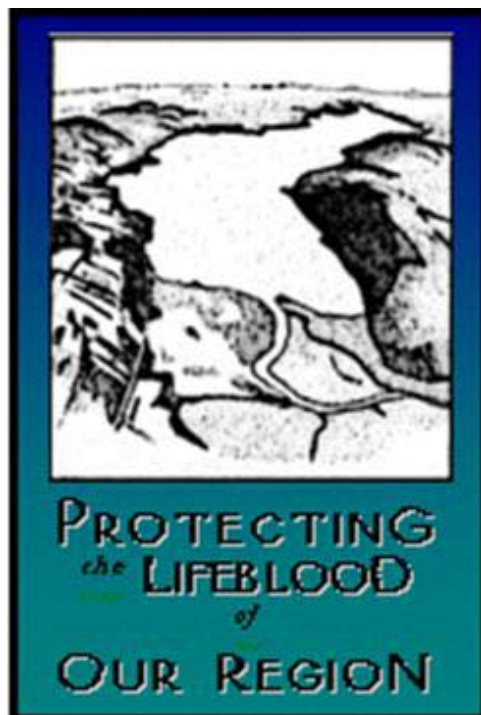


2005-2009
Strategic Update
of the
Canandaigua Lake
Watershed Management Plan



Canandaigua Lake Watershed Council

Towns of Bristol, Canandaigua, Gorham, Hopewell,
Italy, Middlesex, Naples, Potter, South Bristol - Villages
of Naples, Newark, Palmyra, Rushville
City of Canandaigua

June 29, 2004

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Introduction:

The Canandaigua Lake Watershed provides an outstanding place to live, work and play. The watershed encompasses 184 square miles and extends along either side of the lake from the City and Town of Canandaigua in the north to the Village and Town of Naples in the south. The Canandaigua Lake Watershed Council, consisting of publicly elected representatives from each of the fourteen watershed and water purveying municipalities, is the lead coordinating entity in the comprehensive effort to protect the watershed. It is the goal of the Watershed Council to maintain and enhance the high water quality of the Canandaigua Lake watershed through four broad approaches:

education, research,

restoration/protection and if necessary **regulation**. The Watershed Council strives to cooperate and partner with the various citizen groups along with county, state and federal agencies to more effectively and efficiently implement the plan.

Members of the Watershed Council

Co-chairs Larry Fox (Councilman, Town of Canandaigua) and Leo Trickey (Councilman, Town of Italy), Supervisor Wayne Houseman (Town of Bristol), Mayor Ellen Polimeni (City of Canandaigua), Supervisor Sam Casella (Town of Canandaigua), Jim SanAngelo (Newark), Supervisor Dick Calabrese (Gorham), Councilwoman Donna Goodwin (South Bristol), Mayor Vicky Daley (Palmyra), Councilman Doug Mack (Middlesex), Councilman Mark Adams (Town of Naples), Mayor Will Sherwood (Village of Naples), Trustee Chuck Elwell (Rushville), Supervisor Mary Green (Hopewell), Councilwoman June Pendleton (Potter).

Canandaigua Lake is invaluable to residents and visitors alike. Approximately 60,000 people depend on the lake as a water supply, nearly \$100 million is generated from tourism and recreation, and the value of the lake-influenced tax base is closing in on one-billion dollars. Recent town surveys have documented that the beauty and quality of Canandaigua Lake is, without question, the reason most people live in or visit the area. The improvement of water quality and preservation of natural resources within the Canandaigua Lake Watershed are critically important to the economic and environmental vitality of the region. The purpose of the watershed protection program is to maintain and enhance the quality of life this watershed provides to all its inhabitants by protecting the lifeblood of this region- Canandaigua Lake and its surrounding watershed.

Although the waters of Canandaigua Lake are of high quality, several environmental problems pose long-term threats to the lake if left unchecked. Sedimentation, phosphorus, nitrogen, toxic substances, deicing salt and pathogens are the major pollutants entering the lake originating from numerous potential sources. Over the last five years, significant progress has been made in identifying sources of pollution and implementing actions and strategies to decrease the levels of these pollutants entering the lake so that the lake's high water quality can be maintained.

The current efforts in developing a strategic update to the 1999 Watershed Plan focus on the development of strategies and priority actions that will further protect the water quality and natural resources of the Canandaigua Lake Watershed. Upon the completion of the original watershed plan in 1999, the Watershed Council viewed the plan as a dynamic document, one that will require continual use, review and refinement. Preparation of this strategic update will build upon the success of the last five years by maintaining and enhancing the ongoing

efforts along with embarking on innovative programs to more effectively protect the watershed against existing and emerging threats.

Many of the actions contained in the 1999 Watershed Plan have been partially or completely accomplished (see Accomplishment section and Appendix One). Within the completed actions, many are considered ongoing in order to sustain their effectiveness. Ongoing programs include a wide spectrum of educational initiatives necessary to inform and educate the public. Partially completed actions include restoration actions such as riparian buffers, stream restoration and stormwater management. These actions span the watershed and require a diverse set of solutions. Some uncompleted actions were not a high priority for the Council or had outlived their relevance due to passage of time or change in conditions.

This update examines the status of the actions in the 1999 Plan and identifies the next generation of actions that need to be taken to improve and protect the Canandaigua Lake Watershed. A long-term strategy will assure that the Watershed Council and its partner agencies work together to maximize the effectiveness of limited financial resources. Such a strategy can also improve the ability of the Watershed Council and the partner agencies to access various funding sources for the implementation of capital projects.

An Evolving Plan:

The natural boundaries of the watershed cross many municipal boundaries, and the only way to comprehensively protect the lake and watershed is to work together. The cumulative impact of human activities on the watershed can be substantial and result in long term water quality degradation if left unchecked. This recognition began to evolve in the early 1990s with the urging of a task force consisting of community leaders, citizen groups and Ontario and Yates Counties' Cornell Cooperative Extension, Soil and Water District and Planning Department. The Task Force documented the current state of the watershed along with identifying some of the potential problems and solutions in *The State of the Canandaigua Lake Watershed- 1994*.

Many watershed protection programs across the state and country have reached this critical crossroad of identifying problems and possible solutions, but few were able to make the next step to true intermunicipal leadership in the protection of a lake or river system. The Canandaigua Lake Watershed Program was able to make that leap in the mid to late 1990s with all fourteen municipalities reviewing and formally adopting the Canandaigua Lake Watershed Management Plan. They agreed to provide a major portion of the funding to implement the Plan and to oversee the program through the Watershed Council.

