

The Information Exchange

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Finger Lakes - Lake Ontario Watershed Protection Alliance

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The Challenge of Managing the Oswego River Basin

Summarized from a presentation by Bill Kappel, Hydrologist, United States Geological Survey, Ithaca, New York given at the Oswego River Basin Water Resources Management Forum, September 16, 1997

The Oswego River Basin in central New York State is a diverse system. It is made up of many components that flow together: water flowing from upland streams to lakes, and from lakes to lowland rivers and the New York State Barge Canal, and ultimately to Lake Ontario (figure 1). We know these components (natural and man-made) work as a hydrologic system, but we do not understand completely how the system functions and how the components interact.

The "Plumbing" of the Basin

The average daily flow in the Oswego River at Oswego, New York is about 3 million gallons per minute, and its average daily flow has ranged from 1.5 to 4.9 million gallons per minute between 1934 - 1996. The area of the Basin is 5,100 square miles and encompasses three physiographic provinces (figure 2). These include the Appalachian Plateau (the area to the south of the 1,000-foot contour line); Tug Hill Plateau (the circular area to the northeast surrounded by the 1,000-foot contour); and the Lake Ontario Plain (south of Lake Ontario). One additional, unofficial geographic province is significant in the functioning of the Basin. This is the "Seneca River-Oneida Lake Trough", an area of lowlands running west to east within the 500-foot contour. The Trough is key to understanding the Oswego River Basin flow system in its natural and man-altered condition.

The Trough is a product of regional geology and glaciation. During and following the last Ice Age (ending about 14,000 years ago) glaciers carved out the Trough

between the Lockport Dolomite (to the north) and Onondaga Limestone (to the south) bedrock exposures, and subsequently filled the Trough with mixtures of clay, silt, sand, and gravel. The result was a very flat, low-lying area with many square miles of

wetlands, some of which are now farmed as muckland. The New York State Barge Canal follows the Trough, due to its exceptionally low gradient. Along the main stem of the canal, between Locks 27 and 24, the Canal surface elevation drops only 23 feet

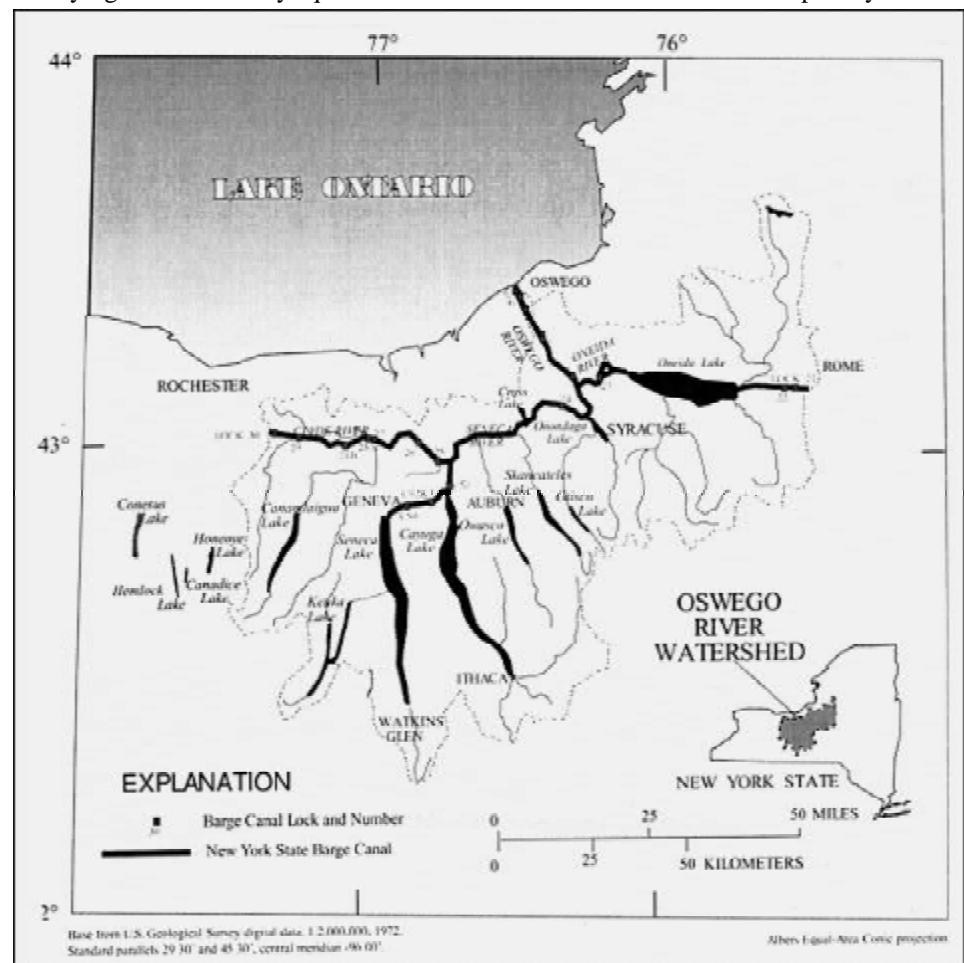


FIGURE 1. Location of the Oswego River watershed in central New York showing major lakes and rivers, the New York State Barge Canal and major cities within the basin.

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in 60 miles. Without the canal in place, the elevation change would be the same; with the canal, the change occurs as steps, each step being a canal lock. The average gradient through this section of the Trough is only 0.35 feet per mile. This low gradient poses a water-resource management challenge, as it is very difficult to move water through this low-gradient area.

Surface and ground water flows from the uplands of the Finger Lake and Oneida Lake watersheds to the rivers and lakes of the Oswego River Basin (figure 3). Water can flow quickly from Canandaigua and Keuka Lakes at relatively high elevations in the basin (about 700 feet above sea level). Water flows from Keuka to Seneca Lake, a fall of about 270 feet, and from Seneca to Cayuga Lake, a fall of only 60 feet. It is not until water enters Cayuga Lake and the Barge Canal near Montezuma, that the system flattens-out to the very low Trough gradient. At this point (near Montezuma, New York) water is received

from 48 percent of the Oswego River Basin's 5,100 square miles. Further down the Trough, water is added from Owasco, Skaneateles, and Otisco Lakes which, like their neighboring Finger Lakes, are at higher elevations which allows them to drain readily to the Trough. In a similar fashion, the uplands around Oneida Lake drain to eastern end of the Trough. The additive contribution of each stream and Finger Lake to the Barge Canal results in a bottleneck at the Three Rivers junction (the confluence of Seneca, Oneida, and Oswego Rivers, see figure 3). At this juncture, 96 percent of the Oswego River Basin is represented, paradoxically in its flattest, slowest-moving stretch. At times, the water inputs from the east and west exceed the channel capacity, resulting in flooding. Once the water moving through the system reaches the Oswego River, the gradient increases markedly to 118 feet in 29 miles (4 feet per mile), and water has the potential to move more readily toward Lake Ontario.

