and understood prior to developing cost effective control programs. In Connecticut, the transportation sector is the most significant source of fossil fuel combustion related greenhouse gas emissions (43%) followed by the electric power (22%), residential (21%) and commercial (8%) sectors respectively. The above figure shows the emission trends for each sector since 1990.



**Impacts of Climate Change on Connecticut**

Adaptation to climate change recognizes that global mean temperatures are expected to increase over the next couple of decades, in spite of mitigation efforts. Adaptation planning helps governments and citizens assess the risks associated with climate change impacts, and prepare for, and respond to these impacts. Adaptation planning does not replace the need for mitigation efforts, but, in fact, complements mitigation efforts, as many adaptation strategies include the co-benefit of reduced greenhouse gas (GHG) production.

In accordance with Section 22a-200e, the Governor's Steering Committee on Climate Change established an Adaptation Subcommittee. Specifically, the Adaptation Subcommittee has been charged with evaluating, "the projected impact of climate change in the state on: (1) infrastructure, including, but not limited to, buildings, roads, railroads, airports, dams, reservoirs, and sewage treatment and water filtration facilities; (2) natural resources and ecological habitats, including, but not limited to, coastal and inland wetlands, forests and rivers; (3) public health; and (4) agriculture." The impacts assessment for these four areas was completed in early 2010.

In conducting the impacts assessment, the Adaptation Subcommittee established four working groups, Agriculture, Infrastructure, Natural Resources and Ecological Habitats and Public Health, and appointed qualified, subject-matter co-chairs from amongst its members to lead the effort. Each workgroup then assembled a team of experts to assess the climate change impacts based on current climate change projections for Connecticut, and survey Connecticut stakeholders for their opinions through numerous meetings and strategic planning workshops.

Most of the *agricultural* features were determined by the Agriculture Workgroup to be highly impacted by climate change. The top five most imperiled agricultural areas in Connecticut were maple syrup, dairy, warm weather produce, shellfish and apple and pear production, and these areas were determined to be most affected by changes in temperature and precipitation. Opportunities were identified for production expansion with the future climate, including biofuel crops and witch hazel and grapes, as well as benefits identified for all types of Connecticut agriculture.

The *infrastructure* areas located on land, which include Transportation, Energy and Communications, Facilities and Buildings and Solid Waste Management, were determined by the Infrastructure workgroup to be most affected by the increases in precipitation, including extreme precipitation events (e.g., hurricanes, storm surges, ice storms, nor'easters), and, where applicable, sea level rise. More frequent precipitation and extreme precipitation events will create operation and maintenance challenges. Infrastructure areas concerning the management of water, which include Water Supply, Wastewater, Stormwater, Coastal Flood Control and Protection and Dams and Levees, may be most affected by increases in, and changed patterns of, precipitation and sea level rise. Increased precipitation and extreme rainfall events will increase stormwater and wastewater volumes, and thus decrease water quality from related pollutant loads, and decrease the effectiveness of infrastructure used to offset peak runoff impacts. Dams, levees and coastal flood control and protection infrastructure may be at risk of overtopping from the combination of increased precipitation and sea level rise, while salt intrusion from sea level rise could impact the quality of the water supply.

The *Natural Resources Workgroup* determined that the ecological habitats at the highest risk from climate change may be Cold Water Streams, Tidal Marsh, Open Water Marine, Beaches and Dunes, Freshwater Wetlands, Offshore Islands, Major Rivers, and Forested Swamps. These habitat types are broadly distributed from Long Island Sound and the coast to the upland watersheds and forests across Connecticut. The degree of impact will vary but, likely changes include conversion of rare habitat types (e.g., cold water to warm water streams, tidal marsh and offshore islands to submerged lands), loss and/or replacement of critical species dependent on select habitats, and the increased susceptibility of habitats to other on-going threats (e.g., fragmentation, degradation and loss due to irresponsible land use management, establishment of invasive species).

The *Public Health Workgroup* determined that climate change will have the most impact on public health infrastructure, environmental justice communities, air quality and extreme heat ailments and vector-borne diseases. Climate change will impact public health infrastructure including hospitals, health departments, emergency medical services, private practices and shelters, due to direct damage from extreme weather events, and increased use of resources to treat and shelter victims. Specifically, environmental justice communities may be most impacted by the lack access to adequate public health infrastructure, including shelter or evacuation transportation. Decreased air quality may increase the incidence of, and exacerbate existing respiratory ailments, and increased extreme heat events will increase heat-induced ailments, especially in those populations who do not have the benefit of air conditioning. Finally, climate change may alter ecosystems in a way that may favor increased vector survival, replication, biting frequency, and geographic range.

The complete *Impacts of Climate Change on Connecticut Agriculture, Infrastructure, Natural Resources and Public Health* report can be found online at www.ctclimatechange.com.

# The Great Outdoors

In 2009, *The Great Park Pursuit, The Connecticut State Parks Family Adventure*, returned for a fourth year. *The Great Park Pursuit* is a central element of Connecticut's nationally recognized *No Child Left Inside*® initiative aimed at raising awareness for the State Parks and Forests and building enthusiasm for the outdoors among children.

During *The Great Park Pursuit* 2009, Connecticut families decoded clues and journeyed to different State Parks, Forests and Recreation Areas over a seven-week period. At each location, teams were asked to participate in various activities including hiking, biking, canoeing, and more. At the end of each week, families received a clue to the following week's park or forest.


After visiting six different parks and forests throughout the state 142 families gathered at Kettletown State Park in Southbury to participate in final challenges in the multi-week game. Three families emerged as grand prize winners, receiving valuable outdoor equipment packages provided by North Cove Outfitters of Old Saybrook and an "Outdoor Adventure" package with CTDEP staff.

