

# Genesee/Finger Lakes Regional Planning Council



## **Controlling Sediment in the Black and Oatka Creek Watersheds**

Water Resource Issue Identification and Prioritization

June 2006

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## Acknowledgements

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G/FLRPC staff would like to thank all of the officials and citizens across the twenty-eight municipalities and five counties who assisted G/FLRPC with this project.

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*Front Cover: Tributary of Spring Creek, north side of Searls Road, Town of Byron.*

*Credit: Jason Haremza, Spring 2004*

# Controlling Sediment in the Black and Oatka Creek Watersheds

## Water Resource Issue Identification and Prioritization

June 2006

*A report submitted to the Great Lakes Commission in fulfillment of Task 4 of the overall requirements for the “Controlling Sediment in the Black and Oatka Creek Watersheds” project. This report was partially funded by the Great Lakes Commission Program for Soil Erosion and Sediment Control.*



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GENESEE/FINGER LAKES  
Regional Planning Council

### Mission Statement

*The Genesee/Finger Lakes Regional Planning Council (G/FLRPC) will identify, define, and inform its member counties of issues and opportunities critical to the physical, economic, and social health of the region. G/FLRPC provides forums for discussion, debate, and consensus building, and develops and implements a focused action plan with clearly defined outcomes, which include programs, personnel, and funding.*

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## I. EXECUTIVE SUMMARY

The *Controlling Sediment in the Black and Oatka Creek Watersheds* project was funded in part by a grant awarded by the Great Lakes Commission (GLC) Program on Erosion and Sediment Control. As stated on the GLC website, the Program's purpose is to "protect and improve water quality in the Great Lakes by reducing soil erosion and controlling sedimentation through financial incentives, information and education, and professional assistance."<sup>1</sup>

The project consists of five major components:

- **Task 1** – Erosion and Sediment Control - Municipal Meetings (Black Creek)
- **Task 2** – Report: *Identification and Analysis of the Riparian Corridor in the Black and Oatka Creek Watersheds*
- **Task 3** – Report: *Municipal Law Review and Analysis*
- **Task 4** – Report: *Water Resource Issue Identification and Prioritization*
- **Task 5** – Assistance to the Towns of Bethany, Sweden and Warsaw in Revising Local Laws

Funds for this project were applied for in February 2004 and awarded in June 2004. Tasks 1 and 2 were completed in autumn of 2005; tasks 3, 4 and 5 were completed in June 2006.

The following compilation is intended to satisfy the requirements of *Task 4: Water Resource Issue Identification and Prioritization*. The document brings together major findings from the body of scientific reports that have been written on water quality issues in and around the Black and Oatka Creek watersheds over the past 16 years. The intent of this compilation is to facilitate the future preparation of watershed management plans by organizing all of the pertinent water quality issues that have been identified at an earlier point in time into one document.

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All information related to Tasks 1–5 of this project – including background information, maps, fact sheets, forms and completed reports – may be viewed and downloaded at the following webpage:

**Project Website:**

<http://gflrpc.org/Publications/ControllingSediment/ControllingSediment.htm>

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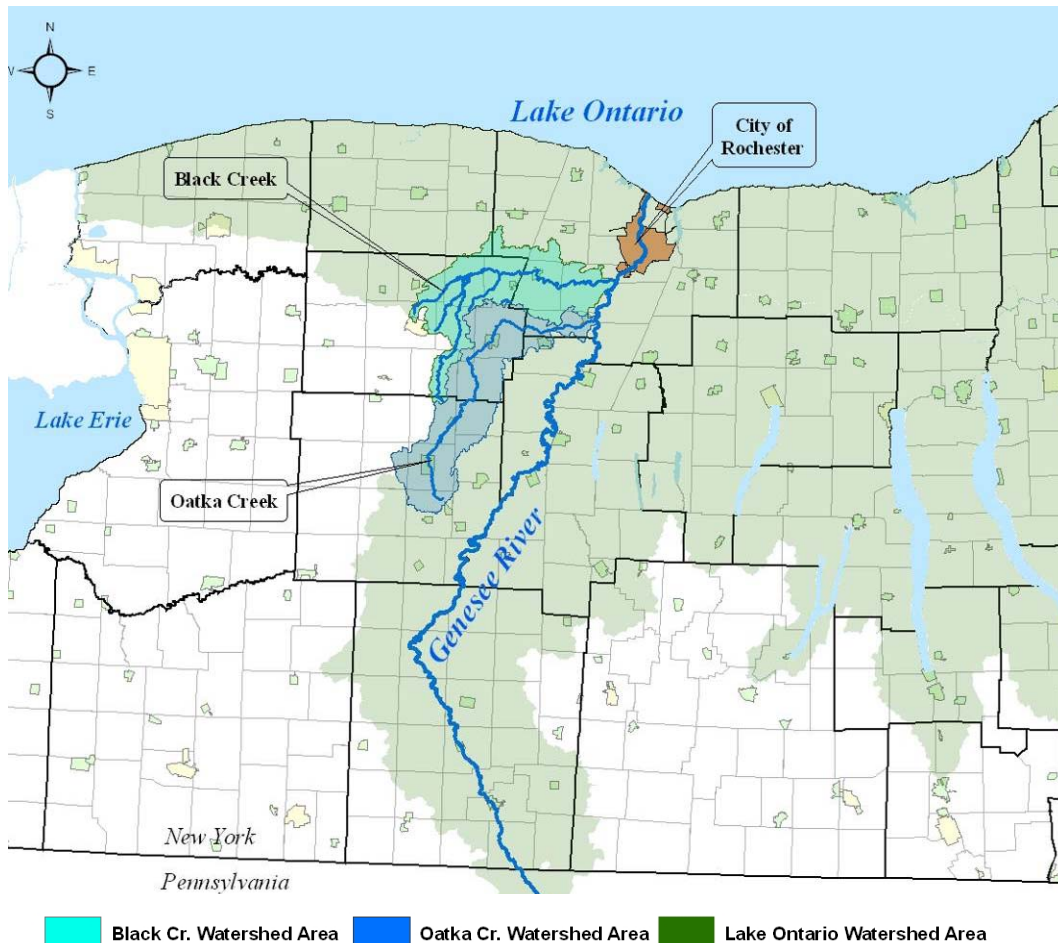
<sup>1</sup> Great Lakes Commission Program on Erosion and Sediment Control. <http://www.glc.org/basin/background.html>. Last visited 6/5/06.

## II. INTRODUCTION

The Black and Oatka Creek watersheds are adjacent sub-drainage basins that comprise a significant portion of the Lower Genesee River drainage basin. Eventually all of the water contributed by these two watersheds enters the Genesee River, where it then flows north through the City of Rochester and into Lake Ontario at the lake's southern shore, known locally as the Port of Rochester.

Human activity within all watersheds can have a direct impact on land and water use patterns. If improperly managed, these activities can have cumulative, negative impacts on local and regional water quality. Recognizing the importance of protecting area land and water resources, concerned citizens, local governments, and public and private organizations have been putting forth significant efforts over the past three decades to better understand the physical, chemical and ecological complexities of the Black and Oatka Creek watersheds.

### Overview of the Black and Oatka Creek Watersheds/Lake Ontario Drainage



Through the efforts of the Black Creek Watershed Coalition, the Oatka Creek Watershed Committee, various public agencies and area academic institutions, watershed characterizations (also called “state of the basin” reports) have been completed for each watershed. A watershed characterization is intended to be a comprehensive assemblage of the wide body of data that is available relative to the health and function of a drainage basin. Chemical, physical, ecological, demographic, historic and other types of pertinent data are collected on the focus area in an effort to establish baseline information and to better understand how these various attributes function, interact and change over time.

After this data has been adequately reviewed, the next logical step in the watershed planning process is the development of a watershed management plan. Watershed management plans are intended to develop a framework and implementation strategy for the future management of water resources within an area of concern. Along with municipal support and stakeholder involvement, watershed management plans depend on a body of reliable and robust data from which to draw conclusions from. The watershed management planning process, when conducted in a comprehensive and equitable manner, will ideally lead toward the efficient implementation of watershed management goals that are intended to benefit local water resources and the overall public good.

In the process of moving from a watershed characterization report to a watershed management plan in the Black and Oatka Creek watersheds, it is important that every stakeholder recognize the wide array of water quality issues that have been identified thus far. Tasks 2, 3 and 5 of this *Controlling Sediment in the Black & Oatka Creek Watershed* project are an integral part of this process. Task 2 produced the *Identification & Analysis of the Riparian Corridor in the Black & Oatka Creek Watersheds* report, which studied and made recommendations on many of the severely eroded streambanks in the two watersheds. Task 3 produced the *Municipal Law Review and Analysis* assessment report, which presented a comprehensive inventory of the regulatory mechanisms that govern land use and ultimately water resources in the 28 municipalities that are present within the two watersheds. Task 5 worked with the Towns of Bethany, Sweden and Warsaw to revise their local laws in an effort to address and integrate water quality best management practices.

*Task 4: Water Resource Issue Identification and Prioritization* brings together major findings from the body of scientific and analytic reports that have been written on water quality issues in and around the Black and Oatka Creek watersheds over the past several decades. The intent of this compilation is to facilitate the future preparation of watershed management plans by organizing all of the pertinent water quality issues that have been identified at earlier points in time into one document.

A Works Cited list is provided below, citing each document that is included in this report. Thereafter in Chapter III, issues are summarized in tabular format according to the document from which they were originally stated. Each issue is either quoted directly or paraphrased and cited with page or section numbers, as appropriate. Issues are prioritized according to their source document; in cases where no prioritization was given, issues are listed in the order by

which they appeared in the original document. When applicable, information relative to an issue's current status has been provided as well.

It is important to note that some of these reports cover a geographic area outside of the Black and Oatka Creek watersheds. Every effort was made to find and include those water quality issues that pertain solely to the Black and Oatka Creek watersheds; in some instances, however, issues may pertain to wider geographic areas of concern, such as the Lower Genesee River Basin, the Rochester Embayment, or the entire Lake Ontario drainage basin.

### List of Works Cited:

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Autin, Whitney, Mark Noll and James Zollweg. Black Creek Watershed State of the Basin Report. SUNY College at Brockport, 2003.

Genesee/Finger Lakes Regional Planning Council, LU Engineers. Controlling Sediment in the Black and Oatka Creek Watersheds, Task II: Identification and Analysis of the Riparian Corridor in the Black and Oatka Creek Watersheds. 2005.

Genesee/Finger Lakes Regional Planning Council. Controlling Sediment in the Black and Oatka Creek Watersheds, Task III: Municipal Law Review and Analysis. 2006.

