

STATE OF NEW JERSEY  
LAKE HOPATCONG COMMISSION  
**PROGRESS REPORT 2001-2002**

Prepared for  
Governor James E. McGreevey  
And the  
New Jersey State Legislature

December 1, 2002



# Contents

<i>Letter to the Governor and Legislature</i> .....	iii
<i>Introduction to the Lake Hopatcong Commission</i> .....	1
Functions .....	1
Membership .....	2
<i>Background on Lake Hopatcong</i> .....	2
History of the Area .....	2
Characteristics of the Lake .....	2
Environmental Problems in the Lake .....	3
<i>Lake Protection Efforts on Lake Hopatcong</i> .....	4
Earlier Lake Management Efforts .....	4
The Lake Hopatcong Commission.....	4
<i>Managing Lake Hopatcong’s Water Quality Problems</i> .....	5
Long-Term Measures -- Replace Septic Systems .....	5
Long-Term Measures -- Manage Stormwater Runoff .....	5
Short-Term Measures – Harvest Overgrown Aquatic Vegetation .....	6
<i>Lake Hopatcong Commission Initiatives</i> .....	6
Studying Lake Hopatcong’s Water Quality .....	6
Studying Lake Hopatcong’s Water Quantity .....	6
Managing Stormwater Runoff – Catch Basin Replacement.....	7
Mechanical Harvesting of Aquatic Vegetation .....	7
Representing Lake Hopatcong Interests during State Drought Emergency.....	9
Dredging a Sandbar by Brady Bridge .....	11
Reviewing Municipal Site Plan and NJDEP Permit Applications .....	11
Working Jointly with Other New Jersey State Agencies .....	12
Working Jointly with the Lake Hopatcong Municipalities.....	12
Working Closely with the Lake Hopatcong Residents.....	13
Facilitating Development of a Lake Hopatcong Emergency Response Plan .....	14
Managing Placement and Maintenance of Buoys on Lake Hopatcong.....	14
<i>Issues Affecting the Lake Hopatcong Commission</i> .....	17
Will the State Continue to Fund the Commission?.....	17
<i>Appendix A--Lake Hopatcong Commission, 2001-2002, Members and Alternates</i> .....	19
<i>Appendix B—Lake Hopatcong Commission, 2001-2002, Commission Staff</i> .....	21



## Letter to the Governor and Legislature

December 1, 2002

### **To the Honorable James E. McGreevey, Governor And Members of the New Jersey Legislature**

The Lake Hopatcong Commission was created by the Lake Hopatcong Protection Act on January 8, 2001 (N.J.S.A. C58:4B) and established in but not of the New Jersey Department of Environmental Protection. Under the Act, Section 4B-10 calls for the Commission, within 18 months of organizing, to prepare a progress report of its activities and submit it, together with recommendations for legislation, administrative action, or action by local governments, to the Governor, State Legislature, and Senate Environment Committee, Assembly Environment Committee, and Assembly Agriculture and Natural Resources Committee. The accompanying report presents the progress of the Commission to date.

Lake Hopatcong is the largest lake in the State of New Jersey and has long been a major recreation and vacation spot for people living in the Middle Atlantic Region. Originally a seasonal community, the Lake Hopatcong area has become a year-round residential community, and the local population has surged in the last few decades. With growth in population also comes the downside of development—increased impacts on the local environment—and Lake Hopatcong is no exception. The lake's water quality began deteriorating as pollutants leached into the lake from a number of man-made sources, and groundwater quantity and quality decreased as urban sprawl covered over critical recharge areas. Local residents became alarmed and sought to create an umbrella organization that would represent each of the State, county, and municipal interests around the lake and that would be funded directly by the State of New Jersey. The "Lake Hopatcong Protection Act" passed unanimously in both the New Jersey Assembly and Senate in late 2000 and was signed into law in early 2001.

Since its creation, I am happy to report that the Lake Hopatcong Commission's office is up and running, staff has been hired, and we are actively involved in a number of activities and programs to restore the lake to its natural splendor. To the best of my knowledge, this is the only State-funded commission in the United States that oversees a single lake, which demonstrates this State's leadership and foresight in protecting this valuable New Jersey natural resource.

*Lake Hopatcong Commission*

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On behalf of the Commission, it is with a great deal of pride and satisfaction that I provide this progress report on our first 18 months of operation. We believe that the Commission is taking positive steps to accomplish the goals set forth in the Lake Hopatcong Protection Act, and, with the State's support, we expect to see the results of our efforts in due course.

Sincerely,

Anthony J. Albanese  
Chairman

# Progress Report 2001-2002

## Lake Hopatcong Commission

This report has been prepared by the Lake Hopatcong Commission as part of the requirements of the Lake Hopatcong Protection Act (N.J.S.A. C58:4B) of 2001. Under Section 4B-10 of that Act, the Commission, within 18 months after the date it organizes, shall prepare a progress report on its activities.

### ***Introduction to the Lake Hopatcong Commission***

The Lake Hopatcong Commission (hereinafter referred to as the “Commission” or “LHC”) was created on January 8, 2001 (N.J.S.A. C58:4B) and established “in but not of” the New Jersey Department of Environmental Protection (NJDEP). The Commission is tasked with overseeing and safeguarding the State’s largest freshwater lake—Lake Hopatcong—which serves as an emergency source of drinking water to the State and supports a wide range of recreational and other uses that contribute significantly to the region’s economy. The establishment of the Commission is based on the view that improving and maintaining the water quality of Lake Hopatcong is important to protect the environmental and economic interests, as well as the quality of life, of the over 65,000 residents in the area.