How much water is added to the Trough from any one precipitation event varies on local watershed conditions. As an example, when soils are saturated or frozen, every inch of rain falling in the Cayuga Lake watershed adds one foot of water to that lake. One inch of water flowing from the Cayuga Lake uplands down to the lake will occur within one or two days, but once in the lake, the water might take two weeks or more to drain to the Barge Canal. The "plumbing" of the watershed, with a series of cumulative, quick flowing upland inputs and one slow-draining output at Mud Lock, into the low-gradient Trough, poses water-level management challenges. The New York State Canal Corporation uses five "control points" along the system to determine how to manage water levels. The management of the system has been a controversial issue for nearly a century, with multiple interests arguing for different management scenarios. The answers are not simple, nor is any solution absolute.

Not a Floodplain Problem, but a Watershed Problem

There is a tendency to look at water-resource problems within the Oswego River Basin (or any other basin) as a local water level, property, or single-use issue. The first challenge to managing water resources in this or any other basin is to view these problems as part of watershed resource management. Only when we focus on the entire watershed system, with all of its characteristics and interconnections, will we be able to define and work toward reasonable watershed management goals.

We need to look at the Oswego River Basin as a watershed, rather than conditions along a particular stretch of a river or along a lake shore. As an example to illustrate this point: an upland farmer installs drain tile to get water off his fields a little quicker, resulting in more water in the nearby roadside ditch in a shorter period of time. The ditch gets flooded, so the Town decides to dig the ditches a little deeper. The ditch now carries more water, clogging a culvert downhill with debris. The Town comes back and replaces the culvert with a larger one. More water is moving in the ditches through the culverts, eroding the road banks and dumping larger loads of water and sediment into the receiving lake over a shorter period of time. When the

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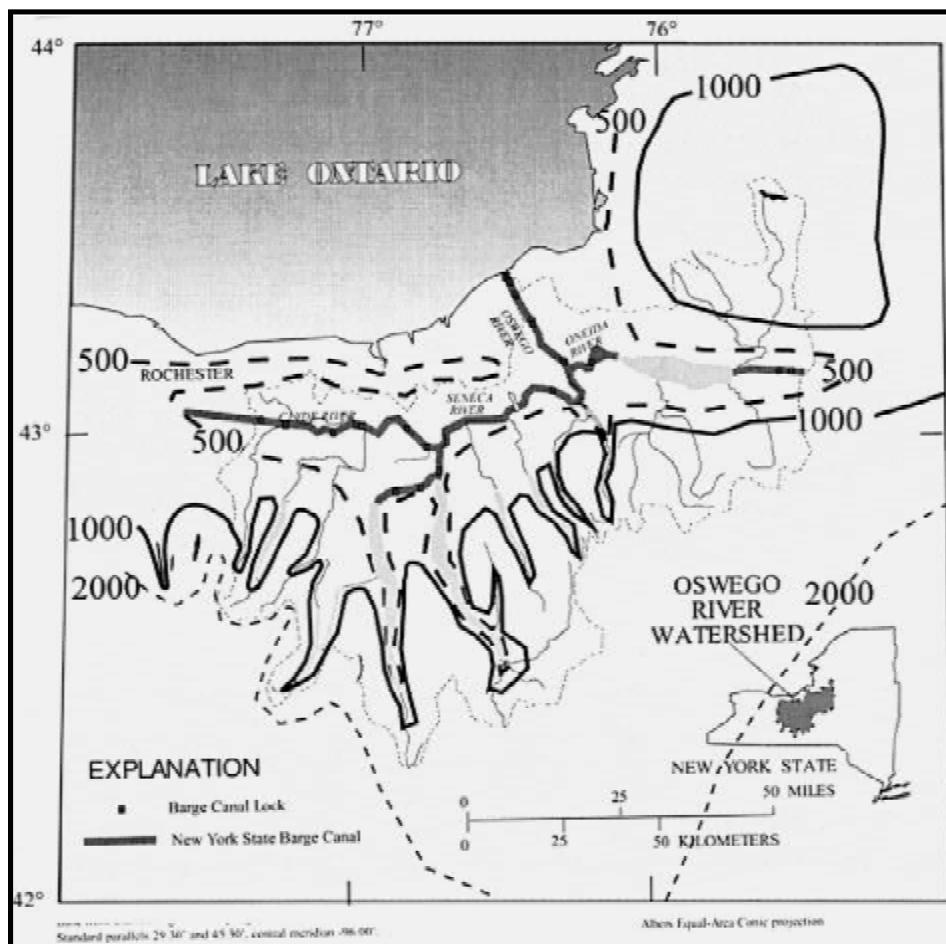


FIGURE 2. Generalized land surface elevations in the Oswego River Basin showing the Appalachian Plateau to the south of the 1000-foot contour, the Tug Hill Plateau in the northeast (1000-foot circle), and the Lake Ontario Plain south of the Lake.

sediment-laden water discharges into the lake, the sediment load is deposited as an alluvial fan, which causes flooding of nearby homes, as the stream channel is now clogged with sediment. The Towns now excavate this sediment, and take more to reduce the need to return in the near future. This over-excavation begins a process of stream degradation that spreads upward into the basin, causing further erosion of streambanks and the streambed. Each individual action is benign enough, even good for the local situation, but the cumulative effect stresses the natural gradient of the stream, and causes the stream to erode or deposit to restore itself to a more natural condition. As soon as a stream is disturbed, it needs time to restore itself. If the disturbance is big enough, it can affect areas well beyond the local area.

Weather Forecasting and Climate

Today's weather forecasting "skill" or accuracy is very good for two days into the future — temperatures and precipitation amounts can be forecast with good reliability. The accuracy of extended forecasts (beyond two days) diminishes readily, with only the potential for precipitation being given as percents and no forecast of amounts of precipitation. Seasonal (3-4 month) forecasts are very generalized with only "wetter or drier" or "hotter or cooler" than long-term normals being given. It is difficult to manage a complex watershed system with reasonable accuracy under a two-day lead time for weather information. Managing under seasonal forecasts can lead to water levels becoming too high or too low, with-

out much chance of remedying the situation in the short-term.

Changing climate conditions, global warming, and climatic variability are new fields of research, and may impact water-resource management around the world. The use of dendrochronology (study of tree rings) can be used to infer historic trends in the climate of the region. Based on research in the Northeast, precipitation and air temperature variability appear to have been following a generally calm, cyclic seasonal pattern between 1890-1960, with relatively few extreme departures from the norm. More recently our weather has experienced more frequent excursions from this "normal" cycle — droughts, floods, and very cold or very warm temperature periods. We recall extremes in the mid-1960's (drought), the very wet periods in 1993 and 1996,

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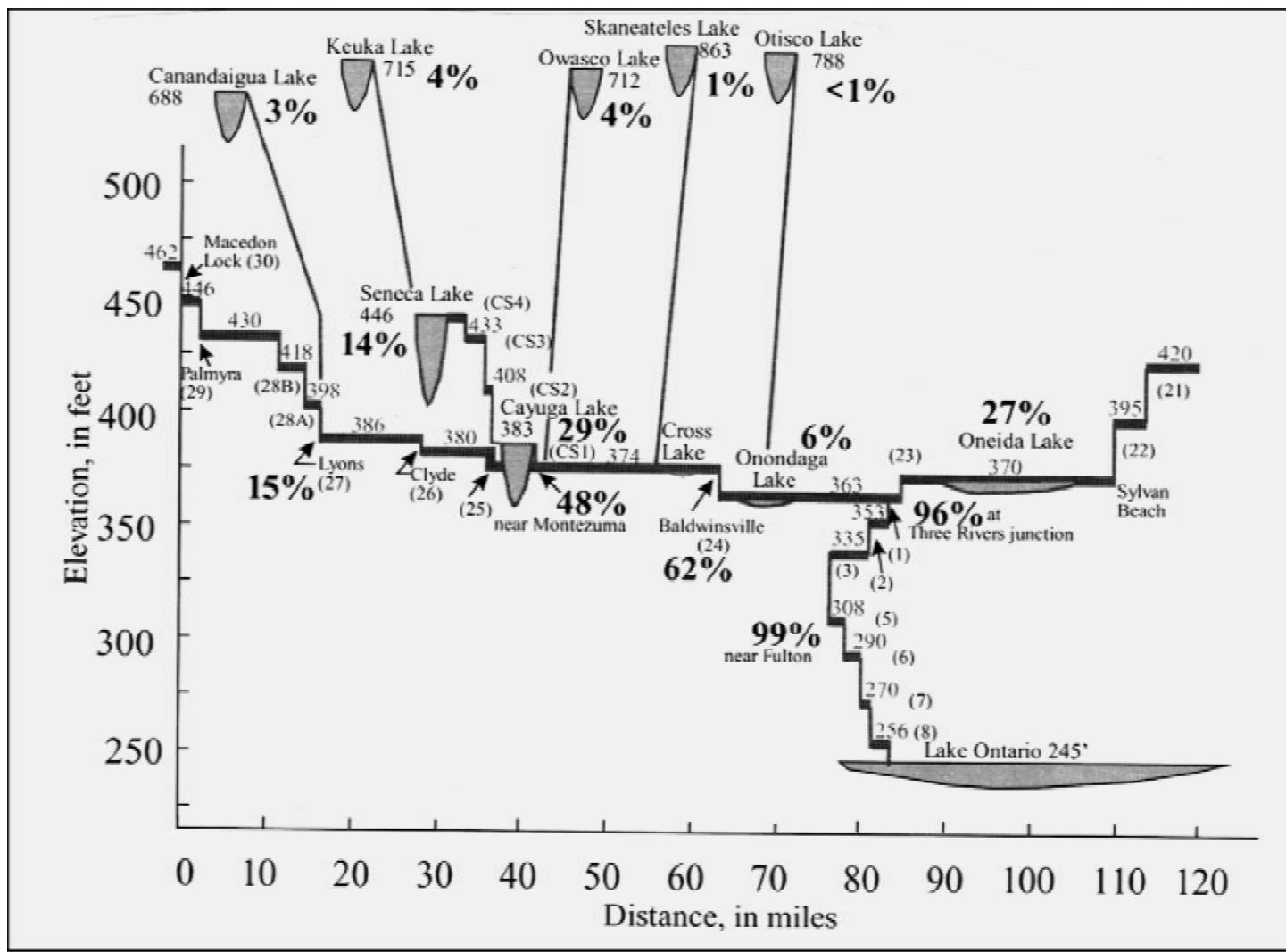


FIGURE 3: Water feature surface elevations, lock location (number) and selected watershed areas (in percent) in the Oswego River Basin. (Note difference in vertical and horizontal scales.)

(heavy seasonal precipitation; rapid snowmelts). We might like to believe the more recent, erratic weather is an anomaly, but tree ring data from the 1700's and 1800's appear to show many frequent excursions from the "normal" 1890-1960 cycle. The erratic weather patterns of recent decades may in fact be more typical for the region than the period of relative calm between 1890 - 1960. The implication of this research is that any watershed system will be more difficult to manage under a climate scenario marked by frequent extreme conditions.

Water Quality

Water quality in the Finger Lakes is generally good, but we cannot assume the quality will always remain the same. Zebra mussels have increased the clarity of the water, but clarity does not always imply good quality. About 20 cities, towns, and villages in the Oswego River Basin use the lakes for drinking water, and nearly the same number use them to receive treated wastewater. Nutrients and pesticides have been detected in every one of the Finger Lakes, albeit at levels below drinking water

standards. The quality of water entering and moving through the system is affected by activities occurring within the watershed which, in turn, affects our ability to use water resources. The phrase "we all live downstream" should make us think about what we do on our land and how it will affect our downstream neighbors.

What Can We Do?

Managing the complex Oswego River Basin is a daunting task. There are limitations on what we can expect to do, but there are steps we can take:

1. Understand the watershed process.

Model watershed hydrology and canal hydraulics to determine the "plumbing" of the system; develop and refine opportunities for management; and understand the limitations on human manipulation of the water resource.

2. Resolve differences in water-level management objectives. Set common watershed goals rather than impose local management objectives. FL-LOWPA's Oswego River Basin Water Resources Management Forum held on September 16, 1997 in Waterloo, NY was an opportunity to work

toward defining a common goal among diverse stakeholders.

3. Test goals against the real world. Are the goals manageable and based on "real-world" watershed hydrology, meteorologic inputs, and canal hydraulics?

