

APPENDIX 1

Acronyms

Project Task Summary

Project Timeline

This page intentionally blank

APA	American Planning Association
BAGI	Building Association of Greater Indianapolis
BMP	Best Management Practices
CBBEL	Christopher B. Burke Engineering, Ltd.
CFO	Confined Feeding Operation
CSO	Combined Sewer Overflow
CQHEI	Citizen's Qualitative Habitat Evaluation Index
DO	Dissolved Oxygen
EPA	Environmental Protection Agency
FCA	Fish Consumption Advisory
HBI	Hilsenhof Biological Index
HEL	Highly Erodible Land
HHRCD	Hoosier Heartland Resource, Conservation and Development
HOA	Homeowner's Association
HUC	Hydrologic Unit Code
IBI	Index of Biological Integrity
IDEM	Indiana Department of Environmental Management
ISDH	Indiana State Department of Health
IUPUI	Indiana University – Purdue University Indianapolis
KIB	Keep Indianapolis Beautiful
LFCWA	Lower Fall Creek Watershed Alliance
LID	Low Impact Development
LTCP	Long Term Control Plan
LTHIA	Long Term Hydrologic Impact Analysis
LUCI	Land Use Central Indiana
MCHD	Marion County Health Department
MCWEC	Marion County Wellfield Education Corporation
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NPS	Non Point Source
OISC	Office of the Indiana State Chemist
PCB	Polychlorinated biphenyls
QHEI	Qualitative Habitat Evaluation Index
SR CER	Stream Reach Characterization Evaluation Report
STEP	Septic Tank Elimination Program
STEP-L	Spreadsheet Tool for Estimating Pollutant Loads
SWCD	Soil and Water Conservation District
TMDL	Total Maximum Daily Loads
TQP	Technically Qualified Person
TSS	Total Suspended Solids
UWRWA	Upper White River Watershed Alliance
WFPA	Wellfield Protection Area
WMP	Watershed Management Plan
WQS	Water Quality Standard

TASKS AS DEFINED BY IDEM/SWCD/CBBEL CONTRACT

Total Timeline = 30 months (December 21, 2006 through May 21, 2009)

Task A: Develop a Watershed Management Plan

- Develop a WMP according to IDEM's FFY 2003 "Watershed Management Plan Checklist".
- Submit 2 hard copies and 1 electronic copy of WMP to IDEM.
- Make DRAFT and FINAL copy of WMP available to local libraries, local officials, and land use planners in watershed, and on the Plan distribution list.
- Submit electronic copy of the draft plan and checklist to State for review and comment every 6 months.
- Submit completed plan to State 2 months prior to contract end date.
- Construct a comprehensive GIS for watershed including land use, streams, 303(d) listed streams, and monitoring site location data.

Task B: Macro Invertebrate Sampling

- Conduct a sampling program to identify water quality problems
- Develop a Quality Assurance Project Plan (QAPP) for monitoring activities and submit to State for review 1 month before initiating monitoring activities.
- Collect and analyze macro invertebrates twice at 10 sites in unstudied or understudied subwatersheds.

Task C: Education and Outreach

- Conduct Steering Committee meetings of 11-15 local stakeholders on a quarterly basis.
- Establish 3 Working Committees to meet as needed of less than 20 experts each to discuss land use, education, and water quality.
- Conduct 2 Stakeholder Meetings
- Conduct 3 Workshops
- Develop 1 educational brochure
- Develop 3 newsletter articles focusing on issues specific to the project
- Update SWCD monthly

Task D: BMP Demonstration Project Report

- Prepare a report identifying potential demonstration projects for BMPs in targeted critical areas within the watershed.
- Provide pollutant load reduction estimates for BMPs implemented by the SWCD.

TIMELINE AS DEFINED BY IDEM/SWCD/CBBEL CONTRACT

Total Timeline = 30 months (December 21, 2006 through May 21, 2009)

First Quarter (Dec 2006, Jan, Feb 2007)	<i>Delayed start due to time needed to hire contractor and negotiate contract (contract signed May 8th)</i>
Second Quarter (Mar, Apr, May 2007)	<ul style="list-style-type: none"> • Begin analysis of existing watershed data • Conduct Steering Committee meeting #1 (5/31) • Develop GIS for watershed • Start drafting sections of the WMP
Third Quarter (Jun, Jul, Aug 2007)	<ul style="list-style-type: none"> • Continue developing GIS for watershed • Draft Newsletter #1 (7/20) • Conduct Public meeting #1 (7/24) • Distribute Brochure • Conduct Working Group meetings <ul style="list-style-type: none"> • Water Quality #1 (8/7) • Land Use/Economic Development #1 (8/14) • Education/Outreach #1 (8/16) • Conduct Steering Committee meeting #2 (8/22) • Continue drafting sections of the WMP • Submit DRAFT WMP & Checklist (1.0 Watershed Planning, 2.0 Watershed Overview) • Submit monthly reports to IDEM via SWCD
Fourth Quarter (Sep, Oct, Nov 2007)	<ul style="list-style-type: none"> • Continue developing GIS for watershed • Conduct Working Group meetings (as needed) <ul style="list-style-type: none"> • Water Quality #2 (11/13) • Land Use/Economic Development #2 (11/13) • Education/Outreach #2 (12/13) • Continue drafting sections of the WMP • Submit monthly reports to IDEM via SWCD
Fifth Quarter (Dec 2007, Jan, Feb 2008)	<ul style="list-style-type: none"> • Draft QAPP • Continue developing GIS for watershed • Conduct Working Group meetings <ul style="list-style-type: none"> • Water Quality (waiting on macro data) • Land Use/Economic Development #2 (2/12) • Education/Outreach #1 (2/28) • Conduct Steering Committee meeting #3 (2/12) <i>Topic: Land Use & Land Use Change</i> • Continue drafting sections of the WMP • Draft BMP Demonstration Project Report • Submit DRAFT WMP & Checklist (1.0 Watershed Planning; 2.0 Watershed Overview; 3.0 Water Quality Problems, Causes & Sources; 4.0 Identification of Critical Areas) (12/21) • Submit QAPP (draft 1/17; approved 3/17) • Submit monthly reports to IDEM via SWCD

Sixth Quarter (Mar, Apr, May 2008)	<ul style="list-style-type: none"> • Conduct macro invertebrate sampling #1 • Continue developing GIS for watershed • Conduct Working Group meetings (as needed) • Conduct Steering Committee meeting #4 (5/13) <i>Topic: Surface & Ground Water Quality</i> • Draft Newsletter #2 (3/30) • Continue drafting sections of the WMP • Submit BMP Demonstration Project Report • Submit DRAFT WMP & Checklist (1.0 Watershed Planning; 2.0 Watershed Overview; 3.0 Water Quality Problems, Causes & Sources; 4.0 Identification of Critical Areas; 5.0 Goals & Decisions) • Submit monthly reports to IDEM via SWCD
Seventh Quarter (Jun, Jul, Aug 2008)	<ul style="list-style-type: none"> • Finish developing GIS for watershed • Conduct Steering Committee meeting #5 (8/12) <i>Topic: Flooding & Flooding Impacts</i> • Conduct Workshop #1 (6/12 & 8/21) <i>Topic: Shoreline Stewards</i> • Finish drafting sections of the WMP • Submit monthly reports to IDEM via SWCD
Eight Quarter (Sep, Oct, Nov 2008)	<ul style="list-style-type: none"> • Conduct macro invertebrate sampling #2 • Incorporate comments on DRAFT WMP • Submit full DRAFT WMP to IDEM • Conduct Workshop #2 (11/12) <i>Topic: Backyard Conservation</i> • Submit monthly reports to IDEM via SWCD
Ninth Quarter (Dec 2008, Jan, Feb 2009)	<ul style="list-style-type: none"> • Draft Newsletter #3 • Distribute full DRAFT WMP to Public • Conduct Public Meeting #2 (1/15) <i>Topic: Present DRAFT WMP</i> • Conduct Workshop #3 (TBD) <i>Topic: Regulated Drains vs. Natural Waterways</i> • Conduct Steering Committee meeting #6 (1/29) <i>Topic: Project Wrap-up and Implementation</i> • Submit monthly reports to IDEM via SWCD
Tenth Quarter (Mar, Apr, May 2009)	<ul style="list-style-type: none"> • Calculate pollutant loads from BMPs implemented by SWCD • Submit Final WMP & Checklist to IDEM • Submit Final Project Report to IDEM • Submit monthly reports to IDEM via SWCD

APPENDIX 2

Meeting Agendas and Summaries

This page intentionally blank

Steering Committee Meetings Agendas and Summaries

This page intentionally blank



**Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING**

1:30 pm Thursday, May 31, 2007

held at
Christopher B. Burke Engineering, Ltd.
115 W. Washington St., Ste. 1368 Indianapolis

317-266-8000

AGENDA

1. Welcome and Introductions
2. Review Planning Grant Schedule and Requirements
3. Benefits of Watershed Planning
4. Overview of Lower Fall Creek Watershed
5. Desired Project Outcomes
6. Identify Key Stakeholders in Watershed
7. Next Steps
8. Closing and Adjournment

Directions: The Christopher B. Burke Engineering, Ltd. (CBBEL) office is located in Suite 1368 of the South Tower of the National City Center Building/Hyatt Hotel (115 West Washington Street) downtown Indianapolis. Parking is available in the Circle City Center Parking Garage (2 entrances – Maryland St. and Illinois St.), Plaza Park Garage (2 entrances – Maryland St. and Capitol Ave.) and metered street parking (if you're lucky). If you park in either of the garages, go to the 3rd parking level and enter the National City Center Building via the pedestrian bridge over Maryland St. Take the first set of elevators (once inside the National City Center) to the 13th floor. The entrance to Suite 1368 is visible once you leave the elevator. This reads much more daunting than it actually is. If additional help is needed call Burke Engineering at 317-266-8000.

This page intentionally blank



**Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING**

1:30 pm Thursday, May 31, 2007

held at

Christopher B. Burke Engineering, Ltd.
115 W. Washington St., Ste. 1368 Indianapolis

317-266-8000

MEETING SUMMARY

Steering Committee Members Present:

Chris Barnett, Near North Development Corporation
Crist Blassaras, Madison County SWCD
Victoria Cluck, Indianapolis DPW
Josh Goode, Watershed Resident
Tina Jones, Indy Parks
Lori Kaplan, City of Lawrence DPW
Ron Lauster, Marion County SWCD
Bob Masbaum, Indianapolis DPW
Donna Price, Indianapolis DMD
John South, Hamilton County SWCD

Others Present:

Paula Baldwin, Marion County SWCD
Bob Barr, IUPUI CEES
Lisa Bihl, Empower Results
Zach Bishton, CBBEL
Heather Buck, CBBEL
Jill Hoffman, UWRWA & Empower Results
Anna Jetmore-Vargas, Indy Parks
Sheila McKinley, CBBEL
Sky Shelle, IDEM
John Ulmer, Central Indiana Watersheds
Leanne Whitesell, IDEM

1. Welcome and Introductions

Paula Baldwin from the Marion County SWCD Board of Supervisors welcomed everyone to the meeting. Paula provided background on the form and function of SWCDs in Indiana and specifically Marion County. Paula provided an overview of the Districts desire to prepare a Watershed Management Plan (WMP) for the 4-county Lower Fall Creek Watershed and the IDEM 319 grant that is funding this planning effort. Everyone followed by introducing themselves, who they were representing, and their interest in the Lower Fall Creek Watershed.

2. Review Planning Grant Schedule and Requirements

Sheila McKinley from CBBEL and Project Manager for the Lower Fall Creek WMP reviewed the WMP Checklist and Tasks that must be completed in order to fulfill the IDEM WMP grant requirements. The Tasks include: A) Developing a WMP; B) Conduct Water Quality Monitoring; C) Develop an Education and Outreach Program; and D) Implement a BMP Demonstration Project. Sheila reviewed the 30-month project Timeline and noted that the start of the project was delayed from December 2006 to May 2007 due to the time it took the SWCD to hire and negotiate the subcontract with CBBEL. Fortunately IDEM has been flexible with the lack of progress made in the first and second quarter. However, Sheila added that CBBEL staff will work diligently to get the project on schedule as quickly as possible.

3. Benefits of Watershed Planning

Sheila McKinley from CBBEL presented watershed planning as a means to 1) maintain, protect, and restore natural resources; 2) support environmental protection, quality of life, and economic development; and 3) establish partnerships between government, businesses, and citizens with a common goal. Comprehensive watershed planning efforts can have significant environmental, community, financial, and administrative benefits. Sheila reminded the Steering Committee that the impacts of clean water are far reaching and necessary for drinking water, manufacturing processes, agriculture production, economic development, recreation and tourism, and quality of life and that is precisely why such a diverse group of local leaders and decision-makers has been asked to serve on the Lower Fall Creek WMP Steering Committee.

4. Overview of Lower Fall Creek Watershed

Zach Bishton from CBBEL presented an overview of the current land use and known water quality impairments in the Lower Fall Creek Watershed. More than 50% of the Lower Fall Creek Watershed is developed for residential, commercial, industrial, and institutional type uses. Zach noted that the majority of the developed portion of the Lower Fall Creek Watershed is in Marion and Hamilton Counties. Zach presented data from IDEM's 2002 Fall Creek TMDL Report, IDEM's Fixed Station Data along Fall Creek, the Marion County Health Department from Fall Creek, Indianapolis DPW Combined Sewer Overflow (CSO) Long Term Control Plan, and Indiana University's 2003 Study of Mud Creek/Sand Creek. All studies indicate elevated nutrient concentrations, elevated bacteria concentrations, and impaired biological communities. Zach added that the suspected sources listed in these reports include failing septic systems, illicit connections, wildlife, stormwater, CSOs, and land application of pesticides. Zach reminded the Steering Committee that this was just an initial overview of the known water quality impairments and that an important part of developing the WMP is to identify known and probable causes and sources of water quality impairments in the Lower Fall Creek Watershed.

Heather Buck from CBEL presented information on the ethnic, language, and economic diversity in the Lower Fall Creek. According to the US Census, the Hispanic population increased 300% in both Marion and Hamilton County between 1990 and 2000. During this same time, the Hispanic population decreased in Madison County. The African-American population is very small in Hancock, Madison, and Hamilton Counties but accounts for more than 20% of the population in Marion County. Similarly, languages other than English spoken at home were also greatest in Marion County. Median household income and owner occupied housing is considerably higher in Hamilton, Hancock, and Madison County than in Marion County. Heather reminded the Steering Committee that reaching the very diverse Stakeholders/Public in the Lower Fall Creek Watershed will require creative partnering with existing neighborhood associations, churches, and community-based organizations.

5. Desired Project Outcomes

Sheila McKinley opened the floor to the Steering Committee to 1) discuss what current programs, policies, and projects in Marion, Hamilton, Hancock, and Madison Counties would benefit the development of the Lower Fall Creek WMP and 2) to understand what each Steering Committee member would like to see come out of this planning effort.

Tina Jones with Indy Parks discussed the historic value of Fall Creek from Emerson Avenue to the White River, and that the promotion of the historic and cultural value of the watershed could go along way towards creating long-term public interest. Tina talked about the Indy Parks Land Stewardship program, public land holdings, and the greenway along Fall Creek. Tina discussed potential partnering opportunities associated with the annual Future Farmers of America (FFA) National Convention. The FFA convention has a National Service Day. She also suggested coordinating with FFA to conduct some restoration projects in the watershed as a part of their National Day of Service.

Bob Massbaum with Indianapolis DPW discussed the importance of working with the City in order to ensure that the watershed project is well coordinated with the City's CSO Long Term Control Plan implementation efforts. Bob stressed the importance that both groups understand how these two projects merge together.

Victoria Cluck with Indy DPW added that the City's CSO Long Term Control Plan is not limited in scope to CSO's and that it focuses on broader environmental efforts. She also mentioned that coordination with Keep Indianapolis Beautiful would be beneficial, and that illegal dumping issues are a problem in the watershed.

Lori Kaplan with Lawrence DPW discussed the new Fort Harrison Urban Village Development and suggested that there might be opportunities to incorporate some innovative stormwater BMPs into the project.

Donna Price with Indy DMD discussed her interest in developing incentive programs to encourage developers to implement innovative stormwater BMPs. Donna also discussed a need to heavily involve local schools and Girl Scout and Boy Scout troops. Donna suggested coordinating with these groups to conduct volunteer sampling and storm drain marking projects.

Crist Blassaras with the Madison County SWCD suggested promoting and soliciting participation in an Adopt-A-River program along Fall Creek. Crist also suggest coordinating with the Court system to utilize non-violent offenders for stream and open space clean-up efforts. Crist also suggested partnering with local Universities to conduct research studies in the watershed, as well as to promote local stewardship efforts.

Jill Hoffman with Empower Results discussed her organizations role with the Upper White River Watershed Alliance (UWRWA), and the UWRWA's support for the Lower Fall Creek Watershed project. Jill also discussed her hope that this project will result in tangible water quality improvement projects.

Chris Barnett with Near North Development Corporation discussed his hope that in the future Fall Creek and water quality will be viewed as valuable amenities to individual and businesses within the watershed. Chris also discussed that restoration and trail expansion projects would be of benefit both in terms of economic development and water quality. Chris is also the Vice Chair of the Marion County Wellfield Education Corporation (MCWEC), and mentioned that it will be important to understand the interplay between surface water and groundwater in the watershed.

Bob Barr with the Center for Earth and Environmental Science (CEES) at IUPUI said that they are very interested in this project and that the Fall Creek is very much in-line with the types of projects CEES has been involved with in the past. Bob said that naturalization projects along Fall Creek would be beneficial. Bob also stressed the fact that he would like to see this project go beyond the typical 319 project, and result in something that is tangible and around for the long-term.

John South with the Hamilton County SWCD mentioned that it would be good to have a representative from the Town of Fishers and the Hamilton County Surveyor's Office involved in the project. John also discussed the Hamilton County SWCD's Backyard Conservation Program, which is targeting landowners in the Fishers/Geist areas of Hamilton County.

6. Identify Key Stakeholders

Sheila McKinley from CBBEL noted that in order to be truly successful and develop a WMP that local community leaders, decision-makers, and the public will embrace and want to implement, there is a large number of people and organizations that need to be included in the development of the Lower Fall Creek WMP. Sheila suggested forming 3 Working Committees that focus specifically on 1) Education & Outreach, 2) Water Quality, and 3) Land Use & Economic Development. Participation in the Working Committees would be open to those with expertise and interest in one or more of the 3 topics. The intent would be to thoroughly discuss each topic, identify critical areas in the Lower Fall Creek Watershed, and recommend programs, policies, and projects to improve water quality.

Tina Jones from Indy Parks suggested focusing the Working Committees on the Urban, Suburban, and Rural land use and related issues. This idea generated much discussion among the Steering Committee members. Sheila offered to work with the SWCD and look into this idea further.

7. Next Steps

Ron Lauster from the Marion County SWCD commented that the planning process is just getting started and that there are plans for a Lower Fall Creek Watershed webpage complete with maps, meeting notes, meeting schedule, and a “blog” for discussion purposes. Ron noted that the Stakeholder/Public Meeting has been tentatively scheduled for the mid-July, followed by Working Committee meetings in mid-August, and a Steering Committee meeting in late August. Ron asked for suggestion for meeting locations that were somewhat centralized in the watershed. Several suggestions were mentioned including the Neighborhood Resource Center at the State Fair Grounds, the Julia Carson Center on Fall Creek Parkway, Fort Benjamin Harrison Park, and Lawrence Community Building. To lessen confusion, Ron would like all meetings to be held in the same location and will do some research to determine what facility would be best.

8. Closing and Adjournment

Paula Baldwin enthusiastically thanked everyone for their participation in a very productive first Steering Committee meeting of the Lower Fall Creek WMP, wished everyone well and looked forward to seeing them again in August.