Initial funds were appropriated from the State’s General Fund (N.J.S.A. C58:4B-13) to the Lake Hopatcong Commission in the amount of \$3 million to pay for startup costs and to carry out the purposes and objectives in the first year

after the January 8, 2001, date of enactment of the Act, and any unspent monies were to be carried forward for use by the Commission in future years. Each year after the first year, the Commission is required to submit an annual budget request for funds to carry out its purposes and objectives as part of the annual budget request submitted by the NJDEP to the Division of Budget and Accounting in the Department of the Treasury, which shall include it in the budget request submitted annually by the Governor for appropriation by the Legislature.

**Functions.** The Lake Hopatcong Commission is an independent State commission. It has no enforcement powers, nor can it issue fines in its efforts to protect Lake Hopatcong. Simply, the Commission works cooperatively with the governmental bodies and the public in the Lake Hopatcong watershed to monitor, protect, restore, educate and review. The Commission seeks to provide a single voice to speak on behalf of the many interests within the Lake Hopatcong watershed, and its goal is to provide leadership and expertise on the best management practices for the Lake. In this first 18 months of activity, the Commission’s role in the Lake Hopatcong area continues to be defined as the governmental partners become comfortable with the new organization.

The Lake Hopatcong Commission currently maintains an office at 117 Lakeside Boulevard, in Landing, NJ. In this first season of full operation, the

Commission employs a staff of 10, including an Executive Director, an Administrator, a Director of Field Operations, and a Field Operations staff of 7. As its name suggests, the Field Operations staff conducts lake management activities in, on, and adjacent to Lake Hopatcong, such as mechanical weed harvesting in the warmer months, and stormwater management and other projects in the colder months.

**Membership.** The Commission comprises 11 voting members, including a chair and two other members appointed by the Governor, one ex officio representative each from the New Jersey Departments of Environmental Protection and Community Affairs, one representative each from Sussex County and Morris County, and one representative each from the four municipalities surrounding Lake Hopatcong—Hopatcong Borough, Mt. Arlington Borough, Jefferson Township, and Roxbury Township.

### ***Background on Lake Hopatcong***

**History of the Area.** Lake Hopatcong was originally two adjacent lakes that were the headwaters of the Musconetcong River. A dam was constructed in 1750 to provide power for a local iron forge, and the water level increased by some 5 feet and combined the two lakes into one larger lake. The lake as it is known today was created through the construction of another dam in 1827 by the Morris Canal and Banking Company as part of its efforts to build the Morris Canal, which by the 1830s was a major means for transporting coal, iron, and zinc across New Jersey. As railroads developed in

the area, the slower canal traffic became obsolete, and the canal was abandoned. The lake was acquired by the State of New Jersey from the Morris Canal and Banking Company in 1922. Today, Lake Hopatcong is part of Hopatcong State Park, which is administered by the Division of Parks and Forestry within the New Jersey Department of Environmental Protection (NJDEP).

**Characteristics of the Lake.** The 9.5-mile-long Lake Hopatcong is the largest lake in the State and is located in the northwest part of New Jersey on the borders of Sussex and Morris Counties. Four municipalities surround the Lake—within Morris County are Roxbury Township, Mt. Arlington Borough, and Jefferson Township, and within Sussex County is Hopatcong Borough.

Lake Hopatcong is a major year-round recreational center in New Jersey for boating, sailing, and swimming and is considered one of the best freshwater fisheries on the East Coast. During the winter, ice fishing, ice boating, and snowmobiling are popular activities. Hopatcong State Park is one of the busiest parks in the State system, hosting over 159,000 this past summer. The Lake's 14.7 billion gallons of water are also considered an emergency source of drinking water for the State of New Jersey.

The 2,700-acre Lake has over 38 miles of shoreline and a watershed population of over 65,000 people. The Lake Hopatcong watershed (the surrounding area that contributes to the water quality and quantity) is relatively small, on the order of 13,500 acres. Much of the surrounding watershed area is undeveloped forest, and growing residential development surrounds the

Lake. Although there is a growing commercial base in the area, little major industry is present at this time that may adversely affect the Lake.

Lake Hopatcong has no major tributaries; rather, the inflow to the Lake is contributed by a number of brooks and streams from the mountain area surrounding the Lake. On the other hand, the Lake has a major point of discharge through a dam at Hopatcong State Park, releasing an average 7.5 million gallons a day (MGD) downstream, which provides the headwaters for the Musconetcong River, a tributary to the Delaware River. A downstream lake, Lake Musconetcong, is dependent on Lake Hopatcong's discharge. Because of the emergency drought conditions, the discharge from the Hopatcong State park dam has been reduced to 4.4 MGD to conserve water supplies in 2002.

#### **Environmental Problems in the Lake.**

Similar to other urbanized lakes, Lake Hopatcong is affected by advanced cultural eutrophication. The word "eutrophic" is a Greek term for "well-nourished," which describes a process of physical, chemical, and biological changes to a freshwater body caused by nutrient, organic matter, and siltation deposition that results in accelerated aging. As a lake ages, it begins to fill in from increased vegetation and sedimentation, becoming a swamp and, eventually, a forest. If the process is accelerated by man-made influences, as is the case at Lake Hopatcong, it is termed cultural eutrophication. In short, Lake Hopatcong is aging faster than it should, and overgrowth of algae and aquatic vegetation is an ongoing problem.

One characteristic of Lake Hopatcong that is particularly telling about its eutrophic condition relates to its hydraulic residence time, which is the average time required to renew a lake's volume. More simply, this represents a measure of the "flushability" of a body of water for moving nutrients through and out of the water column. A short hydraulic retention time would indicate a high volume of water flow, resulting in less production of biological forms such as algae because the cells are flushed out faster than they can grow and accumulate. On the other hand, a longer hydraulic residence time suggests that nutrients can accumulate in the water body, and biological forms have more time to grow and multiply. Lake Hopatcong demonstrates a long hydraulic residence time, on the order of about 623 days, or 1.7 years, which means that it presents an ideal environment for harboring nutrients and biomass, as demonstrated by the excess algal and aquatic vegetation overgrowth.