The following themes emerged from the planning process and formed the basis of the 1999 plan of action:

A watershed approach that recognizes that Canandaigua Lake is affected by activities throughout its watershed and that water quality and natural resource protection should be targeted within watershed boundaries;

Pollution prevention as a cost-effective means to protect the environment by eliminating pollution before it is generated;

A consensus-based, collaborative approach that strengthens the outcomes of decisions by facilitating a dialogue among multiple interested parties;

A partnership approach that recognizes the value of existing agencies, organizations and individuals to assist in implementing the Plan, while building capabilities through innovative partnerships.

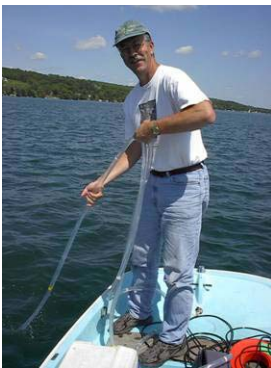
2000-2004 Accomplishments:

Over the last five years, the fourteen municipalities have collectively contributed \$425,000 of taxpayers' money toward the Watershed Council based on a fair-share formula. Because of their commitment and leadership, and the critical partnerships with citizen groups, farmers, county and state agencies, over (\$3,000,000) - three million dollars in state and federal grants have been obtained to match this local share and implement a comprehensive set of projects and research.

As important as the local funding and grant success is the collective representation of publicly elected officials on the Watershed Council to determine how the local taxpayers' money is spent. The Watershed Council acts as a board of directors and oversees the operations of the Watershed Council. The following is a brief description of some of the many projects the Council has accomplished with the partner agencies based on the four broad approaches: research, education, restoration and if necessary regulation.

Research:

We undertake a comprehensive water quality monitoring program that costs approximately \$20,000 a year to document the health of the lake and assess and prioritize the streams entering the lake. Our Watershed Manager, Kevin Olvany collects stream samples during storm events and baseline conditions and partners with Dr. Bruce Gilman of Finger Lakes Community College (FLCC) to collect lake water samples and develop reports based on certified lab



results. Water samples are tested for nutrients, sediment and bacteria. The reports have documented that our lake remains in good condition, but elevated levels of nutrients, sediment and bacteria in some of the streams entering our lake have a high likelihood of degrading overall water quality. The sampling program has been very successful in focusing implementation efforts. Continuation of the monitoring program will be essential in measuring long term trends in our streams and lake.

- We are in the final stages of completing a \$13,000 grant to inventory land cover of the entire watershed, to identify significant ecological communities and to better understand land use within the watershed. Information gathered has

been critical to the Towns of Gorham and Canandaigua in assisting with their open space protection efforts. Dr. Gilman, graduate interns from Rochester Institute of Technology (RIT) and the Ontario County Planning Dept. who were all instrumental in the success of this project.

Education:

Educating residents of the watershed about their impacts on water quality is a critical part of the implementation effort. Education is an ongoing process in which we continually seek partnerships to more effectively get our message out.

- Working with the Rochester Committee for Scientific Information and local citizen groups, the Council contributed \$4,000 toward the creation and dissemination of a video- “Canandaigua Lake: Protecting our Vital Resource”. The video is a great tool to describe our program and what individuals can do to protect water quality.
- The Council created a website- (www.canandaigualake.org) that has a tremendous amount of information about our program.
- The Council has and continues to produce brochures, publications and make numerous presentations to the public on a variety of water quality issues including stream protection, lawn care practices, boating impacts, pet waste and septic system maintenance.
- This fall the Council worked with middle school kids from the Canandaigua School District to install 900 storm drain markers that read “Don’t pollute drains to lake”. We hope to install these markers in other parts of the watershed.
- The Council has installed educational signs and kiosks at private marinas and public parks notifying the public about boating laws and how to improve water quality.
- The Council surveyed approximately 1,000 riparian and shoreline households on lawn care practices with a 30% response rate.
- The Council has also sponsored public workshops on Lawn Care and hosted a Timber Harvesting workshop this past April in Naples.



Restoration/Protection:

Restoration/Protection is a broad category of projects that focuses on reducing non-point source pollution. The following projects reduced pollution coming from an identified source and/or attempted to restore an area to a more natural condition. These sources are varied and require a diverse set of solutions. Partnering with existing agencies that specialize in a particular category is essential to effectively implement these projects. We will continue to seek out projects that have tangible benefits to water quality and are cost effective.

- A grant of \$265,000 was used by the Towns of Middlesex, Italy, South Bristol and Naples to repair 10 miles of severely eroding road banks. The Watershed Council authored the grant and worked with the towns in identifying the specific road segments. The Ontario and Yates County Soil and Water Districts assisted the towns in designing solutions and provided overall grant administration.



- The New York State DEC completed a \$320,000 restoration project on Naples Creek, a major trout stream. Tanya DeNee formerly of the Soil and Water District helped design restoration solutions. The Watershed Council purchased 3,000 stream bank plants and assisted DEC and school groups in planting them. The plants will help stabilize the banks and improve fish habitat.



- Ontario County Public Works received a \$400,000 sewer extension (grant) for an area with failing septic systems in close proximity to the City of Canandaigua's intake pipe. Through the efforts of George Barden, Watershed Inspector, our monitoring program identified high bacteria counts and was essential in obtaining the grant.

- A committee of farmers was asked by the Watershed Council to convene and work in conjunction with the Soil and Water Conservation District to implement an agricultural environmental management program. These groups have been successful in obtaining over \$2 million worth of grants to work on 24 farms. Over 95% of watershed farmers are participating in the program. Farmers contribute up to 50% of the costs to implement these voluntary practices. Bob Stryker of Soil and Water Conservation District continues to work with farmers to institute these practices.



- The Council assisted the Town of Middlesex in obtaining a \$70,000 grant to build a salt storage facility at the Town Garage. Yates County Soil and Water will assist the

Town in the design of the facility. Towns of Canandaigua and Naples built barns using town funds.

- The Council has in this year's budget \$17,000 to assist farmers to implement stream buffers on agricultural land and \$10,000 to assist Towns and organizations like the Finger Lakes Land Trust in green space protection. The Towns of Gorham and Canandaigua have set aside substantial sums of money to protect green space in their towns.
- The Council contributed \$2,000 to assist the Village of Naples to complete a sewer feasibility study that will help with future decisions and grant applications.
- The Council worked with Naples Community Park and the Town of Naples Highway Department to stabilize four hundred feet of stream bank.
- The Council budgeted \$2,000 to work with Gorham and Rushville to create a one-mile long walking trail and make stream bank improvements along the West River.