This page intentionally blank



Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING

3:00 pm Wednesday, August 22, 2007
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introductions
2. Overview of Public Meeting
3. Issues Discussed in the Working Groups and Next Steps
4. Identify Topics for Steering Committee Meetings
5. Closing and Adjournment

This page intentionally blank



**Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING**

3:00 pm Wednesday, August 22, 2007
Lawrence Government Center
9001 East 59th Street

Meeting Summary

Steering Committee Members Present:

Ron Lauster, Marion County SWCD
Chris Barnett, Near North Development Corporation
Kelly Wood, City of Indianapolis Neighborhood Liaison
Crist Blassaras, Madison County SWCD
Gwen White, IDNR
Lori Kaplan, City of Lawrence DPW
Angie Dye, Veolia Water Company

Others Present:

Lisa Bihl, Empower Results
Heather Buck, CBBEL
Sheila McKinley, CBBEL
Sky Schelle, IDEM

1. Welcome and Introductions

Ron Lauster, Marion SWCD, welcomed everyone to the Steering Committee meeting while a sign in sheet was distributed. Those in attendance introduced themselves and indicated the agency or office which they represented. A Steering Committee contact list was distributed and those in attendance were asked for their preference on the type and amount of contact information they would like included on the Lower Fall Creek Watershed website. Ron also provided attendees with several informational pieces regarding the watershed activities, upcoming events, and newsletters.

2. Overview of Public Meeting

An overview of the Public Meeting held in the Lawrence Government Building on July 24 was provided by CBBEL staff. Bulleted highlights were also provided in a packet distributed. This information can be found in the rear of this meeting summary.

3. Issues Discussed in the Working Groups and Next Steps

An overview of the three Working Group meetings (Water Quality – 8/07/07, Land Use/Economic Development – 8/14/07, and Education & Outreach 8/16/07) was provided by CBBEL staff. Bulleted highlights were also provided in a packet distributed. This information can be found in the rear of this meeting summary. Several of the Steering Committee members informed the group of additional informational outlets that could be utilized throughout the planning effort and their willingness to assist in making those contacts.

4. Identify Topics for Steering Committee Meetings

Much time was spent discussing the topics of the upcoming quarterly Steering Committee meetings. Sky Schelle with IDEM noted that the intent of the planning process was to produce a document through the leadership of local figures that can take the plan and move into the implementation phase. It is important that this plan not be placed on a shelf.

Crist Blassaras noted that while in the planning phase, the Steering Committee and Working Groups should use the knowledge available such as IUPUI/CEES. Several other groups have completed monitoring, planning, and have implemented projects that can and should be used to further this planning effort.

Chris Barnett of the Near North Development Corporation noted that local ordinances and regulations should be reviewed to determine what impacts they have on water quality and quantity, noting that several ordinances may be in place that aren't typically thought of as having an effect on water (i.e. sidewalk ordinances). Chris also mentioned the need to align both the ground and surface water policies for the protection of the entire watershed.

Throughout the discussion several key topics such as changes in land use, drinking water, wellhead protection efforts, water quantity, stream management, Geist Reservoir, and stakeholder involvement were mentioned. Steering Committee members expressed the need to continue to gather information from stakeholders regarding watershed issues, provide that information to the Working Groups, and have the Working Groups formulate recommendations based on that information.

The group came to a consensus on the topics for the next several Steering Committee meetings: January 2008 – Land Use change in the Lower Fall Creek Watershed; March 2008 – Stream morphology and water quantity issues; and May 2008 – Drinking water quality and policies.

5. Closing and Adjournment

Ron Lauster provided the closing comments by reiterating the need to sign in and thanking everyone for their participation. Ron also mentioned that he would be meeting with a soils class from IUPUI and would like suggestions on possible student projects that can be completed within the watershed for the benefit of the students as well as the planning effort. The next Steering Committee meeting is scheduled for January 8, 2008 at the Lawrence Government Center to begin at 3:00 pm.

Lower Fall Creek WMP – Public Meeting

STEERING COMMITTEE UPDATE

8/22/07

BACKGROUND:

- 25 interested stakeholders met on 7/24/07
- Ron Lauster discussed the 319 grant
- CBBEL staff presented anticipated outcomes, grant requirements, and water quality data
- Brochures were provided

DECISIONS & DISCUSSION:

- Issues in the watershed.
 - Excessive sediment and debris build up: Emerson/Fall Creek Bridge
 - Standing water after small rain events: Millersville Rd/Mallard Lake
 - Conservation Reserve Enhancement Program (CREP) successes in Upper Fall Creek Watershed
 - Hoosier Heartland Resource Conservation & Development (HH RC&D) program success throughout Central Indiana
 - Health hazard warning signs below 46th St
 - Invasive species management
 - Concerns over management of Geist Spillway
 - Windridge Condominiums - severe erosion, main access closed
- Existing water quality data also presented.

NEXT STEPS:

- Those present were encouraged to participate in Working Groups
- Follow ups to those stakeholders wishing to include watershed updates in individual newsletters, websites, etc.
- Information discussed during the public meeting will be utilized during the upcoming Working Group meetings.
- Next Public Meeting will be in the 8th quarter of the grant (Sept – Nov 2008)

Lower Fall Creek WMP – Water Quality Working Group

STEERING COMMITTEE UPDATE

8/22/07

BACKGROUND:

- 16 interested participants met on 8/7/07
- Outlined role of Working Group:
 - Identify water resource problems
 - Assist in the analysis and synthesis of existing water quality data
 - Establish pollutant load reduction targets
 - Identify critical areas within the watershed
 - Propose best management practices to improve water quality

DECISIONS & DISCUSSION

- Discussed water quality monitoring requirements of the grant: collection of no less than eight (8) water chemistry samples from no less than ten (10) sites in the watershed.
 - existing water chemistry data seems sufficient
- Discussed collecting macroinvertebrate samples, habitat assessments, and geomorphic measurements from 10 sites in the watershed
- Future meeting topics:
 - Streambank erosion and effects on watershed
 - Rule 5 enforcement
 - Improved coordination and management of data collection
 - Geomorphic changes in Fall Creek
 - Identify Critical Areas and BMPs

NEXT STEPS:

- Water monitoring scope change
- Develop Quality Assurance Protection Plan (QAPP)
- Next meeting 3pm 11/13/07 at the Lawrence Government Center.

Lower Fall Creek WMP – Land Use & Economic Development Working Group

STEERING COMMITTEE UPDATE

8/22/07

BACKGROUND:

- 13 local land use planners/economic development staff and interested public met on 8/14/07
- Outlined role of Working Group:
 - Define land use categories (affecting water quality)
 - Identify where and how development/redevelopment is occurring
 - Identify Critical Areas and best management practices (BMPs)
 - Discuss standards for development/redevelopment
 - Determine if standards are good/bad for water quality and/or economic development

DECISIONS & DISCUSSION:

- Presented existing land use data 1992 satellite Multi-Resolution Land Characteristic data and State Land Use Codes – both dismissed
- Group developed land use categories to better reflect impact on water quality
 - Agriculture (cropland or pasture)
 - Woodland/Park/Preserves/Wetlands/Floodplains/Cemeteries
 - Golf Courses
 - Commercial/Industrial/Apartment Complexes (non-pollutant generating, non-NPDES)
 - Commercial/Industrial (pollutant generator, NPDES permit, CRTK, CAFO, auto salvage, landfill, private WWTP)
 - Active Rule 5 (land cleared for construction)
- Future meeting topics:
 - Determine rate of growth and land uses in transition
 - Identify Critical Areas and BMPs to improve water quality
 - Review Development Standards and impact on water quality and economic development

NEXT STEPS:

- Create land use map
- Review historic aerials to document rate of growth
- Document land uses in transition (economic development/Rule 5)
- Representation from all County and Community planners and economic development departments
- Next meeting 9 am 11/13/07 at Lawrence Government Center

Lower Fall Creek WMP – Education & Outreach Working Group

STEERING COMMITTEE UPDATE

8/22/07

BACKGROUND:

- 5 interested participants met on 8/16/07
- Outlined role of Working Group:
 - Provide educational opportunities to the stakeholders
 - Utilize existing sources to inform watershed stakeholders
 - Receive recommendations from other Working Groups

DECISIONS & DISCUSSION:

- Discussed existing education and outreach outlets
 - Marion County Alliance of Neighborhood Associations
 - Hamilton, Hancock, Madison, and Marion SWCD contacts
 - Alternative media contacts: 107.1 Spanish radio; Amos Brown; etc.
 - Recreation and Service Clubs: Boy/Girl Scouts, Canoe Club, Fishing Club
 - Eagle Creek and Upper White River Watershed groups
 - Utility bill inserts
 - Dick Wolfsie, WISH TV 8 (or other local news programming)
 - Locations for information distribution: Fall Creek Bait & Tackle, golf courses, Indy Parks
 - Area High School Science Teachers, Clubs, FFA, etc.
- Need to engage elected officials (Fed, State, City, and County levels)

NEXT STEPS:

- Review school district ethnicities
- Map legislative boundaries and identify representatives
- Receive guidance from other Working Groups
- Discuss workshop topics
- Next meeting 3 pm 12-13-07 at the Lawrence Government Center.



**Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING**

3:00 pm Tuesday, February 12th 2008
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introductions
2. Land Use & Land Use Change in the Lower Fall Creek Watershed
3. Review and Prioritize Critical Areas Identified by Work Groups
4. Identify Management Measures *(if time permits)*
5. Closing and Adjournment

This page intentionally blank



**Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING**

3:00 pm Tuesday, February 12, 2007
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Steering Committee Members Present:

Chris Barnett, Near North Development Corporation
Crist Blassaras, Madison County SWCD
Victoria Cluck, Indianapolis DPW
Josh Goode, IACT
Tina Jones, Indy Parks
Joe Ketterman (for Pam Thevenow) Marion County Health Department
Ron Lauster, Marion County SWCD
David Parnell, Lawrence City Council
Donna Price, Indianapolis DMD
Kent Ward, Hamilton County Surveyor's Office
Gwen White, IDNR

Others Present:

Heather Buck, CBBEL
Nancy Darr, Landowner Hancock County
Bonnie Elfritz, IDEM – OWQ
Stephen Hoback, Landowner Hancock County
Sheila McKinley, CBBEL
Sky Schelle, IDEM - OWQ

1. Welcome and Introductions

Ron Lauster welcomed everyone to the Steering Committee meeting while a sign in sheet was distributed. Those in attendance introduced themselves and indicated the agency, office, or organization which they represented.

2. Land Use and Land Use Change in the Lower Fall Creek Watershed

Before the presentation, Sheila McKinley reminded the Steering Committee because of the structure of this planning effort – with the Work Groups working through the details of the WMP – this allowed the Steering Committee time to focus on some of the bigger philosophical or policy issues in the Lower Fall Creek Watershed. Three topics were

identified. These include: Land Use & Land Use Change (2/12/08), Surface & Ground Water Quality (5/13/08), and Flooding & Flooding Impacts (8/12/08).

Using 1990, 2006, and 2010 projected census data as well as 1950 and 2003 aerial photography, Sheila illustrated the dramatic growth and development that has occurred in the Lower Fall Creek Watershed in the last 50 years. The modified Land Use map prepared by the Land Use & Economic Development Work Group was presented to the Steering Committee. Rather than using standard Land Use Code categories, the Work Group identified land use classifications based on known risk to water quality. These include: 1) Agriculture, 2) low/medium-density Residential, 3) Open Space, 4) Golf Courses, 5) Commercial and Industrial (with NPDES permits), high-density Residential, Commercial, Industrial, and Educational; and active Rule 5 sites) The Land Use & Economic Development Work Group also prepared a map that illustrated Land Use Influences including development at Exit 10 (Noblesville & Fishers) and Exit 5 (Fishers) along I-69; the influence of I-69, I-74, Mt. Comfort Airport, and proposed Airport south of Lapel in Madison County; continued growth in Fishers, Noblesville, and McCordsville; and the BioCrossroads infill development (in wellfield) at the confluence of Fall Creek and White River.

Sheila presented research on land use practices as sources of sediment (tillage practices, construction practices, streambank erosion, and stormwater runoff), nutrients (fertilizer application and failing septic systems), and pathogens (failing septic systems, combined sewer overflows, illicit stormwater connections, wildlife, stormwater runoff, livestock/manure management). The research also shows the direct relationship of imperviousness to water quality. The overall imperviousness in the Lower Fall Creek is 25% which, according to the research, limits the ability to control for specific nutrients and toxic pollutants.

To further understand the relationship of land use to water quality in the Lower Fall Creek Watershed, the Land Use & Economic Development Work Group suggested utilizing the Land Use Central Indiana (LUCI) Model and the Long-Term Hydrologic Impact Analysis (L-THIA) Model. Three growth scenarios were used in LUCI – Current Growth Model, Build-Out Growth Model, and Conservative Growth Model. The percentage of land use from each of these models was inputted into L-THIA to determine the impact on water quality. The results were not surprising but do reaffirm the direct relationship between land use and water quality. The Conservative Growth Model showed a decrease in nutrients, sediments, and imperviousness. While the Build-Out Growth Model showed a decrease in nutrients and sediments (less agricultural land) there was an increase in pathogens, imperviousness, and stormwater runoff.

Sheila posed the question to the Steering Committee that if we agree that land use, imperviousness, and water quality are connected then rather than shouldn't we do a better job in our land use planning efforts? The EPA recently released a draft document called "Land Use Planning as the First BMP: Linking Stormwater to Land Use". Key concepts from this article are: location, density, and design of development dictated by Comprehensive Plans and Development Ordinances; missed opportunity to integrate stormwater management into planning; and mismatch between site and watershed planning efforts. An example from this document was presented to the Steering Committee. It used watershed characteristics (flooding, drinking water source, impaired stream, etc.) to determine the most appropriate planning tool. Sheila challenged the Steering Committee to think about how the existing land use plans and development

ordinances in the Lower Fall Creek Watershed could better integrate water quality (and quantity) concerns. As well as how the land use planners in each community could work better with the stormwater managers to develop watershed solutions to improve water quality. Members of the Steering Committee engaged in a fruitful discussion about the opportunities and challenges of this somewhat common sense approach to improve water quality.

3. Review and Prioritize Critical Areas Identified by Work Groups

IDEM defines Critical Areas as “where the sources are causing the greatest damage and where treatment measures have the greatest effect”. Heather Buck noted that the Water Quality Work Group, Land Use & Economic Development Work Group, and Education Committee selected Critical Areas based on water quality and land use data that was presented to them. Heather presented the Critical Areas by pollutant – Sediment, Nutrient, and Pathogens.

Sediment Critical Areas include: streambank erosion at Windridge Condominiums, lack of Erosion and Sediment Control (ESC) Ordinance in the City of Lawrence, sediment loading in Indian Lake, and development at I-69 Exit 10 in Noblesville and Fishers. Nutrient Critical Areas include: 8 golf courses (Brendonwood County Club, Fort Golf Course, Gray Eagle Golf Club & Academy, Hawthorn Golf & County Club, Hillcrest Country Club, Indian Lake Country Club, Ironwood Golf Club, and Old Oakland Golf Course), 4 residential lakes over 50 acres (Lake Stonebridge, Lake Kesslerwood, Lake Maxinhall, and Indian Lake), and 6 wellfield protection areas. Pathogen Critical Areas include: Indiana State Fair Grounds, BioCrossroads Medical Research Facility, 6 wellfield protection areas, 11 non-sewered areas (4 High Priority according to the Septic Tank Elimination Program (STEP) 42nd & Sherman, 42nd & Millersville, 46th & Emerson, and 82nd & Redbud), and the neighborhood at 42nd and College Street (downstream from the State Fair Grounds) where kids play in Fall Creek.

Heather asked the Steering Committee to prioritize the Critical Areas within each of these pollutant groups. Members of the Steering Committee acknowledge the efforts of the Work Groups to filter through all of the water quality and land use data in the Lower Fall Creek to identify these Critical Areas and concluded that each one was equally important. Several Committee members offered that IDEM did not require them to prioritize then they would prefer not to. Sky Shelley confirmed that IDEM does not require Critical Areas to be prioritized.

4. Identify Management Measures *(if time permits)*

Insufficient time was available (as suspected) to discuss Management Measures. This item will be discussed at the 5/13/08 Steering Committee meeting.

5. Closing and Adjournment

Ron distributed an updated Project Timeline and pointed out the 3 workshops (Pond Maintenance, Backyard Conservation, and Regulated Drain vs. Natural Streams) being planned in partnership with the Education & Outreach Work Group. Ron encouraged everyone to periodically check the Lower Fall Creek WMP (www.lowerfallcreek.org) for updates and thanked everyone for their participation.

The next Steering Committee meeting is scheduled for Tuesday, May 13, 2008 at the Lawrence Government Center to begin at 3:00 pm.



**Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING**

3:00 pm Tuesday, May 13th 2008
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introductions
2. Project Updates
3. Identify Projects, Resources and Timeline for Implementation
4. Relationship of Surface & Ground Water Quality and why it matters in the Lower Fall Creek Watershed
5. Closing and Adjournment

Next Meeting: 3 pm Tuesday, August 12th focusing on Flooding & Flooding Impacts in the Lower Fall Creek Watershed

This page intentionally blank



**Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING**

3:00 pm Tuesday, May 13th 2008
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Steering Committee Members Present:

Chris Barnett, Near North Development Corporation
Josh Goode, IACT
Ron Lauster, Marion County SWCD
Kent Ward, Hamilton County Surveyor's Office
Gwen White, IDNR
Jerry Wilkey, City of Lawrence DPW

Others Present:

Heather Buck, CBBEL
Nancy Darr, Landowner Hancock County
Stephen Hoback, Landowner Hancock County
Sheila McKinley, CBBEL
Sky Schelle, IDEM - OWQ

1. Welcome and Introductions

Ron Lauster welcomed everyone to the Steering Committee meeting while a sign in sheet was distributed. Those in attendance introduced themselves and indicated the agency, office, or organization which they represented.

2. Project Updates

Ron and Sheila discussed the updates needed to the Lower Fall Creek Watershed website (www.lowerfallcreek.org) and that these updates will be completed soon so that all information will be current.

Sheila indicated that the draft Watershed Management Plan (WMP) sections 1-5 will be submitted to IDEM later in May and will also be made available via the website for Steering Committee and Work Group members to review and comment.

Sheila indicated that Greg Bright has completed the first macro-invertebrate sampling in April. Results from that sampling event should be provided in the next few weeks. A second sampling event will be scheduled in October, 2008.

Ron reported that the proposed historic/native planting along Fall Creek as a BMP demonstration project will not be able to be completed this year. However, other options are being considered at Lake Maxinhall and Indian Lake as these communities have expressed an interest in partnering to install a BMP demonstration. Heather also provided information on the BMP report produced by CBBEL as a part of the 319 grant requirements. This report provides detailed information related to the Critical Areas identified by the Steering Committee and work groups where a structural BMP demonstration can be implemented. Golf Courses, residential lakes greater than 50 acres, and school properties were mapped, contact information was provided for each property or community, and a list of potential BMPS was provided within the report. This report will be made available on the Lower Fall Creek website.

Ron updated the Steering Committee on the upcoming workshops: Shoreline Stewards (June 12 and August 21, 2008) will be held at the Garrison at Fort Benjamin Harrison State Park and is designed to assist local lake communities and streambank property owners in developing a management plan to reduce pollutant loadings to the watershed. Local experts will be on hand at the second session to provide detailed information to attendees regarding the main issues of that community; Backyard Conservation (Fall) will soon be developed but is intended to highlight conservation measures such as rain gardens and porous pavement, that can be implemented on existing residential properties; and the Regulated Drain vs. Natural Waterway workshop (Winter) will be held to inform landowners what they can and cannot do along regulated drains and how that impacts their participation in Federal USDA incentive programs such as the Conservation Reserve Program to install filter strips along streambanks.

3. Identify Projects, Resources and Timeline for Implementation

Sheila presented the proposed management measures and invited the Steering Committee members to identify potentially responsible partners and the resources needed for implementation of those measures. After this portion was complete, Steering Committee members were asked to prioritize the proposed management measures with “dot” stickers representing <5 years, 5-10 years, and >25 years as an anticipated timeline for completion of the measure. The number of “votes” each management measure received is noted within the brackets in the “Timeline for Implementation” column of the table while the timeframe receiving the most votes is indicated in bold text. The outcomes of this exercise are attached to the rear of this summary.

