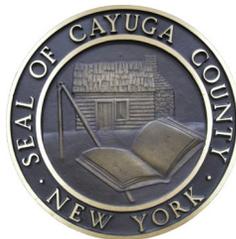


Owasco Lake Watershed

Institutional Framework and Assessment of Local Laws, Programs, and Practices Affecting Water Quality



September 2015



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Chapter 1. Introduction

The *Owasco Lake Watershed Institutional Framework and Assessment of Local Laws, Programs, and Practices Affecting Water Quality* is a companion document to the *Owasco Lake Watershed Management and Waterfront Revitalization Plan: Watershed and Waterbody Inventory Report* (May 2015), and will serve as a component of the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (2016). It includes:

- Description and analysis of the broad institutional framework that guides decision making and activities in the watershed, including the roles and responsibilities of federal, state, and county governments, as well as initiatives and collaborations involving regional entities, nonprofit organizations, and academic institutions (Chapter 2);
- Overview and analysis of the roles and responsibilities of local governments in the watershed (Chapter 2);
- Inventory of specific local laws, and a gap analysis regarding local laws for each municipality in the Owasco Lake watershed (Chapter 3); and
- Preliminary recommendations for municipal governments focusing primarily on laws, as well as an overview of specific conditions in local towns and villages that present opportunities for best management practices to be addressed in the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (Chapter 3).

The Owasco Lake watershed planning effort is led by the Cayuga County Department of Planning and Economic Development, and is funded through a Title 11 Environmental Protection Fund grant from the New York State Department of State. This document was prepared following the approach described in the guidebook *Protection Water Resources through Local Controls and Practices* (Genesee/Finger Lakes Regional Planning Council, 2006), drawing guidance from existing reports, such as the *Seneca Lake Watershed Assessment of Local Laws, Programs, and Practices Affecting Water Quality*.

Chapter 2. Institutional Framework: Roles and Responsibilities of Governmental and Nongovernmental Agencies

2.1 Overview

The Owasco Lake watershed is affected by regulations, plans, and programs at the federal, state, regional, county, and local level, as well as by collaborations involving nonprofit organizations and academic institutions. This chapter presents an overview of the broad institutional framework that guides decision making and activities in the watershed. Specific municipal laws and land use tools are discussed in Chapter 3.

2.2 Federal Agencies and Watershed-Related Resources¹

The federal government offers a range of programs associated with the conservation and protection of water and natural resources. These programs offer a wealth of information on water quality, habitat inventories, soil information, and much more. Federal agencies can also provide both technical and financial assistance. In addition to the federal resources listed below, the online Catalog of Federal Domestic Assistance (www.cfda.gov) gives access to a database of all federal programs available to state and local governments, domestic public, quasi-public, private profit and nonprofit organizations and institutions, specialized groups, and individuals. You can search this database to find grant and funding opportunities meeting the requirements for your waterfront project. Contact the office that administers the program and find out how to apply. Also available on this site are several aids to guide in the writing of a proposal to apply for assistance.

2.2.1 U.S. Environmental Protection Agency (USEPA)

Website: www.epa.gov

Description: The USEPA protects environmental quality through a variety of air, water, pollution, and toxics and chemicals management programs, primarily through its Office of Water. USEPA provides information on water quality programs and assistance with planning and managing watersheds, water quality, wetlands (water.epa.gov/), and groundwater and surface water supplies and wastewater treatment (www.epa.gov/safewater). The agency's watershed-related responsibilities include definition and ensured compliance with basic water programs; development of national standards and tools; funding; and national assessment of status and progress.²

Relevant programs: Environmental Monitoring and Assessment Program (EMAP)
Great Lakes National Program Office
Lake Ontario Lakewide Management Plan Acid Rain Program
Office of Standards (supports Clean Water Act and Safe Drinking Water Act)
Research and development

2.2.2 U.S. Fish and Wildlife Service (USFWS)

Website:	www.fws.gov
Description:	The USFWS administers most of the nation's fish and wildlife management programs, including terrestrial and freshwater endangered species protection and migratory bird management. USFWS manages public lands and outdoor recreation (www.recreation.gov) as part of the National Wildlife Refuge system. USFWS also offers several funding programs (see below). The Cortland New York, field office can provide state and regional information (www.fws.gov/northeast/nyfo).
Relevant funding programs:	Partners for Fish and Wildlife Wildlife and Sport Fish Restoration Programs North American Wetlands Conservation Act (NAWCA) grants Great Lakes Restoration Initiative grants

2.2.3 U.S. Geological Survey (USGS)

Website:	water.usgs.gov
Description:	The USGS can provide watershed-related information on stream flow, water quality, water quantity, maps, and application software. The agency has real time data, surface water data, and groundwater information. USGS also provides historic topographic maps that can be helpful in delineating watersheds. The USGS New York office (ny.water.usgs.gov), in partnership with collaborating agencies, has conducted assessments of streams in several of New York's physiographic regions to develop regional stream curves, which illustrate the relationship between watershed size, stream form, and discharge. These relationships are useful in guiding stream restoration activities. USGS publications, including site specific investigations and circulars, are useful in building understanding of watershed processes.
Relevant programs:	Groundwater quality research and monitoring Resource mapping and GIS Streamflow monitoring Surface water quality research and monitoring Gages: - Owasco Lake near Auburn NY, water stage recorder, records lake elevation - Owasco Inlet below Aurora Street at Moravia NY, water stage recorder, records discharge and gage height

2.2.4 U.S. Army Corps of Engineers (USACE)

Website:	www.usace.army.mil
Description:	The USACE's Civil Works programs focus on water resource development activities including flood risk management, navigation, recreation, and infrastructure and environmental stewardship. USACE sets the guidelines for maintaining water levels in Owasco Lake using the State dam on the Owasco Outlet. The City of Auburn is responsible for controlling that level.
Relevant laws, programs:	Section 10 of the Rivers & Harbors Act of 1899 (33 U.S.C. 403) Section 404 of the Clean Water Act (33 U.S.C. 1344) Flood Risk Management Program

2.2.5 U.S. Department of Agriculture: Natural Resources Conservation Service (NRCS), Forest Service

Website: www.usda.gov; www.nrcs.usda.gov; www.fs.fed.us

Description: The U.S. Department of Agriculture can provide assistance with rural development and help communities with natural resource concerns, such as erosion control, watershed protection, and forestry. The USDA's Natural Resources Conservation Service has responsibilities for addressing nonpoint sources of pollution. Its county-based Soil and Water Conservation Districts provide conservation planning and technical assistance to land owners and managers to benefit the soil, water, and related natural resources for productive lands and healthy ecosystems.

Relevant programs: Agricultural Conservation Easement Program (ACEP)
Agricultural Environmental Management (AEM) Plans (see also sections 2.3.4, 2.5.4, and 2.6.8)
Conservation Technical Assistance (CTA)
Conservation Reserve Program (CRP)
Environmental Quality Incentives Program (EQIP)
National Conservation Practice Standards (e.g., Nutrient Management Code 590)

2.3 State Agencies and Watershed-Related Resources³

Many New York State agencies provide an array of technical and financial assistance that can support the watershed planning process.

2.3.1 NYS Department of State (NYS DOS)

Website: www.dos.ny.gov

Description: The NYS DOS Office of Planning and Development (OPD) (www.dos.ny.gov/opd/) increases resilience and sustainable growth of communities by advancing progressive land use solutions, community-based development, and building standards and codes. OPD provides technical and financial assistance to help communities integrate watershed planning with efforts to expand public access, reinvigorate urban waterfronts, restore habitats, protect scenic resources, preserve historic resources, manage water uses, improve water quality, protect against flooding and erosion, plan for storm resiliency, and strengthen local economies. OPD provides financial assistance to eligible waterfront communities on a competitive basis, through Title 11 of the Environmental Protection Fund-Local Waterfront Revitalization Program, as well as guidance and training for the revitalization of communities, protecting and improving the environment, and strengthening local economies.

The NYSDOS Division of Local Government Services (LGS) (www.dos.state.ny.us/lgss/) provides training and technical assistance to local governments and community organizations throughout the state, helping local officials solve problems involving basic powers and duties, public works, municipal organization, planning, land use and regulatory controls, and community development. It also provides training assistance to municipalities related to zoning procedures, identifying opportunities for cost savings and other practical legal and technical advice.

Relevant programs: Local Waterfront Revitalization Program (through Title 11 of Environmental Protection Fund)
Local Government Efficient (LGe) Program

Local Government Training (LGt) Programs
Local Planning
Clean Vessel Act
Coastal erosion, flooding, dredging, nonpoint sources
Coastal resources information
Remote sensing, GIS
Watershed Planning

2.3.2 NYS Department of Environmental Conservation (NYSDEC)

Website: www.dec.ny.gov

Description: The NYSDEC's Division of Water uses a watershed management approach to guide many of its programs. Water quality protection is central to the mission of NYSDEC, which regulates wastewater and thermal discharges and has responsibilities for monitoring waterbodies, controlling surface runoff, managing water availability, preventing flood damage and beach erosion, and promoting stewardship and education. A variety of funds are available for municipal wastewater treatment improvement, pollution prevention, and agricultural and nonagricultural nonpoint source abatement and control. Significant support is available to acquire open space that protects water resources, and to acquire public parklands and protect farmland.

Relevant laws, programs: Priority Waterbodies List (PWL)⁴
List of Impaired Waters, NYS Section 303(d)⁵
Rotating Intensive Basin Surveys (RIBS)
Citizens' Statewide Lake Assessment Program
Water Quality Improvement Program (funding)

Natural Heritage Program: A partnership between the NYSDEC and the State University of New York College of Environmental Science and Forestry. The program is committed to the conservation of rare animals, rare plants and natural ecosystems/communities. The program utilizes field inventories, scientific analysis, expert interpretation, and comprehensive databases on New York's flora and fauna to inform compatible management activities in order to have significant and lasting effects on the Preservation of New York's biodiversity.

Nonpoint Source Management Program, NYS Section 319

Protection of Waters Program (implements Article 15 of Environmental Conservation Law): Geared toward the preservation and protection of water resources that are necessary for drinking and bathing; agricultural, commercial and industrial uses; and fish and wildlife habitat. The Program establishes and enforces regulations that are compatible with protection of water resources, protection of public health, and consistent with economic and social development. While regulations and permit requirements differ for each, there are 5 main categories under which a permit may be necessary: (1) Disturbance of the bed or banks of a protected stream or other watercourse; (2) Construction, reconstructions or repair of dams and other impoundment structures; (3) Construction, reconstruction or expansion of docking and mooring facilities; (4) Excavation or placement of fill in navigable water and their adjacent and contiguous wetlands; (5) Water Quality Certification of place fill or undertaking activities resulting in a discharge to water of the United States.

Stormwater Phase II Program: This program requires permits for stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and for construction activities disturbing one or more acres. Related resources available from NYSDEC include a “Stormwater Design Manual” and “Stormwater Model Local Law.” (See section 2.6.5.)

Environmental Conservation Laws:

- State Environmental Quality Review Act (Article 8): SEQR requires investigation into alternative actions and the mitigation of harmful effects of proposed development. Potential nonpoint source pollution can be remediated through revised design or other measures.
- Water Resources Law: Water withdrawals; permit (§ 15-0501)
- State Pollution Discharge Elimination System (SPDES) (Article 17). This water pollution control law is modeled after the National Pollution Discharge Elimination System approved by the Environmental Protection Agency for the control of wastewater and stormwater discharges in accordance with the Clean Water Act. Through SPDES, NYSDEC reviews permit applications to develop the limits for types and quantities of pollutants in the effluent. The permit also includes the schedules and conditions under which discharges are allowed. Owners or operators of facilities must treat wastewater in order to meet the limits listed in their SPDES permit.
 - Prohibition against pollution (§ 17-0501)
 - Prohibition against certain acts without permit (§ 17-0505)
 - Concentrated Animal Feeding Operations (CAFOs) Permitting (§ 17-0105)⁶: The NYSDEC created and enforces regulations regarding CAFOs, which apply to dairy farms and other farms where animals are stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period. CAFOs are categorized as either “large” or “medium” based on the numbers of animals confined. The federal Clean Water Act (33 USC 1251) is the overarching authority governing discharges to waterways, and each state adopts its own related laws regarding permits required for operations that might discharge to waterways within that state.
 - Stormwater permitting (§ 17-0808)
 - Discharge of sewage into waters (§§ 17-1701, 1704, 1710,)
 - Nutrient runoff, phosphorus fertilizer (§§ 17-2101-2105)
- Freshwater Wetlands Act (Article 24): Preserves, protects and conserves freshwater wetlands and their benefits, consistent with the general welfare and beneficial economic, social and agricultural development of the state. Protected under the Freshwater Wetlands Act are wetlands 12.4 acres or larger, and wetlands smaller than 12.4 acres if they are considered of unusual local importance. Around every wetland is an “adjacent area” of 100 feet that is also regulated to provide protection for the wetland. A permit is required to conduct any regulated activity in a protected wetland or its adjacent area; however, certain activities are exempt from regulation. The permit standards in the regulations require that impacts to wetlands be avoided and minimized. Compensatory mitigation often is required for significant impacts to wetlands. This may include creating or restoring wetlands to replace the benefits lost by the proposed project.

2.3.3 NYS Department of Health (NYSDOH)

Website: www.health.state.ny.us

Description: The NYSDOH provides information and technical assistance related to financing mechanisms, preventing drinking water contamination, and additional public health related water protection programs including publications outlining the regulatory framework. NYSDOH's Bureau of Public Water Supply Protection is responsible for ensuring that source water assessments are completed for all of New York's public water systems. These assessments are available to the public. New York's Final Source Water Assessment Program Plan and a list of contacts by county can be viewed at www.health.state.ny.us/nysdoh/water/swap.htm.

Relevant programs: Contaminant monitoring and fish advisories
Source Water Assessment Program (SWAP)
Drinking Water Protection Program: testing, permitting, wellhead protection
Septic System Standards
Bathing Beach rules and regulations (10 NYCRR 6-2)
Watershed rules and regulations (for Owasco Lake, see 10 NYCRR 104.1)

2.3.4 NYS Department of Agriculture and Markets

Website: www.agmkt.state.ny.us

Description: The Department of Agriculture and Markets administers funding programs including the Agricultural and Farmland Protection Implementation Grant, the Farmland Protection Planning Grant, and Land Trust Grant programs. The Soil and Water Conservation Committee of New York's Department of Agriculture and Markets develops and oversees implementation of Soil and Water Conservation District programs and AEM programs, which provide technical assistance, including comprehensive nutrient management planning, streamside conservation, and community conservation. Financial assistance is also provided through the New York State Agricultural Nonpoint Source Abatement and Control Program (ANSCAP). The NYS Conservation Reserve Enhancement Program (NYS CREP) also aims to reduce pollution in streams by helping agricultural landowners to voluntarily plant trees, shrubs, and grasses on streambanks to trap sediment, pesticides, and fertilizers in runoff. In addition, New York's Agricultural Districts law states that the Agriculture and Markets commissioner can intervene when local governments enact laws that unreasonably restrict farm operations in agricultural districts; this power places limits on the municipalities' to regulate land uses in agricultural areas.

Relevant laws, programs: NYS Agricultural Nonpoint Source Abatement and Control Program (SWCD law §11-B):
Competitive grant fund for County Soil and Water Conservation Districts (source is Environmental Protection Fund and Clean Air/Clean Water Bond Fund).

NYS Agriculture and Markets law:

- Agricultural Environmental Management (AEM) (Article 11-A).
- Agricultural Districts Law (Article 25-AA, §305-a). This law authorizes the creation of local agricultural districts in order to encourage the continued use of farmland for agricultural production. Agricultural districting provides a combination of landowner incentives and protections that are designed to forestall the conversion of farmland to nonagricultural uses. Included in these benefits are preferential real property tax treatments, tools such as the

purchase of development rights, and grant programs aimed at assisting local governments and land trusts with farmland protection efforts. State agricultural laws also offer protections against overly restrictive local laws.

2.3.5 NYS Canal Corporation

Website: www.canals.ny.gov

Description: The NYS Canal Corporation (a subsidiary of the NYS Thruway Authority) Syracuse Division Canal Office is responsible for maintaining water levels of the Canal System within the Oswego River Basin for navigational purposes.

2.3.6 NYS Environmental Facilities Corporation (NYSEFC)

Website: www.nysefc.org

Description: The NYSEFC's mission is to promote environmental quality by providing low-cost capital and expert technical assistance to municipalities, businesses, and State agencies for environmental projects in New York State. Its purpose is to help public and private entities comply with federal and State environmental requirements. NYSEFC's primary activities are the State Revolving Funds (SRF), the Industrial Finance Program (IFP), and Technical Advisory Services (TAS).

Relevant program: NYSEFC Green Innovation Grant Program. Cayuga County currently has a NYSEFC Green Innovation Grant Program grant for the Owasco Flats Wetland Restoration and Riparian Buffers Initiative. This project will be located on City of Auburn–owned land off of Route 38 in the Town of Moravia. The Owasco Inlet will be reconnected with its floodplain with water control structures so that during high flow events water will flow into created and existing wetlands to filter out nutrients and sediment. Riparian buffers will also be added along drainageways and the Owasco Inlet to further reduce nutrients and sediment inputs.

2.3.7 NYS Department of Transportation

Website: www.nysdot.gov

Description: The NYSDOT provides design and guidance documents, standard specifications, and procedural manuals (Highway Design Manual, Environmental Procedures Manual, Maintenance Guidelines, etc.)⁷ that can be incorporated into local laws and highway department operating procedures. The NYSDOT also funds and implements environmental benefit projects that improve water quality, restore wetlands, promote eco-tourism, protect fish and wildlife, and enhance transportation corridors through its Environmental Initiative. Various other programs through the department provide substantial environmental benefits, including GreenLITES, roadside vegetation management, and others.

2.4 Regional Agencies and Initiatives

2.4.1 Finger Lakes Lake Ontario Watershed Protection Alliance (FLOWPA)

Website: www.flowpa.org

Description: FLOWPA is a coalition of all 25 counties in New York's Lake Ontario drainage basin that fosters coordinated watershed management programs across the basin based on local needs. The Cayuga County Department of Planning and Economic Development represents the County on the coalition. Cayuga County receives funding for water quality projects from FLOWPA which is provided through the New York State Environmental Protection Fund (EPF), through the support of a committed delegation of State Legislators representing the 25-county region.

Relevant programs, funded or partially funded: Aquatic Vegetation Control Program
Owasco Inlet USGS Gage
Septic System Inspection Program
Invasive Species Education, Surveying, Harvesting and Control
Sampling and Monitoring of Water Quality
Erosion and Sediment Control

2.4.2 Central New York Regional Planning and Development Board (CNY RPDB)

Website: www.cnyrpdb.org

Description: CNY RPDB is a public agency that provides services associated with the growth and development of communities in Cayuga, Cortland, Madison, Onondaga, and Oswego Counties. The CNY RPDB's services are focused within the following program areas: Community Development, Economic Development, Energy Management, Environmental Management, Information and Research Services, Intergovernmental Coordination, and Transportation Planning. The agency serves as the water resource program coordinator for the New York State Association of Regional Councils (NYSARC), which encourages regional partnerships and projects that support comprehensive water resource planning, protection, and management.

2.4.3 Academic Institutions

2.4.3.1 Finger Lakes Institute (FLI), Hobart & William Smith Colleges

Website: www.hws.edu/fli

Description: The Finger Lakes Institute (FLI), based at Hobart and William Smith Colleges, is a group of faculty and staff who work in collaboration with regional partners and state and local government offices to foster environmentally sound development practices throughout the region and disseminate knowledge to the public. Since conducting an initial water quality survey of the eastern Finger Lakes in 2005, FLI has continued to focus on water quality and nutrient sources in Owasco Lake and its watershed through research led by Dr. John Halfman. The goals are "to establish a consistent and comprehensive monitoring program to document spatial and temporal trends in pertinent water quality/water clarity/limnological parameters; bring particular focus to the extent and source of nutrients in the watershed, as their inputs to the lake promote algal growth, which degrades water quality; and, promote the development of comprehensive and effective

watershed management policies to improve water quality in Owasco Lake.” Dr. Halfman’s Owasco Lake watershed research has been supported by the Fred L. Emerson Foundation, New York State (funds secured by Sen. Michael Nozzolio), OWLA, the Town of Fleming, the Cayuga County Legislature, and the Cayuga County Soil and Water Conservation District.

Relevant Program: Annual sampling program of Owasco Lake and its tributaries by Dr. Halfman funded by Cayuga County.

2.4.3.2 Partnership for Regional Invasive Species Management (PRISM), Hobart & William Smith Colleges

Website: fingerlakesinvasives.org

Description: New York State’s eight PRISMs were formed in response to a recommendation of the 2005 NYS Invasive Species Task Force, with a goal of preventing or minimizing harm caused by invasive species on the environment, economy and the health and well-being of citizens. PRISM functions include coordinating partner efforts, recruiting and training citizen volunteers, identifying and delivering education and outreach, establishing early detection monitoring networks, and implementing direct eradication and control efforts. The Finger Lakes PRISM has staff based at the Finger Lakes Institute (Hobart and William Smith Colleges), and consists of multiple partners working together to help stop the invasion of plants, animals, diseases, and vectors of transmission for invasive species.

2.4.3.3 Soil and Water Lab, Cornell University

Website: waterqualitydss.wordpress.com/

Description: At Cornell University’s Soil and Water Lab, Dr. Todd Walter leads a team that is modeling hydrologically sensitive areas in the Owasco Lake watershed and is testing an online water quality decision support tool that allows people to see, in real time, areas that will be at risk for contaminant transport due to runoff.

2.4.3.4 Cornell University Cooperative Extension

Website: www.cce.cornell.edu, www.blogs.cornell.edu/ccecayuga

Description: Cornell Cooperative Extension (CCE) extends Cornell’s land-grant programs to every county in the state. CCE staff have served on committees and working groups related to agriculture and water quality, and have been involved in the development of recent agricultural plans. CCE of Cayuga County is currently actively involved with the Master Forest Owners volunteers tracking and responding to hemlock woolly adelgid concerns in hemlock stands in and around Owasco Lake; demonstrating watershed model highlighting impacts upstream on the tributaries and lake itself; and offering environmental and climate change curriculum to Auburn High School students.

2.4.4 Nonprofit Organizations

2.4.4.1 Owasco Lake Watershed Management Council (OLWMC)

Website: www.cayugacounty.us/Community/Health/EnvironmentalHealth/OLWMC.aspx

Description: The Owasco Lake Watershed Management Council coordinates actions to protect and restore the health of Owasco Lake and its watershed to ensure that Owasco Lake will serve as a source of public drinking water, a recreational asset, an economic driver, and an important natural resource

for the well-being of watershed residents and those who benefit from its protection. Established in 2011, its members represent the City of Auburn, Cayuga County, and the Towns of Owasco, Fleming, Scipio, and Niles; ex officio members represent Cayuga County agencies, the Auburn Water Treatment Plant, and the Owasco Watershed Lake Association (OWLA). The Council's vision is that its membership will eventually include representatives of all of the municipalities within the watershed. The council monitors and evaluates the general health of Owasco Lake and its watershed; supports research in the watershed to help identify problem areas; implements projects by partnering with various agencies including the NYSDEC, and the Finger Lakes Institute; directs the watershed inspection program to identify and stop activities within the watershed that may result in a decrease of water quality; and implements educational programs to increase public awareness about the responsible care and protection of the watershed.

2.4.4.2 Owasco Watershed Lake Association (OWLA)

Website: www.owla.org

Description: OWLA is a citizen-based association that promotes cooperation and leadership in the comprehensive management of land use, water quality, recreation, agriculture and a host of other issues that pertain to Owasco Lake and its watershed. It was founded as a 501(c)3 not-for-profit corporation to educate the public on the environmental management, preservation, wise use, and appreciation of Owasco Lake and its watershed. OWLA's activities include watershed-related educational events, advocacy, and volunteer-based water quality monitoring.

Relevant programs: Water testing (www.owla.org/researchprojects.html): OWLA has partnered with Cayuga County Department of Planning and Economic Development to support a water testing program for fecal coliform of lake and stream sites. OWLA does additional testing of water temperature, algae, and nutrients. The Owasco Lake Watershed Inspection Program assists with this endeavor.

Funding for watershed improvements: OWLA has received funding from New York State to support ongoing and long-term efforts to improve water quality throughout the Owasco Lake watershed.

2.4.4.3 Owasco Flats Nature Reserve, Inc. (OFNR)

Website: owascoflatsnaturereserve.blogspot.com

Description: The Owasco Flats Nature Reserve, Inc., was formed by a group of local residents working to restore the Owasco Flats Nature Reserve. The OFNR is a 501(c)3 organization dedicated to protecting the ecological integrity of the Owasco Flats through stewardship and conservation; their efforts help sustain the quality of waters flowing into the lake through the Owasco Inlet.

2.4.4.4 Finger Lakes Land Trust (FLLT)

Website: www.fllt.org

Description: The Finger Lakes Land Trust was founded in 1989 as a nonprofit organization to protect those lands that define the character of the Finger Lakes region of upstate New York. The Land Trust protects wetlands, forests, farmland, shorelines, and gorges through the establishment of nature preserves, the use of conservation easements (voluntary agreements on private lands), and the provision of technical assistance and educational programs to local governments, landowners,

and the public. FLLT has worked with partners to acquire three parcels within the Owasco Flats. One is a small tax sale parcel in the village that was purchased and conveyed to NYSDEC, The second parcel, known as the Green property, is currently owned by FLLT but will be donated to NYSDEC. FLLT, in partnership with Owasco Flats Nature Reserve, negotiated the purchase agreement for the Larkin tract acquisition, provided funding for it, and then assigned it to the OFNR for closing.

2.5 County-Level Agencies and Initiatives

2.5.1 Cayuga County

Website: www.cayugacounty.us

General: Nearly 80% of the Owasco Lake watershed land area—and all of the lake’s shoreline— lies within Cayuga County. The County’s **Department of Planning and Economic Development** heads the effort to update and expand the *Owasco Lake Watershed Management Plan* and provides leadership in many of the related water resource protection activities (including staffing the Water Quality Management Agency). The County **Health Department’s Environmental Division** is also involved in watershed protection, with responsibility for enforcing most areas of the NYS Sanitary Code and related laws (public drinking water supplies, public bathing beaches, septic system installation). Other county agencies involved in watershed protection and planning are the **Highway Department**, which is responsible for road and bridge maintenance, drainage ditches, and right-of-ways, and the **Parks and Trails Commission**, which manages Emerson Park and the Owasco Flats reserve. Cayuga County also partners closely with the County’s Soil and Water Conservation District, collaborating on programs offered through that agency. Some of the county’s key watershed protection activities are described below.

Relevant programs, plans, laws: AEM Program (in cooperation with the SWCD)
Agriculture and Farmland Protection Plan, 2014
Cayuga County Multi-Jurisdictional All-Hazard Mitigation Plan, 2012/13
Cayuga County Sanitary Code, 1965; rev. 1994,
Comprehensive Emergency Management Plan, 2012
Comprehensive Land Use Plan, 1997
Dutch Hollow Brook Streambank Management Plan, 2003
Emerson Park Master Plan, 2001 (update in progress)
Owasco Flats Restoration and Riparian Buffers Initiative, 2010
Owasco Watershed Roadside Ditch Assessment, October 2014
Stormwater Phase II Rules and Regulations information and training
Sucker Brook Streambank Management Plan, 2003
Veness Brook Streambank Management Plan, 2003

2.5.1.1 Water Quality Management Agency (WQMA), Cayuga County⁸

Website: www.cayugacounty.us/Departments/Water-Quality-Management-Agency

Description: Established in 1990 by the Cayuga County Legislature to serve the Legislature in meeting its

responsibilities in the management and protection of the County's water resources, the WQMA has a mission to protect and improve the quality of water in Cayuga County. The WQMA's primary functions are to provide a vehicle for comprehensive planning combined with realistic implementation of goals for effective water quality management programs; to coordinate the efforts, activities and responsibilities of member agencies and organizations; and to increase public awareness and participation in water quality and quantity issues.

Relevant programs, committees, activities: Cayuga County Water Quality Strategy (2013 update)
Nutrient and Sediment Reduction Working Group⁹
Invasive Species Working Group¹⁰
Coliform Bacteria Working Group¹¹

2.5.1.2 Owasco Lake Watershed Inspection Program¹²

Website: www.owascoinspection.org/

Description: The Owasco Lake Watershed Inspection Program operates under the New York State Public Health Law for jurisdictions within the watershed. The program was established in 2007 through an agreement among the City of Auburn, the Town of Owasco, the Cayuga County Water Quality Management Agency, and the Cayuga County Soil and Water Conservation District. The mission of the Owasco Lake Watershed Inspection Program is to make regular and thorough inspections of Owasco Lake, its watercourses, and its watershed to ascertain compliance with the Rules and Regulations of the Owasco Lake watershed (10 NYCRR 104.1; discussed in section 3.4.1 of this document) and to provide education and outreach to the watershed communities to foster lake stewardship. This program is overseen by the Watershed Inspection Committee of the Owasco Lake Watershed Management Council.

Relevant activities: Inspection of Owasco Lake, its watercourses and its watershed
Monitoring and assessing watershed concerns
Owasco Watershed Roadside Ditch Assessment (October 2014), which aims to identify and raise awareness of roadway ditches that may be vulnerable to instability or erosion due to high water velocities
Invasive species monitoring
Technical assistance
Public outreach and education, including an informal initiative called "Citizen Watershed Watch" that instructs citizens on reporting water quality violations to the NYSDEC, reporting bad practices to the watershed inspector, and collecting samples from potentially impaired water bodies.

2.5.2 Tompkins County

Website: www.tompkinscountyny.gov

Description: Approximately 17% of the land area in the Owasco Lake watershed lies within Tompkins County. This area includes portions of the Headwaters Owasco Inlet and Hemlock Creek subwatersheds. The county's **Water Resources Council (WRC)** is charged with identifying problems, proposing priorities, and promoting the coordination of activities in the management and protection of the county's water resources.

Relevant activities: **Tompkins County Planning Department** is actively involved in the Stream Corridor Restoration & Flood Hazard Mitigation Program, which includes flood mitigation needs assessments of watersheds. Projects are evaluated annually against program objectives recommending watershed based benefits. Projects include working with municipalities and landowners in streamside planting projects, as well as in-stream restoration efforts along with assessment and design. The County also actively advocates for formal stream buffer protections through ordinances and agreements (minimum 100' buffer on perennial streams for edge of bank; minimum 50' buffer on intermittent streams).

The *Tompkins County Water Quality Strategy 2012 Update* lists the following as goals

- Promote monitoring efforts in the Owasco Lake and Upper Susquehanna Watersheds within Tompkins County.
- Report to WRC on the Tompkins County Legislature's and constituent municipalities' work in support of the *Owasco Lake Watershed Management and Waterfront Revitalization Plan*.

2.5.3 Onondaga County

Website: www.ongov.net

Description: Approximately 5% of the land area in the Owasco Lake watershed lies within Onondaga County, including portions of the Sucker Brook and Dutch Hollow Brook subwatersheds. The County's Department of Water Environment Protection leads stormwater management and water quality monitoring efforts within the county.

2.5.4 Soil and Water Conservation Districts

Websites: Cayuga County SWCD: www.cayugaswcd.org
Tompkins County SWCD: tompkinscountyny.gov/swcd
Onondaga County SWCD: www.ocswcd.org

Description: Soil and Water Conservation District (SWCD) activities are guided by the state's Soil and Water Conservation Committee, which works closely with the NYS Department of Agriculture and Markets. Programs conducted by SWCDs are listed below.

The Cayuga County SWCD works closely with the county government on managing natural resources and agricultural activities in the Owasco Lake watershed. The Cayuga County SWCD works closely with the Owasco Lake Watershed Inspection Program.

Relevant programs: Agricultural Environmental Management (AEM)¹³: AEM is a voluntary, incentive-based program run by county Soil and Water Conservation Districts. The primary goal of AEM is to protect and enhance the environment while maintaining the viability of agriculture in New York State. The program provides one-on-one assistance to farmers to help them make cost-effective and science-based decisions to help meet business objectives while protecting and conserving natural resources. Farmers work with local AEM resource professionals to develop comprehensive farm plans using a tiered process:

Tier 1 - Inventory current activities, future plans and potential environmental concerns

Tier 2 - Document current land stewardship; assess and prioritize areas of concern.

Tier 3 - Develop conservation plans addressing concerns and opportunities tailored to farm goals.

Tier 4 - Implement plans utilizing available financial, educational and technical assistance.

Tier 5 - Evaluate to ensure the protection of the environment and farm viability

By participating in AEM, farmers can document their environmental stewardship. If a potential environmental concern is identified through the AEM assessment process, farmers can then take steps to plan for and then implement an appropriate course of action through the AEM approach. The AEM assessment, planning and implementation process helps to target limited local, state and federal technical and financial resources to farms with the greatest potential for impacting the environment.

Aquatic Vegetation Control: This program aims to increase the accessibility and usability of the county's water bodies, while seeking to leave the lakes in the most ecologically intact manner possible.

Erosion and Sediment Control: This program offers training on erosion control practices and stormwater pollution prevention to contractors, developers, engineers, highway departments, municipal boards, and code enforcement officers.

GRAZE NY: The GRAZE program assists farmers with prescribed grazing efforts by providing pasture quality assessments, stocking rate recommendations, infrastructure improvements, and planning guidance. Among the potential benefits of these practices is a reduction of soil erosion, increase in plant diversity, and water quality improvements.

Critical Area Seeding: Provides hydroseeding to municipalities to help stabilize soil and reduce sedimentation into waterbodies.

2.6 Local Government

While laws and policies at the federal, state, regional, and county levels can influence watershed health, municipal governments play an especially important role in watershed planning in New York State, which has a tradition of "home rule" that gives primary control over land use to cities, towns, and villages.

The Owasco Lake watershed includes 17 municipalities in three counties (discussion and review of specific local laws and land use tools in the watershed is presented in Chapter 3):

- **Cayuga County:** Towns of Fleming, Genoa, Locke, Moravia, Niles, Owasco, Scipio, Sempronius, Sennett, Summerhill, and Venice, and the Village of Moravia.
- **Tompkins County:** Towns of Dryden, Groton, and Lansing, and the Village of Groton.
- **Onondaga County:** Town of Skaneateles.

The laws and tools available to or used by municipalities in the watershed (discussed below) include:

- Comprehensive/Land Use Plans
- Zoning
- Site Plan Review and Subdivision Regulations
- Stormwater and Erosion Control Regulations
- Municipal maintenance programs and practices
- Training opportunities for municipal officials, zoning and planning boards, and staff.

2.6.1 Comprehensive Planning¹⁴

Comprehensive plans are strategic documents that define a community's goals and vision for the future. Developed with citizen input and formally adopted by a legislative body, these plans can justify the need for land use decision makers to support the community's vision using laws such as zoning and subdivision regulation. Comprehensive plans create an opportunity to prioritize watershed-related topics such as stormwater management and erosion and sediment control, and are most useful when they reflect current conditions (i.e., have been recently updated). However, comprehensive plans are not laws and are insufficient in protecting water resources without supporting regulations.

2.6.2 Zoning

Zoning is a regulatory tool that enables communities to make the leap from planning to implementation and enforcement of land-use controls that will support their goals and vision. Zoning controls the use, density, siting, and form of development on individual land parcels, and is especially effective in preventing future issues with development or harmful uses.

To provide additional protection addressing a topic of particular concern, municipalities can create an overlay zoning district that overlaps the underlying zones, providing more stringent regulations for an area that is, for example, environmentally sensitive.

2.6.3 Subdivision Regulation

Subdivision regulations come into play when land is divided into smaller parcels of land, and are used to ensure that the design of developments supports the municipality's land-use objectives. These regulations can limit the negative impacts on waterbodies before, during, and after construction, and sometimes include specific provisions to preserve open space and vegetation, protect unique natural areas, minimize impervious surfaces, limit erosion and runoff, cluster buildings, and promote green infrastructure.

2.6.4 Site Plan Review

Site Plan Review is a powerful tool when development is to occur on a single parcel of land and therefore does not fall within the scope of subdivision regulations. The site plan review process creates an opportunity for municipal decision makers to examine a plan's potential impacts related to erosion, impervious surfaces, vegetation, and stormwater, and to require changes that will protect water quality and promote environmental sustainability. Since site plan review often relies on the expertise and knowledge of the reviewing board, training of decision makers is important to ensuring that this tool is effective. Professional staff can also be used. Applicants can pay into escrow accounts used for professional review of plans.

2.6.5 Stormwater and Erosion Control Regulations (MS4)

Federal stormwater regulations known as "Stormwater Phase II" require urbanized municipalities and those additionally designated by the NYSDEC to develop a Municipal Separate Storm Sewer System (MS4) management program and obtain a NPDES (National Pollutant Discharge Elimination System) permit. These designated MS4 municipalities are required to take six minimum control measures. Even communities that are not designated as MS4 can work toward voluntary compliance with MS4 guidelines and adoption of some control measures. Listed below are the six minimum control measures (MCMs) that operators of regulated small MS4s must incorporate into stormwater management programs:

MCM 1: Public Education and Outreach

- MCM 2: Public Involvement and Participation
- MCM 3: Illicit Discharge Detection and Elimination
- MCM 4: Construction Site Runoff Control
- MCM 5: Post-Construction Runoff Control
- MCM 6: Pollution Prevention and Good Housekeeping

2.6.6 Municipal Maintenance Programs and Practices

Both formal and informal programs and practices can have a great effect on water quality. Municipalities can incorporate NYSDOT design and guidance documents, standard specifications, and procedural manuals¹⁵ into local laws and highway department operating procedures. Towns and villages can also adopt procedures to ensure proper operation and maintenance of runoff management facilities and to ensure application of appropriate solid and hazardous waste generation and disposal practices, including source controls and recycling. In addition, municipalities can take advantage of training programs, such as the Cornell Local Roads Program,¹⁶ or can develop their own training programs targeted at highway officials, contractors, construction workers, inspectors, and zoning and planning officials.

2.6.7 Training Opportunities

In addition to the laws and tools discussed above, towns and villages can take advantage of training opportunities through their county, soil and water conservation district, or programs such as the Cornell Local Roads Program. For example, the Cayuga County Planning Board Training Series¹⁷ provides municipal officials with the opportunity to register for upcoming training or to access past training sessions on topics such as stormwater regulation and protecting sensitive natural features on steep slopes.

2.6.8 Local Government and Agriculture

Although municipalities in New York State have broad powers to enact laws governing land use, state laws impose certain restrictions on local government authority. The Agriculture and Markets Law (Article 25-AA, Section 305-a) states that: “Local governments...shall not unreasonably restrict or regulate farm operations within agricultural districts in contravention of the purposes of this article unless it can be shown that the public health or safety is threatened.”¹⁸

One way municipalities can address watershed-related agricultural issues is through participation in Agricultural Environmental Management (AEM) programs, which are overseen by the NYS Department of Agriculture and Markets and implemented through county-based Soil and Water Conservation Districts (see sections 2.3.4 and 2.5.4).

Because agriculture is such a significant land use in the Owasco Lake watershed and is so important to the region’s economy, numerous governmental and nongovernmental organizations have developed documents and active collaborations/committees that focus on ways in which agriculture, the lake, and the watershed are woven together.

Recent agricultural plans and reports include:

- *Agriculture and Farmland Protection Plan*. 2014. Developed through the Cayuga County Farmland Protection Program; adopted/approved by Cayuga County Legislature; approved by NYS Agriculture and Markets.
- *Owasco Lake Agricultural Conservation Blueprint*. 2011. American Farmland Trust.

- *Recommendation Report of the Advisory Committee to the Cayuga County Manure Management Working Group*. May 2015.¹⁹

Active committees and groups focused on agriculture in the Owasco Lake watershed include:

- Cayuga County Agriculture and Farmland Protection Board
- Cayuga County Farm Bureau
- Cayuga County Manure Management Working Group
- Cornell Cooperative Extension
- New York State CAFO Working Group (convenes when reviewing NRCS standards)
- Nutrient and Sediment Reduction Working Group,²⁰ Cayuga County WQMA
- PRO-DAIRY Program, Cornell University
- Water Quality Working Group, NE Dairy Producers Association

Municipalities in the Owasco Lake watershed have an opportunity to review existing plans, and to look for ways to follow through on the recommendations of groups whose work supports both agriculture and water quality in the region.

2.7 Notes

¹ Information presented in this section has been drawn from, among other sources, “**State and Federal Resources**,” provided by NYSDOS; and *The State of the New York Lake Ontario Basin: A Report on Water Resources and Local Watershed Management Programs*, FLOWPA 2000.

² **USEPA Watershed Approach Framework: Implementing Guiding Principles:**

<http://www.epa.gov/owow/watershed/framework/ch6.html>.

³ Information presented in this section has been drawn from, among other sources, “**State and Federal Resources**,” provided by NYSDOS; and *The State of the New York Lake Ontario Basin: A Report on Water Resources and Local Watershed Management Programs*, FLOWPA 2000.

⁴ **Waterbody Inventory/Priority Waterbodies List** (NYSDEC): <http://www.dec.ny.gov/chemical/36730.html>.

⁵ **NYS Section 303(d) List of Impaired/TMDL Waters** (NYSDEC): <http://www.dec.ny.gov/chemical/31290.html>.

⁶ **CAFO permitting:** <http://www.dec.ny.gov/permits/6285.html>, <http://www.dec.ny.gov/permits/94935.html>.

⁷ **NYS DOT Highway Design Manual** (<http://www.dot.ny.gov/divisions/engineering/design/dqab/hdm>), **NYS DOT Environmental Manual** (<http://www.dot.ny.gov/divisions/engineering/environmental-analysis/manuals-and-guidance/epm>).

⁸ **Cayuga County Water Quality Management Agency:**

<http://www.cayugacounty.us/Departments/WaterQualityManagementAgency/WQMAInformation>.

⁹ **Cayuga County Nutrient and Sediment Working Group:**

<http://www.cayugacounty.us/Departments/WaterQualityManagementAgency/WorkingGroups/NutrientandSedimentReductionWorkingGroup.aspx>.

¹⁰ **Cayuga County Invasive Species Working Group:** <http://www.cayugacounty.us/Departments/WaterQualityManagementAgency/WorkingGroups/InvasiveSpeciesWorkingGroup.aspx>.

¹¹ **Coliform Bacteria Working Group, Cayuga County:** <http://www.cayugacounty.us/Departments/Water-Quality-Management-Agency/Working-Groups/Coliform-Bacteria-Working-Group>.

¹² **Owasco Lake Watershed Inspection Program:** <http://www.owascoinspection.org>.

¹³ **Cayuga County Agricultural Environmental Management Program:** <http://www.cayugaswcd.org/agricultural-environmental-management-aem.html>.

¹⁴ Portions of the sections that follow were adapted from *Protecting Water Resources Through Local Controls and Practices: An Assessment Manual for New York Municipalities* (G/FLRPC 2006); *Seneca Lake Watershed: Assessment of Local Laws, Programs and Practices Affecting Water Quality* (G/FLRPC 2012); and *Site Plan Review* (NYSDOS 2012).

¹⁵ **NYS DOT Manuals:** Highway Design Manual (<http://www.dot.ny.gov/divisions/engineering/design/dqab/hdm>), NYS DOT Environmental Manual (<http://www.dot.ny.gov/divisions/engineering/environmental-analysis/manuals-and-guidance/epm>), Highway Maintenance Guidelines (chapters available at <http://www.dot.ny.gov>).

¹⁶ **Cornell Local Roads Program:** <http://www.clrp.cornell.edu/>.

¹⁷ **Cayuga County Planning Board Training Series:** <http://www.cayugacounty.us/Departments/Planning-and-Economic-Development/Local-Planning-Assistance/Training>.

¹⁸ **Local Laws and Agricultural Districts: How Do They Relate?** 2013 reprint. From the James A. Coon Local Government Technical Series, NYS Dept. of State and NYS Dept. of Agriculture and Markets. Available at http://www.dos.ny.gov/lg/publications/Local_Laws_and_Agricultural_Districts.pdf.

¹⁹ **Recommendation Report of the Advisory Committee to the Cayuga County Manure Management Working Group:** <http://www.cayugacounty.us/Portals/0/planning/WQMA/Documents/RecommendationReport.pdf>.

²⁰ **Nutrient and Sediment Reduction Working Group (Cayuga County):** <http://www.cayugacounty.us/Departments/Water-Quality-Management-Agency/Working-Groups/Nutrient-and-Sediment-Reduction-Working-Group>.

Chapter 3. Evaluation of Local Laws and Tools in the Owasco Lake Watershed

3.1 Introduction

This chapter presents an overview of local municipal laws, land use tools, programs, and practices that are currently used for managing water resources in the Owasco Lake watershed. Opportunities for improvements to these local laws and tools are identified and will form the basis for recommendations presented in the *Owasco Lake Watershed Management and Waterfront Revitalization Plan*.

The Owasco Lake watershed includes 17 municipalities in three counties, including 15 towns and two villages (see [Map 3-1](#)):

- **Cayuga County:** Towns of Fleming, Genoa, Locke, Moravia, Niles, Owasco, Scipio, Sempronius, Sennett, Summerhill, and Venice, and the Village of Moravia. *Total 150.8 mi²; 79.4% of watershed.*
- **Tompkins County:** Towns of Dryden, Groton, and Lansing, and the Village of Groton. *Total 33.8 mi²; 17.8% of watershed.*
- **Onondaga County:** Town of Skaneateles. *Total 5.3 mi²; 2.8% of watershed.*

The proportion of the watershed covered by each municipality is shown in [Figure 3-1](#). Six of the municipalities in Cayuga County border Owasco Lake itself.