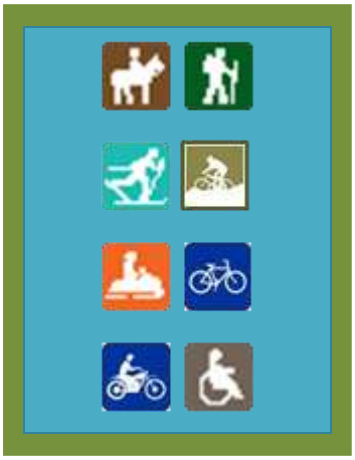
The winning families, who joined other finalists at Kettletown State Park, were among more than 1100 teams from across the state that signed-up to participate in the game, which kicked off on May 9 at Squantz Pond State Park in New Fairfield.

**State Receives Grant Funds for Recreational Trail Improvements**

Connecticut, though small in land area, is rich in natural, historical, and recreational resources. Weaving through and connecting the varied landscapes are trails of all descriptions running through many cities and towns, including paths for hiking, bicycling, cross-country skiing and other recreational activities.

To expand and improve trails across the state, Connecticut received $1,148,814 in federal funds for 17 projects in Bolton, Bridgeport, Danbury, Hebron, Lebanon, Madison, Putnam, Simsbury, Southington, Thompson, Wallingford and Windsor.

A significant source of funding for trail projects around the state has been the Recreational Trails Program (RTP), which provides grants to state and local governments and organizations for construction, maintenance, and educational projects on trails around the United States. The RTP is an assistance program of the U.S. Department of Transportation's Federal Highway Administration. The RTP is administered through the CTDEP. Recreational Trails Program funds may be used for:



- Construction of new trails (motorized and non-motorized).
- Maintenance and restoration of existing recreational trails (motorized and non-motorized).
- Access to trails by persons with disabilities.
- Purchase and lease of trail construction and maintenance equipment.
- Acquisition of land or easements for a trail, or for trail corridors.
- Operation of educational programs to promote safety and environmental protection as related to recreational trails.

Trails and greenways have a positive impact on individuals and improve communities by providing not only recreation and transportation opportunities, but also by influencing economic and community development. Some of the many trails and greenways benefits include:

- making communities better places to live by preserving and creating open spaces;
- encouraging physical fitness and healthy lifestyles;
- creating new opportunities for outdoor recreation and non-motorized transportation;
- strengthening local economies;
- protecting the environment; and
- preserving culturally and historically valuable areas.

**Connecticut Conservation Corps Improve State Parks and Beaches**

In 2009, Connecticut received $11 million in federal stimulus funds for summer youth employment and used part of it to support a program that hires workers 17 to 24 years of age to work on state park improvements. The program was developed based on the Civilian Conservation Corps initiated by President Franklin Roosevelt to help lift the nation out of the Great Depression.

The program is a partnership between the state Departments of Environmental Protection and Labor and Workforce Investment Boards from around the state. The program ran for 6 weeks to 9 months depending upon the location of the workers, who were paid $8 an hour. More than two dozen young adults participated from Hartford, New Haven and the Windham County towns of Willimantic and Danielson.

The crews performed a variety of work including repairing and clearing trails, building picnic tables, boardwalks, lifeguard stations, cutting back overgrown areas and installing signage. The work was conducted at the following locations:

- Goodwin State Forest, Hampton
- Shenipsit State Forest, Ellington
- Bigelow Hollow State Park, Union
- Hammonasset State Park, Madison

Throughout the 1930s and early 1940s, there were 22 Civilian Conservation Corps camps in Connecticut, with about 200 to 250 young men living at each of them. Participants went to work in what were then largely undeveloped state parks. They built trails, roads, fire towers and picnic shelters and planted trees. Some of the specific projects were building dams that created swimming areas at Chatfield Hollow State Park, Killingworth and Pachaug State Forest, Voluntown; clearing the recreation area for Squantz Pond, New Fairfield; improvements to Hammonasset Beach State Park, Madison; and the construction of the forest rangers' homes at Shenipsit, Chatfield Hollow, Pachaug and Tunxis state parks.

**Plan for Restoration of Housatonic River Adopted**

In July 2009 the final Housatonic River Basin Natural Resource Restoration Plan was adopted by the Natural Resource Trustee SubCouncil. The plan allocates nearly $7.1 million for projects aimed at restoring, preserving and protecting the Housatonic River Basin.

Funding for these proposed projects comes from a settlement with General Electric (GE) in 1999 that included $7.5 million for restoration projects in Connecticut aimed at restoring, rehabilitating or acquiring the equivalent of the natural resources and recreational uses of the Housatonic River that were injured by the release of PCBs from the GE facility in Pittsfield, Massachusetts.

The primary goal of the restoration projects is to compensate for the long-term harm done to the environment and the diminished human enjoyment of the environment due to contamination. The restoration effort in Connecticut is being led by the CTDEP, the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA). Now that the plan has been adopted, the USFWS will begin developing funding agreements with the sponsors of each approved project.

Projects to be funded include wetland habitat restoration on the lower Housatonic, a river fishery access in Newtown, and a riverfront park system in Beacon Falls.

**Invasive Species Threaten Environment**

Over the years, a variety of non-native species (plants, animals, and other organisms) have been introduced to Connecticut. Non-native species are those that are alien to the ecosystem that they have been introduced into and whose introduction causes or is likely to cause harm to the environment or human health. Some non-native species exhibit an aggressive growth habit and can out-compete and displace native species. These are referred to as invasive species and they are a serious problem in Connecticut and elsewhere.

