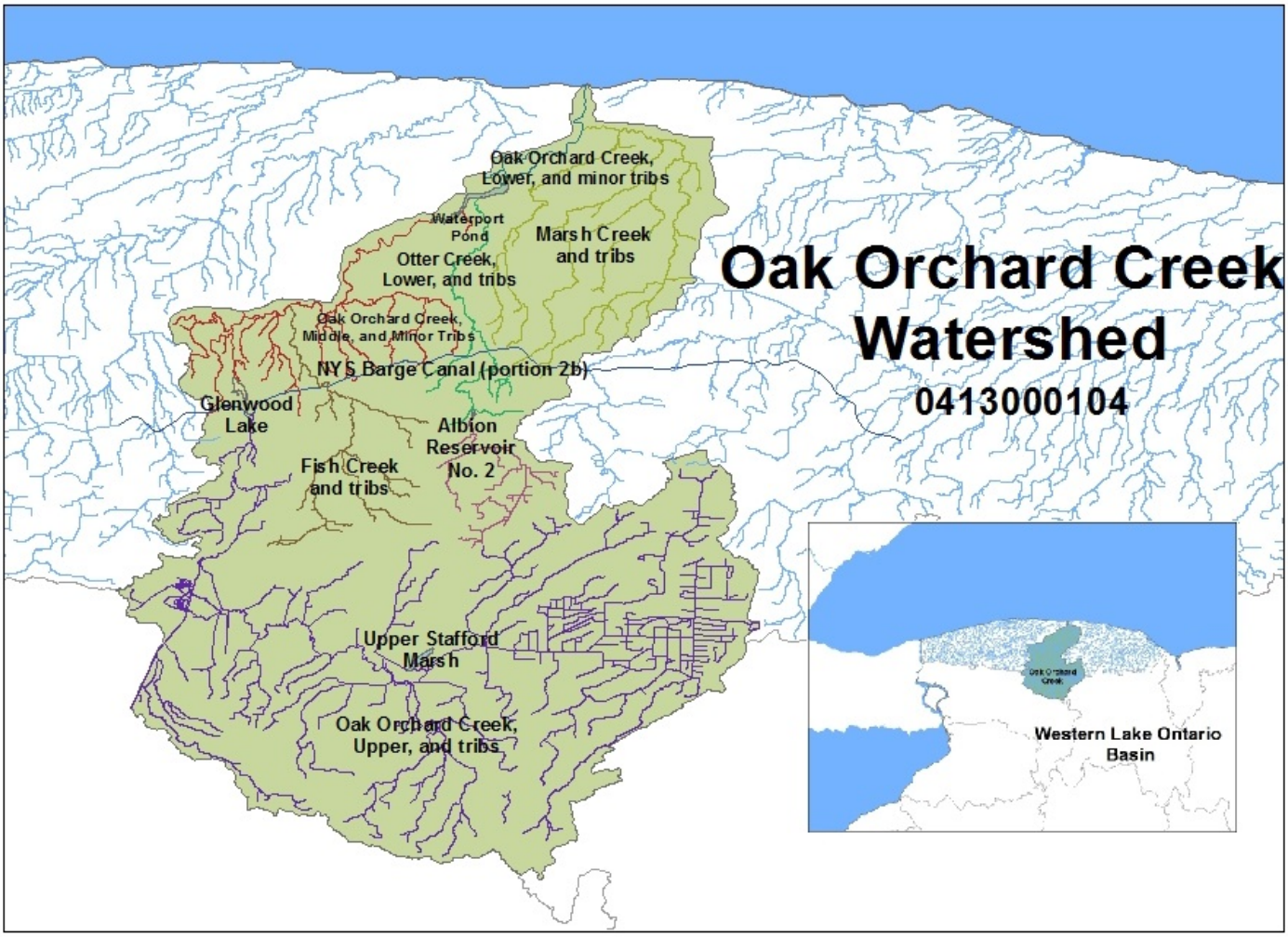

Oak Oarchard Creek Watershed
(0413000104)

