



**Testimony of  
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**New York State Senate  
Committee on Environmental Conservation Hearing:**

**Water Quality**

**October 1, 2009**

Good morning, Senator Thompson and members of the Senate Committee on Environmental Conservation. My name is James Tierney and I am the Assistant Commissioner for Water Resources for the New York State Department of Environmental Conservation (DEC). Thank you for inviting DEC to testify today. Commissioner Grannis sends his regrets that he was not able to be here to discuss an issue that holds such great importance to New Yorkers across the state—clean water.

The economic and social well-being of the state rests upon the protection and restoration of the waters of our state. Abundant resources of clean water make New York an attractive place to live and conduct business while also offering tremendous recreational opportunities.

In fact, our state is so rich in water that New Yorkers often take clean drinking water for granted. When they turn on the tap it's there, clean and low cost. For the most part, people don't spend time thinking about it until there is an emergency that interrupts this flow of water. Perhaps a busted water main forces them to boil their water for a few days, or pollution in the water supply has a community obtaining their water from a pumper truck. Aside from these rare disruptions, most New Yorkers continue to enjoy plentiful supplies of clean drinking water.

New York is also fortunate to not suffer from the water ills of the Western U.S. or the recent severe droughts of Atlanta and South Carolina. Very few places in New York have limited water resources.

Great progress has been made over the last thirty years to implement the pollution controls of the Clean Water Act and even bring back to life some waters that were deadened by contamination. Today, we need to rebuild clean water infrastructure that is often substandard and deteriorating, and reinvigorate efforts to manage our water resources to assure adequate supplies of clean water for drinking, farming, industry, fishing and recreation.

DEC administers several programs for the purpose of conserving and protecting the state's water resources so New Yorkers will have clean water to use and enjoy for generations to come. The main laws DEC implements and enforces to protect and conserve New York's water are the federal Water Pollution Control Act, commonly known as the Clean Water Act, largely through the State's water pollution control act (Environmental Conservation Law (ECL) Article 17), and the Water Resources Law (ECL Article 15), including the public water supply permit program (ECL Article 15, Title 15) and the Long Island well permit program (ECL Article 15, Title 27).

My remarks today will cover three topics. First, I want to discuss the need for a comprehensive and consistent water withdrawal policy in New York, and Governor Paterson's response to this need in the form of Program Bill #51. Second, I want to highlight a common sense bill put forward by Commissioner Grannis last year to address a nonpoint source pollution problem: phosphorus. Third, I want to summarize as briefly as possible the range of programs that DEC has in place to protect water quality and some of the challenges we face.

**I. WATER QUANTITY IN NEW YORK STATE**  
**Governor's Program Bill #51—Water Withdrawal Regulation**

DEC has been entrusted with the responsibility to conserve New York's water resources for the benefit of all the inhabitants of the state. However, the existing water supply provisions of ECL Article 15, Title 15 have long been outdated and DEC generally only has authority to regulate public water supplies to ensure adequate quantities of potable water.

DEC regulates water withdrawals used for public water supplies based on statutes first established in 1905. DEC's water supply program was designed to protect and conserve available potable water supply resources by requiring that DEC issue permits to public water suppliers. These permits ensure equitable and wise use of these supplies by those who distribute potable water to the public for domestic, municipal and other purposes. There are more than 11,000 existing water supply permits in the state for over 3,000 community water supplies. In addition to overseeing these existing permits, DEC performs full technical reviews of approximately 130 new permit applications per year—all of which are overseen by only five staff.

Outside of public water supplies, the water resources regulatory scheme in New York is fragmented, with differing requirements in various basins around the state. The most comprehensive water program in the state is on Long Island, which has more robust protections due to its reliance on a sole source aquifer for its drinking water. All types of water uses impacting Long Island groundwater are regulated by DEC. Outside of DEC's direct regulatory authority, the Susquehanna and Delaware River Basin Commissions both regulate, by permit and fee, all water withdrawals from surface and groundwater over 100,000 gallons per day (gpd). In the Great Lakes Basin, withdrawals of 100,000 gpd or greater must be registered with DEC, which while short of a permit, provides DEC with data on the current number and volume of water uses in the Great Lakes. Across the remainder of the state, however, only public water supply systems are required to be permitted.