The key pollutant of Lake Hopatcong causing the eutrophication is the element phosphorus, which is, among many properties, a nutrient for vegetation. Phosphorus levels in the Lake are two times what they ought to be, and the influx is believed to be caused predominantly by stormwater runoff (48%) and septic system leachate (41%). Geese droppings also contribute to the phosphorus loading to the Lake.

The over-fertilization of Lake Hopatcong has resulted in a serious overgrowth of aquatic vegetation over the last three decades, and this problem has been exacerbated in the last few years by the low Lake levels, which have allowed deeper sunlight penetration into the Lake and, hence, more weed growth.

Other nutrients, such as nitrogen, and pollutants, such as heavy metals like cadmium and lead, also are present in Lake Hopatcong.

Another problem that has resulted from the aquatic vegetation overgrowth is oxygen depletion from the water in the lower depths of the Lake. Similar to other water bodies, Lake Hopatcong experiences thermal stratification, particularly in the summer months, which results in a lack of water circulation between the deeper waters on the bottom with the surface waters. As weed and other organic matter degrade, the material settles to the bottom of the Lake and decays, depleting the oxygen in the deep water, and rendering some of the deepest areas of the Lake totally devoid of oxygen—a condition known as anoxia. As the oxygen demand increases, the anoxic conditions may move upward toward the surface and can result in fish kills.

These anoxic conditions also lead to other problems at the Lake's bottom. Chemical conditions in the sediments result in phosphorus being released or recycled from the lakebed into the water column, further increasing the pollutant's levels in Hopatcong.

## ***Lake Protection Efforts on Lake Hopatcong***

### **Earlier Lake Management Efforts.**

Lake Hopatcong's deteriorating water quality did not escape lake residents in the 1960s, and they responded by creating the Lake Hopatcong Regional Planning Board (LHRPB) in 1964. The Board was strictly a volunteer organization with an organization similar

to that of the Lake Hopatcong Commission. Members were appointed by the municipal and county governments, and public meetings were held, although funding was obtained through grants or fees assessed to the governmental bodies. The Board engaged in coordinating protective efforts for the Lake, including the development of model municipal ordinances, planning reviews of building projects, public outreach and education on issues such as septic system maintenance, open space support, comprehensive lake management studies, and mechanical weed harvesting. An important early action of the Board was water quality monitoring of the Lake, and this practice has continued to this day, establishing over 30 consistent years of water quality data on Lake Hopatcong.

### **The Lake Hopatcong Commission.**

While the LHRPB made important contributions toward the protection of Lake Hopatcong, its capabilities were limited because it had no authority beyond what the supporting governmental bodies allowed, it lacked a staff and an office, and finding funds was a continuous effort. These limitations were part of the impetus that resulted in discussions by Lake residents in 1999 about the possibility of forming an umbrella organization that could speak on behalf of all the Lake governmental bodies and the public, with a full-time staff and executive director, an office, and consistent funding directly from the State. Using the Lake George Park Commission as a model, a legislative campaign was launched in 1999. Senator Anthony Bucco of Morris County began discussions with then-Governor Christie Whitman in August 1999, and he and Senator Robert Littell of Sussex County

introduced legislation (S1383) in June 2000 to create a Lake Hopatcong Commission. A companion bill, A2604, was introduced in the Assembly by Assemblymen Guy Gregg, Michael Patrick Carroll, Richard Bagger, and Richard Merkt. The measure passed the New Jersey Senate without dissent later that month and gained full Legislature passage, again without dissent, in November 2000. The legislation became law on January 8, 2001, with an appropriation of \$3 million for startup costs. The Commissioners were appointed over the next few months, and the first meeting of the Lake Hopatcong Commission was held on May 21, 2001.

### ***Managing Lake Hopatcong's Water Quality Problems***

Lake Hopatcong's water quality has been well studied for over 30 years, beginning with volunteer efforts by the LHRPB in the 1970s, comprehensive diagnostic studies conducted through U.S. Environmental Protection Agency (USEPA) Clean Lakes Program Grants in the 1980s, and ongoing water quality monitoring that continues to this day. Furthermore, the Lake Hopatcong Commission has recently entered into a cooperative research effort with the U.S. Geological Survey to evaluate the Lake's water flows and develop a water budget.

Although the Lake Hopatcong Commission is relatively new and is in the process of defining its role in restoring and protecting the Lake, it will continue to build on the twofold lake management strategy developed by the LHRPB—conducting long-term and short-term corrective measures. As

phosphorus is the main problem affecting Lake Hopatcong, it goes without saying that a key component of the Lake Hopatcong Commission's long-term lake management efforts is to minimize phosphorus and other nutrient inflows to the Lake. Because nearly 90 percent of the phosphorus inflow is caused by septic system leaching and stormwater runoff, the Commission supports local municipal efforts to replace septic systems with sewers and wastewater treatment, to control stormwater runoff through better catch basin design and construction, and to regularly collect accumulated debris from catch basins.

**Long-Term Measures -- Replace Septic Systems.** Roxbury Township and Mt. Arlington Borough already have replaced their septic systems with sewers. By 2005, 50 percent of Hopatcong Borough is expected to be sewerred, and Jefferson Township's officials are moving aggressively to obtain funding to begin their sewer installation program. The nearby Musconetcong Sewerage Authority is currently expanding its treatment capacity to handle these new wastewater loads. Once the four Lake Hopatcong communities are sewerred, the Commission expects that over 40 percent of the Lake's phosphorus load will be abated. In the meantime, the Commission is advocating regular maintenance and pumping of existing septic systems.

**Long-Term Measures -- Manage Stormwater Runoff.** Clearly, the long-term challenge for the Lake Hopatcong Commission is managing stormwater runoff. Because of its non-point-source nature, stormwater runoff is more expensive and difficult to manage. For example, the four Lake Hopatcong

municipalities obtained \$400,000 in grants from USEPA in 1998 and conducted stormwater drain upgrades and dredging projects.