Water Index Number	Waterbody Segment	Category
Ont 138 (portion 1)	Oak Orchard Cr, Lower, and minor tribs (0301-0004)	MinorImpacts
Ont 138 (portion 2)/P166	Waterport Pond (0301-0035)	UnAssessed
Ont 138 (portion 3)	Oak Orchard Cr, Middle, and minor tribs (0301-0005)	MinorImpacts
Ont 138 (portion 4)	Oak Orchard Cr, Upper, and tribs (0301-0014)	MinorImpacts
Ont 138- 1	Marsh Creek and tribs (0301-0036)	UnAssessed
Ont 138- 3	Otter Creek, Lower, and tribs (0301-0037)	Impaired Seg
Ont 138- 3	Otter Creek, Upper, and tribs (0301-0038)	UnAssessed
Ont 138- 3- P166h	Albion Reservoir No.2 (0301-0039)	UnAssessed
Ont 138- 9	Fish Creek and tribs (0301-0040)	MinorImpacts
Ont 138-11d-P167	Glenwood Lake (0301-0041)	UnAssessed
Ont 138-P167o	Upper Stafford Marsh (0301-0042)	UnAssessed
NYS Barge Canal (portion 2b)	NYS Barge Canal (portion 2b) (0301-0074)	MinorImpacts

Oak Orchard Cr, Lower, and minor tribs (0301-0004) Minor Impacts

Waterbody Location Information

Revised: 8/30/2017

Water Index No:	Ont 138 (portion 1)	**Water Class:**	C
Hydro Unit Code:	Oak Orchard Creek (0413000104)	**Drainage Basin:**	Lake Ontario
Water Type/Size:	River/Stream 7.9 Miles	**Reg/County:**	8/Orleans (37)
Description:	stream and selected tribs fr mouth to Waterport Reserv.		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Suspected
Aquatic Life	Impaired	Suspected
Fish Consumption	Stressed	Known
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known:	Nutrients (Phosphorus), Priority Organics (PCBs, Mirex, dioxin)
Suspected:	
Unconfirmed:	Pathogens

Source(s) of Pollutant(s)

Known:	---
Suspected:	Agriculture, Other Source (migratory fish species)
Unconfirmed:	On-Site/Septic Syst

Management Information

Management Status:	Verification of Sources Needed
Lead Agency/Office:	DOW/Reg8
IR/305(b) Code:	Water Attaining Some Standards (IR Category2)

Further Details

Overview

This portion of Oak Orchard Creek is assessed as having minor impacts due to aquatic life and fish consumption uses that that are suspected to be imapired. Aquatic life uses are likely impairedby phosphorus from various non-point sources. Fish consumption in this portion of Oak Orchard Creek is restricted by the Lake Ontario advisory that extends to tribs up to the first impassable barrier.

Use Assessment

The lower portion of Oak Orchard Creek is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life is evaluated as having minor impacts based on biological sampling that shows slight impacts. (DEC, DOW, BWAM, August 2017)

This sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, August 2017)

Fish consumption advisories for Lake Ontario (and all tribs to the first barrier) also applies to this tributary water. A NYSDOH health advisory recommends eating no channel catfish, carp, or white perch. The advisory also recommends that consumption of white sucker, larger lake trout (over 25"), and larger brown trout (over 20") be limited to no more than one meal per month. It is reccommended that no person eat more than 4 meals per month of any fish species from Lake Ontario waters. Women under age 50 and children under age 15 are advised to eat no fish of any species from Lake Ontario waters. The fish consumption advisories are a result of PCB, mirex and dioxin contamination of lake sediments. Because the advisory is a result of contamination of Lake Ontario and affects only a portion of the stream, the use is assessed as stressed. (April 2017 NYS–DOH Health Advisories and DEC/DOW, BWAM, August 2017)

The fishery resource of the creek is considered excellent. However there are some concerns regarding the impact of failing and/or inadequate on–site septic systems in the watershed. Heavy boat traffic may also impact water quality. (Orleans County WQCC, April 2001)

Water Quality Information

A biological (macroinvertebrate) survey of Lower Oak Orchard Creek at multiple sites in Waterport, NY was conducted in 2015. Sampling results at two sites on the stream indicated a range of moderately to slightly impacted water quality conditions. Sampling results may reflect fair to poor water quality, with the macroinvertebrate community altered from what is expected under natural conditions. Some expected sensitive species are not present and overall macroinvertebrate species richness is lower than expected. Some changes in community composition have occurred due to replacement of sensitive ubiquitous taxa by more tolerant taxa.In spite of these minor impacts, aquatic life is still considered to be supported. Water chemistry samples collected in parallel with the macroinvertebrates showed phosphorus concentrations associated with stressed conditions. (DEC/DOW, BWAM/SBU, August 2017)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of phosphorus to the waterbody are agricultural runoff and failing/inadequate on-site/septic systems.

Management Actions

Given the generally low level of impact, local stakeholders (SWCD/WQCC) – with input from Regional DOW staff – would be appropriate to oversee protection efforts/management activity.