***Asian Longhorned Beetle***

August 2009 was designated as "Asian Longhorned Beetle Awareness Month" to make citizens and visitors aware of the serious threat the non-native beetle poses to thousands of acres of Connecticut forests, particularly those with stands of maples, birches, elms and willows.

The Asian Longhorned Beetle has no natural enemies and there is no effective insecticide to control it. Once a tree is attacked by the beetle, the only remedy is to cut it down. About 60 percent of Connecticut is covered in forests, approximately 1.8 million acres. The 107 state parks and 32 state forests are popular recreation destinations and the half-billion-dollar forest products industry, including lumber and maple syrup, generate thousands of jobs.

The beetle arrived in the U.S. from China and Korea in wood shipping pallets and other packaging material. It was first detected in the New York City area in 1996 and has since been discovered in Chicago, New Jersey and more recently in Worcester, Massachusetts. The Worcester infestation, which destroyed 27,000 trees, may be deemed the the worst in the nation. To date, the beetle has not been discovered in Connecticut.

**Projects to Control Highly Invasive Plants**

In 2009, CTDEP approved funding for four projects designed to control several highly invasive non-native plants. The $115,000 in funding for these projects comes from Supplemental Environmental Project payments made to CTDEP as part of the resolution of enforcement actions. These funds are used to support environmentally beneficial projects.

The projects in the towns of New Milford and Newtown are targeting mile-a-minute vine (*Persicaria perfoliata*). The projects in Litchfield and Morris will address an infestation of fanwort (*Cabomba caroliniana*) in the upper Bantam River and its outlet into Bantam Lake will be targeted. The funding will also support ongoing efforts to eradicate water chestnut (*Trapa natans*) from a flood control pond in the City of Hartford.

Mile-a-minute vine is relatively new to Connecticut and has a limited distribution so there is still a chance of preventing its widespread dispersal. Although fanwort is a problem in a number of water bodies in Connecticut, controlling this highly aggressive aquatic nuisance in the Bantam River system will prevent it from becoming completely established throughout Bantam Lake, the state's largest natural lake and a highly valuable natural and recreational resource. Clearing water chestnut from the pond in Hartford will eliminate a major source of infestation to the Connecticut River.

**Decline in Bat Population**

2009 marked the first major decline noted in Connecticut's wintering bat population since the CTDEP began formal surveys over 25 years ago. Seven sites were surveyed and big brown, little brown, northern long-eared, and tricolored bats were detected. In Connecticut's 2 largest bat wintering areas (hibernaculas), only 540 bats were counted, reflecting a steep decline of 90% from 2007.

The decline is the result of white-nose syndrome (WNS) which was first documented in Connecticut in 2008 and initially reported in New York in 2006. WNS has already

devastated bat populations throughout the Northeast and its rapid spread is now affecting bats throughout many areas of the country and the Canadian Provinces.

Connecticut's bats are insect eaters. Bats are the only major predators of night-flying insects, making them beneficial to man in several ways. They consume many pests such as mosquitoes, cutworm and corn borer moths, potato beetles and grasshoppers. A single little brown bat can eat 1200 mosquitoes in an hour, but usually eat a wide variety of insects every night.

**Black Bear and Moose Sightings on the Rise**

The state's black bear population, which is estimated at over 300, continues to grow and expand. In 2009, almost 2,000 sightings of bears were reported from 111 of Connecticut's 169 towns.

Black bears are impressive animals. Even a long-distance glimpse of one foraging in a woodland is an unforgettable experience for most outdoor enthusiasts. However, glimpsing a bear in Connecticut was once unlikely because bears were extirpated from the state by the mid-1800s. Since then, bears have made a comeback. Their return is due, in part, to the regrowth of forestland throughout the region following the abandonment of farms during the late 1800s. Beginning in the 1980s, CTDEP had evidence of a resident black bear population. Since then, annual sighting reports have increased dramatically, indicating a rapid increase in the bear population.

The increased bear population has resulted in an increased level of conflicts with humans. CTDEP now responds to hundreds of calls and e-mails each year, with questions, concerns and damage reports related to bears. In 2009, Wildlife Division biologists attempted to trap bears at eleven problem sites and responded to ten instances of bears in urban areas. Environmental Conservation Police officers responded to additional complaints involving urban bears and regularly attempted to scare or haze bears from residential settings.

Starting in the 1970s and continuing through the early 1990s, moose occasionally were documented traveling through the state; however, no resident moose population existed. From 1992 through 1999, a total of 46 moose sightings were reported in 30 towns. The first cow with a calf was reported in 2000, confirming the establishment of a resident moose population in the state. Since 2000, sightings have increased steadily and have occurred in

more than a quarter of Connecticut towns. In 2009 alone, there were 93 reported moose sightings. Most sightings occur in the northern region of the state, although moose have been seen as far south as Guilford, East Lyme and Essex.

A detailed survey regarding moose and moose management was prepared and mailed to over 2,000 homeowners and over 800 deer hunters in 2009 with a 31% and 64% response rate. Data from these surveys will assist CTDEP with developing a comprehensive moose management plan.

**Boating Safety Legislation Passed**

In July 2009, Public Act 09-140, An Act Concerning Boating Safety, became effective. Previously, the crime of *reckless operation of a vessel in the first degree while under the influence* included causing the death of another person while operating a boat while under the influence of alcohol or drugs. The penalty was a fine of between $2,500 and $5,000, up to two years in prison, or both.

