

Otsego County Water Quality
Coordinating Committee
Annual Report 2010 & 2011

Prepared by:

Otsego County Water Quality Coordinating Committee
967 County Highway 33
Cooperstown, NY 13326

6/18/2012



Table of Contents

INTRODUCTION OF WATER QUALITY COORDINATING COMMITTEE	2
COORDINATING COMMITTEE MEMBERS	2
COMMITTEE MISSION, PURPOSE AND PRIMARY FUNCTIONS	3
2010 ACCOMPLISHMENTS	5
2011 ACCOMPLISHMENTS	7

ATTACHMENTS:

- #1 Water Quality Coordinating Committee By Laws
- #2 2011 Otsego County Nonpoint Source Water Quality Strategy
- #3 Susquehanna Headwaters Nutrient Report
- #4 Otsego County Soil & Water Conservation District 2011 Report
- #5 Otsego County Conservation Association 2011 Report
- #6 Goodyear Lake Association 2011 Report
- #7 Otsego Lake Watershed Supervisory Committee 2011 Report
- #8 SUNY Oneonta Biological Field Station 2011 Staff Activity Report
- #9 Village of Richfield 2011 Water Quality Report

INTRODUCTION

OTSEGO COUNTY WATER QUALITY COORDINATING COMMITTEE

Non-point pollution (NPS) by definition is any form of pollution not being discharged from a distinguished point or source. Sources of NPS, being so diffuse and variable, will often require multi-agency involvement to remediate the existing water pollution problems. Understanding that the responsibility and interest in water quality issues are represented by a wide range of parties, a committee was formed and is known as the Otsego County Water Quality Coordinating Committee (the Committee) and functions as a subcommittee of the Otsego County Soil and Water Conservation District. The Committee is responsible for the preparation of the Otsego County Non-point Source Water Quality Strategy. The Strategy attempts to ensure that the individual efforts of local, county, state, and federal agencies regarding water quality programs and educational outreach events are coordinated for maximum effectiveness. Additionally, the Committee promotes and hosts educational outreach events and, when funding is available, implements studies and projects all focused on the reduction of non-point source pollution.

COORDINATING COMMITTEE MEMBERS

Committee membership is ad hoc and open to any agency, organization or individual demonstrating an interest in non-point source water pollution. Per Article III of the Committee's By-Laws: additions to the Committee are made by simple majority vote of members present, provided there is a quorum. A member retains a vote provided they are represented at a minimum of three meetings per year. The membership is subject to change depending on water quality interests and priorities. Each member has the responsibility to inform its respective boards about the programs, special activities and projects being carried out by the Committee.

Current Committee Make-up:

Biological Field Station of SUNY-Oneonta (BFS)
Canadarago Lake Improvement Association (CLIA)
Cooperstown Water Board
Cornell Cooperative Extension of Otsego County (CCE)
Goodyear Lake Association (GLA)
New York Center for Agricultural Medicine and Health
NYS Department of Environmental Conservation (NYSDEC)
NYS Department of Health (DOH)
NYS Department of Transportation (DOT)
NYS Pomona Grange
NYS Soil and Water Conservation Committee
Otsego County Conservation Association (OCCA)
Otsego County Economic Development Committee
Otsego County Farm Bureau
Otsego County Highway, Forestry and Parks Department
Otsego County Planning Department – current voting member
Otsego County Public Health Department

Current Committee Make-up (continued):

Otsego County Soil and Water Conservation District (SWCD)
Otsego Lake Association (OLA)
Otsego Lake Watershed Supervisory Committee (WSC)
Otsego Land Trust (OLT)
Otsego 2000
Southern Tier East Regional Planning Development Board
USDA Farm Service Agency (FSA)
USDA Natural Resources Conservation Service (NRCS)

THE COMMITTEE’S MISSION, PURPOSE AND PRIMARY FUNCTIONS

The Committee has the responsibility to integrate the diverse non-point source water quality pollution control and abatement programs of committee members into a well coordinated, comprehensive and effective approach, established at the local level. The Committee is committed to identifying and prioritizing non-point source water pollution problems and developing conservation measures using Best Management Practices (BMP’s) which correct, mitigate or preclude the degradation of Otsego County’s surface and ground water resources. The Committee’s primary functions are a combination of information sharing, outreach and education, coalition building, priority setting and problem solving through collaboration of individual implementation efforts. When the Committee, by consensus, identifies the need to add or delete a water body segment to the Priority Waterbody List (PWL), it will make recommendations to NYSDEC Division of Water for such changes. The Committee will inform the general public of its activities, goals, and accomplishments using available private, local, state, and federal news publications, radio broadcasts, and provide special presentations to concerned groups, which identify the need.

THIS REPORT

This report constitutes a brief description of the Committee’s activities during the years 2010 and 2011. Attached also are the Committee’ By-Laws, the 2011 County Nonpoint Source Water Quality Plan and the 2011 annual reports or updates of some committee members.

2010 Accomplishments

Emphasizing the WQCC's role in bringing information to the public, the Committee held a series of public presentations regarding a variety of local environmental and water quality issues:

One topic that was often discussed around the County in 2010 was the prospect of natural gas development in Otsego County. In an effort to bring information to those landowners who would be likely to experience development the Committee hosted Matthew Brower from the New York State Department of Agriculture and Markets to discuss '*Agricultural Resource Protection at Gas Well Drilling Sites*'. In his presentation, Brower discussed the proper location of access roads, wells and gas pipelines to minimize agricultural resource impacts and the correct construction and restoration measures available to minimize the potential damage to agricultural resources.

Another topic that has continued to engage County residents is climate change. In order to bring relevant information to one of the main components of our local community, the Committee hosted public presentation by Phil Metzger from the USDA-NRCS office of Central New York Resource Conservation and Development on "*Agricultural Carbon Trading & the Regional Greenhouse Gas Initiative*". At the presentation Metzger discussed the basic principles behind a cap-and-trade system, described how agricultural practices fit into such a system, and outline how rural farmers and landowners might participate in and benefit from such a program.

Given the Committee's focus on water quality, it frequently acts as a venue to discuss and promote topics relevant to the County's lakes. In 2010, the Committee hosted Thomas Breiten to discuss "*Otsego Lake Shoreline Protection through Municipal Planning*". The presentation revolved around current land use laws in the surrounding towns of Middlefield, Otsego and Springfield and opportunities for improved resource protection, enhanced aesthetic value and for carefully managed development in the Shoreline Protection District of Otsego Lake.

Other activities undertaken by the Committee in 2010 include:

Supporting the *Leatherstocking Envirothon*; an outdoor, hands-on, environmental education competition in which teams of five students from area high schools are tested in several areas of knowledge, including: wildlife, aquatic ecology, forestry, soils/land use, and a current environmental issue – groundwater protection through urban, agricultural and environmental planning. Participating schools were: Milford, Worcester, Cooperstown, Laurens, Oneonta and BOCES.

Facilitating the 6th *Otsego Lakes Festival* which offered residents and visitors a day full of fun and festivities celebrating our counties lakes – educational exhibits, children's activities, hands-on workshops and lake tours all focussed on the importance of protecting our waterways and ensuring water quality throughout our region. Vendor

booths included information on rain gardens, lawn and garden maintenance, shoreline restoration, water conservation strategies, activities for the kids, and fresh local produce.

Completion and distribution of the “*Susquehanna Headwaters Baseline Water Quality Monitoring Report*”; a preliminary report of nutrient data (nitrogen and phosphorus) collected between May 2009 and May 2010 at the outflow of Otsego County’s fourteen 11-digit Hydrologic Unit Codes watersheds (HUC’s).

The names of each watershed sampled, along with their HUC number and area, are provided in the table below and the report is attached as Attachment 3.

<i>SR Headwatersheds: 11-Digit Hydrologic Unit Code</i>		
<u>11 Digit HUC</u>	<u>Watershed Name</u>	<u>Area (square miles)</u>
2050101140	Upper Unadilla	172
2050101150	Wharton Creek	93
2050101160	Butternut Creek	130*
2050101180	Lower Unadilla	108*
2050101120	Middle Susquehanna River	109
2050101080	Otsdawa Creek	20
2050101070	Otego Creek	109
2050101060	Charlotte Creek	176
2050101040	Elk Creek	33
2050101050	Schenevus Creek	86
2050101030	Upper Susquehanna River	82
2050101020	Cherry Valley Creek	92
2050101010	Oaks Creek	102
2050101035	Otsego Lake	78

2011 Accomplishments

Continuing to focus on the WQCC's role in bringing information to the public, the Committee held a series of public presentations regarding a variety of local environmental and water quality issues:

Michael W. Lovegreen, Bradford County Conservation District Manager, was hosted to present a talk on horizontal high-volume hydraulic fracturing entitled "*High Volume Hydrofracturing: An Overview from Ground Zero, Bradford County, PA*". Mr. Lovegreen discussed experiences in Bradford County, Pennsylvania, both positive and negative, relating to the natural gas industry as well as the broad effects of the natural gas industry on natural resources, forestry/hunting, rental income, tourism and businesses/services.

Following up the general information and experiences of Bradford County, the Committee hosted Stephen Penningroth, the Director of the Community Science Institute (CSI), to discuss "*Water Quality in the Southern Tier: Establishing Pre-Drilling Surface Water and Groundwater Baselines Through Informal Monitoring Partnerships*". This presentation described CSI's recent initiative to establish a regional groundwater baseline before the possible advent of high volume hydraulic fracturing for natural gas in the Southern Tier. Mr. Penningroth also discussed ongoing stream monitoring programs with volunteer groups, highlighted risks to surface water and groundwater from the shale gas industry, shared strategies for partnering with concerned citizens perform water quality monitoring and summarized the results of baseline tests on stream and groundwater samples performed by the CSI's certified lab to date.

In order to offer the general public information on alternative forms of energy, the Committee hosted a dozen students from Otsego Northern Catskill BOCES to present information on "*Micro Hydroelectric Renewable Energy Systems*". Under the direction of agriculture production and science teacher John Janiszewski and science co-teacher Jill Eichler, the students presented information regarding the feasibility and set-up of micro hydroelectric systems in our local landscape. This presentation not only served to provide information to the public, but also increased students' knowledge about energy issues, global climate change and potential solutions.

Tony Capraro and Bill Gibson, representatives from the U.S. Department of Agriculture's Otsego County Field Office were hosted to present "*Value, Enhancement & Protection of Riparian Buffers*". This presentation provided an introduction to the importance and function of riparian buffers, planting strategies for landowner and an overview of federal programs available for the enhancement and protection of riparian buffers along streams and rivers.

George Casey, United States Army Corps of Engineers was hosted to present "*Methods of Shoreline Protection and the Permitting Process*"; a discuss on the preferred methods of lake shoreline protection and the joint permitting process for the Army Corps and the New York State Department of Environmental Conservation. The presentation was

attended by both lakeside residents who would like to address their shoreline issues and private contractors who typically perform this type of work.

Other activities undertaken by the Committee in 2011 included:

Updating the *Otsego County Non-point Source Pollution Strategy* (Attachment 2); during this process the Committee developed a list of waterbody priorities derived from the NYSDEC Priority Waterbody List (PWL), local water quality monitoring and local interest. The waterbodies listed below were selected but are not in order by priority.

1. CANADARAGO LAKE
2. UNADILLA RIVER, UPPER & LOWER
3. CHERRY VALLEY CREEK
4. ELK CREEK
5. GOODYEAR LAKE
6. OCQUIONIS CREEK
7. OTSEGO LAKE & TRIBUTARIES
8. BUTTERNUT CREEK
9. SUSQUEHANNA RIVER, MIDDLE & UPPER
10. WHARTON CREEK
11. SCHENEVUS CREEK

Highest priority assistance will be directed toward impacted water resources used primarily for public potable water supplies. Priorities concerning non-potable water segments will be developed by the consensus of the Committee, available funds and referred to the appropriate governing body.

Current countywide non-point source water quality concerns identified by the WQCC are as follows:

1. Runoff of nutrients and sediment by:
 - A. Construction and road ditching
 - B. Agriculture
 - C. Diffuse urban runoff
 - D. Hydrologic modification
2. On-site wastewater.
3. Storage of excess snow and storage and application of deicing agents.
4. Public knowledge of non-point source pollution in general, and through the collection and distribution of quantitative data at the County level.
5. Prevention and management of invasive and exotic introductions (water chestnuts, zebra mussels, etc...)
6. Potential impacts related to proposed high volume, horizontal hydraulic fracturing for natural gas exploration/exploitation.

The Strategy describes how the Committee will provide a means to research and share information with the appropriate stakeholders, provide outreach and education to the general public, assist Committee members and others to facilitate coalition building and partnerships and

set additional priorities through local consensus. Funding, when available, will be utilized to carry out one or more components of this strategy by addressing a specific area of concern.

Lastly, in 2011 the Committee supported the *Leatherstocking Envirothon*; an outdoor, hands-on, environmental education competition in which teams of five students from area high schools are tested in several areas of knowledge, including: wildlife, aquatic ecology, forestry, soils/land use, and a current environmental issue – protecting freshwater aquifers. Participating schools were: Milford, Worcester, Cooperstown, Laurens, Oneonta and BOCES.

ATTACHMENT #1

**OTSEGO COUNTY WATER QUALITY
COORDINATING COMMITTEE
BYLAWS**

ARTICLE I - NAME

Section 1. This committee shall be known as the Otsego County Water Quality Coordinating Committee. (OCWQCC).

ARTICLE II - OBJECTIVE

Section 1. The objective of the OCWQCC shall be to “formulate and actively support a county-wide water quality strategy that recommends best management practices to ensure water quality, and to provide decision makers (local governments) with educational and other resources to reduce nonpoint source pollution and better protect water resources within their localities.”

ARTICLE III - MEMBERSHIP & VOTING

Section 1. The OCWQCC was established in 1992 as a sub-committee of the Otsego County Soil and Water Conservation District. It is comprised of a diverse group of people representing state and local government agencies, non-profit organizations, academic institutions, and lake associations. These members have technical expertise and knowledge and are committed to working to improve and maintain the quality of water in Otsego County through the reduction of nonpoint source pollution within its boundaries.

Section 2. The member organizations are: Biological Field Station of SUNY-Oneonta; Canadarago Lake Improvement Association; Cooperstown Water Board; Cornell Cooperative Extension of Otsego County; Goodyear Lake Association; New York Center for Agricultural Medicine and Health; NYS Department of Environmental Conservation; NYS Department of Health; NYS Department of Transportation; NYS Pomona Grange; NYS Soil and Water Conservation Committee; Otsego County Conservation Association; Otsego County Economic Development Committee; Otsego County Farm Bureau; Otsego County Highway, Forestry and Parks Department; Otsego County Planning Department; Otsego County Public Health Department; Otsego County Soil and Water Conservation District; Otsego County Sportsman Federation; Otsego Lake Association; Otsego Lake Watershed Supervisory Committee; Otsego Land Trust; Otsego 2000; Southern Tier East Regional Planning and Development Board; USDA Farm Service Agency; and USDA Natural Resources Conservation Service.

Section 3. OCWQCC representatives are appointed by the member organizations and report to their respective groups and agencies.

Section 4. Membership can be reviewed and additions made by simple majority of members present, provided there is a quorum (Article VII, Section 8).

Section 5. Each member organization is granted one vote. A simple majority of those represented is needed to make any final decision or take any action, provided there is a quorum. In the event that committee action is necessary between committee meetings, decisions can be made by via e-mail, provided there is a quorum.

Section 6. To be a voting member of the OCWQCC, and to maintain voting status, organizations must be represented at a minimum of three meetings per year as recorded and verified in the minutes.

Section 7. Members are encouraged to contribute annual voluntary membership dues in an amount to be determined by the member organization on or about October 1 of each year.

ARTICLE IV- OFFICERS

Section 1. Officers of the OCWQCC, or Executive Committee, shall be comprised of a Facilitator, Vice-Facilitator, Secretary and Treasurer – all members of the committee – to be elected annually in January by simple majority of members present, provided there is a quorum.

Section 2. The Facilitator shall serve for the full calendar year or until a successor has been elected and qualified to take office and shall preside at all OCWQCC meetings. The Facilitator shall sign and execute all letters written on behalf of the committee. The Otsego County Soil and Water Conservation District shall sign and execute all contracts that are in the sole name of the committee.

Section 3. The Vice-Facilitator shall, in the absence of the Facilitator, perform the duties of that officer.

Section 4. The Treasurer shall keep correct and complete books and records of account for the committee and will be an employee of the Otsego County Soil and Water Conservation District. The Treasurer shall have such other powers and duties as may be properly designated by the Facilitator. The treasurer will provide a report of the OCWQCC financial status at each meeting.

Section 5. The Secretary shall keep full minutes of all meetings of the committee and shall see that all notices are duly given in accordance with the provisions of the By-laws or as required by law. The Secretary shall be the custodian of the records and shall provide the Otsego County Soil and Water Conservation District with a copy of all meeting agendas and minutes to be archived. The Secretary shall have such other powers and duties as may be properly designated by the Facilitator.

Section 6. The Otsego County Soil and Water Conservation District shall be the lead agency for the OCWQCC and shall serve as administrator of all committee funds and special programs.

ARTICLE V - RULES OF ORDER

Section 1. The Facilitator shall establish the order of all meetings, as per Robert's Rules of Order. See Appendix A.

ARTICLE VI - EXPENDITURES

Section 1. Decisions on expenditures shall be by simple majority of members present, provided there is a quorum. Cash expenditures under \$50 can be approved at the sole discretion of the Executive Committee.

Section 2. OCWQCC funds shall be held in a separate account by the Otsego County Soil and Water Conservation District with no administrative charge.

ARTICLE VII - MEETINGS

Section 1. The OCWQCC meets 12 times a year, once a month, usually on the last Wednesday at 1:00 p.m. in the conference room of the Otsego County Soil and Water Conservation District. Meetings are sometimes held at alternate locations, to be determined by simple majority of members present, provided there is a quorum, and announced to the full group in advance.

Section 2. Four of the 12 meetings – in January, April, July and October – are to be general meetings, e.g. focusing on the activities of the member organizations present, and old and new business. The January meeting will be the “Annual Meeting” where the Executive Committee members are voted in. The rest of the meetings are targeted to issues of our objectives based on topics of interest (e.g. drainage and flooding; snow storage and disposal; created wetlands; streambank erosion; algae accumulation; steep slope development; goose management, etc.)

Section 3. The length of all meetings shall be a maximum of 2-1/2 hours.

Section 4. Members will be encouraged to prepare written updates on projects to shorten meetings and to help construct future Annual Reports and or Water Quality Strategy updates.

Section 5. If a meeting is cancelled, an alternate date is set. The Facilitator can call additional meetings whenever a situation arises that requires attention by the committee.

Section 6. Interested parties are welcome to sit in on meetings and will be given an opportunity to comment at the close of the departmental reports. Guests do not enjoy voting privileges.

Section 7. The Secretary mails or e-mails meeting notices, agendas, and minutes to all committee members at least one week prior to each committee meeting. The agenda for meetings shall be determined by the Facilitator. Any committee member may place items on the agenda by notifying the Secretary at least two weeks prior to the scheduled meeting date. Minutes of all meetings are prepared and distributed at the direction of the Secretary and will include the date, time and location of the next scheduled meeting.

Section 8. Meetings are chaired by the Facilitator or, in his/her absence, by the Co-Facilitator. The members present at any meeting are deemed sufficient to convene.

Section 9. Seven representatives from seven separate membership organizations constitute a quorum.

ARTICLE VIII – AD HOC COMMITTEES

Section 1. Ad hoc committees will be established by the OCWQCC for the purpose of carrying out specific tasks that the group wishes to undertake. An ad hoc committee will exist for a period of time determined by the OCWQCC. At the end of this period, the OCWQCC will review the efforts of the committee and may approve the continuance of the committee for an additional period of time. The Chair of any ad hoc committee will be appointed by the Facilitator to serve during his/her term of office. At the time of appointment of all ad hoc committees, a written description of the purpose, goals and duties of said committee will be created and approved by the OCWQCC.

ARTICLE IX - DISSOLUTION

Section 1. In the event of the dissolution of the OCWQCC, any assets which cannot be returned to the original source of the funds will be transferred to an organization of charity whose goals are compatible with those of the OCWQCC. None of the assets shall be distributed to the benefit of any individual.

Established 3-25-96

Amended 3-25-09

Revised 8-18-09

ATTACHMENT #2

**2011
OTSEGO COUNTY
NON-POINT SOURCE
WATER QUALITY STRATEGY**

Developed by:
The Otsego County Water Quality Coordinating Committee

Otsego County Water Quality Strategy
Developed 8/92
Revised 7/93, 6/96, 12/96, 3/97, 10/00, 7/01, 1/03, 12/04, 4/05, 6/11

Table of Contents

	Page
INTRODUCTION OF WATER QUALITY COORDINATING COMMITTEE	2
COORDINATING COMMITTEE MEMBERS	2
COMMITTEE MISSION, PURPOSE AND PRIMARY FUNCTIONS	3
PRIORITY WATER QUALITY PROBLEMS	3-4
IMPLEMENTING THE STRATEGY	4
CURRENT COUNTYWIDE NON-POINT SOURCE POLLUTION CONCERNS	5-13
ACCOMPLISHMENTS TO DATE & ON-GOING EFFORTS	14-15
SUMMARY OF ORGANIZATION ROLES AND RESPONSIBILITIES	16-22
ATTACHMENTS	
#1 COMMITTEE BY-LAWS	
#2 THE SUSQUEHANNA RIVER BASIN WATERBODY INVENTORY AND PRIORITY WATERBODIES LIST – AUGUST 2009	
#3 SUSQUEHANNA HEADWATERS BASELINE WATER QUALITY MONITORING REPORT 2009-2010	

INTRODUCTION

OTSEGO COUNTY WATER QUALITY COORDINATING COMMITTEE

Non-point pollution by definition is any form of pollution not being discharged from a distinguished point or source. These sources being so diffuse and variable will often require multi-agency involvement to remediate the existing water pollution problems. Comprehending that water quality responsibilities and interests are portrayed by a wide range of agencies, organizations, and groups, a committee involving all the respective agencies has been organized by the Otsego County Soil and Water Conservation District and is known as the Otsego County Water Quality Coordinating Committee (hereafter referred to as the Committee). It functions as a subcommittee of the Otsego County Soil and Water Conservation District. The Committee is responsible for the preparation of this Otsego County Non-point Source Water Quality Strategy which ensures that the individual efforts of local, county, state, and federal agencies regarding water quality programs and educational outreach events are coordinated for maximum effectiveness. Water quality programs specific to each member are described below. Additionally, the Committee promotes and hosts educational outreach events and, when funding is available, implements studies and projects all focused on the reduction of non-point source pollution.

COORDINATING COMMITTEE MEMBERS

Committee membership is ad hoc and is open to any agency, organization or individual demonstrating an interest in non-point source water pollution. Per Article III of the Committee's By-Laws: additions to the Committee are made by simple majority vote of members present, provided there is a quorum and each member organization is granted one vote provided they are represented at a minimum of three meetings per year. The membership is subject to change depending on water quality interests and priorities. Each member has the responsibility to inform its respective boards about the programs, special activities and projects being carried out by the Committee.

Current Committee Make-up:

Biological Field Station of SUNY-Oneonta (BFS) – current voting member
Canadarago Lake Improvement Association (CLIA) – current voting member
Cooperstown Water Board – current voting member
Cornell Cooperative Extension of Otsego County (CCE) – current voting member
Goodyear Lake Association (GLA) – current voting member
New York Center for Agricultural Medicine and Health
NYS Department of Environmental Conservation (NYSDEC)
NYS Department of Health (DOH)
NYS Department of Transportation (DOT)
NYS Pomona Grange
NYS Soil and Water Conservation Committee
Otsego County Conservation Association (OCCA) – current voting member
Otsego County Economic Development Committee
Otsego County Farm Bureau
Otsego County Highway, Forestry and Parks Department
Otsego County Planning Department – current voting member
Otsego County Public Health Department
Otsego County Soil and Water Conservation District (SWCD) – current voting member

Current Committee Make-up (continued):

Otsego Lake Association (OLA) – current voting member
Otsego Lake Watershed Supervisory Committee (WSC)
Otsego Land Trust (OLT)
Otsego 2000 – current voting member
Southern Tier East Regional Planning Development Board
USDA Farm Service Agency (FSA)
USDA Natural Resources Conservation Service (NRCS) – current voting member

THE COMMITTEE’S MISSION, PURPOSE AND PRIMARY FUNCTIONS

The Committee has the responsibilities to integrate diverse non-point source water quality pollution control and abatement programs of committee members into a well coordinated, comprehensive and effective approach, established at the local level. The Committee is committed to identifying and prioritizing non-point source water pollution problems and developing conservation measures using Best Management Practices (BMP’s) which correct, mitigate or preclude the degradation of Otsego County’s surface and ground water resources. The Committee’s primary functions are a combination of information sharing, outreach and education, coalition building, priority setting and problem solving through collaboration of individual implementation efforts. When the Committee, by consensus, identifies the need to add or delete a water body segment to the Priority Waterbody List (PWL), it will make recommendations to NYSDEC Division of Water for such changes. The Committee will inform the general public of its activities, goals, and accomplishments using available private, local, state, and federal news publications, radio broadcasts, and provide special presentations to concerned groups, which identify the need.

PRIORITY WATERBODIES

While water quality problems throughout the County will be addressed by the Committee, to focus activities the Committee has developed a list of waterbody priorities derived from the NYSDEC Priority Waterbody List (PWL), local water quality monitoring and local interest. Waterbodies below are not necessarily in order by priority.

**THE 2011 PRIORITY WATERBODY LIST
FOR OTSEGO COUNTY**

- 12. **CANADARAGO LAKE**
- 13. **UNADILLA RIVER, UPPER & LOWER**
- 14. **CHERRY VALLEY CREEK**
- 15. **ELK CREEK**
- 16. **GOODYEAR LAKE**
- 17. **OCQUIONIS CREEK**
- 18. **OTSEGO LAKE & TRIBUTARIES**
- 19. **BUTTERNUT CREEK**
- 20. **SUSQUEHANNA RIVER, MIDDLE & UPPER**
- 21. **WHARTON CREEK**
- 22. **SCHENEVUS CREEK**

Highest priority assistance will be directed toward impacted water resources used primarily for public potable water supplies. Priorities concerning non-potable water segments will be developed by the consensus of the Committee and referred to the appropriate governing body.

IDENTIFIED CONCERNS:

Current countywide non-point source water quality concerns identified by the WQCC are as follows:

7. Runoff of nutrients and sediment by:
 - E. Construction and road ditching
 - F. Agriculture
 - G. Diffuse urban runoff
 - H. Hydrologic modification
8. On-site wastewater.
9. Storage of excess snow and storage and application of deicing agents.
10. Public knowledge of non-point source pollution in general, and through the collection and distribution of quantitative data at the County level.
11. Prevention and management of invasive and exotic introductions (water chestnuts, zebra mussels, etc...)
12. Potential impacts related to proposed high volume, horizontal hydraulic fracturing for natural gas exploration/exploitation.

IMPLEMENTING THE STRATEGY

The Committee will primarily function as: 1) a means to research and share information with the appropriate stakeholders (depending on the concern being addressed); 2) provide outreach and education to the general public through public presentations covering the topics described above and emerging issues; 3) assist Committee members and others to facilitate coalition building and partnerships; and 4) set priorities through local consensus.

Implementation of Best Management Practices (BMP's) meant to mitigate the concerns identified above will largely be addressed through the actions of individual members through programs and projects facilitated by those members. The function of the Committee will be to coordinate efforts, where appropriate, so that a comprehensive approach is taken that will maximize the expertise and resources of the partnering agencies.

(there is an extra space here)Funding, when available, will be utilized to carry out one or more components of this strategy by addressing a specific area of concern.

This strategy will serve as a working document and be updated annually by the Committee.

STORMWATER RUNOFF - CONSTRUCTION

PROBLEM

From housing developments to potential industrial activity, the development of land requires construction activities that can result in significant soil erosion, leading to sedimentation of our surface waters. Although steep-slope development is increasing, many of the development projects in the county only involve the subdivision of property with individual lots being randomly developed over extended periods of time making an overall erosion/sediment control plan for the development impractical or impossible to implement at this time. NYSDEC requires the preparation of a stormwater/erosion and sediment control plan for developments in excess of one acre.

ACTION PLAN

Outreach and education activities that assist individual municipalities in the review of construction site plans and identify potential erosion/sediment problems to nearby waterways as well as suggest best management practices.

Develop an education/public awareness program, including “How To” sheets for both homeowners and contractors on controlling erosion and runoff during single lot development.

Develop and conduct presentations and workshops for public officials, local highway departments, developers, consultants, code enforcement officers, and contractors on erosion and sediment control.

Provide information relevant to the adoption of stormwater management erosion/sediment control ordinances by local municipalities that address proper stormwater planning and ensures plan implementation.

Encourage the utilization of the Management Practices Catalogue published by NYSDEC to a greater extent.

IDENTIFIED AREAS OF CONCERN

The waterbodies of the entire County, especially lakeside development and priority waterbodies. Road and bridge construction and maintenance.

STORMWATER RUNOFF - AGRICULTURE

PROBLEM

Poor land management and intensive production activities on agricultural lands can result in pollution of surface water and groundwater by sediment, nutrients, and agricultural chemicals. Improper manure management, barnyard runoff, over fertilization, livestock access to streams, agricultural streambank destabilization, spreading of municipal sludge on agricultural land, and soil erosion are all primary concerns.

ACTION PLAN

NRCS and SWCD provide technical assistance to producers to implement BMP's for water quality, including but not limited to: barnyard water management, soil erosion control, milkhouse waste management and nutrient management.

FSA, NRCS and SWCD provide financial assistance to farmers who install proper BMP's for water quality.

Continue to partner with NGO's to provide additional supplemental funding to assist the local farmers participating in the Farm Bill's EQIP.

NRCS administers sections of the 2008 Farm Bill requiring farmers accepting USDA program benefits to actively implement erosion control plans.

Continue watershed monitoring and analysis to identify problem areas and to evaluate success of implementation efforts.

SWCD and NRCS will continue to assist farms with conservation plans, stream buffers and wetlands.

Seek additional state and local funding to assist farmers in implementing BMP's.

To conduct educational components that emphasize the concerns identified above.

Continue existing programs.

IDENTIFIED AREAS OF CONCERN

Otsego Lake and Tributaries
Canadarago Lake and Tributaries
Cherry Valley Creek
Butternut Creek
Schenevus Creek
Goodyear Lake

Elk Creek
Unadilla River
Ocquionis Creek
Susquehanna River
Wharton Creek

STORMWATER RUNOFF - URBAN RUNOFF

PROBLEM

Stormwater runoff from urban areas (roadways, parking lots, driveways, lawns, snow storage etc.) can transport sediment, pathogens, petroleum products, nutrients, pesticides, chloride and a number of other toxic substances. Many of these substances may leach into groundwater as well as run into surface waters. A large amount of impervious areas increase the quantity of runoff and decrease the time it takes peak runoff to occur. These factors lead to flooding problems as well as water quality problems.

ACTION PLAN

Promote BMP's such as street sweeping to appropriate local municipalities to decrease sediment and nutrient loads to local waterways.

Develop an education/public awareness program, including "How To" sheets on controlling erosion and runoff, pet waste management, appropriate fertilizer use, public and private use of de-icers, and appropriate composting techniques.

Develop and conduct presentations and workshops for public officials, local highway departments, developers, consultants, code enforcement officers and contractors on erosion and sediment control.

Provide information relevant to the adoption of the "Six Minimum Control Measures" as described in NYSDEC's Phase II Stormwater Permit Program.

Assist the City of Oneonta in preparing for potential designation as a Municipal Separate Storm Sewer Systems (MS4) community.

Obtain agreements from local/state DOT for using proper ditch maintenance practices.

IDENTIFIED AREAS OF CONCERN

Otsego County's urbanized areas or areas with a high percentage of impervious surfaces.

STORMWATER RUNOFF - HYDROLOGIC MODIFICATION

PROBLEM

Changing land use patterns are resulting in an increase in runoff, which leads to streambank erosion problems and flooding. Destabilization of streambanks leads to erosion and sediment problems.

ACTION PLAN

SWCD and DEC assist landowners and municipalities in obtaining stream disturbance permits.

NRCS provides technical and financial assistance to municipalities to stabilize streambanks damaged by flooding through PL-403 Emergency Watershed Protection.

SWCD assists municipalities and private landowners in seeking funding sources to stabilize streambanks and manage runoff that threatens public property such as roads, bridges, and culverts.

Develop and conduct workshops for municipal public works departments on proper streambank stabilization techniques.

Develop a bio-technical slope protection demonstration project.

Continue existing programs.

IDENTIFIED AREAS OF CONCERNS

Entire county.