Genesee/Finger Lakes Regional Planning Council. Genesee River Basin Action Strategy. 2004.

Makarewicz, Joseph C. and Theodore W. Lewis. Segment Analysis of Oatka Creek: The Location of Sources of Pollution, Wyoming and Genesee Counties. Dept. of Environmental Science and Biology: SUNY College at Brockport, 2004.

Monroe County Department of Health. Rochester Embayment Remedial Action Plan Stage II. 1997.

Monroe County Department of Health. Rochester Embayment Remedial Action Plan 2002 Addendum. 2002.

New York State Department of Environmental Conservation. Division of Water. The 2001 Genesee River Basin Waterbody Inventory and Priority Waterbodies List. 2003.

Tatakis, Timothy A. The Oatka Creek Watershed State of the Basin Report. Department of Biology: Monroe Community College, 2002.

*The following four documents were referenced materials in the Oatka Creek State of the Basin Report:*

- Dowling, C., Renz, M.J., Hunt A.G., and Poreda, R.J. The Geochemistry of Oatka Creek, New York State. 2001.
- Sutton, W. Biological Monitoring of Oatka Creek in Upstate NY. 1995.
- Sutton, W. A 1997 Five Year Follow-up Biological Monitoring Assessment of Oatka and Spring Creeks in Upstate NY. (in cooperation with the DEC) 1999.
- Tatakis, T. Watershed Evaluation and Management for Lakes LeRoy and LaGrange. 1990.



### III. WATER RESOURCE ISSUE IDENTIFICATION AND PRIORITIZATION

Autin, Whitney, Mark Noll and James Zollweg. Black Creek Watershed State of the Basin Report. SUNY College at Brockport, 2003.  
*All information taken from Chapter 6: Summary of Problems and Risks*

Category	Explanation of Issue	Known Status/Action
<b>Point Sources</b>	<b>6.1.1:</b> [A non-specific summary of the negative impacts of point sources including spills, solid waste, hazardous waste, and leaking underground storage tanks]	<b>Does Not Apply</b>
<b>Agriculture</b>	<b>6.1.2:</b> [A non-specific summary of the negative impacts of agricultural sources of pollution]	<b>Does Not Apply</b>
<b>Nonpoint Sources</b>	<b>6.1.3:</b> [A non-specific summary of the negative impacts of nonpoint sources of pollution]	<b>Does Not Apply</b>
<b>Nutrients/ Monitoring and Assessment</b>	<b>6.1.4, Public Water Quality Concerns:</b> ...levels of nitrate and total nitrogen were found to be above MCLs in several portions of the watershed. It should be noted that these studies were limited in scope, but revealed a systematic problem in previous investigations....To better understand the current water quality conditions of the Black Creek Watershed and to design management plans that will protect the resource, a comprehensive investigation is needed. This investigation should include the following criteria [see report]	<b>No known action</b>
<b>Municipal Discharge – WWTP</b>	<b>6.1.4, continued (public concerns):</b> The village of Churchville wastewater treatment plant should be closed	Efforts to transfer to Monroe County Pure Waters underway
<b>Failing OWTS</b>	<b>6.1.4, continued (public concerns):</b> The Town and Country mobile home park on Rt 33A in Riga uses septic systems that are aging. Closure of the septic system at this location is scheduled and alternative waste disposal facilities should be designed to minimize water quality impacts	<b>No known action</b>
<b>Wildlife Populations</b>	<b>6.1.4, continued (public concerns) :</b> There used to be pike and smallmouth bass throughout Black Creek, but these fish species seem to be limited in the stream today	<b>No known action</b>
<b>Monitoring and Assessment</b>	<b>6.1.4, continued (public concerns) :</b> Water Quality surveys such as a trace metals study could provide a benchmark for future water quality comparisons	<b>No known action</b>
<b>Erosion</b>	<b>6.1.4, continued (public concerns):</b> Streambank erosion is a problem in some areas, but not everywhere.	G/FLRPC GLC <i>Controlling Sediment in the Black and Oatka Creeks project</i>
<b>Debris/Aesthetics</b>	<b>6.1.4, continued (public concerns):</b> Regular maintenance cleaning of garbage and debris from the streambed is needed	<b>No known action</b>
<b>Education/Outreach</b>	<b>6.1.4, continued (public concerns):</b> The BCWC should be involved in public outreach that helps citizens and landowners understand the value of stream corridor maintenance	Various efforts underway in conjunction with other organizations (CCE, WQCCs, SWCDs, etc.)
<b>Hydro Modification/ Water Quantity/Flooding</b>	<b>6.2.1 Flooding:</b> ...most significant flooding occurs in the lower Black Creek Watershed in the Towns of Riga and Chili with lesser flooding in Bergen and Byron. Construction of the Mt. Morris Dam...has significantly alleviated backwater flooding along the Black Creek. Coordination of discharges at the Mt. Morris Dam with the downstream	No known action re: Mt. Morris Dam flow regime, although ACE has indicated receptiveness to the idea; also associated with the Genesee River

## Controlling Sediment in the Black and Oatka Creek Watersheds

*Water Resource Issue Identification and Prioritization*

Autin, Whitney, Mark Noll and James Zollweg. <u>Black Creek Watershed State of the Basin Report</u> . SUNY College at Brockport, 2003. <i>All information taken from Chapter 6: Summary of Problems and Risks</i>		
Category	Explanation of Issue	Known Status/Action
	Court Street Dam is necessary to prevent back water events during periods of high discharge in the Genesee River...Different land uses contribute to the overall flood risk, and the locations of specific land uses within the Black Creek Watershed affect the level of risk...proper siting of agricultural activities minimized the impacts of flooding on both farm practices and the surrounding environment.	Basin Sediment Transport Model
<b>Water Quantity</b>	<b>6.2.2 Base flow:</b> ...Local segments of Black Creek have been known to barely flow at...times.	<b>No known action</b>
<b>Hydro Modification: channel 'cleaning'</b>	<b>6.2.3 Public water quantity concerns:</b> Cleaning the Black Creek channel does not provide benefits if the entire main channel is not cleaned. An area-wide watershed maintenance policy could keep the channel cleaned, free of debris and minimize obstacle effects on flooding.	<b>No known action</b>
<b>Hydro Modification: culverts</b>	<b>6.2.3 Public water quantity concerns, continued:</b> Under the Genesee Valley Greenway bridge near Scottsville Road, where Black Creek flows into the Genesee River, culverts are sometimes clogged with sediment, and flooding has been reported because water cannot flow to the Genesee River	<b>No known action</b>
<b>Hydro Modification: debris/recreation/flooding</b>	<b>6.2.3 Public water quantity concerns, continued:</b> Black Creek has been impassable by canoe through the Bergen Swamp from West Sweden Road to State Route 19 since the 1991 ice storm. Cleaning the debris from this reach could improve recreational access and possibly reduce backwater flooding.	<b>No known action</b>
	<b>6.3 Recommendations:</b> In addition to Section 1.4 Goals and Objectives, some specific recommendations are as follows...[they] are related to public policy, technical investigations and public outreach and education [each point has been listed under a bullet below]:	
<b>Education/Outreach</b>	•Municipal outreach needs to continue while a Watershed Plan is being developed and implemented.	<b>Ongoing</b>
<b>Legislative</b>	•Renew and update the IMA existing between Monroe, Genesee and Orleans Counties to include towns and villages.	IMA currently in place; no known changes or updates
<b>Planning/Policy Development</b>	•Develop watershed protection policies commensurate with BCWC stormwater quality and quantity management goals, stream corridor protection plans, etc.	<b>Ongoing</b>
<b>Planning/Policy Development</b>	•During development of a Watershed Management Plan, evaluate commercial activities to assess business pollution prevention activities.	<b>Ongoing</b>
<b>Legislative: local level</b>	•Assess town zoning ordinances as they relate to flood zones, riparian zones, agriculture and special overlay districts. Compare and contrast zoning ordinances in towns and suggest model ordinances for riparian buffers, floodplains, etc.	G/FLRPC GLC <i>Controlling Sediment in the Black and Oatka Creeks project</i>
<b>Planning/Policy Development/ Hydro Modification</b>	•Develop a BCWC Drainage Subcommittee that includes agencies, towns and citizens to develop an integrated drainage plan and serve as a liaison between local gov'ts.	<b>No Known Action</b>

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*All information taken from Chapter 6: Summary of Problems and Risks*

Category	Explanation of Issue	Known Status/Action
<b>Flooding</b>	<ul style="list-style-type: none"> <li>• Develop a Black Creek flood prevention and mitigation plan.</li> </ul>	<b>No Known Action</b>
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>• Develop a BCWC Technical Subcommittee to develop and implement systematic water quality monitoring to gather improved base line data and assess potential human impacts on water quality.</li> </ul>	<b>No Known Action</b>
<b>Water Quality</b>	<ul style="list-style-type: none"> <li>• Perform hydrologic analysis and water quality modeling to define the behavior of the watershed and its relationships between land use and water quality.</li> </ul>	<b>No Known Action</b>
<b>Water Quantity/Monitoring</b>	<ul style="list-style-type: none"> <li>• Additional gauging stations, especially upstream, are needed to improve understanding of surface water hydrology.</li> </ul>	<b>No Known Action</b>
<b>Wildlife</b>	<ul style="list-style-type: none"> <li>• Conduct an aquatic survey of fish populations in the Black Creek Watershed.</li> </ul>	<b>No Known Action</b>
<b>Hydro Modification/ Stormwater/ Catch Basins</b>	<ul style="list-style-type: none"> <li>• Inventory storm sewers and surface runoff management facilities</li> </ul>	<b>No Known Action outside of regulated MS4s (IDDE compliance)</b>
<b>Open Space</b>	<ul style="list-style-type: none"> <li>• Inventory smaller local parks and recreational facilities.</li> </ul>	Ongoing as of summer 2006; G/FLRPC <i>Finger Lakes Land Use</i> study to analyze the spectrum of public lands across G/FLRPC region, including local parks and recreational areas
<b>Hydro Modification/ culverts</b>	<ul style="list-style-type: none"> <li>• Bridge culverts have been described as inadequate and may cause backwater effects in the Black Creek watershed. A survey of the adequacy of drainage culverts would provide systematic information on the magnitude of this possible problem.</li> </ul>	<b>No Known Action</b>
<b>Open Space/ Access/ Recreation</b>	<ul style="list-style-type: none"> <li>• Develop additional public access points to Black Creek in addition to existing locations at public parks. Additional public access points would enhance Black Creek's recreational potential for canoeing and fishing.</li> </ul>	<b>No Known Action</b>
<b>Debris</b>	<ul style="list-style-type: none"> <li>• Develop a debris removal plan for Black Creek and tributaries. Encourage each community to clean out Black Creek and its tributaries. Towns may differ in their approach depending on the stream classification in their town. Debris removal would increase navigability along some reaches of the channel and may help to alleviate local backwater flooding.</li> </ul>	<b>No Known Action</b>
<b>Monitoring and Assessment/ Erosion/ Sedimentation</b>	<ul style="list-style-type: none"> <li>• Conduct a visual survey of Black Creek and its tributaries for debris and erosion problems and for other signs of environmental degradation. Photographs of bridge culverts during high water may serve to document potential problems associated with obstacles to flow.</li> </ul>	G/FLRPC GLC <i>Controlling Sediment in the Black and Oatka Creek Watersheds</i> project

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### Water Resource Issue Identification and Prioritization

Genesee/Finger Lakes Regional Planning Council, LU Engineers. Controlling Sediment in the Black and Oatka Creek Watersheds, Task II: Identification and Analysis of the Riparian Corridor in the Black and Oatka Creek Watersheds. 2005.