The recent revisions increased the penalty for this crime by eliminating the offense of causing the death of another person from *reckless operation of a vessel in the first degree while under the influence*, and creating in its place the crime of *manslaughter in the second degree with a vessel* (e.g., a boat), which is a class C felony under the act, similar to motor vehicle law. By law, a class C felony is punishable by a fine of up to $10,000, a prison term of up to 10 years, or both. The act also added penalties of up between $2,500 and $5,000, up to two years in prison, or both for any person operating a vessel under the influence of alcohol or drugs or while such person has an elevated blood alcohol level content, in such a manner as to result in serious physical injury to another person, or damage to property in excess of two thousand dollars. A person's boating certificate or right to operate a boat on Connecticut waters is suspended for one year upon conviction.

## CTDEP is Green Too

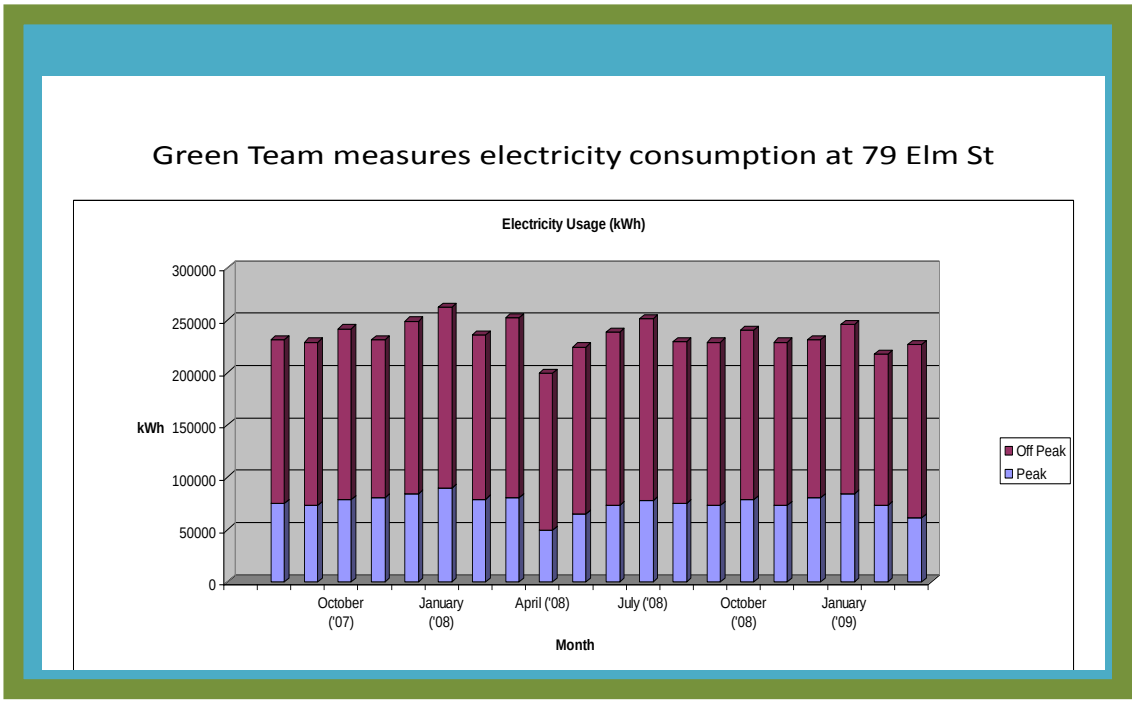
**Green Team Leads by Example**

In early 2009, CTDEP launched its Green Team as a way to make its operations and actions as green as possible. CTDEP's "green" team refocused the efforts of the existing Pollution Prevention (P2) Work Group, started in 1995, to reflect its current mission to implement the CTDEP Energy Conservation Plan. The goals of the Plan are to reduce energy, waste, and greenhouse gas emissions, measure progress and make CTDEP a model for other state agencies. The Green Team provides a forum to identify issues and implement creative strategies to reduce the environmental impact of the agency.

The Green Team brings together staff from all parts of the agency. The Team works closely with the building manager and cleaning crew to ensure that recycling, composting, and special projects like building-wide cleanouts, achieve the highest results. The Green Team is further organized into committees, such as Energy Efficiency, Green Purchasing, Public Relations and Education, and Reducing Solid Waste.

The success of the Green Team stems from having a clear mission laid out in the Energy Conservation Plan and a variety of staff that participate and contribute knowledge and ideas. After reviewing the Plan, the Team looked at the agency and asked some hard questions, such as: Where are we generating waste and pollution? What do we purchase? What steps can we take to make better purchasing decisions, reduce energy, waste, water and greenhouse gas emissions? Being green is also good for the bottom line; as an added benefit many of these changes also save the agency money. To date, the Green Team has initiated the following projects:

- *Energy Conservation and Building Mechanicals* involves a variety of efforts to reduce energy use including the elimination of individual printers, reminders to staff to turn off unused electronics, lighting reductions, motion sensors and improvements to building systems. The graph below demonstrates a drop in usage in the first three months of 2009 when compared to the same timeframe for 2008.



