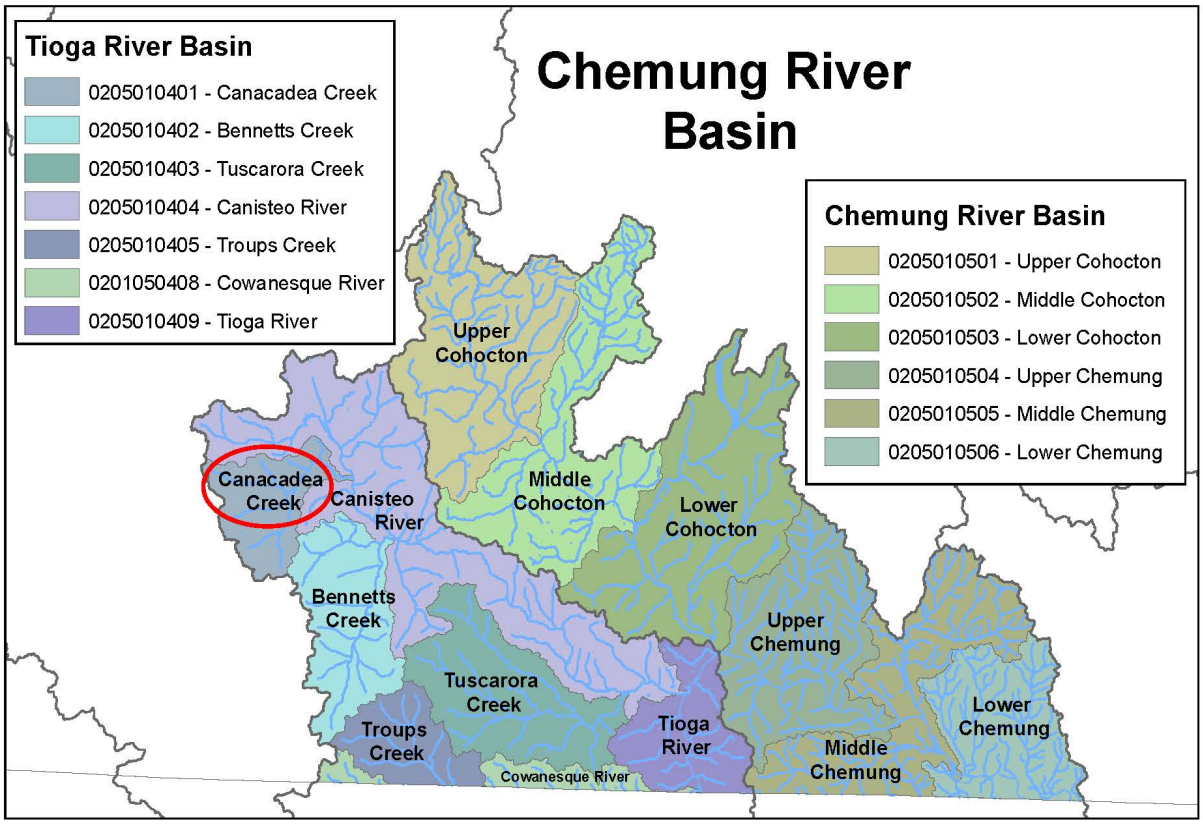

Chemung River/Canacadea Creek Watershed

(0205010401)

Water Index Number	Waterbody Segment	Category
Pa 3-57- 5-47	Canacadea Creek, Lower, and tribs (0503-0008)	MinorImpacts
Pa 3-57- 5-47	Canacadea Creek, Upper, and minor tribs (0503-0005)	MinorImpacts
Pa 3-57- 5-47- 4	Karr Valley Creek and tribs (0503-0026)	NoKnownImpct
Pa 3-57- 5-47- 9-P??	Ag Tech Lake (0503-0027)	UnAssessed
Pa 3-57- 5-47-P27c	Almond Lake (0503-0003)	Impaired Seg