The Commission anticipates conducting other projects to better manage stormwater flows to the Lake in the years to come. One major component of this effort includes rebuilding a number of existing catch basins around the Lake to make them larger and deeper, thus allowing them to collect and retain more stormwater with its associated nutrients from moving directly to Lake Hopatcong. These catch basins will also include bases (either gravel or perforated concrete) that will allow for infiltration of the water, which facilitates groundwater recharge as well as traps some of the nutrients in the substrate. Catch basin replacement will be discussed in more detail below.

**Short-Term Measures – Harvest Overgrown Aquatic Vegetation.** In the short-term, the Lake Hopatcong Commission will actively continue a practice initiated in the 1980s—mechanical harvesting of the excessive overgrowth of aquatic vegetation. During 2002, the Commission harvested nearly 2,400 tons of weeds – over 4,800,000 pounds. Mechanical harvesting will be discussed in more detail below.

### ***Lake Hopatcong Commission Initiatives***

**Studying Lake Hopatcong's Water Quality.** The Lake Hopatcong Commission has continued the work of the Lake Hopatcong Regional Planning Board to monitor and evaluate the water quality and quantity issues facing the

Lake at this time and into the future. Such studies evaluating the current environmental status of Lake Hopatcong are used as the drivers for setting future goals and management strategies for the Lake. One of the Commission's legislative mandates is to develop a stormwater and nonpoint source management plan for the Lake Hopatcong region. The last comprehensive water quality study of Lake Hopatcong was performed in 1983. With the availability of funding, plans are underway to update this study in the next year. This study includes the collection and analysis of a variety of physical, chemical, and biological data on both the Lake and its surrounding watershed, which will lead to the development of an overall management and restoration plan for the Lake and its watershed.

**Studying Lake Hopatcong's Water Quantity.** Of equal importance is a water budget study that is being conducted jointly by the Commission with the U.S. Geological Survey. The Survey had approached the Commission early in 2002 about working together to develop resource management tools for the Lake. Although Lake Hopatcong is an important natural resource, relatively little is known about the hydrology within its watershed. Developing a realistic water budget is central to the management of any water resource, and especially for Lake Hopatcong, which is considered to be an emergency source of drinking water for the State of New Jersey. The joint water budget study includes measuring inflows to the Lake from streams around the Lake, gauging of the surface water outflow from the Lake, and mapping the groundwater aquifer underlying and surrounding the Lake.

**Managing Stormwater Runoff – Catch Basin Replacement.**

The long-term goal for restoring and protecting Lake Hopatcong is limiting, to the extent possible, nutrient influx to the Lake. There are a number of best management practices that can be used for controlling nutrients, and the Commission is moving to implement a long-term project to enlarge and deepen catch basins that drain to Lake Hopatcong. The practice, also called catch basin retrofitting, retains stormwater within the catch basin and allows it to infiltrate downward through a gravel base or perforated concrete base. Not only does this help to recharge groundwater supplies, but it also helps trap dissolved nutrients and other pollutants in the soil substrate and solid debris—also a source of nutrients—which can then be removed through regular catch basin cleaning.

The Lake Hopatcong Commission has entered into discussions with Hopatcong Borough and Jefferson Township to begin replacing catch basins in the fall of 2002 and the spring of 2003.

Memoranda of agreement have been prepared and approved, and the Commission will contribute the labor, materials, and equipment for the catch basin projects, which will be constructed under the supervision of the municipalities' public works directors. The Commission will work with the public works directors to choose candidate catch basins around areas of the Lake with high nutrient loading, and we hope to replace as many as 40 catch basins yearly. It is our desire to make this a long-term project in all the four municipalities around Lake Hopatcong.

As our Field Operations staff conducts inspections to identify candidate catch

basins for replacement, they also will be gathering other data to support the Commission's efforts to inventory all of the catch basins in the Lake Hopatcong watershed as part of our mandate to develop a regional stormwater management plan. By identifying these major sources of stormwater runoff into the Lake, the Commission will be in a better position to characterize the best management practices for managing and controlling these flows. The data that will be collected include global positioning satellite (GPS) location data, size and depth, and digital photographs of each basin. These data will be valuable for use with geographic information system (GIS) software, which will allow the Commission and other planning and public works agencies to get a better "picture" of the nutrient loading to Lake Hopatcong.

Once catch basins have been replaced, the Commission also plans to attach stormwater markers to the basins indicating that the basins drain to Lake Hopatcong and warning citizens not to dump wastes or chemicals down the drains.

**Mechanical Harvesting of Aquatic Vegetation.** As indicated above, mechanical harvesting of the overgrowth of aquatic vegetation has been practiced on Lake Hopatcong since the 1980s. Although the Commission recognizes that weed harvesting is treating the symptom instead of the disease, i.e., nutrient inflow, the mechanical removal of weeds does remove significant amounts of what is termed biomass, which includes the organic material associated with the cut vegetation plus the absorbed nutrients. Doing so eliminates an internal source of nutrients and slows the buildup of organic

sediments, thus improving the Lake's overall condition.

The Commission purchased over \$1 million in weed harvesting equipment—fully one-third of its startup appropriation—and hired a full-time Field Operations staff to operate this equipment and to conduct other lake management activities during the non-harvesting months. The Commission owns six weed harvesters (four that have 9-foot-wide cutting blades and two that have 6-foot-wide cutting blades), two transport barges, two dump trucks, a utility truck, two shore conveyors, and a Boston Whaler to support weed harvesting. We currently lease a workshop on Lake Hopatcong through an arrangement with Morris County Park Commission to provide onsite repair and maintenance of the weed harvesting equipment. We are also planning to build a permanent storage workshop and facility for the winter storage and maintenance of the equipment, to be constructed at Hopatcong State Park. The land for this building was set aside within the legislation that created the Lake Hopatcong Commission. Construction of this building is contingent on the availability of State funds. The Commission has currently obtained the services of an architect/engineering group to design the workshop/storage facility.