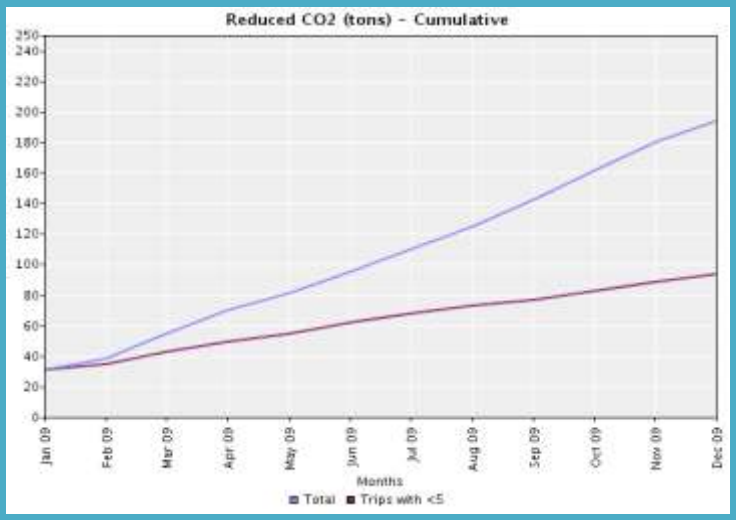

- *Participation in the State Electronics Challenge* resulted in energy savings of 700,000 kWh by replacing old computers with over 700 computers that meet the Silver EPEAT (Electronic Product Environmental Assessment Tool) rating. As a result CTDEP reduced greenhouse gas emissions by 124 metric tons for which the department received an EPA Environmental Merit Award for exceptional leadership in 2009. The Challenge also addresses improved operations and management of electronics and recycling of used electronics.

- *2009 Agency-wide Clean Out* is a component of the 5 S's in the LEAN process improvements—sort, set in order, shine, standardize and sustain. The clean out resulted in the recycling of 8 tons of paper, 80 lbs of corrugated cardboard, a box of scrap metal, about 3 gallons of batteries, and a container of electronic items. This was the second agency-wide cleanout by CTDEP.

- *CTDEP's ReSupply Center* opened on Earth Day 2009 in a central location at CTDEP's main headquarters. CTDEP staff, bring to the Center office supplies they no longer need and take used office supplies for agency use. Building on the success of the agency-wide Clean Out, staff collected hundreds of binders, thousands of paper clips and other reusable office supplies during two building cleanouts that are now available for reuse. The ReSupply Center is saving the State hundreds of dollars in new office supplies and eliminating greenhouse gas emissions from the manufacturing and transportation of new supplies.

- *Greener Commuting* promotion by the Green Team resulted in CTDEP taking part in the *NuRide Earth Day Commuter Challenge* and being awarded 1st place for highest percentage of employees who participated and 3rd place for new enrollments in the NuRide program. All modes of 'green' commuting were tracked, including carpooling, vanpooling, telecommuting, biking, walking and taking public transportation. In 2009, 54 CTDEP employees joined the NuRide program resulting in close to 400,000 reduced vehicle miles traveled (VMTs) and prevented 166 tons of CO2 emissions.

**CO2 emissions reduced from DEP participation in 2009 Earth Day Commuter Challenge**




- *Recycling and Composting at 79 Elm Street*- CTDEP developed a Recycling Guide that details materials that can be recycled and where they are collected in the building. In November 2009, CTDEP implemented a *Mini-Trash Bin Pilot Program that* replaces personal trashcans with community trashcans and small, desktop "mini bins," about the size of a quart container, one each for trash and compost to reduce the amount of trash generated and the use of plastic trash bags and increase composting and recycling. An *Other Paper Recycling Program* was adopted in 2009. CTDEP had been recycling high-grade, white paper for over 15 years, but was not efficiently capturing other types of paper. A system is now in place to collect and recycle a variety of paper, e.g., glossy, color, soft cover books. In 2009, 71 tons of white paper and 22 tons of other paper were recycled. *Food Waste Composting* began at 79 Elm Street in 1997 and the Green Team continues to promote this program. Approximately 3 tons of food waste each year is diverted from the trash. The finished compost has been used at a number of CTDEP facilities.

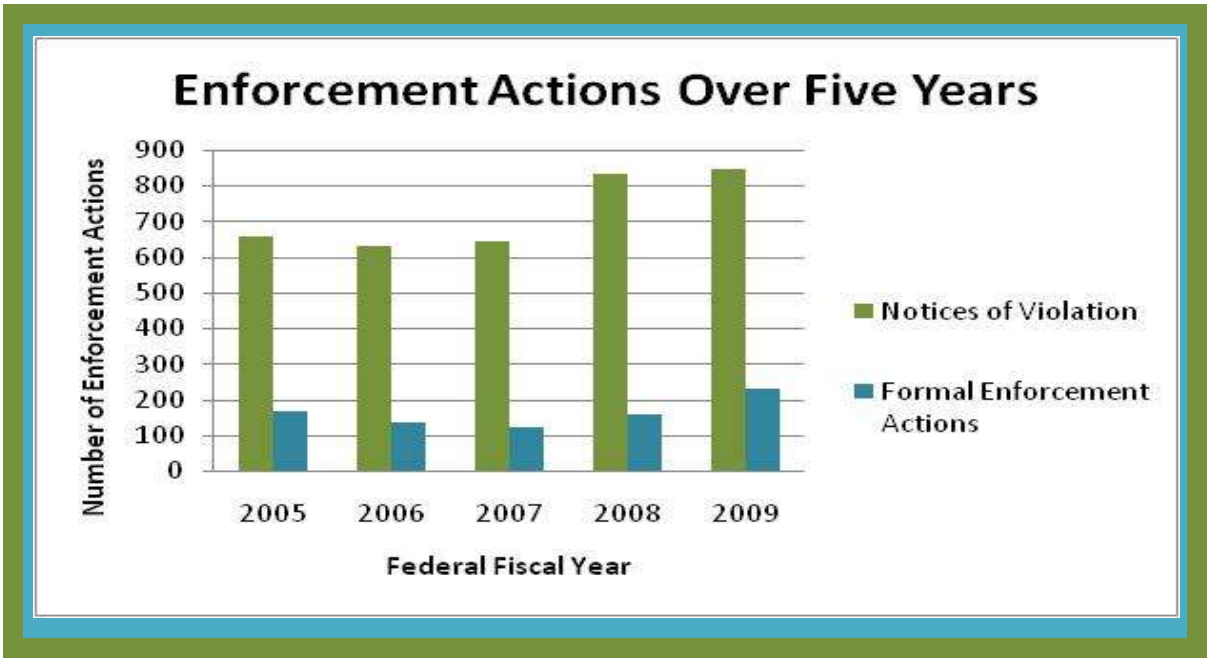
- *CTDEP's Native Plant Garden* replaced plantings of ivy and consists of native, non-invasive plantings in garden beds at the front entrance to 79 Elm Street. It's a small but important example of how we can preserve part of our state's natural heritage and reduce CTDEP's environmental footprint. Staff volunteers maintain the Garden.