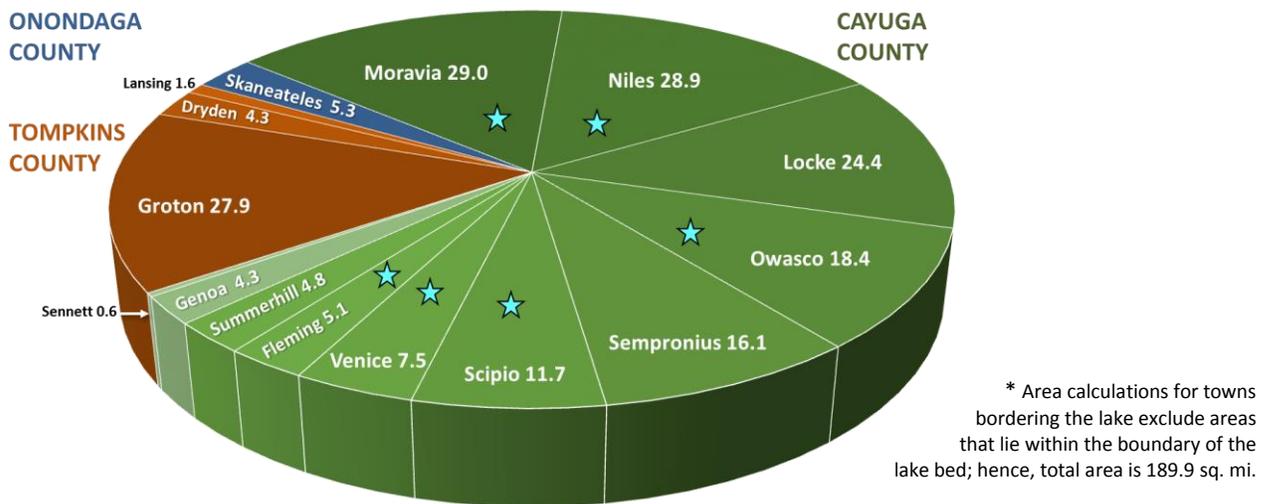
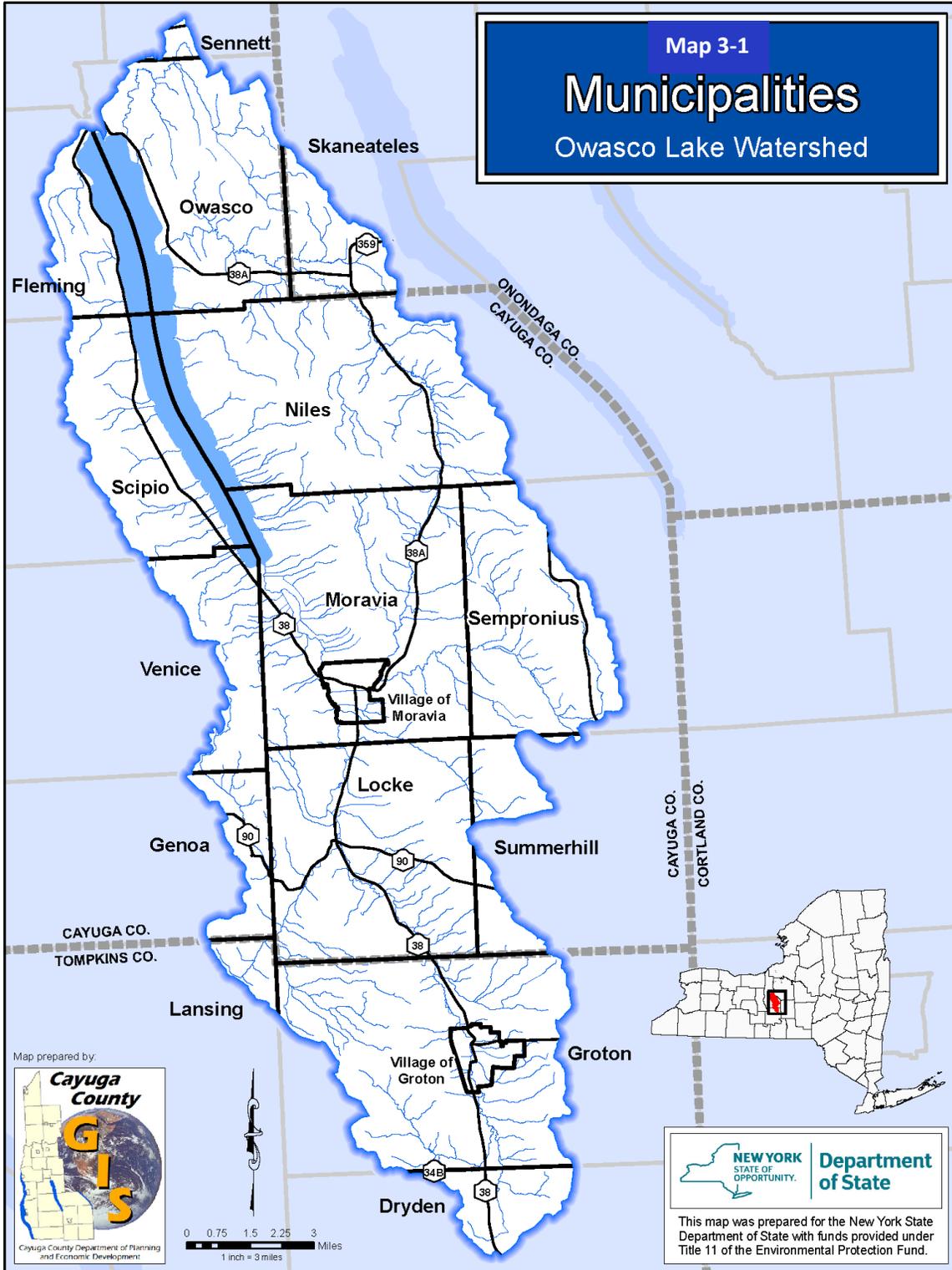


FIGURE 3-1. Land Area of Each Town in the Owasco Lake Watershed (square miles*)
(Starred towns include Owasco Lake shoreline)



3.2 Methodology

The inventory and assessment of municipal measures to protect water resources in the Owasco Lake watershed was based on the process outlined by the New York State Department of State (NYS DOS).¹

1. **Identification of existing local laws and tools that guide land use throughout the watershed.** The review of existing laws and tools focused on:
 - Comprehensive/Land Use Plans
 - Zoning
 - Site Plan Review and Subdivision Regulations
 - Stormwater and Erosion Control Regulations.
2. **Review of existing measures to assess their strength in addressing issues that influence water quality.** To assess the strength of existing municipal measures, staff from the Cayuga County Department of Planning and Economic Development worked with individual municipalities to complete the NYSDOS *Municipal Nonpoint Assessment Form*, which provides a detailed analysis of local laws and practices related to:
 - Development
 - Forestry and agriculture
 - Waterways and wetlands
 - Marinas
 - Roads and bridges
 - Onsite wastewater treatment systems.

A list of reviewers from each municipality who participated in completing the assessment is provided [Appendix 1: Municipal Reviewers](#). The results of individual municipal assessments of towns and villages in the watershed are presented in [Appendix 2: Municipal Nonpoint Assessment Forms](#).

3. **Identification of opportunities for improvement that can form the basis for recommendations in the *Owasco Lake Watershed Management and Waterfront Revitalization Plan*.** Staff from the Cayuga County Department of Planning and Economic Development reviewed existing municipal laws to assess how effectively these laws could preserve and improve water quality in the Owasco Lake watershed by managing stormwater and controlling erosion and sediment. This review and the gap analysis derived from this inventory and from responses to the Municipal Nonpoint Assessment Forms (Appendix 2) provide the basis of preliminary recommendations made in this chapter (focused on local laws), and will form the basis of broader recommendations (including best management practices) in the *Owasco Lake Watershed Management and Waterfront Revitalization Plan*. In addressing these water quality topics, priority will be given to the following issues²:
 - Stormwater management and drainage
 - Erosion and sediment control
 - Riparian, wetland, and shoreline protection
 - Steep slopes
 - Boating/marinas
 - Flood prevention/management
 - Forest management
 - Impervious areas.

3.3 Overview of Results: Local Laws Inventory and Nonpoint Assessment

Within the Owasco Lake watershed, there is significant variation in the degree to which municipal laws address protection of watershed resources, ranging from towns with overlay zoning to safeguard vulnerable areas (e.g., Fleming, Owasco, Skaneateles) to towns that have few local laws to manage stormwater or control erosion and sediment. A summary of existing local land use laws for municipalities within the watershed based on the inventory conducted is presented in [Table 3-1](#). The percent of the watershed area covered by each type of law/tool is presented in [Figure 3-2](#).

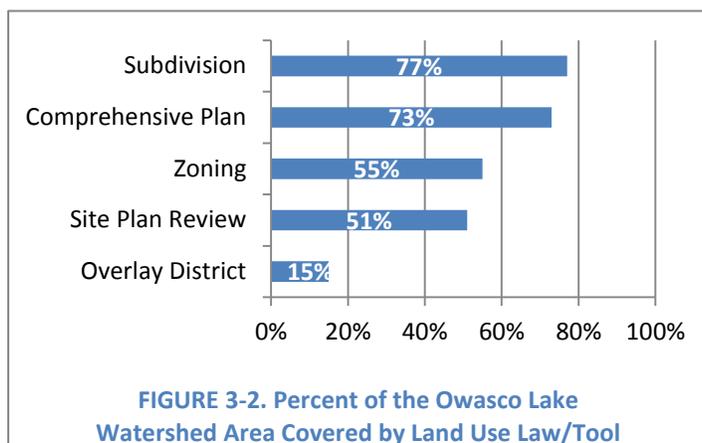


TABLE 3-1. Existing Local Land Use Laws and Tools in the Owasco Lake Watershed

Municipality	Comprehensive Plan	Zoning	Overlay District	MS4	Subdivision Regulations	Site Plan Review
CAYUGA COUNTY						
Fleming (T)	2008 ³	2008/2013 ⁴	Owasco Watershed ⁵		2013 ⁶ (z)	2013 ⁷ (z)
Genoa (T)	2013 ⁸					
Locke (T)	2010 ⁹ (Long-Term Plan)				1995/2001 ¹⁰	
Moravia (T)		1992			1991	
Moravia (V)	1965 (Master Plan)	1988 ¹¹			1996	
Niles (T)	2010 ¹²				1995 ¹³	1995 ¹⁴
Owasco (T)	2002	2004 ¹⁵	Environ. Protection ¹⁶		2004 ¹⁷	1988 ¹⁸ (z)
Scipio (T)	2011 ¹⁹	1990 ²⁰				
Sempronius (T)						
Sennett (T)	2009 ²¹	2014 ²²			1992 ²³	2014 ²⁴
Summerhill (T)	2010					1991 ²⁵
Venice (T)						
TOMPKINS COUNTY²⁶						
Dryden (T)	2005 ²⁷	2012 ²⁸		Yes ²⁹	2012 ³⁰	2012 ³¹
Groton (T)	2005 ³²	2011 ³³			2011 ³⁴	2011 ³⁵
Groton (V)	2005 ³⁶	2003 ³⁷			1994 ³⁸	2011 ³⁹ (z)
Lansing (T)	2006 ⁴⁰	2004 ⁴¹		Yes ⁴²	2008 ⁴³	2015 ⁴⁴
ONONDAGA COUNTY						
Skaneateles (T)	2005 ⁴⁵	2005 ⁴⁶	Lake Watershed ⁴⁷		2005 ⁴⁸	2009

KEY: z = Exists within zoning

- *Comprehensive plans* have been adopted by 82% (14/17) of municipalities in the Owasco Lake watershed, representing 73% of the watershed area.
- *Zoning laws* exist in 64% (11/17) of Owasco Lake watershed municipalities, representing 55% of the watershed area. In addition, 18% (3/17) of municipalities have zoning overlay districts (one Environmental Protection Overlay District and two watershed-related districts), representing 15% of the watershed area.
- *Subdivision regulations* exist in some form in 70% (12/17) of Owasco Lake watershed municipalities, representing 77% of the watershed area.

- *Site plan review* is required by 59% (10/17) of municipalities in the watershed, representing 51% of the watershed area.
- *Stormwater and Erosion Control Regulations (MS4)* have been formally adopted by 12% (2/17) of municipalities in the Owasco Lake watershed, which are designated as MS4. However, any municipality can work toward voluntary compliance with MS4 guidelines and adoption of some control measures.

An overview of the municipal nonpoint assessment results is presented in [Table 3-2: Summary of Municipal Nonpoint Assessment Form Responses](#) (end of chapter), and details for each municipality appear in [Appendix 2](#).

In addition to the laws and tools listed above, all municipalities in the watershed passed floodplain development laws in 2007, and all meet Federal Emergency Management Agency (FEMA) standards.

3.4 Review of Specific Municipal Laws and Nonpoint Assessment

The following sections provide an overview, list of laws reviewed, gap analysis, and preliminary recommendations for each municipality in the Owasco Lake watershed, focused primarily on local stormwater management, erosion, and sediment controls. For each municipality discussed below, the following information is presented:

Overview: The overview of conditions is based on details presented in the *Owasco Lake Watershed Management and Waterfront Revitalization Plan: Watershed and Waterbody Inventory Report* (May 2015), which includes maps showing such features as land cover, slope, and soil erodibility throughout the watershed.

Local Laws Reviewed: The list of local laws is based on the inventory developed by staff from the Cayuga County Department of Planning and Economic Development working in conjunction with reviewers from each municipality, with a focus on types of laws identified (section 3.2) as important for watershed protection.⁴⁹

Gap Analysis: The gap analyses are based on Municipal Nonpoint Assessment Forms, and on a close review of local regulations important for stormwater management and erosion and sediment control.

Preliminary Recommendations: Preliminary recommendations in this document focus primarily on laws themselves, but also reference opportunities for training of municipal decision makers and on voluntary practices and programs that will be recommended in the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (2016).

3.4.1 Watershed-Specific Rules and Regulations

Owasco Lake Watershed Rules and Regulations (10 NYCRR 104.1)

The New York State Health Code includes rules and regulations (10 NYCRR 104.1) that apply to the entire Owasco Lake watershed and are enforced and administered by the Cayuga County Health Department and the Owasco Lake Watershed Inspection Program. These rules require that “the mayor and council of the City of Auburn and the town board of the Town of Owasco, or any person or persons charged with the maintenance or supervision of the public water supply system, shall by its officers or their duly appointed representative make regular and thorough inspections of the reservoir, watercourses and watershed to ascertain compliance with the rules and regulations.” These regulations focus on the prohibition of waste deposit/storage/discharge in or around the lake (e.g., junkyards, agricultural waste, sewage, salt), with the objective of protecting water quality and the municipal water supplies that draw from Owasco Lake. However, they do not include any provisions specifically for stormwater runoff quality or quantity, or for erosion and sediment control.

3.4.2 Cayuga County Municipalities

Town of Fleming

Overview

The eastern quarter of the Town of Fleming lies in the Owasco Lake watershed, covering an area that includes the entire Veness Brook subwatershed and 5.3 miles of shoreline along the northwestern portion of the lake. The western half of Emerson Park is located within the town. The area of Fleming around Veness Brook is characterized by poorly drained, highly erodible soils that could contribute to runoff. The northern portion of the town is somewhat densely populated, with residents connected to public sewer and water supply. The town has a comprehensive plan, with land-use controls that include zoning (with an Owasco Lake watershed overlay district), subdivision regulations, and site plan review.

Local Laws Reviewed

- Town of Fleming Comprehensive Plan (2008 Addendum)
- Town of Fleming, NY, Zoning Law, especially the following sections:
 - §6-9 “Owasco Lake Watershed Overlay District”
 - §7-17/18 “Stream Corridor, Lakeshore, and Floodplain Protection”; “Steep Slopes Protection”
 - §14 “Subdivision of Land”
 - §15 “Site Plan Review and Approval”

Gap Analysis

Fleming’s local laws include numerous provisions that address protection of the Owasco Lake watershed, and these regulations could serve as useful models for other municipalities in the watershed. A 2008 addendum to Fleming’s comprehensive plan specifically includes a natural resources policy with objectives related to water quality in Owasco Lake and its tributaries, and a major action item was implemented with the creation of Fleming’s watershed overlay zoning district. This district provides additional protections for the portion of the town that falls within the watershed, including required erosion, sediment, and stormwater plans for all construction permit applications, controls on runoff rates, and limits on impervious surfaces. The town’s zoning code also includes stream corridor protections forbidding most development within 50 feet from the top of the embankment of identified streams (Veness Brook, Crane Brook, Yawger Creek) and site plan review for adjacent uses. Other zoning provisions include steep slopes protection, erosion prevention, and stormwater criteria in site plan review. A potential gap in Fleming’s regulatory context is the effective and consistent application and enforcement of regulations and requirements that apply to existing development (e.g., home additions) and new construction.

Preliminary Recommendations

Laws: Consider taking steps to ensure application and enforcement of stormwater regulations and requirements.

Training: Target training specifically to watershed-related issues for zoning board members, inspectors, and town personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Genoa

Overview

The eastern portion (10%) of the Town of Genoa lies in the Owasco Lake watershed. Pine Hollow Creek runs through this section of the town and is a major tributary of Hemlock Creek. Land cover in this portion of Genoa is largely cultivated crops, hay/pasture, and shrub/scrub. The Town of Genoa recently adopted a comprehensive plan, and it does have some local laws.⁵⁰ However, it does not have any zoning, subdivision regulations, or site plan review requirements.