Section 303(d) Listing

Lower Oak Orchard Creek is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from the mouth to Waterport Pond (P166). The waters of the stream are Class C in this reach. Tribs to this reach/segment are primarily Class C. Marsh Creek (–1) is listed separately.

Waterport Pond (0301-0035) — No Known Impact

Waterbody Location Information

Revised:08/31/17

Water Index No: Ont 138 (portion 2)/P166
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: Lake/Reservoir 208.3 Acres
Description: entire lake

Water Class: C
Drainage Basin: Lake Ontario
Reg/County: 8/Orleans (37)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Fully Supporting	Suspected
Aquatic Life	Fully Supporting	Known
Fish Consumption	Fully Supporting	Unconfirmed
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: ---
Suspected: ---
Unconfirmed: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Unconfirmed: ---

Management Information

Management Status: No Action Needed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: Water Attaining all Standards Data (IR Category 1)

Further Details

Overview
This waterbody is assessed as having no known impact; all evaluated uses are considered to be fully supported.

Use Assessment
This waterbody segment is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life is considered to be fully supported based on DFWMR assessments that indicate a healthy fishery: http://internal/home/dfwmr/fisheries/abstracts/809022.pdf. (DEC/DFW, Region 8, September 2009)

This fisheries sampling can also be used to infer that there are no significant impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM, September 2017)

There are no health advisories in place limiting the consumption of fish from this waterbody (beyond the general advice for all waters). Fish consumption is considered to be fully supported based on the absence of any waterbody-specific advisory, but is noted as unconfirmed since routine monitoring of contaminants in fish is limited. (NYS DOH Health

Advisories and DEC/DOW, BWAM, September 2017)

Water Quality Information
Water quality sampling of Waterport Pond (Lake Alice) was conducted through the Citizens Statewide Lake Assessment Program (CSLAP) from 1991 through 1994. Results of this sampling indicate the lake is best characterized in the meso- to eutrophic range, or moderate to highly productive. Chlorophyll/algal levels rarely exceeded criteria corresponding to stressed recreational uses, while phosphorus concentrations were moderately high. Lake clarity measurements indicate water transparency typically met the recommended minimum criteria for swimming beaches. Readings of pH typically fall within the range established in state water quality standards for protection of aquatic life. Because this data was collected more than 20 years ago, this assessment is considered to be evaluated, rather than monitored. (DEC/DOW, BWAM/LMAS, May 2006)

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this waterbody segment is needed.

Section 303(d) Listing
Waterport Pond is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description
This segment includes the entire area of Waterport Pond.

Oak Orchard Cr, Middle, and minor tribs (0301-0005) Minor Impacts

Waterbody Location Information

Revised: 8/31/17

Water Index No:	Ont 138 (portion 3)	**Water Class:**	C
Hydro Unit Code:	Oak Orchard Creek (0413000104)	**Drainage Basin:**	Lake Ontario
Water Type/Size:	River/Stream 56.1 Miles	**Reg/County:**	8/Orleans (37)
Description:	stream and selected tribs fr Waterport R to Medina		

Water Quality Problem/Issue Information

Uses Evaluated	**Severity**	**Confidence**
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Suspected
Aquatic Life	Stressed	Known
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known:	Nutrients (Phosphorus)
Suspected:	---
Unconfirmed:	---

Source(s) of Pollutant(s)

Known:	---
Suspected:	Comb. Sewer Overflow, Urban/Storm Runoff, Agriculture
Unconfirmed:	---

Management Information

Management Status:	Verification of Sources Needed
Lead Agency/Office:	DOW/Reg8
IR/305(b) Code:	Water Attaining Some Standards (IR Category 2)

Further Details

Overview

This portion of Oak Orchard Creek is thought to experience minor impacts due to nutrient loads from both urban/municipal and agricultural nonpoint runoff.

