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Instream Flow Studies and Watershed Management Plan for the Souhegan River

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A goal of the Souhegan River instream flow assessment and Water Management Plan is the determination of Protected Instream Flow (PISF) values for designated reaches. PISF values must be established that protect legislatively mandated Instream Public Uses, Outstanding Characteristics, and Resources entities, which may constrain water use by Affected Water Users in the Souhegan River basin. Consideration of PISF levels in relation to current and projected water use patterns in the basin will be an integral component of the Water Management Plan. Under leadership of the University of New Hampshire (UNH) and in collaboration with Normandeau Associates Inc. the Northeast Instream Habitat Program at University of Massachusetts, Amherst, is mapping the Souhegan River for specific fish habitats to develop a water management plan. Besides habitat mapping study includes scuba diving in impoundments, monitoring for mussels, dragonfly nymphs and fish and computation of physical habitat model. The influence of water levels in riparian and emergent wetlands on aquatic habitat and endangered species are modeled by scientists from Normandeau Associates. The hydrological analysis, including concurrent flow measurements, simulation of pre-colonial time series and ground water monitoring are conducted by UNH hydrologists. The collected data and models will support multi-criteria decision analysis, which is a foundation for Water Management Plan for Souhegan River. There are many groups of stakeholders involved in development of the Plan and the study team coordinates with involved parties and the State. The pilot program of the State of New Hampshire for the determination of instream flows for designated river segments is the culmination of years of discussions on the need for, geographic scope of and method of instream flow regulation statewide. The pilot program will evaluate both the scientific methodology for establishing an instream flow as well as the institutional framework developed to provide technical oversight and to solicit input from all stakeholders. The Souhegan River that was affected by humans in many ways from recreation to water withdrawals as well as water returns from a wastewater treatment plant is the first project area within this program.