ON-SITE WASTEWATER

PROBLEM

Many residents of the county utilize onsite wastewater systems. Old, neglected and improperly used systems, both residential and industrial, fail and can result in the contamination of surface and groundwater and are contributing to the eutrophication of many waterbodies in the county. The nature of the soils in the lake regions compounds the problem. Often, systems fail downward to the water table and problems may go undetected. Even a properly running system can cause problems to water bodies. The increase in nitrate concentrations and phosphates in some lakes is believed to be due in some part to onsite septic systems.

ACTION PLAN

DOH in Oneonta approves designs and inspects the installation of onsite systems. Upon request, they will visit a site and make recommendations to remedy a failing system.

County and Town code enforcement officers and SWCD staff perform soil percolation tests to determine the suitability of soils for an onsite septic system.

Develop a model onsite wastewater system management plan that municipalities and/or public agencies can use to improve onsite system performance.

Continue to inform and educate the public on how onsite systems work including proper maintenance and proper use.

Promote the use of the Department of Health's Appendix 75A, "Wastewater Treatment Standards – Individual Household Systems," for the siting and design of new onsite systems, and use 75A as a guide for the upgrade of existing systems.

Develop a model program for identifying failing onsite systems through routine inspections.

Conduct studies to better understand the migration of nutrients from lakeside septic systems.

Support the WSC's efforts to implement a new onsite system management program for systems in the Otsego Lake Watershed.

Utilize GIS to formulate a database of septic inspections.

Continue to investigate emerging technologies for wastewater treatment, including those designed for nutrient removal, and encourage their use in environmentally sensitive areas.

IDENTIFIED AREAS OF CONCERN

1. Canadarago Lake
2. Goodyear Lake
3. Otsego Lake and tributaries
4. Unadilla River

EXCESS SNOW STORAGE AND APPLICATION/STORAGE OF DEICING & ABRASIVE AGENTS

PROBLEM

Exposed salt and accumulated snow piles can lead to salt and other pollutants of concern leaching into groundwater or mixing with runoff and being carried to surface waters as snow melts. Spread salt and “grit” also mixes with runoff for similar results. Increasing concentrations of chlorides have been documented in some lakes. It is assumed that the storage and application of road salt, as well as stockpiling of excess snow, is at least part of the cause. Most abrasives used locally are composed of fine particles that have the potential to be carried several hundreds of miles suspended within the waterbody. Also, sediment from the road abrasives reduces the spawning habitat for our aquatic life

ACTION PLAN

Educate municipal boards as to the importance of storage structures as well as proper application.

Educate municipal highway departments as to water management practices that may reduce icing problems.

Educate municipal highway departments as to proper location of excess snow piles to reduce potential runoff.

Investigate alternatives to salt for use as deicing agents.

Alert municipalities to funding sources to construct salt storage structures.

AREAS OF IDENTIFIED CONCERN

DOT and local salt and abrasive storage units throughout the County. DOT and local salt and abrasive application practices throughout the County.
Appropriate municipalities where excess snow is stockpiled.

PUBLIC AWARENESS OF NON-POINT SOURCE POLLUTION

PROBLEM

The general public has limited awareness of non-point source pollution and water quality. Activities affecting water quality in Otsego County often go unnoticed.

ACTION PLAN

NRCS, SWCD and CCE host farm tours highlighting BMP's installed on farms.

WQCC continues to publicize water quality initiatives and study results that the groups are involved in.

WQCC distributes literature on water quality.

WQCC financially supports education programs in the county such as the Envirothon.

WQCC utilizes existing agency newsletters to publicize its efforts.

Provide public presentation of Committee's Annual Report before the County Board of Representatives.

SWCD maintains a library of water quality literature.

Continue and expand upon ongoing efforts.

Submit periodic water quality fact sheets for publication in local papers.

Expand the use of GIS in the county.

Otsego Lakes Festival and lake forums.

AREAS OF IDENTIFIED CONCERN

County-wide.

PREVENTION AND MANAGEMENT OF INVASIVE AND EXOTIC INTRODUCTIONS

PROBLEM

Non native exotic species can have extremely detrimental effects on aquatic resources. Their populations may often explode as they are released from natural controls (such as predation and disease) that exist in their native ranges. They can disrupt ecological balances at all trophic levels by competing with or preying upon native organisms, reducing biodiversity. Many can devastate game fish communities, some can cause fouling of boats and pipes, some can choke waterways and some can create aesthetic and safety issues. Virtually all waterways in Otsego County are impacted by exotic species to some extent. While too numerous to list in full, species that have had pronounced negative impacts locally include alewife (in Otsego and Canadarago lakes), zebra mussels (Canadarago, Otsego and Goodyear lakes), water chestnut (Goodyear Lake and at least one wetland near Oneonta), and Eurasian milfoil (throughout). A multitude of other exotic species having the capacity to further degrade our aquatic resources currently exists outside of Otsego County.

ACTION PLAN

Some exotic species can be controlled. Extensive hand-pulling efforts, coordinated by OCCA, have greatly reduced water chestnut in Goodyear Lake; herbicide applications have reduced it in another waterbody. Alewife is reduced in Otsego Lake through walleye stocking, and purple loosestrife is controlled county wide through the propagation and release of a host-specific leaf eating beetle. Any other means of controlling exotic species should be considered.

Most all aquatic exotic species are spread through human activities, either intentional or not. The primary efforts by the WQCC should relate to educating the public about the deleterious effects of these organisms and the importance of curbing their spread. Specific instruction on how to minimize their spread should be provided (e.g., removing plants from trailers, disinfecting boats, only using native bait, etc.). Signage, press releases and disseminations at any environmentally-oriented venue should be employed. The Village of Cooperstown has been inspecting boats before they launch at the public site. This effort should be supported.

AREAS OF IDENTIFIED CONCERN

The entire county.

IMPACTS RELATED TO POTENTIAL HIGH-VOLUME, HORIZONTAL HYDRAULIC FRACTURING FOR NATURAL GAS EXPLORATION/EXPLOITATION.

PROBLEM

The use of the new, high-volume hydraulic fracturing process in low permeable formations for natural gas recovery is likely to be a significant change in the typical land use found in Otsego County. The process differs in significant ways from drilling techniques used in the past in New York and in ways that raise environmental concerns regarding water quality, best uses of water resources and the protection of ecosystems that provide those best uses. Surface and groundwater quality are at risk of contamination from excess erosion and improper sediment control, site development, road use, drill cuttings, chemical and flowback spills, migration of methane gas and the potential for hydrologic connectivity between aquifers/water-tables and formations being fractured.

ACTION PLAN

SWCD and OCCA to continue facilitating twice monthly water quality monitoring at 50 established stream sites across the County and develop support for additional chemical analysis.

SWCD, Otsego County Planning and OCCA continue to work with other interested parties in characterizing Otsego County's ground water quality.

WQCC to provide comments to NYSDEC when appropriate regarding the regulatory framework proposed to be used to oversee the industry and host public presentations on relevant topics.

Otsego County Planning Department to continue development of a Multi-Jurisdictional Road Preservation Program.

OCCA and Otsego 2000 continue to hold outreach and educational events on local planning and local ordinance options.

OCCA to continue mapping Otsego County leased parcels.

AREAS OF IDENTIFIED CONCERN

Potentially county-wide.

ACCOMPLISHMENTS TO DATE

- 5/92 Solicited membership for the Otsego County Water Quality Coordinating Committee
- 6/92 Developed Otsego County Water Quality Strategy
- 1/93 Revised Water Quality Strategy
- 1/93 Provided input to NYSDEC to develop Priority Waterbodies List for Otsego County
- 1/93 Purchased video equipment to be used by the Committee for displays, fairs, farm shows, etc.
- 2/93 Secured funding through NYSDEC for water quality work in the Willow Brook watershed
- 4/94 Assisted in funding efforts for South Central RC&D educational efforts
- 4/94 Assisted in funding efforts for a Cooperative Extension educational publication
- 5/94 Assisted in funding efforts for the Otsego County Envirothon Team
- 2/96 Developed by-laws for Committee
- 2/96 Assisted the League of Women Voters with water quality study
- 3/96 Completed phase I of Willow Brook watershed improvement project
- 3/96 Assisted the Alliance for the Chesapeake in funding efforts of the Susquehanna Sojourn
- 4/96 Provided input to NYS DEC to update Priority Waterbodies List for Otsego County
- 4/96 Revised Water Quality Strategy
- 4/96 Agreed to financially support the “Lake Friendly Farmer” program developed by SUCO BFS
- 4/96 Established a willow plantation to be used for future stream bank stabilization projects
- 5/96 Secured \$4500.00 in Section 319 funding to implement strategy components
- 6/96 Financially supported Otsego Lake Cleanup Day
- 8/96 Hosted water taste test at county fair, distributed water quality literature
- 10/96 Planted 600 shrubs for streambank stabilization in Hayden Brook
- 12/96 Updated Water Quality Strategy
- 12/96 Provided input to U.S. Army Corps of Engineers on potential Otsego County projects to be considered for a feasibility study
- 12/96 Provided input to the Otsego Lake Watershed Management Plan being prepared by NYSDEC
- 3/97 Provided financial support to the county Envirothon
- 3/97 Purchased a groundwater model to be used for educational purposes
- 3/97 Assisted the LWV with the coordination of a satellite conference on drinking water protection.
- 5/00 Assisted the funding efforts to send the Otsego County Envirothon Team to the NYS competition.
- 7/00 Assisted in the hiring process of Otsego Lake Watershed Manager
- 8/00 Coordinated Otsego Lake Watershed Form
- 9/00 Assisted NYSDEC with the WRAPS initial process
- 5/01 Held the County’s first municipal forum
- 5/01 Assisted the funding efforts to send the Otsego County Envirothon Team to the NYS competition
- 9/01 Assisted Otsego County Solid Waste Department in funding the removal of all ag. pesticides collected, utilizing NYSDEC mini-grants
- 4/02 Utilized Cooperstown Central School seventh graders to plant the WQCC willow nursery
- 5/02 Assisted the funding efforts to send the Otsego County Envirothon Team to the NYS competition
- 6/02 Purchased a computer projector to better illustrate WQCC projects at meetings or educational opportunities

8/02 Assisted the Alliance for the Chesapeake Bay in funding efforts of the Susquehanna Sojourn

9/02 Assisted Otsego County Solid Waste Department in funding the removal of all ag. pesticides collected, utilizing NYSDEC mini-grants

1/03 Updated the NYSDEC on the WQCC progress with the WRAPS process

1/03 Assisted the hamlet of South Edmeston with a community septic study

2004 Village of Cooperstown passed a public law giving authority over the Watershed to the WSC. WSC inventoried and put into a GIS database 80% of the septic systems in the watershed. Planning and notification of inspections of systems begun in 2005 has been accomplished

06/04 Updated Otsego County Non-point Source Pollution Strategy

7/04 Held 1st Annual Otsego Lake Festival

12/05 Funded Cherry Valley Creek Watershed Study

7/06 Held 2nd Annual Otsego Lake Festival

2006 Funded Otsego Lake Watershed Coordinator position

05/07 Updated and distributed “A Plan for the Management of the Otsego Lake Watershed”

07/07 Held 3rd Annual Otsego Lake Festival

03/08 Funded county-wide water quality monitoring, sponsored Otsego County Envirothon Team, administered Otsego Lake Buoy Program, funded Cobleskill walleye recapture study

07/08 Held 4th Annual Otsego Lake Festival

02/09 Sponsored Otsego County Envirothon Team

12/09 Issued comments regarding NYS Draft Supplemental Environmental Impact Statement on high-volume hydraulic fracturing of low permeability shales

12/09 Updated Otsego County Water Quality Coordinating Committee by-laws

02/10 Sponsored/hosted public presentation on carbon trading

03/10 Sponsored/hosted public presentation on strategies for lakeside protection, sponsored Otsego County Envirothon Team

06/10 Sponsored/hosted public presentation on NYS Ag and Markets guidance regarding pipeline and well pad land reclamation

07/10 Held 5th Annual Otsego Lakes Festival

12/10 Issued report on water quality throughout county

02/11 Sponsored/hosted public presentation on natural gas exploration in Bradford County, PA

03/11 Sponsored/hosted public presentation on micro-hydro and solar power, sponsored Otsego County Envirothon Team

05/11 Updated Otsego County Non-point Source Pollution Strategy

ONGOING EFFORTS

Through monthly Committee meetings:

- Plan new programs, workshops and presentations
- Prepare news releases and newsletter articles on current water quality issues
- Develop grant proposals for future EPA, federal, state, local and private grants
- Develop reference library of water quality literature
- Attend public meetings representing and publicizing the Committee
- Oversee the implementation of The Plan for the Management of the Otsego Lake Watershed
- Assist the Otsego Lake Watershed Supervisory Committee in the implementation of the comprehensive watershed management plan
- Continue to support all water quality monitoring and education programs in the county

SUMMARY OF MEMBERSHIP ROLES AND RESPONSIBILITIES

AGENCY: Otsego County Soil and Water Conservation District (SWCD)
967 Co. Hwy. 33
Cooperstown, NY 13326

CONTACT: Scott S. Fickbohm, District Manager

AGENCY ROLE: The Otsego County Soil and Water Conservation District (SWCD) was established in 1941 by resolution of the County Board of Representatives after it was decided that a conservation district was needed to assist landowners and units of government in the conservation of soil, water and related natural resources. SWCD provides technical information and planning assistance in managing soil and water resources, and also provides technical assistance in installing Best Management Practices for water quality to landowners and units of local governments. SWCD continually seeks funding through public or private sources for the implementation of soil and water conservation measures

AGENCY: Village of Cooperstown Water Board
39 Susquehanna Ave.
Cooperstown, NY 13326
(607) 547-2561

CONTACT: Jeff Katz, Chairman

AGENCY ROLE: To ensure safe drinking water for the residents of the water district in a cost effective manner. The Board is committed to developing policies and formulating regulations through the Watershed Council (with representation from the three towns in the watershed plus the Village) in concert with the NYS Department of Health, which has regulatory responsibility for public water supplies. Otsego Lake and its watershed is the Water Board's realm of responsibility.

AGENCY: Otsego County Planning Department
County Annex Building
34 Chestnut Street
Cooperstown, NY 13326
(607) 547-4225

CONTACT: Terry Bliss, Department Director

AGENCY ROLES: The Otsego County Planning Department provides technical assistance to local municipalities in the areas of land-use planning, environmental management, economic development and grant procurement. The Planning Department serves in an educational role for local town planning boards, encouraging them to include aquifer protection mechanisms in their land-use regulations. The Planning Department works closely with the Soil and Water

Conservation District, the Natural Resources Conservation Service and Cornell Cooperative Extension in achieving this end.

AGENCY: Cornell Cooperative Extension (CCE)
123 Lake Street
Cooperstown, NY 13326
(607) 547-2536

CONTACT: Vacant

AGENCY ROLE: The Agricultural Program of Cornell Cooperative Extension serves as a source of public information, awareness and education on the issue of non-point sources of water pollution. Targeted audiences include commercial and part-time agricultural producers and the agricultural businesses serving them. Primary emphasis is identified as increasing agricultural profitability and enhancing the environment. Extension serves as the direct local linkage to the resources provided by Cornell University's Water Resources Institute as well as the many departments at the College of Agriculture and Life Sciences. Locally, the Field Crops Program priority has been that of educating producers on profitable selection and use of plant nutrients and chemicals so that the environment will not be harmed. Calibration of equipment, soil testing, and site specific recommendations are the tools used to help guarantee these goals. The NPURG computer software will be incorporated into site-specific recommendations and is now available locally.

AGENCY: USDA Natural Resources Conservation Service (NRCS)
967 Co. Hwy. 33
Cooperstown, NY 13326
(607) 547-8337

CONTACT: Anthony Capraro, District Conservationist

AGENCY ROLE: The mission of the NRCS is to provide national leadership in the conservation and wise use of soil, water and related land uses through balanced, cooperative program that protects, restores and improves those resources. NRCS works in partnership with the Otsego County Soil and Water Conservation District to provide information and direct technical assistance to landowners to prevent or correct agricultural and other nonpoint source water quality problems.

AGENCY: NYS Department of Environmental Conservation (DEC)
Region 4
1150 Westcott Road
Schenectady, NY 12306
(518) 357-2381

CONTACT: Kevin O'Conner, Environmental Engineer

AGENCY ROLE: In New York, the DEC has been designated the lead agency for water quality. Thus, DEC was responsible for the development of a Non-Point Source Management Program for New York. Early in the process, DEC recognized the need for a coordinated effort to prepare a plan to address non-point source pollution in New York State. Representatives of federal, state and local government agencies, as well as groups representing a variety of related

interests were invited to participate in a working group to help create a nonpoint source management program for the state. The resulting NPS Management Program provides an overall blueprint for the many agencies and groups involved in dealing with non-point source problems.