Use Assessment

This portion of Oak Orchard Creek is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life is evaluated as supported but stressed based on biological sampling that shows slight impacts. (DEC, DOW, BWAM, August 2017)

This sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, August 2017)

Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants

in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (April 2017 NYS DOH Health Advisories and DEC/DOW, BWAM, August 2017)

Water Quality Information

A biological (macroinvertebrate) survey of Middle Oak Orchard Creek in Oak Orchard on the Ridge and Ridgeway was conducted in 2015. Sampling results at two sites on the stream indicated slightly impacted water quality conditions. Sampling results reflect fair water quality, with the macroinvertebrate community altered from what is expected under natural conditions. Some expected sensitive species are not present and overall macroinvertebrate species richness is lower than expected. Some changes in community composition have occurred due to replacement of sensitive ubiquitous taxa by more tolerant taxa, but overall there is still balanced distribution of all expected taxa. In spite of these minor impacts, aquatic life is considered to be supported. Water chemistry samples collected in parallel with the macroinvertebrates showed phosphorus concentrations associated with stressed conditions. (DEC/DOW, BWAM/SBU, August 2017)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of phosphorus to the waterbody are agricultural runoff, storm water runoff, and combined sewer overflows

Management Actions

Given the generally low level of impact, local stakeholders (SWCD/WQCC) – with input from Regional DOW staff – would be appropriate to oversee protection efforts/management activity.

Section 303(d) Listing

Middle Oak Orchard Creek is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description

This segment includes the portion of the stream and selected/smaller tribs from Waterport Pond (P116) to the NYS Barge Canal in Medina. The waters of the stream are Class C. Tribs to this reach/segment, are Class C. Fish Creek (–9) is listed separately.

Oak Orchard Cr, Upper, and tribs (0301-0014) Impaired

Waterbody Location Information

Revised: 8/31/17

Water Index No: Ont 138 (portion 4)
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: River/Stream 317.3 Miles
Description: stream and tribs above Medina

Water Class: C
Drainage Basin: Lake Ontario
Reg/County: 8/Genesee (19)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Suspected
Aquatic Life	Impaired	Known
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Fair	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: NUTRIENTS (PHOSPHORUS)
Suspected: Silt/Sediment
Unconfirmed: D.O./Oxygen Demand, Pesticides

Source(s) of Pollutant(s)

Known: ---
Suspected: Agriculture, Habitat Alteration, Municipal Discharges
Unconfirmed: Streambank Erosion

Management Information

Management Status: Verification of Sources Needed
Lead Agency/Office: EPA/Reg 2
IR/305(b) Code: Impaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
This portion of Oak Orchard Creek is assessed as an impaired waterbody due to aquatic life uses that are known to be impaired by nutrient and sediment loads that enter the creek from the large area of cultivated mucklands along this reach. Recreational uses are also impacted.

Use Assessment
Upper Oak Orchard Creek is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life is evaluated as impaired based on biological sampling that shows significant impacts. (DEC, DOW, BWAM, August 2017)

This sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, August 2017)

Fish Consumption use is considered to be unassessed. There are no health advisories limiting the consumption of fish

from this waterbody (beyond the general advice for all waters). However due to the presence of impacts/contaminants in the stream and the uncertainty as to whether the lack of a waterbody-specific health advisory is based on actual sampling, fish consumption use is noted as unassessed, rather than fully supported but unconfirmed. (April 2017 NYS DOH Health Advisories and DEC/DOW, BWAM, August 2017)

Water Quality Information

A biological (macroinvertebrate) survey of Upper Oak Orchard Creek at multiple sites in Elba, Oakfield, and Shelby, NY. Sampling results at four sites in and around this segment indicated a range of moderate to severe water quality conditions. Sampling results reflect moderately impacted (poor) water quality, with sensitive taxa reduced, and the distribution of major taxonomic groups significantly different from what is naturally expected. Aquatic life is considered to be impaired. Water chemistry samples collected in parallel with the macroinvertebrates showed phosphorus concentrations typically associated with impaired conditions. One of the sampling points within this segment also showed very low dissolved oxygen levels that may be driving aqautic life impairment. (DEC/DOW, BWAM/SBU, August 2017)

Source Assessment

Nutrient and sediment loss to the creek has been studied by researchers from SUNY Brockport (Makarewicz and Lewis) and found to be significant. Between 3000 and 4000 acres of cultivated muckland farms in the watershed are considered to be the primary source. Pesticide use in the area is also a concern. (Genesee and Orleans WQCCs, April 2001)

Management Actions

Previously, it was reported that the Village of Elba WWTP discharge into a tributary of Oak Orchard Creek was a concern. Decaying algal blooms in the lagoon system cause excessive discharges of BOD and suspended solids in the summer and reduced biological activity result in excessive ammonia discharges in winter. Town is working to correct the problem. (Genesee and Orleans WQCCs, April 2001)

Section 303(d) Listing

Upper Oak Orchard Creek is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. However, this updated assessment suggests it is appropriate to include this waterbody on the next List. It is recommended that this waterbody be added to Part 1 of the List as an impaired waterbody requiring a TMDL for phosphorus. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description