Canacadea Creek, Lower, and tribs (0503-0008) MinorImpacts

Waterbody Location Information

Revised: 01/31/2007

Water Index No: Pa 3-57- 5-47
Hydro Unit Code: 02050104/030 **Str Class:** C
Waterbody Type: River
Waterbody Size: 5.2 Miles
Seg Description: stream and tribs, from mouth to Almond Reservoir

Drain Basin: Chemung River
Tioga River
Reg/County: 8/Steuben Co. (51)
Quad Map: HORNELL (L-10-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Known

Type of Pollutant(s)

Known: SILT/SEDIMENT
Suspected: NUTRIENTS, UNKNOWN TOXICITY
Possible: Metals

Source(s) of Pollutant(s)

Known: - - -
Suspected: MUNICIPAL (Hornell WWTP), UNKNOWN SOURCE, URBAN/STORM RUNOFF
Possible: - - -

Resolution/Management Information

Issue **Resolvability:** 1 (Needs Verification/Study (see STATUS))
Verification Status: 3 (Cause Identified, Source Unknown)
Lead Agency/Office: DOW/Reg8 **Resolution Potential:** Medium
TMDL/303d Status: n/a

Further Details

Aquatic life support in Canacadea Creek is known to experience minor impacts due to siltation. There are indications of toxicity as well. However conditions are improved over previous assessments based on 1991-92 sampling that found moderately impacted conditions.

A biological (macroinvertebrate) assessment of Canacadea Creek in Hornell (at Route 21) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. These results were similar to results of sampling in 1997 and 1998 and reflect increased species richness and overall water quality improvement when compared to moderate impacts identified in 1991-92. Siltation is considered the primary factor influencing water quality; organic waste impacts were also indicated farther downstream in Hornell. (DEC/DOW, BWAM/SBU, June 2005)

Previous (1991-92) sampling results at Route 21 in Hornell found a moderately impaired biological (macroinvertebrate) community, and elevated concentrations of a number of metals in the water column, bottom sediment and macroinvertebrate tissue. Biological samples collected in both 1991 and 1992 were in close agreement, both indicating moderately impacted water quality. The make-up of the macroinvertebrate community indicates toxic (rather than conventional sewage/septic) effects. Mercury was found in the macroinvertebrate tissue (crayfish) at a concentration just above the provisional level of concern. Macroinvertebrate tissue analysis in 1997 did not reveal mercury to be elevated, but nickel as well as PAHs were at levels indicating parameters of concern. (DOW/BWAM, RIBS Unit, 1994.)

Sampling results from a 2006 Susquehanna River Basin Chemung River Subbasin Survey indicated more significant impacts, and habitat condition was considered supporting and not thought to be an influence on the sample. Water chemistry results revealed elevated aluminum and sodium which may contribute to the toxicity that was noted in the NYSDEC assessment. (SRBC, March 2007)

This segment includes the portion of the stream and all tribs from the mouth in Hornell to Almond Lake. The waters of this portion of the stream are Class C. Tribs to this reach/segment are also Class C. Almond Lake and Upper Canacadea Creek are listed separately.

Canacadea Creek, Upper, and minor tribs (0503-0005) MinorImpacts

Waterbody Location Information

Revised: 03/05/2007

Water Index No: Pa 3-57- 5-47
Hydro Unit Code: 02050104/030 **Str Class:** C
Waterbody Type: River
Waterbody Size: 47.1 Miles
Seg Description: stream and selected tribs, above Almond Reservoir

Drain Basin: Chemung River
Tioga River
Reg/County: 9/Allegany Co. (2)
Quad Map: ALFRED (L-09-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
Aquatic Life	Stressed	Suspected
Recreation	Stressed	Possible

Type of Pollutant(s)

Known: SILT/SEDIMENT, Thermal Changes
Suspected: Nutrients, Pathogens
Possible: - - -

Source(s) of Pollutant(s)

Known: STREAMBANK EROSION, Municipal (Alfred STP), Resource Extraction
Suspected: On-Site/Septic Syst, Private/Comm/Inst
Possible: Roadbank Erosion, Other Sanitary Disch, Urban/Storm Runoff

Resolution/Management Information

Issue **Resolvability:** 1 (Needs Verification/Study (see STATUS))
Verification Status: 4 (Source Identified, Strategy Needed)
Lead Agency/Office: DOW/Reg9
TMDL/303d Status: n/a

Resolution Potential: Medium

Further Details

Aquatic life support in this portion of Canacadea Creek is known to experience minor impacts due to siltation. There are some indications of nutrient enrichments as well. Recreational uses may also be impacted.

A biological (macroinvertebrate) survey of Canacadea Creek at multiple sites from Hornell to Almond was conducted in 1998. Sampling results indicated slightly impacted water quality conditions at all sites with siltation being identified as the primary factor influencing the fauna. (DEC/DOW, BWAM/SBU, June 2005)

Sediment loadings in the creek are due at least in part to highly erodible soils resulting in some natural instability. However Army Corps of Engineers flood control maintenance in the reach of the stream above Almond Lake may be impacting (increasing) erosion in reaches upstream. (DEC/DFWMR and DMR, Region 9, January 2007)

Previously, coliform bacteria sampling in the creek conducted by both the Allegany County Health Department and by Alfred University indicated that although there does not appear to be an overall bacteria problem, there are occasional "spikes" especially near the Alfred STP. However the Alfred WWTP underwent an upgrade primarily to add nitrification but that also included a UV disinfection system. The WWTP is currently meeting SPDES effluent discharge limits and there are no reports of impacts related to the facility. Inadequate onsite septic systems serving

homes in and around Alfred may also be contributing nutrients, and other pollutants to the stream. (DEC/DOW, Region 9, January 2007)

Numerous household direct discharges and failing on-site septic systems throughout the Canacadea Valley were also noted during surveys in the 1980s. If these have not been corrected, they may also contribute to elevated levels of coliform and other pollutants. (DEC/BWAM, WQ Evaluation, 1998)

This segment includes the portion of the stream and selected/smaller tribs above Almond Lake. The waters of this portion of the stream are Class C,C(TS). Tribs to this reach/segment are Class C,C(T). Karr Valley Creek (-4), Almond Lake and Lower Canacadea Creek are listed separately.

Karr Valley Creek and tribs (0503-0026) NoKnownImpct

Waterbody Location Information

Revised: 01/23/2007

Water Index No: Pa 3-57- 5-47- 4
Hydro Unit Code: 02050104/030 **Str Class:** C
Waterbody Type: River
Waterbody Size: 46.5 Miles
Seg Description: entire stream and tribs

Drain Basin: Chemung River
Tioga River
Reg/County: 9/Allegany Co. (2)
Quad Map: ALFRED (L-09-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
NO USE IMPAIRMNT		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue **Resolvability:** 8 (No Known Use Impairment)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: n/a **Resolution Potential:** n/a
TMDL/303d Status: n/a

Further Details

A biological (macroinvertebrate) assessment of Karr Valley Creek in Almond (at Route 21) was conducted in 2002. Sampling results indicated slightly impacted water quality conditions. The stream was dominated by facultative mayflies and midges indicating nonpoint source nutrient enrichment as the primary factor influencing water quality. Abundant algae was also noted in the stream. However, nutrient biotic evaluation determined these effects on the fauna to be minor. Aquatic life support is considered to be fully supported in the stream and there are no other apparent water quality impacts to designated uses. (DEC/DOW, BWAM/SBU, June 2005)

This segment includes the entire stream and all tribs. The waters of this portion of the stream are Class C. Tribs to this reach/segment, including McHenry Valley Creek (-1), are also Class C.

Ag Tech Lake (0503-0027) UnAssessed

Waterbody Location Information

Revised: 05/26/2004

Water Index No: Pa 3-57- 5-47- 9-P??
Hydro Unit Code: 02050104/030 **Str Class:** ?
Waterbody Type: Lake
Waterbody Size: 6.7 Acres
Seg Description: entire lake

Drain Basin: Chemung River
Tioga River
Reg/County: 9/Allegany Co. (2)
Quad Map: ALFRED (L-09-3)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
UnAssessed Water		

Type of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Source(s) of Pollutant(s)
Known: - - -
Suspected: - - -
Possible: - - -

Resolution/Management Information

Issue **Resolvability:** ()
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office:
Resolution Potential: n/a
TMDL/303d Status: n/a

Further Details

This waterbody is not currently included in the stream classification regulations and as a result does not have a designated pond number.

