

Impact Targeting: Applying Conservation Tools for Maximum Results



National Association of
State Conservation Agencies
Annual Meeting
September 2008

Collaborative Effort

- ρ Michigan Department of Agriculture
- ρ Michigan State University
- ρ Michigan Conservation Districts (Clinton, Huron, and Lenawee Counties)
- ρ Others such as local drain commissioners, MI Dept. of Environmental Quality, MSU Extension

Conservation Innovation Grant

- ⌘ Competitive grant funded by USDA NRCS, 3-year project

- ⌘ Goals:
 - ⌘ Develop online GIS/modeling tool to identify areas at risk for erosion & sedimentation.
 - ⌘ Solicit feedback from CD Technicians and other potential users to develop & refine tool.
 - ⌘ Promote use of the tool to potential users.
 - ⌘ Increase resource efficiency.
 - ⌘ Increase participation in conservation programs.

Michigan Dept. of Agriculture

- ρ Oversight of entire project
- ρ Facilitating relationship between MSU and Conservation Districts
- ρ Directing outreach efforts
- ρ Finding opportunities resulting from the project (i.e. incorporating H.I.T. Tool results into grant evaluations)

MSU Institute of Water Research

- ρ Developed project proposal
- ρ Developing of H.I.T. Tool
- ρ Working with Conservation District Technicians to develop & refine H.I.T. Tool and to conduct field evaluations

Conservation Districts

- ρ Conservation District Technicians (1/2 FTE) hired in 3 different 8-digit watersheds
- ρ CD Technicians have helped guide the development of the H.I.T. Tool
- ρ CD Technicians will now focus on outreach efforts to promote use of the H.I.T. Tool and participation in conservation programs

Impact Targeting

- ρ Using technology to help prioritize conservation work
- ρ Efforts to increase time & resource efficiencies when resources are limited
- ρ Empower others to get involved with conservation efforts (i.e. watershed groups, drain commissioners, etc.)

H.I.T. Tool

- ρ Model combines results from SEDMOD¹ & RUSLE² to determine sediment yield
- ρ Results can be displayed in spatial, tabular, or graphic format
- ρ Available online
- ρ Ability to evaluate impact of BMPs

1. Fraser. May 1999

2. Renard, Foster, Weesies, McCool, Yoder. 1996.

HIT Tool

www.iwr.msu.edu/hit

H.I.T.
High Impact Targeting
for Managing Sediment Loading

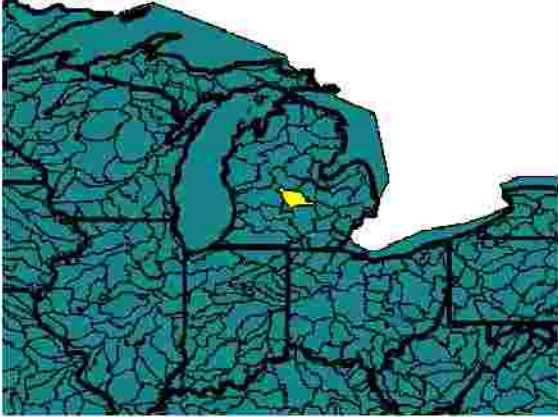
NRCS Natural Resources
Conservation Service
Department of
Agriculture

H.I.T. allows users to select a particular watershed, and view sediment data in spatial, tabular, or graph formats.


[Learn more about H.I.T. and the methodology behind it.](#)


To begin, select an 8 Digit Watershed where H.I.T. has been implemented.

Watershed:



8 digit Watersheds in the Great Lakes Region.

