Making the connection:

STREAM RESTORATION AND WATERSHED PLANNING

Why should you take a watershed-scale approach to stream restoration?

STREAM RESTORATIONS can be a complicated, involved, and expensive process. Much of the current emphasis on Natural Channel Design and enhancements of in-stream habitat and acute erosion tends to be reach-scale. The benefits to these projects are typically short-term fixes in dynamic riverine systems; however, they can be greatly enhanced by taking a watershed approach and prioritizing them for water quality benefits.

Applied Ecological Services is the leader in watershed planning throughout the Midwest.

The US Environmental Protection Agency encourages the development of Clean Water Act Section 319 Nonpoint Source Management Program watershed plans that follow their 9-Element planning process in order to protect and restore watershed health.

The process is designed to:

- create collaboration among stakeholders,
- identify potential causes and sources of nonpoint source pollution,
- prioritize projects that can be implemented to protect and restore watershed health, and
- identify potential funding sources for those projects.

The holistic nature of the 9-Element planning process paves the way for future water quality improvements by prioritizing potential stream restoration projects.

Stakeholder engagement, data gathering and assessment.

THE COLLABORATIVE AND ITERATIVE PLANNING PROCESS is designed to create partnerships and collaboration across the watershed and educate stakeholders about water quality issues.

Some key steps along the way:

- A physical inventory of the watershed, including an assessment of the streams and tributaries, detention basins, agricultural land, and other potential project areas;
- Setting goals and objectives for the plan;
- Examination of land use and land cover; and
- Identification of a Green Infrastructure Network.

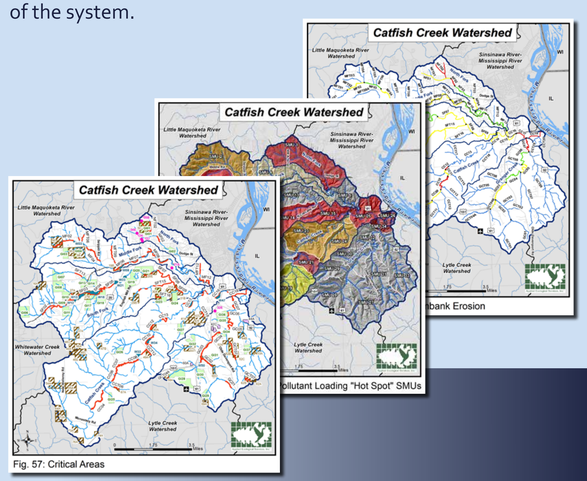
Pollutant loading estimates and identification of critical areas.

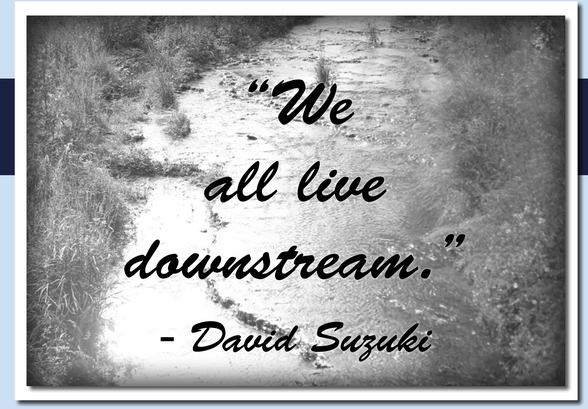
A POLLUTANT LOADING MODEL is used later in the process to estimate where pollutants are potentially stemming from, and critical areas in the watershed are identified.

By overlaying:

1. the problem areas identified in the inventory,
2. the results of the pollutant loading model, and
3. critical areas in the watershed

a watershed plan will then help prioritize the locations and types of stream restorations that would create the most benefit to the health of the system.





Project identification, prioritzation, and actionable plan for implementation.

THE PLANNING PROCESS then examines

1. Each potential stream restoration project to estimate the potential pollutant loading reduction to be gained;
2. A rough cost estimate, potential funding sources; and
3. Potential partners needed for successful implementation.

Once a prospective stream restoration is identified in a EPA-approved watershed plan, it is prioritized for funding opportunities, not just through 319 funding, but often through other federal and state programs.

9-Element Watershed Planning sets the regulatory stage for successful stream restoration projects and improving water quality holistically.

Applied Ecological Services, Inc.™
120 W Main Street
West Dundee, IL 60118
847.844.9385

APPLIED ECOLOGICAL SERVICES will:

- Assist clients in applying for watershed planning grants;
- Develop stakeholder committees dedicated to watershed protection; and
- Develop ecologically-based management plans that focus on improving water quality by:
  - restoring water quality,
  - protecting green infrastructure,
  - creating protection policies,
  - implementing ecological restoration, and
  - educating the public.

Once the plans are completed and approved AES will:

- help implement the plans,
- offer comprehensive design/build services on projects, and
- provide on-going stakeholder education critical to implementation of planned projects.

Applied Ecological Services has completed eight 9-Elements EPA-approved watershed plans across 3 states: