

TOMPKINS COUNTY WATER RESOURCES COUNCIL

February 23, 2009
Meeting Minutes

Voting Members Present (14): Sharon Anderson, Liz Cameron, Donna Eschenbrenner, Barry Goodrich, Roxy Johnston, Joan Jurkowich, Dan Karig, Darby Kiley, Rick Manning, Frank Proto, Elaine Quaroni, Cindy Schulte, Craig Schutt, Bud Shattuck

Voting Members Excused (3): Ed Bugliosi, Herbert Dwyer, Mary Shelley

Voting Members Absent (2): Linda Wagenet, Roger Yonkin

Non-Voting Members Present (6): John Andersson (Associate), Dooley Kiefer (Associate), John Mawdsley (Associate), Todd Miller (Ex-Officio), Marjory Rinaldo-Lee (Associate), Nick Schipanski (Associate)

Staff Present (1): Kathy Wilsea (T C Planning Dept.)

Guests Present (2): Jose Lozano, Dave Matthews

Chair Frank Proto called the meeting to order at 4:20 PM.

Agenda Review and Approval of Minutes – There were no changes to the agenda. The draft minutes of January 26, 2009 were amended, moved by Cindy Schulte, seconded by Roxy Johnston and passed by voice vote.

Phosphorus Loading and Related Impacts in Southern Cayuga Lake – Dave Matthews, Senior Research Scientist from Upstate Freshwater Institute, was present. Roxy Johnston provided background on why WRC dedicated some FLOWPA special projects grant money to a study by UFI. Kate Hackett (former WRC Coordinator) and Roxy had read an old report that showed no correlation between algal growth and phosphorus, so this study was undertaken to perform a larger analysis. UFI included sediment data, too. The report is available on the City and Network webpages.

Dave acknowledged the actual report is pretty dense, but today's presentation is intended to provide an informal overview. Symptoms of excessive phosphorus loading are high levels of phytoplankton biomass, blooms of nuisance cyanobacteria, and low transparency. Common measures of trophic state are concentration of total phosphorus, concentration of chlorophyll, and Secchi disc transparency tests. Datasets used in the study included Lake Source Cooling monitoring from 1998-2007, UFI phosphorus measurements, UFI synoptic surveys of 1996 and 2004, Community Science Institute high flows data for Fall Creek, and phosphorus loading information from both Ithaca Area Waste Water Treatment Plant and Cayuga Heights Waste Water Treatment Plant.

Dave provided some graphs of phosphorus loads, showing that in wet years the bulk of dissolved phosphorus comes from tributaries. LSC does bring some dissolved phosphorus from the bottom of the lake to the shallow end, but this amount is very small compared to other sources. Since the mid-1990s, chlorophyll levels and Secchi tests show better results at the deep levels. Chlorophyll levels and Secchi tests usually correlate, but not in data for test site #8 in deep water by Taughannock Point. When total dissolved phosphorus loads increase on the shelf at the south end of the lake, so do chlorophyll levels, but these are not proportional.

Testing in 2004 was performed by UFI every two weeks. When runoff events (storms) correlated with testing, a big impact was documented on the shelf, but was brief in duration. When the Remote Underwater Sensing Station (RUSS) is running again, it will gather constant data during the spring-summer-fall months of operation. Winds can cause much greater turbulent exchange, and sometimes all of the water is exchanged per day. Since the time delay for algal blooms is one day, phosphorus is usually being moved out as fast as it can be used. Some scientists say the entire lake flushes about once every ten years, but that assumes the whole lake mixes, which is not realistic. Some particles (clay) from our tributaries are making it to the north end of the lake, but

the majority settle in the lake. The impact of particles from Cayuga Inlet and Fall Creek are visible at Taughannock. While there are more tributaries at the north end, the south tributaries are large and contribute 40% of the flow into the lake.

Dave went on to compare Cayuga with the other Finger Lakes. Placement of 6th in 1996 and 2004 data fits in with its classification as mesotrophic, or moderately clear. Clarity varies among the Finger Lakes because there is a strong relationship between clarity and inorganic (clay) particles. Phosphorus reduction will not resolve clarity concerns because of the impact of inorganic contributions.

