Recovery planning for species at risk in the Sydenham River, Ontario – a watershed-based ecosystem approach

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The Sydenham River in southwestern Ontario supports an astonishing diversity of aquatic species. This watershed is located in the species-rich Carolinian Zone and supports the greatest diversity of freshwater mussels in all of Canada. At least 34 species of mussels and 80 species of fish have been found there. Many of these fishes and mussels are rare, and 14 species in the Sydenham River (five mussels, eight fishes and one turtle) have been listed nationally by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Some of these species, such as the rayed bean (*Villosa fabalis*), are found nowhere else in Canada and remain at only a few locations across North America. The Sydenham River watershed is of global importance to the conservation of these species. In 1999, the Sydenham River Recovery Team was formed to develop a strategy to help recover aquatic species at risk in the Sydenham River. The Recovery Team adopted an ecosystem approach, which addresses all of these species in a single strategy for the watershed. Information on the species at risk, water quality, land use and fluvial geomorphology were synthesized to gain an understanding of the overall health of the river and its major anthropogenic stresses. The distributions of many of the species at risk overlap and most are threatened by the same factors. The main threats to fishes and mussels are heavy loadings of sediment, nutrients, and possibly pesticides to the river via tile drainage and overland runoff from agricultural lands. A strategy that incorporates four overall approaches (management, stewardship, research and monitoring, and awareness and outreach) was developed to recover and protect this globally significant freshwater ecosystem. Stakeholders and landowners were involved early in the process, and are now involved with implementation of the recovery strategy.