Although public water supplies are estimated to account for less than 20 percent of total water withdrawals in New York, they are currently the only types of water withdrawals which require a DEC permit other than on Long Island (attached). The remaining withdrawals are associated with industrial, commercial and agricultural users, and are largely unregulated. As a result, DEC does not have reliable data needed to accurately assess the full gamut of stressors to our water supplies or the regulatory authority to take steps toward achieving effective water conservation. This also prevents DEC from studying long-term water supply issues or making projections about long-term sustainability of our state's water supply and the proper balance of competing uses both statewide and within local watersheds. This situation severely limits the state's ability to address droughts and prevents adequate water resource management to promote economic growth. DEC estimates that there are more than 400 large industrial, commercial and agricultural withdrawers in New York, none of whom are presently regulated by the State. Of those, at least 25 facilities draw more than 100 million gpd and three are known to draw in excess of one billion gpd.

Population growth, pressures to keep water in-stream for fisheries and the environment, and increased water usage for commercial, industrial and other purposes have resulted in substantially increased demands on State's water resources. In addition, potential impacts from climate change, an increase in proposals to develop bottled water facilities and the need for large quantities of water to develop natural gas wells in the Marcellus and Utica shale deposits will place additional stresses on the state's water resources. These issues have served to highlight the limitations on the state's water resources program and DEC's limited ability to regulate water withdrawals for many purposes. In contrast, our neighboring states of Connecticut, New Jersey, Rhode Island and Massachusetts all have programs that regulate industrial, commercial and agricultural water withdrawals.

One example of the need for additional regulation of water withdrawals is the forthcoming development of the Marcellus Shale formation for natural gas extraction. While prior gas drilling practices used tens of thousands of gallons of water to facilitate gas recovery, the drilling in the Marcellus formation will require up to several million gallons of water per well. DEC will continue to evaluate potential adverse impacts resulting from the large volumes of water needed to hydrologically fracture the shale during the development of the supplemental generic environmental impact statement for Marcellus shale exploration.

Another important recent development is enactment of the Great Lakes-St. Lawrence River Basin Water Resources Compact (Compact) which includes a number of provisions to preserve and protect the water resources of the Great Lakes-St. Lawrence River Basin (Great Lakes Basin). The Great Lakes Basin encompasses approximately 50 percent of the State. A key provision of the Compact requires New York to develop and implement a program to regulate all significant water withdrawals occurring in the New York portion of the Great Lakes Basin within five years of its effective date of December 2008.

All of these developments support the need to implement more effective and comprehensive measures to protect and conserve New York's water resources for the public health and economy of New York State. In recognition of these needs, legislation was enacted to require reporting of withdrawals of more than 100,000 gpd starting in February, 2010. While this represents a first step, much more needs to be done so that our water resources are understood and more effectively managed.

In June, Governor Paterson released Program Bill #51 on Water Withdrawal Regulation. This legislation would authorize and direct DEC to establish a water withdrawal permitting program for withdrawals of 100,000 gpd or more. It would build on the reporting requirements established earlier this year and provide more robust oversight of one of New York's greatest resources for living, recreating and attracting industry. By authorizing DEC to implement a statewide permitting program for all water withdrawals, this bill would not only allow New York to meet one of its significant responsibilities under the Compact, but would also ensure a uniform water resource management program statewide. Further, this legislation would result in a strengthening of the water conservation elements of the current permitting program and encourage water reuse, consistent with the Compact and sound resource management.

By focusing DEC's jurisdiction on significant withdrawals of 100,000 gpd or more, DEC would no longer be required to issue permits for smaller public water supplies that would continue to be regulated by the Department of Health (DOH). This change would allow DEC to focus its attention on large withdrawals that have the potential to have significant impact on the quantity and quality of the state's water resources.

A few examples of facilities that are estimated to withdraw 100,000 gallons per day of water, which would be subject to DEC's permitting program, are a 925 room hotel, a day school for 6,500 students, a public water supply serving 300 homes and a dairy farm with 2,000 cows.

It is critical that the Legislature introduce and pass this bill so that DEC can begin to better protect all of the state's waters.

## **II. IMPACT OF PHOSPHORUS ON THE STATE'S WATERWAYS DEC Departmental Bill #8—Phosphorus**

Reducing nutrient phosphorous in stormwater runoff is a high priority for DEC to help improve water quality. Phosphorus entering the environment has been linked to excess eutrophication, reducing biodiversity and limiting recreational uses of waterbodies, as well as increasing the costs of treating drinking water. Excess phosphorous in a lake or stream essentially acts as a fertilizer – increasing the growth of plants or algae in the water. As this material decomposes and falls to the bottom of the lake, it uses oxygen that is needed by fish. This process, called eutrophication, leads to oxygen starved waterbodies choked with weeds and plant life, often reducing the ability to use the water for recreation, fishing, or drinking. As you know, DEC has proposed to limit phosphorus in dishwasher detergent and limit the use of phosphorus-containing lawn fertilizer in DEC Departmental bill #8 (S. 3780, A.8914).