## Enforcement and Permitting Outputs

CTDEP maintains a strong enforcement presence by conducting compliance inspections, taking appropriate enforcement action and enforcing strict permit conditions. This combination enables the CTDEP to assure that compliance with environmental requirements is achieved and maintained by the regulated community.

The following are the FFY09 enforcement statistics for the Bureaus of Air Management; Materials Management and Compliance Assurance and Water Protection and Land Reuse as well as the five-year Department-wide average. Also included is the CTDEP report on permitting efforts as required by CGS 22a-6r.

The FFY09 enforcement statistics reflect a strong and continued commitment to enforcement to achieve the cleanest, safest environment possible for Connecticut's citizens. This year the Notices of Violation and formal enforcement actions issued continued to increase from FFY 06-08. Over 3 million dollars in combined administrative penalties and supplemental environmental project funds were assessed. These statistics demonstrate that when serious violations are encountered the CTDEP takes aggressive action.



## Department-wide Federal Fiscal Year 2009 Enforcement Statistics (10/01/08-9/30/09)

| Action Type | Bureau of Air Management | Bureau of Water Protection and Land Reuse | Bureau of Materials Management and Compliance Assurance | Total |
|---|---|---|---|---|
| **Notice of Violation** | 226 | 165 | 457 | 848 |
| **Consent Order** | 77 | 18 | 78 | 173 |
| *Administrative Penalties Assessed* | $304,129 | $25,800 | $776,386 | $1,106,315 |
| *Supplemental Environmental Projects (SEPs)* | $907,347 | $250,000 | $880,890 | $2,038,237 |
| **Unilateral Order** | 1 | 3 | 11 | 15 |
| **Attorney General Referral** | 9 | 2 | 17 | 28 |
| **Judicial Settlement** | $35,000 | $0 | $2,073,000 | $2,108,000 |
| **Chief State's Attorney Referral** | 1 | 0 | 2 | 3 |
| **Referral to EPA** | 1 | 0 | 6 | 7 |
| **Inspections Conducted** | 4,462* | 365 | 2632 | 7,459 |

*1,713 inspections conducted by Consumer Protection

### Department-wide Five-year Average

| Activity | 2005 | 2006 | 2007 | 2008 | 2009 | Five Year Average |
|---|---|---|---|---|---|---|
| **Referrals(AG/EPA/CSA)** | 28 | 36 | 23 | 32 | **38** | **31** |
| **Orders** | 140 | 103 | 104 | 128 | **188** | **133** |
| **Notices of Violation** | 657 | 631 | 643 | 831 | **848** | **722** |
| **Total Enforcement Actions** | 825 | 770 | 770 | 991 | **1074** | **886** |
| **Inspections** | 6420 | 6791 | 6910 | 8314 | **7459** | **7179** |

**State Fiscal Year 09 Permitting Statistics (7/1/08-6/30/09)**

Section 22a-6r of the Connecticut General Statutes requires the Commissioner to report on permitting efforts, including: revenues received from permit application fees and any revenues derived from the processing of such applications as set forth in Chapter 439 of the General Statutes; the CTDEP's appropriation from the general fund for permitting activities; and the number and amount of permit application fees refunded; the number of permit applications received; the number of permit decisions issued and the number of permits pending.

| Bureau | Permit Type | Applications Received | Permits Issued/ Denied | Applications Closed[1] | Applications Pending (as of 6/30/09) |
|---|---|---|---|---|---|
| **Air** | General Permits | 7 | 4 | 6 | 4 |
| | Individual | 168 | 109 | 158 | 185 |
| | Short Process | 0 | 0 | 0 | 0 |
| | | | | | |
| **Hazardous Waste** | General Permits | 0 | 0 | 0 | 0 |
| | Individual | 140 | 112 | 143 | 34 |
| | Short Process | 0 | 0 | 0 | 0 |
| | | | | | |
| **Inland Water Resources** | General Permits | 70 | 57 | 83 | 25 |
| | Individual | 178 | 125 | 194 | 134 |
| | Short Process | 5 | 4 | 6 | 0 |
| | | | | | |
| **Office of Long Island Sound Programs** | General Permits | 17 | 19 | 21 | 10 |
| | Individual | 107 | 138 | 167 | 198 |
| | Short Process | 193 | 163 | 195 | 36 |
| | | | | | |
| **Pesticides** | General Permits | 0 | 0 | 0 | 0 |
| | Individual | 0 | 0 | 0 | 0 |
| | Short Process | 503 | 488 | 490 | 69 |
| | | | | | |
| **Solid Waste** | General Permits | 107 | 94 | 99 | 52 |
| | Individual | 33 | 23 | 41 | 72 |
| | Short Process | 95 | 24 | 26 | 158 |
| | | | | | |
| **Water Discharges** | General Permits | 1,725 | 1,091 | 1,157 | 955 |
| | Individual | 133 | 68 | 142 | 463 |
| | Short Process | 35 | 10 | 43 | 18 |
| | | | | | |
| **All DEP** | General Permits | 1,926 | 1,265 | 1,366 | 1,046 |
| | Individual | 762 | 576 | 846 | 1,091 |
| | Short Process | 836 | 692 | 764 | 283 |
| | **Totals All Apps** | **3,524** | **2,533** | **2,976** | **2,420** |

1 Applications Closed represents the total number of applications that were closed including: permits issued; applications which are withdrawn, rejected for insufficiency, or denied on the technical merits of the application; and applications which were received but no permit is required.