The Commission harvests vegetation-infested areas of the Lake (usually in the shallow shoreline areas where sunlight can penetrate the water column) at least twice each year between May and the end of October, and even more in particularly heavily congested areas. Staff are divided into two harvesting teams of five each, each team starting its efforts at opposite ends of the 9.5-mile-long Lake and working toward the

middle. When the two teams complete the first harvesting cycle, which takes about 40-45 business days, they then return to where they started and begin the second harvest. Each crew includes two larger harvesters for the main channel cutting effort, a smaller harvester for closer to the shore cutting, a transport barge, a shoreline conveyor, and a dump truck.

The harvesters cut the vegetation down to 5.5 feet below the water surface, and then collect the weeds as they float to the surface with a moving conveyor belt behind the cutting blades. Each harvester can collect several hundred pounds of weeds. When the harvester load is full, a transport barge attaches to the harvester and quickly transfers the vegetation. Then, the transport barge moves to the shore, where it attaches to a shoreline conveyor, which transfers the vegetation to a dump truck. The dump truck transports the vegetation to Morris County's compost facility, where the weeds are mixed with leaves to produce composted mulch. Morris County sells this mulch to landscapers and gives it to county residents.

Because the weed harvesting effort is so important to the Lake Hopatcong residents, as well as a highly visible activity, the Commission worked very hard to inform the Lake residents about the harvesting equipment, schedules, and plans, as well as respond to telephone and letter inquiries and concerns. We also produced news articles, press releases, and spoke before several lake associations and clubs. We hosted a ribbon-cutting ceremony at Hopatcong State Park on June 22<sup>nd</sup> to introduce and demonstrate the equipment to the Lake residents. Local municipal, county, legislative, and state officials participated in the

proceedings and helped christen the harvesting equipment used on the Lake.

To the best of our knowledge, the Lake Hopatcong Commission has the largest fleet of weed harvesters in the United States, and it is one of the only operations that employ a full-time Field Operations staff to conduct weed harvesting, stormwater management, and other lake management activities year-round. During the first season of operation, and in only 5 months, the Lake Hopatcong Commission's Field Operations staff removed over 4,800,000 pounds of weeds from the Lake -- an amount unlikely matched at any other lake in the United States conducting weed harvesting.

**Representing Lake Hopatcong Interests during State Drought Emergency.** New Jersey has been affected by diminished precipitation in recent years, resulting in severe drought conditions. The State incurred below normal rainfall throughout 2001, and NJDEP issued a drought warning in October 2001 with the realization that several major reservoirs were at 43 percent capacity. These dry conditions persisted into early 2002, and by February, the State of New Jersey began exploring a number of options to alleviate the water supply problems. One option was to pump water from Lake Hopatcong to the nearby Boonton Reservoir, which supplies water to the Jersey City area. Lake Hopatcong has long been designated an emergency source of drinking water for the State, and pumps and supply pipes had been installed during a drought emergency in 1980.

In February as the drought situation worsened, the New Jersey Water Supply Authority was directed to

determine whether the water supply piping system in Lake Hopatcong could again be made operational. The Lake Hopatcong Commission participated in these discussions and provided considerable information to the Authority in its evaluation effort. The Commission advocated that the State institute other actions first to deal with the drought problem and consider pumping of Lake Hopatcong only as a last resort.

A key concern of the Commission was that 7.5 million gallons a day (MGD) of water were already draining from Lake Hopatcong through the Hopatcong State Park dam, and those waters were the sole source of water for the Musconetcong River and Lake Musconetcong and eventually discharged into the Delaware River, another important source of drinking water for New Jersey communities. The Commission believed that with the then-current 7.5-MGD discharge, pumping additional water out of the Lake, estimated at up to 25 MGD, could cause considerable harm to the Lake, given that Lake Hopatcong already was 27 inches below what was considered full capacity. In fact, the Commission's environmental consultant projected that if the State began pumping 25 MGD out of the Lake, Lake Hopatcong's water level would drop almost 12 inches within 30 days, resulting in a number of recreational, economic, environmental, and water quality impacts.

On March 4, 2002, Governor McGreevey issued Executive Order #11, which declared a state of water emergency in New Jersey and instituted a number of response actions under the emergency powers conferred by the Water Supply Management Act. He also directed NJDEP Commissioner Bradley Campbell to take necessary

steps to alleviate the water emergency. On March 11<sup>th</sup>, Commissioner Campbell ordered mandatory water restrictions statewide and approved the exploration of transferring water from Lake Hopatcong. On March 15<sup>th</sup>, Commissioner Campbell followed up and issued Administrative Order 2002-07, which included a directive to immediately reduce the discharge of water exiting Lake Hopatcong from 7.5 MGD to 4.4 MGD to conserve the water supplies within the Lake in preparation for the possible pumping. The Commission continued to provide information to NJDEP on the potential impacts of pumping, although the decrease in discharge of water from Lake Hopatcong, plus some welcome rains, help bring Lake Hopatcong back to full capacity. A decision to pump Lake Hopatcong never materialized, although the drought emergency continues in New Jersey.

Another drought-related issue emerged in July 2002 that pertains to the annual drawdown at Lake Hopatcong. To prevent ice from damaging docks and seawalls, Lake Hopatcong has long practiced lowering the Lake annually in the fall by 26 inches and by 60 inches every fifth year to allow for construction and repair projects to occur. 2002 was the year scheduled for the 60-inch drawdown. The NJDEP Drought Coordinator considered recommending to Commissioner Campbell that Lake Hopatcong's drawdown efforts be suspended for 1-year to conserve the water supplies in the Lake. The Drought Coordinator conferred with the Lake Hopatcong Commission several times on this matter, and the Commission offered a number of pros and cons on whether to suspend the drawdown or not. The Commission argued that without some level of water drawdown,

ice damage to docks and seawalls was almost a certainty, although it also recognized that there was no guarantee that the Lake water volumes would return to normal in the following spring, given the low precipitation in recent months, if drawdown were allowed.