Lawn fertilizers contain far more phosphorus than is necessary to maintain a green, healthy lawn, and much of that excess phosphorus runs off lawns during rain events. Not only does the phosphorous cause problems in surface waterbodies, but when municipalities have to treat their stormwater to remove phosphorous it often is very costly. Local legislation has been adopted in Westchester County to ban the sale or use of phosphorus fertilizer in efforts to reduce phosphorus discharges. Suffolk County has also proposed a fertilizer control law. DEC is proposing to prohibit unnecessary use of phosphorus in lawn fertilizer.

New York restricted the use of phosphorus in most household cleansers and laundry detergent in the 1970s, yet phosphorus remains a main component of dishwasher detergent. Water from dishwashers is either sent to a wastewater treatment plant in areas with sewer hookups or ends up in leach fields of homeowner's septic systems. The cost of phosphorus removal at a wastewater treatment plant varies from \$0.96 to \$20.00 per pound. If there were lower levels of phosphorus entering the environment wastewater would require less chemical treatment and energy, resulting in savings for municipalities. DEC is proposing to remove the exception for automatic dishwasher detergent from the ban on household cleansing products containing phosphorus, including for commercial users. There are alternative phosphorus-free automatic dishwasher detergents available to consumers. The phosphorus-free detergents are effective, and do not require consumers to sacrifice performance for environmental health and relieve local cost

burdens. In addition, there are currently a dozen states, including Washington, Vermont and Maryland, which have enacted a ban on phosphorous in automatic dishwasher detergent.

Although phosphorus impacts waterbodies across the state, its impact is greatest on waterbodies located in more highly developed areas. This legislation would help local governments to achieve phosphorus reduction requirements. Specific areas of New York with phosphorus-caused water quality concerns include the New York City watershed, Lake Champlain, Onondaga Lake, and the portion of New York State draining to the Chesapeake Bay, as well as 59 water bodies which have been determined to be phosphorus impaired.

A special thank you to Senator Thompson for sponsoring this legislation. We appreciate your leadership on this matter and look forward to working with you and Assemblyman Sweeney to pass this bill in the coming session.

### **III. DIVISION OF WATER OPERATIONS AND PROGRAMS**

Water issues, both quantity and quality, are handled by DEC's Division of Water. The Division is responsible for the oversight and regulation of water pollution discharges through the State Pollutant Discharge Elimination System (SPDES), which is the core program established by the Clean Water Act. The Division also handles public water supply, dam safety, floodplain management, coastal erosion hazard areas, and has special programs for the New York City watershed, the Hudson River Estuary, the Great Lakes and Lake Champlain. DEC's water programs have incurred significant reductions to both federal and state funding sources over the last two decades and significant staffing and resource reductions that affect the range of work that can be accomplished and the time it takes to complete tasks.

I'll speak briefly about several of DEC's programs to provide a sense of the work we do.

As mentioned, the SPDES program is the major program used to limit and enforce pollution discharges to the waters of the state. Pursuant to the Clean Water Act and New York's ECL, DEC issues permits for all discharges of wastewater and stormwater, including discharges caused by industrial, municipal, commercial and construction activities, to the waters of New York State. The SPDES program encompasses water quality reviews, permit writing and inspection, compliance information systems management and enforcement. Currently, DEC staff across the state oversee approximately 19,000 SPDES permits.

Approximately 1,900 facilities in New York with SPDES permits are designated as either major facilities by the United States Environmental Protection Agency (EPA) or state significant facilities. DEC annually aims to review the permits of ten percent of these facilities, a continual challenge with diminishing staff.

The SPDES permit program only protects waters if permitted facilities comply with their permits. To ensure compliance, DEC must maintain a field presence by regularly inspecting these facilities. Over the last 15 years, the number of inspections performed by DEC has remained relatively constant while the number of regulated facilities has doubled. Now, in

addition to the traditional oversight of wastewater treatment plants, DEC also permits and inspects activities such as Concentrated Animal Feeding Operations and stormwater sources.