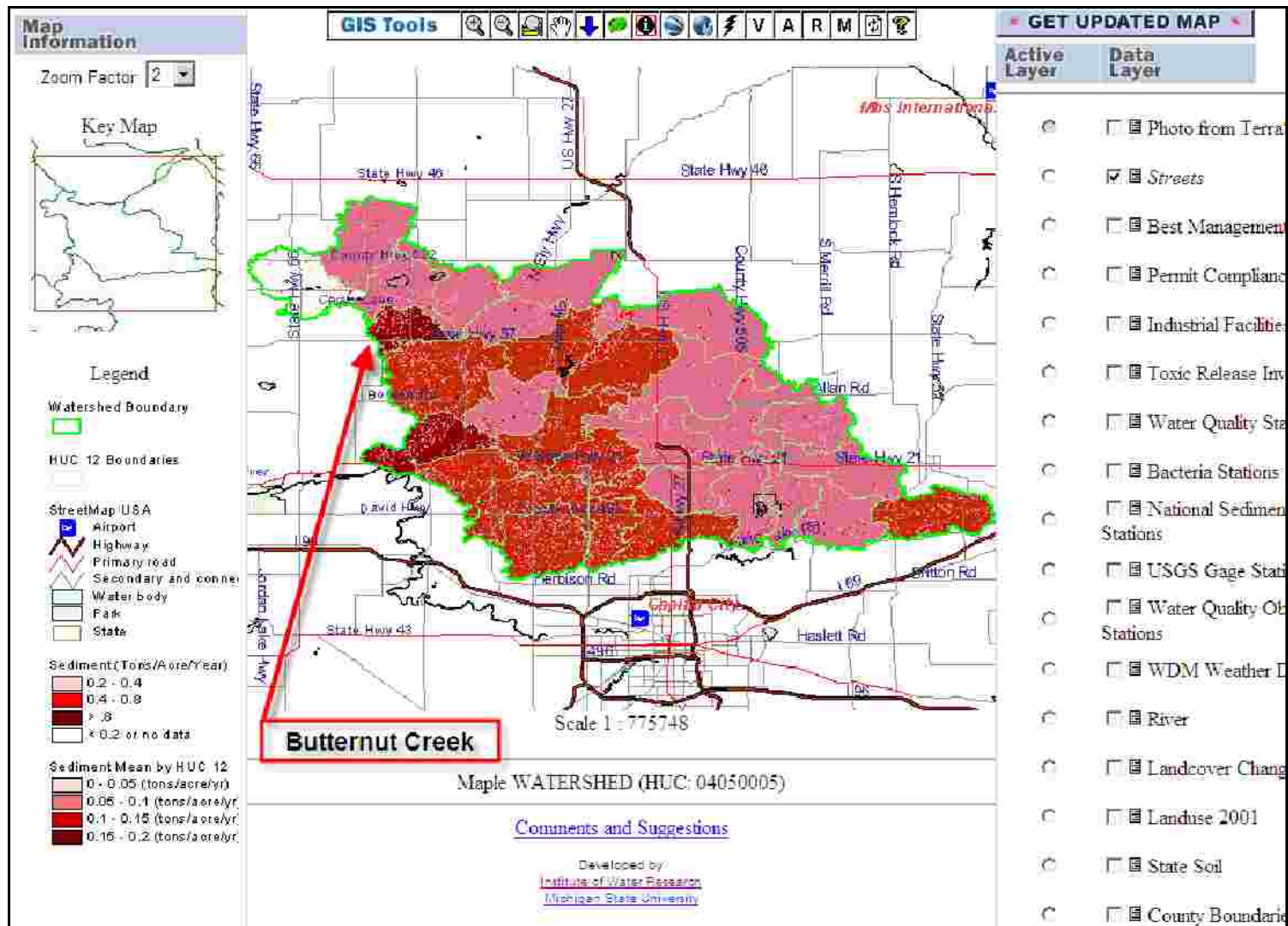
 **US Army Corps of Engineers**



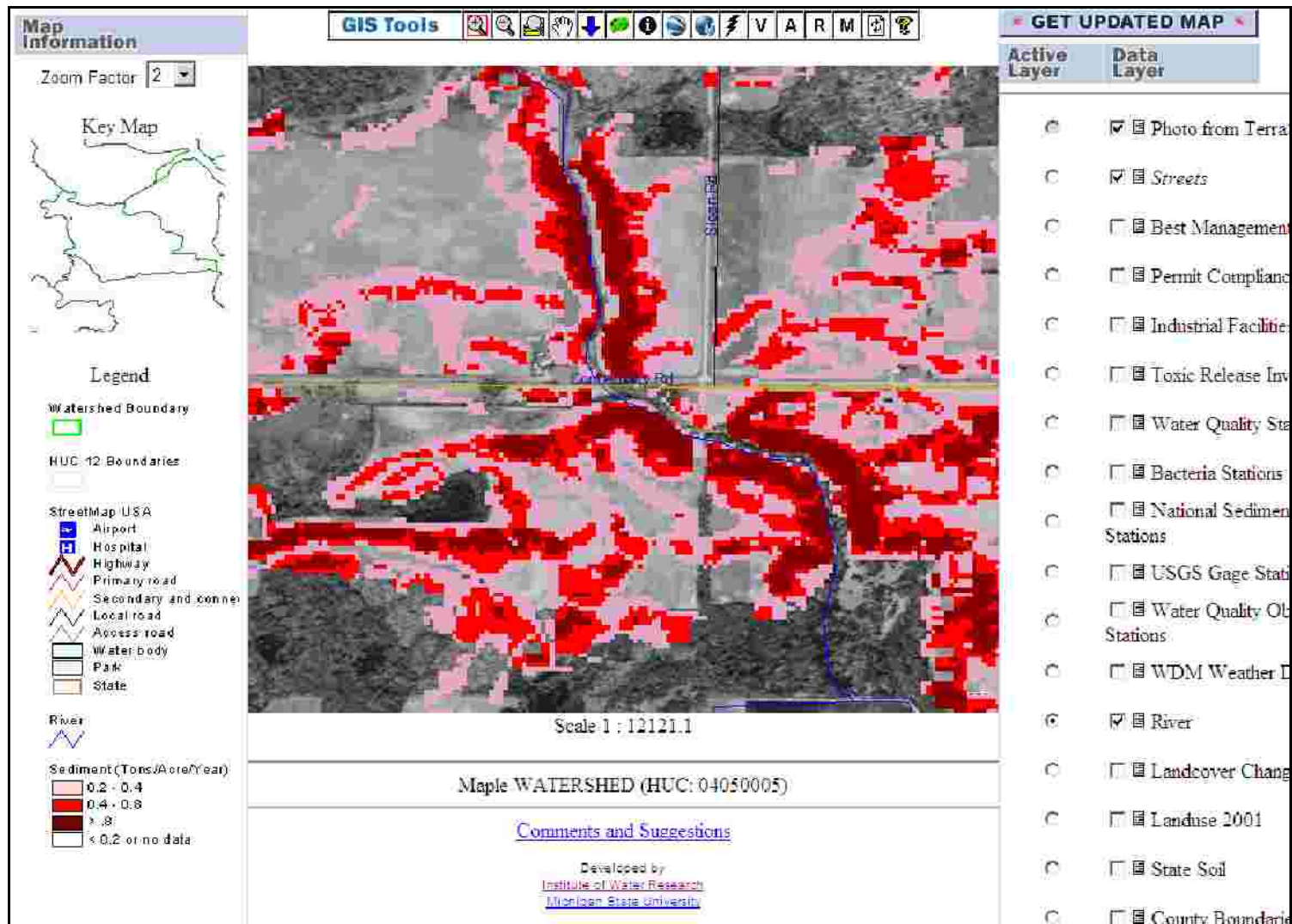
MICHIGAN STATE UNIVERSITY

Institute of Water Research, All rights reserved 2005

Large-scale use of HIT Tool



Small-scale use of HIT Tool



BMP Evaluation using HIT Tool

Totals for the entire Maple Watershed

State:
System:
HUC:
Acres:

MI
Grand River Basin
04050005
605,301

Total Erosion 350,474 tons
Total Sediment 59,066 tons

Click on a column title to sort ascending.

Name	HUC	Acres	Total (tons/yr)	BMP: Mulch Till on Worst 10% of Area				BMP: No Till on Worst 10% of Area				BMP: Grass on Worst 10% of Area				
				Total Reduction (tons/yr)	Reduction %	BMP Cost at \$10 per acre	BMP Cost Benefit (\$/ton reduced)	Total Reduction (tons/yr)	Reduction %	BMP Cost at \$14 per acre	BMP Cost Benefit (\$/ton reduced)	Total Reduction (tons/yr)	Reduction %	BMP Cost at \$44 per acre	BMP Cost Benefit (\$/ton reduced)	
Sediment	Maple	04050005	605,301	59,066	4,189	7%	\$605,301	\$144	15,902	27%	\$847,422	\$53	21,862	37%	\$2,663,325	\$122
TABLE TOTALS			605,301	59,066	4,189	7	\$605,301	\$144	15,902	27	\$847,422	\$53	21,862	37	\$2,663,325	\$122
Specify new values to recalculate BMP cost:				\$	10			\$	14			\$	44			
<input type="button" value="Recalculate BMP Cost"/>																

[Return to the design page.](#)

[Return to the main page.](#)

Challenges & Barriers