This segment includes the portion of the stream and all tribs above the NYS Barge Canal in Medina. The waters of the stream are Class C. Tribs to this reach/segment are primarily Class C. (May 2001)

Marsh Creek and tribs (0301-0036) Minor Impacts

Waterbody Location Information

Revised: 8/31/17

Water Index No: Ont 138- 1
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: River/Stream 63.9 Miles
Description: entire stream and tribs

Water Class: C
Drainage Basin: Lake Ontario
Reg/County: 8/Orleans (37)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	Unassessed	-
Public Bathing	Unassessed	-
Recreation	Stressed	Unconfirmed
Aquatic Life	Impaired	Suspected
Fish Consumption	Stressed	Known
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: Priority Organics (PCBs, Mirex, dioxin)
Suspected: Nutrients (Phosphorus)
Unconfirmed:

Source(s) of Pollutant(s)

Known:
Suspected: Agriculture, Other Source (migratory fish species)
Unconfirmed:

Management Information

Management Status: Verification of Sources Needed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: Water Attaining Some Standards (IR Category 2)

Further Details

Overview
Marsh Creek is assessed as needing verification due to aquatic life uses that could be impaired by phosphorus from non-point sources, likely agriculture based on surrounding land use.

Use Assessment
Marsh Creek is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life may experience significant impacts and may be impaired, however due to the limited data from this segment, additional sampling is needed to verify the current impairment across the full reach of the segment. (DEC/DOW, BWAM/SBU, August 2017)

This sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, August 2017)

Fish consumption advisories for Lake Ontario (and all tribs to the first barrier) also applies to this tributary water. A

NYSDOH health advisory recommends eating no channel catfish, carp, or white perch. The advisory also recommends that consumption of white sucker, larger lake trout (over 25”), and larger brown trout (over 20”) be limited to no more than one meal per month. It is reccommended that no person eat more than 4 meals per month of any fish species from Lake Ontario waters. Women under age 50 and children under age 15 are advised to eat no fish of any species from Lake Ontario waters. The fish consumption advisories are a result of PCB, mirex and dioxin contamination of lake sediments. Because the advisory is a result of contamination of Lake Ontario and affects only a portion of the stream, the use is assessed as stressed. (April 2017 NYS–DOH Health Advisories and DEC/DOW, BWAM, August 2017)

Water Quality Information

A biological (macroinvertebrate) assessment of Marsh Creek in Kent at Sawyer Road, was conducted as part of the Oak Orchard Creek watershed sampling effort in 2015. Sampling results reflect moderately impacted (poor) water quality, with sensitive taxa reduced, and the distribution of major taxonomic groups significantly different from what is naturally expected. Aquatic life is considered to be impaired, however this evaluation is noted as unconfirmed because it is based on a single sampling point within the larger segment. Water chemistry samples collected in parallel with the macroinvertebrates showed phosphorus concentrations typically associated with impaired conditions. (DEC/DOW, BWAM/SBU, January 2015)

Source Assessment

Based on surrounding land use and other knowledge of the waterbody, the most likely sources of phosphorus to the waterbody is agricultural runoff.

Management Actions

Additional sampling to verify the level of impact and contaminant sources to this waterbody segment is needed.

Section 303(d) Listing

Marsh Creek is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There appear to be no impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description

This segment includes the entire stream and all tribs. The waters of the stream are Class B from the mouth to trib –3 and Class C for the remainder of the reach. Tribs to this reach/segment are Class C. (May 2001)

Otter Creek, Lower, and tribs (0301-0037) Minor Impacts

Waterbody Location Information

Revised: 8/31/2017

Water Index No: Ont 138- 3
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: River/Stream 21.8 Miles
Description: stream and tribs from mouth to Albion

Water Class: C
Drainage Basin: Lake Ontario
Reg/County: 8/Orleans (37)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Suspected
Aquatic Life	Stressed	Suspected
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: ---
Suspected: Nutrients (Phosphorus)
Unconfirmed: Silt/Sediment

Source(s) of Pollutant(s)

Known: ---
Suspected: Agriculture
Unconfirmed: ---

Management Information

Management Status: Verification of Pollutants/Causes Needed
Lead Agency/Office: DOW/Reg8
IR/305(b) Code: Water Attaining Some Standards (IR Category 2)

Further Details

Overview
Lower Otter Creek is evaluated as having minor impacts due to nutrient loads from agricultural and other nonpoint sources in the watershed.

