

12.0 Tracking Effectiveness

The overall success of a watershed management plan depends upon the implementation of the action register. In order to track effectiveness all of the goals are designed for short term 0-5 yrs and long term 5+ yrs. Regular water quality monitoring, social indicator surveys, and tracking of administrative successes associated with the action register is necessary to help realize actual water quality targets.

12.1 Indicator Tracking

Water quality, social, and administrative indicators need to be tracked over time to evaluate the effectiveness of implementation efforts. The following is for the steering committee and watershed coordinator to complete as they work towards each goal.

12.1.1 Water Quality Indicators

Water quality indicators will be water chemistry, macro invertebrates, fish species, and habitat indexes. As part of our effort to show a measureable change in water quality, water quality indicator monitoring will occur within the Carpenter and Curtis Creek HUC 10 watersheds, according to the current water testing protocol. Depending on funding, more water testing sites may be added to better track changes from implementation across the wider watershed.

In addition to continuing the citizen macro and habitat assessment at water testing sites within the two critical HUC 10s. An outside consultant will be used to conduct a bio-assessment (fish, macro invertebrate, and habitat) across the HUC 10 critical areas. One survey will be done pre-implementation and another at the end of year 4 of implementation. Water quality indicators will be used to identify the following:

- Statistically significant changes in water chemistry at pre-implementation phase and at the end of year 4
- Changes in fish, macro invertebrate and habitat index scores from pre to post implementation survey.

Water quality work group should meet biannually to consider the following questions:

- Have implemented best management practices been effective in improving water quality?
- Should a different suite of best management practices be used?
- Have water quality goals been achieved?
- Have water quality goals changed?

Water quality indicators will be tracked using a water quality database based in excel. This database will contain 3 years of data collected during the planning phase of this project. Data will be updated quarterly and reported to water quality work group. The cost of water chemistry testing in-house will be \$8,500 per year, at 4 years = \$34,000. The bio assessment will be 15- 16 sites and include fish, marco invertebrates, and habitat assessment in year 1 of implementation and year 5 of implementation to track improvements. Each site costs \$1,000, so year one = \$16,000 and year 5 = \$16,000 for a total of \$32,000 for two rounds of testing.

12.1.2 Social Indicators

Social indicators provide information about stakeholder awareness, attitudes, and willingness to change behavior that will directly affect water quality. Social indicators will be used as follows:

- Track change in knowledge about the Iroquois River and its' tributaries.
- Track changes in attitudes towards actions and willingness to implement BMPs or lifestyle changes that would improve water quality in the watershed
- Track participation in education and outreach activities
- Participation in cost-share programs

Social indicator data will be tracked via a post-implementation survey at the end of year 4 of implementation in the Carpenter and Curtis Creek Watersheds.

Comparison of this data will be made to the pre-planning survey that was done in the same watersheds. Survey will cost \$20,000.

The education and outreach work group will meet biannually to consider the following questions:

- Attendance and data on outreach events?
- Are watershed stakeholders more informed about water quality concerns and watershed issues?
- Have methods for distributing information to stakeholders been effective?
- Have the desired uses of the Iroquois River and its tributaries changed?

12.1.3 Administrative Indicators

Administrative indicators capture the information that water quality and social indicators do not. We will track program participation, action register items completed, and goals attained. Administrative indicators will be used to track the following:

- Attendance at workshops and field days.
- Conservation practice installation including anticipated load reduction, size, and timing.
- Photos of installed practices.
- Media hits (newspaper stories, youtube video subscribers, radio stories, website hits).
- Number of educational materials distributed.
- WMP updates and revisions
- Number of goals met

13.0 Future WMP Activity

The steering committee will continue to meet on a quarterly basis for the purpose of plan implementation. Annually, this committee will review findings of the Education and Outreach, Water Quality, Outdoor Recreation, and Agricultural work groups. The steering committee will review project efforts according to the management plan's goals, objectives, and strategies no less than every 5 years. Revisions and updates to the watershed management plan will occur at the end of year four of implementation and be the responsibility of the steering committee and watershed coordinator. The criteria for revision will be accomplishment of more than 50% of water quality goals.

The Jasper County Soil and Water Conservation District will be responsible for the holding and final revising of the watershed management plan. For questions regarding this watershed management plan please contact the Jasper SWCD at 219-866-8008 ext. 3. www.iroquoiswatershed.org