- ρ More accurate data (DEMs) needed for more accurate modeling not available for Michigan, creating major delays.
- ρ Conflicting ideas of who will use H.I.T. Tool most (target audience) and how.
- ρ H.I.T. Tool not yet incorporated into existing tools; one tool among many.

Results to Date

- ρ HIT Tool available online for all 3 project watersheds w/ spatial data at 10m resolution.
- ρ Several project partners involved, HIT Tool use increasing as a result.
- ρ New and/or improved partnering.
- ρ Many “offspring's” from the project.

Future Plans & Expectations

- ρ CD Technicians will focus primarily on outreach efforts in FY09, promoting the use of the HIT Tool and participation in conservation programs.
- ρ CD Techs & their counterparts will continue to incorporate the HIT Tool into their conservation work.
- ρ Funding will be sought to expand project to more/all Michigan watersheds.

Lessons Learned

- ⌘ Involve partners earlier on in the project (before proposal is submitted).
- ⌘ Make sure project goals & benchmarks are clear so that project can be easily modified, if necessary, along the way.
- ⌘ Make sure all partners financially involved have a clear understanding of their fiscal responsibilities associated w/ the project.

Questions? Comments?

Thank you



Steve Shine, Conservation Programs Manager
Michigan Department of Agriculture
Environmental Stewardship Division
shines@michigan.gov
www.michigan.gov/mda