Use Assessment
The lower portion of Otter Creek is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life is evaluated as supported but stressed based on biological sampling that shows slight impacts. (DEC, DOW, BWAM, August 2017)

This sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, August 2017)

Water Quality Information
A biological (macroinvertebrate) assessment of Lower Otter Creek in Albion at Eagle Harbor Waterport Road, was

conducted as part of the Oak Orchard Creek watershed sampling effort in 2015. Sampling results reflect fair water quality, with the macroinvertebrate community altered from what is expected under natural conditions. Some expected sensitive species are not present and overall macroinvertebrate species richness is lower than expected. Some changes in community composition have occurred due to replacement of sensitive ubiquitous taxa by more tolerant taxa, but overall there is still balanced distribution of all expected taxa. In spite of these minor impacts, aquatic life is considered to be supported. Water chemistry samples collected in parallel with the macroinvertebrates showed phosphorus concentrations associated with threatened conditions. (DEC/DOW, BWAM/SBU, August 2017)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of phosphorus to the waterbody is agricultural runoff.

Management Actions
Given the generally low level of impact, local stakeholders (SWCD/WQCC) – with input from Regional DOW staff – would be appropriate to oversee protection efforts/management activity.

Section 303(d) Listing
Lower Otter Creek is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description
This segment includes the portion of the stream and all tribs from the mouth to the Albion water supply dam. The waters of the stream and its tribs are Class C. (May 2001)

Otter Creek, Upper, and tribs (0301-0038) Minor Impacts

Waterbody Location Information

Revised: 8/31/17

Water Index No: Ont 138- 3
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: River/Stream 23 Miles
Description: stream and tribs above Albion

Water Class: A
Drainage Basin: Lake Ontario
Reg/County: 8/Orleans (37)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	Unassessed	-
Public Bathing	Unassessed	-
Recreation	Stressed	Unconfirmed
Aquatic Life	Stressed	Suspected
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: ---
Suspected: Nutrients (Phosphorus)
Unconfirmed: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: Agriculture
Unconfirmed: ---

Management Information

Management Status: Verification of Pollutants/Causes Needed
Lead Agency/Office: DOW/Reg 8
IR/305(b) Code: Water Attaining Some Standards (IR Category 2)

Further Details

Overview
Upper Otter Creek is evaluated as having minor impacts due to nutrient loads from agricultural and other nonpoint sources in the watershed.

Use Assessment
The upper portion of Otter Creek is a Class A waterbody, suitable for water supply, public bathing, general recreation use, and support of aquatic life.

Aquatic life is evaluated as supported but stressed based on biological sampling that shows slight impacts. (DEC, DOW, BWAM, August 2017)

This sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, August 2017)

Water Quality Information
A biological (macroinvertebrate) assessment of Upper Otter Creek in Albion at County Route 72 Bridge, was conducted

as part of the Oak Orchard Creek watershed sampling effort in 2015. Sampling results reflect fair water quality, with the macroinvertebrate community altered from what is expected under natural conditions. Some expected sensitive species are not present and overall macroinvertebrate species richness is lower than expected. Some changes in community composition have occurred due to replacement of sensitive ubiquitous taxa by more tolerant taxa, but overall there is still balanced distribution of all expected taxa. In spite of these minor impacts, aquatic life is considered to be supported. Water chemistry samples collected in parallel with the macroinvertebrates showed phosphorus concentrations typically associated with threatened conditions. (DEC/DOW, BWAM/SBU, August 2017)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of phosphorus to the waterbody is agricultural runoff.

Management Actions
Given the generally low level of impact, local stakeholders (SWCD/WQCC) – with input from Regional DOW staff – would be appropriate to oversee protection efforts/management activity.

Section 303(d) Listing
Upper Otter Creek is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description
This segment includes the portion of the stream and all tribs above the Albion Water Supply Reservoir No. 2 (P166h). The waters of the stream and its tribs are Class A. (May 2001)

Albion Reservoir No.2 (0301-0039) Unassessed

Waterbody Location Information

Revised: 8/31/2017

Water Index No:	Ont 138- 3-P166h	**Water Class:**	A
Hydro Unit Code:	Oak Orchard Creek (0413000104)	**Drainage Basin:**	Lake Ontario
Water Type/Size:	Lake/Reservoir 8.5 Acres	**Reg/County:**	8/Orleans (37)
Description:	entire reservoir		

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	Unassessed	-
Public Bathing	Unassessed	-
Recreation	Unassessed	-
Aquatic Life	Unassessed	-
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: ---
Suspected: ---
Unconfirmed: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Unconfirmed: ---

Management Information

Management Status: Unassessed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: Water with Insufficient Data (IR Category 3)

Further Details

Overview
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment is a Class A waterbody suitable for water supply, public bathing, general recreation use, and support of aquatic life.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this

waterbody segment is needed.