Sucker Brook, which drains through the Town and City of Canandaigua, enters the lake near the State Boat launch. The brook has been identified in our management plan and verified through our monitoring program as a priority restoration area because of the high levels of nutrients, sediments and bacteria it carries to the lake. The Watershed Council in coordination with the City and Town of Canandaigua is beginning to decrease the amount of pollution entering Sucker Brook and, eventually, Canandaigua Lake through several means:



- In January of 2003, the Watershed Council coordinated a cooperative effort to dredge 6 million pounds of contaminated sediment from Sucker Brook between Parrish St. and 5&20 bypass bridge and transported it to the Ontario County Landfill. The Council received a state grant of \$10,000 to match the contribution made by the city. The Ontario County Highway Department and landfill were instrumental in this effort. We removed a substantial pollution source and allowed this area to collect sediment before the brook enters the lake.



- As a part of the same grant, we received an additional \$16,000 to complete a comprehensive restoration study for the City portion of Sucker Brook and to remove garbage and trees that have accumulated in the brook, thus reducing pollution and flooding concerns. Both projects have been completed, and total costs were under budget. Based on the study, we have applied jointly with the City of Canandaigua for significant state grant dollars that will be used to improve the eroding banks along multiple sections of the brook and to create a stormwater pond that will reduce flooding and capture various pollutants before they enter the lake. The City has set aside \$35,000 in their own budget to match the state grant dollars.
- The Watershed Council received a federal grant of \$13,000 to work with the Town of Canandaigua to create a two-acre wetland and plant vegetative buffers along 1,700 feet of Sucker Brook from Buffalo St. Extension north to County Road 30 in their new Town park. The Council will be working with various school and community groups to install the plants that will help to stabilize the stream banks and to naturally reduce pollutants in the brook.

Regulation:

Land use regulatory control primarily resides within each of the watershed municipalities. Many of the watershed municipalities are currently or have recently updated their comprehensive plans and land use regulations. The municipalities have dedicated staff and volunteers to protect their town's resources. The Watershed Council works with its member municipalities in a variety of ways to better understand the linkages between land use and water quality.



- Review and monitor development projects including Fox Ridge, Old Brookside, Lakeside Estates, Canandaigua Estates, and the East Lake/Turner Road projects for water quality impacts. The Watershed Council assists its municipalities to make sure proper erosion control and stormwater quality management structures are put in place.
- The Council is working with the southern watershed towns a model timber harvesting law that will regulate logging operations based on slope and proximity to water courses. The Watershed Council received a state grant to work with a consultant and Soil and Water District to undertake the necessary reviews to more effectively implement the law.
- Independent of the Watershed Council, the Watershed Commission, consisting of the five water purveyors, employs a full time Watershed Inspector, George Barden to

manage and enforce septic system regulations within the watershed. There is also an ongoing effort to get the state to approve an updated set of rules and regulations for the watershed.

- The Watershed Council asked and assisted the Ontario County Planning Department to convene the six lakeshore municipalities and review and update the existing Docks and Moorings law. The committee met on numerous occasions and completed the changes with final adoption by the six municipalities expected this year.

Recognition:

The decision to reach across municipal boundaries and to work at the watershed level has demonstrated that watershed level management does work. As you look across the state and country there are few watershed programs that have this level of intermunicipal cooperation and leadership.

The success of the Canandaigua Lake Watershed program has been recognized all the way from the local to the international level. In 2002 the Environmental Protection Agency selected us as a “*Clean Water Partner for the 21st Century*”. New York State and regional organizations have on numerous occasions declared our efforts to be the example of intermunicipal watershed protection. In 2001 Cornell University and the U.S. Agency for International Development paid for Town of Canandaigua Supervisor Casella and the Watershed Manager to go to Honduras to work with municipal officials on organizing watershed protection efforts. This experience greatly increased the Council’s own appreciation on the need to protect Canandaigua Lake.

From this experience, Cornell University asked the Council to co-sponsor a workshop in Canandaigua to host representatives from countries ranging from the Far East to Central America in order to tell our story. Supervisors from four of the towns reviewed the history of our success with the audience by focusing on the issues of trust and tangible results. Comments from workshop organizers and participants raved about the ability of fourteen diverse municipalities to work together toward a common goal.

Strategic Plan of Action

As the accomplishments section and Appendix one illustrate, substantial progress has been made in implementation of the 1999 Watershed Management Plan. However, the water quality monitoring program, field reconnaissance and journal research continue to identify existing and emerging threats that pose long-term problems for the watershed if left unchecked. This section of the report will utilize the four broad approaches of research, education, restoration/protection and regulation to recommend those projects and programs that need to be maintained along with recommending the next generation of projects and programs that will address the most critical water quality and resource preservation issues facing the Canandaigua Lake Watershed.

Research:

Research is a critical component to the overall watershed protection program. Without research there would be a lack of knowledge regarding the health of the lake and the streams that flow into it along with the inability to identify and assess the types and sources of pollution that could threaten the long term health of the lake. Research not only allows watershed programs the ability to identify and assess pollution, it also allows practitioners the ability to measure the success of management practices installed to reduce the source of pollution. The strategic update blends the continuation of many of the ongoing research efforts with a series of new approaches. In summary, research is the eyes and ears of the watershed program.

- Continue the partnership with Dr. Bruce Gilman of FLCC to measure the water quality of the lake and streams that flow into it.
 - ✓ The in-lake portion will continue from April through November with many of the same water quality parameters.
 - ✓ Zooplankton and phytoplankton research is lacking in Canandaigua Lake. The Council should partner with NYS-DEC to inventory this critical portion of the food web. Samples have been collected by DEC, but have not been analyzed due to a lack of full funding. The Council could partner with DEC on sample analysis.
 - ✓ Continue the storm event sampling on the regular set of tributaries that have been sampled since 1997. Approximately 30 storm events have been sampled within these 22 tributaries. We are building a solid dataset to monitor long term trends and changes in each of these streams.
 - ✓ Finish the stressed stream analysis in the Hamlet of Cheshire to assist the town in documenting potential wastewater issues.