AGENCY: New York State Soil and Water Conservation Committee (NYSSWCC)
Capital Plaza, 1 Winners Circle
Albany, NY 12235

CONTACT: Cliff Frasier, Regional Coordinator

AGENCY ROLE: The NYS Soil and Water Conservation Committee coordinates soil and water conservation programs in the state; provides non-point source pollution prevention training and assistance to the County Water Quality Coordinating Committee; administers the Agricultural Nonpoint Source Abatement and Control Program; and aids in the development of projects and grants. The NYSSWCC is the lead agency to provide education and training to Soil and Water Conservation District directors, officers, and employees.

AGENCY: Upper Susquehanna Coalition (USC)
Tioga County SWCD
56 Main Street
Owego, NY 13827
(607) 546-5543

CONTACT: Jim Curatolo, Coordinator

AGENCY ROLE: The role of the USC is to further strengthen the coordinated regional/bi-state approach to protecting and improving water quality in the Upper Susquehanna River Basin and to seek and identify local, state and federal funding sources. One main goal of the USC is to foster an increased awareness in the public and private sector of the importance on non-point source pollution and its impacts in the upper SRB.

AGENCY: USDA Farm Service Agency (FSA)
967 Co. Hwy 33
Cooperstown, NY 13326
(607) 547-8131

CONTACT: Bill Gibson, County Executive Director

AGENCY ROLE: USDA FSA provides administrative and financial assistance to landowners and agricultural producers as permitted by federal legislation or Memorandums of Understandings initiated between the FSA and other state or federal agencies.

1. The Conservation Reserve Program, which provides annual rental payments to producers who contract to remove environmentally sensitive land from production for ten year periods or longer.
2. The Wetland Reserve Program provides financial reimbursement to landowners who will restore wetlands that have been converted to crop production along water bodies or buffers on cropland as authorized program initiatives.

AGENCY: New York State Department of Health (DOH)
28 Hill Street, Suite 201
Oneonta, NY 13820
(607) 432-3911

CONTACT: Vacant

AGENCY ROLE: The Oneonta District Office of the NYS DOH conducts public health programs in Otsego, Delaware and Greene Counties. With regard to water quality in Otsego County, the DOH's primary interests relate to public water supplies, private home water supplies, and bathing beaches. The office is responsible for 48 community water systems in Otsego County, and numerous non-community type public water systems. Activities related most closely to the Committee's function are the regulation and technical assistance provided to these suppliers for drinking water source development and protection.

AGENCY: Otsego County Conservation Association (OCCA)
Box 931
Cooperstown, NY 13326
Phone: (607) 547-4488 Fax: (607) 547-4020 E-mail:
director@occainfo.org
Website: www.occainfo.org

CONTACT: Darla Youngs, Executive Director

AGENCY ROLE: The Otsego County Conservation Association is a private, not-for-profit, (501©(3), environmental organization whose mission is the protection, appreciation, and enhancement of the natural resources in Otsego County. Since its establishment in 1968, OCCA has often worked with both public agencies and private organizations to achieve its mission. Of particular note in water quality, OCCA has, since 1996, partnered with the USDA Natural Resources Conservation Service (NRCS) to encourage enrollment of local farmers in the Environmental Quality Incentives Program (EQIP). OCCA has done this by raising funds over \$300,000 to pay all or part of the farmer's 25% cost share to carry out these projects, with the USDA paying the remaining 75%. To date, OCCA has committed significant funds to assist approximately 40 farms in the Otsego Lake watershed and six farms in the Eastern Unadilla River watershed. OCCA has funded stream monitoring for the Biological Field Station to assess the impact of these projects in the Otsego Lake Watershed. OCCA has also committed matching funds for a Soil & Water Conservation District grant application for hiring of a technician to initiate and administer a riparian buffer program for area farms. A major player in the drafting and implementation of the Plan for the Management of Otsego Lake Watershed, OCCA also provides major funding for a septic systems management program for Otsego Lake and for no-wake zone buoys on Otsego Lake. Other water quality activities undertaken by OCCA include sponsorship of Otsego Lake Clean-up Day, organization of the Otsego Lake Festival, and active participation in the Otsego County Water Quality Coordinating Committee.

AGENCY: SUNYOneonta Biological Field Station (BFS)
RD#2 Box 1066
Cooperstown, NY 13326
(607) 547- 8778

CONTACT: Matt Albright, Assistant to the Director
Holly Waterfield, Research Support Specialist

AGENCY ROLE: The Biological Field Station has served as a center for undergraduate, graduate and faculty research on Otsego Lake and its watershed since 1968. Since that time, the lake's limnology and ecology have been described in some detail. Basic monitoring has been ongoing so that trends and anomalies can be recognized. The primary function of the BFS has been to collect and interpret information for natural resource management. Environmental education directed toward students from the elementary through graduate levels regarding aquatic ecology and lake management has also been a thrust.

AGENCY: The Goodyear Lake Association, Inc.
POB 62
Colliersville, NY 13747
(607) 432-6992
www.goodyearlake.org

CONTACT: Vince Slayter : Chairman, Board of Directors

AGENCY ROLE: The purpose and object of the organization shall be the advancement of the material and social interests of its members, the improvement generally of conditions at Goodyear Lake, maintenance of association parkways, the protection of members' property, the conservation of fish and game, the preservation of the natural resources and beauties of Goodyear Lake and vicinity, and the development of the same as a comfortable safe and residential and summer camp community.

PRIORITY CONCERNS & ACTIONS: Partnering with OCCA, the Goodyear Lake Association continues to aggressively monitor and remove the aquatic invasive Water Chestnut. With the help of other WQCC agencies, we hope to measure, compare and monitor the amount of sediment buildup in noted areas of Goodyear Lake with an eye to eventual control and/or removal of the sediment build-up as noted in the federal Clean Water Act.

AGENCY: Canadarago Lake Improvement Association
PO Box
Richfield Springs, NY 13439
(315) 858-2286

CONTACT: Bill Benedict, Board Member

AGENCY ROLE: The Canadarago Lake Improvement Association provides input on water quality issues facing lake residents and lake users. Flooding levels on the lake have increased recently, impacting septic systems of lakeside residents. Currently, work progresses on a feasibility study of dredging the lake outlet.

AGENCY: NYS Department of Transportation
1 Marine Midland Plaza
Binghamton, NY 13901-3216
(607) 773-7895

CONTACT: Vacant

AGENCY ROLE: NYS Department of Transportation provides the people of New York with safe, adequate, and efficient transportation facilities at a reasonable cost in an environmentally sensitive manner. NYS DOT routinely utilizes erosion and sediment control and stormwater management practices to help protect the state's waterbodies and groundwater supplies.

AGENCY: Otsego Lake Association
PO Box 13
Springfield Center NY 13468

CONTACT: Carl Good, Director for Cooperstown

AGENCY ROLE: The Otsego Lake Association (OLA) was formed in 2002 and is comprised of property owners on and near Otsego Lake. OLA's mission is "the timely implementation of the current 'Plan for the Management of the Otsego Lake Watershed.'" To do this, OLA actively participates with other organizations and local governments on management plan projects.

AGENCY: Watershed Supervisory Committee
22 Main Street
Cooperstown, NY 13326

CONTACT: Win McIntyre, Technical Advisor

AGENCY ROLE: The Watershed Supervisory Committee (WSC) acts on behalf of the Village of Cooperstown Water Board to administer the Otsego Lake Watershed Rules and Regulations, which are part of Public Health Law Section 1100, overseen by the NYS Department of Health. The Watershed Rules and Regulations were promulgated to protect Otsego Lake, the drinking water supply for Cooperstown. The WSC is comprised of five members, two from the Village and one each from the Towns of Middlefield, Otsego, and Springfield.

AGENCY: Otsego Land Trust, Inc.
PO Box 173
101 Main Street, Pioneer Alley
Cooperstown, NY 13326

CONTACT: Peter Hujik, Executive Director

AGENCY ROLE: The mission of the Otsego Land Trust is to conserve the distinctive rural character of Otsego County through protecting open space, lands of scenic value, fragile ecosystems, farmland and forestlands. Working with private landowners the Land Trust ensures the protection of riparian areas by creating buffer zones, documenting those protected areas within the conservation easement document, and monitoring the areas annually. The Land Trust also partners with the County Soil and Water Conservation District and USDA-NRCS and Farm Service to provide information and direct technical services to landowners to prevent and/or correct agricultural and non-point water quality problems.

AGENCY: Otsego 2000, Inc.
101 Main Street, PO Box 1130
Cooperstown, NY 13326

CONTACT: Ellen Pope, Executive Director

AGENCY ROLE: Otsego 2000 believes that the Otsego Lake region is a masterpiece of nature, and that its surrounding landscapes, valleys, villages, and farms constitute a unique confluence of historic, environmental, cultural, agricultural, rural, and scenic resources. We believe that the long-term economic well-being of the region and the quality of life for its residents derives from these resources and their stewardship. Thus, we seek to protect these attributes for the benefit of present and future generations. We advance our mission through information advocacy, public education, innovative projects, economic alternatives, and strategic campaigns.

ATTACHMENT #3

Susquehanna Headwaters Baseline Water Quality Monitoring

Prepared by:

Otsego County Water Quality Coordinating Committee
967 County Highway 33
Cooperstown, NY 13326
11/15/2010

Introduction

The following is a preliminary report of water quality data collected between May 2009 and May 2010 at the outflow of Otsego County's fourteen 11-digit Hydrologic Unit Codes watersheds (HUC's). While extensive water quality monitoring is currently taking place in Otsego County, NY in specific waterbodies, this effort is meant to be a first step towards characterizing baseline water quality in the headwaters of the Susquehanna River (SR) by means of direct measurement.

Otsego County is 1,007 square miles in area. Estimates of land use are 71% forest, 27% in agriculture and 2% other (urban/developed). From the 11-digit HUC perspective, that area is divided between 14 distinct watersheds. The boundaries of these watersheds extend beyond the County borders and total an area of 1,390 square miles that all drain to the Susquehanna River and, ultimately, to the Chesapeake Bay.

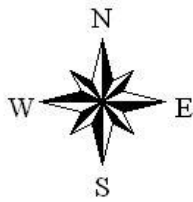
An exception to the 11-digit HUC approach is the Butternut Creek & Lower Unadilla watersheds. At the 11 HUC level, the Butternut is limited to the area above Morris, NY with the lower portion being considered part of the Lower Unadilla watershed. In order to capture watershed specific data to the greatest extent possible, the Butternut was sampled upstream of its confluence with the Unadilla River. The area for each of these watersheds was recalculated based on this sampling point.

The names of each watershed sampled, along with their HUC number and area, are provided in the table below. Sample locations are shown in Map 1.

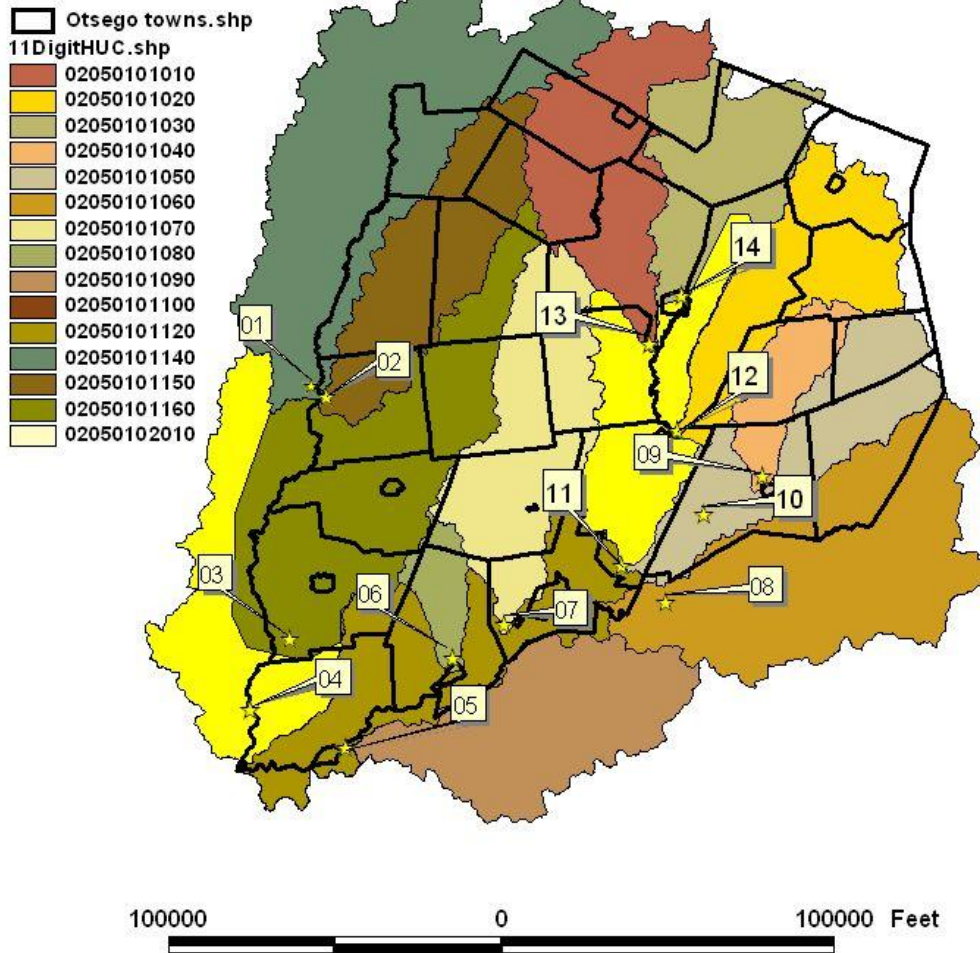
<i>SR Headwatersheds: 11-Digit Hydrologic Unit Code</i>		
<u>11 Digit HUC</u>	<u>Watershed Name</u>	<u>Area (square miles)</u>
2050101140	Upper Unadilla	172
2050101150	Wharton Creek	93
2050101160	Butternut Creek	130*
2050101180	Lower Unadilla	108*
2050101120	Middle Susquehanna River	109
2050101080	Otsdawa Creek	20
2050101070	Otego Creek	109
2050101060	Charlotte Creek	176
2050101040	Elk Creek	33
2050101050	Schenevus Creek	86
2050101030	Upper Susquehanna River	82
2050101020	Cherry Valley Creek	92
2050101010	Oaks Creek	102
2050101035	Otsego Lake	78

Table 1. Code, Name and Area of Otsego County's fourteen 11-digit HUCS's.

* Area adjusted to reflect sampling points



Sampling Sites



Map 1. Sample locations, HUC number and watershed name of the 14 11-digit HUCs sampled in Otsego County, NY.

Methodology

Sampling Protocol - Grab samples were retrieved monthly (with the exception of January 2010) with a plastic bucket from the road bridges nearest the outflow of each watershed (Map 1). The samples were then transferred to a 250 ml, acid washed high density polyethylene bottle, transported back to the SUNY Oneonta Biological Field Station (BFS) and refrigerated immediately. If analysis of all chemical parameters (see below) did not take place within 72 hours, samples were acidified with 0.2 % H₂SO₄ and kept refrigerated until analysis could be performed (EPA 1984).

The parameters measured were: ammonium (NH₃), nitrite + nitrate (NO_x), total nitrogen (TN) and total phosphorus (TP).

Lab analysis - Nitrate+nitrite (NO_x) analysis was performed using a Lachat Auto Analyzer (QuickChem® method 10- 107-04-1-C). Ammonium (NH₄) analysis was performed using a Lachat Auto Analyzer (QuickChem® method 10- 107-06-1-J). Total nitrogen (TN) analysis was performed by determining NO₃, as described above, after Persulfate digestion (Ebina *et al.*, 1983). Total phosphorus analysis was performed by persulfate digestion (APHA, 1992).

Results

Results are expressed in concentrations (mg/L or ug/L in the case of TP). All data are provided in Appendix 1.

Nitrogen - Descending mean NO_x concentrations and standard deviations (n=12 months) are show below in Table 1. NO_x concentrations for each watershed over time are shown in Graph 1. TN data are similarly shown in Table & Graph 2.

All NO_x samples collected were ≤ 1.40 mg/L. Except for the Upper Unadilla and Elk Creek watersheds, most values were below 0.6 mg/L. The Upper Unadilla had the highest concentrations for 7 of the 12 months monitored. (avg 0.73 ± 0.19). The Elk Creek watershed had the highest concentrations in July and August and had concentrations above the 0.6 mg level in 5 other months.

Three NO_x samples collected were below detection (0.02 mg/L). These samples were taken from the Butternut, Otsdawa and Oaks Creek watersheds on 7/22, 5/25 and 5/25 respectively. The Otsdawa Creek Watershed had the lowest average concentration over the 1 year period.