Local Laws Reviewed

- Comprehensive Plan, Town of Genoa, NY, April 2013
- Local Law No. 1, 1992, §5 “Provisions for Flood Hazard Reduction”
- Local Law No. 2, 1988, “Mobile Home Law”
- Local Law No. 1, 1998, “Set Back & Lot Area”

Gap Analysis

Although at present Genoa’s local laws reference few specific measures to manage stormwater or control erosion and sedimentation, the town’s 2013 comprehensive plan presents a vision focused on protecting watersheds (with an emphasis on Cayuga Lake) and an appendix devoted to principles of smart growth. A survey conducted as part of the comprehensive planning process showed that 58% of respondents favored considering zoning/land-use regulation in the municipality, and the comprehensive plan makes recommendations that include: establishment of specific guidelines to minimize erosion; site plan review with standards requiring use of BMPs to minimize erosion and runoff; development of a stormwater management plan; and creation of a watershed protection overlay district. The comprehensive plan also recommends that the municipality institute voluntary measures, such as cleanup days for streams/creeks, and encourage landowners to protect natural resources (e.g., by offering tax incentives). Current water-quality-related land use controls include enforcement of FEMA floodplain regulations⁵¹ and stormwater drainage/disposal criteria in mobile home park review; however, this latter approach may not be consistent with the need to reduce runoff by slowing the flow of stormwater or controlling discharge of pollutants from construction or municipal activities.

Preliminary Recommendations

Laws: Follow through on recommendations set out in the 2013 comprehensive plan to establish a more robust set of local laws to protect watershed resources, and draw on model ordinances for specific provisions that could be incorporated into new zoning, subdivision, and site plan review laws to ensure that they are effective at preventing erosion and managing stormwater.

Training: Target training specifically to watershed-related issues for the town’s land-use decision makers and town personnel.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Locke

Overview

The Town of Locke is located about 15 miles south of Owasco Lake and lies almost wholly in the Owasco Lake watershed. The town is bisected by the Owasco Inlet and includes portions of the Tributary to Owasco Inlet, Headwaters Owasco Inlet, and Hemlock Creek subwatersheds. Some parts of Locke are steeply sloped (e.g., near Owasco Inlet), and these areas include some of the most highly erodible soils in the watershed. Land cover in Locke is largely a mixture of deciduous forest, pasture, and cultivated crops, as well as several livestock and dairy farms. Along the Owasco Inlet, Locke sits above a sand and gravel aquifer that is capable of supplying local wells. Most of the town is on private wells and septic systems, although there is a public water district in the hamlet of Locke, and two of the town's mobile home parks have shared septic systems. Locke has experienced little subdivision pressure over the past decade. Locke adopted a long-term plan in 2010, and it has local laws that regulate major and minor subdivisions. However, Locke has no zoning laws and does not require site plan review.

Local Laws Reviewed

- Long-Term Plan, Town of Locke, NY, June 2010
- Local Law No. 6, 1995, "Minor Subdivision Law"
- Local Law No. 7, 1995/2001, "Major Subdivision Law"
- Local Law No. 1, 1993, "Setback and Lot Area"
- Local Law No. 2, 1987, "Mobile Home Law"

Gap Analysis

The Town of Locke's local laws currently include only general provisions to address stormwater management and sediment and erosion control. The "Major Subdivisions Law" stipulates that the Planning Board can require developers to preserve natural features (e.g., streams, trees) and to create drainage facilities (culverts, storm sewers) large enough to accommodate potential runoff from the area they serve; and the Mobile Home Law requires those seeking permits to plan for stormwater drainage. Locke has laid groundwork for adopting additional regulatory tools: "recommended actions" in its Long-Term Plan include creating overlay districts to protect stream corridors and steep slopes; maintaining vegetated buffers around wetlands, floodplains, and Hemlock Creek and the Owasco Inlet; and establishing a town-wide watershed management plan that addresses stormwater runoff protection and mitigates erosion and sedimentation. The plan acknowledges the potential need for additional local regulations that would help the community achieve goals related to natural resource protection.

Preliminary Recommendations:

Laws: Follow through on recommended actions in the Long-Term Plan to establish additional local laws (i.e., zoning and site plan review) that would protect watershed resources. Review model ordinances for specific provisions that could be incorporated into Locke's subdivision laws to enhance drainage and prevent erosion, particularly in highly erodible areas around waterways. Consider adoption of an Erosion and Sediment Control Plan that could offer more specific guidance to developers and the Planning Board.

Training: Target training specifically to watershed-related issues for planning board members, inspectors, and other town officials or personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Moravia

Overview

The Town of Moravia lies entirely within the Owasco Lake watershed, and it includes portions of the Mill Creek, Owasco Inlet, and Tributary to Owasco Inlet subwatersheds, as well as 2.5 miles of Owasco Lake shoreline. Portions of the town are steeply sloped (e.g., west of Route 38 and the Owasco Inlet), and some areas (e.g., in the southeastern section of the town) are characterized by highly erodible soils. Significant portions of the town are forested, especially on either side of the Owasco Inlet. Moravia is home to several wetland areas, including the Owasco Flats complex through which the Owasco Inlet flows before reaching the lake. Most of the town is on private wells and septic systems, though a small area south of the village is on public sewer, and one mobile home park has a shared septic system. The town lies above two aquifers (one along the Owasco Inlet, and another along smaller tributaries northeast of the village) that are capable of suppling local wells. New development has been a greater influence in Moravia than elsewhere in the watershed (20+ new development sites since 1994), but population density remains low to moderate overall. The Town of Moravia has had zoning and subdivision regulations in place since the early 1990s; it does not have a comprehensive plan, nor does it require site plan review except as a component of its Mobile Home Law.

Local Laws Reviewed

- Zoning Law of the Town of Moravia, NY, 1992
- Subdivision Regulations of the Town of Moravia, NY, 1991
- Local Law No. 4, 1987, Mobile Home Law, esp. §5(3)(a) “Site Plan Review Procedures and Requirements”

Gap Analysis

The Town of Moravia’s local laws reference few specific measures related to stormwater management or sediment and erosion control. Its zoning law designates the majority of the town’s land area as a General Occupancy District for which there are no provisions addressing drainage or erosion control; two small high-density districts lie to the north and south of the village, and future designation of such areas is contingent upon provision of public water and sewer, adequate drainage, and consideration of environmental impacts. The town’s subdivision regulations include a Design Standards provision that preserves natural drainage features of existing watercourses, requires that construction on steep slopes be designed by a licensed engineer, and requires provision of storm drainage features (e.g., storm sewers, drainage ditches); however, these standards do not include specific criteria or prohibitions that would control runoff associated with new development in steep areas. Site Plan Review, which is a part of the town’s Mobile Home Law, requires that the Planning Board review adequacy of stormwater and drainage facilities and retention of natural vegetation as a visual buffer to adjoining lands.

Preliminary Recommendations

Laws: Prepare and adopt a comprehensive plan as basis for ensuring that future zoning decisions align with community priorities. Review model ordinances for specific provisions that could be incorporated into Moravia’s zoning and subdivision laws to enhance drainage and reduce erosion. Develop and adopt a broader site plan review process that would apply to any area of the town, not just mobile home areas, and consider adoption of an Erosion and Sediment Control Plan that could offer more specific guidance to developers and the Planning Board.

Training: Target training specifically to watershed-related issues for zoning and planning board members, inspectors, and town personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about BMPs and public outreach related to protection of watershed resources.

Village of Moravia

Overview

The Village of Moravia lies entirely within the Owasco Lake watershed, including portions of the Mill Creek and Owasco Inlet subwatersheds. The Village of Moravia houses one of the two wastewater management facilities in the Owasco Lake watershed, and village residents are on both public water and sewer systems. Land cover in the village includes low, medium, and high-density development, combined with open space, forested areas, and farmland. Soils throughout the village vary greatly in their susceptibility to erosion. The western half of the village is susceptible to flooding. The village adopted a Master Plan in 1965, and its local laws do include zoning and subdivision regulations. The town does not require site plan review. In addition to village laws, land uses are subject to laws of the Town of Moravia, but the village has land use authority (note that for the town, site plan review provisions exist only within its Mobile Home Law).

Local Laws Reviewed

- Master Plan, Village of Moravia, NY, 1965
- Local Law No. 1, 1988, “Comprehensive Zoning and Land Use Law”
- Village of Moravia Subdivision Regulations, 1996
- Local Law No. 3, 2000, “Manufactured Housing and Mobile Home Law”

Gap Analysis

The Village of Moravia’s subdivision regulations contain provisions to preserve natural features (watercourses, large trees), and these laws encourage cluster development. These regulations stipulate that subdivision proposals must indicate where slopes greater than 8%, although no specific standards apply in these areas; structures are prohibited on slopes greater than 25%. The village’s subdivision regulations offer some general provisions for stormwater management and sediment/erosion control. These regulations require that development proposals address this potential both during and after construction, referring applicants to the “New York Guidelines for Urban Erosion and Sediment Control.” The law also prohibits building on wetlands or flood prone areas. One provision of the village’s regulation of Mobile Home Parks may be in conflict with best practices for stormwater management: its “Manufactured Housing and Mobile Home Law” (Local Law 3, 2000) includes a requirement (section 12) that land in mobile home parks “shall be properly graded to insure rapid drainage following rain and shall at all times be drained so as to be free from stagnant pools of water.”⁵² This provision might need to be modified to allow stormwater detention basins for stormwater management.

Preliminary Recommendations

Laws: Update the village master plan so it can be used as basis for ensuring that future zoning decisions align with community priorities. Review model ordinances for specific provisions that could be incorporated into the village’s zoning and subdivision laws to enhance drainage and reduce erosion. Develop and adopt a site plan review process, and consider adopting an Erosion and Sediment Control Plan that could offer more specific guidance to developers and the Planning Board.

Training: Target training specifically to watershed-related issues for zoning and planning board members, inspectors, and village personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (2016) for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Niles

Overview

More than two-thirds of the Town of Niles lies within the Owasco Lake watershed, including portions of the Dutch Hollow Brook and Mill Creek subwatersheds, and 5.3 miles of shoreline on the eastern side of Owasco Lake. Portions of the town are steeply sloped (e.g., near Dutch Hollow Brook, and along the Owasco Lake shoreline), and some areas have highly erodible soils. Outside of forested areas in the southern portion of the town (a state park) and along Dutch Hollow Brook, land cover is largely agricultural, with field crops, specialty crops, and several non-dairy livestock farms. Population density is fairly low throughout the town, with little impervious development. Niles adopted a comprehensive plan in 2010, and has utilized subdivision regulations and site plan review since the mid-1990s. The town does not have a zoning law.

Local Laws Reviewed

- Comprehensive Plan, Town of Niles, NY, January 2010
- Code of the Town of Niles, August 2013, including the following sections:
 - §190 “Subdivision of Land,” 1995
 - §170 “Site Plan Review,” 1995
 - §164 “Setbacks and Lot Area”
 - §127 “Lakefront Access and Rights, Conditions for a Special Permit”

Gap Analysis

Stormwater management criteria exist in both Niles’s subdivision regulations and its site plan review requirements. The town’s subdivision standards are fairly detailed in terms of measures that address protection of watershed resources; for example, developers must provide quantitative evaluations of storm runoff volume under pre- and post-development conditions, with proposed management practices; the planning board may require a comparison of pre- and post-development pollutant loading; and lands with slopes greater than 35% are generally to be considered unbuildable. Site plan review, although required for many land uses, does not contain specific volumetric considerations for stormwater management, but it does stipulate that development on slopes greater than 10% should minimize erosion both during and after construction, and that site drainage should not result in excessive turbidity in Owasco Lake. The town’s subdivision law provides that natural features that add to the value or rural character of the town, such as large trees and watercourses, be identified on plats and that they be preserved whenever possible. Additional provisions in the town code (§127) prevent runoff from entering the lake through erosion and stormwater control plans or vegetated buffer strips, and require modest setbacks (§164) for buildings with Owasco Lake frontage.

Preliminary Recommendations

Laws: Review model ordinances for specific additional provisions that could be incorporated into Niles’s subdivision and site plan laws to further protect water quality, enhance drainage, and reduce erosion. Consider adoption of zoning as an additional tool for protecting watershed resources.

Training: Target training specifically to watershed-related issues for planning board members, inspectors, and town personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Owasco

Overview

Nearly 90% of the land area in the Town of Owasco lies within the Owasco Lake watershed, including portions of the Sucker Brook and Dutch Hollow Brook subwatersheds and 6.8 miles of shoreline along the northeastern portion of the lake. The town uses Owasco Lake as a source of drinking water, and it houses a water filtration plant that serves much of the western and southern area of the town; portions of the town adjacent to the lakeshore are also served by a public sewer system. Owasco's landscape is characterized by a combination of specialty crops, pasture, dairy and other livestock farms, pockets of low-intensity development, some deciduous forest, and a significant wetland complex in the northern half of the town. Few areas in the town have significant slopes (an exception is the shoreline north of Lindenwood Cove), but soils tend to be moderately to highly erodible in certain areas, including along Dutch Hollow Brook. Owasco houses two golf courses (Dutch Hollow Country Club, Auburn Country Club) and two marinas (Emerson Park Boat Launch, Owasco Yacht Club), as well as the eastern half of Emerson Park. The town has a comprehensive plan, and its land use controls include zoning laws (with an overlay Environmental Protection Overlay District [EPOD]), subdivision regulations, and site plan review requirements.

Local Laws Reviewed

- Comprehensive Plan, Town of Owasco, NY, 2002
- Code of the Town of Owasco, New York, July 10, 2014, especially the following sections:
 - §150, "Zoning" (orig. 1988, amended 2004)
 - §150, 9.10 - 9.20, "Zoning: Environmental Protection Overlay"
 - §150-72, "Zoning: Site Plan Review," 1988
 - §126, "Subdivision of Land," 2004

Gap Analysis

The Town of Owasco's local laws include numerous provisions that address protection of the Owasco Lake watershed, and its regulations could serve as useful models for other municipalities in the watershed. Owasco's zoning code establishes three Environmental Protection Overlay Districts (EPODs): (1) stream corridor, lakeshore, and floodplain protection; (2) woodlot protection; and (3) steep slope protection. EPOD requirements include general provisions for review and approval of projects, and specific provisions for buffer zone areas, revegetation, and restrictions on and around slopes of 15% or more. Subdivision regulations include drainage design considerations, and site plan review addresses adequacy of stormwater and drainage facilities. In addition, the Owasco requires that applicants comply with requirements in NYSDEC's *New York Standards and Specifications for Erosion and Sediment Controls* (see Appendix E in that document).⁵³ A potential gap in Owasco's regulatory context is the effective and consistent application and enforcement of regulations and requirements that apply to existing development (e.g., home additions) and new construction.

Preliminary Recommendations

Laws: Consider taking steps to improve application and enforcement of stormwater regulations and requirements. Consider whether there are any steps the town could take to enhance watershed protection in marinas.

Training: Target training specifically to watershed-related issues for members of town review boards (i.e., zoning, planning board, etc.), inspectors, and town personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (2016) for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Scipio

Overview

The eastern third of the Town of Scipio lies in the Owasco Lake watershed, including 6.7 miles of the lake's western shoreline. Land cover in the town is largely agricultural (livestock/dairy farms, pasture, and specialty crops) with forested areas along the shoreline. The shoreline is somewhat steeply sloped, as is the land along tributaries leading to the lake. Generally, Scipio's soils tend to be moderately well drained or well drained, and they are not highly susceptible to erosion except in one area just west of Rt. 38 near the Casowasco Camp and Retreat Center. Town residents rely on private wells and septic systems; there is one mobile home park with a shared septic system. The town has faced little subdivision pressure over the past decade. Scipio adopted a comprehensive plan in 2011, with a vision focused on preserving the rural character and protecting natural and agricultural resources. Since 1990, the town has had a zoning law, but has no subdivision regulations or site plan review requirements.

