

St. Lawrence County Environmental Management Council

49½ Court Street, Canton, New York 13617-1169 Phone: (315) 379-2292 Fax: (315) 379-2252

E-mail: Planning@stlawco.org

Web Site: http://www.stlawco.org/Planning/EMC.htm

Draft

MEETING MINUTES
February 21, 2018

2nd - Floor Conference Room, Public Safety Complex
49 ½ Court Street, Canton, New York

Action items in bold italics / Motions underlined.

Blue boxes indicate internal links to sections of these Minutes.

- 1. **Call to Order:** In the absence of the Chair, Vice Chairman Don O'Shea called the meeting to order at 6:01 PM.
- 2. Roll Call, Determination of Quorum: It was determined that a quorum did NOT exist.

 Members present included: Ryan Burkum; Larry Denesha, BOL Liaison; Don O'Shea, Vice-Chair; Lance Rudiger; Tiernan Smith.

 Members absent included: Jennifer Berbrich; Joseph Brant, Chair; Glen Butler; Alex French; Rick Marshall; Sue Rau; Dana Smith; Andrew Soutar; Pat Whalen, Secretary; Bob Zimmerman.

 Guest(s): John Payton, Forestry Supervisor, National Grid; Catherine Bennett, Heuvelton.

 Staff: J. Tenbusch.
- 3. Acceptance of Order of Business, Items for New Business, and Items for Unfinished Business: Due to lack of quorum, the Order of Business could not be approved.
- 4. **Approval of the Minutes of the October 18, November 15 2017; and January 17 2018 EMC Meetings**: Due to lack of quorum, the Minutes of the October, November, and January EMC meetings could not be approved.
- 5. **Report by Representative of the Board of Legislators**. Mr. Denesha reported:
 - Funding is in place for Phase 2 of the demolition project at the J&L site in the Town of Clifton. There will be a walk-through at the J&L site on March 22nd; Tenbusch will inquire whether EMC members might be able to attend.
 - L. Rudiger asked about plans for re-use of the Old Jail.
 - Denesha reported that there are no plans.
 - L. Rudiger asked about reports that NYS may change the way it makes payments on property owned by the State, from tax payments to PILOTs (payments in lieu of taxes).
 - Denesha had no comment.

EMC: Everybody Must Care!

6. **Hearings, Comments from the Public.** Chair-Pro-Tem O'Shea recognized John Payton, Forestry Supervisor with National Grid. Mr. Payton has been involved with the Emerald Ash Borer Task Force in developing responses to its arrival in St. Lawrence County. O'Shea noted that Mr. Payton's crew had made the first discovery of EAB in St. Lawrence County, in 2017 when they found a specimen in a trap hanging at a roadside pull-off on SH 12 in the Town of Hammond. O'Shea also reported that Payton's crews had been extremely helpful in working with the City of Ogdensburg to remove ash trees along public rights-of-way.

Payton reported that he has worked for National Grid and its corporate predecessors for over 30 years. For much of that time, he has been actively involved with managing trees in/along utility rights-of-way.

Payton briefly reviewed the biology of ash trees, the manner in which EABs infest and damage ash trees, and the dangers posed by trees killed by EABs. These dangers include:

- Ash trees killed by EAB are prone to "catastrophic collapse" without warning and without apparent cause (high wind; etc.);
- Ash trees can "snap" (break off near the base of the trunk) within 2 years of death from EAB;
- Ash tree limbs become brittle;
 "the force needed to break a healthy 1" limb <u>now</u> breaks a 5" dead limb" (data from Davey Tree Research Lab);



Line outages from falling trees/limbs will be **MUCH MORE** common... with *likely* longer restoration times!

What about road closures, clean-up & guiderail damages? national grid

Payton reported that NYS is estimated to have 900 million ash trees. He noted that National Grid has estimated 800,000 ash trees near/next to its facilities and lines. He reported that National Grid has divided upstate NY into three Divisions: St. Lawrence County is in the Central Division. Since Fall of 2016, crews in the Central Division have removed approx. 14,000 ash trees; another 11,000 ash trees have been identified for future removal. In the Northern Region (part of the Central Division), Payton stated that his crews have taken down 2,800 ash trees.