4. Realize the potentials and limits of watershed management. We may reduce the impacts of some extreme precipitation events, but we will never eliminate all impacts stemming from Mother Nature. We can alleviate human impacts on the watershed, but only with resolve.

5. Involve the public. Educate the public in watershed planning, management, and goal setting. Encourage individuals to plan for and manage their properties as part of a larger, watershed system.

For more information, contact:

The Water Resources Board of the Finger Lakes - Lake Ontario Watershed Protection Alliance, 309 Lake Street, Penn Yan, NY 14527, (315) 536-7488 **OR** Bill Kappel, US Geological Survey, 903 Hanshaw Road, Ithaca, New York 14850, (607) 266-0217, ext. 3013.□

Facing Challenges

by Russ Nemecek, Onondaga County Health Department

On September 16, 1997, FL-LOWPA sponsored a policy dialogue on water level management in the Oswego River Basin. Stakeholders from federal and state agencies, municipalities, businesses, citizen associations and elected officials were invited to participate. Given the contentiousness of the subject over the last several decades, professional facilitators from Interface, Inc. in Ithaca, New York were hired to guide the discussion. The goals for the forum were intentionally modest: 1) identify and clarify interests in the management of water levels in the Oswego River Basin; 2) develop agreement on key issues; and 3) develop consensus on action steps to address key issues.

The 44 participants were well balanced among various stakeholders and perspectives. Presentations by Bill Kappel (United States Geological Survey), John Zmarthie (NYS Canal Corporation), and Paul Schwartz (Director of the Susquehanna River Basin Commission) provided an overview of the hydrology of the Oswego River Basin, current management scenario, and

in the Oswego River Basin

an administrative model for river basin management and conflict resolution. Through the facilitated discussion and working in small groups, seven "problem areas" were identified. These included:

- **public education** (e.g., about hydrology and human impacts in a watershed)

- **data and information: gathering, synthesis, and sharing** (information is often inadequate and dispersed)

- **coordinated watershed management** (agencies/groups are not acting in a coordinated fashion or with shared goals)

- **land use planning to mitigate flooding** (determine responsibilities for existing development; need accurate information and maps; improve future development)

- **trust among stakeholders** (need credible sources of information and structured processes to discuss issues)

- **emergency response to flooding** (need more monitoring, grassroots and media involvement; identify what has worked and duplicate it; coordinate agencies)

- **natural resources and water quality protection** (assess current status of natural

resources and water quality; prioritize issues; identify financial support)

Participants in the forum identified initial steps for each problem area, some of which are noted above. Added up, the steps suggested by the forum are significant, and one entity cannot tackle the work alone. Participants agreed that continued constructive dialogue would be helpful. FL-LOWPA can play a positive role in the work ahead. The decision to feature Bill Kappel's insightful commentary on the complexity of the hydrologic system in this issue of *TIE* is one small step to improving public understanding of the management challenges. As Chair of a FL-LOWPA committee designated to staying abreast of Oswego River Basin issues, I invite all stakeholders in the Basin to consider these problem areas and positive steps to move us forward in a constructive fashion. Let us know your thoughts! Send correspondence to WRB, 309 Lake Street, Penn Yan, NY 14527 or wrb@eznet.net.□

In the Field with New FL-LOWPA Counties

by Marion Balyszak, Water Resources Board Program Assistant

Background

In 1996, the 18-county Water Resources Board decided by consensus to expand its program area from the Finger Lakes Region to the New York State Lake Ontario Basin. The change was consistent with the group's growing program emphasis on watersheds and nonpoint source pollution control. To become a basin program, the WRB took a proposal to the water quality coordinating committees of New York State counties in the Lake Ontario Basin, which were not members of the WRB, and invited them to join the existing alliance. Six counties—Hamilton, Jefferson, Lewis, Niagara, Oneida and Orleans—became voting members of the Water Resources Board, the governing body of the newly renamed Finger Lakes - Lake Ontario Watershed Protection Alliance (FL-LOWPA).

Through membership in FL-LOWPA, each county receives an equal share of annual New York State funding to develop and implement water quality programs based on local needs. Funding is used for planning, research and monitoring, nonpoint source pollution control or remedial measures, and public education, with programs varying across the counties depending on local context. Through membership in FL-LOWPA, counties exchange information and ideas, and develop areas to work cooperatively to solve common water resources problems.

The six newest members received their first FL-LOWPA funding in State Fiscal Year 1996-1997, for program activities to be carried out in 1997 and 1998. As new Program Assistant to the Water Resources Board, I recently took the opportunity to get to know and report on the newest FL-LOWPA members and their maturing programs through a set of interviews.

Hamilton County

Ian Drew of Hamilton County Soil and Water Conservation District (SWCD) discussed the sixth consecutive year of baseline data collection in over 21 Adirondack lakes. According to Drew, "Data collected will be used to produce a five-year trend analysis." Long-term parameters include pH, total alkalinity, transparency, temperature, dissolved oxygen, nitrates and total phosphorus. Plans include improving and expand-

ing the current monitoring program with FL-LOWPA funds by adding new tests for chlorophyll *a*, fecal coliform, aluminum, and calcium. Aluminum measures will indicate the effects of acidification on water-dependent fauna and calcium will indicate the potential threat zebra mussels have on local lakes. Zebra mussel veliger sampling plates will be placed in lakes with a high percentage of transient watercraft to monitor invasion by this exotic species. Aquatic vegetation surveys will determine the presence and extent of Eurasian watermilfoil in littoral zones.

Drinking water testing in conjunction with public clinics is also a primary emphasis. Initial screening for coliform bacteria in private residential drinking water systems and more reliable testing of surface waters is being completed. A septic system inspection program will test using a conductivity meter to detect underwater seepage in lakes and streams. If system failures are targeted, follow-up efforts will lead to better system performance and maintenance, while reducing nutrients entering waters.

Hamilton County will address resident education needs through a variety of vehicles. According to Drew, "Our efforts will help teachers incorporate nonpoint source topics into the public school curricula." The County will also disseminate

and publicize water monitoring reports to promote awareness and interest in water quality issues, "so that residents will gain a better understanding of nonpoint source issues and will be able to make informed decisions about reducing pollution." Hamilton County's successful "shoreline management" booklet will be reprinted for distribution to residents. The publication, developed jointly by the SWCD and Hamilton County Cornell Cooperative Extension, includes information on maintaining septic systems, household hazardous waste, private drinking water supply safety, impacts of recreation on water, lakefront planning, and exotic species. Workshops and meetings are also planned.

Drew comments that FL-LOWPA funding enables the County to "put more effort into projects and run additional water quality analyses that would not have been possible without the funding."