4. Relationship of Surface & Ground Water Quality and why it matters in the Lower Fall Creek Watershed

Heather provided a brief power point highlighting the connectivity of surface water and groundwater and how that plays an important role in developing and implementing a WMP. The need for better information (or more information *sharing*) related to groundwater resources and the hydrology of the watershed was discussed. It is important to know the hydrology along Fall Creek (whether it is a gaining stream or a losing stream) to plan and implement stormwater conservation measures that filter pollutants while not impacting the groundwater. Much of the Lower Fall Creek Watershed (approximately 25%) lies within Wellfield Protection Areas (WFPA). Chris

Barnett also provided insight to the impacts to groundwater as he serves on the Board for the Marion County Wellfield Education Corporation.

5. Closing and Adjournment

The next Steering Committee meeting will be held Tuesday, August 12th at 3:00 pm and will focus on Flooding & Flooding Impacts in the Lower Fall Creek Watershed.

Lower Fall Creek Watershed Plan

DEVELOPMENT OF MANAGEMENT MEASURES

Note: Steering Committee votes for implementation timelines are indicated in **Bold text**, while the total votes for each timeframe is indicated within the brackets.

Suggested Management Measures to address...

SEDIMENT LOADS

Management Measure	Responsible / Partnering Entity	Resources Needed	Timeline for Implementation
Create a Highly Erodible Land (HEL) overlay zone for planning & zoning purposes.	Planning & Zoning Departments <i>All</i> Soil & Water Conservation Districts (SWCD) <i>All</i>	Lower Fall Creek support & education Soil maps Develop language to create overlay	5 year [1] 10 year [1] 25 year [3]
Stabilize streambanks along Fall Creek with native vegetation and removal of invasives (target adjacent publicly owned open spaces and golf courses).	Parks Departments <i>All</i> Golf courses Keep Indianapolis Beautiful (KIB) SWCDs <i>Hamilton County</i> <i>Marion County</i>	Labor Permits Project design Plant material Education on invasive plants	5 year [3] 10 year [0] 25 year [1]
Reduce soil erosion and stormwater runoff from construction sites.	MS4 Communities <i>All</i> Indiana Department of Environmental Management (IDEM)	Education Funding Staff	5 year [1] 10 year [3] 25 year [1]

Management Measure	Responsible / Partnering Entity	Resources Needed	Timeline for Implementation
	SWCDs <i>All</i>		
	Developers and Contractors		
Educate contractors and developers regarding Rule 5 & Rule 13 requirements, inspections, and enforcement.	IDEM Hoosier Heartland Resource, Conservation, & Development (HHRCD) MS4 Communities <i>All</i> SWCDs <i>All</i> Building Association of Greater Indianapolis (BAGI)	Field Day associated with annual workshop Funding	5 year [5] 10 year [0] 25 year [0]
Establish a 3-tier (flag/sign) colored system signage program to identify excellent/good/poor active construction sites or developers that are in compliance with IDEM's Rule 5 program.	Planning & Zoning Departments <i>All</i> SWCDs <i>All</i> Lower Fall Creek Watershed Alliance (LFCWA)	Planning, Zoning Inspectors Establish criteria by which to rate construction sites or developers	5 year [1] 10 year [1] 25 year [2]
Develop a Lake Management Plan for Indian Lake.	Indian Lake Homeowners Association (HOA) Marion County SWCD LFCWA		5 year [2] 10 year [2] 25 year [1]
Stabilize shorelines of Indian Lake with native vegetation to reduce increased sedimentation.			

Management Measure	Responsible / Partnering Entity	Resources Needed	Timeline for Implementation
<i>*This was discussed by the Steering Committee and was agreed that it is a component of the management measure above and was subsequently deleted.</i>			

NUTRIENTS LOADS

Management Measure	Responsible / Partnering Entity	Resources Needed	Timeline for Implementation
Evaluate Development Ordinances based on the Center for Watershed Protection's "Code & Ordinance Worksheet Tool".	Indianapolis Department of Public Works (DPW) Planning & Zoning Departments <i>All</i> Upper White River Watershed Alliance (UWRWA)	Copies of the worksheet Planning Graduate Student(s) <i>Ball State IUPUI</i>	5 year [2] 10 year [1] 25 year [1]
Integrate Low Impact Development (LID) practices into new or re-development projects.	Developers Planning & Zoning Departments <i>All</i> SWCDs <i>All</i> HHRCD Marion County Wellfield Education Corporation (MCWEC) UWRWA Water utilities	Ordinance language developed Guidance documents for practices Incentives for integration	5 year [1] 10 year [0] 25 year [3]

Management Measure	Responsible / Partnering Entity	Resources Needed	Timeline for Implementation
<p>Reduce application of phosphorus containing fertilizers on Indian Lake golf course, Brendonwood Golf Course, Hillcrest Country Club, and Ironwood Golf Club</p> <p><i>*This management measure was discussed by the Steering Committee and was agreed that it is a component of the conservation programs listed 2 rows below. It was subsequently removed.</i></p>			
<p>Reduce application of phosphorus containing fertilizers on residential properties on Lake Maxinhall, Indian Lake, Kesslerwood Lake, and Stonebridge Lake</p> <p><i>*This management measure was discussed by the Steering Committee and was agreed that it is a component of the conservation programs listed below. It was subsequently removed.</i></p>			
<p>Encourage golf courses and residential properties along Fall Creek or lakes larger than 50 acres to participate in the Audubon Cooperative Sanctuary Program, Groundwater Guardian Green Sites, National Wildlife Federation, or a similar conservation program.</p>	<p>Golf Course managers</p> <p>MCWEC</p> <p>Office of the Indiana State Chemist (OISC)</p>	<p>Speakers bureau</p> <p>Conservation program requirements</p> <p>Education on conservation programs</p>	<p>5 year [1]</p> <p>10 year [5]</p> <p>25 year [3]</p>
<p>Adopt a WFPA Protection Overlay Ordinance for the Madison County WFPA.</p>	<p>Madison County Commissioners</p> <p>Madison County Health Department</p>	<p>Delineation or study of wellfield area</p>	<p>5 year [1]</p> <p>10 year [1]</p>

Management Measure	Responsible / Partnering Entity	Resources Needed	Timeline for Implementation
	Madison County Plan Commission Madison County Surveyor	Adoption of protection ordinance	25 year [0]

PATHOGEN LOADS

Management Measure	Responsible / Partnering Entity	Resources Needed	Timeline for Implementation
Establish or enhance shoreline and streambank riparian buffers to reduce potential increases in bacteriological impacts from wildlife and domestic pets throughout the Lower Fall Creek Watershed.	Health Departments <i>All</i> Planning & Zoning Departments <i>All</i>	Amendment to ordinance (>12 inches needs mowed) Education on buffers Signage for buffers	5 year [5] 10 year [0] 25 year [1]
Partner with the Indiana State Fair Board to reduce <i>E. coli</i> loadings to Fall Creek.	4-H / FFA Fair Board Fair Commission Marion County Health Department Mapleton - Fall Creek Neighborhood Association	Education Possible outdoor classroom	5 year [1] 10 year [1] 25 year [0]
Support the Septic Tank Elimination Program (STEP) especially within the WFPAs and floodplains of the Lower Fall Creek Watershed.	Marion County Health Department Indianapolis DPW Marion County Health & Hospital Corporation	Long-Term Control Plan implementation	5 year [2] 10 year [2] 25 year [2]

EDUCATION & OUTREACH

Management Measure	Responsible / Partnering Entity	Resources Needed	Timeline for Implementation
Host an annual "Watershed Awareness" or "Celebrate Fall Creek" event (stream clean-up, water quality monitoring, educational workshops, safety, health and wellness).	LFCWA	Possible display at Earth Day celebrations	5 year [0]
	Natural Resources Education Council		10 year [0]
	Indy Parks	Possible addition to the Pathway to Water Quality at the Indiana State Fairgrounds	25 year [5]
	UWRWA		
	Health Departments <i>All</i>		
	Fort Benjamin Harrison State Park		
Develop future education & outreach programs based on results of the Social Indicators Survey.	LFCWA	Survey materials	5 year [1]
	Purdue University	Survey results	10 year [3]
			25 year [0]
Create education demonstration project(s) to illustrate good urban redevelopment practices and good stormwater management in critical watershed areas.	MS4 Communities <i>All</i>	Grants	5 year [3]
	Planning & Zoning Departments <i>All</i>	Technical assistance for project design	10 year [2]
	HOAs	Maintenance funding	25 year [0]
	Community Development Corporations <i>All</i>		



Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING

3:00 pm Tuesday, August 12th 2008
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introductions
2. Project Updates
 - i. Watershed Management Plan
 - ii. BMP Demonstration Projects
 - iii. Workshops
 - iv. Social Indicator Survey
 - v. Implementation Grant
3. Flooding & Flooding Impacts in the Lower Fall Creek Watershed
4. Closing and Adjournment

Next Meeting: 3 pm Tuesday, November 18th

[8-12-08 minutes]



Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING

2:30 pm Thursday, January 29th 2009
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introductions
2. Project Updates
 - i. Watershed Management Plan
 - ii. BMP Demonstration Projects
 - iii. Workshop
 - iv. Social Indicator Survey
 - v. Implementation Grant
3. Closing and Adjournment

This page intentionally blank



**Lower Fall Creek Watershed Management Plan
STEERING COMMITTEE MEETING**

2:30 pm Thursday, January 29th 2009
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Steering Committee Members Present:

Chris Barnett, Near North Development Corporation
John Hazlett, Office of Sustainability
Tina Jones, Indy Parks
Joe Kettermann, Marion County Health Department
Ron Lauster, Marion County SWCD
John South, Hamilton County SWCD
Paul Whitmore, Veolia Water

Others Present:

Heather Buck, CBEL

1. Welcome and Introductions

Ron Lauster welcomed everyone to the Steering Committee meeting while a sign in sheet, recent editions of the Marion SWCD newsletter, and project summary information was distributed. Those in attendance introduced themselves and indicated the agency, office, or organization which they represented.

2. Project Updates

i. Watershed Management Plan

Heather indicated that a full draft of the Lower Fall Creek WMP was provided to IDEM at the end of December and that comments from IDEM reviewers are expected in early February. Ron provided copies of the WMP to those interested and reminded people that the draft is located on the Lower Fall Creek website (www.lowerfallcreek.org). A brief summary of the public meeting held on January 15, 2009 was also given. During this time, Heather also provided maps indicating the locations of the macroinvertebrate sampling sites. These maps were referenced while the October 2008 event findings and the overall observations and recommendations provided from Commonwealth Biomonitoring were discussed.

ii. BMP Demonstration Projects

Ron provided an update regarding the BMP demonstration projects as a part of this planning effort. He and other Marion SWCD staff have met with members of the Indiana State Fair Board and are developing plans to install 2 rain barrels and rain gardens near the greenhouse on the Indiana State Fairgrounds. Ron also mentioned the intent to include pervious concrete or pavers in the pathway leading to the greenhouse. Ron also discussed the rain garden to be located at the Mapleton Fall Creek Community Development office. The rain garden design and planting plan will need to be developed so that planting can occur in early spring.

iii. Workshop

Ron discussed the Backyard Conservation workshop held at the Broadway United Methodist Church on November 12, 2008. During this workshop over 25 participants learned the benefits of rain barrels, how to construct a rain barrel, as well as how to attract wildlife to their backyards. The Mapleton Fall Creek Community Development Office helped to plan this event.

Heather discussed the upcoming workshop, Regulated Drains vs. Non-Regulated Drains that is planned for March of this year. This workshop will be developed to provide landowners in the Lower Fall Creek Watershed with information on how to determine if their land is along a regulated drain, what that means for tree planting and streambank stabilization projects, permitting requirements for in-stream work, and potential funding sources available to them for conservation practices implemented on their land.

iv. Social Indicator Survey

Heather informed the group that the draft report from Social Indicator survey project has been received from Purdue University. A very low response rate of 27% was achieved so Purdue University plans to complete small, neighborhood-based focus groups to get a better sense of the awareness, attitudes, and practices related to water quality in the watershed. A few of the factors were discussed in more detail; such as where respondents had heard about water quality, zip codes with higher response rates, and where people turn to get reliable information regarding water quality. Information obtained from this survey, as well as information from the focus groups will be useful to the Lower Fall Creek Watershed and partnering agencies and offices during future education and outreach efforts.

v. Implementation Grant

Ron reminded the group that an application for IDEM 319 Implementation funds was developed and submitted. Ron has not yet heard of the success of that application. Proposed projects in the application, as well as measures detailed in the WMP were highlighted as Ron and Heather discussed the possibility of individual offices taking the lead on those projects should the implementation grant not be awarded. Several Steering Committee members expressed the need to track the locations of practices implemented through the planning grant, the possible implementation grant, as well as those practices completed by individual offices. This will enable the group and the watershed to better capture the benefit of these practices and potentially relate the practices to improved water quality within the watershed.

3. Closing and Adjournment

Ron and Heather thanked everyone for their attendance and efforts throughout the planning period, reminded them to look at the website for updates, and again encouraged them to review the draft WMP. It was noted that this is the last Steering Committee meeting to be held through this grant but that later meetings may be scheduled as needed to discuss implementation projects, partnering agency and office project updates, and other future opportunities.

This page intentionally blank

Public Meetings Agendas and Summaries

This page intentionally blank



Marion County Soil and Water Conservation District
6960 S. Gray Road, Suite C, Indianapolis, Indiana 46237-3237 - (317) 786-1776 -Fax (317) 786-1757
www.marionswcd.org

"Helping people care for the land!"

**DISTRICT
SUPERVISORS**

Mark Kautz
Paula Baldwin
Marvin Brethauer
J. Dennis Slaughter
Alan Retherford

**Lower Fall Creek Watershed Management Plan
Public Meeting #1
July 24, 2007 6:30 pm
Lawrence Government Center**

Agenda

**ASSOCIATE
SUPERVISORS**

Frederick Bein
Mark Brehob
Todd Cavender
Robert Eddleman
Greg Gerke
Joshua Goode
Robert Kleinops
Mike Massonne
Scott Schutte
Carroll White

1. Welcome
2. Overview of Grant Program
3. Discussion of Watershed Issues
4. Work Groups to be Established
 - Water Quality
 - Land Use/Economic Development
 - Education
5. Opportunities for Collaboration with Existing Efforts
6. Closing Remarks

**SUPERVISORS
EMERITUS**

Pete Baldwin
John Kitley
Stanley Smith

**DISTRICT
STAFF**

Ronald Lauster
Marilyn Hughes
Glenn Lange
Julie Farr

**DISTRICT STAFF-
CONTRACTUAL**

John Ulmer
Sheila McKinley

**USDA-NRCS
STAFF**

Henry Wallis

www.lowerfallcreek.org

This page intentionally blank



Lower Fall Creek Watershed Management Plan

Public Meeting #1

July 24, 2007 6:30 pm

Lawrence Government Center

Meeting Summary

1. Welcome

Ron Lauster, Director of the Marion County SWCD welcomed those in attendance and informed everyone of the agendas, brochures, and contact information located in the rear of the meeting room. Mr. Lauster provided background information regarding the grant awarded to the Marion County SWCD to complete the Lower Fall Creek Watershed Management Plan (WMP) utilizing a grass roots effort with support from the 4 Counties within the watershed.

2. Overview of Grant Program

Sheila McKinley with Christopher B. Burke Engineering, Ltd. (CBBEL) described the need to develop a WMP, the Steering Committee established for the Lower Fall Creek WMP project, and the anticipated outcomes of the process. Questions from the audience regarding the driving force behind the project were answered by Mr. Lauster and Sky Schelle, Watershed Manager at the Indiana Department of Environmental Management (IDEM).

3. Discussion of Watershed Issues

Heather Buck, CBBEL, facilitated an opening discussion with those in attendance regarding the current status of the entire watershed. Comments from the audience were recorded, discussed in detail, and will be provided to the Steering Committee for further comment and discussion.

- Watershed residents provided details of the excessive sediment and debris build up at the Emerson / Fall Creek bridge.
- Watershed residents provided details regarding Millersville Road at Mallard Lake/Devon Creek and the small rain event that resulted in over 9 feet of water (Sept. 2003) affecting the neighborhood and Millersville Road. Sedimentation of this area has also been identified as a potential cause for increased flooding.
- Crist Blassaras provide positive comments regarding the success of the Conservation Reserve Enhancement Program (CREP) in Madison County. This USDA program provides landowners with monetary incentives to install Best Management Practices (BMPs) to reduce non-point source pollution. Over 500 acres of trees and 25,000 feet of filter strips have been installed in the Upper Fall Creek watershed which drains to Geist Reservoir, eventually draining into the Lower Fall Creek watershed.

- The Hoosier Heartland Resource, Conservation, & Development (RC&D) programs were discussed as possible benefits to the watershed as well as an opportunity for collaboration on projects and outreach efforts.
- Signs warning residents against contact with the water below 46th street were discussed and questioned as to why these signs are there as well as questions related to the plans to remedy the situation and make the water safer.
- Invasive species were discussed as an obstacle for people to interact with Fall Creek as well as a detriment to the riparian corridors, wildlife, and flora of the watershed.
- A lengthy discussion occurred regarding the management of Geist spillway. Watershed residents discussed concerns over increased debris, large volumes of water overtopping the spillway, which authority oversees the management of the release, and the resulting downstream flooding.
- Several residents of Windridge Condominiums were present to discuss their concerns and needs regarding the severe erosion occurring along Fall Creek. This community has had to replace nearly 400 feet of water lines, access has been cutoff to neighboring communities as an entrance has been closed due to safety concerns, and an estimated 100 feet of streambank was lost in March of 2007 due to flooding.
- [Elaine ??] discussed the need to look into the effects of upstream urbanization and the amount of impervious surfaces along Geist Reservoir as a contributor to the increased volume of water being released from the spillway and affecting the downstream portions of the watershed.

4. Work Groups to be Established

A handout was provided to those in attendance summarizing the work groups (Water Quality, Land Use/Economic Development, and Outreach and Education) to be established. Also included were meeting dates and locations for the initial meetings for each of the work groups. Stakeholders are encouraged to participate in those work groups providing local insight, background expertise, and/or interest.

5. Opportunities for Collaboration with Existing Efforts

Heather Buck discussed the need for partnering with existing outreach and communication efforts. Existing newsletters, websites, homeowners associations, events, etc. will be helpful in getting the information related to the Lower Fall Creek WMP to numerous watershed residents and stakeholders. Many attendees provided contact information and mentioned the ability to include updates in neighborhood newsletters and websites.

6. Closing Remarks

Ron Lauster provided the closing remarks reminding everyone of the sign in sheet, informational materials available in the rear of the room, the upcoming work group meetings, and the need for local participation in preparing a valuable WMP.



Marion County Soil and Water Conservation District
6960 S. Gray Road, Suite C, Indianapolis, Indiana 46237-3237 - (317) 786-1776 -Fax (317) 786-1757
www.marionswcd.org

"Helping people care for the land!"