TN data for the August 2009 and May 2010 sampling dates are not reported. Most TN samples collected were ≤ 1.00 mg/L. Similar to NO_x concentrations, the Upper Unadilla and Elk Creek watersheds had the highest mean concentrations and were the only watersheds to consistently approach or exceed 1.00 mg/L over the year.

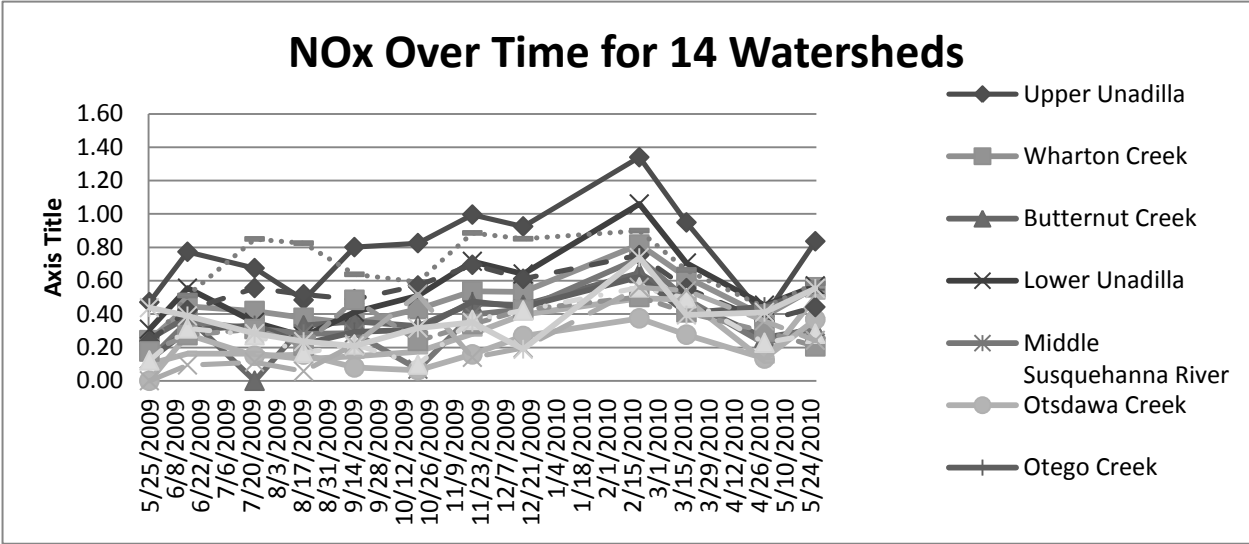
The ranking of watersheds from highest to lowest for mean NO_x and TN concentrations matches the 4 highest ranking watersheds and the 4 lowest. For most of the samples collected NO_x represents over 50% of the TN in the sample.

<u>Nitrate+Nitrite (mg/L) - May 2009 to May 2010</u>		
<u>Watershed (11 Digit HUC)</u>	<u>Mean (n=12)</u>	<u>STDV</u>
Upper Unadilla	0.79	0.26
Elk Creek	0.66	0.21
Lower Unadilla	0.54	0.23
Schenevus Creek	0.52	0.14
Wharton Creek	0.48	0.15
Butternut Creek	0.40	0.11
Otego Creek	0.38	0.14
Otsego Lake	0.36	0.15
Middle Susquehanna River	0.34	0.17
Upper Susquehanna River	0.32	0.11
Cherry Valley Creek	0.30	0.14
Oaks Creek	0.28	0.19
Charlotte Creek	0.26	0.16
Otsdawa Creek	0.20	0.10

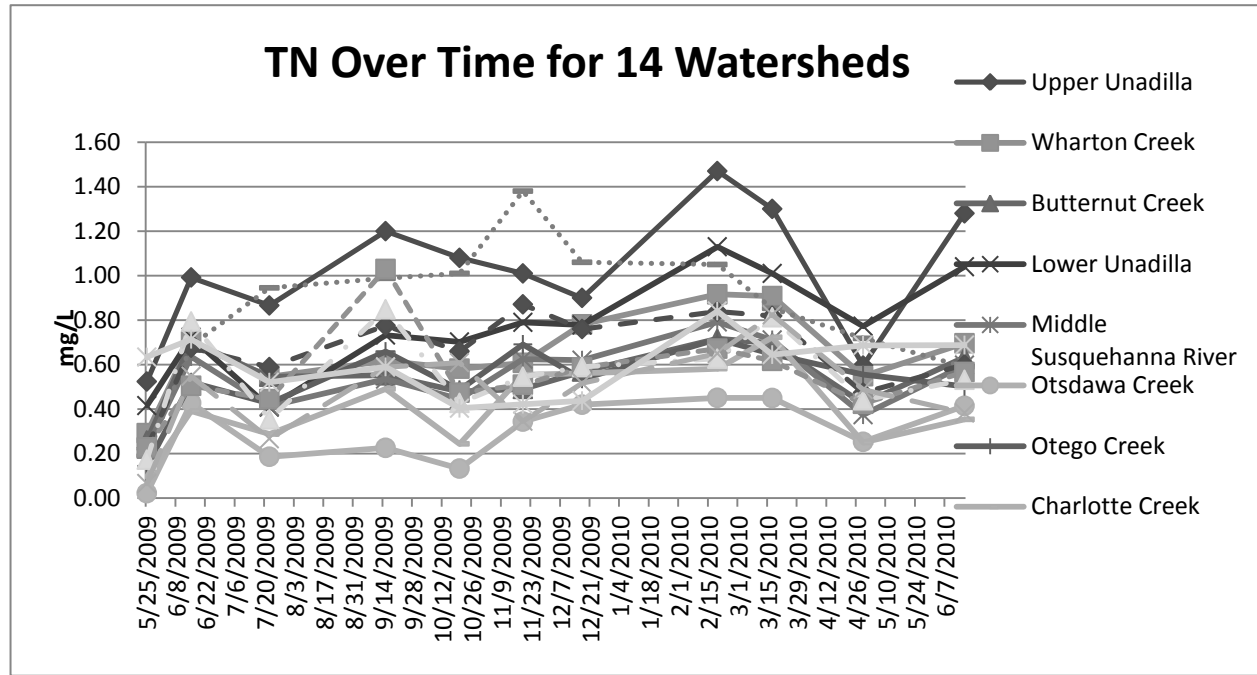
Table 1. Descending mean NO_x concentrations and standard deviations (n=12 months) for fourteen 11-Digit HUC watersheds in Otsego County, NY.

<u>Total Nitrogen (mg/L) - May 2009 to June 2010</u>		
<u>Watershed (11 Digit HUC)</u>	<u>Mean (n=12)</u>	<u>STDV</u>
Upper Unadilla	1.02	0.29
Elk Creek	0.86	0.31
Lower Unadilla	0.75	0.22
Schenevus Creek	0.67	0.20
Wharton Creek	0.65	0.18
Middle Susquehanna River	0.61	0.28
Otsego Lake	0.59	0.14
Cherry Valley Creek	0.56	0.21
Butternut Creek	0.55	0.13
Upper Susquehanna River	0.55	0.20
Otego Creek	0.54	0.16
Oaks Creek	0.48	0.21
Charlotte Creek	0.41	0.19
Otsdawa Creek	0.29	0.15

Table 2. Descending mean TN concentrations and standard deviations (n=7 months) for fourteen 11-Digit HUC watersheds in Otsego County, NY.



Graph 1. Monthly NOx concentrations from fourteen 11-Digit HUC watersheds in Otsego County, NY



Graph 2. Monthly TN concentrations from fourteen 11-Digit HUC watersheds in Otsego County, NY

Phosphorus - Descending mean TP concentrations and standard deviations (n=12 months) are show below in Table 3. TP concentrations for each watershed over time are shown in Graph 3.

Total Phosphorus (ug/L) - May 2009 to May 2010		
Watershed (11 Digit HUC)	Mean (n=12)	STDV
Upper Unadilla	26.40	17.95
Middle Susquehanna River	23.58	8.98
Elk Creek	23.52	22.06
Cherry Valley Creek	23.34	21.46
Lower Unadilla	22.78	14.60
Oaks Creek	22.64	18.60
Butternut Creek	20.33	10.61
Wharton Creek	19.22	15.62
Otego Creek	17.65	14.34
Charlotte Creek	16.59	10.41
Upper Susquehanna River	15.91	6.73
Schenevus Creek	15.73	10.09
Otsego Lake	13.38	7.16
Otsdawa Creek	10.97	4.71

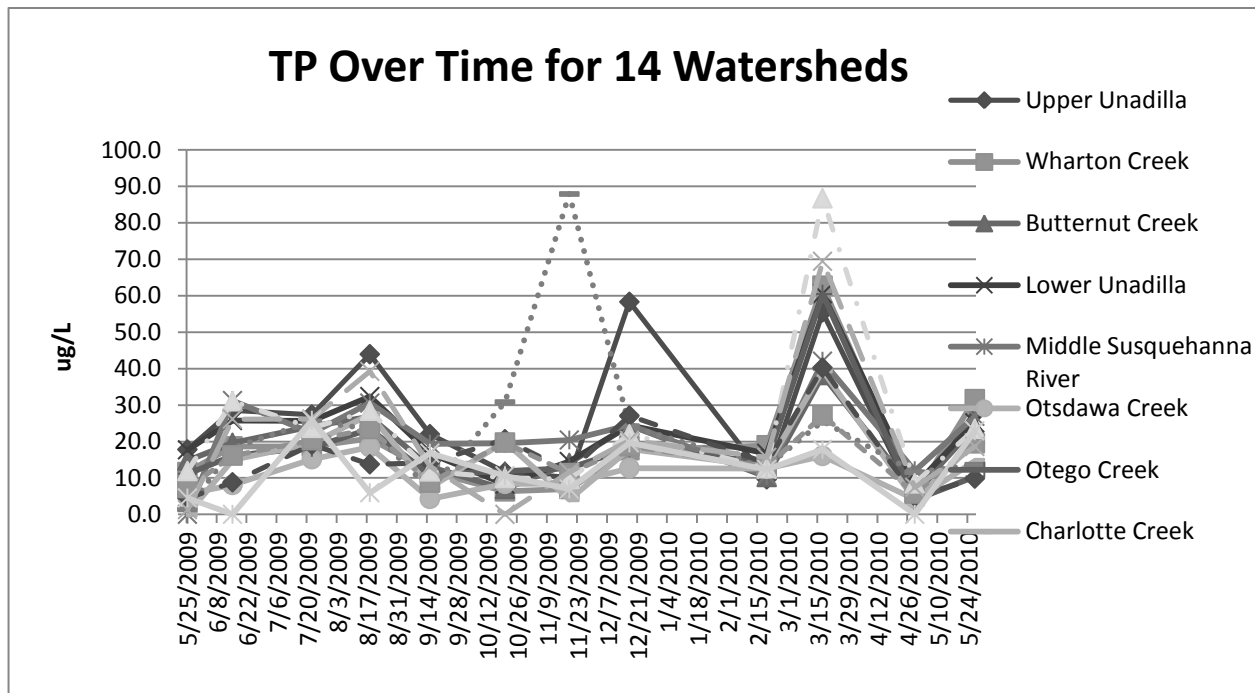
Table 3. Descending mean TP concentrations and standard deviations (n=8 months) for fourteen 11- Digit HUC watersheds in Otsego County, NY.

All but three samples collected over the eight month period had TP concentrations less than 40 ug/L. Exceptions to this are 8 samples collected on March 17th during a month long increase in flow from beginning on March 11th.

Elk Creek had the highest single concentration (87 ug/L) but was otherwise at or below 30 ug/L. The Upper Unadilla River watershed had the two other concentrations above 40ug/L but otherwise was below 30 ug/L for the remaining 6 months sampled.

The Otsego Lake and Otsdawa Creek watersheds had the lowest concentrations over time neither watershed exceeding 26 ug/L in any month.

During the March runoff event, Cherry Valley Creek had the highest concentration of 86.7 ug/L. Oaks Creek, Otego Creek, Lower Unadilla and Wharton Creek all had concentrations between 60 and 70 ug/L. Otsdawa Creek and Otsego Lake had the lowest concentrations; 16 & 17.8 mg/L respectively.



Graph 3. Monthly TP concentrations from fourteen 11-Digit HUC watersheds in Otsego County, NY

Discussion

With the exception of the March 2010 sampling date, all data presented here reflects baseline conditions. Considering that all but 4 of the 14 watersheds are headwaters (the Middle and Upper Susquehanna and Lower and Upper Unadilla receive waters from other watersheds) and the nature of the land use throughout the watersheds (approximately 73% forest and 25% agriculture) the low concentrations recorded for all the parameters measured should be expected.

While nutrient concentrations are a reflection of inputs, they are also a function of volume which makes comparisons of water quality between watersheds difficult. Larger volumes of water from larger watersheds will dilute nutrients given equal inputs but can have higher total export as a function of volume. Even smaller watersheds with relatively high concentrations will still have lower total export when compared to larger watersheds with lower concentrations because of volume; large watersheds with relatively high concentrations can be expected to also have the highest export.

As noted above, the Middle and Upper Susquehanna and Lower and Upper Unadilla all receive waters from other watersheds. As such, the concentrations are a reflection of the all the watersheds that drain into those watersheds in addition to the land within their own specific watershed. For example, the Upper Susquehanna River sampled in Colliersville is representative of the area within the Upper Susquehanna watershed, but it also includes water from Otsego Lake, Oaks Creek, Cherry Valley Creek, Elk Creek and Schenevus Creek.

Additionally, most water in a given year will pass through a watershed during rain events and the first flush of spring runoff. Concentrations of TP typically increase at the beginning of such events as flow increases as seen in the March - April event.

The cost associated with directly measuring both flow and sampling rain events is greater than what is currently available. However, real-time flow data is collected locally at the USGS flow station located in Rockdale on the Unadilla River. This station captures 520 square miles of the Upper and Lower Unadilla River watershed.

There are 3 USGS flow stations in the Upper Susquehanna in NY that capture flow data before the inclusion of water from the Chemung River. These stations are in Rockdale, Conklin and Waverly, NY. When the cubic feet per second are compared for each of these sites over time (Graph 5), it can be observed that each hydrograph is similar.

This is due to the nested nature of watersheds with the smaller watersheds being within the larger. The Rockdale site captures 520 square miles of of the Upper Susquehanna watershed. Further west, the Conklin site captures the area captured at the Rockdale site and an additional 1,712 square miles of watershed and further west still, the Waverly site includes both areas and an additional 2,541 square miles of watershed.

Aside from concentrations, it is often useful to consider total export (mass) as a measurement of water quality. In other words, knowing how many tons of N, P are moving out of a particular watershed as erosion and leaching take place on the landscape. This particularly true for these watersheds given the proposed designation of the entire Upper Susquehanna River watershed as a Total Maximum Daily Load waterbody by the US Environmental Protection Agency in 2011.

Estimates of total export for each watershed are possible given available data; those reported above and discharge data as recorded at Rockdale during the sampling timeframe (not reported here). The two assumptions in the following calculation are linearity in nutrient concentration between sample dates and the nested nature of watershed hydrology extends towards smaller watersheds.

By dividing the cubic feet of water passing by the Rockdale site per day by the square miles of the area captured, cubic feet of water per square mile is calculated. This number can then be multiplied by the number of square miles in any watershed to represent flow in those watersheds. The result is an estimate of daily flow of water in each watershed sampled.