Jefferson County

Goals for Jefferson County's developing FL-LOWPA program include establishing long-term water quality trends through data collection in ten priority watersheds and increasing public awareness of the connection between nonpoint source pollution and drinking water quality.

Jefferson County's monitoring program

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Water quality monitoring measures the health of Hamilton County Lakes.

will establish baseline data for priority watersheds and target nonpoint sources of pollution and remediation efforts. According to Jay Matteson of Jefferson County SWCD, "Stream monitoring is now possible through FL-LOWPA funding." A high level of phosphorus has been detected in some locations, and deer carcasses, a potential source of pathogens, were found dumped in a local waterbody through the monitoring program.

Jefferson County's FL-LOWPA program is working in tandem with the County's

“Stream monitoring is now possible through FL-LOWPA funding.”

water quality coordinating committee to strengthen citizen lake associations, and foster their development for lakes where none exist. Matteson's goal is to develop local lake management plans in cooperation with citizen-based lake associations.

Jefferson County is also holding private source drinking water testing and septic system clinics. Water testing is aimed at detecting groundwater contamination from nonpoint source pollution and providing information on well protection and septic system function. Matteson remarks, "The clinics have been well received, with 87 households participating in the program this year." The need for the program is underscored by Matteson's report that "of the 87 private residential water systems tested, nearly 50 percent were positive for coliform bacteria."

Jefferson County will complete a stormwater stenciling project that includes a volunteer training video and educational packet for local communities and schools. This project is being completed in conjunction with the Water Quality Coordinating Committee and Jefferson County Cornell Cooperative Extension.

Lewis County

John Stewart of the Lewis County SWCD explained that this county's FL-LOWPA focus is to identify sources of water quality problems through chemical and bio-assessments in all major watersheds including some with large dairy concentrations. Wa-

ter quality testing checks for variances against baseline data. Monitoring downstream from completed enhancement projects helps to measure their effectiveness. According to Stewart, "Our monthly sampling ability has allowed us to tune in a little better to these watersheds. We have found levels of nitrates in samples that have been attributed to agricultural run-off after a storm event". Stewart stated that "The County SWCD will follow up with nutrient management plans and barnyard management."

As increasing numbers of teachers and youth groups become involved in water quality sampling, there is a need for a coordinated, consistent approach to monitoring and education. Lewis County responded to this need with its *Water Quality Sampling Education Course*. Using a bio-assessment protocol established by the New York Department of Environmental Conservation, a one-day seminar was conducted to educate area youth leaders and teachers on the correct procedures for collecting, identifying, and reporting water quality information based on samples of macroinvertebrates (aquatic insects). Un-



Stream bank restoration to reduce nonpoint source pollution.

der the coordinated approach, each participating group selects a watershed to sample on a yearly or bi-yearly basis, as time permits. The SWCD acts as a clearinghouse for all data, which is available on its web site. The SWCD also loans monitoring equipment to any interested group. Stewart explains, "Educators receive instruction in proper procedures so that more accurate data and results can be assured, and the data is easily accessed in one location."

Lewis County has made another public connection through a series of private drinking water clinics for all county residents, with special emphasis on reaching outlying

communities and rural areas without public water supplies. The clinics will lead to the development of a database of water test results and educate residents about potential contaminants and maintenance of their systems. Two clinics have been held thus far, with both reaching the maximum enrollment of 40 households. Testing showed the presence of coliform bacteria in 10-15% of wells tested. The last clinic in this series will target residents with limited resources identified through the Office for the Aging, Women, Infants, and Children (WIC) program and Department of Social Services.

Niagara County

Through participation in FL-LOWPA, Niagara County has launched a needed hydroseeding initiative. The program is available to any County, municipal, or New York State entity to reduce erosion and sedimentation in this highly agricultural county. The program is intended to reduce sediment loadings to area creeks, streams, and the drainage corridors that cut across the County's agricultural lands.

Cindy Long of Niagara County SWCD notes two other new FL-LOWPA initiatives—an assessment and management plan for Bond Lake, and an agricultural assessment and monitoring project for Twelve Mile Creek.

Water quality in Bond Lake is the highest priority of the Niagara County Water Quality Coordinating Committee. Continuing deterioration of water quality is compromising aesthetic values, recreational uses, and wildlife and fish habitats. In Phase I of the Bond Lake project, sampling will establish baseline water quality conditions in the lake and its watershed. Sampling parameters will include pH, dissolved oxygen, conductivity, ortho-phosphates, nitrates, turbidity, nutrients, metals, and volatiles.

The program is intended to reduce sediment loadings to area creeks, ...

tile and semi-volatile organics. A biological study to evaluate the status of the aquatic community is planned. In Phase II, a management strategy will be developed based

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on information gathered in Phase I.

A marked decline in water quality and fisheries habitat is attributed to agriculture and related activities in the Twelve-Mile Creek watershed. The Twelve-Mile Creek Agricultural Assessment and Monitoring Project will combine comprehensive water quality monitoring and implementation of New York State's *Agricultural Environmental Management* (AEM) program. Data will be down-linked from a fixed monitoring station and lab analysis will be done at SUNY Brockport Center for Applied Sciences.

A "stress stream analysis" for Johnson Creek, a Lake Ontario tributary, is being completed in cooperation with neighboring Orleans County. Stress stream analysis has been used in several FL-LOWPA counties in recent years to identify nonpoint sources of pollution in a watershed and target appropriate pollution control efforts. Work on Johnson Creek will also include completion of AEM Tiers I and II.

To enhance its ability to comprehensively analyze local watersheds, Niagara County is developing a GIS system and digital data analysis capabilities. This would be difficult to do without FL-LOWPA funding. Long comments, "It is wonderful that the County has been given the leeway to use FL-LOWPA funds to address water quality needs as defined on the local level. On a watershed assessment and monitoring basis, there are no other funds available."

Oneida County

Kevin Lewis of Oneida County SWCD outlined his county's FL-LOWPA program, including water quality monitoring in the Oneida Creek watershed. With new equipment, Oneida County SWCD will be able to determine flow rates and also test for pH, phosphates, nitrates, dissolved oxygen, turbidity, temperature and rates of stream bank erosion. Lewis explains, "The Oneida Creek watershed has begun to display the detrimental effects of sedimentation and nutrient loading which are reducing habitat and impairing fish propagation in the main channel and its tributaries. Monitoring will provide an enhanced notion of water quality in the Oneida Creek watershed and other Great Lakes sub-basins in the county." Oneida County is also gearing up its GIS and computer modeling capability. A digital natural resource inventory, estimated watershed loading rates, and water quality monitoring

information will be integrated for a better picture of watershed health.

The Oneida County SWCD has conducted stream bank assessments and determined significant factors contributing to erosion in the Oneida Creek watershed. The ratio of "very critical" to "minor" erosion problems in watershed streams was about 1:9. Efforts will now go to correcting, repairing, and improving "very critical" stream banks, through erosion control measures and the construction of four riparian buffers using a combination of FL-LOWPA and other State funds.

The Oneida County Water Quality Coordinating Committee (WQCC) will update its water quality strategy through public input, recently completed watershed studies and the newly revised Priority Waterbody List. Updating the strategy will provide planning agencies with access to the most recent information about impaired stream segments. Lewis stated that "FL-LOWPA funds will be provided to the WQCC for public education projects and outreach workshops to build community awareness about water quality and the WQCC's strategy.

Oneida County will improve recreation opportunities by harvesting aquatic vegetation along a limited area of Oneida Lake shoreline using a weed harvester rented from Cayuga County. Prior to this, no harvesting program existed. The program was set up in response to a large number of complaints from the private sector about nuisance weeds in South Bay. Vegetation removal will be accompanied by an educa-

tional program to inform lakeside residents about the benefits of septic system maintenance and composting household and lawn waste. The harvesting program is recognized as a temporary solution to a longer-term pollution problem, and occurs in conjunction with nonpoint source pollution prevention and control measures.

Implementation of Best Management Practices (BMPs) in Oneida County will abate nonpoint sources of pollution throughout the watershed, including a grassed waterway at a farm in the Town of Augusta and two stream bank erosion control projects. Lewis indicated that "Response to this program has been terrific! Funds have been tight in the county and, for two years, farmers have not had Environmental Quality Incentive Program (EQIP) dollars available to them for BMPs. FL-LOWPA funds have been needed to implement BMPs."

Orleans County

Agriculture, tourism, and sportfishing are important local industries with connections to water quality in Orleans County. The Orleans County FL-LOWPA program is designed to measure nonpoint source pollution impacts on local watersheds. A water quality monitoring and stream inventory program focuses on the Oak Orchard, Johnson and Sandy Creek watersheds.

FL-LOWPA representative David Reckahn of Orleans County SWCD notes a cooperative project with the U.S. Fish and Wildlife Service to re-introduce the Atlantic salmon to Johnson Creek. A habitat

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Atwater Farms in Niagara County: Town of Newfane erosion control application to newly constructed manure lagoon.

(continued on page 8)

analysis is being conducted over a three-year period, measuring the adaptability of stocked salmon in different age groups.

FL-LOWPA funding will enhance implementation of *Agricultural Environmental Management*. Farm planning on a watershed-basis will be complemented by GIS-

**"FL-LOWPA
has been a great
addition to the
county programs..."**

based watershed inventories, to identify concerns and priorities to address under competitive New York State Nonpoint Source grant programs. According to Reckahn, "Tiered farm planning was already completed in the Oak Orchard Creek

watershed; FL-LOWPA funding makes it possible for the Johnson Creek watershed.”

Orleans County is enhancing its public education efforts in conjunction with the work on Johnson Creek. Reckahn has received assistance from the Fish and Wildlife Service in taking programs on watershed protection and the re-introduction of the Atlantic salmon to area schools.

Reckahn notes the benefits of FL-LOWPA to the county are many. They include the ability to evaluate current watershed conditions and trends; create awareness among residents about the conditions of local watersheds and how they can be improved; increase tourism opportunities while improving fish habitats; and support the essential agricultural industry while mitigating its impacts on water quality.” Reckahn remarks, “FL-LOWPA has been a great addition to the county programs, allowing implementation of projects to go forward where funding was not otherwise provided.”

Discussion with representatives from the six newest FL-LOWPA counties indicates that FL-LOWPA clearly benefits local water quality programming. FL-LOWPA funds help meet local water quality needs that may be difficult to meet through other funding sources. The benefits go beyond the locality, however, as the membership of these six counties has made a New York State Lake Ontario Basin focus possible for the Water Resources Board. Regional, co-operative projects for the basin are underway now that would not have been likely without expanded membership. The WRB's long-term goal of institutionalizing a cost-effective, locally-based, and coordinated watershed management program is closer to being realized through the participation of these counties.

Special thanks to the following individuals who contributed information for this article: Ian Drew, Jay Matteson, John Stewart, Cynthia Long, Kevin Lewis, and Dave Reckahn.□

Special Projects Fund Encourages Cooperative Watershed Projects

The Water Resources Board announced the recipients of the first Special Projects Fund grant competition in May. The Special Projects Fund provides seed moneys for collaborative water quality projects in New York State's Lake Ontario Basin. County members of the Finger Lakes – Lake Ontario Watershed Protection Alliance (FL-LOWPA) sponsor the projects in cooperation with other parties. Fifty thousand dollars were awarded on a competitive basis to the following projects:

Project Title

- | | | |
|-----------------------------------------------------------------------|----------------|----------|
| 1. <i>Johnson and Jeddo Creek Restoration Project</i> | Orleans County | \$14,795 |
| 2. <i>Seneca Lake Watershed Residential Environmental Risk Survey</i> | Chemung County | \$16,400 |
| 3. <i>Cayuga Lake Watershed Network Support Initiative</i> | Seneca County | \$ 5,000 |
| 4. <i>Honeoye Lake Strategic Plan Coordination</i> | Ontario County | \$ 7,200 |
| 5. <i>Keuka Lake Looking Ahead Watershed Management Plan</i> | Yates County | \$ 6,605 |

The Johnson and Jeddo Creek Restoration Project will reduce erosion of sediments into these Lake Ontario tributaries and improve fish habitat. The other successful projects will support different components of comprehensive watershed management programs for four Finger Lakes: Seneca, Cayuga, Honeoye and Keuka.

The Water Resources Board is pleased to encourage multi-county, watershed-based projects through the Special Projects Fund. Thanks to WRB members Lisa Welch (Madison County); Ian Drew (Hamilton County); Greg McKurth (Wyoming County); and Fred Sinclair (Allegany County) who served faithfully on committees that made the first round of the Fund work smoothly. The second round (FY1998) Special Projects Fund is set at \$50,000; a Request for Proposals will be released by September, 1998. For more information, contact the Water Resources Board at (315) 536-7488 or by e-mail at <wrb@eznet.net>. □

"State of the Lake Ontario Basin" Report in Progress

The Water Resources Board has contracted with EcoLogic, LLC of Cazenovia, New York to conduct an assessment of water quality and watershed management programs and approaches in FL-LOWPA's program area – the New York State Lake Ontario Basin. The highly anticipated product of this effort is referred to as the "State of the Basin Report", though the title may change to better suit the report as it develops. The report will serve as a benchmark for water quality in the Basin and programs to address nonpoint source pollution.

The impetus of the project was a desire on the part of the WRB to take stock of its county-based efforts to date and to develop a blueprint for the organization for the future. The WRB has been in existence since mid-1980's, beginning with an in-lake water quality focus in the Finger Lakes Region, and developing over thirteen years to a Lake Ontario watershed-based organization addressing nonpoint source pollution problems and more broadly defined

local water quality needs. As the new millennium approaches, the WRB initiated the State of the Basin project to:

- Assess water quality status and priorities in the region
- Identify approaches to water quality problems, and describe especially successful local models or efforts
- Identify gaps in geographic areas or programming where additional effort should be targeted
- Recognize the work accomplished by other organizations involved in water quality, and identify potential areas for collaboration
- Clarify and set organizational goals for FL-LOWPA

Another reason for the project is to develop a framework document that may be used in the absence of a regional water quality management plan. For example, the absence of a Finger Lakes management plan has been cited as problematic by those competing for 1996 New York State Clean Water/Clean Air Bond Act moneys at a

disadvantage with other regions where management plans exist.

Elizabeth Moran and John Roebig of EcoLogic are researching and preparing the report. They have conducted a comprehensive set of interviews with federal, state, regional and local agencies working on nonpoint source pollution issues. Each member county of FL-LOWPA has been visited to document water quality priorities and programs. Documents, including county water quality strategies and regional and state water quality rankings, plans and reports have also been reviewed.

A draft report will be available for comment in late fall, 1998. Key findings will be presented by EcoLogic at FL-LOWPA's annual watershed conference October 27-28, 1998 at the Thruway Marriott, Rochester, New York. The session will involve time for audience response and feedback. For more information, contact the WRB at (315) 536-7488 or wrb@eznet.net.□

Watershed Inspection

Livingston County Administrator, Dominic Mazza recently announced that the Watershed Inspection Program for Conesus Lake is moving forward. The current *Conesus Lake Watershed Rules and Regulations*, adopted in 1961, have been updated and approved by the municipalities in the watershed as well as the purveyors of water in the Villages of Avon and Geneseo. The next step is to forward the proposed draft watershed regulations to the New York State Department of Health for its review and approval. Approval by the State may take up to two years. However the County will immediately begin implementation of the program.

The County met with Town Supervisors, Village Mayors and the Conesus Lake Association last July to discuss and develop a plan which would provide for an inspection program for the watershed. The involved municipalities agreed to an intergovernmental agreement establishing the Conesus Lake Watershed Cooperative. The agreement states that the municipalities will work together to protect the Conesus Lake Watershed and to financially contribute to

Program Announced for Conesus Lake

the inspection program. The municipalities also agreed that the inspection program should be administered by the Livingston County Department of Health. The Watershed Cooperative will also play a key role in the development of a Conesus Lake Watershed Management Plan.

"The successful adoption of this program is a fine example of intermunicipal cooperation and shows how governments can work together for the common good. All of the local Supervisors, Mayors and Town and Village Boards put forth a positive effort to improve and protect the quality of Conesus Lake water," stated Mazza. He further stated that "This is a giant step forward. The County has had many complaints over the years about lake conditions as well as requests to implement an inspection program. Although watershed inspection is not the legal responsibility of the County, we fully support the program because Conesus Lake is a vital resource for public water supply and recreation. That's why the County has financially agreed to undertake the administration of the Watershed Inspection Program and contribute to

the Cooperative."

Involved municipalities have pledged their financial support for the program as follows: Village of Avon and Geneseo \$15,000 each (60%); Town of Conesus, Livonia, Groveland and Geneseo \$2,000 each (16%); Town of Sparta \$1,000 (2%); County of Livingston \$10,000 (20%); plus in-kind support and purchase of a vehicle for use by the Watershed Inspector \$18,000. The annual operating budget is projected to be \$50,000.

Other municipalities that have passed resolutions of support for the watershed inspection program and the proposed watershed regulations are the Towns of Avon and York and the Village of Livonia. Mazza recognized the efforts of Public Health Director Joan Ellison and Planning Director David Woods for the design and organization of the program. It is anticipated that the inspection program will begin this summer, focusing on education and developing a work plan. Current regulations are enforceable now.□

• ETCETERA...ETCETERA...ETCETERA...

Meetings and Events

• **SEPTEMBER 11-13, 1998** • 27th Annual Conference of the NYS Association of Environmental Management Councils and NYS Association of Conservation Commissions: *Our Environment, Our Responsibility* at Ithaca, NY. Intended for professionals and volunteers who share concerns about the environment in their towns, counties, and state. Topics to include natural areas inventories; ecotourism; open space planning; environmental conflict resolution; citizen organizing. Local field trips are planned. David Pimentel, author and professor of ecology and agricultural science at Cornell University is keynote speaker and will talk about the value of natural systems to society. For more information, contact Sandy Stein, Conference Coordinator at (607) 274-5560, or by e-mail at <sgs2@cornell.edu>.

• **OCTOBER 27-28, 1998** • 7th Annual Watershed Conference, Finger Lakes - Lake Ontario Watershed Protection Alliance at Thruway Marriott, Rochester, NY. The two-day conference will be co-sponsored by the New York State Chapter of the American Water Resources Association and several local agencies and organizations. The first day will focus broadly on Unified Watershed Assessments under the new federal Clean Water Initiative, and developing regional watershed alliances in New York State. The second day will focus more specifically on the Genesee River watershed and water bodies in the western part of the Lake Ontario Basin, including Canadice, Hemlock, Honeoye, Conesus, and Silver Lakes. Topics include land-use planning; watershed management planning approaches for small lakes; organizing citizen-based creek committees; constructed wetlands for stormwater mitigation; imple-

mentation of the Genesee River-Rochester Embayment Remedial Action Plan; and more. Registration information will be mailed in late August; visit the FL-LOWPA web site for updates at <www.flflowpa.org> or call the WRB at (315) 536-7488.

• **NOVEMBER 10-13, 1998** • 18th International Symposium of the North American Lake Management Society. *Cooperative Lake and Watershed Management: Linking Communities, Industry, and Government at Banff, Alberta, Canada*. Program emphasis is on developing watershed management solutions which involve all stakeholder groups. For updates, visit the NALMS'98 web site: www.biology.ualberta.ca/alms/1998/ htm. Symposium Chair: Brian Kotak, (403) 525-8431 tel.