*The following descriptions are statements explaining specific erosion/sedimentation problems at the specified site.*

Category (if applicable)	Explanation of Issue	Known Status/Action
<p><b>Erosion/ Sedimentation</b></p>	<p><b>Black Creek at Morganville Road, Town of Stafford:</b> A large scour hole has formed at the northwest abutment of the bridge site. This scour hole may eventually undermine the bridge foundation, causing collapse of the structure. High flows also deposit large amounts of sediment in the channel and cause the formation of gravel bars. A thin line of riparian shrubs is located along the west bank of the creek. Although this vegetation provides some protection for the bank, the field is cultivated as close to the creek as possible, contributing soil erosion to the channel. Some evidence of channel degradation is seen in the formation of mid-channel bars downstream from the bridge site. Downed trees deflect currents into the banks, causing additional undercutting north of the bridge.</p>	<p><b>No known action</b></p>
<p><b>Erosion/ Sedimentation</b></p>	<p><b>Black Creek at Griswold Road, Town of Byron:</b> The stream channel appears to be downcutting actively at this site. Bank sloughing evident in Photo 3, exposed tree roots, and scoured, undercut outside meander banks all point to a channel in transition. Increased frequency of bankfull flows may contribute to the accelerated rate of channel degradation. Removal of woody vegetation from the top of bank on the east side of the channel has resulted in an accelerated rate of undercutting and bank erosion due to the loss of stabilizing plant roots. Channel currents are undercutting the east bank, causing significant soil erosion and increased channel deposition. Undercutting on the east side of the creek is creating a significant erosion hazard, and loss of property by adjacent landowner.</p>	<p><b>No known action</b></p>
<p><b>Erosion/ Sedimentation</b></p>	<p><b>Black Creek at Union Station Park and Stottle Road, Town of Chili:</b> The project study area is located in a rapidly developing watershed area. A developed watershed area creates more frequent bankfull flow events, eventually leading to deteriorated stream conditions. Where woody riparian vegetation is removed or exists in thin strips along each bank, more frequent high flows undercut banks and create sloughing. Undercutting is more severe when the bank soils consist of fine sands and silts. In this reach, the mapped soil types are predominantly Genesee silt loam and Eel silt loam, both of which are fine sandy to silty alluvial soils. Several large trees were observed on scoured banks, with exposed root systems. Continued undercutting during bankfull flow events will eventually undermine these trees, and cause them to fall into the stream channel. Downed timber in the creek channel creates problems by directing stream flow against easily eroded bank areas. Southern banks near Stottle Road are high (6-8</p>	<p>Application submitted by Monroe County SWCD in March 2006 requesting funds for site remediation was awarded in June 2006 by the GLC's Program on Erosion and Sediment Control. Project proposal also includes BMP education and outreach to applicable municipal entities.</p>

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Category (if applicable)	Explanation of Issue	Known Status/Action
	feet) and show some erosion as the creek makes a broad sweep south and east. Some erosion and exposed tree roots occur here. Several expanses of high, undercut banks were observed on both the north and south creek banks. Undercut banks adjacent to Chili Avenue and Stottle Road may eventually threaten road and utility infrastructures if not corrected.	
<b>Erosion/ Sedimentation</b>	<p><b>Warner Creek/Oatka Creek at Union Springs Road:</b> The Warner Creek project site is typical of many locations in the upper watershed of Oatka, Warner and Cotton Creeks. Hillsides are above the field are steep, with slopes typically exceeding 25%. First-order creek channels are steep, with gradients in excess of 0.02 ft/ft. The project reach channel is typical of much of the upper watershed. It is well vegetated with herbaceous species (joe-pye weed, swamp milkweed, cattail, reed canary grass) and scattered trees (mostly willows and eastern cottonwoods). Riparian vegetation zones bordering agricultural fields tend to be thin (20 feet or less in width) from the top of the Warner Creek Site (W4) Page 4 stream bank to field dead furrow. Fields are generally plowed as close to the top of the bank as possible. Erosion is accelerated when fields are plowed parallel to the slope direction. The field adjacent to the site was contour-plowed adjacent to the stream channel, but was otherwise plowed parallel to the slope. This cultural practice leads to the formation of rill erosion channels at the lowest points of the field, adjacent to the creek channel.</p> <p>The microclimate of Wyoming County also contributes to the erosive impact of heavy rainfalls. Wyoming County is located on a plateau about 1000-2000 feet higher in elevation than Lake Erie. During the summer, prevailing winds carry warm, moisture- laden air masses from Lake Erie over the high plateau areas of Wyoming County. Adiabatic cooling occurs, causing sudden, violent thunderstorms during the summer months. When these events occur in early summer, the soil surface is often exposed from recent plowing and planting. Severe erosion results from the sudden, heavy downpours.</p> <p>From the aerial photograph, it appears that the natural drainage of the system has been altered with the construction of several ponds in the adjacent watershed above the project reach. Stream channels appear to have been straightened slightly from their natural locations. The natural sinuosity of the channel has been altered over the reach of this section of Warner Creek. The site is fairly high in the watershed and has the potential to generate a large amount of sediment if left untended.</p>	<b>No known action</b>
<b>Erosion/ Sedimentation</b>	<b>Oatka Creek South to Martinsville Road, Town of Warsaw:</b> Site observation showed that influent streams	<b>No known action</b>

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<i>The following descriptions are statements explaining specific erosion/sedimentation problems at the specified site.</i>		
Category (if applicable)	Explanation of Issue	Known Status/Action
	contribute a high sediment load, resulting in the formation of mid-channel gravel bars, and divided thalwegs in the channel. Large trees have been undercut by high flows, and have fallen into the channel. Resulting log jams direct stream flow into steep, erodible, clay banks on the east side of the channel. Undercutting has caused slumping from Station N1+00 to approximately S0+60.	
<b>Erosion/ Sedimentation</b>	<p><b>Oatka Creek at Martinsville Road/Kennedy Site, Town of Warsaw:</b> Several long lengths of high eroding banks totaling 800-1000 linear feet are located within this reach. It has been estimated that this site alone contributes more than 70 T/year of sediment to the Oatka stream channel. Bank stability is reduced because woody vegetation has been removed from the top of the east bank. The owner has noted a severe loss of property adjacent to his driveway since its construction in the mid-1990's.</p> <p>Historical air photo review indicates that this reach of Oatka Creek has been subject to meandering, probably due to the drop in gradient. Sharp bends in the channel create log jams. Ice jamming may also scour the exposed banks, uprooting and breaking off vegetation, and causing unusually high water levels and flooding. Log jams also form when logs are deposited in shallow areas of the stream or get caught on sand bars. Log jams can also deflect currents into sensitive, exposed bank areas, creating additional sloughing and slumping.</p> <p>The driveway of the Kennedy property is located within 30 feet of the top of bank of one of the meanders.</p>	Application submitted by Wyoming County SWCD in March 2006 requesting funds for stream stabilization and habitat restoration at the Kennedy site was awarded in June 2006 by the GLC's Program on Erosion and Sediment Control
<b>Erosion/ Sedimentation</b>	<p><b>Oatka Creek at Pavilion Fire Hall, Town of Pavilion:</b> This site was selected because the outside edge of the creek is located at the toe of the Rochester and Southern Railroad embankment. The railroad embankment has been damaged during previous flood events. Although large stone riprap has been placed at the toe of the slope to protect the embankment ballast, portions of the embankment are vulnerable to undercutting from the current. Erosion from this site was estimated at 0.395 tons of soil per year.</p> <p>Portions of the channel banks are vertical or overhanging (Photo 2). Roots of large trees are exposed, and log jams were present at the sharp bends in the channel.</p> <p>Fields in the watershed immediately above this reach are cultivated nearly to the edge of the stream, causing a high</p>	<b>No known action</b>

## Controlling Sediment in the Black and Oatka Creek Watersheds

### *Water Resource Issue Identification and Prioritization*

<p>Genesee/Finger Lakes Regional Planning Council, LU Engineers. <u>Controlling Sediment in the Black and Oatka Creek Watersheds, Task II: Identification and Analysis of the Riparian Corridor in the Black and Oatka Creek Watersheds</u>. 2005.</p> <p><i>The following descriptions are statements explaining specific erosion/sedimentation problems at the specified site.</i></p>		
Category (if applicable)	Explanation of Issue	Known Status/Action
	sediment load during precipitation events.	
<b>Erosion/ Sedimentation</b>	<p><b>Oatka Creek at Rochester &amp; Southern Railroad Bridge, Town of LeRoy:</b></p> <ol style="list-style-type: none"> <li>1. A large scour hole has developed at the northwest quadrant of the Rochester &amp; Southern Railroad bridge. Channel flow hits the bridge abutment at a near right angle, creating an eddy, which has scoured a deep hole in the channel substrate. Further evaluation may be required to determine if this scour hole has affected the bridge substructure.</li> <li>2. Inspection of the southwest quadrant of the bridge showed that a stone retaining wall has partially collapsed into the creek. Further evaluation is needed to determine an appropriate repair strategy before the entire embankment fails.</li> <li>3. Access to the site is limited by wetlands and a steep railroad embankment. The bridge is approximately 30-40 feet higher than the stream water surface. The channel is too shallow in spots to permit access by anything other than a canoe or kayak. To get a crane or other tracked vehicle in to the site would require clearing of woody vegetation. Steep slopes on the south side limit access also.</li> </ol>	<p>G/FLRPC, in conjunction with the Town of LeRoy and Genesee County SWCD concurred in spring 2006 that the site is a priority and that action is warranted. Rochester &amp; Southern Railroad Corp. was included in preliminary discussions; corporation is currently conducting its own evaluation of the site. Issues related to responsible parties and cost sharing need to be resolved with R&amp;S RR Corp. before further action can be taken.</p>
<b>Erosion/ Sedimentation</b>	<p><b>Oatka Creek between Munson Street &amp; Route 5 Dams, Village of LeRoy:</b> The south bank experiences severe erosion and undercutting due to fluctuating water levels and currents driven by the prevailing winds between the Rt. 19 bridge and the Rt. 5 bridge. The bank is mowed to the top of the bank in this reach. Visual observation showed that the bank has slumped about 2-4 feet into the creek. The Village reportedly is planning to install more heavy stone riprap along the south bank to protect the shoreline. Where a fringe of riparian marsh type vegetation exists, the bank is better protected. Some bank erosion is also evident along the south bank of the creek west of the Route 19 bridge. Erosion in this area is also caused by fluctuating water levels, and a lack of woody vegetation to hold the bank in place.</p>	<b>No known action</b>
<b>Erosion/ Sedimentation</b>	<p><b>Oatka Creek near Union Street Bridge, Town of Wheatland:</b> This site was selected because it reportedly generates a large amount of sediment into the Oatka system, and Ms. Stollery is willing to cooperate with proposed remedial measures. She noted that the creek erodes about 2-3 feet per year on the south bank, enlarging a natural scour hole. She currently mows most of the flat area adjacent to the creek. She says the bank used to support many large willow trees, which have been undercut and uprooted by frequent flood</p>	<b>No known action</b>