On August 2<sup>nd</sup>, Commissioner Campbell announced a 1-year suspension of all drawdown activities on Lake Hopatcong to conserve water supplies. The Commission sent a letter to Commissioner Campbell on August 7<sup>th</sup> requesting that the 26-inch drawdown still be allowed to protect docks and seawalls from ice damage. NJDEP's decision anticipated that Lake Hopatcong's water levels might drop naturally through evaporation, and that this natural lowering might be sufficient to protect properties from ice damage. The Commission recommended that NJDEP continue to monitor the water levels on Lake Hopatcong to ensure that when icing might occur, the Lake would at least be at the 26-inch level.

The Commission also sent a letter on August 12<sup>th</sup> to Commissioner Campbell requesting that the State not allow the discharge of water from Lake Hopatcong to exceed 4.4 MGD to maintain the Lake's water levels, as well as give the Hopatcong State Park staff the authority and flexibility to adjust the dam's gates to maintain the water at optimum levels. The Commission also passed a resolution at its October 21<sup>st</sup> meeting requesting that Commissioner Campbell authorize the 26-inch drawdown of Lake Hopatcong. Commissioner Campbell approved the 26-inch drawdown on October 28<sup>th</sup>.

The Commission's Executive Director participated in a "Beyond the Drought" expert roundtable sponsored by Rutgers

University's EcoComplex and the New Jersey Corporation for Advanced Technology on October 24<sup>th</sup>. The issues raised at the roundtable will be used as the foundation for the revision of the New Jersey Water Supply Master Plan later on this year by NJDEP.

### **Dredging a Sandbar by Brady Bridge.**

On August 11-14, 2000, an unusually heavy rainstorm produced 14 inches of rainfall and caused considerable flooding and damage in the Lake Hopatcong area. In particular, a significant amount of soil and sediment flowed into the Lake from nearby Lake Shawnee and was largely deposited immediately south of Brady Bridge, which spans the northern end of Lake Hopatcong in Jefferson Township. Passage under the bridge is the only waterborne route for boats traveling into and from the northern end of Lake Hopatcong. Historically, the water depth under Brady Bridge is about 7 to 9 feet, but the deposition of sediment lowered the water level to about 2 to 3 feet, which resulted in a serious navigational hazard.

The Lake Hopatcong Commission has initiated efforts to remove the sandbar caused by the 2000 flood. The Commission set aside funds to manage the dredging effort to remove the sandbar and has submitted the necessary permit application documents to the NJDEP to conduct the removal effort. We plan to remove the sandbar in 2003.

**Reviewing Municipal Site Plan and NJDEP Permit Applications.** A unique feature within the legislation that created the Lake Hopatcong Commission is the requirement that the Lake Hopatcong municipalities provide copies of all planning, land use, and ordinance

applications and proposals to the Commission for review on whether the actions might have a potential environmental impact on the Lake or its watershed. Another provision requires the NJDEP to provide copies of any environmental permit applications to the Commission for similar review.

As stated earlier, the Commission is solely an advisory body, so it has no authority to deny or veto a municipal site plan or a NJDEP permit application. However, the Commission's conclusions and recommendations on site plans are considered carefully by the governmental bodies in their decision-making. We consider this a highly valuable tool for protecting the Lake and its watershed, because the greatest threat to any water body is human activities, and Lake Hopatcong is no exception.

However, not all municipal applications will have environmental impacts on the Lake. Local planning boards have considerable experience with urban sprawl impacts on the environment, and the Lake Hopatcong Commission has no desire to create another layer of bureaucracy or delays for applicants. The Commission and its environmental consultant developed guidance and screening criteria for the four municipalities on Lake Hopatcong to use prior to forwarding municipal site applications on to the Commission for review.

On receipt of municipal site plan applications, the Commission logs in the documents and then forwards them to the Commission's environmental consultant for review. Within 10 days of receipt, the Commission provides its consultant's finding and recommendations to the municipalities

for their consideration. Over the first 18 months of this emerging activity, the Commission has reviewed 40 municipal site applications.

In the area of NJDEP permit application reviews, the Commission has been actively involved in reviewing aquatic pesticide applications on Lake Hopatcong. Many homeowner groups on Lakes obtain the services of State-licensed aquatic pesticide applicators to conduct chemical treatment of aquatic vegetation in an effort to reduce overgrowth. The Commission has worked closely with the NJDEP Bureau of Pesticide Compliance to develop review procedures on such planned aquatic pesticide applications in Lake Hopatcong. On receiving aquatic pesticide applications affecting Lake Hopatcong, the Bureau of Pesticide Compliance forwards them to the Lake Hopatcong Commission for review, which typically results in recommendations being generated within 10 days that are forwarded back to NJDEP. During the 2002 season, the Commission received and commented on 19 aquatic pesticide applications.

The installation and repair of docks, piers, and boathouses also require NJDEP permits, in this case stream encroachment permits. Because this activity has long been managed by the Hopatcong State Park Superintendent prior to the onset of the Commission, the Commission has worked closely with the Superintendent to ensure that Lake Hopatcong residents follow the proper procedures for obtaining stream encroachment permits prior to construction activities affecting the Lake's shorelines.

**Working Jointly with Other New Jersey State Agencies.** The Lake Hopatcong Commission recognizes that other New Jersey State entities are involved in protecting the Lake. As indicated earlier, the Commission is already coordinating with the Division of Parks and Forestry at Hopatcong State Park because we will be constructing our workshop/storage facility on the park's grounds. Furthermore, the Commission is aware of the park's shortage of storage space within its existing facilities and would be receptive to discussions with the Division of Parks and Forestry about joint funding and usage of a larger workshop/storage facility. We also have assisted the park by trucking in several truckloads of topsoil from the Morris County composting facility on our return trips after disposing of harvested aquatic weeds. The park used the topsoil around its picnic areas. We believe there are many opportunities to work with Hopatcong State Park to enhance the recreational value of Lake Hopatcong.