Section 303(d) Listing
Albion Reservoir No. 2 is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description
This segment includes the entire area of Albion Reservoir No. 2.

Fish Creek and tribs (0301-0040) Minor Impacts

Waterbody Location Information

Revised: 8/31/2017

Water Index No: Ont 138- 9
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: River/Stream 32.4 Miles
Description: entire stream and tribs

Water Class: C
Drainage Basin: Lake Ontario
Reg/County: 8/Orleans (37)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Suspected
Aquatic Life	Stressed	Suspected
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: ---
Suspected: Nutrients (Phosphorus)
Unconfirmed: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: Agriculture
Unconfirmed: ---

Management Information

Management Status: Verification of Pollutants/Causes Needed
Lead Agency/Office: DOW/Reg 8
IR/305(b) Code: Water Attaining Some Standards (IR Category 2)

Further Details

Overview
Fish Creek is evaluated as having minor impacts due to nutrient loads from agricultural and other nonpoint sources in the watershed.

Use Assessment
Fish Creek is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Aquatic life is evaluated as supported but stressed based on biological sampling that shows slight impacts. (DEC, DOW, BWAM, August 2017)

This sampling can also be used to infer that there may be minor impacts to recreational (fishing) uses, although more specific sampling is necessary to confirm this is the case. (DEC/DOW, BWAM/SBU, August 2017)

Water Quality Information
A biological (macroinvertebrate) assessment of Fish Creek in Oak Orchard on the Ridge upstream of East Scott Road

bridge, was conducted as part of the Oak Orchard Creek watershed sampling effort in 2015. Sampling results reflect fair water quality, with the macroinvertebrate community altered from what is expected under natural conditions. Some expected sensitive species are not present and overall macroinvertebrate species richness is lower than expected. Some changes in community composition have occurred due to replacement of sensitive ubiquitous taxa by more tolerant taxa, but overall there is still balanced distribution of all expected taxa. In spite of these minor impacts, aquatic life is considered to be supported. Water chemistry samples collected in parallel with the macroinvertebrates showed phosphorus concentrations typically associated with threatened conditions. (DEC/DOW, BWAM/SBU, August 2017)

Source Assessment
Based on surrounding land use and other knowledge of the waterbody, the most likely sources of phosphorus to the waterbody is agricultural runoff.

Management Actions
Given the generally low level of impact, local stakeholders (SWCD/WQCC) – with input from Regional DOW staff – would be appropriate to oversee protection efforts/management activity.

Section 303(d) Listing
Fish Creek is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There are no impacts/impairments that would justify the listing of this waterbody. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description
This segment includes the entire stream and all tribs. The waters of the stream and its tribs are Class C.

Glenwood Lake (0301-0041) Impaired

Waterbody Location Information

Revised: 08/31/2017

Water Index No: Ont 138-11d-P167
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: Lake/Reservoir 87 Acres
Description: entire lake

Water Class: C
Drainage Basin: Lake Ontario
Reg/County: 8/Orleans (37)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Impaired	Known
Aquatic Life	Stressed	Suspected
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Poor	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: NUTRIENTS (PHOSPHORUS)
Suspected: ---
Unconfirmed: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Unconfirmed: ---

Management Information

Management Status: Verification of Pollutant/Cause Needed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: WImpaired Water Requiring a TMDL (IR Category 5)

Further Details

Overview
Glenwood Lake is assessed as am impaired waterbody due to recreation use that is known to be impaired by phosphorus.

Use Assessment
This waterbody segment is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Recreation use is considered to be impaired due to elevated nutrients (phosphorus), excessive algae, and poor water clarity. Non-contact recreation (boating, fishing) is also affected by excessive aquatic vegetation. Aesthetic conditions of the lake are considered to be poor due to excessive algae and excessive aquatic vegetation.

Water Quality Information
Water quality sampling of Glenwood Lake has been conducted through the NYSDEC Lake Classification and Inventory (LCI) from] 2015 through 2016. Results of this sampling indicate the lake is best characterized as eutrophic. Chlorophyll/algal levels are well above criteria corresponding to impaired recreational uses, while phosphorus concentrations are typically very high. Lake clarity measurements indicate water transparency fail to meet the

recommended minimum criteria for swimming beaches. Readings of pH occasionally exceed the range established in state water quality standards for protection of aquatic life.