- ✓ Re-visit stressed stream tributaries of Gage Gully, Fall Brook, Sucker Brook and Deep Run to document any changes in pollution hot spots.
 - ✓ Through the stressed stream approach visit new subwatersheds to identify other potential pollution hotspots.
 - ✓ Continue to study the levels of pesticides in-lake and on tributaries. The Canandaigua Lake Watershed Alliance collected a limited set of water samples last year and is scheduled to sample again this year.
 - ✓ Attempt to document water quality changes in areas of the watershed where management practices have been installed. Because of the complex natural and human variations, changes in the level of non-point source pollution is difficult to document. Multiple agricultural and non-agricultural projects have been completed in the watershed. The Council will work with the Agricultural Program Committee and the Soil and Water District to identify candidate sites for possible water quality change.
 - ✓ Measure and monitor success of the overall program against Plan benchmarks to gauge success of the program and ensure accountability to the public as well as to guide future considerations of management actions. This activity will document the progress and achievements resulting from implementation of plan recommendations.
- Utilizing the recently completed landcover map and other digital GIS datasets to develop a computer based comprehensive non-point source pollution potential model to identify areas most likely to be affected by development activities and identify critical areas around the lake that may contribute the greatest amount to degradation of water quality.
 - Maintain and enhance partnerships with university research institutions such as RIT and SUNY-ESF to work with graduate school interns conducting research on special topics. Two students recently finished their thesis projects using the Canandaigua Lake Watershed as their focus of study. We benefited from their research and gained access to state of the art research facilities at a fraction of the cost of consulting firms.
 - The City of Canandaigua, which supplies water to approximately 30,000 people, is reaching its permitted withdrawal limits several times during the summer. The City is re-applying to the State of New York in an attempt to increase its permitted withdrawal from Canandaigua Lake. The State DEC will require that a Safe Yield Analysis be completed to determine the quantity of water that can be taken out of the lake during the drought of record while maintaining the various uses of the lake. The City has asked the Watershed Program Manager to assist in this study. It is important that the Watershed Council play an active role in this study because the Council represents the watershed and water purveying municipalities that could be directly affected by increased withdrawal. A balanced approach will be needed to

meet the long range demands of the region and support economic growth while meeting the demands of the Hi-Tor wetlands, shoreline owners, and wastewater needs along the outlet. Compromise and new methods of analysis will be needed to come to an equitable solution.

- Update pollutant threats to Canandaigua Lake. The last comprehensive study of the types and sources of pollution entering the lake was conducted in the mid to late 1990s. We need to continually analyze past, present and future threats to our watershed and our landcover study is a key first step in identifying potential pollution sources. Our water quality monitoring program combined with computer modeling and field research can help us identify potential hotspots so that we can work to reduce their impacts.

Total Cost per year: \$21,000.00

Education:

To be effective, the plan to protect and conserve the Canandaigua Lake Watershed must include a comprehensive program of education that is designed to involve current and future generations of watershed users in caring for this valuable resource. Education must also include initiatives to assist practitioners and local officials in analyzing and evaluating the impacts of land use throughout the watershed. Each recommendation contained in this plan recognizes the need for strong public support and individual action. It will be the cumulative effect of many individual actions that will make a difference over the long term in addressing the issues that challenge the Canandaigua Lake Watershed.

Educational actions have had a strong emphasis in the implementation of the current watershed management plan. The Strategic Update continues to emphasize the importance of educating the general public and our government officials about the impacts of their actions on water quality. Approximately ninety percent of the watershed is privately owned. Proper land use decisions at the municipal level and incorporation of simple pollution prevention measures at the individual level will have substantial cumulative water quality benefits.

Some of our previous educational activities have been less successful than others. We need to continually research the most effective ways of getting the public's attention with limited financial resources. Our pesticide survey told us that the general public is more interested in news articles, news letters and other brief educational messages than the more comprehensive one-day workshops. We need to gear our educational strategy to fit the audience's needs. There are also various subsets within the overall general public that will require different approaches.

In 1999 there were two full time environmental educators in Ontario County employed through the Cornell Cooperative Extension and Soil and Water District. Due to budgetary cutbacks, the Extension Educator position was cut in 2003, and the District's environmental educator is contracted out to Seneca Lake on a part time basis in order to increase revenue. The current budgetary reality leaves a partial gap in educating the watershed public from

grade school to adults in water quality issues. The Council needs to continue the current educational initiatives and seek out partnerships with citizen groups to more effectively educate the public.

- Continue to work with schools and include speaking to classes in the Marcus Whitman, Naples, and Canandaigua School Districts.
 - ✓ Meet with 10 groups of students a year along with participation in Conservation Field Days.
 - ✓ Work with Marcus Whitman ECO school program to build another kiosk for the east side of the lake.
 - ✓ Install storm drain markers in the Villages of Rushville and Naples and finish installation in Canandaigua.
 - ✓ Work with High School Biology students to take on special research and implementation projects.
 - ✓ Utilize students to help install wetland and stream buffer plantings.
- Educational publications on special topics such as lawn care, septic systems, water conservation and other pollution prevention practices.
 - ✓ Newsletter once a year to update watershed residents on current activities and upcoming projects.
 - ✓ Implement community based educational programs for homeowners and others to reduce the introduction of contaminants to storm sewer systems, including intentional discharges of foreign matter, pet waste cleanup, lawn clipping and landscaping refuse, street and sidewalk cleaning and solid waste management.
- Utilize the recently completed Canandaigua Lake video to present to community groups and periodically air the video on Channel 12 and the local PBS station.
- Maintain, update and market our website to reach a wider audience. The website has received wide acclaim. It is important to periodically update the website and include interactive mapping, surveys, recent research studies, and progress on the plan.
- Continue the forestry workshops for timber harvesters, landowners and CEOs. As part of the uniform Timber Harvesting Law, continue the education of the timber industry that operates within the watershed about methods for incorporation of water quality protection into harvesting operations.

- Maintain and update our three current kiosks at the State Boat launch, Onanda Park and Kershaw Park and install new kiosks in other parts of the watershed.
- Partner with existing county and regional agencies to provide and expand educational opportunities and incentives for local planners, developers, building contractors, and citizens to become acquainted with and demonstrate application of watershed friendly growth. This can result in improved land use management.
 - ✓ Commence a program of education and instruction for local land use planners, regulators and administrators that is designed to increase the knowledge of healthy sustainable wetlands in terms of their importance and critical functions, such that those receiving the instruction will incorporate the heightened awareness into their decision making and planning processes.

Total Cost per year: \$10,000.00

Restoration/Protection:

Water quality research and educational activities are critical components to watershed protection. However, without the installation of “bricks and mortar” style projects and land protection efforts, a substantial percentage of the cumulative nonpoint sources of pollution would remain unimpacted. Restoration/Protection is a broad category of projects that focuses on reducing non-point sources of pollution through the installation of best management practices and/or green space preservation.

The accomplishments section highlighted the restoration/protection projects completed to date. Some of the proposed projects in the Strategic Update follow the same approaches of stream protection and stormwater management but also identify the next generation of projects to reduce pollution coming from an identified source and/or attempt to restore an area to a more natural condition. These sources are varied and require a diverse set of solutions. Continuing to partner with existing agencies that specialize in a particular category will be essential to effectively implement these projects.

At a minimum, it would cost several million dollars to fully fund all these projects. Providing the local match to showcase our commitment will be critical in obtaining the necessary grant funds to complete many of the projects. It is vital to consider the economics of each BMP, as well as other barriers such as the difficulty of implementing or maintaining the practice. The Council will have to continually balance the tangible watershed benefits of an individual project verses the cost to taxpayers.

Stream Protection: The health of Canandaigua Lake is largely a reflection of the quality of the tributary streams. Through both natural processes and human-induced activities in the stream corridors, the land surrounding the stream can become unstable, resulting in erosion and sedimentation. Sedimentation causes problems with both the stream fishery spawning

areas and the lakeshore ecosystem, as the sediment load exceeds the assimilative capacity of the natural system. Stream corridor instability is evidenced by the large sediment load being carried by tributaries into Canandaigua Lake and by the relatively rapid growth of deltas at which these streams enter the lake.

- **Install stream buffer projects on agricultural lands** through the Conservation Reserve Enhancement Program (CREP). The Council has set aside \$17,000 in the 2004 budget to partner with the U.S. Department of Agriculture and Soil and Water District to further entice farmers to install stream buffers under CREP. CREP is a voluntary cost share program with farmers. USDA provides rental payments on land taken out of production and half the cost share of practice installation. The Council has agreed to set aside money to further enhance the CREP program by paying a portion of the farmer's share of practice installation.

There are literally over a hundred miles of streams that cross agricultural lands before entering Canandaigua Lake. Agricultural non-point source pollution will almost always enter our streams before making it to the lake. Focused attention on buffering these stream corridors will have tangible results in reducing the amount of sediment, nutrients, pesticides and bacteria from entering our streams and eventually the lake.

- **Non-ag stream protection:** Provide cost share assistance on best management practices for stream corridor maintenance on non-agricultural lands. Interested landowners regularly seek advice on streambank protection possibilities. We could create a cost share program to assist in planting riparian buffers along streams.
- **Outhouse Stream/Wetland Project:** Earlier this year the Council received a federal grant for \$12,000 to assist the Town of Canandaigua in creating a two acre wetland and reconstructing 1,500 feet of Sucker Brook. The Council also received an additional grant of \$1,100 from the Ontario County Water Resources Council to supplement this effort. The project was scheduled to commence this spring, but the substantial rains delayed the effort until late summer or fall. The plantings will be installed this fall and the spring of 2005. We will have to monitor and maintain these plantings for the next couple years to ensure that they are fully established.
- **West River Trail Project** is an important community access and water quality project along one-mile of the West River, extending from the Village of Rushville's northeast boundary to Blodgett Rd. in the Town of Gorham. Main components of the project are to stabilize three abandoned rail bridges along the stretch, to trail blaze certain sections and to plant vegetation along the stream banks where erosion has occurred. The Council has set aside \$1,000.00 to assist the town and village in their efforts along with substantial in-kind assistance. Trail planning will continue this fall with commencement of trail work next year.
- **Stormwater management and stream restoration in the City portion of Sucker Brook.** Based on several years of water quality monitoring and the recent

storm water study, Sucker Brook was identified as having elevated levels of nutrients, sediments and bacteria compared to other parts of the watershed. National and State studies have identified urban stormwater pollution as a major contributor of these contaminants. Grant applications have been submitted for two distinct but complementary projects: construction of a stormwater pond on Canandaigua School District property and stream protection measures along multiple sections of Sucker Brook from Pearl St. to Parrish St. incorporating bio-engineered approaches.

- ✓ **Stormwater Pond:** The recent floods at the Canandaigua School District Primary school have increased the school district's interest in installing a stormwater pond with the dual purpose of reducing peak floods and improving water quality. The district currently owns the location where the pond will be constructed, and existing drives allow for easy and permanent access to the site for excavators and trucks. The proposed site is approximately 1.7 acres in size and will be deepened by approximately three feet using a long boom excavator. The vast majority of the excavated dirt will be reused on site to build the dam and to re-slope the banks. Any excess material will be re-used on site.

The exact size and structure of the pond including flow calculations, forbays, inlet, outlet and dam structures and with vegetative plantings will be designed by a licensed engineer following the standards established in the NYS- Stormwater Manual. The stormwater pond will significantly reduce the loading of hydrocarbons, heavy metals, pesticides, nutrients, sediment and bacteria coming from a 230 acre drainage area that includes industrial, commercial, and residential land coverages with approximately 30% impervious cover.

- ✓ **Stream Restoration:** The *Stream Assessment and Prioritization for Restoration Report* created by Hydrologic Environmental Solutions documents nineteen locations between Parrish St and Pearl St. for possible protection enhancement. The report also prioritizes five of these nineteen locations that have significant in-stream erosion problems requiring immediate attention, and it details specific solutions with cost estimates. The City has set aside \$35,000 to match any state grants that are received.

- **Assist in green space protection projects.** The Council can provide assistance to our member municipalities and private land trusts in protecting important landscapes. The recent landcover study is already being used by the towns of Gorham and Canandaigua in their open space planning efforts. The landcover map will be an important tool in identifying key landscapes for protection. The Council's 2004 budget set aside \$10,000 for green space protection, and the Council should continue to set aside money for projects that may need additional assistance to come to fruition. As municipalities and land trusts receive easements, donations or lands of conservation interest, the Watershed Manager can assist in monitoring these sites.

- **Wetlands protection:** Utilize existing programs at the municipal and private land trust level to protect and preserve existing wetlands through the purchase of conservation easements. Wetlands play a critical role in modifying the movement of water within watersheds and help maintain and improve the water quality of the lake. Since wetlands are located between uplands and lakes, they intercept runoff from the land before it reaches open water. As runoff and surface water pass through, wetlands remove or transform pollutants through physical, chemical, and biological processes. Scientists have estimated that wetlands may remove 70% of entering nitrogen. Riparian forests can reduce nitrogen concentrations in runoff and floodwater by up to 90% and phosphate concentrations by 50%. They also remove a high level of biochemical oxygen demand (BOD) as well as suspended solids.

Other pollutants that impact water quality such as nutrients, organics, and metals are often adsorbed onto suspended solids. Deposition of suspended solids to which such substances are adsorbed removes these pollutants from the water. The value of wetlands as erosion control lies in the ability of wetland plants to hold soil with their roots, absorb wave energy, and reduce the velocity of stream currents. Diverse species of plants, insects, amphibians, reptiles, birds, fish and mammals depend on wetlands for food, habitat, or temporary shelter.

The wetlands that inhabit the watershed of Canandaigua Lake are perhaps the least studied and, hence, least understood element of the delicate ecosystem on which the water quality of the lake is dependent. The landcover study has taken the first step in identifying the regulated and non-regulated wetlands in the watershed. Wetland protection can be a cost effective way of treating polluted runoff from a variety of land uses.

- **Stormwater Management on public roads:** The recent flooding in the southern half of the watershed has highlighted the need to find better ways to manage stormwater. Stormwater culvert sizing and gully stabilization will be important tasks in the months ahead. The Watershed Council should assist the southern towns and State Department of Transportation (DOT) with their efforts to incorporate water quality/quantity management practices as they re-build the road and drainage system.
 - ✓ Encourage the use of the County's Hydroseeder that was bought under a 1996 aid to localities grant by Senator Kuhl for the Canandaigua Lake Watershed.
 - ✓ Utilize the landcover map to properly size culverts along the hillside roads.
 - ✓ Partner with NY State DOT to better manage private roads entering State highways and to install stormwater management practices on the DOT site at Parrish Street in the City of Canandaigua.

- **Wastewater Management:** There have several calls for sewer extensions and centralized sewage treatment in various parts of the watershed. Extensions have been applied for along West and East Lake Roads and Middle Cheshire Road, none

have been successful to date. The Village of Naples, and the hamlet of Cheshire in the Town of Canandaigua are also considering some methods of centralized sewage treatment. Emerging technologies may make these proposed projects cost effective, and the Watershed Council will continue to assist these areas in grant applications, water quality monitoring, and planning efforts.

Total Cost per year: \$25,000.00 plus grants

Regulation:

Land use regulatory control primarily resides within each of the watershed municipalities. The Strategic Update identifies those areas in which the Watershed Council can assist its member municipalities in consideration of new ways to balance current and new development with water quality.

- Continue to review and monitor development projects for water quality impacts. The Watershed Council assists its municipalities to make sure proper erosion control and stormwater quality management structures are put into place and maintained.
- Final adoption of the uniform forestry law by the six watershed towns of Bristol, South Bristol, Naples, Italy, Middlesex, and Gorham. The Watershed Manager can assist the towns in reviewing timber harvesting permits and work with the loggers, landowners and Code Enforcement Officers on requirements.
- Re-evaluate local soil erosion control and storm water management regulations to determine if they comply with State Phase II stormwater regulations and incorporate the latest techniques to soil erosion control and stormwater management.
 - ✓ Establish standards for private roads entering the public right of way to protect against blocking of road side swales.
- The Watershed Commission, consisting of the five water purveyors employs a full time Watershed Inspector, George Barden, to manage and enforce septic system regulations within the watershed. Through an EPA grant, the commission has begun the process of comprehensive management of the existing septic systems in the watershed. They are compiling a digital inventory of all systems that have been inspected and are currently in paper files. This increased management will require additional help for the Watershed Inspector.
 - ✓ There is also an ongoing effort to get the state to approve an updated set of rules and regulations for the watershed.

Total Cost per year: \$0 in cash by the Watershed Council

Administration:

The Watershed Council will provide overall administration of the projects funded through the Council and will partner with existing agencies on joint projects. Day to day responsibility of coordinating the watershed program and the actions of the Council is performed through the Watershed Program Manager.

Major responsibilities of the Manager include:

- Coordinate the actions of the Canandaigua Lake Watershed Council, and assist the Council in implementing the watershed management plan.
- Provide ongoing administrative support for the Watershed Council and its related committees, and represent the Council while coordinating watershed management activities with other groups and agencies.
- Establish and assist in the implementation of appropriate management strategies for sources of pollution, and evaluate the effectiveness of the various strategies.
- Coordinate and assist with ongoing public education activities, provide support for the role that citizens will play in reducing sources of pollution in the lake and its watershed, and supervise interns as integrated into the overall program.
- Oversee, monitor, and evaluate the progress of the plan to include lake and tributary sampling and monitoring, and continue to assess sources of pollution.
- Assist the Watershed Council in managing the budget and financial resource base support for the watershed management plan, and make recommendations on funding issues to the Watershed Council as needed.
- Act as spokesman for the Watershed Council and the watershed management plan with emphasis on an ongoing public relations effort that will provide both oral presentations and written communications.
- Supply information for the preparation of program reports, and write and deliver such reports as requested.
- Attend professional training, conferences, annual meetings and workshops.
- Research possible grant opportunities, and write grant applications with municipalities or county agencies.
- Administer successful grant awards.
- Coordinate the activities of the Watershed Council and its member municipalities.
- Liaison with county agencies and non-governmental organizations to implement watershed management activities.

- Update plan recommendations as environmental conditions in the watershed change over time and new technologies are discovered since priorities for action in the plan may change. The plan should be reviewed periodically to reflect these changing conditions.

Total Cost per year: \$56,000 (includes all benefits)

Canandaigua Lake Watershed Council SUMMARY BUDGET

<u>Expenses:</u>	<u>Annual</u>	<u>Five Year Total</u>
Research:	\$ 21,000.00	\$105,000.00
Education:	\$ 10,000.00	\$ 50,000.00
Restoration/Protection:	\$ 25,000.00	\$125,000.00
Regulation:	\$ 0.00	\$ 0.00
<u>Adminstration:</u>	<u>\$ 56,000.00</u>	<u>\$280,000.00</u>
Total Cost per year:	\$112,000.00	\$560,000.00
<u>Revenue:</u>	<u>Annual</u>	<u>Five Year Total</u>
Fund Balance:	\$20,000.00	\$100,000.00
Municipalities:	\$82,305.00	\$411,025.00
Watershed Alliance:	\$ 5,000.00	\$ 25,000.00
East Shore Assoc.:	\$ 2,000.00	\$ 10,000.00
Yates County:	\$ 2,000.00	\$ 10,000.00
Interest:	\$ 1,500.00	\$ 7,500.00
*Program Grants:	\$ 0.00	\$ 0.00
Total Revenue:	\$112,805.00	\$564,025.00

