Wandering about Watershed Planning

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Elgin’s Green Expo: Watershed Wanderings
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Today’s talk...

- What is a watershed
- Why plan
- Watershed plan components
- Recently completed plans in Fox R. Basin
  - Silver & Sleepy Hollow Creeks Watershed
  - Ferson-Otter Creek Watershed
  - Blackberry Creek Watershed

Photo courtesy of Sue Waggoner
**Watershed** - An area of land that drains water into a common receiving body or outlet such as a stream; boundaries defined by the “lay of the land.”
What we do on the land...

Nonpoint Source (NPS) Pollution
And as watersheds become more urbanized, impervious cover increases, causing changes in surface water runoff.
Pathway of Runoff to Streams

Rainwater & snowmelt runs off impervious surfaces

Enters the storm drain system

Directed to streams
Impervious Cover Impacts Hydrology

More stormwater runoff & more frequent flooding

Increased flood peaks

Lower baseflow
Impervious Cover Impacts Stream Geomorphology

< 5%  
8-10%  
30-50%  
> 60%
Impervious Cover Influences Water Quality

- Sediment (TSS)
- Heavy metals
- Oil and grease
- Nutrients (phosphorus, nitrogen)
- Pesticides
- Chlorides (TDS)
- Bacteria
- Oxygen-demanding organic matter
Impervious Cover Impacts Habitat and Aquatic Life
Why Watershed Planning?

- Bring together stakeholders/community members to formulate a variety of approaches to address water resource protections
  - Planning, policy, program, and on-the-ground project recommendations
  - Grant funding opportunities
Healthy Environment

Healthy Communities

= Quality of Life
A Watershed Plan **DOES**...

- Focus on a waterway and its tributaries
- Involve stakeholders in a cooperative partnership
- Establish goals and management objectives
- Analyze watershed problems
- Provide recommendations to help with point and nonpoint source pollution issues
- Recommend voluntary methods to protect and enhance water quality
- Develop an action plan for restorative and preventative efforts
- Supports applications for grant funding and technical assistance
A Watershed Plan is **NOT**...

- a zoning map
- a land use map
- a means to designate land uses
- a comprehensive plan
- a required part of local comprehensive plans*
- a legally binding document
U.S. EPA’s 9 Minimum Elements of a Watershed-based Plan

- Identify causes & sources of pollution that need to be controlled
- NPS management measures to achieve load reductions
- Pollutant reduction targets expected from implementation of measures
- Criteria for achieving load reductions
- Interim, measurable milestones
- Implementation schedule
- Monitoring implementation effectiveness
- Information and education component
- Amount of tech/financial assistance needed and sources
Fox River Basin

- 3rd largest trib to Illinois R.
- 185 miles long from Waukesha, WI – Ottawa, IL; 115 river miles in Illinois
- 2,658 mi² watershed; 1,720 mi² in Illinois
- Illinois part of watershed has ~2,300 river & tributary stream miles & 406 lakes
- Parts of 11 Illinois counties, 11% of Illinois’ population
- Drinking water supply for >214,000 people
Silver & Sleepy Hollow Creek Watershed
Ferson-Otter Creek Watershed
Blackberry Creek Watershed
Blackberry Creek Watershed
Water Quality Conditions

- Full support for aquatic life designated use
- Nonsupport for primary contact (swimming)
  - Fecal coliform ("source unknown")
- Flooding
- Potential threats to groundwater
- Quality of Lower Fox River gives context for Blackberry Creek Watershed
Blackberry Creek Watershed Plan Goals

- Reduce fecal coliform contributions
- Reduce nutrient and other emerging pollutant loadings
- Minimize sedimentation, siltation, and streambank & streambed erosion
- Reduce risk of flooding through initiatives to improve water quality
- Protect groundwater resources
- Promote awareness of watershed resources and threats
Silver & Sleepy Hollow Creek Watershed Plan Goals

- Maintain/achieve healthy surface waters
- Protect groundwater quality
- Protect groundwater quantity
- Protect and restore natural areas and increase native species diversity
- Increase public awareness, knowledge, and implementation of watershed protection practices
- Establish an ongoing community participation group to expand watershed planning and protection efforts and support project implementation
Context for Recommendations

Green Infrastructure Framework for Protecting Water Resources

- Planning, policy, programming
- On-the-ground BMP projects
- Education & outreach programs and activities
Final Watershed Action Plans

Ferson-Otter Creek Watershed Plan

December 2011

Silver Creek and Sleepy Hollow Creek Watershed Action Plan

December 2011

Blackberry Creek Watershed Action Plan

December 2011

http://www.cmap.illinois.gov/watershed-planning
Actions Recommended

- Numerous policy & planning recommendations
- 55 “short-term” BMP projects
- >160 “long-term” BMP projects and programs
Short-term BMP Project Pollutant Load Reduction & Cost Estimates

- Sediment & TSS: ~650 tons/yr
- Phosphorus: ~2,200 lbs.yr (1.1 tons/yr)
- Nitrogen: ~3,800 lbs/yr (1.9 tons/yr)
- Fecal coliform: billions/yr
- Projects’ value: > $11M
Future Activities & Next Steps

- Continuing Watershed Coalition/Partnership meetings
- Stream monitoring program with FRSG, ISWS, &/or WWTPs *(Fox R. Intensive Basin Survey this year)*
- Adoption of Resolutions of Support
- Funding Opportunities to implement BMPs
  - Illinois EPA: NPS Pollution Control Program *(Section 319) grants*
- Technical Assistance Opportunities to implement planning, policy, programming recommendations
  - CMAP: Local Technical Assistance Program
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Fox River Ecosystem Partnership
http://www.foxriverecosystem.org