He reported that he serves on four tree committees as a way to coordinate with local communities. His crews have set and monitored 17 EAB traps along the St. Lawrence River shoreline in St. Lawrence County (they found EAB in a trap in Hammond in 2017). He noted that his crews will identify and manage four sentinel trees during 2018.

Chair-Pro-Tem O'Shea thanked Mr. Payton for his presentation, and called for a five-minute recess. The meeting reconvened at 7:20 PM.

7. Reports by EMC Members on Conversations with County Legislators: None.

At this point, O'Shea and Denesha had to leave; only three EMC members remained in attendance. They agreed to adjourn the meeting, while asking staff to append the various committee reports and staff report.

8. Report of the Committees:

- **a.** Executive Committee: No meeting; no report.
- **b.** Conservation of Resources Committee (CRC): No meeting; no report.
- c. Environment + Economy Committee (E+E): No report given. See attached.
- **d.** Invasive Species Committee (ISC): No report given. See attached.
 - There was discussion about the Committee's proposal to ask the NYS Legislature to support a tax-credit for urban-area landowners who need to remove ash trees due to infestation by Emerald Ash Borer. Staff will draft a letter; the EMC will review at the February meeting.
- e. Watershed Management Committee (WMC). No report given. See attached.

9. **Report of the Staff:**

- a. <u>Fair Housing Task Force</u>. The County's FHTF has virtually completed its "Assessment of Fair Housing in St. Lawrence County". They will present its findings to the Board of Legislators at Operations Committee in April.
- b. <u>Local Update of Census Addresses</u>. Tenbusch has been working with an intern to produce reports for each community participating in the LUCA program. These reports will enable communities to better prioritize their efforts to complete LUCA.
- c. Ogdensburg Harbor Deepening Project. Bob Flavin of Ogdensburg had expressed concerns about a proposal from U.S. Army Corps of Engineers to deepen water areas near dock walls. He is concerned about effects on walleye spawning beds and sandbars.
- d. <u>Save The River Winter Conference</u>. Tenbusch attended the 29th Winter Environmental Conference in Clayton on Feb. 3rd. Topics presented include:
 - i. Plan 2014 first year of implementation
 - ii. Environmental certification program for the maritime industry
 - iii. Current status and assessment of Great Lakes channels
 - iv. St. Lawrence River fowl
 - v. Trends in Upper St. Lawrence River fish populations
 - vi. The Fish Enhancement, Mitigation and Research Fund (FEMREF)
 - vii. Akwesasne Cultural Restoration Program

10. Adjournment: The meeting adjourned by consensus at 7:25 PM.

Minutes prepared by J. Tenbusch



St. Lawrence County Environmental Management Council Environment + Economy Committee Meeting Monday, February 12th, 2018

Meeting started at 5:00 PM.

Present: R. Burkum, Chair; T. Smith. J. Tenbusch attended as staff.

Projects:

- Review list of businesses assembled by CPO staff. J. Tenbusch reported no progress on this item. He committed to having an intern follow up.
 - The purpose of the letter/survey is to identify businesses interested in discussing the
 interaction between business and the environment. Once identified, this committee can
 work with these businesses to address questions/issues that affect their businesses and the
 environment.
 - Tenbusch will revise the draft introductory letter and survey form to be sent to businesses. This revision will be ready for committee review by Feb. 21st.
 - T. Smith asked are there any environmentally-oriented businesses in the business incubator located in Potsdam. Staff will inquire and report.
 - R. Burkum suggested that staff contact Farm Credit East in Potsdam; it may be possible for them to send our survey to their client list.