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APPENDIX ONE

Four Year
PROGRESS REPORT

**IMPLEMENTATION
OF THE
CANANDAIGUA LAKE
*WATERSHED MANAGEMENT PLAN***

January 5th, 2004

To: Watershed Council members and Partner Agencies

From: Kevin Olvany, Watershed Program Manager

As of December 31, 2003 we have finished the fourth year of the five year implementation schedule. It is important to inventory the progress made on the actions within the plan, assess the relative importance of each action and consider actions outside the scope of the original plan. Actions that may have seemed important six years ago may not be worthy of spending the public's money. We also need to consider new information or management approaches that fall outside the scope of the original plan, but could have a positive impact on the watershed. As we implement existing actions within the Plan and consider actions outside of the plan the main question always needs to be: **will the implementation of this action somehow help to improve water quality within the watershed.** As we move through the next year I along with the partner agencies will continue to advise you on the most effective and efficient ways of protecting the lifeblood of our region.

The table on the following pages briefly summarizes progress on each of the non-agricultural actions within the plan. The table is broken down by pollution source using the identification code of the action, synopsis of the action, progress on the action and who is partnering to implement the action. Many of the general educational projects/presentations along with the overall monitoring program are not listed. Where appropriate I have also inserted progress on projects that fall outside of the formal plan. If there are questions about any aspect of the progress report please do not hesitate to call or e-mail me. (396-3630-klo@ci.canandaigua.ny.us)

ID	Action	Progress	Partners
B)	Residential Sources of Pesticides		
B-2)	Est. committee to review pesticide issues	Completed: Committee has been established and has met multiple times. Survey to get public input was completed in the summer of 2002 with a 35% response.	Watershed Council, Cornell Ext., Alliance, private landscapers
B-3)	Well Workshops to prevent groundwater contamination	Ongoing: Workshops were conducted in 2001 with another series scheduled in 2002 with special focus in Deep Run and Gage Gully.	Cornell Ext., Alliance and SWCD
B-4)	Pesticide monitoring	Ongoing: Watershed Alliance conducted limited set of samples in June of 2003. Results were very low. Further sampling will be considered.	DEC, CCE, Watershed Alliance and Watershed Council
B-5)	Telephone Hotline for advice on pest mgmt.	Completed	Cornell Ext.
B-6)	IPM for Homeowner	Ongoing: Workshop held in March of 2001. Pure Waters mailed one page insert. Watershed Stewards pub. Brochures in town halls. Survey will help guide future educ. efforts	Cornell Ext. Watershed Alliance Watershed Council
B-7	IPM standards for the watershed	No action	Watershed Alliance, CCE
B-8)	Encourage proper well closure	Ongoing: Watershed Stewards- page article. Watershed Inspector encourages proper closure during septic inspections	Cornell Ext., SWCD, and Watershed Inspector
B-9)	Hazardous waste- Pesticide Collection Day	Completed: April, 2000- site in Naples. County sponsors day- each year. Due to county budget cuts will only be able to have one site. March 2002- Clean Sweep Grant- Ag and commercial pesticide collection	County, Watershed Council, Cornell Ext., Planning Dept.

D)	Development Sites		
D-1)	Review municipal regs. for adequacy in preventing erosion	Ongoing: Chapter 5 of Plan along with review by Genesee Finger Lakes Regional Planning Council Land Use committee	Watershed Council, Planning Dept., GFLRPC
D-2)	Education and Training of municipal officials on Soil Erosion prevention and control.	Ongoing: Planning Dept. has an ongoing series of training sessions for local officials. Need to focus some of these training sessions on soil erosion control and how development impacts water quality	Planning Dept., SWCD and Watershed Council
D-3)	Local model law for soil erosion control	No Action: Model laws have been gathered. Phase II stormwater regs. will be used as model- awaiting final DEC interpretation	Planning Dept., Watershed Council, State DEC and SWCD
	Land cover inventory	Ongoing: Will finish up in the spring of 2004. Info will be used to identify ecologically significant areas for protection and better assess stream flow.	Watershed Council, FLCC Planning Dept.
E)	Deicing Salt		
E-1)	Salt Storage Barns	Completed: South Bristol- 1995 along with installing an oil/sand separator in 2002. Town of Canandaigua- 2000 Town of Middlesex- received grant in 2001 to build storage barn Naples built a barn in 2003	Municipalities, SWCD- Yates and Ontario Watershed Council
E-2,3)	Sensible salting workshops and training for highway officials	Completed: Workshop held in winter of 2001/2002 for highway officials	Watershed Alliance and SWCD
E-4)	Sensible salting signs	Completed	Highway Superintendents, Alliance, NYS-DOT
E-5)	Annual Salt Survey	Ongoing	Watershed Alliance
E-6)	Monitor Salt concentrations	Ongoing	FLCC, Watershed Council

F)	Forestry		
F-1,3,4,5,7)	Expand use of 480-A Encourage BMPs, Educational and Tech. assistance	Ongoing: Winter 2001 forestry workshop- over 100 large landowners attended. April 2004 ESF workshop scheduled focus will be on implementing and enforcing forestry law.	SWCD- Ontario County DEC, Watershed Council
F-2,6)	Registration and regulation of timber harvest based on slope and proximity to water	Ongoing: Draft law has been put together. Presentations to Town Boards have begun. SEQR review has been completed. DOS has reviewed the law. Definitions need to be clarified and application package developed. Towns will receive model law in February.	SWCD- Ontario County, Honeoye Watershed Task Force, Watershed Council
G)	Hazardous Waste Sites		
G-1,2,3)	Notification, update hazardous waste site database, MOU	Ongoing: no active sites currently, Volplex has been remediated.	DEC, Watershed Inspector, Watershed Council
H)	Inactive Landfills and Illegal Dumps		
H-1,2,3)	Identify and rank closed sites- consider Phase I studies	No Action	Planning Dept., Watershed Council
H-4)	Develop educational materials on illegal dumps	Ongoing: Alliance leads an ongoing effort to clean up illegal dump sites. This important work will continue.	Alliance, municipalities
I)	Mined Lands		
I-1)	Inventory all permitted and	Ongoing: Initial inventory completed and ongoing. Will	SWCD, Watershed Council