Municipally owned wastewater treatment plants (WWTPs) are perhaps the most significant SPDES permittees. There are 630 municipally owned and operated WWTPs in New York. DEC reviews the design and construction of a WWTP before issuing a permit to operate. Much of the infrastructure crisis in New York is related to the need to address aging sewage treatment plants, crumbling collection systems, sewage overflows known as “combined sewer overflows,” and polluted runoff from city streets and construction sites.

**Just one component of the SPDES program is the stormwater program**, which helps protect water quality by reducing the discharge of pollutants in stormwater. Research has shown that stormwater is a significant source of the pollution that impairs New York waters. Federal law requires DEC to issue SPDES permits to limit pollution flowing from municipal separate storm sewer systems. These systems are required to develop a Stormwater Management Program to prevent pollution of runoff.

Another significant DEC water quality protection program – also a component of the SPDES Program -- is the Concentrated Animal Feeding Operation (CAFO) program. New York’s CAFO program is regarded as one of the best in the country. Generally, farms with a large number of animals on site are required to obtain permit coverage under a CAFO General Permit. The original permit was created in response to litigation against Southview Farms, a large CAFO in western New York. Pursuant to that litigation, CAFOs were defined in federal law as regulated point sources. Special conditions were developed to prevent discharge of manure and nutrients into surface waters. There are 150 large and 450 medium CAFOs currently permitted in New York.

DEC has worked closely with New York farmers, non-government organizations and the Department of Agriculture and Markets to develop the CAFO program.

In addition to the SPDES program, the Division of Water engages in several other areas I would like to mention:

- *Dam Safety and Flood Protection* - DEC is responsible for overseeing the safety of private, municipal, and state-owned dams and for the permitting of construction work to be done for new or modified dams. There are 5,663 dams on New York State’s inventory, which are classified as High, Intermediate, or Low Hazard. While the safe operation of a dam is the primary responsibility of the dam owner, DEC staff perform regular, periodic inspections of certain dams in addition to the dam owner's operational and inspection activities. Last year alone, staff conducted 533 inspections.
- *Floodplain Management* - DEC manages the National Flood Insurance Program and related floodplain management programs in the state. It also organizes flood mapping projects, conducts field surveys and undertakes engineering activities related to flood mapping. Currently, DEC is working with the Federal Emergency Management Agency (FEMA) and communities across the state as FEMA releases new digital maps showing

updated floodplain information in several counties which will provide citizens with current information about their risk of experiencing a flood and in some cases encouraging them to buy flood insurance. In a number of areas, the floodplains have changed and homeowners who never had to worry about the expense of flood insurance now need to purchase this insurance. In addition, in some areas of the state levees are also being decertified due to a federal requirement, and homes and businesses behind these structures are now in need of flood insurance. DEC is working with these residents as well.

- *Coastal Erosion* - New York's Coastal Erosion Hazard Area (CEHA) management program was developed to implement provisions of the federal Coastal Zone Management Act of 1972, which was enacted to encourage states to better manage coastal areas. Planning and preparation of the state program led to the development of New York State's Coastal Policies which articulate the appropriate use and protection of the state's coasts and waterways. A number of these policies provide guidance for the management of coastal resources in erosion prone coastal areas. The CEHA laws set forth the terms and policy for identifying Coastal Erosion Hazard Areas and implementing a program to regulate these identified "natural protective features."
- *Pharmaceuticals in water* - Pharmaceuticals represent one of the "emerging contaminants" newly found in our waters, and are yet to have water quality standards or to be regulated in discharges. Further research is needed to know their effects on human health, but there is a body of data from studies that identify significant concerns for aquatic life. Unfortunately, wastewater treatment is not designed to remove pharmaceuticals and is only partially effective at doing so. DEC, working closely with DOH, is taking a proactive, preventive approach to minimize the discharge of pharmaceuticals into our waters. Last year, DEC began a public education campaign, 'Don't Flush Your Drugs,' to reduce the flushing of unused medications, while longer-term solutions can be developed.
- *Beach closures* - Swimming in New York's waters is an important recreational activity that DEC works to ensure people can do safely, and the state has water quality standards for bacteria that are designed to protect people swimming and playing in the water. Sometimes a beach has to be closed after a rain storm because a sanitary sewer overflowed causing bacteria from untreated sewage to wash into the bathing area. DEC, in collaboration with DOH, identifies these areas, tracks down the source of the bacteria and works with the municipality responsible for the sanitary sewer overflow to correct the problem.