## Controlling Sediment in the Black and Oatka Creek Watersheds

### *Water Resource Issue Identification and Prioritization*

Genesee/Finger Lakes Regional Planning Council, LU Engineers. Controlling Sediment in the Black and Oatka Creek Watersheds, Task II: Identification and Analysis of the Riparian Corridor in the Black and Oatka Creek Watersheds. 2005.

*The following descriptions are statements explaining specific erosion/sedimentation problems at the specified site.*

<b>Category (if applicable)</b>	<b>Explanation of Issue</b>	<b>Known Status/Action</b>
	<p>events.</p> <p>The biggest problem is a bifurcated riffle at the head end of the meander on Ms. Stollery's property. This riffle has split into two thalweg zones, directing the flow against both banks of the creek. The largest flow comes toward her south bank, creating the meander measured above. The south bank is clay, which has become undercut, causing sloughing into the creek. Sloughing has created a mid-channel bar slightly downstream and opposite of the meander. High flows continue to erode this bank. Bank height is approximately 4.5 ft. Water depths in the scour hole are over 5 feet in the center.</p>	



## Controlling Sediment in the Black and Oatka Creek Watersheds

### *Water Resource Issue Identification and Prioritization*

Genesee/Finger Lakes Regional Planning Council. <u>Controlling Sediment in the Black and Oatka Creek Watersheds, Task III: Municipal Law Review and Analysis</u> . 2006.		
Category	Explanation of Issue	Known Status/Action
<b>Legislative – Local Level</b>	No consistent legal framework for addressing erosion and sedimentation used throughout the watersheds; municipalities have very different approaches to erosion and sediment control, if any.	NYS Model Ordinance for Erosion and Sediment Control being reviewed for regulated MS4s; recommendations through this report to be disseminated to municipalities
<b>Legislative – Local Level</b>	No local laws addressing non-point sources emanating from recreation areas, such as golf courses, in any of the 28 municipalities	No known action/ recommendations through this report to be disseminated to municipalities
<b>Hydro Modification</b>	No consistent framework for addressing culverts and road ditch maintenance	<b>No Known Action</b>

# Controlling Sediment in the Black and Oatka Creek Watersheds

## Water Resource Issue Identification and Prioritization

Genesee/Finger Lakes Regional Planning Council. Genesee River Basin Action Strategy. 2004.  
*Note: Considering that the GRBAS was simply a compilation of existing data, water quality issues from other sources are included under the specific source document; issues below are unique to the GRBAS project goals or were developed during several stakeholder meetings and workshops.*

Category	Explanation of Issue	Known Status/Action
<p><b>Erosion/ Sedimentation</b></p>	<p>The Sediment Transport Model for the Lower Genesee River Basin is designed to simulate water and sediment yields in large, complex watersheds that feature varying soils and land use patterns. The Model consists of two primary components. The first is used as a tool for predicting the impact of land management practices on water, sediment, and agricultural chemical yields. The second component can evaluate the design efficiency of efforts to reduce sedimentation, stabilize stream channels and improve local habitat conditions.</p> <p>The Model will be used to identify critical areas within the Black and Oatka watersheds where excessive erosion is occurring. Output from the model will be used as a decision support mechanism for watershed organizations and government agencies in cooperation with local landowners. Where and when applicable, the Model will be used to help guide stream corridor rehabilitation measures that will improve stream stability and habitat improvement among waterbodies impacted by hydro and habitat modification</p>	<p>Model near completion as of spring 2006; implementation scheduled for summer 2006, however, this is contingent upon action by USACE. The USACE is to include Monroe County Health Dept. staff, G/FLRPC staff and other interested parties in model training sometime in 2006.</p>
<p><b>Enforcement and Compliance: Agriculture</b></p>	<p><b>Agriculture Recommendations (page 20):</b></p> <p>The DEC must strictly enforce and, if possible, expedite implementation schedules among all CAFOs in the [Black and Oatka River Basins]. Large CAFOs were required to have all aspects of their CNMP in place by the end of 2004; Medium CAFOs are required to adhere to the following incremental implementation schedule:</p> <ul style="list-style-type: none"> <li>▪ All non-structural practices in place by 10/01/07</li> <li>▪ “High risk conditions” addressed by 10/01/08</li> <li>▪ Complete implementation by 06/30/09</li> </ul> <p>Agricultural pollution prevention mechanisms such as AEM and CREP should continue to be expanded to high-risk farms in the [Black and Oatka watersheds], particularly those that are not covered under the CAFO General Permit. All farms that are located near waterbodies impacted by agricultural pollution sources should be implementing BMPs to mitigate pollution and the potential to pollute. Adequate sources of funding for planning and cost sharing should be actively sought be local, county and regional agencies.</p>	<p>Implementation of the CAFO General Permit is being conducted by the NYS DEC presently according to the aforementioned schedule; also, SWCDs continue to implement agricultural BMPs as funding allows and as willing participants volunteer</p>
<p><b>Stormwater Runoff and Other Nonpoint Sources/ Legislative</b></p>	<p><b>Stormwater Runoff and Other Nonpoint Sources Recommendation (page 26):</b></p> <p>Stormwater Drainage Districts: The possibility of instituting special jurisdictions (stormwater drainage districts) to facilitate the implementation, maintenance and financing of stormwater</p>	<p>Must be undertaken by individual municipalities (Town of Ogden only known municipality in Black/Oatka to use drainage districts)</p>

Controlling Sediment in the Black and Oatka Creek Watersheds

Water Resource Issue Identification and Prioritization

Genesee/Finger Lakes Regional Planning Council. Genesee River Basin Action Strategy. 2004.  
*Note: Considering that the GRBAS was simply a compilation of existing data, water quality issues from other sources are included under the specific source document; issues below are unique to the GRBAS project goals or were developed during several stakeholder meetings and workshops.*

Category	Explanation of Issue	Known Status/Action
	BMPs should be explored and encouraged where feasible	
<b>Hydro/Habitat Modification</b>	<p><b>Hydro/Habitat Modification Recommendation (page 29):</b></p> <p>Water Withdrawals for Agricultural/Industrial Processes: An assessment of the implications of significant water withdrawals (for irrigation and other utilitarian functions) on local waterbody health and function should be conducted. Heavy water withdrawals that occur during dry periods create stressful conditions for a great variety of aquatic organisms. Reduced stream flow, stream size and an increase in water temperature are common impacts.</p>	<b>No known action</b>
<b>Failing OWTS</b>	<p><b>OWTS Recommendation (page 32):</b></p> <p>Elected officials and agency heads should actively explore alternatives to failing OWTS, particularly in high-density communities that lack a centralized treatment facility</p>	No action unless undertaken by individual municipalities (see G/FLRPC GLC report, Task III, BMP Assessment Forms, BMP # 1-01 “Identify Retrofit Opportunities” and Sec. 6 “OWTS”)
<b>Municipal Drainage and Industrial Discharge</b>	<p><b>Municipal Drainage and Industrial Discharge Recommendations (page 34):</b></p> <p>Assessment of SPDES permits in upstream/downstream communities: Changes in SPDES permit limits for chemicals on the list of high priority chemical pollutants should be documented to the greatest degree possible when permits for facilities in the Genesee River Basin are renewed (similar to Stage II RAP Section 9.14: Suggested Monitoring Method)</p> <p>Assess upstream measures to address industrial discharge. ...[C]oncern has been raised regarding industrial discharges from small public wastewater treatment plants in upstream/rural areas. An assessment addressing the degree to which discharge permits are being properly acquired and enforced should be conducted.</p>	<p><b>No Known Action</b> [specific to chemical limits and high priority chemicals – otherwise, SPDES compliance is an ongoing monitoring effort conducted by DEC]</p> <p><b>No Known Action</b></p>
<b>Monitoring and Assessment</b>	<p><b>The following are listed as Actions Needed: under the category of “Assessment”:</b></p> <p>RE: WI/PWL: The NYS DEC should attempt to address the limitations that the linear stream segment monitoring approach has when conducting watershed-wide monitoring. Oftentimes segment-by-segment monitoring does not accurately reflect overall in-stream conditions; this problem is most readily evident in instances where upstream conditions are found to be worse than downstream conditions.</p> <p>RE: Stressed Stream Analysis: In order to compile a more comprehensive body of information relative to stressed waterways in the Genesee River Basin, stressed stream</p>	<p><b>No Known Action</b></p> <p>See <i>Segment Analysis of Oatka Creek: The Location of Sources of Pollution</i>,</p>

# Controlling Sediment in the Black and Oatka Creek Watersheds

## Water Resource Issue Identification and Prioritization

Genesee/Finger Lakes Regional Planning Council. Genesee River Basin Action Strategy. 2004.  
*Note: Considering that the GRBAS was simply a compilation of existing data, water quality issues from other sources are included under the specific source document; issues below are unique to the GRBAS project goals or were developed during several stakeholder meetings and workshops.*

