

Appendix F
Wastewater & Wastewater Treatment Facilities

Wastewater and Wastewater Treatment Plants

Introduction

NYSDEC requires that every point source discharger obtain a State Pollution Discharge Elimination System (SPDES) permit in order to legally discharge sanitary, industrial, or commercial wastewater. The permit is a comprehensive legal document, and all of its provisions and conditions are enforceable under the law. Under SPDES, NYSDEC reviews permit applications to develop the limits for types and quantities of pollutants in the effluent. The permit also includes the schedules and conditions under which discharges are allowed. Owners or operators of facilities must treat wastewater in order to meet the limits listed in their SPDES permit. In the case of municipal facilities, permits also require industries discharging into the municipal collection system to pre-treat their wastes. Compliance and self-monitoring reports are a major part of this program. Permits are reviewed and reissued every five years.

Goals: Continue to lower point source pollution through upgrades and improvements in size of sewer districts and processes at wastewater treatment facilities.

Existing Measures:

There are nine regulated municipal wastewater discharges to Cayuga Lake and its tributaries with a combined design flow slightly over 15 million gallons per day. These include the following:

- Ithaca Area Wastewater Treatment Plant
- Cayuga Heights Wastewater Treatment Plant
- Village of Union Springs
- Village of Aurora
- Village of Trumansburg
- Village of Dryden
- Village of Freeville
- Village of Interlaken
- Town of Newfield

Future Strategy

The communities of Ithaca, Dryden, Cayuga Heights and Lansing have recently submitted an application to NYSDEC for funding assistance with upgrades and expansion of their municipal wastewater treatment systems. The funding program is the state's Clean Water Clean Air Bond Act. The intermunicipal proposal of August 1999 includes expansion of the service area into Lansing, with wastewater flows from the new service area directed to the Cayuga Heights Plant. Excess flows from Cayuga Heights would be directed to the Ithaca Area Wastewater Treatment Plant, which serves the City and Town of Ithaca and the Town of Dryden. The flow capacity of this plant would be increased from 10 to 13 mgd.

One element of the proposal is to increase the phosphorus removal capacities of both the Ithaca Area and Cayuga Heights treatment plants by adding filtration to the treatment process. Both plants currently hold a TP limit of 1.0 mg/l in their SPDES permit, consistent with the requirements of the International Joint Commission for wastewater treatment plants within the Great Lakes basin with a capacity greater than 1 mgd. Performance of the Ithaca Area Wastewater Treatment Plant is well below the 1 mg/l TP limit; average effluent concentrations are in the range of 0.5 – 0.6 mg/l. The Cayuga Heights plant has historically operated close to its permit limit of 1 mg/l for TP although improvements have been made in recent months (Nick Hatala, Stearns & Wheler personal communication September 1999).

NYSDEC policy for new discharges to lakes can require an effluent limit of 0.5 mg/l for TP, recognizing the central role of phosphorus in eutrophication of inland lakes. When existing plants request an increase in permitted flow, it is NYSDEC policy to hold the discharge to the existing mass limit for TP, thus reducing allowable concentration proportional to the flow increase.

With filtration, both Cayuga Heights and the Ithaca Area wastewater treatment plants will be able to meet or exceed a TP limit of 0.5 mg/l. Effluent concentrations from filtration can be 0.2 mg/l or less, depending on the amount of chemical addition and flow rates through the filters.

Summary of Regulated Municipal Wastewater Discharges to Cayuga Lake and its Tributaries				
Facility		Type	Discharge Segment	Permitted Flow (mgd)
Ithaca Area Wastewater Treatment Plant	Serving Ithaca, Cayuga Heights and portions of the Towns of Dryden and Lansing	Municipal wastewater	Class A segment, Cayuga Lake	10 *
Cayuga Heights Wastewater Treatment Plant		Municipal wastewater	Class A segment, Cayuga Lake	2
Village of Union Springs		Municipal wastewater	Class A(T) segment, Cayuga Lake	0.33
Village of Aurora		Municipal wastewater	Paines Creek at confluence with Lake, Class D	0.3
Village of Trumansburg		Municipal wastewater	Trumansburg Creek, Class D	0.25
Village of Dryden and Village of Freeville		Municipal wastewater	Fall Creek, Class B	0.27 (Dryden) 0.125 (Freeville)
Village of Interlaken		Municipal wastewater	Minors Creek, Class D	0.1
Town of Newfield		Municipal wastewater	Groundwater (Class GA)	0.03