Dave provided this summary:

- Phosphorus loading to southern Cayuga Lake is dominated by tributary inputs, particularly during high runoff years;
- Modest water quality benefits are expected from a 50% decrease in phosphorus loading from Ithaca Area Waste Water Treatment Plant;
- Clarity on the southern shelf is regulated by terrigenous inorganic particles rather than phytoplankton;
- The southern shelf flushes rapidly (once per day), which moderates water quality differences with the main lake; and
- Differences in transparency among the Finger Lakes is explained by concentrations of inorganic particles and phytoplankton.

Relative to growing phytoplankton, algae is not a big problem. Aquatic plants use phosphorus that comes primarily from sediments. Some of these problems are seasonal and there is speculation that LSC test site #7, by the Youth Bureau, has high chlorophyll concentrations in late summer/early fall because of macrophytes dying, which can be a seasonal life cycle, damage from boat propellers, or lack of wind. Steve Penningroth said a 4H Club group is monitoring a small tributary by the Visitors Center that is high in phosphorus, both dissolved and total. The same scenario appears by the bird sanctuary. The Cayuga Heights Waste Water Treatment Plant also discharges near there. When asked about his opinion of the effect of LSC, Dave said the effects haven't been quantified. If anything, one effect of LSC is that it moves water onto the shelf, so it enhances flushing. He feels this may have a modest positive impact. He provided a digital file of today's presentation. Roxy Johnston will provide link to City's water regulations.

Finalization of 2009 Committees – The signup sheet was circulated for members who had not signed up yet. Frank Proto urged members to finish this up so a committee list can be formed.

Committee Reports – Aquifer: Todd Miller stated this committee needs a new chair, as he is unable to do it this year. Frank Proto said PDEQ considered a resolution for an aquifer study for the Owasco Inlet, but did not act on it as the funding split was not clear. Cayuga Lake Recreation: Dan Karig said the City and the Canal Corp. will finalize speed limit signs along the Cayuga Inlet. The tree planting project is proceeding with direct contact between Wegmans and City Forester Andy Hillman. The volunteer workforce is on standby. The launch site at the Farmers Market is now being examined for liability concerns. Rick Manning is organizing an Inlet cleanup for 3/28. Rick Manning will be making a presentation on 3/10 to the City Parks Department about Stewart Park. Nominating/Membership: Appointment of Gregg McConnell to the WRC Agriculture seat passed at PDEQ and will proceed to the County Legislature. The appointment was discussed at Ag & Farmland Protection Board, where they were supportive. WRC/CU Monitoring Plan: Roxy Johnston said they are preparing a grant application, which will build around the dredging project the City has planned for the drinking water reservoir. This ties in with better sediment control for the southern end of the lake. Water Quality: Goals of this committee will be reassigned to other committees. The WQS Update Committee recommends creation of ad hoc committees for projects that do not fit into other committees. WQS Update: Goals from the draft update were organized by committee assignments, and the document was handed out. Comments should be directed to Joan Jurkovich. Finalizing the WQS will be on the agenda next month. Wetlands: Darby Kiley is the new chair.

Chair Report – Copies of the 2008 WRC Annual Report were distributed. Roxy Johnston will present it to PDEQ. Frank Proto reported the County Legislature liaison to WRC has not been established yet.

Announcements/Other Business – Darby Kiley reported the Town of Ithaca is updating their comprehensive plan. Input is welcome from individuals and/or WRC. Schedule is open-ended right now. Darby suggested

having Sue Ritter visit WRC again for an update on the stream setback law. There was discussion about setting up an ad hoc gas drilling committee. Liz Cameron will chair. Steve Penningroth will send email link for Penn State recommended parameters for testing of drinking water sources prior to lease signing. Frank said he has checked around for costs, and basic testing is \$300, higher level testing that includes sulphur and chlorine is \$500. Todd Miller said the concern being voiced by USGS staff is treatment of the brine that returns to the surface. They consider it a bigger threat than the treated water that is injected and remains underground. Todd suggested having Bill Kappel visit WRC. Craig Schutt reported that Soil & Water Conservation District is moving this week to 1771 Hanshaw Road. Phone and fax remain the same.

Adjournment -- The meeting was adjourned at 5:55 PM.

Respectfully submitted,
Kathy Wilsea, Planning Department Secretary
Adopted by the Council on March 16, 2009.