Category	Explanation of Issue	Known Status/Action
	analyses should be conducted among all major streams in [the Black and Oatka Creek watersheds].	<i>Wyoming and Genesee Counties</i>
<p><b>Monitoring/ Enforcement/ Compliance</b></p>	<p><b>The following are listed as Actions Needed under the category of “Compliance”:</b></p> <p>NYSDEC will maintain SPDES facility surveillance as resources allow and take timely action when non-compliance is identified</p> <p>Stage II RAP Sec 9.14: Monitor enforcement efforts for NYS DEC permits for stormwater discharges—Monroe County SWCD and the DEC have been steadily increasing monitoring efforts. Compliance is not as well-known in rural counties.</p>	<p>Ongoing, routine SPDES monitoring is conducted by the DEC; specific level of compliance among permitted discharges unknown</p> <p>Rates of compliance in all areas are unknown; number of permits issued, degree to which SWPPPs are implemented in the field, frequency of violations and penalties assessed are all unknown</p>

## Controlling Sediment in the Black and Oatka Creek Watersheds

### Water Resource Issue Identification and Prioritization

<p>Makarewicz, Joseph C. and Theodore W. Lewis. <u>Segment Analysis of Oatka Creek: The Location of Sources of Pollution, Wyoming and Genesee Counties</u>. Dept. of Environmental Science and Biology: SUNY College at Brockport, 2004.</p> <p><i>Refer to map at end of table for locations of cited sites.</i></p>		
Category	Explanation of Issue <i>“The following sources of soil and nutrient loss are suggested...”</i>	Known Status/Action
<b>Monitoring and Assessment</b>	<p><b>Headwater Stream of Oatka Creek (Warner Creek – Site 1 and upstream):</b> Elevated levels of phosphorus (soluble reactive and total phosphorus), total Kjeldahl nitrogen and total suspended solids were observed on 23 Sept. 2003. Subsequently, additional sampling sites were added to further characterize the sources in this reach of Oatka Creek. There was a source of total phosphorus, nitrate, total Kjeldahl nitrogen and total suspended solids between sites 1B/C on Oatka Road downstream to site 1A on Mungers Mills Road. In addition, a source of soluble reactive phosphorus was found between site 1A downstream to site 1 on Evans Road. The sources were attributed to agricultural operations in those areas.</p>	<b>Not Applicable</b>
<b>Monitoring and Assessment</b>	<p><b>Stony Creek (Sites 6 to 7):</b> The area of Stony Creek from site 6 on liberty Street in Warsaw upstream to site 7A on Hermitage Road contained several areas that were sources of nutrients and soil to Oatka Creek. The entire area is dominated by agriculture including dairy operations and row crop farming. There were sources of nutrients identified between Hermitage Road (site 7A) and Route 20A (site 7), between Route 20A and Dick Road (site 6B) and between Dick Road and Buck Road (site 6A). Losses of total phosphorus, soluble reactive phosphorus, total Kjeldahl nitrogen, nitrate and total suspended solids were observed.</p>	<b>Not Applicable</b>
<b>Municipal Discharge/ Monitoring and Assessment</b>	<p><b>The Warsaw Sewage Treatment Plant (Fig. 1)</b> is a point source of nutrients to Oatka Creek. Sampling above (upstream) and below (downstream) the sewage treatment plant at Warsaw, NY indicated that major increases in SRP (71% increase), TP (188% increase), nitrate (30% increase) and TKN (27% increase) occurred within a few hundred feet of its discharge.</p>	<b>Not Applicable</b>
<b>Monitoring and Assessment</b>	<p><b>The Pearl Creek sub-watershed (site 12A Cluster, Fig. 1)</b> is a source of nitrate and total Kjeldahl nitrogen to Oatka Creek. The area between Taylor Road (site 12C) and Old State Road (12B1) was identified as a source of nitrate during one event on 27 October 2003 and a source of total Kjeldahl nitrogen, soluble reactive phosphorus, total phosphorus and total suspended solids during the 21 May 2004 event. There is a cattle operation in the small reach between site 12C downstream to site 12B1. During this same event, nitrate increased 170% from site 12D1 on LaGrange Road (.43 mg N/L) downstream to site 12D on Morrow Road (1.16 mg N/L). The land use in this area is predominantly agriculture.</p>	<b>Not Applicable</b>
<b>Monitoring and Assessment</b>	<p><b>The area between sites 12 on Route 19 and 13 on Crossman Road (Fig. 1)</b> is an area of intense agriculture. Manure, as well as cows having access to Oatka Creek, was observed on tilled land. Results from the water quality testing show that this area possessed sources of soluble reactive phosphorus, total phosphorous, total Kjeldahl nitrogen, nitrate and total suspended solids.</p>	<b>Not Applicable</b>
<b>Monitoring and Assessment</b>	<p><b>The LeRoy sewage treatment plant</b> is a source of nutrients to Oatka Creek. On 27 October 2003, for example, nutrient levels increased</p>	<b>Not Applicable</b>

## Controlling Sediment in the Black and Oatka Creek Watersheds

### Water Resource Issue Identification and Prioritization

<p>Makarewicz, Joseph C. and Theodore W. Lewis. <u>Segment Analysis of Oatka Creek: The Location of Sources of Pollution, Wyoming and Genesee Counties</u>. Dept. of Environmental Science and Biology: SUNY College at Brockport, 2004.</p> <p><i>Refer to map at end of table for locations of cited sites.</i></p>		
Category	Explanation of Issue <i>“The following sources of soil and nutrient loss are suggested...”</i>	Known Status/Action
	from just upstream to just downstream of the discharge pipe by the following amount: total phosphorus (450% increase), nitrate (34% increase) and total Kjeldahl nitrogen (221% increase).	
<b>Monitoring and Assessment</b>	<p><b>The Oatka Trail (sites 24 through 27, Fig. 1):</b> In the Oatka Trail area, the ditch (site 25B) along Gully Road flows into the flood plain of Oatka Creek. The ditch receives surface runoff, as well as subsurface drainage from the area above Gully Road. On Gully Road, there are three major cattle operations that may be source(s) of nutrients. The remarkably high concentrations at site 25B are evident when compared to the main stem of Oatka Creek at the upstream site 25A...[text omitted] Throughout the entire study, site 25B had the highest concentrations observed for nitrate, TKN, TP, TSS. The high concentrations observed at site 25B, however, were not translated as having a major impact on the main stem of Oatka Creek during sampling. The much higher volume of the main stem of the Oatka dilutes the high levels of nutrients observed in the site 25B ditch. Also, the wetlands between site 25B and the main creek may remove nutrients from the 25B tributary before it reaches Oatka Creek. However, during the flash flood event of 21 May 2004, it was evident that the ditch (site 25B) had overflowed its banks and ran directly into Oatka Creek. Undoubtedly, this event sent a large slug of polluted water into Oatka Creek. Other high concentrations of note on the Oatka Trail occurred in the small tributary sampled at site 24 which had a nitrate concentration of 9.07 mg N/L on 2 April 2004 and a TKN concentration of 1100 on 21 May 2004.</p>	<b>Not Applicable</b>
<b>Monitoring and Assessment</b>	<p><b>The area between sites 15 and 16 (Fig. 1)</b> During the first sampling event on 17 Sept. 2003, soluble reactive phosphorus increased between sites 15 and 16. This may have been an anomaly, as that magnitude of increase has not been repeated.</p>	<b>Not Applicable</b>
<b>Monitoring and Assessment</b>	<p><b>Tributary in Pavilion, NY:</b> A small tributary to Oatka Creek in Pavilion near site 14 was sampled on two dates, Site (14A) on Woodrow Road near the Town of Pavilion garage yielded higher nitrate, TP, SRP, TKN and sodium concentrations on site 14 on the main branch of Oatka Creek on 2 April 2004. This tributary flows through the Pavilion Central School district property and behind residences along Rt 63.</p>	<b>Not Applicable</b>

**Segment Analysis of Oatka Creek: Monitoring Sites** (map taken from page 36 of the *Segment Analysis of Oatka Creek* report)

Oatka Creek 36

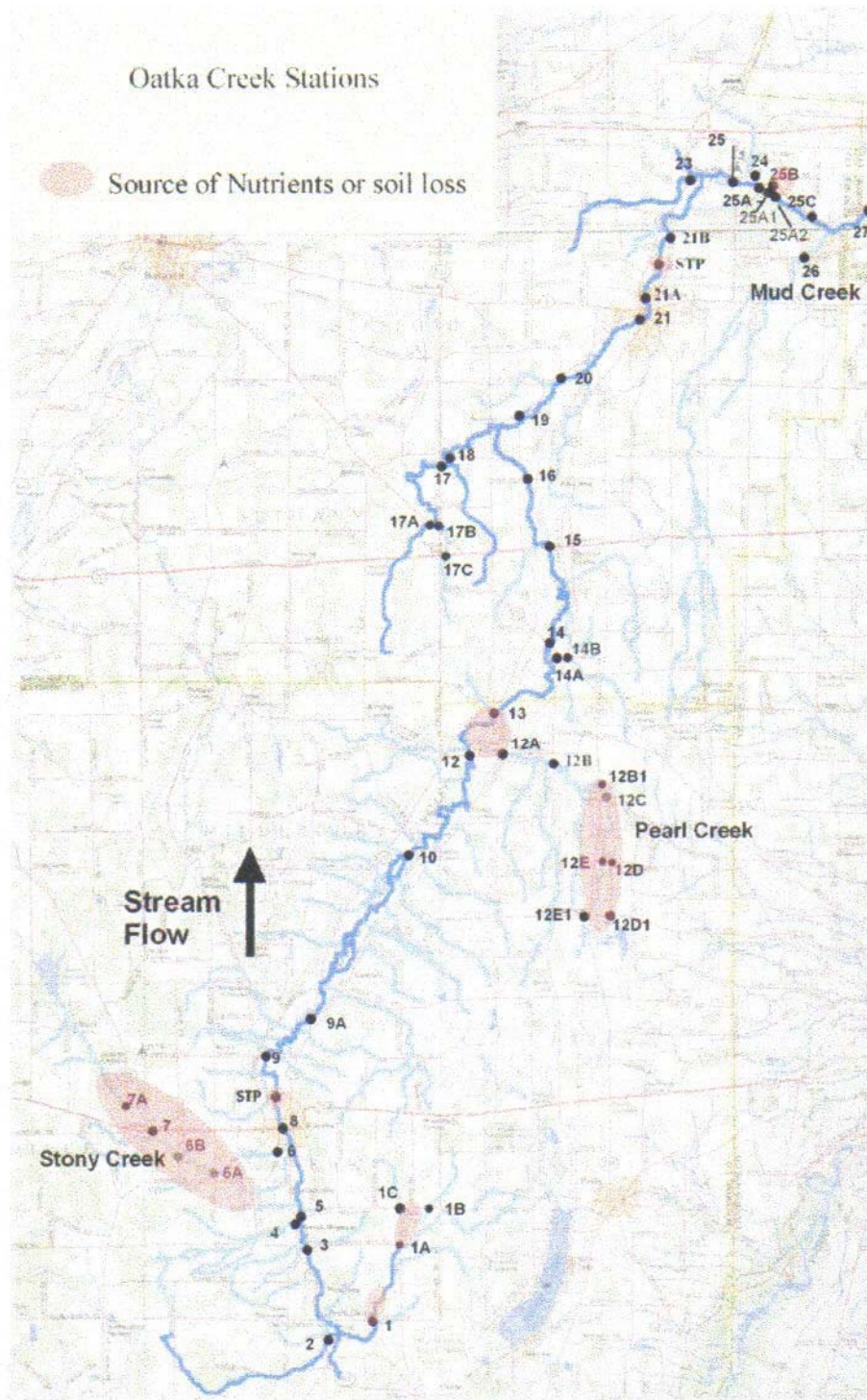


Figure 1. Stressed stream sampling stations in the Oatka Creek watershed. The shaded areas depict portions of the watershed that are contributing large amounts of nutrients or soil to Oatka Creek.