**Median Number of Days to Close Permit Applications[1] from 7/1/08-6/30/09 for All Applications Received**

| Bureau | Permit Type | Median Number of Days to Close Applications |
|---|---|---|
| **Air** | General Permits | 33 |
| | Individual | 225 |
| | Short Process | N/A |
| | | |
| **Hazardous Waste** | General Permits | N/A |
| | Individual | 54 |
| | Short Process | N/A |
| | | |
| **Inland Water Resources** | General Permits | 116 |
| | Individual | 219 |
| | Short Process | 12 |
| | | |
| **Office of Long Island Sound Programs** | General Permits | 139 |
| | Individual | 598 |
| | Short Process | 55 |
| | | |
| **Pesticides** | General Permits | N/A |
| | Individual | N/A |
| | Short Process | 48 |
| | | |
| **Solid Waste** | General Permits | 47 |
| | Individual | 469 |
| | Short Process | 59 |
| | | |
| **Water Discharges** | General Permits | 17 |
| | Individual | 568 |
| | Short Process | 184 |
| | | |

[1]Applications Closed represents the total number of applications that were closed including: permits issued; applications which are withdrawn, rejected for insufficiency, or denied on the technical merits of the application; and applications which were received but no permit is required.

**Permit Related Revenue Information**

| Revenues Received from Permit Application Fees and Any Revenues Derived from the Processing of Such Applications* | |
|---|---|
| 7/1/08-6/30/09 | $2,730,020.00 |

* These figures represent application fees due on submittal and permit issuance fees. They do not include annual fees and other registration fees such as medical and industrial X-ray, pesticide registrations, UST's, property transfer, LEP, etc.

| General Fund Appropriation* | |
|---|---|
| 7/1/08 - 6/30/09 | $4,768,288 |

* There is no specific state budget appropriation for department permit programs. This figure reflects actual expenses, drawn from the general fund, for air, water, and waste permitting and enforcement staff.

| Amount of Permit Application Fees Refunded* (7/1/08 - 6/30/09) |
|---|
| Application Fees Refunded for a Total of $17,174.00 |

* Refunds reflect withdrawn applications, duplicate fees, etc.

## Federal Fiscal Year ("FFY") 2009 Compliance Rates

The following tables show detailed compliance rates for FFY2009 for particular industry sectors in the following CTDEP media programs: Hazardous and Solid Wastes, Pesticides, Wastewater Discharges, Underground Storage Tanks, Marine Terminals, PCBs and Air Emissions. (The Federal Fiscal Year runs from October 1 through September 30.)

Unless otherwise noted the compliance rate for each category was calculated as follows:

**% Compliance = 100- <u># of enforcement cases initiated</u> x 100**
**# facilities inspected**

### Waste Engineering and Enforcement Division- Hazardous and Solid Waste

Hazardous waste inspections, in nearly every inspection category, met or exceeded the projected inspection number for FFY09. Inspected treatment storage facilities and small quantity generators achieved approximately 75% compliance rate.

| Inspection Category | Inspection Projected FFY 09 | Inspections Conducted FFY 09 | Total # Facilities by category | # of NOVs FFY 09 (1) | # of inspections with SNC (2) | % of SNC Non-compliance | % inspected facilities in compliance |
|---|---|---|---|---|---|---|---|
| **Treatment Storage Facility** | 9 | 8 | 174 | 2 | 0 | 0 | 75% |
| **Large Quantity Generator** | 43 | 55 | 269 | 31 | 13 | 24% | 44% |
| **Small Quantity Generator** | 37 | 43 | 1678 | 11 | 10 | 23% | 74% |
| **Transporter** | 5 | 5 | 169 | 3 | 2 | 40% | 40% |
| **Volume Reduction Facility** | N/A | 2 | 30 | 2 | 1 | 50% | 0% |
| **Resource Recovery Facility** | N/A | 5 | 7 | 1 | 0 | 0 | 20% |
| **Transfer Station** | N/A | 8 | 143 | 8 | 6 | 75% | 0% |
| **Landfill** | N/A | 5 | 34 | 1 | 1 | 20% | 20% |

(1) Does not include 24 SW NOVs resulting in complaint investigations
Does not include 16 SW NOVs resulting from file reviews
Does not include 12 HW NOVs resulting in complaint investigations
Does not include 5 HW CESQG NOVs

(2) Does not include 4 SW formal enforcement actions resulting from complaint investigations
Does not include 3 HW CESQG formal enforcement actions
Does not include 2 HW formal enforcement actions resulting from complaint investigations

SNC (Significant Non-compliance) – The violator/violation is significant enough to require formal enforcement response.