Speakers for Future EMC Meetings

- Smith will contact the owners of Sweeter Creations, maple producer in Waddington, to ask if they would speak at EMC meeting.
- Burkum reported that he may have a speaker; this person is retired from NYS DOL in Massena.

The meeting adjourned at 5:35 PM.

The next E+E Committee meeting will be held on Monday March 12, 2018 at 5:00 PM.

Report by John Tenbusch



St. Lawrence County Environmental Management Council Invasive Species Committee Meeting Tuesday February 13th, 2018

Meeting started at 1:00 PM.

Present: D. O'Shea, chair; S. Rau; P. Whalen. J. Tenbusch attended as staff.

Item 1: Review Priority Projects.

• Emerald Ash Borer.

- J. Tenbusch reported that the EAB Task Force is working to establish a series of sentinel trees along the St. Lawrence River, and near the sites of reported EAB infestation, to see if EABs have spread.
 - o S. Rau volunteered to creates a sentinel tree on her property in Norfolk.
 - o D. O'Shea reported that the ash tree on Barnhart Island in Massena that was found to be infested showed evidence that it had been infested for several seasons.
 - Tenbusch reported on the ash tree-trunk-peeling session that was held at Massena Electric Department in January. No signs of infestation were found in any of the dozen tree trunks peeled. See attached photographs.

• Re-Leaf Committee teleconference.

- Tenbusch reported on the Region 6 Re-Leaf Committee teleconference on 1/17.
 - The Re-Leaf Committee discussed holding a regional meeting related to EAB and ash tree issues. This meeting is tentatively planned to be held at Mohawk Valley Community College in Rome NY; it is tentatively scheduled for early June.

Item 2: Projects for 2018.

- The Committee will plan a countywide/regional meeting on the topic of Eurasian Water Milfoil.
 - Participants might include representatives from Black Lake; Hickory Lake; Norwood Lake; Higley Flow; Adirondack Watershed Institute (http://www.adkwatershed.org/); and others.
- Asking the EMC to support NYS Senate Bill **8196 A**, which would amend the tax law to establish a tree removal and emerald ash elimination credit.
 - Tenbusch reported that he had contacted Sen. Ritchie's office. He was advised to draft a letter describing the tax-credit idea and send that letter to elected officials.

Item 3: Speakers for 2018.

• O'Shea suggested that John Payton of National Grid be invited to speak to the EMC. Payton and Nat'l Grid crews have been very helpful with taking down ash trees. He and his crew discovered the EABs in Hammond in 2017.

The meeting adjourned at 1:45 PM.

The Next ISC meeting will be held on Tuesday, March 13th at 1:00 PM.









St. Lawrence County Environmental Management Council Watershed Management Committee Meeting Tuesday, February 13, 2018

Meeting started at 4:00 PM.

Present: J. Brant, Chair; A. French; L. Rudiger; D. Smith. J. Tenbusch attended as staff.

Item 1: Review Priority Projects.

- Stencils for storm drains. J. Tenbusch reported that the project is on track to be accomplished in Spring 2018.
 - Tenbusch will submit a proposal to SWCD for funding.
 - Tenbusch will confirm with PW Superintendents in Canton and Potsdam.
 - J. Brant suggested purchase of several brooms and safety vests.
 - o Tenbusch noted that he can probably borrow a number of safety vests from the SLC Highway Dept.
 - L. Rudiger stated that he had been involved with earlier drain-stenciling projects; he suggested that the paint be tested for visibility/durability.
- "Trees For Tribs" (http://www.dec.ny.gov/animals/77710.html). A. French reported that the St. Lawrence Land Trust will participate in this program in 2018. Therefore, an appropriate role for the EMC might be to support SLLT's efforts.
 - French reported that Tompkins County has a local law that regulates stream buffer zones. He will look for/distribute it. See attached.
- No Mow Zones. J. Tenbusch will complete the application to NYPA by the end of this month.
- Regional meeting regarding Eurasian Water Milfoil. No progress. The Committee intends to host such a meeting by Spring 2018.