## Controlling Sediment in the Black and Oatka Creek Watersheds

### Water Resource Issue Identification and Prioritization

Monroe County Department of Health. <u>Rochester Embayment Remedial Action Plan Stage II.</u> 1997.		
Category	Explanation of Issue	Known Status/Action
<b>Monitoring and Assessment/ Chemicals</b>	<b>7.25:</b> Investigate the extent of PCB Sources and ID and remove PCB-containing equipment	<b>No Known Action</b>
<b>Legislative</b>	<b>7.26:</b> Promote the NYS Water Quality Enhancement and Protection Policy	<b>Unknown.</b> As stated on USEPA RAP website: <i>Further enhancements are expected as a result of implementing U.S. EPA Great Lakes Initiative.</i>
<b>Education/ Outreach</b>	<b>7.27:</b> Promote pollution prevention	Ongoing through various organizations.
<b>Landfill/ Hazardous Waste</b>	<b>7.28:</b> ID hazardous waste sites	National Priorities List of Superfund Sites
<b>Education/Outreach</b>	<b>7.29:</b> Expand the storm drain message system	Ongoing efforts by the WEC, watershed groups and individual municipalities
<b>Legislative</b>	<b>7.30:</b> Institute intergovernmental agreements in the rural counties of the Rochester Embayment watershed	Black and Oatka Call for Cooperation/IMAs
<b>OWTS</b>	<b>7.31:</b> Identify and solve onsite sewage disposal system problems	<b>No Known Action</b>
<b>Nutrients</b>	<b>7.32:</b> Implement a phosphorus point source management strategy	2006 efforts by Monroe County WQCC and the Stormwater Coalition of Monroe County; in conjunction with the WEC, CCE, MC Health Dept and Monroe County SWCD
<b>Agriculture/ Education/Outreach</b>	<b>7.33:</b> Promote agricultural BMPs	Ongoing through county SWCDs
<b>Education/Outreach</b>	<b>7.34:</b> Educate the public regarding lawn care BMPs that protect water quality	The WEC, Wyoming County SWCD as well as other SWCD individual efforts; see also 7.32 re: phosphorus
<b>Streambank Erosion</b>	<b>7.35:</b> Implement a comprehensive streambank erosion control program in the rural counties of the Rochester Embayment watershed	G/FLRPC <i>Controlling Sediment in the Black and Oatka Creek Watersheds</i> project
<b>Education/Outreach</b>	<b>7.36:</b> Educate local officials and the public on the value of wetlands	A variety of active and passive wetland education programs are ongoing
<b>Education/Outreach</b>	<b>7.38:</b> Develop public education structure	WEC, implemented/ongoing
<b>Planning/ Assessment</b>	<b>7.39:</b> Gather data in preparation for watershed plans and a Genesee River Basin Plan	<b>Ongoing</b>
<b>Monitoring and Assessment</b>	<b>7.40:</b> Continually evaluate and implement proposals for possible New Remedial Measures	RAP Delisting Committee monitors progress and Use Impairment status



# Controlling Sediment in the Black and Oatka Creek Watersheds

## Water Resource Issue Identification and Prioritization

Monroe County Department of Health. <u>Rochester Embayment Remedial Action Plan 2002 Addendum</u> . 2002.		
Category	Explanation of Issue	Known Status/Action
<b>Erosion/Sediment</b>	<p><b>2002 RAP Addendum, Sec. 2.1:</b> Develop a Strategy for Reduction of Sediment in the Genesee River, Pages 2.3 – 2.7</p> <ul style="list-style-type: none"> <li>▪ Proposal A: Advocate for a US Army Corps of Engineers sediment transport model for the Genesee River and facilitate the involvement of a stakeholders groups in model development</li> </ul>	<b>Near completion;</b> USACE to include Monroe County Health Dept., G/FLRPC and other interested parties in model training sometime in 2006
The following are applicable <b>High Priority</b> issues within the 2002 RAP Addendum page 2-11 "2.3: Remedial Measures Selected as High Priority and Recommended Based on Stage II RAP Chap 7 and 1999 and 2002 Addenda"		
<b>Education/Outreach</b>	<b>RAP Addendum Sec. 2.1:</b> <i>Provide technical services to property owners in the area below the dam where erosion rates are the highest</i>	<b>Ongoing; SWCDs</b>
<b>Monitoring and Assessment</b>	<b>Stage II RAP Sec. 7.23:</b> <i>Complete basin water quality plans for the... Genesee River Basin; focus on plans for individual stream watersheds within the basins - Plans completed for North Chili trib. of Black Creek; State of the Basin/Characterization reports completed for Black and Oatka Creek watersheds</i>	<b>Efforts Underway</b>
<b>Monitoring and Assessment</b>	<b>Stage II RAP sec. 7.9:</b> <i>Continue developing and implementing intermunicipal agreements (IMAs) between Monroe County and the municipalities to protect water quality -</i>	<b>Ongoing</b>
<b>Monitoring and Assessment</b>	<b>RAP 1999 Addendum Sec. 2.2:</b> <i>Support a proposed study on ways to reduce erosion in the Genesee River due to the flow regime from the dam</i>	Plans underway in association with Sediment Transport Model
<b>Stormwater Runoff and Nonpoint Source Pollution</b>	<b>Stage II RAP Sec. 7.10:</b> <i>Develop created wetlands that manage stormwater quality by instituting intergovernmental agreements</i>	<b>No Known Action, with the exception of Black Creek Park</b>
<b>Stormwater Runoff and Nonpoint Source Pollution</b>	<b>Stage II RAP Sec. 7.10:</b> <i>Expand the Highway Projects Task Group effort to include state and municipal departments of transportation and public works - <b>High Priority</b></i>	<b>Unknown</b>
<b>Stormwater Runoff and Nonpoint Source Pollution</b>	<b>Stage II RAP Sec. 7.10:</b> <i>Continue the dry basin conversion program to manage stormwater quality -</i>	<b>Ongoing</b>
<b>Stormwater Runoff and Nonpoint Source Pollution</b>	<b>Stage II RAP Sec. 7.10:</b> <i>Conduct a demonstration of a swirl concentrator as a stormwater management strategy for urbanized areas -</i>	<b>Completed</b>
<b>Stormwater Runoff and Nonpoint Source Pollution</b>	<b>Stage II RAP Sec. 7.4:</b> <i>Develop watershed-based drainage plans that identify drainage-related water quality problems and recommend remedial actions such as creation of</i>	<b>2 plans completed; 3 plans underway</b>

## Controlling Sediment in the Black and Oatka Creek Watersheds

### Water Resource Issue Identification and Prioritization

Monroe County Department of Health. <u>Rochester Embayment Remedial Action Plan 2002 Addendum</u> . 2002.		
Category	Explanation of Issue	Known Status/Action
	<i>stormwater wetlands -</i>	
<b>Municipal Drainage and Industrial Discharge</b>	<b>Stage II RAP Sec. 7.13:</b> <i>Provide technical assistance to small wastewater treatment plants if necessary to reduce phosphorus discharges -</i>	<b>Underway</b>
<b>Monitoring and Enforcement</b>	<b>Stage II RAP Sec. 7.3:</b> <i>Study the benefits of a NYS substance ban policy that would prioritize chemicals for banning; study the legal authority for banning the chemicals</i>	<b>No Known Action</b>
<b>Monitoring and Assessment</b>	<b>Stage II RAP Sec. 7.13:</b> <i>Establish a policy for “package” wastewater treatment plants</i>	<b>No Known Action</b>
<b>Nutrients</b>	<b>Stage II RAP Sec. 7.13:</b> <i>Establish an annual phosphorus pollutant loading goal for the Embayment; set annual pollutant loading limits for watershed wastewater treatment plants that will help to achieve this goal</i>	<b>No Known Action</b>
<b>Stormwater Runoff and Nonpoint Source Pollution</b>	<b>Stage II RAP Sec. 7.6:</b> <i>Stencil storm drains with the message ‘Do Not Dump – Drains to Stream’; educate the neighborhoods and others about proper disposal of household haz. substances -</i>	<b>Ongoing</b>
The following are applicable <b>Recommended</b> Remedial Measures (as opposed to the High Priority measures listed above)		
<b>Monitoring and Enforcement</b>	<b>Stage II RAP Section 7.20:</b> <i>Use intergovernmental agreements to facilitate the use of municipal land-use powers to protect fish and wildlife habitat</i>	<b>No Known Action</b>
<b>Education and Outreach</b>	<b>Stage II RAP Sec. 7.17:</b> <i>Plan annual workshops for local officials to educate about the benefits of wetlands and how land use decisions affect wetlands; include a wetland tour as part of each workshop</i>	<b>No Known Action</b>
<b>Education and Outreach</b>	<b>Stage II RAP Sec. 7.4:</b> <i>Municipalities should initiate pollution prevention within their own programs as educational examples for the communities</i>	<b>No Known Action of coordinated programs</b>
<b>Agriculture</b>	<b>Stage II RAP Sec. 7.14:</b> <i>Create an Agricultural Best Management Practices Coordinator position to facilitate the increased implementation of BMPs</i>	<b>No Known Action</b>
<b>Habitat Modification/Monitoring</b>	<b>Stage II RAP Sec. 7.19:</b> <i>Implement a program to identify and rank critical habitat in and along waterways with the goal of restoring, enhancing and protecting the most significant habitats</i>	<b>Ongoing:</b> NYS Natural Heritage Program data and other natural resource data available from Tracey Tomajer, NYS DEC; summary and maps of all data available in Chapter 5 of the <i>Genesee River Basin Action Strategy</i> (G/FLRPC, 2004)
<b>Nonpoint Source/Impervious Surfaces</b>	<b>Stage II RAP Sec. 7.11:</b> <i>Use the intergovernmental agreement process to encourage municipalities to address the impacts of impervious surfaces on water quality by revising their parking regulations or by encouraging cluster</i>	<b>No Known Action</b>