The Commission's staff also have met with the New Jersey State Police staff from the Lake Hopatcong Station on several occasions to discuss the placement of warning buoys on the Lake and how best to ensure that boat speed regulations are communicated to Lake residents. Finally, we also are coordinating fishery management activities at the lake with the Division of Fish & Wildlife. For example, we consulted with the principal fisheries biologist prior to our weed harvesting program to ensure that our harvesting efforts would not harm spawning areas and other sensitive habitats.

**Working Jointly with the Lake Hopatcong Municipalities.** The Lake

Hopatcong Commission's role is to provide leadership on managing the environmental affairs that affect Lake Hopatcong. Yet, this leadership effort must be tempered with the realization that there are existing municipal and county programs, staffs, and ordinances, so one of the Commission's strategies is to help the municipalities understand the role of the Commission and how our involvement can complement their ongoing activities, rather than give the impression that the "new kid on the block" wants to take over their responsibilities. Our efforts have focused on doing a good job on important issues, such as the emergency drought, to demonstrate to the Lake Hopatcong municipalities how the Commission can provide leadership and speak on their behalf.

As the Commission operations became fully operational, the Chairman and Executive Director visited with municipal and county officials to introduce the Commission and share resources. Presentations were given before all four municipal council public meetings. We are also trying to help the public works departments in the municipalities become more sensitive to how their activities can impact the Lake. With the help of citizen alerts, we have brought a number of soil erosion problems to the municipalities' attention for proper oversight and review. Furthermore, the Commission is planning to sponsor a workshop for local and county authorities on best management practices to protect Lake Hopatcong when conducting public works activities.

One particularly effective tool municipalities can use to protect Lake Hopatcong is ordinances, and working with the municipalities to develop uniform, or model, ordinances is one of

the goals for the Commission. For example, most of the Lake Hopatcong municipalities already have ordinances that ban or limit the use of phosphorus-containing lawn fertilizers. The Commission has begun gathering and reviewing the existing municipal ordinances to find where there are protection gaps or where more consistency is necessary. We already are seeing some accomplishments to this effort. For example, Jefferson Township is considering an ordinance regulating the use of water bubblers, which are used to protect docks by preventing ice from freezing. The Commission had been alerted to problems of misuse of such water bubblers by Jefferson Township residents. We queried the other municipalities about bubbler system ordinances, found one that was in effect in Hopatcong Borough, and passed it on to the Jefferson Township Manager. The Jefferson Township Council is currently holding hearings on the proposed ordinance.

**Working Closely with the Lake Hopatcong Residents.** The Commission staff has worked long and hard to cultivate a "good neighbor" relationship with the public. Our strategy is the same as used by service industries: Work with each customer one at a time, and cultivate a relationship. Happy customers will share their experience with 10 people; unhappy customers will tell 20 people about their bad experience. Thus, we reach out to the Lake Hopatcong residents who call or visit the office, and we respond to all letter inquiries. We feel that it is important to convey that while we represent the State, we also represent the people of Lake Hopatcong.

We have spoken to several public or private organizations about the Commission's activities and plans, and we have given presentations to students at local schools. We also have written commentaries that have been widely published by local newspapers, and our staff and Commissioners have appeared in several cable and local television interviews. Literally hundreds of telephone calls from Lake Hopatcong residents have been received, questions have been answered, and informational materials have been mailed. Visitors drop by on a regular basis and are always welcome.

A key component of our outreach plans for the Lake Hopatcong community is the use of the Internet through a Commission website. Staff has been exploring the steps necessary to design and maintain a Commission website. Fortuitously, their research including contacting the N.J. Office of Information Technology, which manages the State of New Jersey's websites. The office is currently designing the Commission's website and will help with its maintenance at no charge. The planned architecture for the website includes an overview of the Commission, pictures and biographies of Commissioners and staff, public meeting schedules, updates on Commission activities, press releases and other public information, and pictures of Commission activities. We hope to have the website up and running before year's end.

The Commission also assists Lake Hopatcong residents seeking to build docks, piers, and boathouses. As indicated above, such building plans require NJDEP permits, but homeowners also need to obtain permits from municipal construction departments. We provide them with the

necessary permit forms, copies of local ordinances, and guidance on how to ensure that their applications are complete.

**Facilitating Development of a Lake Hopatcong Emergency Response Plan.** In recent years, Lake Hopatcong has been affected by a major flood, a plane crash, vehicles driven into the Lake, chemical and sewage spills, a number of boat fires and sinkings, and even some fatalities. A key area of interest to the Commission is emergencies that occur adjacent to, in, and on Lake Hopatcong because these may result in causing environmental harm to the Lake, especially from spills (e.g., fuels, chemicals, sewer backups).

We acknowledge that police, fire, emergency management, and public works operations at the municipal, county, and state levels already have training, staff, equipment, and response plans for emergencies. Our concern is whether these existing plans include general or specific provisions related to emergencies in, on, or adjacent to Lake Hopatcong. At this time, such plans do not address Lake-specific emergencies. Our interest is to facilitate dialogue among these organizations to ensure that Lake Hopatcong's environmental needs are addressed in their plans, or whether it would be a useful exercise to develop a joint emergency response plan specific to Lake Hopatcong. In discussions with the NJDEP Bureau of Emergency Response officials, they are enthusiastic about our plans and believe that it may result in the first emergency response plan in the United States that is specific to a Lake.