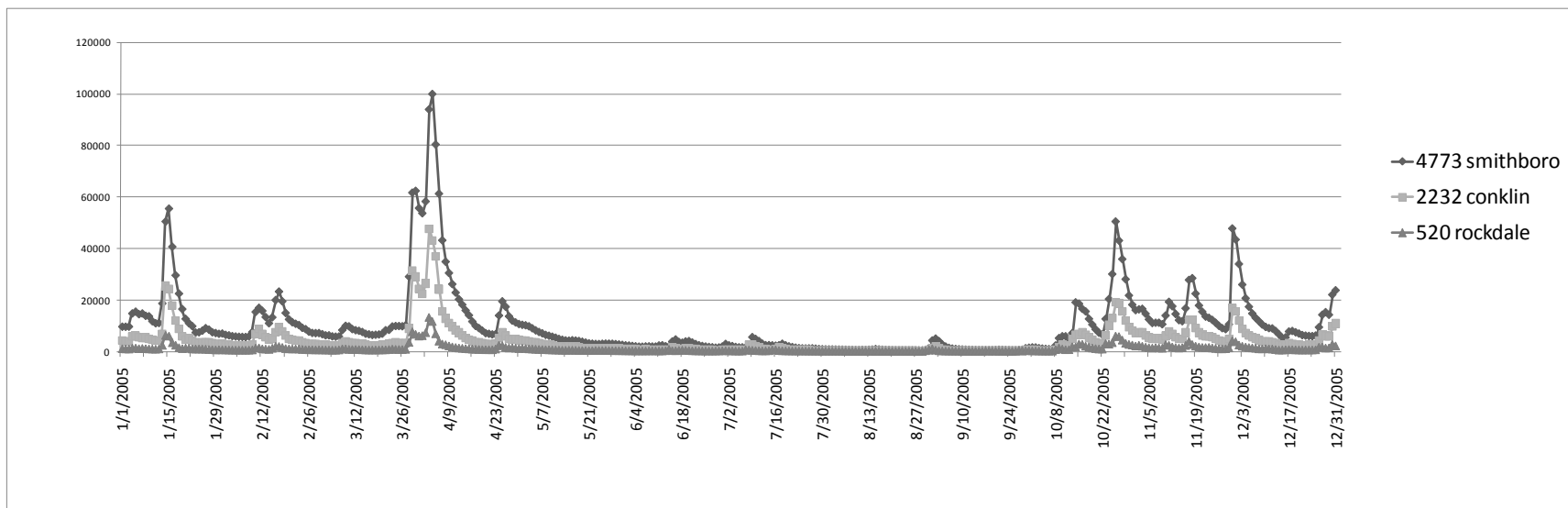
Also, by assuming linearity in concentration between sample dates, concentrations can be estimated for all days within the sample period. Further, multiplying volume (daily flow) by daily concentration calculates mass for that day and daily mass can be summed to produce an estimate of total export of the parameters measured. Load estimates for the 14 11-digit HUC's sampled are provided in Graphs 6, 7, & 8 (TN, NO_x and TP respectively). By dividing the estimated load by the acres of a watershed, an estimate of nutrient flux on a per acre basis can be calculated (Table 4).

These calculations have several serious caveats that should be considered when interpreting the resulting estimates. First is the assumption that rain events recorded at the USGS Rockdale site also occurred throughout all the watersheds. As described above, this assumption is valid when comparing watersheds at an increasing scale, but may not be as valid as watersheds are compared at a decreasing scale. For example, a rain event over the Unadilla watershed (as recorded in Rockdale) may not occur over the Schenevus watershed. Conversely, it is possible that a rain event over the Schenevus watershed may not occur over the Unadilla.

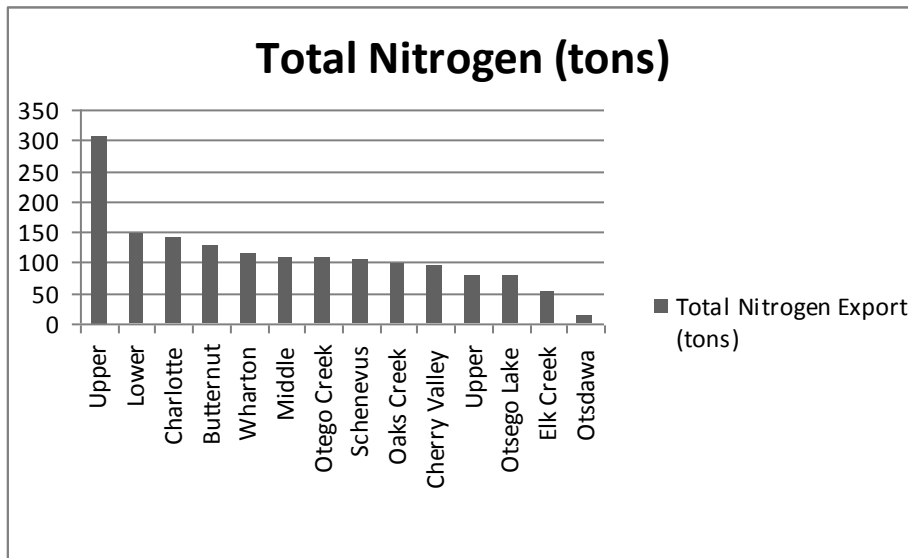
Secondly, most water samples were not collected in conjunction with rain events. Typically, some parameter concentrations, such as TP, are likely to increase during rain events as soil is eroded from the landscape and stream banks; such as was recorded on the March sampling date. Others, such as N, could be lower because of low availability and N in solution is diluted, although this was not clearly recorded in March.

While the hydrology for rain events is included in the estimate, the estimates for TP are likely to be low and those for N could be high, because they do not include the event specific concentrations.

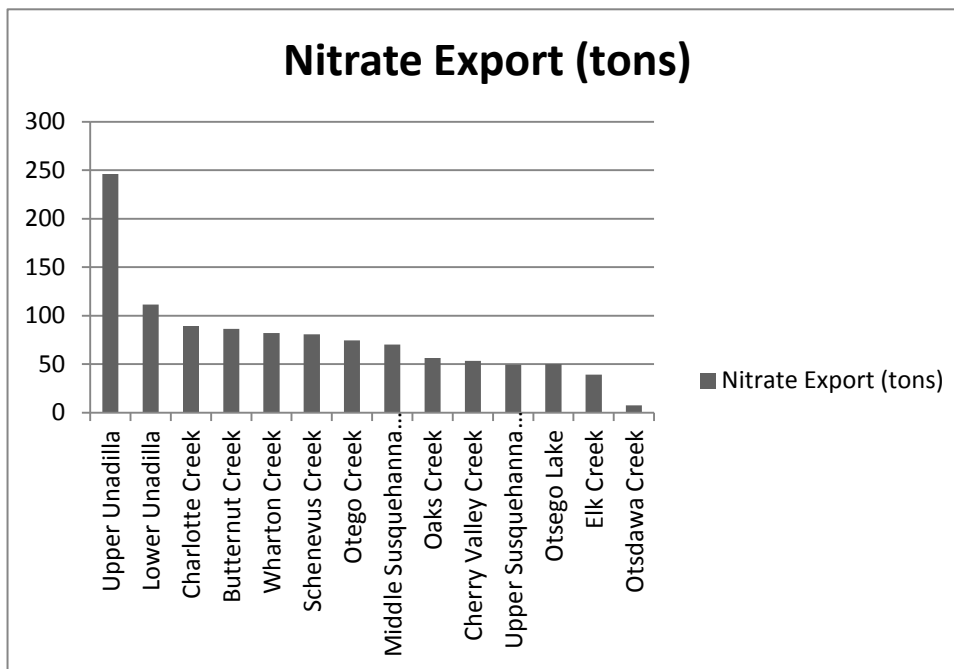
Hydrograph for 3 USGS Sites Recorded in 2005



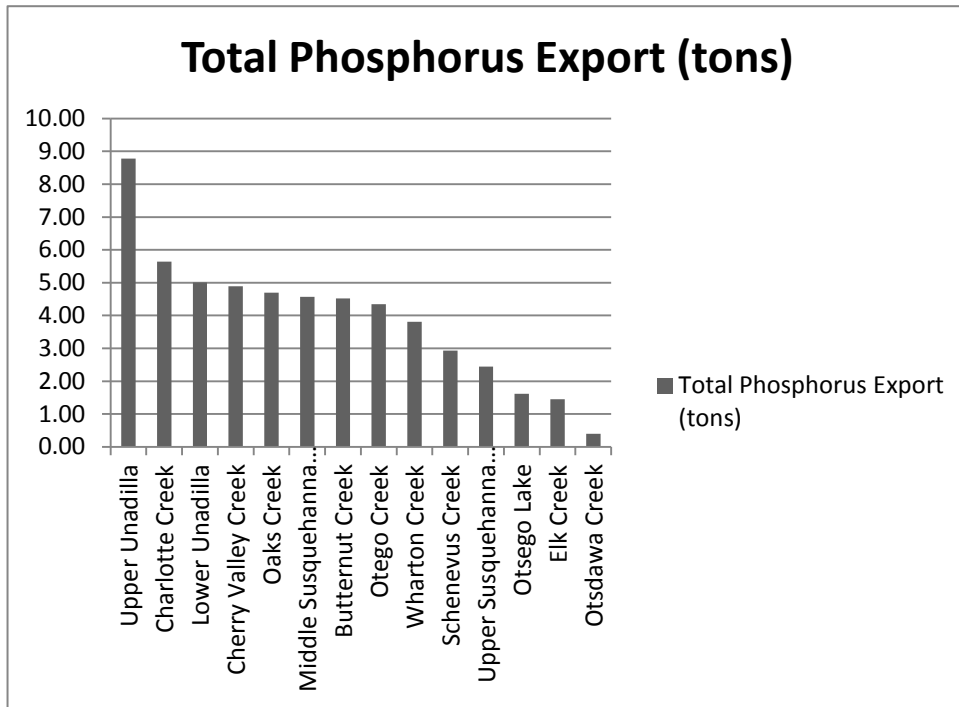
Graph 5. Daily flow measurements (cubic feet per second) for the Smithboro, Conklin and Rockdale USGS flow stations recorded in 2005.



Graph 6. Estimated TN load (for 12 months and in tons) exported from the fourteen 11-digit HUC's in Otsego County, NY.



Graph 7. Estimated NOx load (for 12 months and in tons) exported from the fourteen 11-digit HUC's in Otsego County, NY.



Graph 8. Estimated TP load (for 12 months and in tons) exported from the fourteen 11-digit HUC's in Otsego County, NY.

Estimated Nutrient Export Calculated Per Pound Per Acre				
11 Digit HUC	Watershed Name	TN export lbs/acre	NOx export lbs/acre	TP export lbs/acre
2050101010	Oaks Creek	3	1.7	0.14
2050101020	Cherry Valley Creek	3	1.8	0.17
2050101030	Upper Susquehanna River	3	1.9	0.09
2050101035	Otsego Lake	3	2.0	0.06
2050101040	Elk Creek	5	3.7	0.14
2050101050	Schenevus Creek	4	2.9	0.11
2050101060	Charlotte Creek	2	1.6	0.1
2050101070	Otego Creek	3	2.1	0.12
2050101080	Otsdawa Creek	2	1.1	0.06
2050101120	Middle Susquehanna River	3	2.0	0.13
2050101140	Upper Unadilla	6	4.5	0.16
2050101150	Wharton Creek	4	2.8	0.13
2050101160	Butternut Creek	3	2.1	0.11
2050101180	Lower Unadilla	4	3.2	0.14

Table 4. Estimated nutrient export per pound per acre for each of the watersheds monitored. Watersheds are shown in descending order by HUC number.

It is suggested that future efforts attempt to sample a number of rain events in each watershed, include recording of pH and conductivity and make Total Suspended Sediment a regular part of the sampling regime.

Acknowledgements

Thanks go to the Otsego County Water Quality Coordinating Committee for funding the lab analysis, the SUNY Oneonta Biological Field Station for performing the lab analysis, to the Otsego County Soil and Water Conservation District for collecting the samples and preparing the report and the Upper Susquehanna Coalition for support.

ATTACHMENT #4

AGRICULTURE

Agricultural Environmental Management Program (AEM) - John has taken the Certified Crop Advisor training which is a necessary step toward him becoming a certified nutrient management planner. Year 6 closed out with 13 new enrollments, 18 assessments, 8 conservation plans, 6 implementation visits and 3 conservation plan re-evaluations. The AEM master database and paper file system was also updated to remove inactive farms, consolidation, correcting addresses and physical locations in the GIS system. In Year 7 we are developing a nutrient management plan for future certification and assisted in the design of streambank stabilization projects for 6 farms enrolled in the Agricultural and Community Recovery Fund.

Upper Susquehanna Coalition Agreement – This agreement supported many of the stream, water quality monitoring, EPA Chesapeake Bay-TMDL, outreach, flood response, riparian buffer and natural gas activities described below.

Graze NY – Program implementation resulted in prescribed grazing plans being developed on 8 farms in the county. Farms included three dairies, two beef operations and 3 farms managing horses, goats and sheep. Together they represent rotation grazing for 258 animal units on 314 acres. Time was also spent on successful outreach events and assisting in the installation of 4,500 feet of high tensile fence.

Agricultural Plastic Baler – Since the District took possession of the Ag baler in June the program has produced approximately 12,000 lbs of plastic from 8 farms.

Tropical Storm Irene & Lee - The District was awarded funding to assist 21 County farmers recover from recent flooding. Work included over 8,000 feet of streambank stabilization over 3,000 of which required heavy stone armor (6 farms) and engineering services. Recovery work also included the construction of 1 access road, 1 heavy use protection area, 2,000+ feet of high tensile fence and critical area seeding.

Ag. Non-Point Source Grants –

ROUND XIV – Grazing Grant: This grant will close out at the end of this year. Work completed includes 54,000 feet of high tensile fence, 1 spring development, 780 feet of laneways, 42 acres of pasture seeding and obstruction removal on 6 small County farms. **ROUND XIV – Winsor Acres:** This grant closed out this year. Work is completed included a 300,000 cubic foot manure storage facility and a 30,000 square foot vegetated treatment area. **ROUND XV – Waterpoint Farms:** This grant closed out this year. Work included the construction of an 18,500 square foot silage leachate collection pad and 2 acre vegetated treatment area. **ROUND XVI: Cooperstown Holstein:** Construction is complete on this grant. Work included the construction of a 16,800 cubic foot collection tank and a 1,000 gallon pumping tank that send silage leachate to a 19,000 square foot vegetated treatment area. **ROUND XVII:** Official award announcement were made by NYS Ag & Mkts on Aug X. Plan of works for each of our three grants in due to Albany by Aug 27th. Funding awarded the District by the state included two roofed heavy use areas, a pasture management system, 1 access road, 9 watering facilities, 9,000 ft of fence and 1 stream crossing on 3 Farms.

EPA TMDL: The District is participating in meetings between the Upper Susquehanna Coalition and DEC regarding roles and responsibilities in implementing the States watershed Implementation Plan and meeting out 2-year milestones. We also facilitated a ‘Congressional Brief’ attended by 56 town, county, state and federal representatives, natural resources agency personnel and SWCD staff. As part of the Chesapeake Bay Program, we also record and report all agricultural related activities in Otsego to USC for input into the CB model.

Agricultural Assessments – Jordan completed approximately 166 agricultural assessments for County farmers.

Buffers/wetlands – The District assisted with the implementation and funding of 5 buffer projects this year, protecting 12 acres of sensitive area, installing 20,000 feet of fence and planting over trees over approximately 0.5 acres and cost-sharing a the restoration of a 26 acre wetland.

Farmland Protection – The District and its partners (CADE & OLT) were able to secure private contributions and County Board and Farmland Protection Board approval for the submission of a grant application to update the County’s Agricultural & Farmland Protection Plan.

FLOODING AND STORMWATER

Stream Projects – In addition to the stream related work described above (ACRF), the District visited 12 sites residential and municipal sites the resulted in 10 written assessments and cost estimates as well as two fully developed designs (Fortin Park and Town of Exeter). The District also facilitated a full day presentation by the USC to members of the BVA on how to conduct a watershed wide stream assessment.

Canadarago Lake – The H&H study has been completed by Malcolm Pirnie Inc and was presented to the project sponsors. Field work for the State of the Lake study was completed in 2011 and the final report should be released by the years end.

Hydroseeding: We completed 57 loads to road ditches, etc (site list and photos available)... Work included 10 loads reimbursed by OCCA, 13 loads billed to our Part B funds, 27 loads billed toward our DEC grant, 6 loads towards our Ag NPS obligations and 1 load for the County Manor. This represents almost 20 acres of critical area seeding throughout the County.

MISCELLANEOUS

Office – All regular reporting to NYS Ag & Mkts took place without problem: Annual Report, Performance Measure Report, Annual Plan of Work and Treasures Report. All Board duties were completed on time; approval of our procurement, investment and personnel policies. Additionally, the annual business meeting was held for bank and newspaper selection, the Board and County audit was conducted successfully and we passed an annual budget.

Envirothon – At the local level 8 teams participated, approximately 40 local students, and the event was won by Oneonta. The District worked with the winning team in preparation for the State event in which they placed 15th. The District also participated in the planning and execution of both the

State and Canon event by serving on standing committees and representing NY on the Canon Advisory Team.

Training – District staff attended the Water Quality Symposium and Conservation Skills Workshop training events. Board members regularly viewed Board training modules. Staff also received specialized training in composting, accrual accounting, prescribed grazing, sediment and erosion control as well as crop and nutrient management.

Outreach - The District performed outreach and promotion of District programs at the Springfield 4th of July parade, Otsego County Fair, Goodyear Lake Festival, Farm Progress Show, Empire Farm Days, Earth Day, the NYS Fair, Northeast Regional NACD and Legislative Days.

