

REQUIREMENTS FOR ACID LOAD REDUCTIONS IN STUDY AREA STREAMS UNDER VARYING FLOW CONDITIONS IN THE TIOGA RIVER

Through its survey, the Corps found that near the proposed Tioga-Hammond Lake the Tioga River is normally alkaline during high flows but is acid during low flows. The Corps also correlated the acid load originating from AMD discharges in the Study Area streams with the alkaline load contributed by other watershed streams upstream from the proposed Tioga-Hammond Lake under varying stream flow conditions. Through this correlation, the acid load reductions needed in the Study Area under varying stream flow conditions to provide alkaline water in the Tioga Lake were established. The Department of Environmental Resources then stipulated that these reductions must be attained by the abatement plan recommended. The required acid load reductions are shown in Table 1.

TABLE 1
ACID INFLOW AND REDUCTIONS REQUIRED
FOR VARYING FLOW CONDITIONS OF THE TIOGA RIVER

<u>Flow Condition At Tioga Gauge</u>	<u>Percent Of Time Exceeded</u>	<u>Lbs./Day</u>	<u>cfs</u>	<u>Lbs./Day</u>	<u>Lbs./Day</u>	<u>Lbs./Day</u>	<u>Lbs./Day</u>
		<u>Estimated Alkalinity Input From Alkaline Tributaries</u>	<u>Estimated Input From Study Area (1)</u>	<u>Estimated Acid Input Reduction Required</u>	<u>Estimated Acid Input Reduction After</u>		
8.8	99	4,500	2.95	16,600	13,900	2,700	
18.5	95	7,200	4.57	20,400	16,600	3,800	
100.0	58	20,500	10.05	34,800	20,800	14,000	
333.0	26	52,500	23.30	45,600	28,600	17,000	
800.0	10	93,700	45.50	55,700	28,600	27,100	
2000.0	3	184,000	64.70	84,800	28,600	56,200	

(1) Watersheds of Morris Run, Coal Creek, and
Bear Creek - Tioga County, Pennsylvania.