Local Laws Reviewed

- Comprehensive Plan, Town of Scipio, NY, January 2010
- Zoning Law of the Town of Scipio, Cayuga County, NY, 1989
- Town of Scipio Highway Standards

Gap Analysis

Current land use controls in Scipio contain few specific measures that address stormwater management or erosion and sediment control. However, a survey conducted during the comprehensive planning process showed 60–84% of respondents had strong positive opinions about land use regulation, and the plan acknowledges the importance of retaining wooded areas around Owasco Lake and along stream corridors, and of minimizing impermeable surfaces on sloping lands above the lake. Scipio's town board is in the process of reviewing and updating local laws (2015), and is reported to be considering conservation overlay districts similar to those in the towns of Fleming and Owasco.

Preliminary Recommendations

Laws: Review model ordinances for specific additional provisions that could be incorporated into Scipio's zoning law to further protect water quality, enhance drainage, and reduce erosion. Follow through on recommended actions in the town's comprehensive plan to establish additional local laws (i.e., subdivision regulations and site plan review) that would protect watershed resources.

Training: Target training specifically to watershed-related issues for zoning and planning board members, inspectors, and town personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (2016) for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Sempronius

Overview

The western half of the Town of Sempronius is located in the Owasco Lake watershed. This area falls largely within the Mill Creek subwatershed, but also includes very small portions of the Dutch Hollow Brook and Tributary to Owasco Inlet subwatersheds. This portion of the watershed is characterized by steep, forested slopes adjacent to tributaries that flow to the Owasco Lake Inlet. Development within the town is of low intensity, and there are no public water or wastewater systems. Sempronius has no comprehensive plan, zoning, subdivision regulations, or site plan review requirements.

Local Laws Reviewed

- Mobile Home Law, Mobile Home Community, Section 8 (c)(jj)

Gap Analysis

Sempronius local laws contain general references to stormwater management, but do not include specific standards that address protection of watershed resources. For example, its Mobile Home Law states that permit applications must include a plan and provide for adequate drainage, with no specific measures required. This approach may not be consistent with the need to reduce runoff by slowing the flow of stormwater.

Preliminary recommendations

Laws: Prepare and adopt a comprehensive plan as basis for implementing zoning in the future and ensuring that zoning decisions align with the community's long-range vision. Review model ordinances that could serve as a basis for establishing zoning and subdivision laws, with specific provisions that would preserve natural waterways and prevent problems related to poor drainage, runoff, and erosion. Consider incorporating site plan review into local codes, with specific focus on review of development or timber harvesting in high erosion areas or on steep gradients.

Training: Target training specifically to watershed-related issues for town officials, inspectors, and personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Sennett

NOTE: Because Sennett covers such a small portion of the Owasco Lake watershed, the Nonpoint Assessment was not completed for this municipality.

Overview

A small portion (2%) of the Town of Sennett lies at the northernmost tip of the Owasco Lake watershed, within the Sucker Brook subwatershed. Sennett has a comprehensive plan, a recently updated zoning law that includes site plan review requirements, and a subdivision ordinance.

Informal Assessment

Sennett's land use controls address stormwater management only in a general way, with no specific measures required. Most site plan review requires consideration of the adequacy of stormwater and drainage facilities, and special attention to impacts in areas susceptible to flooding, ponding, or erosion. Review of applications for commercial mobile service facilities includes slightly more specific attention to drainage, slope, and vegetation considerations.

Preliminary recommendations

Laws: Review model ordinances for specific additional provisions that could be incorporated into Sennett's zoning law to further protect water quality, enhance drainage, and reduce erosion.

Training: Target training specifically to watershed-related issues for town officials, inspectors, and personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (2016) for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Summerhill

Overview

The northwestern and southwestern corners of the Town of Summerhill fall within the Owasco Lake watershed, including portions of the Tributary to Owasco Inlet subwatershed and the Headwaters Owasco Inlet subwatershed, as well as small portions of the Mill Creek subwatershed. Both portions of the town are characterized largely by forested land, along with some cultivated crops and pasture areas; both areas have low to moderate soil erodibility and slopes. Development within these portions of the town is of low intensity, and there are no public water or wastewater systems. There is a 2010 comprehensive plan, but no zoning or subdivision regulations exist. A site plan review provision has been included in local laws since 1991.

Local Laws Reviewed

- Comprehensive Plan, Town of Summerhill, NY, 2010
- Local Law No. 1, 1991, “Site Plan Review”
- Local Law No. 3, 1991, “Mobile Home Law” and “Setback and Lot Area Law”

Gap Analysis

Summerhill’s site plan review criteria for new land use activities (agriculture and single-/two-family dwellings are exceptions) require applicants to include a grading and drainage plan, and reviewers to consider adequacy of stormwater and drainage facilities, but no specific standards apply. Site plan review requires that construction on any shoreline minimize interference with the natural course of waterways, and that it avoid erosion and minimize runoff, but specific measures are not required. Mobile home park permit applications must include a plan for stormwater disposal, and permits are contingent upon the park providing adequate stormwater draining, but again no specific measures apply.

Preliminary Recommendations

Laws: Review model ordinances that could serve as a basis for establishing zoning and subdivision laws, with specific provisions that that would preserve natural waterways and prevent problems related to poor drainage, runoff, and erosion.

Training: Target training specifically to watershed-related issues for town officials, inspectors, and personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Venice

Overview

The eastern fifth of Town of Venice lies within the Owasco Lake watershed, including a portion of the Owasco Inlet and Hemlock Creek subwatersheds and nearly one mile shoreline at the southern end of the lake. Land around the Owasco Lake shoreline is forested and steeply sloped in Venice, as are areas around tributaries entering the lake. The rest of the town that lies within the watershed is primarily agricultural, including cultivated crops, pasture, and livestock farms. The northwest tip of Owasco Flats lies within the town's boundaries, and several scattered wetland areas exist within the eastern portion of the town. The town has faced little subdivision pressure over the past decade, and its residents in the watershed rely on private wells and septic systems. The Town of Venice has no comprehensive plan, zoning, subdivision regulations, or site plan review requirements.

Local Laws Reviewed

None

Gap Analysis

The Town of Venice currently has no local laws that address issues related to stormwater management, sediment and erosion control, or protection of watershed resources.

Preliminary Recommendations

Laws: Prepare and adopt a comprehensive plan as a basis for establishing zoning or other local laws that would align with community priorities. Review model ordinances for specific provisions that could be adopted as part of new laws to protect watershed resources by managing stormwater runoff and reducing erosion.

Training: Target training specifically to watershed-related issues for town board members, inspectors, and other municipal personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

City of Auburn (not in watershed)

Although the City of Auburn does not lie within the Owasco Lake watershed, its residents rely on the lake and watershed for public health, economic, and recreational needs, including public water supply. Under the New York State Health Code (10 NYCRR 104.1) the city is responsible for inspection of the watershed and enforcement of Owasco Lake Watershed Rules and Regulations. The City of Auburn is specifically charged with controlling the water level in Owasco Lake by means of the State Dam at Swift Street. Emerson Park and the lake are identified as major regional attractions used by local residents and tourists.

3.4.3 Tompkins County Municipalities

Town of Dryden

Overview

A small portion (5%) of the Town of Dryden is located at the southern end of the Owasco Lake watershed within the Headwaters Owasco Inlet subwatershed. Slopes in this area are steep to the west of the Owasco Inlet, and a wetland area lies to the east of Route 38, where soils tend to be highly erodible. Land cover is generally agricultural (dairy farms, field crops, and cultivated crops) or forested. Residents in this portion of the town rely on private wells and septic systems. Dryden adopted a comprehensive plan in 2005, and its land use regulations include zoning, subdivision regulations, and site plan review requirements. Because a portion of the town lies within Ithaca's urbanized area, Dryden also falls under MS4 regulations that are implemented townwide through a Stormwater Management, Erosion and Sediment Control Law.

Local Laws Reviewed

- Town of Dryden Comprehensive Plan, 2005
- Zoning Law, Town of Dryden, Tompkins County, 2012
 - §11, Zoning: "Site Plan Review"
- Subdivision Law, Town of Dryden, 2012
- Stormwater Management, Erosion and Sediment Control Law, Town of Dryden, 2007
- Residential Design Guidelines; Commercial Development Design Guidelines, Town of Dryden, 2008
- Local Law No. 1, 2008, Law to Prohibit Illicit Discharges and Connections to MS4

Gap Analysis

The Town of Dryden's local laws include numerous provisions that address protection of the Owasco Lake watershed, and its regulations could serve as useful models for other municipalities in the watershed. Dryden's Stormwater Management regulations generally apply to all land development and redevelopment activities that would result in soil disturbance, except for silviculture (not including clearcutting), agricultural activities (not including new structures), and routine maintenance disturbing less than two acres. Before engaging in MS4-regulated land development or redevelopment activities, project sponsors must submit a Notice of Ground Disturbance and a Storm Water Pollution Prevention Plan (SWPPP) to the town. The law defines three different levels of SWPPP (full, basic, and simple), with varying levels of erosion and sediment control based on criteria such as acreage disturbed and specific pollutants of concern discharged into an impaired water or TMDL-watershed. Dryden's subdivision law requires applicants to document an adequate stormwater management plan, including a pollution prevention plan and final plat with construction drawings for storm drains and other facilities as required by the MS4-related law. The town's site plan review considerations include special attention to the impact of structures, roadways, and landscaping in areas susceptible to ponding, flooding, and erosion.

Preliminary Recommendations

Laws: Consider whether additional regulations (e.g., special zoning considerations) could be adopted to protect wetlands smaller than 12.4 acres.

Training: Target training specifically to watershed-related issues for members of town review boards (i.e., zoning, planning board, etc.), inspectors, and municipal personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (2016) for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Groton

Overview

More than half of the land area in the Town of Groton is located within the Owasco Lake watershed, including portions of the Headwaters Owasco Inlet and the Hemlock Creek subwatersheds. Slopes in this area of the town are very steep to the west of the Owasco Inlet and Route 38, with moderately to highly erodible soils. Areas of Groton adjacent to the Owasco Inlet are vulnerable to flooding. Land cover in Groton is predominantly agricultural (dairy farms, field crops, cultivated crops) and deciduous forest, with numerous wetland areas, especially west of Route 38, and a golf course characterized as “developed open space” in the southeastern section of the town within the watershed. Residents rely largely on private wells and septic systems, though a portion of the town northeast of the Village of Groton is served by a public water district. New development has been a greater influence in Groton than elsewhere in the watershed, with dozens of new development sites over the past decade; however, population density outside the Village of Groton remains low to moderate overall, and the percent of impervious land cover is generally low outside the village. The Town of Groton adopted a comprehensive plan in 2005, and its land use controls include zoning, subdivision regulations, and site plan review requirements.

Local Laws Reviewed

- Joint Comprehensive Plan for the Village & Town of Groton, Tompkins County, NY, 2005
- Town of Groton Land Use & Development Code of 2011, especially the following sections:
 - Zoning Map, Town of Groton, NY
 - Local Law No. 1, 2011, §2 “Land Subdivision Regulations”
 - Local Law No. 1, 2011, §4, 440-41, Site Plan Review

Gap Analysis

Groton’s joint comprehensive plan sets out objectives and strategies that, if implemented, could contribute to preserving and improving water quality in the Owasco Lake watershed. Recommended approaches include the use of cluster subdivision and stream buffer areas, as well as design standards to protect stream corridors, wetlands, and other water bodies and minimize adverse impacts such as loss of soil erosion. However, the town’s regulations currently include few provisions for stormwater management or erosion and sediment control, primarily consisting of stormwater criteria in the subdivision review law, without specific standards that can be applied.

Preliminary Recommendations

Laws: Follow through on recommended actions in the joint comprehensive plan, drawing on model ordinances for specific provisions that could be incorporated into Groton’s existing laws to enhance drainage and prevent erosion. Consider adoption of an Erosion and Sediment Control Plan that could offer more specific guidance to developers and the Planning Board.

Training: Target training specifically to watershed-related issues for members of town review boards (i.e., zoning, planning board, etc.), inspectors, and municipal personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

Village of Groton

Overview

The entire Village of Groton lies in the Headwaters Owasco Inlet subwatershed within the Owasco Lake watershed. Many areas of the village are moderately to steeply sloped, with moderately to highly erodible soils. The village is bisected by the Owasco Inlet, and areas adjacent to the inlet are vulnerable to flooding. Land cover in the village is generally low- to medium-density development, as well as woodlands, farmland, and wetlands. The Village of Groton houses one of the two wastewater management facilities in the Owasco Lake watershed, and village residents are on both public water and sewer systems. In addition to a comprehensive plan adopted jointly with the Town of Groton, the village's land use control tools include zoning, subdivision regulations, and site plan review requirements. In addition to village laws, land uses are subject to laws of the Town of Groton.

Local Laws Reviewed

- Joint Comprehensive Plan for the Village & Town of Groton, New York, 2005
- Code of the Village of Groton, NY, especially the following sections:
 - §200, Zoning, Village of Groton, NY
 - §200-16, "Site Plan Review"
 - §177 "Subdivision of Land"

Gap Analysis

Like the Town of Groton, the Village of Groton's local laws have few specific measures that address stormwater management in its approvals process, despite recommendations in the comprehensive plan. Site plan review is generally required for most uses, with a general objective that site plans are expected to include a drainage system and layout proposal that "will afford an adequate solution to on-site and off-site drainage problems." Slightly more specific objectives apply for sites adjacent to the Owasco Lake Inlet (headwaters), where consideration must be given to factors including groundwater recharge, stormwater runoff, and improvement of water quality. A local law regarding review of "manufactured housing parks" requires consideration of groundwater level, drainage, flooding and erosion, with more specific standards regarding drainage and protection of downstream properties from runoff.

Preliminary Recommendations

Laws: Follow through on recommended actions in the joint comprehensive plan, drawing on model ordinances for specific provisions that could be incorporated into Groton's existing laws to enhance drainage and prevent erosion. Consider adoption of an Erosion and Sediment Control Plan that could offer more specific guidance to developers and the Planning Board.

Training: Target training specifically to watershed-related issues for members of town review boards (i.e., zoning, planning board, etc.), inspectors, and municipal personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

Town of Lansing

NOTE: Because Lansing covers such a small portion of the watershed, the Nonpoint Assessment was not completed for this municipality.

Overview

The northeastern corner of Lansing (about 2% of the town's land area) is located in the Owasco Lake watershed within a portion of the Hemlock Creek subwatershed. Lansing has a comprehensive plan, and its land use regulations include zoning, subdivision regulations, and site plan review requirements. Because a portion of the town lies within Ithaca's urbanized area, Lansing also falls under MS4 regulations, which it implements townwide through a Stormwater and Erosion Control law.

Informal Assessment

Lansing's Stormwater and Erosion Control law applies only to land disturbance on one acre or more (agricultural and silvicultural activities are exempted from the law). All land development activities subject to this law must submit an SWPPP to the town for approval. Site plan review is required for most uses in the town (exceptions include agriculture and new construction of a one- or two-family unit), and approvals are contingent upon provision of a stormwater drainage plan, as well as an erosion control plan for developments on slopes greater than 10%, designed to minimize erosion during and after construction. The town also requires that a special use permit be granted to limit erosion or surface water runoff with certain uses (e.g., cluster developments, junkyards). Lansing's subdivision regulations include the requirement that applicants submit an SWPPP with preliminary and final plats, and that the subdivider must install the improvements or provide a performance guarantee to the town prior to approval.

Preliminary Recommendations

Laws: Expand Lansing's Stormwater and Erosion Control Law.

Training: Target training specifically to watershed-related issues for members of town review boards (i.e., zoning, planning board, etc.), inspectors, and municipal personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan (2016)* for recommendations about best management practices and public outreach related to protection of watershed resources.

3.4.4 Onondaga County Municipalities

Town of Skaneateles

Overview

The southwestern corner (about 10%) of the Town of Skaneateles is located in the Owasco Lake watershed, including portions of the Sucker Brook and Dutch Hollow Brook subwatersheds. This 5.3-mile² area has experienced a proportionally greater degree of development (8 new sites since 2004) than elsewhere in the watershed, but population density remains low to moderate overall. Skaneateles has a comprehensive plan in place, as well as zoning, subdivision regulations, and site plan review requirements. It also has Lake Watershed Overlay District (LWOD) that adds protection over the portions of the town that lie within either the Skaneateles Lake or Owasco Lake watershed.