Tree Sale – This year the District Tree Program sold approximately 21,000 tree seedlings, 25 bird houses, 15 bat boxes, 10 composting units and 4 rain barrels.

Fish Sale – This year the District Fish Program sold approximately 500 fingerlings.

Newsletter/website – The District Newsletter was distributed to approximately 3,400 County residents. Website development included the updating of the home page, natural gas, Envirothon, community outreach, Ag Plastics and Tree Program pages.

WQCC - The District secured a DEC WQIP grant for the next two years to fund committee efforts. Presentations were offered on Bradford County PA experiences re: high volume hydrofracturing, micro-hydro and solar power, the benefits of riparian buffers and permitting issues for lakeside residents. The Committee also adopted the Otsego County Nonpoint Source Pollution Strategy.

Natural Gas – The District secured a SRBC monitoring station in Upper Cherry Valley Creek watershed and also has continued its bi-monthly monitoring of 50 stream locations throughout the County. We participated in a public panel discussion in Cherry Valley regarding our monitoring efforts. We have also developed an RFP for water chemistry analysis at our 50 monitoring sites. Additionally, the District has completed its comments on the NYSDEC's SGEIS. Lastly, we have participated in a local USGS/working group focused on the aggregation, analysis of and public access to ground & surface water quality in the County; SUNY Oneonta has recently supported the creating of the "Catskill Headwaters Research Institute" to serve as a focus for this activity.

ATTACHMENT #5

Year in Review

OCCA is Otsego County's oldest environmental advocate. We are proud of our science- and education-based approach to conservation. As we have for more than four decades, OCCA continues to address the broad array of environmental concerns that affect our quality of life here. And while we currently look to reinforce Otsego Lake and Upper Susquehanna Watershed initiatives through a second Lake Challenge Campaign, we have also moved forward in the implementation of increased programming throughout the county. Some highlights of our activities in the areas of water quality, land protection and livable communities, by focus area, are as follows:

Natural Gas Drilling

Environmental concerns regarding natural gas drilling, including the controversial method of high volume horizontal hydraulic fracturing to extract natural gas, continue to be at the forefront of our work. OCCA has sponsored a number of informational events centering upon natural gas drilling and land use/environmental planning, attended by hundreds of concerned citizens. These include a February forum in Cherry Valley on geology and hydrofracking science; a similar forum in the Town of Hartwick in March; the April forum for county and town officials, planning committees, and land use and road use leaders, "How To Apply Local Controls to Shale Gas Industrialization" (est. attendance 134 from 16 Otsego County municipalities and 10 neighboring counties); an expanded workshop in May for municipal officials; and, most recently, we were a sponsor of the public hearing in Oneonta on DEC's revised Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program, also known as the SGEIS, the comments from which will be transcribed and submitted to DEC as part of the state's official record and review process of that document.

Locally, we have worked with the Coalition Against Unsafe Gas Drilling, municipalities and civic groups, and we are the only environmental nonprofit organization represented on the county's Natural Gas Advisory Committee. In addition, OCCA staff and Board members have attended and participated in gas drilling workshops and forums in Maryland, Pennsylvania, and throughout New York State, from Westchester to Buffalo. OCCA continues to monitor gas lease trends and make that information available to the public through our "Natural Gas Well Locations and Leased Properties" map, available online and in hard-copy format.

One of the most important projects we are currently working on is submission of our comments on the SGEIS to the DEC by its December 12 deadline. While we recognize and appreciate that the DEC has worked extensively to improve environmental safeguards in the revised document, we still do not believe the SGEIS adequately addresses the protection of water, air, wildlife or habitat, nor does it sufficiently mitigate possible environmental impacts to our ecosystem as a whole. Among our recommendations will be that the DEC suspend all permitting until the U.S. Environmental Protection Agency concludes its study on the potential impacts of hydraulic fracturing on drinking water resources. Ultimately, rather than disturbing our lands and putting our waters at risk, OCCA believes that our county, our state and our nation as a whole should focus on decreasing our use of fossil fuels and turning to applications of renewable energy sources. Our comments will be made available on the OCCA website when completed.

Environmental / Municipal Planning

This past year, OCCA also hired an environmental planner and set into motion our Circuit Rider Planner Program. Through this program, OCCA is offering a service which provides basic planning assistance and unbiased planning expertise to address issues important to Otsego County municipalities. From planning board training on New York State Environmental Quality Review procedures to grant writing and funding assistance for infrastructure, we are already working with a number of towns and villages. OCCA also provides GIS mapping services and local law research and review. Complementary to the Circuit Rider Planner Program, having an environmental planner on staff helps bring environmental concerns to the forefront of planning decisions in a way that is compatible with the specific needs and desires of individual communities. I am pleased to be able to introduce to you tonight Rima Shamieh, our new environmental planner as of December 1st, who will be picking up where Tavis Austin left off. Chosen from more than 80 applicants, Rima received her bachelor's degree in molecular environmental biology from UC Berkeley. She completed her master's degree in regional planning in 2010 from Cornell University. She completed a planning internship in Bradford County, PA this fall and was one of the co-creators of a Cornell University Internet presentation highlighting the latest changes to the SGEIS on drilling in the Marcellus Shale. Also relative to planning, OCCA is contracting with SUNY-Oneonta geography graduate Susan Pastor on a Natural Resources Survey mapping project for the Town of Oneonta, which will be completed next month. Originally we were looking at creating a county-wide document, but because of time and manpower constraints, decided that the more realistic course of action would be to create an NRS document for one specific municipality. This compendium of maps will be very useful in a number of ways. It will be a valuable planning and reference tool for the featured municipality; a sample / teaching tool to be taken around or distributed to other county municipalities by OCCA, providing them with an example of actual Natural Resources Survey maps and showing what the information looks like and entails, where the information can be found, how the information can be useful to them, etc.; it can be posted on the OCCA website as both a reference and a teaching tool; and it could help get the ball rolling in terms of other Otsego County municipalities investing in their own Natural Resources Survey to help protect important environmental and historic resources, and to help control possible ill effects of natural gas drilling, advocate for better land-use planning in general, and ensure a sustainable future.

Water Quality

OCCA's water quality initiatives continue throughout the county. We have funded riparian buffer plantings on the Otego and Butternut creeks in conjunction with Otsego County Soil & Water Conservation District., Butternut Valley Alliance and the Upper Susquehanna Coalition. OCCA is also funding a baseline groundwater study in the Butternut Valley and twice-monthly monitoring of 52 surface water sites countywide, and we are coordinating with local, state, and federal agencies on a protocol to compile data with which to characterize the water quality (both surface and groundwater) of Otsego County. The Board of Directors recently approved funding for GIS work which is the first step in the formation of the proposed Catskill Headwaters Research Center, which will serve as an umbrella for the many stakeholders engaged with watershed and aquifer activities in our region of New York State. Working with the Otsego County Water Quality Coordinating Committee, we have been instrumental in the review and subsequent update of the Otsego County Non-point Source Water Quality Strategy. Working with USDA/Natural Resources Conservation Services, OCCA also funded improvements at Painted Goat Farm in New Lisbon to address water quality and erosion concerns.

Otsego Lake

Otsego Lake programs supported by OCCA are as strong as ever, if not more so. This year, OCCA has funded the hydroseeding of roadside ditches at locations within the Otsego Lake Watershed (10

loads of hydroseed covering approximately 3.3 acres) and other water quality improvement projects. Through USDA/Natural Resources Conservation Services, we are funding an EQIP agricultural water quality improvement project which includes the planting of 18 acres of riparian buffers on Shadow Brook.

The organization is also a primary funding source for the Village of Cooperstown's boat wash/inspection program and we are looking into expansion of this program into Springfield. OCCA continues to provide funds for the Otsego Lake Septic System Management Program to inspect systems on Otsego Lake and ensure repair/replacement as necessary, and we are supporting Dr. Tom Horvath's ongoing zebra mussel studies. Stocking of walleye fry and fingerlings in Otsego Lake to control the spread of the invasive alewife and sponsorship of three interns to perform Upper Susquehanna Watershed research at the SUNY-Oneonta BFS are also funded in part by OCCA. This year, OCCA reprinted the historic SOLO (Save Our Lake Otsego) bumper stickers as a reminder that membership and funding support are still vital in order to continue and strengthen important existing Otsego Lake programs and to initiate new programs to prevent, control, and mitigate the impacts of watershed pollution. We kicked off new fundraising efforts toward continuation of OCCA's vital environmental programs for the protection and preservation of Otsego Lake and the Upper Susquehanna Watershed with a benefit dinner in July. This event also recognized the important role played by Lou and Susanna Hager as co-chairs of OCCA's successful Otsego Lake Challenge Campaign and as long-time stewards of Otsego Lake.

Invasive Species

Water chestnut eradication efforts on Goodyear Lake were successful again this year. This season, OCCA organized five hand-harvesting sessions over a four-month period. More than 96 percent of the stump lot infestation has been removed, and we now have a sound management plan in place which will keep it under control in the years to come, however water chestnut plants are now encroaching upon the lake itself, and that's where we will begin our focus next year. OCCA assisted SUNY-Oneonta Biological Field Station staff with similar eradication efforts in the Oneonta swamp. In July, OCCA led a team of canoeists down the Susquehanna River during the organization's first ever Susquehanna Invasives Paddle. This multi-day trip was designed to survey and map invasive species – including water chestnut, Japanese knotweed, giant hogweed, didymo, marsh thistle and purple loosestrife – found along the 52-mile stretch of the river between Otsego Lake and Sidney. OCCA staff and assistants aided participants in gathering GPS points for observed invasives or populations. This data will be used in conjunction with a larger project, funded in part by Catskill Regional Invasive Species Partnership, to document the locations via iMap Invasives, an online tool used for the geotracking of invasive exotic species.

In May, OCCA teamed up with NYSDEC staff and educators from The Catskill Center for Conservation and Development to identify and “tag” ash trees within Oneonta's Neahwa and Wilber parks as part of a local awareness initiative related to a larger, statewide effort to monitor and curtail the advance of the emerald ash borer, an invasive wood-boring beetle.

Energy Issues

To satisfy the growing public interest in energy conservation, most recently OCCA has partnered with EnerPath and NYSEG to provide access to free energy assessments and information to businesses and municipalities as to how they can receive 70 percent of the cost of recommended energy efficient lighting upgrades through the Small Business Energy Efficiency Program. Promoting bicycling as an enjoyable, healthy, safe, and “green” environmentally friendly mode of

transportation, this spring OCCA sponsored its third Bike to Work Day through one of its subcommittees, Otsego Regional Cycling Advocates. OCCA also finalized its alternative energy statement, advocating geo-thermal in all applications, wind in small-scale applications or under particular citing requirements, Photovoltaic and solar thermal energy applications (small to moderate scale), hydroelectric power in small-scale applications or when properly cited, and biomass in small scale residential uses if shown to be safe and efficient.

(My report is only about 10 minutes long – I’m trying not to make it seem like 20 ...)

Solid Waste Management

OCCA is an active partner with a number of municipalities and civic groups on issues regarding recycling, composting and open burning education. We are currently working with the Village of Cooperstown to increase recycling on Main Street and, to that end, have funded new recycling bin signage with assistance from Stewart’ Shops. OCCA staff also serves on the Village of Cooperstown Sustainability Committee and the Bassett Green Team. We sponsored burn barrel education commercials on a local television station this winter, with assistance from Five Star Subaru, and were a nonprofit partner through the NYSDEC Clean Air Grant Program with the Town of Hartwick and its recent Clean Sweep event. OCCA staff is working with SWCD and Cornell University staff on this county’s Recycling Agricultural Plastics Program through which area farmers and horticulturalists can properly dispose of and recycle plastic used for bale wrap, bunker silo covers, silage bags, and in greenhouses using the mobile BigFoot baler.

Two of OCCA’s most successful solid waste management venues are its Annual Garage Sale and the Earth Festival, both held this past April. The garage sale’s primary intent is “reduce, reuse, recycle.” Unsold items (with the exception of just one bag of garbage) were reused or recycled: children’s and plus size women’s clothing went to Opportunities for Otsego with help from the American Red Cross; the Susquehanna SPCA took many items for resale at its thrift shop; folks from the Cooperstown and Oneonta Freecycle listserv took merchandise; the remaining books were donated to the Cooperstown Library Book Sale; items were marked free for the taking and placed in the alley; electronics were recycled at the MOSA transfer station; the rest of the clothing and household items were donated to the Salvation Army.

This year’s Earth Festival theme was also “reduce, reuse, recycle.” In keeping with the event’s earth-friendly theme, the number of items accepted for recycling was doubled this year and included: Styrofoam, bubble wrap, empty inkjet cartridges, old cell phones, prom dresses, unwanted videotapes and CDs, used nylon monofilament fishing line, electronics, and footwear. Earth Festival attendance was on par with 2010, which broke all previous records, and the number of exhibitors and vendors exceeded all previous years. OCCA sponsored the Chico Bag Monster® to educate the public about the impact single-use plastic bags have on our environment. The costume is made with 500 plastic bags, the average amount an American uses in one year. OCCA’s recycling of inkjet cartridges and cell phones continues year round through a program with Planet Green.

Environmental Education

Environmental education is a significant component of OCCA-sponsored events and programs, and a byproduct of many of our initiatives. Reviving a program first offered by the organization in the 1970s, OCCA has re-instituted its sponsorship of New York State DEC Environmental Education Camperships. This year we sent three Cooperstown Middle School students to DEC Camp – we are working on a program now which, with the necessary funding, will allow us to send eight Otsego County middle-schoolers to camp next year, from eight different schools, via a competitive essay contest. We awarded three education mini-grants this year: the Oneonta Community Christian School

toward the purchase of a weather station; Camp Goldpetals toward a two-day nature camp experience for children from low-income families; and Leatherstocking Envirothon in which student teams compete for recognition and scholarships by demonstrating their knowledge of environmental science and natural resource management. OCCA also expanded the Earth Festival EcoArt trash-to-treasure challenge to include student entries from three area schools totaling more than 30 participants. We're currently working on an exciting new program involving area schools to form Eco Teams through which kids can develop a greater understanding and respect for animals, plants, water, soil, air and energy systems; comprehend the positive and negative environmental effects of our actions; acquire a knowledge of practical, sustainable living strategies which consciously and carefully utilize our natural resources; and obtain information on nature programs, centers and organizations.

Natural Resource Appreciation

Appreciation of Otsego County's natural resources continues to be a priority for OCCA. To this end, we organize a series of nature walks on local trails – this year's schedule included 10 walks at eight different venues countywide, and we have expanded the walk itinerary to include winter/snowshoe hikes. We have renewed our stewardship role of Basswood Pond State Forest through NYSDEC stewardship, which entails trail maintenance and clean-up as well as public relations, and a hike is planned there first thing in the spring. OCCA is currently working with the Goodyear Lake Association, NYSDEC and NYS Department of Transportation to create a deck/dock system with educational component and improved launch access on Goodyear Lake. We are also spearheading a rehabilitation project at the Goodyear Swamp Sanctuary to restore the badly deteriorated boardwalk and taking next steps in the development of a multi-use Susquehanna River Trail extending from Cooperstown to the Oneonta Susquehanna Greenway, exploring with the Leatherstocking Railway Historical Society how such a trail might benefit the Cooperstown & Charlotte Valley Railroad.

Public Education

An integral part of OCCA's mission is education of our members and the general public on both environmental issues and the organization itself. We accomplish this through a number of strategies which complement and supplement our programming, including OCCA-sponsored public events such as Earth Festival and Lake Appreciation Day. Our quarterly newsletter, "The Lookout," has provided in-depth articles on subjects ranging from municipal and back-yard composting to carbon sequestration to marsh thistle, a new invasive species found recently in Otsego County. Eco-bulletins are distributed electronically to a listserv of 800-plus recipients, and press releases are created in-house and circulated to local print, radio, television and electronic media. This spring, OCCA worked with a social media intern on social media research, website analysis, creating social media profiles, and blog monitoring, among other projects. Expanding its role on the Executive Committee of the Otsego County Water Quality Coordinating Committee and as registrar of WQCC topic meetings open to the public, OCCA has also provided informational pieces to the public on such topics as high-volume hydrofracturing in Bradford County, PA, riparian buffers and micro hydroelectric.

Governance

In addition to programming, OCCA has continued to concentrate on governance, seeking to improve existing procedures and policies. Board member recruitment has focused on diversifying demographics with regard to age, geographic location, skill sets, and other factors. Board members and staff participated in a visioning session this summer led by a professional facilitator/consultant, followed by revision of the organization's strategic plan. In keeping with these revisions, our standing committees are being restructured accordingly, and the bylaws are under review. The Board is currently winding up a nationwide search for the organization's new executive director, and we're

also getting ready to move our offices up the lake to Mohican Farm in the spring, where we will have direct lake access and work side by side with Bob Sutherland as he develops a sustainability complex there.