## **Staffing**

Finally, I want to say a bit about DEC staffing and funding issues. Even before the current state and national fiscal crisis, the Division of Water faced significant cuts to both state and federal funding. In 1990, the Division had 339 staff; today, the Division has 267 staff, and at least twice the workload. DEC expects to lose additional staff by the end of the fiscal year, primarily as a result of the Voluntary Severance Program (attached). This does not include the Division's assumption of many oversight responsibilities of the now non-existent construction grants division. Financial resources to run programs are severely constrained.

One example, in Federal Fiscal Year (FFY) 2001, the Division of Water funded 114 staff from an EPA grants at a cost of \$11.7 million. Currently, due to inflation, \$13 million in federal funds support 98 staff.

State funding for Division of Water staff also declined during this same period. In State Fiscal year (SFY) 1988-89, the state funded 217 Division of Water staff. However, subsequent budget cuts resulted in a low of 105 state funded staff in SFY 2005-06. Currently, 125 of the Division's 267 staff are state funded.

Between FFY 2001 and FFY 2006, the Division of Water lost \$10 million in federal grant funding from EPA. Additional cuts continue today.

During this time, the number of permitted activities and associated workload has more than doubled due to the expansion of the SPDES program to include such areas as combined sewer overflow remediation, total maximum daily load pollution budgets, general permits for construction activities, polluted runoff from city streets, industrial areas such as junkyards, and CAFOs. In addition, there is an increased public awareness and focus on water resources, including flooding concerns and water supply issues. The anticipated effects of Climate Change and the forecast for future flooding as well as water shortages will demand significant action on the part of DEC to properly manage the state's water resources

I mention these funding issues because they absolutely affect our ability to complete all of our work in a timely manner. When funding is reduced, we adjust our workplan to focus on the most core activities, such as issuing and enforcing SPDES permits. This means we are not able to focus on other deserving activities, such as monitoring waterbodies, watershed planning, public education and outreach, or addressing emerging concerns such as pharmaceuticals.

## **Wastewater Infrastructure**

Another important issue that I must mention is the state of wastewater infrastructure in New York. Unfortunately, wastewater infrastructure in the state is deteriorating. Significant public investment in the 1970s and early 1980s lead to simultaneous construction of WWTPs all across New York, resulting in dramatic improvements in water quality. Now, many facilities are past their expected useful lives, putting New York's water resources at risk of being recontaminated. Under-treated or raw sewage, street waste and nutrient pollution cause excess algae and weed growth and otherwise impair the state's waters, including: Long Island Sound, Jamaica Bay,

Hudson River, Mohawk River, Lake Champlain, Lake Ontario, Lake Erie and the Finger Lakes. Failing to address these problems could undermine the tremendous progress which has been made to improve New York's water quality.

To focus attention on this issue, in February 2008, DEC established the Clean and Safe Water Infrastructure Funding Initiative. The initial efforts of the Initiative have been tremendously successful. DEC and DOH each developed comprehensive reports that project funding needs of over \$36.2 billion for wastewater infrastructure and \$38 billion for drinking water infrastructure over the next 20 years. Governor Paterson established the Clean Water Collaborative, a group of diverse stakeholder organizations charged with getting the word out about the need for this critical infrastructure funding and specifically to support efforts to direct federal funding to this need. I would like to thank Senator Thompson for his participation in the Collaborative. The Governor and the Clean Water Collaborative successfully advocated for the inclusion of funding for water and wastewater infrastructure in the federal stimulus package. Governor Paterson and Judith Enck, Deputy Secretary for the Environment, were the first, and lead, proponents for this funding in the nation.

These efforts have resulted in New York State's receipt of more than \$500 million in federal stimulus funding to the state revolving loan funds for water and wastewater infrastructure. This is the single largest infusion of funding ever to New York's State Revolving Fund, which received by far the largest amount of funding among the states. The federal stimulus also provides, for the first time in over 20 years, grants for municipalities for wastewater infrastructure. In addition, Congress appears poised to substantially adopt President Obama's FFY 2010 budget proposal to increase funding for the state revolving funds. The Clean Water State Revolving Fund may increase by more than 200% for FFY 2010 over historic funding levels.

And further progress toward a longer-term, sustainable source of federal funding is being made. The Clean Water Act has not been reauthorized in over two decades. Yet earlier this year, the U.S. House of Representatives passed a reauthorization bill that would allow greatly increased funding (tripling current levels) to the state revolving funds for the next five years as well as other welcome improvements. The Senate is expected to pass a similar bill (including even higher funding levels) shortly. There have also been proposals to develop a national infrastructure bank as well as a water infrastructure trust fund that could assure federal funding for this vital infrastructure into the future.