## Controlling Sediment in the Black and Oatka Creek Watersheds

### *Water Resource Issue Identification and Prioritization*

Monroe County Department of Health, <u>Rochester Embayment Remedial Action Plan 2002 Addendum</u> , 2002.		
Category	Explanation of Issue	Known Status/Action
	<i>development and the use of porous paving materials</i>	
<b>Nonpoint Source</b>	<b>Stage II RAP Sec. 7.15:</b> <i>Implement a lawn care education program for neighborhoods adjacent to water bodies with a history of eutrophication problems; include meetings with neighborhood associations and field visits</i>	Ongoing: The WEC, Wyoming County SWCD
<b>Erosion/ Sedimentation</b>	<b>Stage II RAP Sec. 7.16:</b> <i>Institute streambank erosion control programs as part of developing watershed-based drainage plans</i>	G/FLRPC GLC <i>Controlling Sediment in the Black and Oatka Creeks project</i>
Other applicable Remedial Measures (not listed in the 2002 Addendum)		
<b>Monitoring and Enforcement</b>	<b>Stage II RAP Sec 9.14:</b> <i>Monitor enforcement efforts for NYS DEC permits for stormwater discharges—Monroe County SWCD and the DEC have been steadily increasing monitoring efforts. Compliance is not as well-known in rural counties.</i>	Rates of compliance are unknown; number of permits issued and violation frequency and penalties assessed are all unknown by organizations outside NYSDEC
<b>Streambank Erosion</b>	<b>Stage II RAP Sec. 7.16:</b> <i>Institute streambank erosion control programs as part of developing watershed-based drainage plans –</i>	<b>Ongoing</b>
<b>Stormwater Runoff and Nonpoint Source Pollution</b>	<b>Stage II RAP Section 9.17:</b> <i>Monitor road salt usage -</i>	G/FLRPC <i>Road Deicing and Storage Inventory;</i>
<b>Stormwater Runoff and Nonpoint Source Pollution</b>	<b>RAP 1999 Adden. 3.10:</b> <i>Study alternative for the use of herbicides to control roadside vegetation on the Monroe County highway system -</i>	Some alternatives evaluated in 1999

## Controlling Sediment in the Black and Oatka Creek Watersheds

### Water Resource Issue Identification and Prioritization

New York State Department of Environmental Conservation. Division of Water. <u>The 2001 Genesee River Basin Waterbody Inventory and Priority Waterbodies List</u> . 2003.			
Note: segments marked with an asterisk (*) have additional information provided by county health departments not printed in the final WI/PWL.			
Location	Use Impairments	Pollutant Sources	Known Status/Action
<b>Oatka Creek Watershed</b>			
<b>Oatka Creek, Lower, and minor tributaries</b>	<ul style="list-style-type: none"> <li>• Public bathing is suspected of being threatened. Recreation and aesthetics are suspected of being stressed</li> <li>• Algal/weed growth, nutrients and silt/sediments are all known to be major types of pollution present</li> <li>• Salts are a suspected pollution type; pathogens are a possible pollution type</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture and streambank erosion are known to be major sources of pollution. Deicing (stor./appl.), failing onsite septic systems and urban runoff are suspected sources; construction runoff is a possible pollutant source.</li> </ul>	Issue requires further verification and study in order to determine resolvability. Sources have been identified, strategies need to continue to be developed.
<b>Oatka Creek, Middle, and minor tributaries (0402-0031)</b>	<ul style="list-style-type: none"> <li>• Recreation and aesthetics are both suspected of being stressed.</li> <li>• Algal/weed growth, nutrients and silt/sediments are all known to be major pollution types. Salts are a suspected type of pollutant; pathogens are a possible type.</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture, failing onsite septic systems and streambank erosion are each known to be major sources of pollution. Deicing (stor./appl.), and urban runoff are suspected sources of pollution; construction runoff is a possible source of pollution.</li> </ul>	Issue requires further verification and study in order to determine resolvability. Sources have been identified, strategies need to continue to be developed.
<b>Oatka Creek, Middle, and minor tributaries (0402-0041)</b>	<ul style="list-style-type: none"> <li>• Recreation and aesthetics are both suspected of being stressed.</li> <li>• Algal/weed growth, nutrients and silt/sediments are all known to be major pollution types. Salts are a suspected type of pollutant; pathogens are a possible type.</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture and streambank erosion are both known to be major sources of pollution. Deicing (stor./appl.), failing onsite septic systems and urban runoff are suspected sources of pollution</li> </ul>	Issue requires further verification and study in order to determine resolvability. Sources have been identified, strategies need to continue to be developed.
<b>Oatka Creek, Upper, and minor tributaries (0402-0029)</b>	<ul style="list-style-type: none"> <li>• Recreation and aesthetics are both suspected of being stressed.</li> <li>• Algal/weed growth, nutrients and silt/sediments are all</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture and streambank erosion are both known to be major sources of pollution. Deicing (stor./appl.), failing onsite septic</li> </ul>	Issue requires further verification and study in order to determine resolvability. Sources have been identified, strategies need to continue

## Controlling Sediment in the Black and Oatka Creek Watersheds

### *Water Resource Issue Identification and Prioritization*

<p>New York State Department of Environmental Conservation. Division of Water. <u>The 2001 Genesee River Basin Waterbody Inventory and Priority Waterbodies List</u>. 2003.</p> <p>Note: segments marked with an asterisk (*) have additional information provided by county health departments not printed in the final WI/PWL.</p>			
Location	Use Impairments	Pollutant Sources	Known Status/Action
	<p>known to be major pollution types. Salts are a suspected type of pollutant; pathogens are a possible type.</p>	<p>systems and urban runoff are suspected sources of pollution.</p>	<p>to be developed.</p>
<p><b>LeRoy Reservoir (0402-0003)</b></p>	<ul style="list-style-type: none"> <li>• Aesthetics are known to be stressed; water supply is considered to be stressed as well, however, the Reservoir is only used as a water supply in cases of emergency, which are rare.</li> <li>• Algal/weed growth and nutrients are known to be major pollution types; pesticides are also a known pollution type. Silt/sediments are a suspected pollution type; pathogens are a possible type.</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture is known to be a major pollution source. Streambank erosion is a suspected source; roadbank erosion is a possible source.</li> </ul>	<p>Management strategy has been developed and is being implemented.</p>
<p><b>Black Creek Watershed</b></p>			
<p><b>Black Creek, Lower, and minor tributaries (0402-0033)</b></p>	<ul style="list-style-type: none"> <li>• Aquatic life is known to be severely impaired. Recreation and aesthetics are suspected to be stressed.</li> <li>• Nutrients are known to be a major pollutant; aesthetics (woody debris) and silt/sediment are also known pollutants. An unknown toxicity is also cited as a suspected pollutant.</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture and municipal sources (Churchville WWTP) are known to be major pollution sources; streambank erosion is also known to be a significant source.</li> <li>• Industrial sources are suspects; urban runoff is a possible source.</li> </ul>	<p>Issue requires further verification and study in order to determine resolvability. Sources have been identified, strategies need to continue to be developed.</p>
<p><b>Black Creek, Middle, and minor tributaries (0402-0028)*</b></p>	<ul style="list-style-type: none"> <li>• Public bathing is known to be impaired. Aquatic life, recreation and aesthetics are known to be stressed.</li> <li>• Algal/weed growth and nutrients are known to be major pollutants;</li> </ul>	<ul style="list-style-type: none"> <li>• Known point sources include industrial and municipal WWTP and possibly storm sewer discharges.</li> <li>• Known NPS sources include agriculture, urban runoff, failing on-</li> </ul>	<p>Issue requires further verification and study in order to determine resolvability. Sources have been identified, strategies need to continue to be developed.</p>

## Controlling Sediment in the Black and Oatka Creek Watersheds

### Water Resource Issue Identification and Prioritization

New York State Department of Environmental Conservation. Division of Water. <u>The 2001 Genesee River Basin Waterbody Inventory and Priority Waterbodies List</u> . 2003.			
Note: segments marked with an asterisk (*) have additional information provided by county health departments not printed in the final WI/PWL.			
Location	Use Impairments	Pollutant Sources	Known Status/Action
	silt/sediments and depleted oxygen/oxygen demand are known to be a significant pollutant types. Metals, salts and pesticides are possible pollutant types.	site septic systems, construction activities, hydrologic modification, streambank erosion, de-icing storage and application and possibly landfills/land disposal	
<b>Black Creek, Upper, and minor tributaries (0402-0048)</b>	<ul style="list-style-type: none"> <li>• Aquatic life is known to be significantly impaired. Recreation is known to be stressed.</li> <li>• Nutrients are known to be a major pollutant; silt/sediments are also a known pollutant. Pathogens are considered to be a possible pollutant type.</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture and municipal sources (South Byron WWTP) are known to be major sources of pollution; streambank erosion is also a known source. Urban runoff is considered to be a possible source.</li> </ul>	Issue requires further verification and study in order to determine resolvability. Sources have been identified, strategies need to continue to be developed.
<b>Mill Creek/Blue Pond Outlet and tributaries (0402-0049)</b>	<ul style="list-style-type: none"> <li>• Aquatic life and recreation are possibly stressed.</li> <li>• Nutrients are suspected to be a major type of pollutant; water level/flow (woody debris), silt/sediment, pesticides and salts are also suspected pollutants.</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture is suspected to be a major pollutant source; hydromodification is also a suspected source.</li> </ul>	Issue needs verification/study; problem(s) have not been verified.
<b>Blue Pond (0402-0079)*</b>	<ul style="list-style-type: none"> <li>• Public bathing is suspected to be impaired. Aquatic life, natural resources habitat/hydrology and recreation are possibly threatened.</li> <li>• Nutrients are a known chemical cause; salts, pesticides and oil and grease are considered possible chemical pollutants.</li> <li>• Siltation is a known physical pollutant; depleted oxygen/oxygen demand and restricted passage (flow) are</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture and failing on-site septic systems are suspected to be major sources of pollution.</li> <li>• Construction activities, habitat modification, de-icing materials (stor./appl) petrol leaks/spills and resource extraction (gravel mining) are all possible sources of pollution.</li> <li>• Industrial activity has been a suspected point source of pollution.</li> </ul>	Issue needs verification/study; problem(s) have not been verified.

