



Swan Creek Watershed Management System

**A spatial decision support system
promoting ecologically sensitive management
of water quality and water quantity
in the Swan Creek Watershed of NW Ohio
(part of the Maumee River Basin)**

**Based on the Burns Ditch / Trail Creek System for
Northern Indiana**



Swan Creek Watershed Management System

Key functions:

- **Agricultural environmental analysis**
 - Identifying areas at high-risk for erosion and sediment loading to streams
 - Prioritizing conservation efforts
 - Evaluating field-level BMPs
 - Impacts of land cover change



Swan Creek Watershed Management System

Key functions:

- **Urban environmental analysis**
 - Estimating surface run-off
 - Estimating pollutant loading
 - Evaluating Low-impact Development (LID) practices
 - Impacts of land cover change




The System Interface

Several ways to access the system's tools.

Home	SYSTEM ENTRY			Help	Contacts
	Specify a Scale	Address a Particular Problem	Evaluate a BMP		

The Swan Creek Watershed Management System provides tools to perform environmental analyses within the Swan Creek basin. Tools are available to evaluate land cover change scenarios, estimate nutrient runoff, prioritize sub-basins by erosion and sediment loading, evaluate BMP cost benefits, explore low impact development (LID) options, and map-browsing. Use the menu above to access the system and learn about the tools.



The Swan Creek Watershed



The System Interface

Specifying a scale for an analysis.

SYSTEM ENTRY						
Home	Specify a Scale	Address a Particular Problem	Evaluate a BMP	Pick a Tool	Help	Contacts
<p>At what scale do you want to perform your analysis?</p> <ul style="list-style-type: none">• The entire Swan Creek basin• A sub-basin of Swan Creek <p>Are you interested in performing an urban or agricultural analysis?</p> <ul style="list-style-type: none">▪ Urban▪ Agricultural<ul style="list-style-type: none">- Prioritize sub-basins by sediment loading, erosion, BMP cost benefits (tool: HIT ?)- Identify areas at high-risk for erosion and sediment loading within a sub-basin (tool: Digital Watershed ?) <p><input type="radio"/> 10-digit HUCs</p> <p><input checked="" type="radio"/> 12 digit HUCs</p> <div style="border: 1px solid gray; padding: 2px;"><ul style="list-style-type: none">Al CreekFewless CreekGale Run - Swan CreekHeilman Ditch - Swan CreekLower Blue CreekUpper Blue CreekWolf Creek</div> <ul style="list-style-type: none">• A specific address/location						



The System Interface

Directly
accessing the
system's tools.

Home	SYSTEM ENTRY			Help	Contacts
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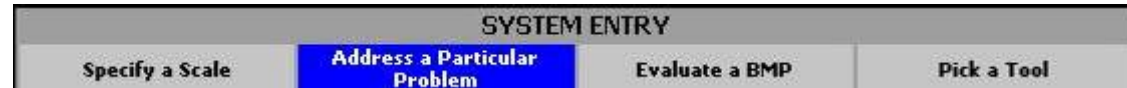
The tools of the Swan Creek Watershed Management System.

- [Digital Watershed](#): Digital Watershed is an on-line watershed mapping application. Users can view basemap and environmental data at watershed scales and run watershed-based models through interoperable connections to other tools such as L-THIA, ATtLA, and REVA.
- [HIT](#): HIT (High Impact Targeting) allows users to prioritize watersheds and sub-watersheds by erosion and/or sediment loading. Users can perform cost-benefit analyses of BMP impacts on erosion and sediment loading. Additionally, HIT can connect users to Digital Watershed identify specific locations within fields that are at high risk for erosion/sedimentation.
- [L-THIA](#): L-THIA (Long-Term Hydrologic Impact Assessment) is an analysis tool that provides site-specific estimates of changes in runoff, recharge and nonpoint source pollution resulting from past or proposed land use changes.
- [L-THIA/LID](#): L-THIA/LID (Low Impact Development) is an easy to use screening tool that evaluates the benefits of LID practices. L-THIA/LID will generate estimated runoff volumes, depths, and expected nonpoint source pollution loadings to waterbodies, based on the information provided by the user. Results can be displayed in tables, bar graphs, and pie charts.
- [Swan Creek BMP Evaluator](#): The Swan Creek BMP Evaluator allows users to digitize BMP locations, and evaluate the impact of that BMP on runoff and nutrient loading.



The System Interface

Incorporating demo feedback to include additional access paths.



What are those problems (terms)?

- "Erosion" or "Site-suitability" ?
- "Run-off volume" or "Pollutant Loading"



Which BMPs?

- No-till, filter strips?
- LID, wetlands?



User Meetings / Rollout

August 18th, 2008 Demo:

- TMACOG (Toledo Metropolitan Area Council of Governments)
- Lucas County Conservation District

October 8th, 2008 Demo:

- live webcast
- SWAG (TMACOG's Stormwater Action Group)

November 20th, 2008 Talk:

- Ohio EPA Swan Creek TMDL Public Report
- Potential users from many disciplines





Swan Creek Watershed Management System

Please visit the system:

<http://www.iwr.msu.edu/swancreek>

Send feedback to:

oneilg@msu.edu

Questions?