**DISTRICT
SUPERVISORS**

Mark Kautz
Paula Baldwin
Marvin Brethauer
Alan Retherford
J. Dennis Slaughter

**Lower Fall Creek Watershed Management Plan
Public Meeting #2
January 15, 2009 7:00 pm
Lawrence Government Center**

Agenda

**ASSOCIATE
SUPERVISORS**

Rick Bein
Mark Brehob
Heather Buck
Todd Cavender
Robert Eddleman
Greg Gerke
Josh Goode
Bob Kleinops
Mike Massonne
Mark Mongin
Brian Neilson
Jack Shoaf
Scott Schutte
Carroll White

1. Welcome / Sign In ~ *Ron Lauster, Marion SWCD*
2. Overview of Grant Program ~ *Ron Lauster, Marion SWCD*
3. Presentation of the Lower Fall Creek Watershed Management Plan ~
Heather Buck, Christopher B. Burke Engineering, Ltd.
4. Closing Remarks ~ *Ron Lauster, Marion SWCD*

**SUPERVISORS
EMERITUS**

Pete Baldwin
John Kitley
Stanley Smith

**DISTRICT
STAFF**

Ronald Lauster
Marilyn Hughes
Glenn Lange
Julie Farr

Lower Fall Creek Watershed Alliance website: www.lowerfallcreek.org

**DISTRICT STAFF-
CONTRACTUAL**

John Ulmer
Sheila McKinley

**USDA-NRCS
STAFF**

Henry Wallis

CONSERVATION – DEVELOPMENT – SELF-GOVERNMENT



This page intentionally blank



**Lower Fall Creek Watershed Management Plan
Public Meeting #2
January 15, 2009 7:00 pm
Lawrence Government Center**

Meeting Summary

1. Welcome / Sign In ~ Ron Lauster, Marion SWCD

Ron Lauster, Director of the Marion County SWCD welcomed those in attendance and informed everyone of the agendas, brochures, and contact information located in the rear of the meeting room. Ron also thanked the City of Lawrence for again allowing use of their facilities for the meetings.

2. Overview of Grant Program ~ Ron Lauster, Marion SWCD

Ron provided a brief overview of the IDEM grant awarded to the Marion SWCD that provides funding for the development of a Watershed Management Plan (WMP) and demonstration projects within the watershed.

3. Presentation of the Lower Fall Creek Watershed Management Plan ~ Heather Buck, Christopher B. Burke Engineering, Ltd.

Heather provided a power point summarizing the Lower Fall Creek WMP and

- The purpose of the WMP
- Stakeholder involvement through Steering Committee, workshops, website, public meetings, etc.
- Stakeholder concerns of sediment, nutrients, pathogens, and others (invasive species, fertilizer and pesticide applications, drainage, and flooding)
- Problem statements to address those concerns
- Critical areas identified by the work groups and Steering Committee
- Proposed management measures
- Next steps

During the presentation, discussion developed regarding updates on the streambank stabilization at Windridge Condominiums and the lawsuit between the residents of Indian Lake and the Indiana Department of Transportation. Representatives from both groups encouraged other watershed residents to pay close attention to what is happening in their areas and be vocal when they observe activities detrimental to water quality and their property.

4. Closing Remarks ~ *Ron Lauster, Marion SWCD*

Ron closed the meeting by thanking everyone for attending the meeting and reminding them of the sign in sheet and information materials in the rear of the meeting room. He informed everyone that the planning process is near completion but with potential grant funds and continued partnership there may be additional opportunities for involvement.

This page intentionally blank

Education and Outreach Meetings Agendas and Summaries

This page intentionally blank



Lower Fall Creek Watershed Management Plan
EDUCATION & OUTREACH WORKING GROUP MEETING

3:00 pm Thursday, August 16, 2007
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introduction
2. Summary of Grant Requirements and Role of Working Committee
3. Identification of Existing Education & Outreach Efforts
4. Who is Missing From the Table?
5. Topics for Future Education & Outreach Working Committee Meetings
6. Next Meeting Date

This page intentionally blank



Lower Fall Creek Watershed Management Plan
EDUCATION & OUTREACH WORKING GROUP MEETING

3:00 pm Thursday, August 16, 2007
Lawrence Government Center
9001 East 59th Street

Meeting Summary

Working Group Members Present:

Dean Farr, Watershed Resident
Ron Lauster, Marion County SWCD
Gwen White, IDNR – LARE

Others Present:

Heather Buck, CBBEL
Sheila McKinley, CBBEL

1. Welcome and Introduction

With a small number of members present, introductions were not needed. Ron Lauster, Marion County SWCD, welcomed everyone to the meeting and a sign in sheet was passed around.

2. Summary of Grant Requirements and Role of Working Group

With a small number of members present, a summary of the grant requirements was not needed. The role of the Working Group will be to provide educational opportunities to the stakeholders of the Lower Fall Creek Watershed. Existing resources such as neighborhood liaisons, websites, local media outlets, and workshops will be utilized to inform watershed stakeholders of ways to reduce their impact on the watershed, upcoming opportunities, as well as the information and recommendations developed by the Water Quality and the Land Use/Economic Development Work Groups.

3. Identification of Existing Education & Outreach Efforts

Much time was spent discussing existing opportunities for education and outreach within the Lower Fall Creek Watershed. The group began by discussing the need to obtain more accurate data related to ethnicity and primary language spoken at home. This information will help to steer future efforts in reaching a diverse watershed population.

Ideas mentioned included:

- Local Churches
- The Amos Brown TV Show
- 107.1 Local Hispanic Radio programming
- Farm Co-Ops within the upland areas of the watershed

- Farm Bureau Councils
- Keep Indianapolis Beautiful
- Environmental Education Coordinator for Lawrence/Public schools
- service clubs such as Boy/Girl Scouts and Master Gardeners
- recreational clubs such as canoe clubs and fishing clubs
- coordination of efforts with neighboring watershed groups to reduce duplicative efforts and increase attendance and awareness of the issues.

Gwen White offered to display the Lower Fall Creek introductory brochures as well as the large watershed map within the IDNR display area at the Indiana State Fair. Ron Lauster provided her with several of the brochures.

Dean Farr provided the group with an insert that was recently included in the City of Lawrence utility statements. This insert, discussing the topic of Curbside recycling, may be altered to provide residents with information related to the Lower Fall Creek watershed. It was suggested that other areas should be contacted to see if they have the same capabilities.

4. Who is Missing From the Table?

Discussion focused on the need to identify Critical Areas within the watershed and obtain recommendations from the Water Quality Working Group and the Land Use/Economic Development Working Group. Once this has been completed, the information can be synthesized to prepare a targeted message and to ensure that the most relevant groups are activated and engaged in the process.

- It was also strongly suggested that the local and State governmental representatives for the watershed, as well as those currently residing in the watershed, be contacted and encouraged to become engaged in the process.

5. Topics for Future Education & Outreach Working Group Meetings

- The topics for future Working Group meetings will stem from recommendations provided by the Water Quality and the Land Use/Economic Development Working Groups, as well as needs identified by the Steering Committee.
- As part of the grant requirements, three workshops are needed and it was again suggested that these workshops be coordinated with other local efforts to reduce duplicative efforts. Suggestions were made regarding partnering with the Eagle Creek or Upper White River Watershed groups for those workshops. Other workshop ideas provided by those in attendance included a streambank stabilization project/demonstration and a workshop related to septic tank maintenance as well as highlighting the Septic Tank Elimination Program (STEP) within Marion County.
- The group also briefly discussed possible ideas for the demonstration project required through the grant. These ideas included invasive species removal and planting of native flora and a vegetated swale along the Fall Creek floodplain. Other ideas for the demonstration project are expected to come from the other Working Groups and the Steering Committee as those groups continue to meet.

6. Next Meeting Date

The next Education & Outreach Working Group meeting is scheduled for Thursday, December 13, 2007 to begin at 3:00 pm in the Lawrence Government Center.



Lower Fall Creek Watershed Management Plan
EDUCATION & OUTREACH WORKING GROUP MEETING

3:00 pm Thursday, December 13, 2007
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introduction
2. Summary of Grant Requirements and Role of Working Committee
3. Identification of Critical Areas and Development of Outreach
4. Workshop/Clean Water Indiana Grant
5. Purdue Social Indicators Pilot Study
6. Indiana State Fair Grounds
7. Lake Management Issues
8. Next Meeting Date

This page intentionally blank



Lower Fall Creek Watershed Management Plan
EDUCATION & OUTREACH WORKING GROUP MEETING

3:00 pm Thursday, December 13, 2007
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Working Group Members Present:

Dean Farr, Watershed Resident
Tina Jones, Indy Parks
Ron Lauster, Marion County SWCD
Gwen White, IDNR – LARE

Others Present:

Heather Buck, CBBEL

7. Welcome and Introduction

Ron Lauster (Marion County SWCD) welcomed everyone, introductions were made, and a sign in sheet was passed around.

8. Summary of Grant Requirements and Role of Working Group

The role of the Working Group will be to provide educational opportunities to the stakeholders of the Lower Fall Creek Watershed in the form of news releases, workshops, and informational updates to the Steering Committee. Existing resources such as neighborhood liaisons, websites, local media outlets, and workshops will be utilized to inform watershed stakeholders of ways to reduce their impact on the watershed, upcoming opportunities, as well as the information and recommendations developed by the Water Quality and the Land Use/Economic Development Work Groups.

9. Identification of Critical Areas and Development of Outreach

Discussion of this topic was moved to follow Item #7 – Lake management issues.

10. Workshop/Clean Water Indiana Grant

Ron Lauster indicated that the Marion SWCD intends to prepare and submit applications for the 2008 Clean Water Indiana: Market Incentive Grant and the Sediment and Nutrient Reduction Grant. Ron discussed the possibility of utilizing the grant funding to provide outreach and education materials related to the proposed workshops for the Lower Fall

Creek Watershed Planning project. Further, demonstration sites or practices established with funding provided by these grants can be visited during the Lower Fall Creek workshops. Funding awards are not expected until April of 2008 and funds must be expended within one calendar year.

11. Purdue Social Indicators Pilot Study

Ron Lauster was contacted by Dr. Linda Prokopy, Assistant Professor, Purdue University, regarding the ongoing development of a Social Indicator framework. Dr. Prokopy was seeking the participation of the Lower Fall Creek WMP project as part of a pilot study. During this study, detailed surveys would be developed specifically for the stakeholders within the Lower Fall Creek, distributed to those within identified critical areas, and compiled as submitted. This process would be utilized pre and post project to indicate any changes in awareness and/or behavior, specifically as a result of the Lower Fall Creek project.

12. Indiana State Fair Grounds

Ron Lauster provided a conceptual view and draft budget regarding the proposed Indiana State Fairgrounds Constructed Wetland Stormwater Treatment System. This system was designed to assist with stormwater runoff treatment from the State Fairgrounds. This area is known for elevated *E. coli* levels. The discussion evoked several questions regarding the date of the design and budget preparation, ownership of the property, and the perceived ability to complete the project.

13. Lake Management Issues

Ron Lauster provided the group with handout materials presented at the Crystal Point Lake Meeting where he discussed the role of the SWCD and provide resource fact sheets regarding Pond Management, Managing Canada Geese, Filter strips, native vegetation, etc. Ron thought that this may be helpful to provide to other interested lake groups within the Lower Fall Creek watershed and to reproduce the fact sheets as handouts for the workshops.

3. Identification of Critical Areas and Development of Outreach

A worksheet identifying the critical areas for each pollutant (as determined by the Land Use/Economic Development Work Group and the Water Quality Work Group) was distributed. After discussion of items 4, 5, 6, and 7 above, the Education and Outreach Work Group decided to combine all three pollutants into one workshop and hold one workshop in each of the agricultural, sub-urban, and urban settings tailored to meet the needs and issues associated with those settings.

Ron Lauster and Tina Jones agreed to meet in early January to discuss the historic native planting area (Central Ave to Pennsylvania Ave) along Fall Creek and whether it can be combined with the spring workshop as a discussion topic and field visit. Outcomes of this meeting and ideas for the summer and fall workshops will be discussed at the next Education and Outreach Work Group meeting.

8. Next Meeting Date

The next Education & Outreach Working Group meeting is scheduled for Tuesday, February 12, 2008 to begin at 3:00 pm in the Lawrence Government Center.



Lower Fall Creek Watershed Management Plan
EDUCATION & OUTREACH WORKING GROUP MEETING

3:00 pm Thursday, February 28, 2008
Lawrence Government Center
9001 East 59th Street

AGENDA

- 1. Social Indicators Pilot Study** – Dr. Linda Prokopy, Purdue University
- 2. Workshop information**
 - a. Shoreline Stewards** – Suburban – Guiding the landowner/HOA in developing a Lake/Shoreline Management Plan for their property and/or community
 - b. Backyard Conservation** – Urban – Presentations and hands on activity to show homeowners techniques to reduce polluted runoff leaving their property
 - c. Regulated Drain vs. Natural Waterway** – Rural – Channel maintenance techniques, log jams, riparian buffers and how projects differ when dealing with a regulated drain or a natural waterway
- 3. BMP Demonstration Project**
- 4. Next Meeting Date**

This page intentionally blank



Lower Fall Creek Watershed Management Plan
EDUCATION & OUTREACH WORKING GROUP MEETING

3:00 pm Thursday, February 28, 2008
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Working Group Members Present:

Dean Farr, Watershed Resident
Tina Jones, Indy Parks
Ron Lauster, Marion County SWCD

Others Present:

Heather Buck, CBBEL
Linda Prokopy, Ph.D., Purdue University

1. Social Indicators Pilot Study – Dr. Linda Prokopy, Purdue University

Dr. Linda Prokopy with Purdue University was present to discuss the Lower Fall Creek Watershed Project as a participant in the Social Indicators Pilot Study. This study is being driven by US Environmental Protection Agency (EPA) Region 5 to test a system for using social indicators in non-point source (NPS) pollution management. Social Indicators are measures that describe the capacity, skills, awareness, knowledge, values, belief, and behaviors of individuals, households, organizations, and communities. Many education and outreach attempts through 319 grants have been utilized to change behaviors or raise awareness in stakeholders in order to change behaviors and reduce NPS pollution. By completing this survey and analysis of results the group and other pilot study groups will be provided with consistent measure of changes within a watershed to better develop educational materials and gauge the success of their outreach efforts. More information on the Social Indicators and the US EPA Region 5 study can be found at:

<http://www.uwex.edu/ces/regionalwaterquality/Flagships/Indicators.htm>

2. Workshop information

Updates regarding the three workshops were provided.

- a. **Shoreline Stewards:** *Suburban – Guiding the landowner/HOA in developing a Lake/Shoreline Management Plan for their property and/or community* - June 12, 2008 and August 21, 2008

Mark Mongin (SePro and Indiana Lake Management Society), Ron Lauster (Marion SWCD), and Heather Buck (CBBEL) have been meeting to develop the Shoreline Stewards workshop. The workshop will be divided into 2 sessions to allow ample time to produce a lake or property management plan designed to enhance and protect water quality. These sessions will be held at the Garrison at the Fort Benjamin Harrison State Park in Lawrence.

The first session will discuss the assessment of the property or lake shore and why planning is important. The second session will allow participants to discuss their issues with local experts during several round table sessions. A Clean Water Indiana Grant obtained by the Marion County SWCD will be utilized for printing of the Backyard Conservation Sheets which will be provided to the workshop attendees.

b. Backyard Conservation: *Urban – Presentations and hands on activity to show homeowners techniques to reduce polluted runoff leaving their property.*

Few details are available regarding this workshop as planning is just beginning. It is anticipated that this workshop will be held in the early fall with discussions on topics such as rain gardens, rain barrels, native plantings, porous pavement, and other such BMPs that can be implemented on existing residential properties. Suggestions for target communities included the Near Eastside Community Organization, and Community Development Corporations such as the Near North, Kennedy King, and Mapleton Fall Creek.

c. Regulated Drain vs. Natural Waterway: *Rural – Channel maintenance techniques, log jams, riparian buffers and how projects differ when dealing with a regulated drain or a natural waterway* It is anticipated that this workshop will be held in the winter in the Madison or Hancock portions of the watershed. Topics such as riparian buffers, set back, maintenance easements, and how these issues may affect USDA Incentive programs for establishment of riparian buffers or grass filter strips. More details will be provided as this workshop is developed.

3. BMP Demonstration Project

The potential BMP demonstration project with Indy Parks was discussed briefly. It was mentioned that a native planting project along Fall Creek was being planned through Indy Parks. Few details are available as this project will require grant funds and several other partnerships in order to be successfully implemented. Details will be provided as they become available.

4. Next Meeting Date

The next meeting will be held on May 13, 2008 to develop the Social Indicators survey.



Lower Fall Creek Watershed Management Plan
EDUCATION & OUTREACH WORKING GROUP MEETING

11:00 am Tuesday, May 13, 2008
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introductions
2. Social Indicators Pilot Study – Dr. Linda Prokopy, Purdue University
3. Next Meeting

This page intentionally blank



Lower Fall Creek Watershed Management Plan
EDUCATION & OUTREACH WORKING GROUP MEETING

11:00 am Tuesday, May 13, 2008
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Working Group Members Present:

Dean Farr, Watershed Resident
Ron Lauster, Marion County SWCD
Georgie Perkins, Lake Maxin Hall Representative
Mark Rumreich, Indian Lake Representative
Gwen White, IDNR-LARE

Others Present:

Heather Buck, CBBEL
Dr. Linda Prokopy, Purdue University

1. Welcome and Introductions

Heather Buck opened the meeting with thanking everyone for attending the day's session and giving a brief discussion on why the Lower Fall Creek Watershed Alliance would be utilizing the Social Indicators survey.

Attendees introduced themselves.

Ron Lauster provided attendees with the general Lower Fall Creek Watershed brochure as well as the registration brochure for the upcoming Shoreline Stewards workshop to be held on June 12 and August 21, 2008.

2. Social Indicators Pilot Study – Dr. Linda Prokopy, Purdue University

Dr. Prokopy provided the group with background information on the Social Indicators research project. This project is a US EPA Region 5 pilot study to attempt to measure the changes in awareness, attitudes, and behaviors as a result of 319 education and outreach efforts. Survey packets were utilized to determine which questions would be asked of stakeholder regarding:

- Rating of water quality
- Opinions on how actions impact water quality
- Water quality impairments
- Sources of water pollutants
- Practices to improve water quality

- Consequences of poor water quality
- Making decisions regarding property maintenance
- Trusted sources of information
- Demographics

Dr. Prokopy will formulate the information provided by the group into a draft survey which will be distributed to the group for a second review. Once the group is comfortable with the draft document printing can be completed. It is anticipated that the first information will be sent to 1,000 randomly selected Lower Fall Creek Watershed residents on September 2, 2008. The following process will be utilized to distribute the surveys:

- On September 2, 2008 a letter will be mailed to selected residents letting them know that a survey will be sent to them and that it is important for them to return the completed survey.
- One week later, the survey will be mailed to selected residents with postage provided.
- 2 weeks after the survey has been mailed a reminder postcard will be sent to those resident that have not returned the completed survey.
- Finally, a second survey will be mailed via certified mail to those residents that have not submitted their completed survey 6 weeks after the survey was mailed.

The Lower Fall Creek Watershed Alliance will need to provide addresses for residential properties within the watershed and invite stakeholder representatives to a working meeting to develop the survey. Dr. Prokopy's groups will provide all costs for printing, mailing, data entry, and analysis of completed surveys.

3. Next Meeting

The comment and review of the draft survey will be complete electronically. The next meeting will be scheduled as needed to prepare for the Backyard Conservation and Regulated vs. Non-regulated Drain workshops.

Land Use and Economic Development Meetings Agendas and Summaries



This page intentionally blank





Lower Fall Creek Watershed Management Plan
LAND USE & ECONOMIC DEVELOPMENT WORKING GROUP MEETING

3:00 pm Tuesday, August 14, 2007
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introduction
2. Summary of Grant Requirements and Role of Working Group
3. Discuss Current Land Use and Land Use Information
4. Discuss Economic Development Plans and Projects
5. Topics for Future Working Committee Meetings
6. Next Meeting Date

This page intentionally blank



Lower Fall Creek Watershed Management Plan
LAND USE & ECONOMIC DEVELOPMENT WORKING GROUP MEETING

3:00 pm Tuesday, August 14, 2007
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Working Group Members Present:

Jason Armour, Fishers Engineering Department
Chris Barnett, Near North Development Corporation
Bonnie Chastain, Windridge Development Neighborhood Association
Tom Crouch, Lawrence Economic Development
Phil Harman, Windridge Development Neighborhood Association
Tim Hayes, Lawrence Planning Department
Jim Hoskins, Indian Lake Neighborhood Association
Anna Jetmore-Vargas, Indy Parks – Land Stewardship
Lori Kaplan, City of Lawrence DPW
Kevin Kelly, Noblesville Economic Development
Ron Lauster, Marion County SWCD
Gary Rosenberg, Windridge Development
Mark Rumreich, Indian Lake Neighborhood Association
Dennis Slaughter, Indianapolis Planning Department
Gwen White, IDNR – LARE

Others in Attendance:

Sheila McKinley, CBBEL
Sky Schelle, IDEM – OWQ

1. Welcome and Introduction

Ron Lauster opened the meeting by thanking those in attendance for their interest and participation and asked participants introduce themselves.

2. Summary of Grant Requirements and Role of Working Committee

Sheila McKinley explained that the Marion County SWCD submitted and received a 319 grant funds to prepare a Watershed Management Plan (WMP) for the Lower Fall Creek Watershed. Grant funds were awarded in December 2006 and expire in May 2008. CBBEL was hired by the SWCD in May 2007 to facilitate the planning process and prepare the WMP. IDEM's WMP Checklist requires the Plan to identify water quality

problems and causes, identify sources of water quality impairments, identify critical areas, and best management practices to improve water quality. Development of the WMP is being led by a Steering Committee of local leaders and decision-makers. Three Working Groups have been established to work through the specifics – Land Use & Economic Development, Water Quality, and Education & Outreach.

The role of the Land Use & Economic Development Working Group is to determine general land use categories; identify where and how development (and redevelopment) is occurring in the watershed; identify critical areas and best management practices; discuss current standards for development and redevelopment and determine if they are good or bad for water quality and/or economic development.

3. Discuss Current Land Use and Land Use Information

Sheila shared with the group 2 types of existing land use data – 1) Multi-Resolution Land Characteristic data derived from 1992 satellite imagery and 2) land use based on State Land Use Codes (LUC) for each county (shown below).

LAND USE CODE	Number of Categories / Land Use Code			
	HAMILTON COUNTY	HANCOCK COUNTY	MADISON COUNTY	MARION COUNTY
0 - Unknown	1	1	0	1
100 – Agriculture	4	3	2	1
300 – Industrial	4	6	0	2
400 – Commercial	19	12	0	6
500 – Residential	16	11	2	8
600 – Exempt	5	7	1	7
900 – Other	1	0	2	4
TOTAL	50	40	7	29

The Working Group quickly dismissed the 1992 data because so much has changed in the watershed since then – especially in Hamilton County. Following much discussion, the Working Group concluded that the categories from the Land Use Code did not represent the categories of land use that would impact water quality. The Working Group decided on the following 7 categories:

- 1) Agriculture (cropland or pasture)
- 2) Woodland/Park/Preserves/Wetlands/Floodplains/Cemeteries
- 3) Golf Courses
- 4) Residential (wooded, low and medium density)
- 5) Commercial/Industrial/Apartment Complexes (> 75% imperviousness, non-generating pollutant source, non-NPDES)
- 6) Commercial/Industrial (potential pollutant generators, NPDES permits – CRTK, CAFO, auto salvage, landfill, private WWTP)
- 7) Active Rule 5 (land cleared for construction)

Sheila agreed to work with the individual planning departments, parks, departments, SWCDs, and IDEM to produce an updated land use map for the watershed.

4. Discuss Economic Development Plans and Projects

Unfortunately the Working Group meeting ran out of time and didn't have time to discuss economic development plans and projects. All agreed to dedicate time to this important discussion at the next Working Group meeting. Sheila offered to compile what she could to aid with the discussion.

5. Topics for Future Water Quality Working Committee Meetings

The following summarizes the discussion throughout the Working Committee meeting for discussion at future meetings:

- 1) Determine rate of growth and land uses in transition
 - Review historic aerial photography to determine rate of growth in watershed
 - Identify short and long-term development plans in watershed
- 2) Identify Critical Areas and BMPs to improve water quality
 - Isolate land uses based on risk to water quality
 - Incorporate growth models/heat island research conducted by Butler, IUPUI – CEES, and KIB
 - Identify regulated drains and maintenance procedures
 - Incorporate septic information (Barrett Law, topography, soils, floodplains, etc.)
 - Identify agricultural areas with livestock
 - Identify transportation corridors (RR and Hwy)
- 3) Review Development Standards
 - Determine impact on water quality
 - If amended to improve water quality, determine impact on economic development
 - Ensure participation from the planning and economic development entities in Marion County, Hamilton County, Madison County, Hancock County, City of Lawrence, City of Noblesville, Town of Fishers, and Town of McCordsville.

6. Next Meeting Date

The next Land Use & Economic Development Working Group meeting is scheduled for Tuesday, November 13, 2007 at 9:00 am in Room 200 of the Lawrence Government Center.

This page intentionally blank



Lower Fall Creek Watershed Management Plan
LAND USE & ECONOMIC DEVELOPMENT WORKING GROUP MEETING

9:00 am Tuesday, November 13, 2007
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introductions
2. Project Update
3. Prioritize Critical Land Use/Economic Development Issues
4. Identify Critical Land Use/Economic Development Areas
5. Next Meeting Date

This page intentionally blank



Lower Fall Creek Watershed Management Plan
LAND USE & ECONOMIC DEVELOPMENT WORKING GROUP MEETING

9:00 am Tuesday, November 13, 2007
 Lawrence Government Center
 9001 East 59th Street

MEETING SUMMARY

Working Group Members Present:

Chris Barnett, Near North Development Corporation
 Tom Crouch, Lawrence Economic Development
 Tim Hayes, Lawrence Planning Department
 Roger Johnson, Noblesville Planning Department
 Ron Lauster, Marion County SWCD
 Mark Rumreich, Indian Lake Neighborhood Association
 Dennis Slaughter, Indianapolis Planning Department

Others in Attendance:

Sheila McKinley, CBBEL
 Sky Schelle, IDEM – OWQ

1. Welcome and Introduction

Ron Lauster opened the meeting by thanking those in attendance for their interest and participation and asked participants introduce themselves.

2. Project Update

Sheila McKinley provided an overview of the changes that were made to the Land Use map to better reflect the impact land uses have on water quality as opposed to using standard land use codes. This process reduced the number of land use categories from as many as 50 into 1 of 7 groups.

LAND USE	DESCRIPTION	PERCENT
AG	cropland or pasture	37.6%
COM, IND	>75% imperviousness, potential pollutant generator, NPDES permits, CRTK, CAFO, auto salvage, landfill, private WWTP	0.5%
COM, IND, EDU, RES,	>75% imperviousness, non-generating pollutant source, non-NPDES	19.9%
GOLF		2.3%

OPEN SPACE	woodland, park, preserves, wetlands, floodplains, etc	5.7%
RES	wooded, low and medium density	33.6%
RULE 5	cleared for construction	0.4%

This modified land use information was used to run 3 different development scenarios in the Land Use Central Indiana (LUCI) projected into 2040. These included: Current, Build Out, and Conservative rates of growth. The resulting land uses were entered into the Long-Term Hydrologic Impact Analysis (L-THIA) model to determine impact of land use change on water quality. According to these results:

- similar water quality results between the Current and 2040 Conservation Scenario (exception oil & grease 88% increase)
- Build Out 75% decrease in Nitrogen, Phosphorus, and Suspended Solids (removal of agricultural practices)
- Build Out 68% increase in BOD (residential)
- Build Out 2 times bacteria (residential)

The scale of the LUCI model is fairly large and parameters somewhat limiting but a fruitful exercise to reaffirm how changes in land use can impact water quality.

Sheila added that CBBEL staff has been busy reviewing planning documents, talking to staff in Indianapolis, Lawrence, Fishers, Noblesville, Hamilton County, Madison County, and Hancock County to compile information on:

- Long Range Planning – plans for growth, development, and open space
- Critical Areas – identified in Plans of by staff
- Development Standards – requirements for Low Impact Development (LID), green development, smart growth, and floodplain development
- Rule 5 – estimated active development sites
- Tree Cover – percent cover based on studies and/or aerial photography; programs to preserve/enhance tree cover
- Waterways, Floodplains, and Regulated Drains – list, studied/unstudied, maintenance procedures

3. Prioritize Critical Land Use/Economic Development Issues

Sheila provided an overview of the data collected and mapped to date. The first exhibit included: CSOs, impaired waterways, sewer service areas, soil suitability, septic tank elimination program areas (STEP), and 100-year floodplains. The second illustrated the location of superfund site, brownfields, LUST/UST, NPDES, and CFO,

Members of the Work Group discussed land use/economic development issues in the watershed which resulted in a Land Use Influences Map including:

- development at Exit 10 (Noblesville & Fishers) and Exit 5 (Fishers) along I-69
- influence of I-69, I-74, Mt. Comfort Airport, proposed Airport south of Lapel
- growth in Fishers, Noblesville, and McCordsville
- BioCrossroads infill development (in wellfield) Indianapolis

4. Identify Critical Land Use/Economic Development Areas

Sheila led the Work Group through an exercise to identify Critical Areas in the Lower Fall Creek Watershed. This included sediment, nutrients, and bacteria; typical land uses

associated with each pollutant; and critical areas in the Lower Fall Creek Watershed (blank). Critical Areas discussed by the Work Group included:

- Sediment
 - *Streambank erosion at Windridge Condominiums*
 - *Erosion and sediment control enforcement in City of Lawrence*
 - *Sedimentation of Indian Lake*
 - *Land development proposal at Exit 10*
- Nutrients
 - *Over application of fertilizers (residential and golf courses)*
 - *Wellfield Protection Areas*
- Bacteria
 - *Indiana State Fair Grounds*
 - *BioCrossroads Development*
 - *Wellfield Protection Areas*
 - *Septic areas*
 - *Low income neighborhood where kids frequently swim in Fall Creek*

Before the next meeting, CBBEL staff will gather additional information on each of these Critical Areas to assist with the prioritizing.

5. Next Meeting Date

The next Land Use & Economic Development Working Group meeting is scheduled for Tuesday, February 12, 2008 at 9:00 am in Room 200 of the Lawrence Government Center.

This page intentionally blank



Lower Fall Creek Watershed Management Plan
LAND USE & ECONOMIC DEVELOPMENT WORKING GROUP MEETING

9:00 am Tuesday, February 12, 2008
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introductions
2. Project Update
3. Review Critical Areas & Discuss Management Measures
4. Discuss Code & Ordinance Worksheet (COW) Tool
5. Discuss Review Schedule of DRAFT Watershed Management Plan

This page intentionally blank



Lower Fall Creek Watershed Management Plan
LAND USE & ECONOMIC DEVELOPMENT WORKING GROUP MEETING

9:00 am Tuesday, February 12, 2007
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Working Group Members Present:

Chris Barnett, Near North Development Corporation
Tom Crouch, Lawrence Economic Development
Roger Johnson, Noblesville Planning Department
Ron Lauster, Marion County SWCD
Mark Rumreich, Indian Lake Neighborhood Association
Dennis Slaughter, Indianapolis Planning Department

Others in Attendance:

Sheila McKinley, CBBEL

1. Welcome and Introduction

Ron Lauster opened the meeting by thanking those in attendance for their interest and participation.

2. Project Update

Ron provided an update on the planning and partnering efforts of the Education and Outreach Work Group. While the time, date, and details have yet to be worked out, 3 workshops are being planned for 2008. These include: Pond Maintenance, Backyard Conservation, and Regulated Drain vs. Natural Streams. Ron encouraged everyone to periodically check the Lower Fall Creek WMP (www.lowerfallcreek.org) for updates.

Sheila McKinley provided a review of the Land Use Influences discussed at the last Land Use & Economic Development Work Group meeting. These include:

- development at Exit 10 (Noblesville & Fishers) and Exit 5 (Fishers) along I-69
- influence of I-69, I-74, Mt. Comfort Airport, proposed Airport south of Lapel
- growth in Fishers, Noblesville, and McCordsville
- BioCrossroads infill development (in wellfield) Indianapolis

Sheila referred to large exhibits illustrating the Critical Areas identified at the last meeting. These include:

- Sediment
 - *Streambank erosion at Windridge Condominiums*
 - *Erosion and sediment control enforcement in City of Lawrence*
 - *Sedimentation of Indian Lake*
 - *Land development proposal at Exit 10*
- Nutrients
 - *Over application of fertilizers (residential and golf courses)*
 - *Wellfield Protection Areas*
- Bacteria
 - *Indiana State Fair Grounds*
 - *BioCrossroads Development*
 - *Wellfield Protection Areas*
 - *Septic areas*
 - *42nd & College Neighborhood where children frequently swim in Fall Creek*

3. Review Critical Areas & Discuss Management Measures

Sheila asked the Land Use & Economic Development Work Group to brainstorm possible Management Measures for the Critical Areas mapped. Management Measures to reduce Sediment included the need for the Lawrence to adopt/enforce an Erosion and Sediment Control (ESC) Ordinance. Ideally it would contain some sort of provision requiring contractors to have obtained an approved ESC training or certification. This training could be through a partnership with the Marion County SWCD and/or Hoosier Heartland RC&D. Highly Erodible Lands (HEL) needs to be acknowledged in the planning process – possibly as an overlay zone. Although there is not much the WMP can do to address the streambank erosion problem at Windridge Condominiums or the sedimentation of Indian Lake, both provide very good educational opportunities and lessons learned for future growth and development.

Management Measures to reduce Nutrients targeted over application of fertilizers on golf courses and residential lake properties. Mark Rumreich shared an article from Stormwater Magazine (November/December 2007) about restrictions that Minnesota has placed on phosphorus in fertilizers. Ron added that the SWCD has applied for cost-share money to assist lake communities better manage the neighboring properties. Marion County has a good Wellfield Protection Ordinance and a strong business education program through MCWEC (Marion County Education Corporation). A similar Wellfield Protection Ordinance is needed for the wellfield in Madison County.

Management Measures to reduce Pathogens should focus on understanding the relationship of groundwater and surface water. This effort could establish guidelines for development and redevelopment in wellfield protection areas. Other than bringing awareness to the issue, the Work Group agreed that there is really little they can do with regard to septic systems and limited resources should be focused elsewhere. The City of Indianapolis is implementing the Septic Tank Elimination Program (STEP) and Long-Term Control Plan (LTCP). Tom Crouch added that almost all of Lawrence is now on sewer. Roger Johnson noted that in Hamilton County development is required to connect to sewer if within 300 feet. The Work Group wondered if the effluent from the State Fair Grounds is being addressed by Health and Hospital and the Fair Board or as part of the City's LTCP.

4. Discuss Code & Ordinance Worksheet (COW) Tool

Sheila passed out copies of the DRAFT EPA document called “Land Use Planning as the First BMP: Linking Stormwater to Land Use” and the Center for Watershed Protection’s DRAFT “Code and Ordinance Worksheet (COW) Tool”. Both focus on the impact that land use and land development practices have on stormwater runoff and water quality. And the need for a stronger working relationship between stormwater managers and land use planners – focused on water quality at a watershed scale. The articles generated a very fruitful discussion within the Work Group and it sparked a curiosity among the land use planners to better understand stormwater issues and integration into land use planning and land development processes.

5. Discuss Review Schedule of DRAFT Watershed Management Plan

Sheila noted that this would be the last time the Land Use & Economic Development Work Group would need to meet as a group and thanked everyone for their participation during the meetings as well as between meetings. The DRAFT WMP should be available for the Work Group to review and comment in May 2008. Ron strongly suggested the Work Group check the Lower Fall Creek WMP website www.lowerfallcreek.org.

This page intentionally blank

Water Quality Working Group Meetings Agendas and Summaries



This page intentionally blank





Lower Fall Creek Watershed Management Plan
WATER QUALITY WORKING GROUP MEETING

3:00 pm Tuesday, August 7, 2007
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and Introduction
2. Summary of Grant Requirements and Role of Working Committee
3. Summary Existing Water Quality Sampling Efforts
4. Identification and Selection of Water Quality Sampling Sites
5. Topics for Future Water Quality Working Committee Meetings
6. Next Meeting Date

This page intentionally blank



**Lower Fall Creek Watershed Management Plan
WATER QUALITY WORKING GROUP MEETING**

3:00 pm Tuesday, August 7, 2007
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Working Group Members Present:

Robert Barr, IUPUI-CEES
Fred Beyne, Mallard Lake Home Owners Association
Crist Blassaras, Madison County SWCD
Dean Farr
Bill Guertal, USGS
Jim Hoskins, Indian Lake Home Owners Association
Lori Kaplan, City of Lawrence DPW
Joe Ketterman, Marion County Health Department
Ron Lauster, Marion County SWCD
Gary Rosenberg, Windridge Development
Andy Van Treese, Indian Lake Home Owners Association
Lenore Tedesco, IUPUI-CEES
Paul Werderitch, City of Indianapolis DPW/OES
Gwen White, IDNR - LARE

Others in Attendance:

Zach Bishton, CBBEL
Sheila Mckinley, CBBEL
Crystal Rehder, IDEM - OWQ
Sky Schelle, IDEM - OWQ

1. Welcome and Introduction

Ron Lauster opened the meeting by thanking those in attendance for their interest and participation and asked participants to introduce themselves.

2. Summary of Grant Requirements and Role of Working Committee

Zach Bishton gave a summary of the requirements of the Lower Fall Creek Watershed Management Plan grant. Zach explained that the grant requires the collection of additional water chemistry data from 10 sites within the watershed during no less than eight sampling events. The parameters required by the grant include Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Kjeldahl Nitrogen (TKN), Nitrate, Orthophosphorus,

Total Phosphate, Total Suspended Solids, and *E.coli*. The overall intent of the Water Quality Working Group was also discussed. It will be the role of the Working Group to determine the need for and the location where additional water quality sampling will be conducted, to oversee the analysis of water quality data that is collected, to determine pollutant loading targets, to identify water quality problems in the watershed, and to make recommendations for improving water quality problems and enhancing areas in the watershed that are considered to be beneficial to water quality.

3. Summary Existing Water Quality Sampling Efforts

Much existing water quality data has already been collected within the Lower Fall Creek Watershed. Working Group members received a map and spreadsheet that identified known active and existing water quality sampling sites within the watershed. Data in the watershed has been collected by the Marion County Health Department, the City of Indianapolis DPW, IDEM, USGS, and Indiana University South East. Robert Barr, with IUPUI also discussed a map identifying the location of known sampling sites within the Lower Fall Creek Watershed. The group then discussed whether it was necessary to collect additional water quality data within the watershed or if it would be more beneficial to begin analyzing and synthesizing existing water quality data.

4. Identification and Selection of Water Quality Sampling Sites

Zach presented a summary table which identified each of the six subwatersheds that make up the Lower Fall Creek Watershed, the total number of known active sampling sites that are located in each subwatershed, the predominant land use types within each subwatershed and the corresponding pollutant loading rankings for each subwatershed based on L-THIA and STEP-L pollutant loading models. The table is identified below.

Subwatershed	Active Sampling Sites	Land Use	LTHIA Pollutant Loading Ranking	STEP-L Pollutant Loading Ranking
Mud Creek Headwaters	0	Urban- 22% Agricultural- 73% Forest- 3%	1	1
Mud Creek - Sand Creek	0	Urban- 42% Agricultural- 46% Forest- 9%	3	3
Indian Creek - Steele Ditch	0	Urban- 39% Agricultural- 56% Forest- 3%	2	2
Fall Creek - Lawrence Creek	2	Urban- 68% Agricultural- 10% Forest- 19%	5	5
Fall Creek - Devon Creek	1	Urban- 86% Agricultural- 0% Forest- 11%	6	6
Fall Creek - Minnie Creek	9	Urban- 97% Agricultural- 0% Forest- 1%	4	4

Based on this data, the group continued to discuss the need for additional water quality data. Overall, group members seemed to agree that there was a need to focus future water quality monitoring efforts on biological health, habitat evaluations, and geomorphic changes within the watershed.

Ron mentioned that one of his concerns was whether or not the contract for the grant could be amended to change the scope to focus on biological and habitat evaluations as opposed to water chemistry evaluations. Sky Schelle, IDEM Project Manager mentioned that he would seek clarification from his supervisor regarding the possibility of amending the contract language.

The group agreed that future water quality sampling efforts, whether focusing on chemistry, biology, or habitat, should be concentrated in the more rural headwater subwatersheds, which were identified as having the greatest pollutant loading rankings and the least amount of historic water quality data.

5. Topics for Future Water Quality Working Committee Meetings

The group also discussed the following known water resource problems in the Lower Fall Creek Watershed:

- Members from the Indian Lake and Mallard Lake Home Owners Associations and Windridge Development raised numerous concerns regarding problems associated with flooding, sedimentation, and severe bank erosion in the watershed. The Indiana Lake Association has purchased its own dredge machine to help remove sediments from the lake.
- There seems to be a lack of local enforcement of Rule 5 and other erosion and sediment control ordinances throughout the watershed.
- There is a need for improved coordination and management between city, county, and state representatives with regard to management of Fall Creek and its tributaries
- There is a need to enhance the public's awareness of the Lower Fall Creek Watershed Project to ensure that the final plan is effective and that local politicians are aware of the local support for the Watershed Management Plan.
- Concerns were also raised regarding geomorphic changes to Fall Creek and its tributaries as growth in the watershed continues to occur.

In addition the group continued to discuss the overall role of the Working Group. Crist Blassaras asked if the working committee would be responsible for setting water quality/pollutant loading targets. It was mentioned that the Fall Creek TMDL had already set pollutant reduction targets for *E.coli* concentrations in the portions of Fall Creek downstream of Geist Reservoir. The group agreed that a portion of one of the future meetings will be spent determining what pollutant loading targets will be established for other water quality parameters such as nitrogen, phosphorus, and sediment.

Several members mentioned the importance of making sure that the Water Quality Working Group be kept informed with regard to what the Land Use and Economic Development Working Group and the Public Education Working Group are discussing.

6. Next Meeting Date

The next meeting was scheduled for November 13, 2007 at 3:00pm in Room 200 of the Lawrence Government Center.

This page intentionally blank



Lower Fall Creek Watershed Management Plan
WATER QUALITY WORKING GROUP MEETING

3:00 pm Tuesday, November 13, 2007
Lawrence Government Center
9001 East 59th Street

AGENDA

1. Welcome and introduction
2. Project status update
3. Discuss and prioritize water quality issues
4. Identify critical areas
5. Schedule next meeting date

This page intentionally blank



Lower Fall Creek Watershed Management Plan
WATER QUALITY WORKING GROUP MEETING

3:00 pm Tuesday, November 14, 2007
Lawrence Government Center
9001 East 59th Street

MEETING SUMMARY

Working Group Members Present:

Crist Blassaras, Madison County SWCD
Dean Farr, Private Citizen
Jim Hoskins, Indian Lake Home Owners Association
Joe Ketterman, Marion County Health Department
Ron Lauster, Marion County SWCD
Gail McDowell, Geist Watershed Alliance
Pam Thevenow, Marion County Health Department
Andy Van Treese, Indian Lake Home Owners Association
Paul Werderitch, City of Indianapolis DPW/OES

Others Present:

Zach Bishton, CBBEL

1. Welcome and Introduction

All those in attendance introduced themselves and identified the organization they were representing. Gail McDowell with the Geist Lake Watershed Alliance introduced herself and mentioned that she is assisting in the establishment of a citizen's group that is interested in education residents in the Geist Reservoir Watershed about the steps they can take to reduce the impact that their daily activities are having on water quality in the watershed. Crist recommended that Gail or another member of her group attend the Indiana Watershed Leadership Academy.

2. Project Status Update

Zach Bishton gave an update on the status of the Lower Fall Creek Watershed Project. A partial draft of the Lower Fall Creek Watershed Management Plan will be provided to the IDEM by the end of November. The draft will include the introduction, background and history, water quality problems and causes, and critical areas discussions. The Land Use Working Group met this morning to discuss and identify key issues and critical areas in the Lower Fall Creek Watershed. The Public Education Working Group meets again on December 13, 2008, and will discuss how best to develop education efforts addressing the key issues identified by both the Water Quality and Land Use Working Groups. A copy of the IDEMs letter approving the water quality

sampling scope changed was distributed. Beginning in April, Commonwealth Biomonitoring will conduct macroinvertebrate sampling qualitative habitat evaluations in the Mud Creek, Sand Creek and Indian Creek Subwatersheds. The Group discussed the importance in ensuring that Commonwealth was aware of previous work conducted by the Health Department and the United States Geological Survey.

3. Discuss and Identify Water Quality Issues

A handout summarizing of baseline water quality information was distributed and is included at the end of this meeting summary. This spreadsheet identified the key data sets and studies that have been evaluated in order to begin identifying water quality problems in the Lower Fall Creek watershed. The Group discussed the potential impact that the watershed management planning process might have on mercury and PCB problems present throughout the watershed. The Group was in agreement that these issues would likely be a low priority for the project due to the fact that these pollutants are associated with legacy pollutant sources and because atmospheric deposition is likely the leading cause of mercury in surface water.

Sediments, nutrients, and pathogens were the pollutant sources of main concern in the Lower Fall Creek Watershed. Each pollutant was discussed in terms of the key issues and sources that are impacting pollutant loadings to fall creek waterways.

Sediments

- Need for enforcement of Rule 5 requirements throughout the watershed.
 - The Indian Lake Home Owners Association has reached a settlement with the Indiana Department of Transportation with regard to impacts that a local construction project had on sediment loadings to Indian Lake. The Group reported that they had received a \$250,000 settlement from INDOT.
 - Group Members agreed that there is a need to develop a public outreach campaign that increases citizen awareness of Rule 5 requirements. The Group discussed the possibility of developing a program whereby developers would have to display the results of their most recent site inspections by displaying a certain color flag near the access point of their construction entrance. This effort would be coordinated with a public relations campaign promoting the meaning behind the flags. A green flag would indicate that the site passed it's most recent inspection and a red flag may indicate that the site failed it's most recent inspection.
 - Crist mentioned that there is software available that can be utilized to send email notifications to all active Rule 5 sites reminding them that it is time for their next self-inspection.
- Conservation Tillage Practices
 - John South mentioned that he believed that the conservation tillage practices in the Mud Creek and Sand Creek Watersheds are likely above average for Hamilton County. John also suggested that someone from the local SWCD may be able to conduct tillage transects for this portion of the watershed.

Nutrients

- Commercial and Residential Fertilizers
 - The Group discussed the lack of awareness among both residential and commercial landowners as it relates to fertilizer application. The Group discussed the possibility of coordinating with local nurseries to conduct education and outreach efforts at the point of sale.
 - The Group discussed the possibility of discussing fertilizer education programs directly with landowners who live on or adjacent to water bodies in the watershed.
 - Golf Courses were also identified as a contributing land use.
- Waterfowl and Wildlife
 - The Group discussed the impact that waterfowl populations have on waterways and discussed options for eliminating those problems through coordinating with landowners who live adjacent to waterways and by providing education to neighborhood associations.

Pathogens

- Failing or Inadequate Septic Systems
 - The Group discussed the fact that the City's STEP program will be beneficial but also discussed the fact that the problem extends to areas not identified in the STEP program.
- CSOs
 - CSOs are also a major form of the bacteria loadings in the watershed, but will be significantly reduced through the City's Long Term Control Plan (LTCP).
- The Group discussed the water quality impacts associated with the State Fairgrounds and mentioned that they thought further evaluation of the previously proposed constructed wetlands site should be considered as a result of the plan.

4. Identify Critical Areas

The table below identifies critical areas discussed during the meeting.

DOCUMENTED WATER QUALITY POLLUTANT IN LOWER FALL CREEK	TYPICAL LAND USE/LAND USE PRACTICE ASSOCIATED WITH POLLUTANT		CRITICAL AREAS IN LOWER FALL CREEK WATERSHED
SEDIMENT impacts: <u>Aquatic Life</u> – reduces plant growth, smothers and covers spawning grounds and benthic habitats <u>Recreational Impact</u> – reduces water clarity, reduces aesthetic appeal, stresses sport fishing populations <u>Drinking Water</u> – increases drinking water treatment costs, damages pumps and infrastructure	BENEFIT water quality: <ul style="list-style-type: none"> • Riparian Buffers • Filter Strips • Conservation Areas • Post-Construction Practices 	DEGRADE water quality: <ul style="list-style-type: none"> • Tillage Practices • Construction Practices • Streambank Erosion • Stormwater Runoff 	<ul style="list-style-type: none"> • Active construction sites (Lack of Erosion and Sediment Control) • Log jams and bank erosion – (Windridge Development)
NUTRIENT (Phosphorus & Nitrogen) impacts: <u>Aquatic Life</u> – promotes algal blooms, reduces dissolved oxygen concentrations <u>Recreational Impact</u> – causes algal blooms, reduces aesthetic appeal, and causes unpleasant odors <u>Drinking Water</u> – increases drinking water treatment costs (taste and odor), resultant algae can clog water intakes and filters	BENEFIT water quality: <ul style="list-style-type: none"> • Riparian Buffers • Filter Strips • Post-Construction Practices 	DEGRADE water quality: <ul style="list-style-type: none"> • Fertilizer Application • Failing Septic Systems 	<ul style="list-style-type: none"> • Commercial fertilizer and pesticide application • Residential fertilizer and pesticide application – Indiana Lake • Waterfowl near detention ponds • Golf courses • CSOs (Fort Ben, 106th St. and Cumberland Rd, Indian Lake) • State Fairgrounds
PATHOGENS (Bacteria & Viruses) impacts: <u>Aquatic Life</u> – exposes aquatic life to disease causing organisms <u>Recreational Impact</u> – exposes recreational users to disease causing organisms	BENEFIT water quality: <ul style="list-style-type: none"> • Sewer Service • Exclusionary Fencing 	DEGRADE water quality: <ul style="list-style-type: none"> • Failing Septic Systems • Combined Sewer Overflows (CSO) • Illicit Connections to 	<ul style="list-style-type: none"> • Failing or inadequate septic systems in rural areas and Marion County Septic Tank Elimination Program Areas. • CSO's

Drinking Water – <i>increases drinking water treatment costs</i>		Storm Sewer <ul style="list-style-type: none">• Wildlife• Stormwater Runoff• Livestock & Manure Management	<ul style="list-style-type: none">• <i>State Fairgrounds</i>
--	--	--	--

APPENDIX 3

Brochure

Workshops

Newsletters

Social Indicators Survey

This page intentionally blank

Important Facts about the Lower Fall Creek Watershed



- ◆ The Lower Fall Creek Watershed covers more than 65,000 acres and contains 126 stream miles.
- ◆ Approximately 53% of the land use considered to be urbanized areas while 38% of the watershed is used for agricultural purposes.
- ◆ Approximately 73,000 people live within the Lower Fall Creek Watershed.
- ◆ The Indiana Department of Environmental Management has indicated that Fall Creek is impaired by *E. coli* which can serve as a warning sign for public health risks.
- ◆ Fall Creek drains to the White River.



The Lower Fall Creek Watershed includes Fall Creek (from Geist Reservoir to White River), plus Devon Creek, Indian Creek, Indian Lake, Lawrence Creek, Minnie Creek, Mud Creek, Sand Creek, and Steele Ditch. The watershed project affects portions of Hamilton, Hancock, Madison, and Marion Counties.

Interested individuals are encouraged to contact the Marion SWCD office with questions or comments. Christopher B. Burke Engineering, Ltd. will be assisting the SWCD as Project Manager for the Lower Fall Creek Watershed Project.

The SWCD's intent is to develop a truly "grass roots" watershed group that seeks to improve the water quality conditions within the watershed by involving citizens, neighborhood groups, local and state government agencies, and others within the watershed area.



Marion County Soil and Water
Conservation District
6960 S Gray Road, Suite C
Indianapolis, IN 46237

Phone: 317-786-1776

Fax: 317-786-1757

E-mail: ron-lauster@iaswcd.org

www.marionswcd.org

Funding for this brochure was provided through an Indiana Department of Environmental Management 319 grant awarded to the Marion County SWCD.

Lower Fall Creek Watershed Management Planning Effort

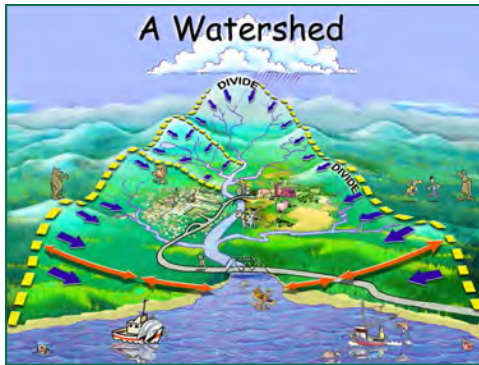


Developing a Watershed Management Plan will identify water quality impairments in the Lower Fall Creek Watershed while engaging a diverse group of stakeholders in the implementation of sustainable and local solutions.

Lower Fall Creek Watershed

What is the Lower Fall Creek Watershed?

A watershed is an area of land that collects and drains water to a specific point. In this case, Fall Creek. Precipitation such as rain and snow moves through the landscape from the highest point to the lowest point for that area.



The Lower Fall Creek Watershed drains portions of Hancock, Hamilton, Madison, and Marion Counties; as well as portions of the Town of Fishers, the City of Indianapolis, the Town of McCordsville, and the City of Lawrence. A map of the Lower Fall Creek Watershed (the area within the dark blue outline) has been provided for you inside this brochure.

A Watershed Management Plan (WMP) is a document that examines water resource issues and provides specific actions to address those issues based on the values and the needs of the community. The Marion County SWCD has been awarded grant funds to prepare a WMP for the Lower Fall Creek Watershed as it is a highly utilized recreational and drinking water resource.

Where do these pollutants come from?

Human activities have a significant effect on the quality of the water moving through the system. Excess pollutants such as sediment, bacteria, oils & grease, and nutrients may be collected and the volume and velocity of the water entering Fall Creek may be increased due to these interactions.

Land Development: During the construction phases, bare soil may be exposed leading to increased erosion from the site. Runoff from impervious surfaces may contain increased amounts of oils & greases from automobiles, road-deicing additives, pesticides & nutrients, as well as thermal pollution from heat retaining surfaces such as asphalt.



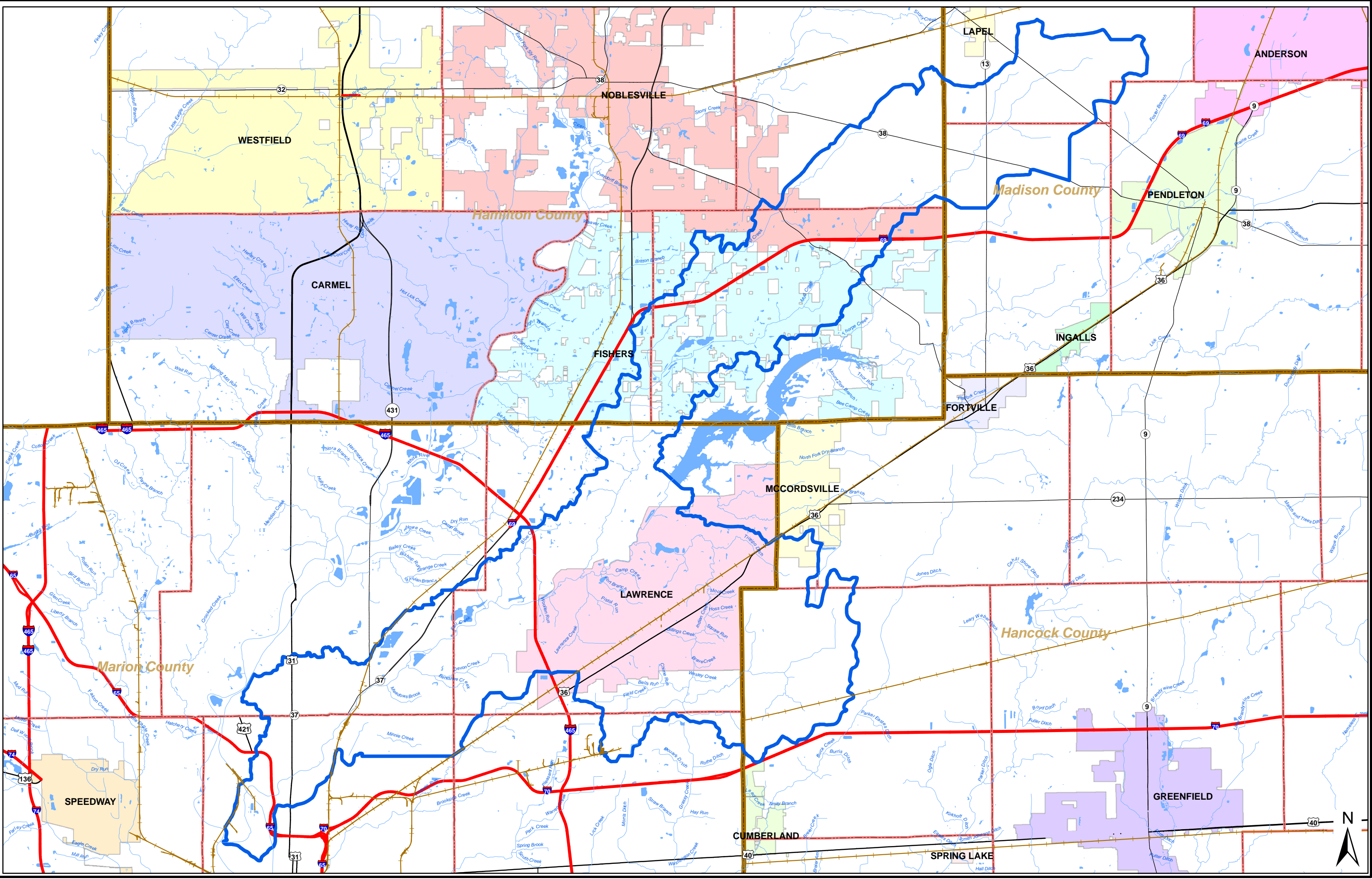
Combined Sewer Overflows (CSO): Combined sewer systems carry both sewage and stormwater during high water events. Raw sewage depletes oxygen in the streams needed for fish to survive. High bacteria levels from untreated sewage make streams unsafe for adults and children to fish, swim, or play in.

Agriculture: Activities associated with livestock and crop production may introduce pesticides, nutrients (such as phosphorus and nitrogen), pathogens (such as *E. coli*), and sediment to streams and water courses within the watershed.



Septic Systems: When septic systems fail, excess nutrients and pathogens are potentially released directly into the streams and tributaries to the Lower Fall Creek.





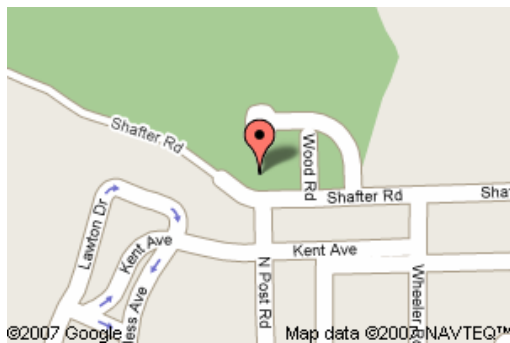
Event Sponsors

- Aquatic Control, Inc
- Christopher B. Burke Engineering
- Hoosier Heartland RC&D
- Indiana Lakes Management Society
- Indiana Wildlife Federation
- Lower Fall Creek Watershed Alliance
- SePRO Corporation
- Soil & Water Conservation Districts in Boone, Brown, Hamilton, Hendricks, Hancock, Johnson, Marion, Monroe, Morgan, and Shelby Counties.
- USDA- Natural Resources Conservation Service

This Shoreline Stewardship workshop is being facilitated by the Marion County and Hamilton County Soil & Water Conservation Districts (SWCDs) working with the sponsors listed above. Districts have been dedicated to conserving and improving soil, water, and related natural resources of their respective counties for over 35 years. This workshop is just one of the many ways districts promote wise land use and work to improve water quality in their counties.

If you have questions or concerns about the workshop contact the Marion Co. SWCD by phone at 317-786-1776.

Location



To get to the Garrison, take the E. 56 St. exit off of I-465 in the Northeast part of Indianapolis. Continue east on 56th St. to Post Rd., Turn left and continue going north to Shafter Rd. then turn right or east until you get to the entrance of the Garrison & Golf Course.

Marion Co. Soil & Water Conservation District

6960 South Gray Rd, Suite C

Indianapolis, IN 46237

www.marionswcd.org



Shoreline Stewards Workshop

Ecological Solutions for Sound Shoreline Management ...

for lakes, ponds, streams, & rivers

**Thursday Evenings 7:00 - 9:00 p.m.
On June 12 & August 21, 2008**

**Classes held at
The Garrison at
Fort Benjamin Harrison State Park
6002 North Post Road,
Indianapolis, Indiana**



Hosted by-

Hoosier Heartland Resource Conservation & Development (RC&D) Council, Inc.

Indiana Lake Management Society (ILMS)

Marion & Hamilton County Soil & Water Conservation Districts

Funded in part by an Indiana Department of Environmental Management (IDEM) 319 grant and an ISDA State Soil Conservation Board (SSCB) Clean Water Indiana (CWI) grant.

SHORELINE STEWARDS WORKSHOP - INDIANAPOLIS, INDIANA

The Garrison at Fort Ben

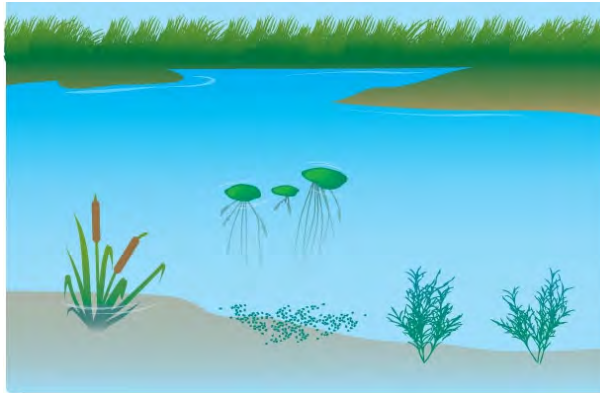
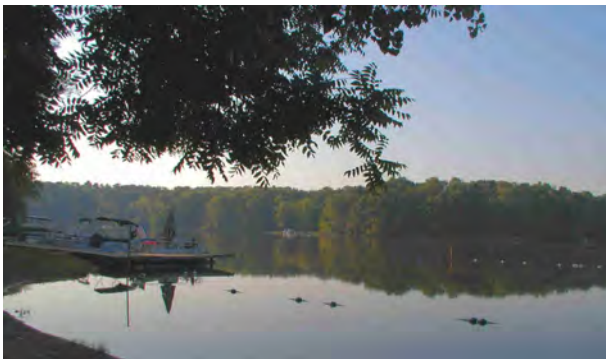
6002 North Post Road
Indianapolis, IN

The Shoreline Stewardship Workshop is an ideal opportunity for landowners, homeowners, home owner associations and other property managers who are interested in protecting and restoring the valuable natural resources at the waters edge. Worksheets will be provided to assist with common resource concerns such as nutrient management, pest management, and erosion and sediment control.

The focus of this program will be to provide valuable information to help attendees develop a management plan for their body of water shoreline area with the following elements:

- An inventory and assessment of the resources
- A developed management plan
- A list of action items to apply the plan
- An operation and maintenance schedule

The workshop will consist of two evening sessions covering two topics per night.



Agenda

Session 1: Thursday, June 12th , 7-9 pm

- Assessing Your Shoreline Situation:
An Inventory
Mark Mongin, SePRO Corporation
- Developing A Stewardship Plan:
Why & How
Heather Buck, Christopher B. Burke
Engineering, LTD

Session 2: Thursday, August 21st , 7-9 pm

- Implementing A Plan:
A Brief Discussion– Heather Buck
- Topical Experts Plan Reviews–
Roundtable Sessions
- Plan Monitoring and Maintenance–
Mark Mongin

Our sponsors will be providing
refreshments each evening

*The Hoosier Heartland RC&D Council, Inc. and our partnering organizations
are equal opportunity providers and employers.*

Registration Form:

Workshop is limited to 50 and registrations will be accepted on a first-come first-serve basis.

Name: _____

Representing: _____

Address: _____

Daytime Phone: _____

Email: _____

Number Attending ____ X \$30/person =

Total Enclosed \$ _____

Please send a check payable to the Marion
County SWCD and mail to:

Marion County SWCD
6960 S. Gray Road, Suite C
Indianapolis, IN 46237

**Registration Deadline
is Thursday June 5th**

Please note no refunds can be made after
Thursday, June 5th.

Register Now!

**LOWER FALL CREEK
WATERSHED ALLIANCE**

FREE

BACKYARD CONSERVATION WORKSHOP

**Broadway United Methodist
Church
609 East 29th Street
November 12, 2008
6:30 pm - 8:00 pm**

- The workshop is **FREE** but pre-registration is required.
- The workshop will be limited to the first **25** registrations.
- Others interested will be placed on a waiting list and will be contacted regarding future opportunities.



**To register for the workshop,
contact:**

Brooke Klejnot
Communications and Outreach Director
Mapleton-Fall Creek Development
Corporation
130 East 30th Street
317-923-5514
brooke@mfcfdc.org



**Mapleton-Fall Creek
Development Corporation**



**Marion County Soil & Water
Conservation District**

**EDEN IN
INDIANAPOLIS**



Attend this workshop to learn what you can do in your own backyard to protect the water quality of Fall Creek, beautify your neighborhood, attract birds and butterflies, and save money and time!

You will receive a barrel and required parts to create your own **FREE** rain barrel (minimal assembly will be required). Rain barrels are connected to your home's downspouts and rain water is stored in the barrel until needed for watering your lawn or flowers. This will help to reduce your monthly water bills in the summer!

You will also learn the benefits of planting native flowers, creating a backyard conservation area, and having your area certified by the Indiana Wildlife Federation as a backyard wildlife habitat!

LOWER FALL CREEK WATERSHED ALLIANCE

Regulated Drains & Natural Waterways

Lapel Library
610 Main Street
Lapel IN
March 25, 2009
6:30 pm - 8:00 pm

Agenda

Welcome and Opening Remarks

- *Heather Buck, Christopher B Burke Engineering*

Regulated Drain Overview

- *Kent Ward, Hamilton County Surveyor*

Log Jams and Permitting Issues

- *George Bowman, IDNR, Division of Water*

BREAK

USDA Funding Opportunities

- *NRCS Representative*

2-Stage Ditch Design

- *John South, Hamilton County SWCD*

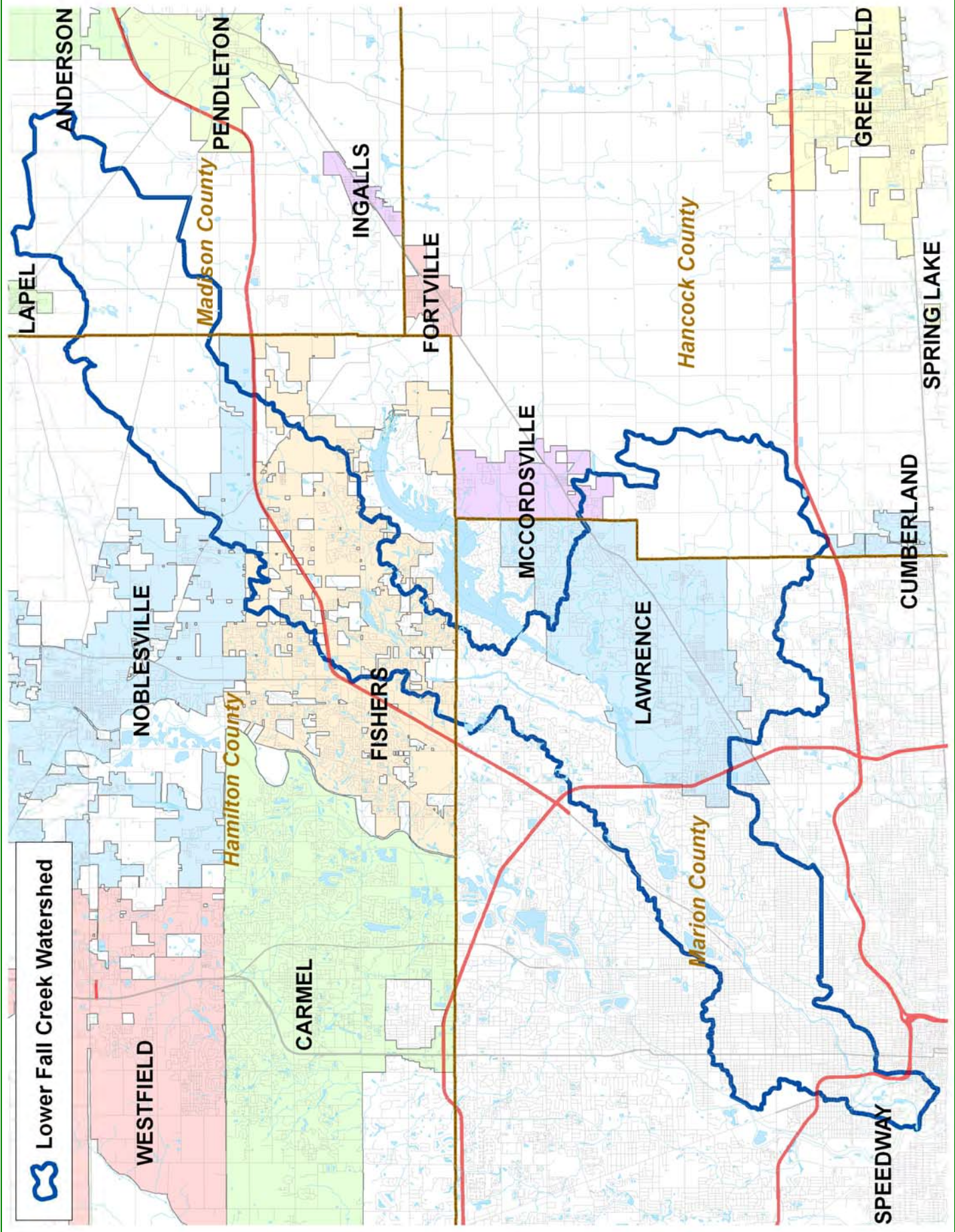


Debris causing a log-jam



Newly constructed 2-stage ditch

The Marion County Soil and Water Conservation District was awarded an IDEM 319 grant to prepare a Watershed Management Plan for the Lower Fall Creek Watershed. This watershed covers portions of Hamilton, Hancock, Madison, and Marion Counties and is identified on the back of this flyer. For more information please contact the Marion SWCD at (317) 786-1776 or visit www.lowerfallcreek.org.



Marion County Soil & Water Conservation District – News Release

Contact: Ron Lauster
Phone: 317-780-1765
Email: ron-lauster@iaswcd.org
Web site: www.marionswcd.org

News for Immediate Release

Marion County SWCD to Lead Planning Project for Large and Diverse Fall Creek Watershed

The Marion County Soil and Water Conservation District (SWCD) was awarded a Section 319 Nonpoint Source Pollution Management grant to study water quality in the Lower Fall Creek Watershed. Planning for this project began in the fall of 2006 and will wrap up with the development of a watershed management plan in May of 2009. The SWCD retained the professional services of Christopher B. Burke Engineering, Ltd. (CBBEL) to facilitate the planning process and prepare the watershed management plan.

The Lower Fall Creek Watershed is a large and diverse watershed that drains more than 65,000 acres of land in portions of Madison, Hamilton, Hancock, and Marion Counties. While 53% of the watershed has been developed for urban uses, 38% of the watershed remains in agricultural use. Water quality studies conducted by the Indiana Department of Environmental Management indicate that Fall Creek is impaired for *E.coli* from just downstream of Geist Reservoir to the confluence of the White River. In addition, water quality data collected in Hamilton County indicates that portions of Mud Creek, a tributary to Fall Creek, are also being impacted by the presence of *E.coli*. As with land uses, the sources of pollution associated with these water quality problems include both urban and agricultural sources, such as land application of manure, inadequately functioning septic systems, stormwater runoff, and combined sewer overflows.

The socioeconomic status of the Lower Fall Creek Watershed is equally diverse. Median household income in the southern portion of the watershed is less than \$35,000, while median household income in the Hamilton County portion of the watershed exceeds \$50,000.

In recognition of the unique challenges that such diversity presents, a Steering Committee has been established to guide the planning process. The Steering Committee is made of representatives from all four counties and includes representatives from municipalities, counties, economic development organizations, neighborhood associations, universities, and environmental groups. The Steering Committee conducted its Kick-Off Meeting on May 31, 2007 and will meet on a quarterly basis for the duration of the project.

A public meeting to announce the project is currently being planned and will likely be held in July. The meeting will introduce the project to the public and will solicit

participation in one of three working groups that will focus on water quality, land use, and public education in the watershed.

Once completed, the Lower Fall Creek Watershed Management Plan will identify and prioritize water quality problems and will establish an action plan to improve water quality and public awareness in the Lower Fall Creek Watershed.

For additional information, please contact Ron Lauster from the Marion County SWCD at 317-780-1765 or ron-lauster@iaswcd.org or Sheila McKinley from CBBEL at 317-266-8000 or smckinley@cbbel-in.com.

---- End ----

LOWER FALL CREEK WATERSHED PLANNING
NEWSLETTER INFORMATION
07-06-07

Marion County SWCD Begins Lower Fall Creek Watershed Improvement Project

In the fall of 2006, the Marion County Soil & Water Conservation District (SWCD) submitted a Section 319 Non Point Source Program grant application to the Indiana Department of Environmental Management (IDEM) to develop a WMP for the Lower Fall Creek Watershed. The grant funds were awarded in March of 2007 and the Marion County SWCD retained the professional services of Christopher B. Burke Engineering, Ltd. (CBBEL) located in Indianapolis. CBBEL will assist in the development of the watershed plan steering committee, facilitate stakeholder discussions, collect and analyze water quality data, and serve as the primary author of the Watershed Management Plan.

A Watershed Management Plan (WMP) is a guiding document that examines the historical and existing water resource issues in a particular watershed and presents specific actions to address those water resource issues based on the values and needs of the community. The intent of the WMP is to provide better living conditions, economic viability, and environmental health benefits for those that reside in the watershed and for communities downstream. Developers of the WMP are interested stakeholders that investigate prior and existing watershed conditions, identify watershed priority areas, and formulate strategies for implementing specific actions. The WMP document represents the earnest efforts of the community to understand, analyze, and be an integral part of the solution to improve impaired water quality in the watershed. Furthermore, active community involvement in the development of the WMP helps to ensure that there is future commitment by the community to implement projects identified in the WMP.

Partnerships among water resource professionals and interested citizens are essential to the successful development and implementation of the Lower Fall Creek WMP. In recognition of the social, physical, and economic diversity that is present in the watershed a Steering Committee of local water resource experts was established to guide the development of the plan. The Lower Fall Creek Watershed Steering Committee will be the primary committee utilized to steer the overall direction of the Lower Fall Creek WMP. The Steering Committee will meet on a quarterly basis from May of 2007 through September of 2009 and include the following individuals and groups representing municipalities, counties, economic development organizations, neighborhood associations, universities, and environmental groups.

- **Chris Barnett**, Near North Development Corporation
- **Cindy Beckner**, Hancock SWCD
- **Crist Blassaras**, Madison SWCD
- **Victoria Cluck**, Indianapolis DPW
- **Angie Dye**, Veolia Water
- **Josh Goode**, Watershed Resident
- **Tina Jones**, Indy Parks
- **Lori Kaplan**, City of Lawrence DPW
- **Joe King**, Dirty Dozen Hunting & Fishing Club
- **Ron Lauster**, Marion SWCD
- **Bob Masbaum**, Indianapolis DPW
- **Donna Price**, Indianapolis DMD
- **John South**, Hamilton SWCD
- **Pam Thevenow**, Marion County Health Department
- **Kelly Wood**, Neighborhood Liaison

In addition to the Steering Committee, three Working Committees focusing on Public Education & Outreach, Water Quality, and Land Use and Economic Development will be established. Participation in the Working Committees will be open to any stakeholder with expertise and

interest in one or more of the 3 topics. The intent will be to thoroughly discuss each topic, identify critical areas in the Lower Fall Creek Watershed, and recommend programs, policies, and projects to improve water quality.

It is hoped that the successful completion of the Lower Fall Creek Watershed Improvement Project will serve as a benchmark for all future urban watershed efforts in the State of Indiana. Fall Creek is a highly recognizable recreational and drinking water supply resources and traverses a varied landscape socially, economically, and geographically.

Lower Fall Creek Watershed Management Plan
Newsletter update
November 17, 2008

Activities continue in the Lower Fall Creek Watershed.

- The Backyard Conservation workshop held on November 12, 2008 was well attended and positive comments were received as workshop attendees learned how to construct a rain barrel, how to attract wildlife to their backyards, and how to have their backyards certified as a Backyard Wildlife Habitat by the Indiana Wildlife Federation. One workshop remains for this phase of Lower Fall Creek Watershed project: Regulated Drains and Natural Waterways. This workshop will be held in early 2009 and will involve presentations and discussions on the differences between natural channels and regulated drains, what can be done and what should not be done along these types of water systems, and how actions in and around natural streams and regulated drains affect water quality downstream. More information will be provided through the Lower Fall Creek Watershed Alliance's website (www.lowerfallcreek.org) as this workshop is developed.
- As a part of the planning phase, the Marion SWCD was provided funding to install water quality demonstration projects throughout the watershed. Project ideas have included rain gardens, bio-filtration areas, and critical area plantings all designed to filter pollutants from the water prior to reaching Lower Fall Creek, its tributary streams, or the groundwater. Project locations are still being determined as the Marion SWCD continues to work with local partners to identify highly visible areas where residents can view the projects and learn how water quality is being protected.
- The first Social Indicators survey, designed to identify the needs and concerns of the watershed regarding water quality and the Lower Fall Creek, has been conducted. The Lower Fall Creek Watershed Alliance has partnered with Purdue University to complete this confidential survey of watershed residents. Over 1,000 randomly selected residents within the Lower Fall Creek Watershed received a several page survey with questions assessing:
 - Types of pollutants in Lower Fall Creek;
 - Consequences of poor water quality in Lower Fall Creek; and
 - Practices to improve water quality in Lower Fall Creek;

Results from this survey will be compiled and presented to the public and the Lower Fall Creek WMP Steering Committee in early 2009.

- A public meeting to present the full Draft Watershed Management Plan (WMP) will be held on January 15, 2009 at the Lawrence Government Center. Over the last months, Steering Committee members and IDEM have reviewed the WMP and provided their comments. These comments will be incorporated and the Draft WMP will be discussed at the public

meeting along with information on how the public can review and comment on the plan prior to submission to IDEM.