## Waste Engineering and Enforcement Division- Pesticides Program

The majority, or 73%, of inspected pesticide facilities were found to be in compliance in FFY 09. Inspected producer establishment and restricted use dealer facilities were all in compliance for FFY 09.

| Inspection Category | Inspections Projected FFY 09 | Inspections Conducted FFY 09 | # of Enforcement Cases Initiated in FFY 09 | % Inspected Facilities in Compliance |
|---|---|---|---|---|
| **Agricultural Use & Complaint Follow-Up** | 14 | 15 | 8 | 47 % |
| **Non-Agricultural Complaint/Concern Follow-Up & use investigation** | 70 | 65 | 25 | 62 % |
| **Producer Establishment** | 5 | 6 | 0 | 100% |
| **Market Place** | 85 | 84 | 8 | 90 % |
| **Certified Applicator Records** | 120 | 125 | 40 | 68% |
| **Restricted Use Dealers** | 10 | 3 | 0 | 100% |

**Water**

Water inspections exceeded the projected annual compliance inspections in each category for FFY 09. The majority, or 84%, of inspected water facilities were found to be in compliance in FFY 09.

| Inspection Category | # of Facilities | Annual Compliance Inspections Projected FFY 09 | Actual Inspections FFY 09 | % of Facilities in Compliance* |
|---|---|---|---|---|
| **National Pollution Discharge Elimination System ("NPDES") Industrial –Majors** | 33 | 17 | 40 | 88% |
| **NPDES Sewage Treatment Plant ("STP") –Majors** | 67 | 34 | 53 | 81%* |
| **State Pollution Discharge Elimination System ("SPDES") – Significant Industrial User ("SIU") – Pretreatment (Sanitary Sewer)** | 188 | 94 | 125 | 83%** |
| **NPDES Industrial - Minors** | 38 | 4 | 10 | 80% |
| **NPDES STP- Minors** | 30 | 3 | 18 | 94%** |
| **Stormwater** | NA | NA | 62 | 77% |

*Determined by review of Discharge Monitoring Report using Significant Non-Compliance criteria, and whether an NOV was issued from the inspection.
**Based on whether an NOV was issued from the inspection.

**Underground Storage Tanks**

The Underground Storage Tank (UST) program has continued in FFY 09 with a high inspection rate due, in part, to the Federal Agency Policy Act of 2005 requirement that UST facilities be inspected every three years, and to the program's Lean event.

| Inspection Category | Inspections Conducted FFY 09 | # of Enforcement Cases Initiated in FFY 09 | % Inspected Facilities in Compliance |
|---|---|---|---|
| Operational/Structural | 1,598 | 45 | 62%* |

*Based on both # of Enforcement Cases Initiated and Sites Reported to EPA as being in Significant Operation Compliance.

**Marine Terminals**

Of the FFY 09 inspected marine terminals, 92% were found to be in compliance.

| Inspection Type | Inspections Conducted FFY 09 | # of Enforcement Cases Initiated in FFY 09 | % Inspected Facilities in Compliance |
|---|---|---|---|
| Federal Inspections | 8 | 2 | 75% |
| State Inspections | 29 | 1 | 96% |

**PCBs**

Eighty-five percent of inspected PCB facilities were compliant in FFY 09; other neutral scheme facilities were 100% compliant in FFY 09.

| Inspection Category | Inspections Projected FFY 09 | Inspections Conducted FFY 09 | # of Enforcement Cases Initiated in FFY 09 | % Inspected Facilities in Compliance |
|---|---|---|---|---|
| **Referrals** | **8-13** | **7** | **2** | **71%** |
| **Complaints** | **12-17** | **15** | **4** | **73%** |
| **Clean-up Sites** | **10-15** | **18** | **1** | **94%** |
| **Other Neutral Scheme** | **10-15** | **7** | **0** | **100%** |

**Air**

| Inspection Category | # of Facilities in Category[i] | Reports Reviewed[ii] | Inspections Projected [iii] | Inspections Conducted |
|---|---|---|---|---|
| Title V | 85 | 225 | 41 | 42 |
| General Permit | 253 | 242 | 50 | 53 |
| Minor | 1,500 | | 24 | 77 |
| Stage II | 1,533 | | 2,500 (660 DEP) | 2,453 (740 DEP) |
| Complaints | | | 500 | 518 |
| Other follow up | | | 100 | 679 |

**Air Compliance Profile by Facility Type for Federal Fiscal Year 2009**

Of the inspected air facilities in FFY 09, 97% were not found to have an SNC.

| Inspection Category | # of Facilities in Category | # of Facilities with non-compliance[iv] | Compliance Rate[v] | # of Facilities with SNC[vi] | SNC Rate [vii] |
|---|---|---|---|---|---|
| Title V | 85 | 14 | 84% | 7 | 8% |
| General Permit | 253 | 15 | 94% | 10 | 4% |
| Minor | 1,500 | 80 | 95% | 12 | 1% |
| Stage II | 1,533 | 486 | 68% | 58 | 4% |

[i] For Title V and General Permit to Limit Potential to Emit (GPLPE) sources this includes applicants and those who have permits/registrations under the program.

[ii] Includes Semi-Annual Monitoring Reports and Compliance Certifications.

[iii] For Stage II this total includes the Consumer Protection inspections.

[iv] For Stage II violations include DCP red tags, DCP repairs and NOVs.

[v] The Compliance Rate = [[the number of facilities in the category minus the number of facilities in the category with one or more noncompliance issues] divided by the number of facilities in the category] multiplied by 100.

[vi] Significant noncompliance (SNC) is defined as a definitive Connecticut high priority violation (HPV) or a Federal HPV for Title V, GPLPE and Minor Sources. For Stage II facilities, SNC means there was either an actual failure of the vapor recovery equipment or a failure to demonstrate that the facility was maintaining a properly operating vapor recovery system.

[vii] SNC rate = [number of facilities with SNC divided by the number of facilities in the category] multiplied by 100.