Item 2: Other Items From To-Do List:

- Discussion of Blue Green Algae. J. Brant reported that there will be a series of Regional Summits on the subject of Blue-Green Algae. One meeting will be held in Ticonderoga. Another will be held in Syracuse (2-day event). No dates are announced yet.
- Wild Parsnip. L. Rudiger reminded staff that there has been continued interest in working with local highway departments to control wild parsnip.
 - French suggested that Town Highway crews get trained to use the *I-Map Invasives* application available for smart phones to report locations of wild parsnip infestation.

The meeting was adjourned at 4:35 PM.

The next meeting of the Watershed Management Committee will be held on Tuesday March 13th 2018 at 4:00 PM.

[Name of municipality], Tompkins County, New York Model Stream Buffer Ordinance [April 2009]

1. Title

This ordinance shall be known and m	ay be cited as the "Stream Buffer Ordinance of
the(jurisdiction)."	[If applied to zoning – This ordinance shall
amend the Zoning Ordinance of the_	(jurisdiction) to add Article
(section) entitled "Stream Buffer Req	uirements."]

2. Purpose

The purpose of this ordinance (art	icle) is to establish req	uirements for creating and
maintaining buffers to protect the	water quality in the str	eams of
the(jurisdictio	on), Tompkins County.	This ordinance (article)
promotes the prevention of sedime	ent, nutrient and polluta	ant loads from entering
streams by maintaining stream but	ffers of at least 100 fee	t from the top of stream
bank. Research has shown that th	is distance is the minin	num necessary to filter
nutrients and pollutants to protect	water quality. Although	gh it is not regulated in this
ordinance (article), the	(jurisdiction) st	rongly encourages
landowners to maintain stream bu	ffers of 330 feet from t	he top of stream bank, on
undeveloped land where feasible,	in order to protect wild	llife habitat.

3. Definitions

Buffer: land on each side of a stream that shall be left vegetated to provide riparian corridor functions. Buffers are measured horizontally from the top of the stream bank in a direction directly perpendicular to the bank and in the horizontal plane.

Development: the construction, reconstruction, conversion, structural alteration, relocation, or enlargement of any structure including that intended for agricultural use; any mining excavation, landfill, or land disturbance, including grading and filling.

Intermittent Stream: surface water drainage channels with definite bed and banks in which there is not a permanent flow of water (and is represented as a dashed line on United State Geological Survey (USGS) 7.5 Minute Quadrangle maps).

Impervious Surface: any paved, hardened or structural surface including, but not limited to, buildings, dams, decks, driveways, parking areas, patios, streets, swimming pools, tennis courts, walkways, and other non-permeable structures.

Perennial Stream: a stream that flows continuously throughout the year in a natural or man-made channel (which is represented as a solid blue line on United States Geological Survey (USGS) 7.5 Minute Quadrangle maps).

Steep Slope: any slope of 15% grade or greater.

Stream: the full length and width, including the bed and banks, of any watercourse, that has a channel which periodically or continuously contains moving water. It further has a defined bed, and has banks that serve to confine water at low to moderate flows (and is represented as either a solid or dashed blue line on United States Geological Survey (USGS) 7.5 Minute Quadrangle maps). For the purpose of this ordinance, constructed drainage-ways, including water bars, swales, and roadside ditches, are not considered streams.

Stream Bank: the lateral confines of a stream which contain the normal flow of the stream.

Parcel: a designated tract or area of land established by plat, subdivision, or as otherwise permitted by law, to be separately owned, used, developed, or built upon.

Top of Stream Bank: the primary edge of the ordinary high water mark, or break in slope for a watercourse, which maintains the integrity of the watercourse.

Wetlands: lands, including submerged lands, saturated by water at a frequency and duration sufficient to support vegetation adapted for life in saturated soil conditions. For the purpose of this ordinance, wetlands are limited to those lands that are categorized as wetlands by either the New York State Department of Environmental Conservation (DEC) or the National Wetlands Inventory (NWI) or have been documented and mapped as part of an officially adopted community wetlands inventory.

4. Applicability

These requireme	ents do not superc	ede or replace any greater applicable buffer
requirements es	tablished under sta	ate or federal law and are applicable to all land
within	(jurisdiction).	This ordinance shall apply to all proposed
development.		

5. Requirements

5.1. Protection Requirements for Perennial Streams

A vegetative buffer shall be required for all development activities that occur in proximity to perennial streams with additional considerations for wetlands and steep slopes. Protection shall be divided into a Riparian Buffer and a Setback Area that protects overall water quality by limiting development in accordance with the adjacent land's ability to filter sediment, nutrients and other pollutants. This protection will provide stability to the stream and stream bank. The minimum total

setback width for all perennial streams combined is 100 feet. There is no established maximum setback width.

The ______(jurisdiction) shall require the delineation of any applicable Riparian Buffer and Setback Areas on all subdivision plats, site plan applications, special permits, special approval and variance applications, building permit applications, and excavation or fill permit applications. This delineation shall be subject to review and approval by the appropriate board or officer.

Prior to any soil-disturbing activity, the Riparian Buffer and Setback Area shall be clearly delineated on site and shall be undisturbed until the project is complete.

- 5.1.1 Riparian Buffer: The function of the Riparian Buffer is to protect the physical and ecological integrity of the portion of the riparian corridor in closest proximity to the stream through protection and enhancement of the native vegetation. Native vegetation provides shade, leaf litter, woody debris, erosion protection, and filtering of sediment, nutrient and pollutant loads to the stream.
 - a. The Riparian Buffer will begin at the top of the stream bank and extend a minimum of 50 feet horizontally measured in a direction directly perpendicular to the stream bank in a horizontal plane. Should a steep slope or wetland exist within this Buffer the entirety of that area will be added to the measurement of the Riparian Buffer. This full area will utilize the restrictions accorded to the Riparian Buffer.
 - b. Development and use are restricted to the following, the entirety of which may not modify or interrupt more than 10% of the entire Riparian Buffer unless necessary for the protection of human health, utility usage, public infrastructure, or the betterment of the riparian corridor.
 - Benches or seating;
 - Implementation of educational and scientific research that does not negatively impact the native vegetation;
 - Flood control, stormwater management structures, and stream bank stabilization measures approved by the Tompkins County Soil and Water Conservation District, Natural Resource Conservation Service, Army Corps of Engineering, or NYS Department of Environmental Conservation;
 - Maintenance of roadways or impervious surfaces existing at the time of the adoption of this provision;
 - Stream crossings necessary to access the property by driveway, transportation route, or utility line which are

- designed to minimize negative impacts to the stream and Riparian Buffer;
- Public water supply intake or public wastewater outfall structures:
- Public access and public recreational facilities that must be on the water including boat ramps, docks, foot trails leading directly to the stream, fishing platforms and overlooks;
- Public sewer lines and/or other utility easements.
- Techniques to remove invasive species;
- Non-paved recreational trails no wider than 10 feet that either provide access to the stream or are part of a continuous trail system running roughly parallel to the stream;
- Temporary use of erosion control measures such as silt fencing;
- Limited tree cutting, forestry or vegetation management done in accordance with a Forest Stewardship Plan prepared by the Department of Environmental Conservation, a forester who is certified by the Society of American Foresters or such successor organization as is later created, or a Cooperating Consulting Forester with the New York State Department of Environmental Conservation. Any harvest must furthermore be done in accordance with the New York State Forestry Best Management Practices for Water Quality – BMP Field Guide. Tree cutting may not compromise the integrity of the stream bank or negatively impact the function of the Riparian Buffer. Tree cutting within 25 feet of the top of stream bank is prohibited. Any such activity must retain at a minimum 50% of the tree canopy in the Riparian Buffer at all times.
- 5.1.3. Setback Area: The function of the Setback Area is to filter sediment, nutrients and pollutants in runoff and slow the rate at which runoff enters the Riparian Buffer.
 - a. The Setback Area will begin at the outward edge of the Riparian Buffer and provide a minimum width of 50 feet. Should a steep slope or wetland exist within this Area the entirety of that area will be added to the measurement of the Setback Area. This full area will utilize the restrictions accorded to the Setback Area.
 - b. Within the Setback Area development uses are restricted to the following:
 - All development and uses permitted in the Riparian Buffer;

- Minor recreational structures and surfaces to allow passive recreation in the Setback Area such as decks, picnic tables, playground equipment, and small concrete slabs, the total area of which is not to exceed 200 square feet each and in aggregate occupy no more than 10% of the Setback Area;
- Fences, provided such structures do not impede floodwaters;
- Landscaping, mowing, decorative planting or improvements that do not encroach upon or impact the integrity of the Riparian Buffer.

5.2 Prohibited Activities

The following activities are explicitly prohibited in both the Riparian Buffer and Setback Area.

- 5.2.1. Storage or placement of any hazardous materials, before the following setback allotment, is prohibited. All sewage systems, both drain fields and raised systems and replacement of existing wells, must adhere to a 100-foot buffer from perennial streams. Any property that cannot accommodate such a buffer requires a variance.
- 5.2.2. Purposeful introduction of invasive vegetative species that reduce the persistence of local vegetation is prohibited. For a listing of invasive vegetation to avoid, refer to the Tompkins County "Environmental Management Council's Invasive Plants of Tompkins County" (1998, as revised).
- 5.2.3. Waste storage and disposal including but not limited to disposal and dumping of snow and ice, recyclable materials, manure, hazardous or noxious chemicals, used automobiles or appliance structures, and other abandoned materials.
- 5.2.4. No combination of allowed or exempt activities may compromise or alter more than 10% of the total riparian buffer and setback area that lies within a tax parcel.
- 5.2.5. Public water supply wells must be greater than 200 feet from top of stream bank; private wells are not allowed in the Riparian Buffer. Any property whose water supply cannot accommodate such a buffer requires a variance.
- 5.2.6. Mining or removal of soil, sand and gravel, and quarrying of raw materials.
- 5.2.7. Dredging, deepening, widening, straightening or any such altercation of the beds and banks of natural streams except where the New York State

Department of Environmental Conservation has issued a permit expressly allowing such activities on the parcel.

- 5.2.8. Application of herbicide, pesticides, fertilizers, or other chemicals.
- 5.2.9. Parking of motorized vehicles.

5.3 Protection Requirements for Intermittent Streams

For those streams classified as intermittent, only the Riparian Buffer shall apply. For an intermittent stream the buffer will begin at the top of the stream bank and extend a minimum of 50 feet horizontally measured in a direction directly perpendicular to the stream bank in a horizontal plane. All provisions applicable to the Riparian Buffers for perennial streams should apply to intermittent streams.

6. Exemptions

The following specific activities are exempt from the requirements of this ordinance.

6.1. General Exemptions

6.1.1. The ordinance shall not apply to agricultural land use activity existing as of the effective date of this ordinance.

6.2. Grandfather Provisions

6.2.1. Work consisting of the repair or maintenance of any lawful use of land that is approved for such use on or before the effective date of this ordinance.

6.3. Variance Procedures

Variances from the above buffer and setba	ack requirements may be granted only in
accordance with the following provisions.	Except as provided below, the
(appeals board) of	(jurisdiction) shall grant no
variance from this ordinance without cond	lucting a public hearing on the application
for variance, and issue a notice of public n	neeting on such variance in a newspaper of
general circulation in the municipality at le	east ten working days prior to such hearing.
Such notice shall be forwarded at least ten	working days in advance by a registered
letter to the superintendent of highways or	commissioner of public works, to the clerk
of the county legislative body, and to the c	county planning board, if any, and
appropriate state and federal agencies affe	cted.