Volunteers

OCCA relies heavily on recruitment of unpaid volunteers to implement our wide range of programming. Since August of 2010, in spite of a slight decline in volunteerism nationwide, we have been privileged to work with no less than 100 such volunteers thus far on initiatives including but not limited to Household Hazardous Waste Collection Day, Earth Festival, the annual garage sale, our nature walk series, water chestnut eradication, trail clean-up, the Susquehanna Invasives Paddle survey and Lake Appreciation Day.

Partnerships

Partnerships with environmental organizations, area nonprofits, municipalities and other entities are essential to OCCA's programs. This past year alone, we have been privileged to work with the following groups, among others: Catskill Regional Invasive Species Partnership, Cooperstown Art Association, Cornell University, Delaware-Otsego Audubon Society, Friends of Glimmerglass State Park, Glimmerglass Dragons, Glimmerglass State Park, Goodyear Lake Association, Headwaters Youth Conservation Corps, Lake and Valley Garden Club, Natural Resources Conservation Service, New York State DEC, Otsego County Planning Department, Otsego County Soil & Water Conservation District, Otsego Lake Association, Otsego 2000, SUNY-Oneonta Biological Field Station, and Wildlife Learning Company. OCCA has also served as co-sponsor and/or fiscal agent for a number of events and initiatives countywide, providing insurance coverage, administrative services, volunteers, and more.

Membership

Continually striving to retain and increase membership numbers, OCCA has had great success this past year especially in signing up brand new members and donors. Our first-ever electronic fundraiser, "Up the River Without a Paddle," garnered more than 60 new or previously lapsed members alone, with an unprecedented 54 online donations (in previous years, online donations have numbered less than a dozen per calendar year). Our current membership is hovering around 800 – an increase of 100 over last year at this time. The Lake Challenge/Hager fundraising dinner, with 78 attendees, also attracted about 30 first-time donors to the organization. Personal mini-grant requests have helped to increase our member/donor base and giving levels as well.

ATTACHMENT #6

THE GOODYEAR LAKE ASSOCIATION, INC.

WQCC report for May, 2012:

The Goodyear Lake Association is going forward with the following projects at this time:

- 1) Our annual Lake Festival on August 18, 2012. All are invited to participate. Please contact Vince Stayter at 607-432-6992 if you wish to have a booth at our event. In the past both OCCA and Otsego County Soil & Water District have participated.
- 2) Partnering with OCCA on the Seward grant to provide a safe launch site and nature walkway to the Susquehanna near Portlandville. This project is under motion with the land presently owned by NYS DOT in the process of transfer to NYS DEC. The parking area is scheduled to be improved in 2012.
- 3) The continued removal of water chestnuts. Three “pull” events have been scheduled.
- 4) The Goodyear Lake Association will be hosting a portion of the Susquehanna Sojourn in June of 2012 with the Association providing lunch, and participating in a joint effort to remove water chestnuts.
- 5) The continued monitoring of the lake’s chemistry, and evaluation of the silting problem. The lake chemistry continues to be good. This May, the SUNY Biological Field Station conducted a mapping of the lake bottom in selected areas to measure the silt depth. With empirical data, the Association will be seeking grant moneys to address the silting issue.

Submitted: Vince Slayter, GYLA

www.goodyearlakeny.org

ATTACHMENT #7

Otsego Lake Watershed Supervisory Committee 2011 Report

The following is a brief update on the status of the onsite wastewater treatment system (OWTS) management program for Otsego Lake, and other Watershed Supervisory Committee (WSC) projects.

Inspections

Of the 67 inspections scheduled for this year, a total of 54 have been completed through mid-November, with only 1 failure. The 13 systems that were not inspected will rescheduled for next year. For Cycle 2 thus far, there have been a total of 109 inspections and 12 failures, for a failure rate of 11.0%.

System Upgrades

The status of failed systems from the 1st and 2'd cycles of inspections is as follows:

	<u>November 2011</u>	
	<u>Cycle 2</u>	<u>Cycle 1</u>
No Contact (NC)	0	0
Contact only (C)	2	5
On Hold (OH)	0	5
Hired an engineer (E)	1	15
Design approved (D)	1	11
Installed (I)	<u>8</u>	<u>155 (81%)</u>
Total	12	191

There were three upgrades completed during October/November.

A total of eight upgrades were completed this year, seven from Cycle 1 and one from Cycle 2. Depending on the weather, there's a chance that two more Cycle 1 upgrades will be completed. At this point, there are 31 Cycle 1 upgrades remaining (10 are Aalsmeer's), and 4 upgrades for Cycle 2. Of the 14 V&P letters that were sent this year, three are complete, leaving 11 to be completed spring 2012. To ensure those completions, there will be enforcement reminders sent to owners. Additional V&P letters may be required for the balance of the incomplete upgrades depending on progress..

Other

Herbicide Use

A recommendation to ban the use of herbicides by NYS DOT along Rt. 80 on the west side of the lake was sent to the Water Board. No response as of yet.

Lake Level

The control of lake level is the last unresolved issue identified in the Otsego Lake management plan. To address this, a draft proposal for an engineering study of the Mill Street dam has been sent to WSC members for review. The study would include a determination of the structural integrity of the dam, an analysis of options for improved flow control, and a feasibility review of the potential for hydro-power. The main reason for the proposed study is the increased concern regarding the control of lake level.

There have been four 100+ year storms during the past five years which have caused major problems for the lake, including shoreline property damage, flooding of septic systems, and excessive shoreline erosion. With climate change, it is expected that the increased frequency of major storm events will continue. The SUNY Biological Field Station concurs with the study proposal, and has requested that the study include the consideration of lowering the lake to the pre-1950's level, which would be ~1.5 feet lower than the current level. (Note: According to the Field Station, the lake was raised approximately one foot when the dam was built around 1905, and then another 1.5 feet around 1950 when the dam was raised.)

ATTACHMENT #8

SUNY ONEONTA BIOLOGICAL FIELD STATION
STAFF ACTIVITY REPORT
Academic Year 2011
Matthew F. Albright, Senior Staff Assistant, Biological Field Station

Part 1- TEACHING CONTRIBUTIONS

1. Provided supervision and training to seven undergraduate interns and two high school interns, summer 2011.
2. Involved in lectures and field exercises for students in the Lake Management master's program.
3. Led ecological/environmental field experiences for several undergraduate and accelerated high school biology classes.
4. Trained undergraduate students as interpreters to lead field trips to pre-college groups.
5. Provided assistance to several local high school students working on environmentally-oriented science projects, and provided "shadowing" experiences.
6. Oversaw logistics of infrastructure and equipment by faculty, staff, visiting researchers, interns, etc.
7. BFS laboratory supervisor.

Part 2- RESEARCH, SCHOLARSHIP AND PROFESSIONAL GROWTH

1. Recognized as a Certified Lake Manager by the North American Lake Management Society.
2. Awarded Graduate Teaching Faculty Status.
3. Publications:
 - A. Co-authored the BFS Occasional Paper entitled "The state of Canadarago Lake, 2011", sponsored through the Otsego County Soil and Water Conservation District.
 - B. Eight contributions to the 2011 BFS Annual Report.
 - C. Reviewed and edited 2011 BFS Annual Report in its entirety (~23 contributions).
 - D. Submitted numerous reports providing updates on contractual obligations.
4. Presentations:
 - A. North American Lake Management Society's 31st Annual Conference: co-authored "Trophic changes in Otsego Lake following the introduction of the alewife (*Alosa pseudoharengus*), subsequent stocking of walleye (*Sander vitreus*), and establishment of the zebra mussel (*Dreissena polymorpha*)". Presented by Waterfield.
 - B. New York State Federation of Lake Associations, Hamilton, NY: "A Basic limnology of New York State Lakes" with Harman and Waterfield.

Conferences:

- C. North American Lake Management Society, 31st International Symposium, Spokane, WA. Attended membership meeting'
- D. New York State Federation of Lake Associations, Hamilton, NY.

SERVICE CONTRIBUTIONS

1. Department contributions:

- A. Finalized a "Water Quality Improvement Project" grant, funded by the NYS Department of Conservation. Multi-year BFS research associated with the evaluation of nutrient removal technologies and evaluating performance of local onsite wastewater treatment systems. Total funds were \$204,000.
- B. Finalized a \$37,650 multi-sponsored contract through the Otsego County Soil and Water Conservation District to provide information necessary for the creation of a State of the Lake Report of Canadagaro Lake (see "Publications" above).
- C. Negotiated a \$4,500 contract with the Otsego Land Trust to conduct biological surveys along Oaks Creek.
- D. Negotiated a \$3,000 contract with the Village of Cooperstown to continue to evaluate the effectiveness of nutrient removal by a treatment wetland intended to polish municipal effluent prior to its discharge to the Susquehanna River.
- E. Provided in-kind services related to a DEC funded (\$28,140) grant to eradicate water chestnut from a local wetland.
- F. Contributed to two NSF proposals, one for the purchase of a flow cytometer and the other for an array of transceivers for monitoring walleye movement in Otsego Lake.
- G. Provided assistance to Facilities Planning related to occupying the newly renovated lab. Conducted water quality testing on the potable and lake water systems, tested pH of lab waste system and maintained remote probe to ensure proper functioning of system.

2. Community contributions:

- A. Affiliate Committee: North American Lake Management Society
- B. Board of Directors: New York State Federation of Lake Associations
- C. Board of Directors: Greenwoods Conservancy
- D. Land Stewardship Committee: Otsego Land Trust
- E. Active member- Otsego County Water Quality Coordinating Committee
- F. Led a number of weekend environmentally-oriented experiences (4 H, Audubon, Otsego Land Trust, Otsego Lake Festival, Lake Clean Up, etc.)

SUNY ONEONTA BIOLOGICAL FIELD STATION 2011 ANNUAL REPORT AVAILABLE AT:

<http://www.oneonta.edu/academics/biofld/PUBS/ANNUAL/2011/2011%20Annual%20Report%20Content.html>

ATTACHMENT #9

-Annual Drinking Water Quality Report for 2011

*Village of Richfield Springs
P.O. Box 271, Richfield Springs, NY 13439
(Public Water Supply ID#38-00150)*

INTRODUCTION

To comply with State and Federal regulations, the **Village of Richfield Springs**, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. Last year, your tap water met all State drinking water health standards. We are proud to report that our system has never violated a maximum contaminant level or any other water quality statement. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact **Tom Shypski, Water Plant Operator**, at (315) 858-1098. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled village board meetings. **The meetings are held on the 2nd Thursday of each month at 6:00pm, and the last Wednesday of the month at 6:00 pm at the Village Hall located on Main Street, Richfield Springs 13439. Phone (315) 858-1710 for more info.**

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health. *Our water source is a surface water source, Allen Lake. The raw water flows by gravity to the reservoirs located on Rte. 20. It is then pumped from the reservoirs to the Water Filtration Plant. The water is then filtered and disinfected with a sodium hypochlorite solution. Fluoride for the prevention of dental caries and orthophosphate for corrosion control is added. The finished water is then stored in a 350,000-gallon clear well at the Water Plant before flowing by gravity to the distribution system, any water not consumed by our customers is stored in a 350,000-gallon pre-stressed concrete storage tank. The Water Plant produces about 125,000 gallons of finished water per day.*

Our water system serves a population 1500 through 635 service connections.

SOURCE WATER ASSESSMENT SUMMARY

The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. While nitrates (and other inorganic contaminants) were detected in our water, it should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants from natural sources. The presence of contaminants does not necessarily indicate that the water poses a health risk. The nitrate levels in our sources are not considered high in comparison with other sources in this area. See section "Are there contaminants in our drinking water?" for a list of the contaminants that have been detected. *As mentioned before, our water is derived from Allen Lake. The analysis of available information*

for this source water assessment did not find any significant sources of contamination. No discrete sources were identified within the assessment area; however this source has been rated as having a medium susceptibility to microbials due to agricultural practices in the watershed. While the source water assessment rates our source as being susceptible to microbials, please note that our water is disinfected to ensure that the finished water delivered into your home meets New York State's drinking water standards for microbial contamination. A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted below. It should also be noted that a year long study monitoring our raw water source was completed in September 2009. This study was done to satisfy the EPA LT2 raw water quality testing requirements. The results showed that our raw water fell well under the EPA limits.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coli form, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Otsego County Health Department at (607) 432-3911.

Table of Detected Contaminants							
Contaminant	Violation Yes/No	Date of Sample	Level Detected (Average) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
<u>Inorganics</u> Lead #2	No	8/13/2010	5 (3) (<1 – 22.9)	UG/L	0	AL = 15	Corrosion of household plumbing systems; Erosion of natural deposits.
Copper #3	No	8/13/2010	79 (20.8-78.0)	UG/L	1300	AL = 1300	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.

Sodium	No	8/11/2010	13.00	MG/L	(see health effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.
Barium	No	8/11/2010	0.012	mg/l	2000	2000	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	No	monthly	0.95	Mg/l	N/A	2.2	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.
Arsenic	No	8/08/2007	<1.00	Ug/l	N/A	50	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.
<u>Disinfection By-products</u> TTHM's (Total Trihalomethanes)#4	No	Quarterly	58.0 (20.4 – 86.0)	ug/l	80	NA	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.
HAA5 (Total Haloacetic Acids)#4	No	Quarterly	39.6 (33.4 – 49.6)	Ug/l	N/A	60	By-product of drinking water chlorination.
Chloride	No	9/9/2009	23	Mg/l	N/A	N/A	By-product of drinking water chlorination.
Sulfate	No	10/8/2008	24	Mg/l	N/A	N/A	By-product of drinking water chlorination.

Nickel	No	8/11/2010	0.0012	Mg/l	N/A	N/A	Naturally occurring
Zinc	No	8/13/2010	0.0370	Mg/l	N/A	5.0	naturally occurring
Manganese	No	8/13/2010	0.0860	Mg/l	N/A	0.3	naturally occurring
Iron	No	8/13/2010	0.0520	Mg/l	N/A	0.3	naturally occurring

Notes:

2 – The level presented represents the 90th percentile of the 10 samples collected. The action level for lead was exceeded at 1 of the 10 sites tested.

3 – The level presented represents the 90th percentile of the 10 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 10 samples were collected at your water system and the 90th percentile value was the 115 ug/l value. The action level for copper was not exceeded at any of the sites tested.

4 – This level represents the annual quarterly average calculated from data collected.

Definitions:

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Nanograms per liter (ng/l): Corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).

Picograms per liter (pg/l): Corresponds to one part per of liquid to one quadrillion parts of liquid (parts per quadrillion – ppq).

Picocuries per liter (pCi/L): A measure of the radioactivity in water.

Millirems per year (mrem/yr): A measure of radiation absorbed by the body.

Million Fibers per Liter (MFL): A measure of the presence of asbestos fibers that are longer than 10 micrometers.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violation this year. We have learned through our testing that some other contaminants have been detected; however, these contaminants were detected below New York State requirements.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2011, our system was in compliance with all applicable State drinking water requirements.

Information on Radon

Radon is a naturally-occurring gas found in soil and outdoor air that may also be found in drinking water and indoor air. Some people exposed to elevated radon levels over many years in drinking water may have an increased risk of getting cancer. The main risk is lung cancer from entering indoor air from soil under homes.

In 2008, we collected four representative water samples (one per calendar quarter) that were analyzed for radon Gross Alpha, Radium-226, and Radium-228. The test showed that no levels were detected at the MDC or RL levels. For additional information call your state radon program (1-800-458-1158) or call EPA's Radon Hotline (1-800-SOS-RADON).

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

*Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the **Safe Drinking Water Hotline (800-426-4791)**.*

Information on Fluoride Addition

Our system is one of many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Center for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.8 to 1.2 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis. During 2011 monitoring showed fluoride levels in your water were in the optimal range 100% of the time. None of the monitoring results showed fluoride levels that approach the 2.2 mg/l MCL for fluoride.

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- ◆ *Saving water saves energy and some of the costs associated with both of these necessities of life;*
- ◆ *Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and*
- ◆ *Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.*

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- ◆ *Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.*
- ◆ *Turn off the tap when brushing your teeth.*
- ◆ *Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it up and you can save almost 6,000 gallons per year.*
- ◆ *Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.*
- ◆ *Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes, if it moved, you have a leak. With the installation of the new radio-read water meters we can now detect some leaks when we read the meters. When we find these leaks we will be notifying our water customers of the problems.*

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. **Please call our office if you have questions at (315) 858-1098.**