Almond Lake (0503-0003) Impaired Seg

Waterbody Location Information

Revised: 03/05/2007

Water Index No: Pa 3-57- 5-47-P27c
Hydro Unit Code: 02050104/030 **Str Class:** B
Waterbody Type: Lake(R)
Waterbody Size: 106.1 Acres
Seg Description: entire lake

Drain Basin: Chemung River
Tioga River
Reg/County: 9/Allegany Co. (2)
Quad Map: HORNELL (L-10-4)

Water Quality Problem/Issue Information

(CAPS indicate MAJOR Use Impacts/Pollutants/Sources)

Use(s) Impacted	Severity	Problem Documentation
PUBLIC BATHING	Precluded	Known
Recreation	Stressed	Known

Type of Pollutant(s)

Known: WATER LEVEL/FLOW, SILT/SEDIMENT
Suspected: AESTHETICS (water clarity)
Possible: Pathogens

Source(s) of Pollutant(s)

Known: HYDRO MODIFICATION, STREAMBANK EROSION
Suspected: On-Site/Septic Syst
Possible: - - -

Resolution/Management Information

Issue **Resolvability:** 5 (Not Resolvable, natural/conflicting use)
Verification Status: (Not Applicable for Selected RESOLVABILITY)
Lead Agency/Office: ext/WQCC **Resolution Potential:** n/a
TMDL/303d Status: 4c (Impaired by Pollution, Not Pollutant(s), Not Listed)

Further Details

Public bathing and recreational use in Almond Lake is impaired by conflict with its use for flood control. Sediment and flood debris is deposited in this flood control reservoir, limiting its use for public bathing.

Almond Lake is a flood control reservoir on Canacadea Creek that was constructed and is maintained by the US Army Corps of Engineers. When sediment filled the original impoundment, the lake level was raised an additional 5 feet in 1987. Recent (1997) bathometric surveys suggest the loss of about 25% of the volume within the existing lake over the last 10 years. Because the majority of the sediment accumulation occurs within the permanent impoundment, the impact on the flood storage capacity of the reservoir is minimal. Under normal operating conditions, the lake occupies about 160 acres. The 90-foot high Almond Dam is designed to provide a maximum flood control storage of 14,640 acre-feet. Under these conditions the lake would cover 660 acres. (Steuben County WQCC, August 2004)

A county park (Kanakadea Park) is located on the north shore of the reservoir. Many recreational activities (boating, fishing, hiking, picnicking) are supported in the park. However recreational use of the reservoir is often in conflict with its use for flood control. The public beach on the lake is closed to swimming (and has been since the 1980s) for reasons that include the large amount of sediment and flood debris that has been deposited in the lake and high turbidity. Sediment loadings from upper Canacadea Creek are due at least in part to highly erodible soils resulting in some natural

instability. However Army Corps of Engineers flood control maintenance in the reach of the stream above Almond Lake may be impacting (increasing) erosion in reaches upstream. (DEC/DFWMR and DMR, Region 9, January 2007)

Previously, coliform bacteria sampling in Canacadea Creek conducted by both the Allegany County Health Department and by Alfred University indicated that although there does not appear to be an overall bacteria problem, there are occasional "spikes" especially near the Alfred STP. However the Alfred WWTP underwent an upgrade primarily to add nitrification but that also included a UV disinfection system. The WWTP is currently meeting SPDES effluent discharge limits and there are no reports of impacts related to the facility. (DEC/DOW, Region 9, January 2007)

Numerous household direct discharges and failing on-site septic systems throughout the Canacadea Valley were also noted during surveys in the 1980s. If not corrected, these may also contribute to coliform violations. (DEC/BWM, H.Samide memo to J.Myers, 6/1/98)

See also Canacadea Creek (Segment ID 0503-0005).