- 6.3.1. A variance shall be granted only upon a finding that a property's shape, topography or other physical conditions prevents land development unless a variance is granted, or that strict adherence to the minimal buffer and setback requirements would create extreme hardship.
- 6.3.2. A variance request shall include the following information in written documentation:

- A to-scale site map with stream, wetlands, slopes and other natural features locations as determined by field survey;
- Description of the topography, slopes and soil type, shape of property, natural vegetation, and other distinguishing or prohibitive physical characteristics of the property;
- The locations and footprint of all existing structures and other impervious cover on a site map, with footprint for proposed structures. This map shall include the limits of all existing and proposed land disturbance, both inside and outside the buffer and setback:
- The exact area of the affected buffer and setback, and nature of proposed changes to be made to these areas shall be accurately and clearly indicated. A calculation of the total area and length of the proposed intrusion and any pre-existing intrusions shall be included;
- A stormwater management plan given the proposed changes and intrusions:
- Documentation of supposed hardship should the buffer be maintained;
- Proposed mitigation for the intrusion.
- 6.3.3 The following matters will be considered in determining whether to issue a variance:
 - The shape and physical characteristics of the property;
 - The locations of all streams on and/or adjacent to the property;
 - The location and extent of the proposed buffer or setback intrusion;
 - Whether alternative designs are possible which require less intrusion;
 - The water-quality impacts of the proposed variance.

7. Administration and Enforcement

7.1	This ordinance shall be administered by(Jurisdiction Administrator, i.e. Code Enforcement Officer) or other official as designated.
7.2	A development plan shall not be approved, and therefore a building permit shall not be issued, unless the development plan satisfies the requirements under this ordinance. The(jurisdiction) may deny, suspend, or revoke any development plan if the plan violates this ordinance.
7.2.	The(jurisdiction) may cancel or revoke any approved development plan or issued building permit if it fails to maintain the requirements of this ordinance; and may take legal action to stop, revoke or cancel the approval or the building permit.

References Used for Model Ordinance Development

- Anderson, P., Bradford, D., Frissell, C., Olson, D., & Welsh, H. (2007). *Biodiversity management approaches for stream-riparian areas: Perspectives for Pacific Northwest headwater forests, microclimates, and amphibians.* Forest Ecology and Management, 246, pp. 81-146.
- Bren, L. (2000). A case study in the use of threshold measures of hydrologic loading in the design of stream buffer strips. Forest Ecology and Management, 132, pp. 243-257.
- Enhancing Water Resources in Tompkins County: Benefits of Riparian Stream Areas and Stream Buffers: Tompkins County Planning Department, 2004. http://www.tompkins-co.org/planning/Water%20Resources/FINAL%20STREAM%20DOC.pdf
- Guidance for Agency Act 250 and Section 248: Comments regarding Riparian Buffers: Vermont Agency of Natural Resources. December 9, 2005.
- Markaroff, D., & Ng, R. (1995). Schemes for implementing buffer sharing in continuous-media systems. Information systems, 20 (6), pp. 445-464.
- New York State Forestry Best Management Practices for Water Quality BMP Field Guide http://www.dec.ny.gov/docs/lands_forests_pdf/dlfbmpguide.pdf
- Part I: A Strategic Approach to Natural Stewardship: Tompkins County Conservation Plan. Tompkins County Planning Department. 2007.
- *Tompkins County Conservation Plan*: Section I: A strategic approach to natural resource stewardship. Tompkins County Planning Department, 2007.
- Town of Ithaca Local Law No. (undecided) of 2006 as amendment to Chapter 270 of Town of Ithaca Code. *Proposed, "Zoning, to add stream setback provisions."* Reviewed copy of 9/8/06. Town Board of the Town of Ithaca, 2007.
- Town of Ulysses. *Zoning Law*. Accessed February 1, 2008. Ulysses, 2005. http://www.trumansburg.ny.us/ulysses/zoning-law_08-30-05.pdf