## Controlling Sediment in the Black and Oatka Creek Watersheds

### *Water Resource Issue Identification and Prioritization*

<p>New York State Department of Environmental Conservation. Division of Water. <u>The 2001 Genesee River Basin Waterbody Inventory and Priority Waterbodies List</u>. 2003.</p> <p>Note: segments marked with an asterisk (*) have additional information provided by county health departments not printed in the final WI/PWL.</p>			
Location	Use Impairments	Pollutant Sources	Known Status/Action
	possible physical pollutants.		
<b>Bigelow Creek and tributaries (0402-0016)</b>	<ul style="list-style-type: none"> <li>• Aquatic life is known to be a major impairment; recreation is known to be stressed</li> <li>• Nutrients are known to be a major type of pollutant present; pathogens, silt/sediments and an unknown toxicity are suspected types of pollution.</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture is known to be a major source of pollution; streambank erosion is a suspected pollution source.</li> </ul>	Issue requires further verification and study in order to determine resolvability. Sources have been identified, strategies need to continue to be developed.

## Controlling Sediment in the Black and Oatka Creek Watersheds

### Water Resource Issue Identification and Prioritization

Tatakis, Timothy A. The Oatka Creek Watershed State of the Basin Report. Department of Biology: Monroe Community College, 2002.  
*Includes issues identified in reports listed at the end of this table.*

Category	Explanation of Issue	Known Status/Action
Monitoring and Assessment / Nonpoint Source/Erosion	<b>Page 17, Sec. 2B Water Quality, 2 Solids and Turbidity a) Solids – suspended:</b> ...suspended solids in Oatka Creek tended to increase during periods of high flow events. This type of pattern suggest that runoff of suspended solids from diffuse, non-point sources in the watershed is an important component of the elevated levels of suspended solids in Oatka Creek during these peak flow events. It appears that erosion in the watershed occurs at higher rates during these high flow events	<b>Not Applicable</b>
Monitoring and Assessment / Turbidity	<b>Page 18, Sec. 2B Water Quality, 2 Solids and Turbidity b) Turbidity:</b> ...there is a positive relationship between flow rates and water turbidity. This suggests that, in general, the waters of Oatka Creek at Garbutt are more turbid during periods of high flow. More intense water runoff events in the watershed result in greater levels of solids in Oatka Creek and the water becomes more turbid during these periods.	<b>Not Applicable</b>
Monitoring and Assessment / Dissolved Solids	<b>Page 19, Sec. 2B Water Quality, 2 Solids and Turbidity c) Dissolved Solids:</b> Dissolved solids made up a large percentage of the total solid concentrations reported in the 1989 and 1990 RIBS study at Garbutt....These concentrations were described as “an area of concern: in the RIBS report generated from the 1989-1990 study.	<b>Not Applicable</b>
Monitoring and Assessment/ Elevated nutrients/phosphorus	<b>Page 21, Sec. 2B Water Quality, 3 Nutrient/Mineral/Ion Concentrations b) Phosphorus:</b> Total phosphorus concentrations were measured at Garbutt in 1997 and 1998...Total phosphorus concentrations were often below 50 ug/l. However, on several occasions, phosphorus concentrations were 2 to 3 times that level. There were also a couple of relatively high concentrations 0 the highest was 400 ug/l January, 1998. The higher levels of total phosphorus concentrations seemed to be correlated with periods of high flow. Also, the higher phosphorus concentrations appeared to be a result of increased particulate phosphorus because soluble reactive phosphorus did not increase in the same manner...[D]ata suggest that larger amounts of phosphorus enter Oatka Creek from non-point sources in the watershed during high runoff events...It seems clear that any further studies on phosphorus and other nutrient levels should make every effort to collect data during base flow and high flow events	<b>Not Applicable</b>
Monitoring and Assessment / Metals	<b>Page 24, Sec. 2B Water Quality, 5 Metals:</b> The concentrations of most metals were similar at different sites along the length of the creek and were at low, baseline concentrations. Exceptions to this were strontium, manganese, copper, lead and cadmium...Higher concentrations of these metals may be due to outside inputs such as vehicle emissions, although the research group was not able to discern this from their study. Later samples resulted in lower concentrations of these metals. The 1989-	<b>Not Applicable</b>



## Controlling Sediment in the Black and Oatka Creek Watersheds

### *Water Resource Issue Identification and Prioritization*

Tatakis, Timothy A. The Oatka Creek Watershed State of the Basin Report. Department of Biology: Monroe Community College, 2002.  
*Includes issues identified in reports listed at the end of this table.*

Category	Explanation of Issue	Known Status/Action
	1990 RIBS study also measured the concentration of several metals at the Garbutt site at monthly intervals...The RIBS report suggested that iron concentration was the only one “of concern” in the water column. The study also measured the concentration of these metals in the bottom sediments at Garbutt. Samples were collected on 8/16/90 and concentrations of cadmium, copper, lead, nickel and zinc were all found to be above “background levels for assessment criteria”, although the meaning of this was not clear in [the] report.	
<b>Monitoring and Assessment / Organics</b>	<b>Page 24, Sec. 2B Water Quality, 6 Organics:</b> Several organic substances were measured in monthly water samples collected during the RIBS study at Garbutt in 1989 and 1990. Of those tested, chloroform was tested detected once and trichloroethylene was frequently detected. These substances were always detected at levels below the “criteria assessment”. The study suggested that the trichloroethylene levels may have been a results of a...spill that occurred in the region in the early 1970’s. Bottom sediments from Oatka Creek at Garbutt were also studied for the presence of organic substances in the RIBS study...PCB’s were detected at levels “near” its reporting limits.	<b>Not Applicable</b>
<b>Monitoring and Assessment / Bacteria</b>	<b>Page 25, Sec. 2C Biological Data, 1 Bacteria:</b> Total coliform levels ranged from 96 to 8200 per 100 ml. The RIBS report suggested these levels were a “borderline parameter of concern”...Since samples were collected only once a month in the RIBS study, it is difficult to assess the fecal concentrations measured on that basis.	<b>Not Applicable</b>
<b>Monitoring and Assessment / Benthos</b>	<b>Page 25, Sec. 2C Biological Data, 2 Benthic Macroinvertebrates:</b> ...the overall number of invertebrate species present was lower than expected. The indices used to evaluate the data produced an overall assessment for Oatka Creek at Garbutt as “slightly impacted”. The RIBS report suggested the results did not represent a major impairment. A series of benthic macroinvertebrate studies were carried out by Sutton in the 1990’s. Specifically, 3 sites in Oatka Creek and one site in Spring Creek were sampled...The general conclusion of this study was that, based on benthic macroinvertebrates, the water quality of lower Oatka Creek was similar to the “slightly impacted” assessment of the 1989-1990 RIBS report.	<b>Not Applicable</b>
<b>Nonpoint Source/ Agriculture/ Sedimentation</b>	<b>Page 30 Section 3 Human Population, Use and Impact, C Potable Water 2, Lake LeRoy – Mud Creek Subwatershed:</b> The village of LeRoy has had a reservoir and watershed management program since 1985...Similarly, a watershed management program was initiated in an effort to reduce loading of nutrients and sediments to the reservoir from the highly agricultural watershed...Lake LeRoy serves as a settling basin for nutrients and sediment that enter it from the headwaters of Mud Creek. These materials	<b>[See issue statement at left]</b>

## Controlling Sediment in the Black and Oatka Creek Watersheds

### *Water Resource Issue Identification and Prioritization*

Tatakis, Timothy A. <u>The Oatka Creek Watershed State of the Basin Report</u> . Department of Biology: Monroe Community College, 2002. <i>Includes issues identified in reports listed at the end of this table.</i>		
<b>Category</b>	<b>Explanation of Issue</b>	<b>Known Status/Action</b>
	probably remain in Lake LeRoy and do not flow downstream toward Oatka Creek.	
<b>De-icing Practices</b>	<b>Page 32 Section 3 Human Population, Use and Impact, F De-icing Practices:</b> [no specific information relative to impacts of de-icing practices]	See G/FLRPC <i>Road Deicing and Storage Inventory</i> ; otherwise, <b>No Known Action</b>
<b>Mines and Wells</b>	<b>Page 33 Section 3 Human Population, Use and Impact, G Mines and Wells:</b> [no specific information relative to impacts of mines and wells]	<b>No Known Action</b>
<b>Inactive Hazardous Waste Sites</b>	<b>Page 34 Section 3 Human Population, Use and Impact, H Inactive Hazardous Waste Sites:</b> [no specific information relative to impacts of inactive hazardous waste sites]	<b>No Known Action</b>

*Includes issues identified in the following referenced reports:*

- Dowling, C., Renz, M.J., Hunt A.G., and Poreda, R.J. 2001. *The Geochemistry of Oatka Creek, New York State*.
- Sutton, W. 1999. *A 1997 Five Year Follow-up Biological Monitoring Assessment of Oatka and Spring Creeks in Upstate NY*. (in cooperation with the DEC).
- Sutton, W. 1995. *Biological Monitoring of Oatka Creek in Upstate NY*.
- Tatakis, T. 1990. *Watershed Evaluation and Management for Lakes LeRoy and LaGrange*.

## **Appendices**

### **A: LIST OF ACRONYMS AND ABBREVIATIONS**

**ACE:** [United States] Army Corps of Engineers

**BCWC:** Black Creek Watershed Coalition

**Benthos:** Benthic Macroinvertebrate

**BMPs:** Best Management Practices

**CAFO:** Concentrated Animal Feeding Operation

**CCE:** Cornell Cooperative Extension

**DEC:** [New York State] Department of Environmental Conservation

**DOH:** [county] Department of Health

**EPA:** [United States] Environmental Protection Agency

**GLC:** Great Lakes Commission

**G/FLRPC:** Genesee/Finger Lakes Regional Planning Council

**RAP:** [Rochester Embayment] Remedial Action Plan

**GRBAS:** Genesee River Basin Action Strategy

**MCL:** Maximum Contaminant Level

**NPS:** Non-Point Source [water pollution]

**OWTS:** Onsite Wastewater Treatment Systems

**PWL or WI/PWL:** Waterbody Inventory/Priority Waterbodies List

**RIBS:** Rotating Intensive Basin Studies

**SWCD:** Soil and Water Conservation District

**SWPPP:** Storm Water Pollution Prevention Plan

**stor./appl:** Storage/Application

**WEC:** The Water Education Collaborative

**WQCC:** Water Quality Coordinating Committee

**WWTP:** Waste Water Treatment Plant