WRB Names and Faces

Executive Committee

The WRB welcomed new officers to its Executive Committee in January, 1998: **Mark Watts** (Chemung County) as Chair; **Jim Malyj** (Seneca County) as Vice-Chair; **Karen Noyes** (Oswego County) as Secretary; and **Jeff Parker** (Steuben County) as Treasurer. Two new Regional Representatives take seats on the WRB Executive Committee in July, 1998. **Kevin Lewis** (Oneida County) and **George Squires** (Genesee County) represent the eight-county Eastern and Western Regions respectively. **Jim Balyszak** (Yates County) remains on the Executive Committee to represent the Central Region. The WRB expresses gratitude to former Executive Committee members who recently completed two years of dedicated service: **Jim Skaley** (Tompkins County), **Warren Hart** (Ontario County), **Angela Ellis** (Livingston County), and **Lisa Welch** (Madison County).

(continued on page 12)

Visit www.flflowpa.org

FL-LOWPA's web site is intended to improve information exchange and communication among member counties and other interested parties. For those unfamiliar with FL-LOWPA, the page *About Us* contains background information on FL-LOWPA's unique structure as a locally-based, state-funded water quality alliance.

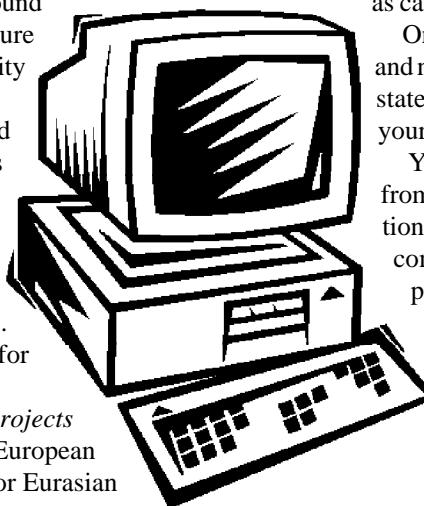
Interested in FL-LOWPA's meetings and events? You'll find them all listed on pages called *Calendar* or *What's New?* For news on what FL-LOWPA is accomplishing in each of the 24 member counties, peruse *County FL-LOWPA Programs* for summaries of 1998-1999 activities and expected benefits. Contact names and numbers are available for coordination and networking.

Regional Partnerships and Cooperative Projects are described too, including research on the European aquatic moth as a biological control agent for Eurasian

watermilfoil and a regional inventory of GIS data sources for watershed planning and analysis. Issues of FL-LOWPA's newsletter, *The Information Exchange*, may be downloaded from the site, as can other publications of interest.

On the *Links* page, visit web sites for several watershed and nonpoint source programs and organizations at local, state, federal and international levels with the click of your mouse.

You can also communicate with FL-LOWPA directly from the web site via an e-mail form to request information or offer feedback. We see the web site as an evolving communication tool and, therefore, welcome your input on how we can serve you best!



Visit **FL-LOWPA** on the
Internet at
www.flflowpa.org

ETCETERA...continued

Staff News

Marion Balyszak joined Betsy Landre in the WRB program office as part-time WRB Program Assistant in April. Marion brings a wealth of experience from her twenty-year career in non-profit administration. Incidentally, you might also see her name associated with Seneca Lake Pure Waters Association where she serves as Executive Director in the remaining part of her work week. Welcome to Marion!

DOS EPF Grants

Four million dollars in grants from the Environmental Protection Fund to help communities across the state take greater advantage of recreational, cultural and economic value of local water resources were announced in February, 1998 by Department of State. All grants are awarded on a 50-50 matching basis. The link between water quality and economic well-being is clear in the FL-LOWPA region. Grant recipients include:

CAYUGA COUNTY

Town of Ledyard: \$65,000 for the first year work to complete an intermunicipal water quality management plan for the six county Cayuga Lake watershed.

LIVINGSTON COUNTY

Town of Livonia: \$65,000 to fund first year work on a water quality plan for the Conesus Lake watershed.

MADISON COUNTY

Town of Sullivan: \$20,000 to prepare a Local Waterfront Revitalization Program for Oneida Lake/Erie Canal.

MONROE COUNTY

Town of Greece: \$25,000 to complete the Town's Local Waterfront Revitalization Program.

Town of Hamlin: \$6,000 to update and revise the Local

Waterfront Revitalization Program.

Town of Irondequoit: \$40,000 for a collaborative effort between the Towns of Monroe, Penfield and Webster, and Monroe County to develop a harbor management plan for Irondequoit Bay.

City of Rochester: \$80,000 to construct an esplanade along the western bank of the Genesee River from downtown Rochester to the Corn Hill neighborhood.

City of Rochester: \$4,415 to construct a boat landing along the Erie Canal to increase public access.

NIAGARA COUNTY

Town of Newfane: \$46,000 to fund an erosion stabilization plan and construction of access improvements along the Eighteen Mile Creek corridor within the Hamlet of Olcott.

ONONDAGA COUNTY

City of Syracuse: \$50,000 to prepare a Local Waterfront Revitalization Program for the Onondaga Lake waterfront.

ONTARIO COUNTY

City of Geneva: \$40,000 to complete site and facility planning for the regional Finger Lakes Interpretive Center on Seneca Lake.

City of Canandaigua: \$30,000 to complete the intermunicipal watershed management plan for Canandaigua Lake.

OSWEGO COUNTY

City of Oswego: \$35,500 to prepare planning and design documents for the public/private redevelopment for part of the West Bank of the Oswego River.

TOMPKINS COUNTY

Town of Ithaca: \$100,000 to development management options of individual wastewater treatment systems in the Finger Lakes and upper Susquehanna River watersheds. □

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The Information Exchange

is published by the Water Resources Board (WRB), a group of representatives from 24 counties in upstate New York which comprise the Finger Lakes - Lake Ontario Watershed Protection Alliance (FL-LOWPA) funded by New York State. The primary purpose of FL-LOWPA is to foster coordinated watershed management activities and exchange information related to the condition of surface water bodies in New York's Lake Ontario Basin.

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WRB Chairperson **Mark Watts**  
WRB Program Coordinator/TIE Editor **Betsy Landre**  
WRB Program Assistant **Marion Balyszak**  
TIE Production **Ann Brink, FLA**

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Submissions are encouraged. Address all queries to:

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