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Executive Summary

These comments are directed at phosphorus loading estimates in the draft TMDL. They compare the TMDL with dissolved and particulate phosphorus loading estimates from three other, independent sources, and they comment on the significance of differences so large that the TMDL qualifies as a statistical outlier compared to the other three sets of phosphorus loading estimates. Analyses indicate:

1. The Draft TMDL estimate for total phosphorus (TP) loading from non-point sources, 207 short tons/year, is approximately twice as large as the consensus estimate from three independent sources, 115 short tons/year. (Note: Units of "short tons" are used in these comments to avoid confusion with metric tons. One short ton equals 2,000 lbs, which are the units used by the Draft TMDL.)
2. The Draft TMDL estimate for soluble reactive (dissolved) phosphorus (SRP) loading from non-point sources, 17 short tons/year, is almost four times lower than the consensus estimate from three independent sources, 62 short tons/year.
3. The Draft TMDL estimates for total and dissolved phosphorus loading are inconsistent with certified laboratory measurements of TP and SRP at the mouths of a dozen Cayuga Lake tributary streams north of the impaired southern end segment.
4. The very large inconsistencies between the Draft TMDL and three independent estimates of dissolved and particulate phosphorus loading as well as Draft TMDL inconsistencies with multi-year measurements of TP and SRP concentrations in Cayuga Lake tributary streams put TMDL implementation at risk by undermining stakeholder confidence in the types and magnitude of phosphorus reductions they, particularly agricultural stakeholders, are expected to achieve.
5. The SWAT model that was used as the basis for estimating phosphorus loading from the 792 square mile Cayuga Lake watershed was validated using phosphorus