Local Laws Reviewed

- Comprehensive Plan, Town of Skaneateles, NY, 2005
- Code of the Town of Skaneateles, Onondaga County, NY, 2011, especially the following sections:
- §148 Zoning
 - §148-21 “Lake Watershed Overlay District (LWOD)”
 - §148-18 “Site Plan Review”
 - §148-16 “Considerations in Granting or Denying Special Permits”
- §131 “Subdivision of Land”

Gap Analysis

Skaneateles’s codes include numerous measures that address protection of watershed resources, and although these regulations were designed primarily to protect the Skaneateles Lake watershed, they apply equally well to Owasco Lake and could serve as a useful model for other municipalities in the watershed. The Lake Watershed Overlay District code requires that permit applicants in the Owasco Lake watershed submit to the City of Auburn for approval (though the city does not have specific authority to disapprove or impose conditions for approval). When reviewing development applications within the LWOD, the planning/reviewing board is required to ensure that the development won’t harm the lake. Skaneateles code sets a maximum impermeable surface coverage limit per parcel that is reduced by half (to 5%) in the LWOD. Subdivision developers in the LWOD are required to identify site features worth of conservation, and are not eligible to receive density bonuses or transferred development rights that are allowed elsewhere in the town. In addition to the LWOD, Skaneateles’s zoning code protects watersheds through an erosion and stormwater control plan requirement; wetland and watercourse protections; steep slope regulations; and stormwater criteria in special permit review, site plan review, and subdivision review. A potential gap in Skaneateles’s regulatory context is the effective and consistent application and enforcement of regulations and requirements that apply to existing development (e.g., home additions) and new construction.

Preliminary Recommendations

Laws: Consider taking steps to ensure application and enforcement of stormwater regulations and requirements.

Training: Target training specifically to watershed-related issues for members of town review boards (i.e., zoning, planning board, etc.), inspectors, and town personnel, as appropriate.

Voluntary practices: See the *Owasco Lake Watershed Management and Waterfront Revitalization Plan* (2016) for recommendations about best management practices and public outreach related to protection of watershed resources.

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)	
1. DEVELOPMENT																				
A. Existing Developmt	1-01	Identify retrofit opportunities.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1-02	Identify habitat and natural conveyance system restoration opportunities.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1-03	Establish retention/detention areas.	1	0	0	1	1	0	1	0	0	0	0	2	0	0	0	0	27	7
	1-04	Acquire additional land for locating treatment facilities.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1-05	Encourage homeowners to place compost piles away from waterbodies and roadways.	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	0	0	87
	1-06	Encourage proper use and disposal of lawn and other household chemicals.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	87
	1-07	Institute turf management practices on golf courses and parks and recreation areas.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1-08	Undertake storm drain stenciling.	0	0	0	2	2	0	2	0	0	0	0	0	0	0	2	0	0	27
	1-09	Encourage volunteer programs, such as adopt-a-highways and adopt-a-stream, etc.	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
	1-10	Include high percentage of indigenous plants in new landscaping on privately-owned properties (excluding arboretums, horticultural gardens, and sites requiring turf grasses).	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0
	1-11	Encourage water conservation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1-12	Develop outreach programs targeted at specific problems related to water quality management & resource conservation.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100
	1-13	Encourage proper control of pet wastes.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	0	87
	1-14	Encourage continued operation of private storm water runoff control structures.	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	13
	1-15	Discourage feeding of waterfowl.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1-16	Discourage the introduction of exotic aquatic species (Eurasian water milfoil, zebra mussels, water chestnut, etc.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100
	1-17	Encourage continued (periodic) operation and maintenance of private septic disposal systems.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	93
	1-18	Effective and consistent application and enforcement of stormwater regulations & requirements.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	7
	1-19	Require certification of existing on site septic systems for property transfers or building expansions.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	93
	1-20	Require entire property (existing as well as proposed) to be included in stormwater analysis/calculation.	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	20
B. New / Re-developmt	1-21	Minimize the amount of land disturbed and the duration of disturbance.	1	0	0	0	0	2	2	1	0	0	0	2	2	0	0	13	27	
	1-22	Preserve natural features and conform substantially with the natural boundaries and alignment of waterbodies.	2	0	2	1	2	2	2	1	0	2	0	2	2	2	2	13	67	
	1-23	Retain and protect trees and other natural vegetation on and near disturbed sites.	2	1	0	1	2	2	2	1	0	2	0	2	2	2	2	20	60	
	1-24	Account for topography and soil type in efforts to minimize erosion potential.	2	1	0	1	1	2	2	1	0	2	0	1	2	1	1	47	33	
	1-25	Maintain runoff rates similar to pre-construction levels	2	0	0	0	2	2	0	0	0	0	0	2	0	0	2	0	33	

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)
New / Re-developmt, cont'd	1-26	Minimize the creation of impervious areas.	2	1	0	0	0	0	0	1	0	0	0	2	0	1	2	20	20
	1-27	Control increased runoff caused by changed surface conditions to minimize the danger of flooding, erosion, sedimentation and pollutants entering waterbodies prior to, during and after construction.	2	2	1	1	1	2	2	1	0	0	0	2	2	0	2	27	47
	1-28	Use temporary vegetation and mulching to protect exposed and critical areas during development.	2	0	0	0	0	0	2	1	0	0	0	2	0	0	0	7	20
	1-29	Redistribute topsoil within the boundaries of the disturbed land for seeding and planting.	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	13
	1-30	Stabilize disturbed soils as soon as possible.	2	0	0	0	0	0	2	1	0	0	0	1	2	0	0	13	20
	1-31	Minimize the use of cut and fill operations. Conform such operations to topography and soils to minimize erosion potential and adequately accommodate runoff.	1	0	0	0	0	0	0	2	0	0	0	2	0	0	2	7	20
	1-32	Use appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100
	1-33	Encourage construction site management techniques which include the proper handling and disposal of pesticides and petroleum products and containers.	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	7	93
	1-34	Ensure proper operation and maintenance of runoff management facilities.	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	13
	1-35	Target training for contractors, inspectors and zoning and planning officials.	2	2	0	0	0	0	0	0	2	2	2	2	2	0	0	0	47
	1-36	Require tree surveys and/or cutting plans.	0	0	0	0	2	0	2	0	0	0	0	0	2	1	2	7	27
	1-37	Develop priority list for BMP's - use of vegetative low areas for retention/infiltration.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1-38	Encourage cluster development.	0	0	0	0	2	2	2	1	0	0	0	2	2	0	2	7	40
	1-39	Require connection to and/or extension of existing water & sewer if project is within 500 feet of existing infrastructure.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	93	7
	1-40	Enact limits on driveway grades.	2	0	0	0	0	2	0	0	0	0	0	2	2	1	2	7	33
	1-41	For redevelopment, employ regulations that provide for technologically advanced (on and off) site wastewater treatment systems to optimize efficiencies and address "challenging" sites.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1-42	Implement Federal/State Stormwater (SPDES) Phase II requirements.	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	0	93

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)	
2. FORESTRY & AGRICULTURE																				
A. Forestry	2-01	Consider potential water quality impacts when selecting silviculture system (yarding system, site preparation, pesticides employment, etc.).	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2-02	Consider harvesting practices.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2-03	Seasonal preference for logging operations.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2-04	Have specialists (geologist, soil scientist, geotechnical engineer, wildland hydrologist) review plans in high erosion hazard areas.	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
	2-05	Preplan harvest areas, skid trails, and access so as to be on stable soils and avoid steep gradients, multiple stream crossings, poor drainage areas, etc.	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7
	2-06	Limit grades of access roads.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2-07	Require stabilization of roads/drives to forestry site.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	7
	2-08	Employ natural topography and contour for design of road network.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2-09	Require stormwater controls for increased runoff from ground cover modification.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0
	2-10	Consider site restoration.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0
B. Agricult.	2-11	Use Agricultural Environmental Management (AEM).	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100
	2-12	Require farms seeking agricultural value assessment to participate in AEM.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)	
3. WATERWAYS & WETLANDS																				
A. Modified Waterways	3-01	Develop an operation and maintenance program for existing modified streams that includes identification of opportunities and actions to restore habitat and the physical and chemical characteristics of these streams.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3-02	Improve stream quality by controlling instream sedimentation and selectively clearing debris.	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	7	7
	3-03	Establish or reestablish riparian buffers.	2	1	0	0	0	2	2	0	0	2	0	1	1	0	0	0	20	27
	3-04	Prevent animal wastes from entering waterbodies.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100
	3-05	Attempt vegetative stabilization before undertaking structural measures.	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	13
	3-06	Design and construct shore erosion control facilities, in accordance with an erosion and sedimentation control plan, in areas where marsh creation and soil bioengineering are ineffective or where existing protection methods are being flanked or are falling.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3-07	Schedule periodic maintenance of sediment control measures, and inspect and repair them as needed in conformance with established schedule.	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	7
	3-08	Protect streambanks through direct nonstructural means, such as new vegetation or protection of existing vegetation; direct structural means, such as revetments and bulkheads; indirect nonstructural means, such as regulating irrigation near streambanks or rerouting overbank drainage; or indirect structural means, such as deflecting channel flow away from streambanks with dikes, board fences and gabions.	1	0	0	0	0	2	1	0	0	2	0	1	0	0	0	0	20	13
	3-09	Use setbacks to minimize disturbance of land adjacent to streambanks and shorelines.	2	0	0	0	2	2	0	2	1	0	0	1	0	0	1	0	20	27
	3-10	Prevent discharges to waterbodies in amounts that would adversely affect the taste, color or odor of the waters, or would impair the waters for their best usages.	2	0	0	0	0	0	2	0	0	2	0	2	0	0	2	0	0	33
B. Wetland & Riparian Areas	3-11	Consider wetlands and riparian areas and their nonpoint source (NPS) control potential on a watershed scale.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	13	0	
	3-12	Identify existing functions of those wetland and riparian areas with significant NPS control potential when implementing NPS management practices. Do not alter wetlands or riparian areas to improve their water quality at the expense of their other functions.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3-13	Conduct permitting, licensing, certification and nonregulatory NPS pollution activities in a manner that protects wetland functions.	0	0	0	0	1	0	2	0	0	0	0	2	0	0	0	0	7	13
	3-14	Special zoning considerations to protect wetland areas.	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	13
	3-15	Use appropriate pretreatment practices such as vegetated systems or detention or retention basins to prevent adverse impacts to wetland functions that affect NPS pollution abatement from hydrologic changes, sedimentation, or contaminants.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0
	3-16	All projects should require wetlands certification.	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)
4. MARINAS																			
A. Existing Marinas	4-01	Clean maintenance areas regularly preferably by vacuuming to remove trash, sandings, paint chips, etc.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-02	Prevent residue from being carried into surface waters by performing abrasive blasting within plastic tarp enclosures on windless days or within spray booths.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-03	Provide proper disposal/recycling facilities to marina patrons, preferably covered receptacles.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-04	Establish fish cleaning areas, and implement rules governing the conduct of fish cleaning operations.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-05	Educate boaters on the importance of proper fish cleaning practices.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-06	Implement fish composting where appropriate.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-07	Store materials in areas impervious to the type of material stored. Build curbs, berms, or other barriers around the areas to contain spills.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-08	Use separate, clearly labeled containers for the disposal of oil, gasoline, antifreeze, diesel, kerosene, and mineral spirits.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-09	Target outreach programs about proper disposal at marina patrons through the use of signs, mailings, and other means.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-10	Promote the use in bilges of oil-absorbing materials, and replace them as necessary, preferably recycling, or disposing of them in accordance with petroleum disposal regulation.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-11	Use a container under the air vent while refueling inboard tanks if the tank vents are not equipped with a fuel/air separator.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-12	Prohibit in-water hull scraping or any underwater process to remove paint from boat hulls.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-13	Wash the boat hull above the waterline by hand, using only necessary amounts of detergents and cleaning compounds that are phosphate-free and biodegradable.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-14	Prohibit the use of detergents and cleaning compounds containing ammonia, sodium hypochloride, chlorinated solvents, petroleum distillates, alcohol, or lye.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-15	Educate individuals about the importance of trash reduction and recycling through: interpretive and instructional signs placed at marinas and boat-launching sites, pamphlets or flyers, newsletters, inserts in billings, meetings and presentations, workshops, and certification programs.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-16	Inspect pumpout facilities regularly, and repair them, if practical, under a maintenance contract with a competent contractor.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-17	Add language to slip lease agreements mandating the use of pumpout facilities and specifying penalties for failure to comply.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-18	Place dye tablets in holding tanks to identify and discourage illegal disposal.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)
	4-19	Prohibit motorized vessels from areas (define areas) that contain important shallow-water habitats.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-20	Establish and enforce no-wake zones to decrease turbidity and reduce erosion potential from boat wakes.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
B. New Marinas	4-21	Design and site marinas to maximize exchange of marina basin water. Limit basins and channels with square corners that tend to trap flotsam, and place dock structures in a manner that promotes circulation.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-22	Perform a preconstruction assessment, which includes a water quality monitoring and modeling methodology, to predict postconstruction water quality conditions.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-23	Monitor water quality during construction to protect ambient water quality to the maximum practicable extent.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-24	Develop a marina siting policy to discourage development in areas containing important habitat designated by local, state, or federal agencies.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-25	Conduct surveys and employ rapid bioassessment techniques to assess historic habitat function (e.g. spawning, nursery, migration pathways) and potential impacts to these and other biological functions and resources.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-26	Encourage the redevelopment or expansion of existing marina facilities that have demonstrated minimal environmental impacts instead of developing new marina facilities.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-27	Consider alternative sites with minimal potential environmental impacts when the use of previously disturbed sites is not feasible.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-28	Minimize disturbance of indigenous vegetation in the riparian area.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-29	Use soil bioengineering or plants, wherever conditions allow, to restore damaged habitat along shorelines and streambanks.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-30	Use properly designed and constructed engineering practices that minimize shoreline disturbance in areas where soil bioengineering and plants are ineffective.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-31	Use appropriate shore erosion control methods, such as returns or return walls, in areas where existing protection methods are being flanked or are falling.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-32	Plan and design all streambank, shoreline, and navigation structures so that they do not transfer erosion energy to or otherwise cause visible loss of surrounding streambanks or shorelines.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-33	Locate and design fuel stations so spills can be contained in a limited area.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-34	Design and install underground fuel storage tanks according to State regulations, including the provision of detection systems and automatic fuel tank and pump leak shut-offs.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-35	Provide aboveground fuel tanks and fueling areas with a curbed or diked storage area to handle containment volumes meeting State (and local) codes and inspect regularly.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)
	4-36	Use preferred pumpout systems: fixed-point, portable, dedicated slipside, and pumpout boats.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-37	Design onsite wastewater treatment systems to specifically handle waste from vessels.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-38	Post pumpout facility location and regulations at the marina. Charge fees that encourage rather than discourage facility use. Consider offsetting cost of maintaining pumpout facilities by fuel sales where these facilities are conveniently located in close proximity to one another.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
C. All Marinas	4-39	Restrict boat repair and maintenance activities to clearly marked designated areas to prevent debris from falling into the water and preventing invasive species.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-40	Secure all fueling facilities and storage areas with appropriate shut-off devices and security locks and inspect regularly.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-41	Design fueling stations with spill containment equipment that is stored in a clearly marked location, accessible to work and storage areas. Post emergency phone numbers in a prominent location.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-42	Design a spill contingency plan.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-43	Inspect and maintain all containment berms or devices in accordance with State regulations. Investigate immediately signs of leakage or spillage, and undertake cleanup in accordance with applicable BMPs.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-44	Have a trained operator prepared to respond to accidental spills.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-45	Maintain daily inventory records to identify abnormal loss or gain of liquid.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-46	Prohibit the cleaning of hoses, fittings, pumps, and other accessory equipment on piers, docks or adjacent upland to prevent runoff into the marina basin or other surface or groundwater.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-47	Create and/or maintain a dedicated fund for maintenance in the case of government-owned facilities.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0
	4-48	Restrict operation of pumpout facilities to trained marina personnel only.	0	<	<	0	<	<	0	0	<	<	0	<	<	<	<	0	0