**Managing Placement and Maintenance of Buoys on Lake Hopatcong.** NJDEP has traditionally

been responsible for the annual placement, removal, and maintenance of warning buoys on Lake Hopatcong. This effort, which is managed by the Coastal Engineering Unit of NJDEP, requires its staff to come up to Lake Hopatcong from Toms River for several days each year to place and remove the buoys. NJDEP then relies on the N.J. State Police unit on the Lake to ensure that the buoys are where they should be and remain undamaged.

The Commission has entered in discussions with the Coastal Engineering Unit proposing to assume the management and maintenance of the buoys on Lake Hopatcong. Our onsite presence on the Lake ensures that our staff can monitor the buoys on a

regular basis, our Field Operations staff can handle the workload, and taking on this effort will free up the State Police to be able to spend more of their time on Lake Hopatcong focused on protecting the public. Furthermore, the Coastal Engineering Unit will not need to travel back and forth to Lake Hopatcong, and can focus its attention on more coastal matters. We expect that Coastal Engineering will provide sufficient funds for the Commission to maintain and replace the buoys, and we will be coordinating our plans as well with the State Police. We are currently developing a proposal for the Coastal Engineering Unit's review and consideration.



## Issues Affecting the Lake Hopatcong Commission

**Will the State Continue to Fund the Commission?** Lake Hopatcong is held in trust by the State of New Jersey and is owned by the citizens of the State. It is the largest Lake in the State, it is the home to over 65,000 residents, it is frequented annually by some 500,000 visitors, it is one of the best freshwater fisheries on the East Coast, and it is considered by the State of New Jersey to be an emergency source of drinking water. Because of the Lake's many resources, businesses, and amenities, millions of dollars in tax revenues are generated for the State annually. Yet, in 2002, within 1 year of the creation of the Lake Hopatcong Commission, the State of New Jersey did not provide funding to the Lake Hopatcong Commission as one of many measures taken to address the State's budgetary deficit.

One of the primary reasons the Lake Hopatcong Commission was created was to ensure a consistent source of funding to protect the Lake. The predecessor organization—the Lake Hopatcong Regional Planning Board—struggled for years to protect Lake Hopatcong because of the Lake of insufficient funding. Supporters of the legislation that created the Commission saw Lake Hopatcong as a vital natural resource to the State, as well as a valuable revenue-generating entity that contributed to the State's finances.

Although the no-funding action has seriously curtailed the Lake management efforts of the Lake Hopatcong Commission, the Commissioners reprogrammed the unspent balance of the original \$3

million appropriation to continue operating until the next State budget cycle in Fiscal 2004. Although the Commission has submitted a budget request to Trenton, the persisting question is "Will the State continue to fund the Commission?"

The Commission recognizes that money is tight in New Jersey, and the September 11, 2001 attacks have affected the economy from the local level to the global arena. In New Jersey, all State programs have suffered cutbacks in recent years, and State officials are being asked to tighten their budgets.

Nevertheless, it is a key premise of State government to work for the public good and to enhance the quality of life for the people in that State. This is why the State supports a Department for Environmental Protection. All New Jerseyans support protecting the environment, and we should be taking a stand to protect the largest water body in the State. Lake Hopatcong is, after all, owned by the State of New Jersey, so all New Jerseyans own the Lake. But it is not just people in New Jersey who benefit from Lake Hopatcong; visitors come from all across the New York Metropolitan area, as well as from much of the Eastern seaboard, to visit the Lake. Many people have vacation homes on Lake Hopatcong, and others have retired and chosen Lake Hopatcong as their final retirement home.

The State needs to make the commitment to protect and restore Lake

Hopatcong for the long term. This is not a simple or quick fix. The Lake's water quality has been deteriorating for several decades, and the Lake now is in a state of severe eutrophication. It is critical to stop the downturn—now—and take the necessary long-term management measures to protect the

Lake for future generations. The Lake Hopatcong Commission was established to manage the watershed. The Commission needs to be given the chance to do the job for which it was created, and the State needs to commit to consistent funding.

## Appendix A

### Lake Hopatcong Commission, 2001-2002

#### Members and Alternates

Anthony J. Albanese  
Bridgewater, NJ  
*Chairman, Governor's Appointee*

Richard Hodson  
Hopatcong, NJ  
*Commissioner, Hopatcong Borough*

Robert Aughey  
Mt. Arlington, NJ  
*Commissioner, Mt. Arlington Borough*

David Jarvis  
Lake Hopatcong, NJ  
*Commissioner, Morris County*

Colleen DeStefano  
Oak Ridge, NJ  
*Commissioner, Jefferson Township*

Kenneth Klipstein  
Califon, NJ  
*Commissioner, NJDEP*

Eric Grove  
Hopatcong, NJ  
*Commissioner, Sussex County*

Lorraine Lees  
Lake Hopatcong, NJ  
*Commissioner, Governor's Appointee*

Samuel Hoagland  
Hopatcong Borough, NJ  
*Commissioner, Governor's Appointee*

Richard Zoschak  
Landing, NJ  
*Commissioner, Roxbury Township*

Vacant  
*NJ Department of Community Affairs*

Patrick D'Onofrio  
Rockaway, NJ  
*Alternate, Morris County*

Robert Mitchko  
Lake Hopatcong, NJ  
*Alternate, Jefferson Township*

William Doran  
Mt. Arlington, NJ  
*Alternate, Mt. Arlington Borough*

Brandon Phillips  
Landing, NJ  
*Alternate, Roxbury Township*

Daniel McCarthy  
Hopatcong Borough, NJ  
*Alternate, Hopatcong Borough*

John Risko  
Andover, NJ  
*Alternate, Sussex County*



**Appendix B**  
**Lake Hopatcong Commission, 2001-2002**  
**Commission Staff**

Donald V. Feliciano, Executive Director

William G. Clark, Director of Field Operations

Donna Macalle-Holly, Administrator

Field Operations Staff

Michael Calderio

Salvatore Cottone, Jr.

Matthew F. Hofgesang

Barton R. Marke

Aitor Ostolaza

John F. Parks

Robert J. Place