## **Conclusion**

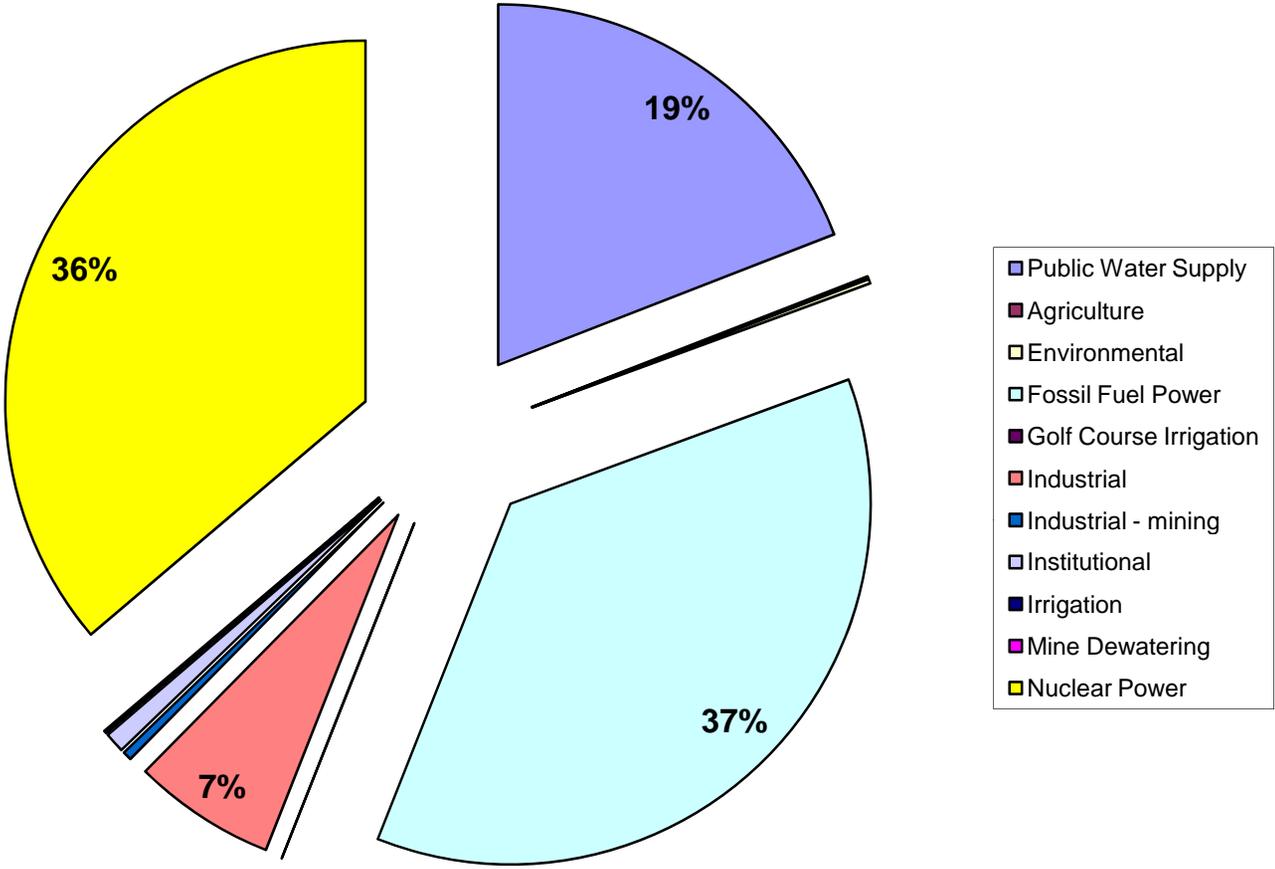
Commissioner Grannis and I hope that two actions are taken by the Legislature in the coming year to better protect and improve New York's water: passage of Governor Paterson's Water Resources Management program bill and DEC's Phosphorus reduction legislation. I hope that I have provided you with the information that demonstrates the need for these two common sense measures.

I also hope I have provided a more complete understanding of the broad work DEC's water staff undertake for the protection of New York's water.

Thank you again for inviting DEC to this hearing and for the opportunity to discuss water quality issues in New York. I am happy to answer any questions.

# NEW YORK STATE WATER USE

Total Use Estimated at > 8 Billion Gallons per Day



## DOW Staffing - All Sources plus Contractual