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)
5. ROADS & BRIDGES																			
A. Existing Roads & Bridges	5-01	Conduct road and bridge maintenance (deicing material usage and storage, pothole repair, bridge washing, scraping, painting, etc.) according to BMPs.	1	1	2	2	2	2	2	2	1	1	1	1	1	2	2	47	53
	5-02	Conduct right-of-way activities (mowing, brush removal, pesticide and fertilizer use, etc.) according to BMPs.	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	0	93
	5-03	Include high percentage of indigenous plants in new landscaping on public-owned properties (excluding arboretums, horticultural gardens, and site requiring turf grasses).	2	0	0	0	0	0	1	0	0	0	0	2	0	2	0	7	20
	5-04	Implement a regular inspection and maintenance plan of existing structures.	1	2	0	2	2	2	2	2	1	1	1	1	1	2	2	40	53
	5-05	Develop and identify erosion/sediment control areas (examples include steep slopes, easily erodible soils, and nearby sensitive areas) and retrofit opportunities.	2	2	2	1	0	2	2	2	1	2	2	2	2	1	2	20	73
	5-06	Require percentage of roads to be tested with non-ice and non-sand deicing.	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	13	7
B. New Roads & Bridges	5-07	Minimize the amount of land disturbed and the duration of disturbance.	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	0	93
	5-08	Preserve natural features and conform substantially with the natural boundaries and alignment of waterbodies.	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	0	93
	5-09	Retain and protect trees and other natural vegetation on and near disturbed sites.	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	7	93
	5-10	Retain additional runoff sites.	0	0	0	1	0	0	2	0	0	0	1	0	0	0	2	13	13
	5-11	Minimize the creation of impervious areas.	1	0	2	2	2	2	2	2	2	0	0	2	0	1	2	13	60
	5-12	Treat increased runoff caused by changed surface conditions to minimize the danger of flooding, erosion and pollutants entering waterbodies prior to, during and after construction.	2	2	0	2	0	2	2	1	2	0	2	2	2	2	2	7	73
	5-13	Use temporary vegetation and mulching to protect exposed and critical areas during development.	2	2	0	2	2	2	2	2	1	2	2	2	2	2	2	7	87
	5-14	Redistribute topsoil within the boundaries of the disturbed land for seeding and planting.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100
	5-15	Stabilize disturbed soils as soon as possible.	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	7	93
	5-16	Minimize the use of cut and fill operations. Conform such operations to topography and soils to minimize erosion potential and adequately accommodate runoff.	0	0	2	2	2	2	2	1	2	2	2	2	0	2	2	7	73
	5-17	Control erosion and sedimentation prior to, during and after site preparation and construction.	2	2	2	2	2	2	2	2	2	0	2	2	0	2	2	0	87
	5-18	Require long term stormwater management plan.	2	1	0	0	0	0	2	0	0	0	0	2	0	2	0	7	27
	5-19	Require long term sedimentation control & maintenance.	2	1	0	0	0	2	2	0	0	0	0	0	0	2	2	7	33

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)	
C. All Roads & Bridges	5-20	Target existing public holdings, such as parks, for removing unnecessary impervious surfaces.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5-21	Incorporate New York State Department of Transportation design and guidance documents, standard specifications, and procedural manuals (<i>Highway Design Manual, Environmental Procedures Manual, Maintenance Guidelines, etc.</i>) into local laws and operating procedures.	1	1	2	2	2	2	2	2	1	1	2	0	1	2	0	33	53	
	5-22	Ensure application of appropriate solid and hazardous waste generation and disposal practices including source controls and recycling.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100	
	5-23	Ensure proper operation and maintenance of runoff management facilities.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100	
	5-24	Participate in Cornell Local Roads Program activities and training.	2	2	2	2	0	2	0	2	2	2	2	2	2	2	2	0	87	
	5-25	Target training programs at highway officials, contractors, construction workers, inspectors, zoning and planning officials.	2	2	2	2	0	0	2	2	2	2	2	2	2	2	0	0	80	
	5-26	Target training and outreach programs about the proper handling of materials, leakage and spill prevention and spill response procedures at maintenance staff and workers.	1	1	2	2	0	2	2	0	1	2	2	2	2	2	2	20	67	

Table 3-2. Summary of Municipal Nonpoint Assessment Form Responses, *continued*

TOPIC	No.	Practice	Fleming	Genoa	Locke	Moravia, T	Moravia, V	Niles	Owasco	Scipio	Sempronius	Summerhill	Venice	Dryden	Groton, T	Groton, V	Skaneateles	Partially adopted (%)	Fully adopted (%)	
6. ONSITE WASTEWATER TREATMENT SYSTEMS																				
	6-01	Conduct regular inspections of OWTS at a frequency adequate to determine failure and undertake required maintenance.	2	2	2	2	2	2	2	2	2	2	2	0	0	0	0	0	0	73
	6-02	Institute setback guidelines.	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	7
	6-03	Promulgate plumbing codes that require practices that are compatible with OWTS.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6-04	Target outreach programs at homeowners, contractors and developers.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	100
	6-05	Inspection of all OWTS at property transfer or within 1 year prior to transfer.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	0	93
	6-06	Require all properties within 500' of municipal service to connect.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	100	0
	6-07	Set goals for effluent limits (nitrogen, phosphorous, BOD, etc.).	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		SUM	106	77	71	77	78	92	117	79	69	83	72	122	82	79	85			

3.5 Notes

¹ Genesee/Finger Lakes Regional Planning Council. 2006 (June). *Protecting Water Resources Through Local Controls and Practices: An Assessment Manual for New York Municipalities*. Prepared for the NYS Department of State.

² Adapted from “Local Law Review Chart,” Appendix G in G/FLRPC, 2006.

³ **Town of Fleming Comprehensive Plan Addendum. 2008.**

<http://www.cayugacounty.us/portals/1/fleming/pdf/finaladdendumjuly2008.pdf>.

⁴ **Town of Fleming, NY, Zoning Law.** <http://www.cayugacounty.us/portals/1/fleming/pdf/2013revisedzoningcode.pdf>.

⁵ **Town of Fleming, NY, Zoning Law §6-9 “Owasco Lake Watershed Overlay District.”**

<http://www.cayugacounty.us/portals/1/fleming/pdf/2013revisedzoningcode.pdf>.

⁶ **Town of Fleming, NY, Zoning Law §14 “Subdivision of Land.”**

<http://www.cayugacounty.us/portals/1/fleming/pdf/2013revisedzoningcode.pdf>.

⁷ **Town of Fleming Zoning Law §15 “Site Plan Review and Approval.”**

<http://www.cayugacounty.us/portals/1/fleming/pdf/2013revisedzoningcode.pdf>.

⁸ **Comprehensive Plan, Town of Genoa, NY, April 2013.**

http://www.cayugacounty.us/portals/1/genoa/docs/Genoa_Comp_Plan_Final_Draft_3_13.pdf.

⁹ **Long-Term Plan, Town of Locke, June 2010.**

http://www.cayugacounty.us/portals/1/Locke/2010_Draft_Long_Term_Plan_fixed.pdf.

¹⁰ **Town of Locke, NY, Local Law 6, 1995, “Minor Subdivisions.”**

http://www.cayugacounty.us/portals/1/Locke/government/laws/subminor_law.htm; **Town of Locke, NY, Local Law 7, 1995 (amended 2001), “Major Subdivisions”** http://www.cayugacounty.us/portals/1/locke/government/laws/sub_law.htm.

¹¹ **Village of Moravia, NY, Local Law 1, 1988, “Comprehensive Zoning and Land Use Law.”**

<http://www.cayugacounty.us/portals/1/villageofmoravia/government/laws/1of88.htm>.

¹² **Comprehensive Plan, Town of Niles, NY, January 2010.**

http://www.cnyrpdb.org/NilesCompPlan/docs/2010_Final_Niles_Comp_Plan.pdf.

¹³ **Town of Niles Code §190 “Subdivision of Land.”** <http://www.ecode360.com/10609831>.

¹⁴ **Town of Niles Code §170 “Site Plan Review.”** <http://ecode360.com/10609747>.

¹⁵ **Town of Owasco, NY, Code §150, “Zoning.”** <http://www.ecode360.com/10888525> (orig. 1988, amended 2004).

¹⁶ **Town of Owasco Code §150-9.10 - §150-9.20 “Zoning: Environmental Protection Overlay District.”**

<http://ecode360.com/10888766>.

¹⁷ **Town of Owasco, NY, Code §126, “Subdivision of Land.”** <http://www.ecode360.com/OW0921>.

¹⁸ **Town of Owasco, NY, Code §150-72, “Zoning: Site Plan Review.”** <http://ecode360.com/10889435>.

¹⁹ **Comprehensive Plan, Town of Scipio, NY, January 2010.**

http://www.cnyrpdb.org/scipiocompplan/docs/Scipio_Comp_Plan_2011-01-06_001-050.pdf.

²⁰ **Town of Scipio, NY Zoning Law** (not online; available in hard copy only).

²¹ **Town of Sennett Comprehensive Plan. 2009.**

http://www.thomadevelopment.com/customers/projects/planning_projects/sennett-comprehensive-plan.html.

²² **Town of Sennett, Local Law 7, 2014, “Zoning Law.”**

http://www.cayugacounty.us/portals/1/sennett/Laws_Permits/E_2014_DOS_Zoning_Law_%2010_16_2014.pdf

²³ Town of Sennett Zoning law cites subdivision ordinance.

²⁴ **Town of Sennett, Local Law 7, 2014, Article 6, “Zoning Law: Site Plan Review Standards.”**

http://www.cayugacounty.us/portals/1/sennett/Laws_Permits/E_2014_DOS_Zoning_Law_%2010_16_2014.pdf.

²⁵ **Town of Summerhill, Local Law 1** (not online).

²⁶ Barton & Loguidice, PC. 2013. “**Draft Multi-Jurisdictional All-Hazard Mitigation Plan.**” Prepared for Tompkins County. Downloaded at http://tompkinscountyny.gov/planning/haz_mit.

²⁷ **Town of Dryden Comprehensive Plan, December 8, 2005.** <http://dryden.ny.us/Downloads/CompPlanFull.pdf>.

²⁸ **Town of Dryden Zoning Law, August 6, 2012.** <http://dryden.ny.us/board-commission-list/town-board/zoning>.

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- ²⁹ **Town of Dryden Stormwater Management, Erosion and Sediment Control Law.** <http://dryden.ny.us/departments/planning-department/planning/town-of-dryden-stormwater-management>. **Local Law 1 2008.**
http://dryden.ny.us/Local_Law_Postings/LL_2008_prohibit_illicit_discharge.pdf
- ³⁰ **Town of Dryden Subdivision Law, May 17, 2012.** http://dryden.ny.us/Downloads/Sub_Local_Law_all_may_2012.pdf
http://www.dryden.ny.us/Stormwater_Forms/Ground_Disturbance_Packet/Final_SW_Const_Law.pdf.
- ³¹ **Town of Dryden Zoning Law, August 6, 2012, Article XI, "Site Plan Review."** <http://dryden.ny.us/board-commission-list/town-board/zoning> and <http://issuu.com/townofdryden/docs/zoninglaw?e=5856817/2816809>.
- ³² **Joint Comprehensive Plan for the Village and Town of Groton, NY.**
http://media.wix.com/ugd/4df356_288b042b63f84a95a6f597d0790f1d04.pdf.
- ³³ **Town of Groton Land Use & Development Code of 2011, Zoning Map.**
http://media.wix.com/ugd/4df356_e7eae8c09d3b4be6bbab6891c0035864.pdf
- ³⁴ **Town of Groton Land Use & Development Code of 2011, Article 2.**
http://media.wix.com/ugd/4df356_2ade886978b446e6b50776e6144dd97b.pdf.
- ³⁵ **Town of Groton Land Use & Development Code of 2011, Article 4 (sections 440-441).**
http://media.wix.com/ugd/4df356_b158c0ad14804b39b184939326221a79.pdf
- ³⁶ **Joint Comprehensive Plan for the Village and Town of Groton, NY.**
http://media.wix.com/ugd/4df356_288b042b63f84a95a6f597d0790f1d04.pdf.
- ³⁷ **Village of Groton Code §200:** <http://www.ecode360.com/GR1261>.
- ³⁸ **Village of Groton Code §177 "Subdivision of Land."** <http://www.ecode360.com/10979704>.
- ³⁹ **Village of Groton Code §200, Article XVI, 16.** <http://www.ecode360.com/10980585#10980585>.
- ⁴⁰ **Town of Lansing Comprehensive Plan. 2006.** <http://www.lansingtown.com/departments/codes-inspections/codes-planning-docs?download=32:comprehensive-plan-2006>.
- ⁴¹ **Town of Lansing Local Laws** <http://www.lansingtown.com/departments/codes-inspections/codes-planning-docs>.
- ⁴² **Town of Lansing Stormwater Management Plan:** <http://www.lansingtown.com/departments/codes-inspections/codes-planning-docs?download=242:stormwater-management-plan>. **Town of Lansing Stormwater and Erosion Control, LL6 2009:**
<http://www.lansingtown.com/departments/codes-inspections/codes-planning-docs?download=39:stormwater-and-erosion-control-ll6-of-2009&start=20>.
- ⁴³ **Town of Lansing Local Law 2, 2008.** <http://www.lansingtown.com/downloads/category/7-local-laws?download=17:2008-02-subdivision-rules-and-regulations-of-the-town-of-lansing&start=20>.
- ⁴⁴ **Town of Lansing Local Law 1, 2015 (Land Use Ordinance), Article VII.** <http://www.lansingtown.com/departments/codes-inspections/codes-planning-docs?download=1153:current-land-use-ordinance>.
- ⁴⁵ **Town of Skaneateles Comprehensive Plan. 2005.**
<http://www.townofskaneateles.com/assets/Uploads/comprehensive.plan.pdf>
- ⁴⁶ **Town of Skaneateles Zoning.** <http://townofskaneateles.com/assets/Uploads/Town-Code/chapter.148.zoning.pdf>.
- ⁴⁷ **Town of Skaneateles Lake Watershed District.** <http://townofskaneateles.com/assets/Uploads/148-21.pdf>.
- ⁴⁸ **Town of Skaneateles Local Laws.** <http://townofskaneateles.com/town-board/town-code>.
- ⁴⁹ In addition to the laws listed, the Municipal Nonpoint Assessment considered certain state laws (e.g., **10 NYCRR 74, Approval of Realty Subdivisions; 10 NYCRR 75.5, Standards for Individual Sewage Treatment Systems**), county laws (e.g., **sanitary codes; laws to prevent the spread of aquatic invasive species**), and other municipal laws and practices that may be protective of watershed resources (e.g., **highway department standards and practices**). All towns within the watershed passed a **Flood Damage Prevention Law** in 2007.
- ⁵⁰ **Town of Genoa Local Laws.** <http://www.cayugacounty.us/portals/1/genoa/laws.html>.
- ⁵¹ Conversation with Michael Piechutta, Code Enforcement Officer, Town of Genoa, 2/10/2015.
- ⁵² **Village of Moravia, Local Law 3, 2000, "Manufactured Housing and Mobile Home Law"**
<http://www.cayugacounty.us/portals/1/villageofmoravia/government/laws/3of00.htm>.

⁵³ *New York Standards and Specifications for Erosion and Sediment Controls* (August, 2005).
<http://www.dec.ny.gov/chemical/29066.html>.

Chapter 4. Conclusion

The overview, analysis, and preliminary recommendations in this document will serve as a basis for identifying future steps that could be taken to strengthen the local institutional framework for protection of the Owasco Lake watershed, especially in terms of local laws that, with public support, could be adopted to enhance stormwater management and erosion and sediment control. This assessment will also provide a basis for identifying best management practices that would be most relevant for each municipality. Portions of this document may be incorporated into the 2016 *Owasco Lake Watershed Management and Waterfront Revitalization Plan*.