	non-permitted mined land sites	be part of the landcover study.	
I-2-6)	Prepare and distribute educational materials to munis. and landowners	No Action	SWCD, Planning Dept. Watershed Council
J)	Bulk Storage Facilities		
J-1,2,3)	Improve local bulk storage database- inform municipalities.	No Action	Planning Dept., Watershed Inspector, Watershed Council, DEC
K)	Septic Systems		
K-1)	5 year inspections in addition to inspections at time of deed transfer	Ongoing: 5 year inspections not part of proposed rules and regs. Municipalities have decided not to go in this direction as well. Proposed watershed rules and regulations have inspections at the time of deed transfer.	Watershed Inspector
K-2)	Educational workshop	Ongoing: A series of workshops have occurred over the last couple years.	SWCD, Watershed Inspector, Watershed Council
K-3)	Distribution of educational materials to new residents not on sewers	Ongoing: No formal distribution as of yet. Watershed inspector does work with new owners when requested. Watershed Stewards went to all watershed residents	Watershed Inspector, Watershed Council and SWCD
K-4)	Community Dye Test	No Action: Watershed Inspector does not recommend this action- to much variability	Task Force and Pure Waters
K-5)	Uniform approach to septic system management.	No Action: Watershed rules and regs. need to be approved by DOH. County wide uniform procedures need to be adopted locally.	Watershed Inspector, SWCD, DOH, Planning Dept., municipalities
K-6,9)	Encourage water conservation measures	Ongoing: Watershed Stewards article- newspapers	Cornell Extension
K-7,8)	Compliance with DOH	Ongoing: Watershed Inspector works with landowners to	Watershed Inspector

	standards- innovative ways	find solutions. Recently received waiver to apply engineering designs- lowers customer costs.	
	Laura Lane, Wyfells Rd. sewer extension \$419,000 grant	Completed: reduces bacteria and nutrient loading near City's intake pipe	
	Village of Naples Sewer Study	Ongoing: Watershed Council contributed \$2,000 towards study. Initial study completed. Village is continuing to work on this issue.	Village of Naples, Watershed Council, SWCD, Environmental Facilities Corp.
L)	State Pollution Discharge Elimination System Permits		
L-1-5)	Obtain sampling data from DEC on SPDES sites and inspection of failed facilities	Ongoing: Watershed Inspector works with DEC on a case by case basis. No formal agreement exists. Local database of SPDES sites is being converted into GIS.	Watershed Inspector, Planning Dept. Watershed Council, DEC
M)	Recreation		
M-1)	Construction of more pumpout facilities	Completed: Two installed- Jansen marina and Rosepark development area	Office of Parks and Rec., municipalities and marinas
M-2)	Increased enforcement of noise and speed regulations	Ongoing: Sheriff's Patrol acquired new radar equipment in 2002. Have been asked by citizen groups to increase overall enforcement.	Sheriff's Patrol, Alliance and Watershed Council
M-3,4)	Study Speed and Noise limits for adequacy	Completed: Watercraft committee met in 2001 to review possible changes in navigational regulations- initial assessment is that current set are adequate- increase enforcement and education.	Watershed Council, Sheriff's Dept. Alliance
M-5)	Docks and Moorings Law	Complete: Revisions have been completed. SEQR has	Planning Dept., Watershed Council, East

	revisions	been completed. Awaiting municipal adoption	Shore Assoc., Alliance, municipalities
M-6,7)	Discourage use of power boats in Env. Sensitive areas	Ongoing: Recreational signage placed at boat launches and marinas- includes 5mph in High Tor	Watershed Council
M-8)	Educate the public regarding natural beaches	Ongoing: Protected shores grant distributed information to shoreline owners	SWCD, Watershed Council, Alliance
M-9,10)	Zone to minimize shoreline structures	Ongoing: Docks and Moorings Law and Article 15 of the ECL address these actions.	Planning Dept., Watershed Council, DEC
M-11)	Discourage new development within 100 yr. floodplain	Ongoing: Land use study will be addressing building patterns in the shoreline and riparian landscape.	Watershed Council Planning Dept.
M-12	Discourage projects that add boat traffic to the lake	Ongoing: Docks and Moorings Law set limits on the number of docks/moorings an individual landowner can have. No progress at state boat launches	Office of Parks and Recreation, municipalities
	Clean Marina program	Ongoing: Marinas have signed up to consider the water quality of the lake in their business operations	Alliance, marinas
	Educational signage	Completed: Signs have been made and distributed to each of the marinas and boat launches. Kiosk built at northern boat launch.	Watershed Council, marinas, Office of Parks and Rec, DEC, Alliance
N)	Roads		
N-1,2)	Increased training for highway officials	Ongoing: Booklet produced by Yates, Seneca, and Ontario Counties compiling proper road maintenance has been produced and distributed. More follow-up.	SWCD, Watershed Council
N-3,4,7)	Erosion control measures should be included in all highway construction. maintenance projects	No Action:	SWCD, and Highway Superintendents Assoc.
N-5)	Structural methods for control of sediments on severe slopes	Completed: \$530,000 matching grant being used to stabilized 9.6 miles of highway in Naples South Bristol, Italy and Middlesex	SWCD- Ontario and Yates, Watershed Council

N-6)	Est. standards for private roads	No Action:	Municipalities
O) Streambank Erosion			
O-1)	Field verification of streambank erosion	No Action: Limited assessment has been completed by SWCD intern. Several stretches have been identified during sampling events. Naples Creek complex has been extensively studied. Sucker Brook has also been assessed.	SWCD, Watershed Council
O-2)	Demonstration project for streambank erosion	Ongoing: \$364,000 grant to improve banks of Naples Creek- substantial progress, Menteth Creek as it flows through Cheshire- completed. Comprehensive study regarding Sucker Brook restoration.	SWCD, DEC, Town of Canandaigua, Watershed Council
O-3)	Vegetative Stream Buffering Education	Ongoing: Watershed Stewards publication. Should mail CREP info to agricultural landowners	Watershed Council, Cornell Ext.
O-4)	Vegetative stream buffering projects	No Action: Initial contacts are being made with landowners- much more work needs to be done.	Watershed Council, NRCS, SWCD, Ag. Committee
O-5)	Stormwater management regulation	Ongoing: City of Canandaigua has one in place- if necessary other munis. will work in conjunction with Phase II stormwater regulations	Planning Dept., Municipalities, Watershed Council DEC
P) Hazardous Waste Spills			
P-1)	Education on Spill prevention	No Action: None to date at local level	Cornell Ext.
P-2,3,4)	Collaboration with DEC on spills	Ongoing: There is no formal notification procedure.	Watershed Inspector, DEC