There have been no specific fishery or biological studies to assess aquatic life use, but based on observed conditions and recreational impacts, aquatic life is thought to be at least stressed.

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
This waterbody will be recommended for addition to the 2018 Section 303(d) List of Impaired/TMDL Waters.

Section 303(d) Listing
Glenwood Lake is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. However, this updated assessment suggests it may be appropriate to include this waterbody on the next List. It is recommended that this waterbody be added to Part 1 of the List as an impaired waterbody requiring a TMDL for phosphorus.

Segment Description
This segment includes the entire portion of the Lake.

Upper Stafford Marsh (0301-0042) Unassessed

Waterbody Location Information

Revised: 08/31/17

Water Index No: Ont 138-P167o
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: Lake/Reservoir 82.9 Acres
Description: entire lake

Water Class: C
Drainage Basin: Lake Ontario
Reg/County: 8/Genesee (19)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Unassessed	
Aquatic Life	Unassessed	
Fish Consumption	Unassessed	-
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known:
Suspected: ---
Unconfirmed: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Unconfirmed: ---

Management Information

Management Status: Unassessed
Lead Agency/Office: DOW/BWAM
IR/305(b) Code: Water with Insufficient Data (IR Category 3)

Further Details

Overview
Currently there is inadequate data/information to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
This waterbody segment is a Class C waterbody, suitable for general recreation use and support of aquatic life, but not as a water supply or for public bathing.

Water Quality Information
There is currently no water quality information available upon which to base an assessment.

Source Assessment
Specific sources of pollutants to the waterbody have not been identified.

Management Actions
No specific management actions have been identified for the waterbody. Baseline sampling to evaluate conditions in this

waterbody segment is needed.

Section 303(d) Listing
Upper Stafford Marsh is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description
This segment includes the entire waterbody.

NYS Barge Canal (portion 2b) (0301-0074) Unassessed

Waterbody Location Information

Revised: 08/31/2017

Water Index No: NYS Barge Canal (portion 2b)
Hydro Unit Code: Oak Orchard Creek (0413000104)
Water Type/Size: River/Stream 20 Miles
Description: from Middleport to Holley

Water Class: C
Drainage Basin: Lake Ontario
Reg/County: 8/Orleans (37)

Water Quality Problem/Issue Information

Uses Evaluated	Severity	Confidence
Water Supply	N/A	-
Public Bathing	N/A	-
Recreation	Stressed	Unconfirmed
Aquatic Life	Stressed	Unconfirmed
Fish Consumption	Stressed	Unconfirmed
Conditions Evaluated		
Habitat/Hydrology	Unknown	
Aesthetics	Unknown	

Type of Pollutant(s) (CAPS indicate Major Pollutants/Sources that contribute to an Impaired/Precluded Uses)

Known: ---
Suspected: ---
Unconfirmed: ---

Source(s) of Pollutant(s)

Known: ---
Suspected: ---
Unconfirmed: Hydro Alteration , Combined Sewer Overflow(CSO), Urban/Storm Runoff ---

Management Information

Management Status: Unassessed
Lead Agency/Office: ext/WQCC
IR/305(b) Code: Water with Insufficient Data (IR Category 3)

Further Details

Overview
Currently there is inadequate data to evaluate uses and determine a water quality assessment for this waterbody.

Use Assessment
Recreation, Aquatic life, and Fish Consumption uses were previously found to experience some impacts, however due to the age of the data (more than 10 years old) additional sampling is needed to verify current conditions.

Water Quality Information
Biological (macroinvertebrate) assessment of the barge Canal in Holley were conducted in 2004. Multiplate sampling results indicated slightly impacted water quality conditions. However due to the age of this data, additional sampling to

evaluate conditions is recommended.

Source Assessment
Specific sources of pollution previously identified, should be re-evaluated.

Management Actions
Additional sampling to verify the conditions previously identified in this portion of the NYS Barge Canal is recommended.

Section 303(d) Listing
The NYS Barge Canal (portion 2b) is not included on the current (2016) NYS Section 303(d) List of Impaired/TMDL Waters. There is insufficient information to make a listing decision. (DEC/DOW, BWAM/WQAS, August 2017)

Segment Description
This segment includes the portion of the canal from the Niagara–Orleans County line near Middleport to the Orleans–Monroe County line near Holley. The waters in this portion of the canal are Class C.