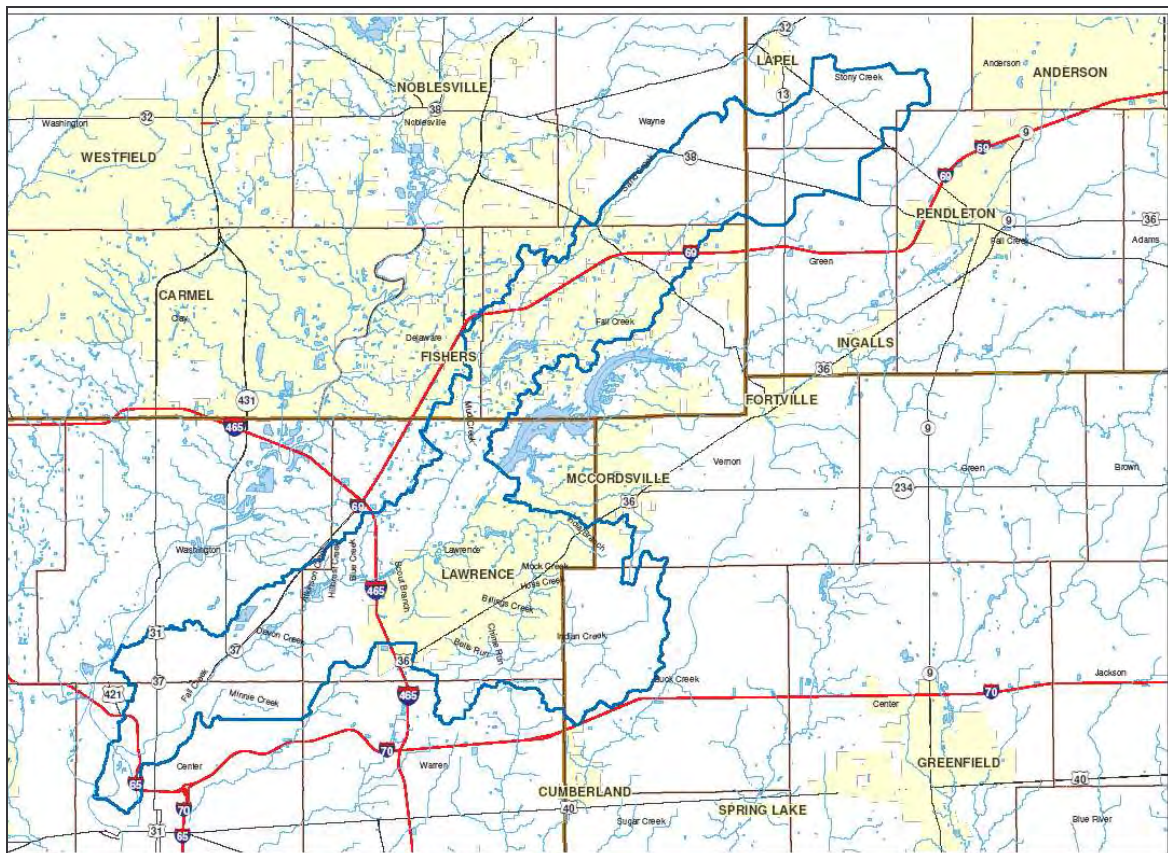
- The final Steering Committee meeting will be held on January 29, 2008 and will involve discussion of overall project results, accomplishments, and next steps. The Marion SWCD has applied for funding to implement the Lower Fall Creek WMP and hopes to hear soon if that funding will be provided to continue the hard work of the Steering Committee will increasing the number of “in the ground” projects throughout the Lower Fall Creek Watershed.

Lower Fall Creek Watershed Management Plan
Newsletter update
December 19, 2008

- The final DRAFT of the Lower Fall Creek Watershed Management Plan (WMP) was submitted to the Indiana Department of Environmental Management (IDEM) for review and comment on December 1, 2008. The purpose of developing the WMP was to gain a greater understanding of the water quality impairments in the Lower Fall Creek Watershed and engage the diverse stakeholders to identify and implement sustainable and local solutions.

The Marion County SWCD believes that a WMP is a guiding document that examines the historical and existing water resource issues in a particular watershed and presents specific actions to address those water resource issues based on the values and needs of the community. The SWCD hopes that the successful completion of the Lower Fall Creek WMP will serve as a benchmark for all future urban watershed efforts in the State of Indiana. Fall Creek is a highly recognizable recreational and drinking water supply resource which traverses a varied landscape socially, economically, and geographically.

While IDEM is completing their review of the WMP, there is still an opportunity for public review and comment. The report, including exhibits and appendices, can be found at the Lower Fall Creek Watershed Alliance's website: www.lowerfallcreek.org. If you would like to provide any comments or suggestions regarding the WMP, please forward those to Ron Lauster, Director of the Marion County Soil & Water Conservation District (ron.lauster@iaswcd.org).



- The first Social Indicators survey, designed to identify the needs and concerns of the watershed regarding water quality and the Lower Fall Creek, has been conducted. The Lower Fall Creek Watershed Alliance has partnered with Purdue University to complete this confidential survey of watershed residents. Over 1,000 randomly selected residents within the Lower Fall Creek Watershed received a several page survey with questions assessing:
 - Types of pollutants in Lower Fall Creek;
 - Consequences of poor water quality in Lower Fall Creek; and
 - Practices to improve water quality in Lower Fall Creek;

Results from this survey will be compiled and presented to the public and the Lower Fall Creek WMP Steering Committee in early 2009.

- A public meeting to present the full Draft Watershed Management Plan (WMP) will be held on January 15, 2009 at 7:00 pm in the Lawrence Government Center. Over the last months, Steering Committee members and IDEM have reviewed the WMP and provided their comments. These comments will be incorporated and the Draft WMP will be discussed at the public meeting along with information on how the public can review and comment on the plan prior to submission to IDEM.
- The final Steering Committee meeting will be held on January 29, 2008 at 2:00 pm and will involve discussion of overall project results, accomplishments, and next steps. The Marion SWCD has applied for funding to implement the Lower Fall Creek WMP and hopes to hear soon if that funding will be provided to continue the hard work of the Steering Committee will increasing the number of “in the ground” projects throughout the Lower Fall Creek Watershed.

Lower Fall Creek Watershed Management Plan
Newsletter update
March 5, 2009

Regulated Drains and Natural Waterways

On Wednesday, March 25, 2009 the Lower Fall Creek Watershed Alliance will present Regulated Drains and Natural Waterways, the final in a series of workshops offered as a part of the Indiana Department of Environmental Management (IDEM) 319 grant awarded to the Marion County Soil and Water Conservation District. This grant provides funding for the development of a Watershed Management Plan (WMP) for the Lower Fall Creek Watershed covering portions of Hamilton, Hancock, Madison, and Marion Counties; education and outreach efforts; and macro-invertebrate sampling within Fall Creek and tributary streams.

The Regulated Drains and Natural Waterways workshop will be held at the Lapel Public Library, 610 Main Street in Lapel, Indiana and is set to begin at 6:30pm. During this workshop, landowners will learn more about regulated drains, the maintenance associated with regulated drains and how they can find out if the stream or creek on their property is a regulated drain. In addition, a representative from the Indiana Department of Natural Resources (IDNR)

Division of Water will be on hand to provide information on log jams and any permitting requirements for log jam removal.



Debris causing a log jam

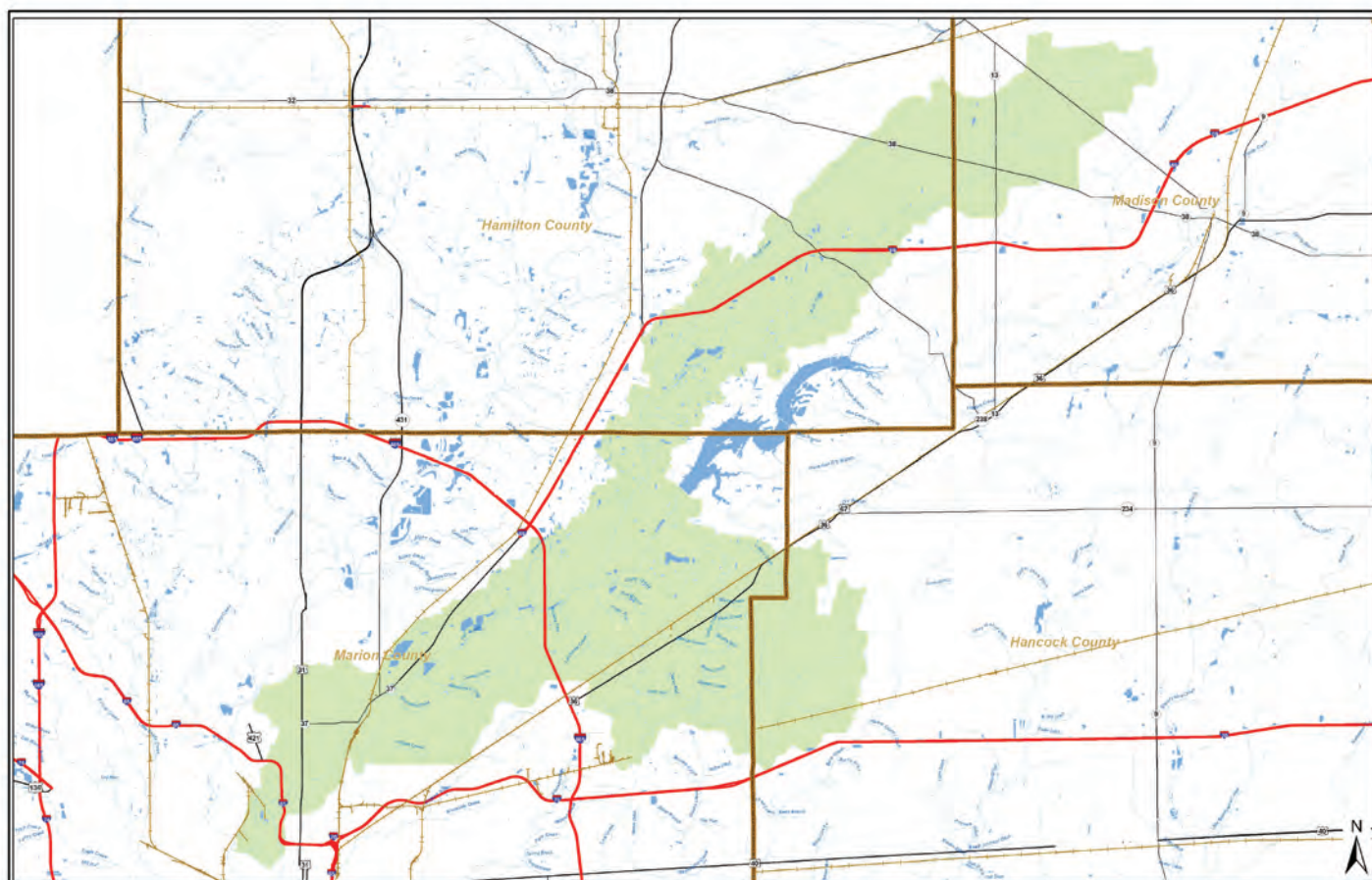


Newly Constructed 2-Stage Ditch

Brief overviews will also be provided regarding available USDA funding for conservation projects in the Lower Fall Creek Watershed through the Natural Resource Conservation Service or the Farm Service Agency and the concept of 2-Stage Ditch Design and its applications in the agricultural setting.

For more information on the Regulated Drains and Natural Waterways workshop, please contact the Marion County Soil and Water Conservation District at (317) 786-1776.

Your Views on Lower Fall Creek Water Resources



Your local watershed project is conducting this survey in coordination with Purdue University. The purpose of this survey is to identify the needs and concerns in your community regarding water quality.

We ask that this survey be completed by the person in your household that makes most of the lawn and garden decisions and is at least 18 years old. Your participation in this survey is completely voluntary. Your answers will be kept confidential and will be released only as summaries where individual answers cannot be identified.

Unless otherwise instructed, [please check the box that corresponds to the answer category that best describes you and your situation or opinion](#). The survey should take approximately 20-30 minutes to complete. Please read each question carefully.

Lower Fall Creek Water Resources

PLEASE READ BEFORE BEGINNING THIS SURVEY:

The survey must be completed by an adult member of your household 18 years of age or older.
Please mark all answers clearly, in pen or pencil, as indicated below.

Example "A" ☐ ☐ ☒

Example "B" ☐ ☐ ☒

Overall, *how would you rate the quality of water* in your area?

	Poor	Okay	Good	Don't Know
1. For canoeing/kayaking/boating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. For eating fish caught in the water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. For swimming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. For picnicking/family activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. For fish habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. For scenic beauty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you live in a watershed?

- ☐ Yes
- ☐ No
- ☐ Don't know

Do you know where the water goes when it runs off of your property?

- ☐ No, I don't know
- ☐ Yes, it goes to: _____

Please indicate your level of agreement or disagreement with the statements below.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. The economic stability of my community depends upon good water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The way that I care for my lawn and yard can influence water quality in local streams and lakes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. It is my personal responsibility to help protect water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. It is important to protect water quality even if it slows economic development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. What I do on my land doesn't make much difference in overall water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Lawn and yard-care practices (on individual lots) do not have an impact on local water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. My actions have an impact on water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Taking action to improve water quality is too expensive for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. It is okay to reduce water quality to promote economic development.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. It is important to protect water quality even if it costs me more.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I would be willing to pay more to improve water quality (for example: through local taxes or fees).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I would be willing to change the way I care for my lawn and yard to improve water quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. The quality of life in my community depends on good water quality in local streams, rivers and lakes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Developers in my community follow current regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Construction in my community should use practices that minimize soil erosion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I would choose to purchase a home in a neighborhood that uses water quality conservation measures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Lower Fall Creek Water Resources

Below is a list of water pollutants that are generally present in water bodies to some extent. The pollutants and conditions become a problem when present in excessive amounts. In your opinion, *how much of a problem are the following pollutants in your area?*

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't know
1. Sediments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Nitrates/nitrogen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Phosphate/phosphorus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. <i>E.coli</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Trash and debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Salt (i.e. road salt)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Automotive fluids (e.g. MTBE, oil & grease, antifreeze)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Blue-green algae	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Exotic or invasive aquatic plants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Flow alteration (e.g. large discharges from Geist Reservoir)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Habitat alteration (e.g. land use change)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The items listed below are sources of water quality pollution across the country. In your opinion, *how much of a problem are the following sources in your area?*

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't know
1. Soil erosion from construction sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Excessive use of lawn fertilizers and/or pesticides (from golf courses, sports fields, homes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Improper disposal of used motor oil and/or antifreeze	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Sewage from combined sewer overflows or failing septic tanks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Stormwater runoff (e.g. roofs, driveways, streets)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Droppings from wildlife and pets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Littering/illegal dumping of trash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Streambank or shoreline modification/destabilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Conversion of forest land and wetlands to urban use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Discarded medications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Poor water quality can lead to a variety of consequences for communities. In your opinion, *how much of a problem are the following issues in your area?*

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't know
1. Contaminated fish resulting in Fish Consumption Advisories	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. High drinking water treatment costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Reduced beauty of lakes or streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Reduced opportunities for water recreation (e.g. swimming and boating)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Fish kills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Decreased property value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Decrease in fish and wildlife populations due to exposure to hormone-mimics (from improperly disposed of medications)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Each set of 4 questions on these pages refers to a specific practice that can address water quality issues. Please follow directions within each shaded box and answer the appropriate questions.

Controlling erosion

Controlling erosion along streambanks and shorelines with vegetation and other practices.

1. Do you use or have you ever used erosion controls?

- ☐ Currently use (go directly to table below)
☐ Don't currently use (go to question 3)
☐ Never used (go to question 2)

2. How familiar are you with erosion controls?

- ☐ Never heard of it
☐ Somewhat familiar with
☐ Know how to use; not using

3. Are you willing to try erosion controls?

- ☐ Yes
☐ Maybe
☐ No

4. On a scale of 1-5, which of the following factors would prevent you from using erosion controls?

	<div>Not a problem ←————→ Major problem</div>				
	1	2	3	4	5
Lack of skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doesn't fit with current practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Too much time required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My views about yard maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prior personal experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does not apply to my home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Follow manufacturer guidelines

Following pesticide application instructions for lawn and garden.

1. Do you now or have you ever followed manufacturer guidelines?

- ☐ Currently use (go directly to table below)
☐ Don't currently use (go to question 3)
☐ Never used (go to question 2)

2. How familiar are you with following manufacturer guidelines?

- ☐ Never heard of it
☐ Somewhat familiar with
☐ Know how to use; not using

3. Are you willing to try following manufacturer guidelines?

- ☐ Yes
☐ Maybe
☐ No

4. On a scale of 1-5, which of the following factors would prevent you from using pesticides?

	<div>Not a problem ←————→ Major problem</div>				
	1	2	3	4	5
Lack of skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doesn't fit with current practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Too much time required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My views about yard care	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prior personal experience	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does not apply to my home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Using low-phosphate fertilizers for lawn and garden.

Lower Fall Creek Water Resources

Please indicate which statement most accurately *describes your level of experience with each practice.*

	Never heard of it	Somewhat familiar with it	Know how to use; not using	Currently use it
1. Restoring native plant communities and planting trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Keeping grass clippings and trash out of storm drains, roads, ditches, and gutters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Properly disposing of household wastes (such as batteries, medicines, cleaners)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Not putting chemicals down sewers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Disconnecting downspouts from direct access to storm drains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Reporting suspected violations of water quality regulations (e.g. contact neighborhood association, call TIP-line)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Participating in environmental education outreach with neighborhood groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

When you make decisions about changing your lawn care and/or stormwater practices, *how important is each of the following?*

	Not at all important	Somewhat important	Undecided	Important	Very important
1. Personal out-of-pocket expense	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. My own physical abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Lack of available information about a practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. No one else I know is implementing the practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Approval of my neighbors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Restrictive covenants in my subdivision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Don't know where to get information and/or assistance about the practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Environmental damage caused by practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Environmental benefit of practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Concerns about resale value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I do not own my own property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

People get information about water quality from a number of different sources. To what extent *do you trust the organizations list below as a source of information about water quality?*

	Not at all	Slightly	Moderately	Very much	Am not familiar
1. Lower Fall Creek Watershed Alliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Soil and Water Conservation District (SWCD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Natural Resources Conservation Service (NRCS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Indiana Department of Natural Resources (IDNR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Indiana Department of Environmental Management (IDEM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Citizen action groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Local landowners/friends	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Universities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Community service groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Gardening and recreational clubs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Land Trusts (e.g. TNC, CILTI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Local government	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Community Development Corporations (CDCs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Neighborhood associations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Religious organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Youth organizations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Local access television stations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1. Do you know how to **contact a local government representative?**

- ☐ Yes
☐ No

2. How many times in the last year **have you called a local government representative?**

- ☐ Never
☐ Once
☐ 2 - 5 times
☐ More than 5 times

3. Do you know how **zoning works?**

- ☐ Yes
☐ No

4. How many times in the last year have you **attended a local government meeting?**

- ☐ Never
☐ Once
☐ 2 - 5 times
☐ More than 5 times

Lower Fall Creek Water Resources

1. Do you **live in close proximity** to a lake or stream?

- ☐ Waterfront property
☐ Within 1/4 mile
☐ Within 1/2 mile
☐ Within a mile
☐ Further

2. Do you participate in any of the following **water-based recreation activities** in this area? (check all that apply)

- ☐ Boating
☐ Swimming
☐ Fishing
☐ None of the above

3. Do you live in a place **adversely affected by poor water quality**?

- ☐ Yes
☐ No

4. Does poor water quality **impact your activities**?

- ☐ Yes
☐ No

5. Does poor water quality **impact your property values**?

- ☐ Yes
☐ No

6. Which of the following do you **do on a regular basis**? (check all that apply)

- ☐ Drive a hybrid vehicle
☐ Recycle
☐ Take public transportation
☐ Walk/bike to work/school
☐ Use compact fluorescent light bulbs
☐ Other (specify) _____

7. Do you make the **home and lawn care decisions** in your household?

- ☐ Yes
☐ No

8. What is your **gender**?

- ☐ Male
☐ Female

9. In what **year were you born**? _____

10. What is the **highest grade in school that you have completed**?

- ☐ Some formal schooling
☐ High school diploma/GED
☐ Some college
☐ 2 year college degree
☐ 4 year college degree
☐ Post-graduate degree

11. What is the **approximate size** of your residential lot?

- ☐ 1/4 acre or less
☐ More than 1/4 acre but less than 1 acre
☐ 1 acre to less than 5 acres
☐ 5 acres or more

12. Do you **own or rent** your home?

- ☐ Own
☐ Rent

13. How long have you lived at your **current residence**? _____ years

14. What is the **source of your drinking water**?

- ☐ Individual well
☐ Municipal well
☐ Fall Creek
☐ Eagle Creek

15. What is your **zip code**? _____

16. In addition to your residence, which of the following do **you own or manage**? (check all that apply)

- ☐ An agricultural operation
☐ Forested land
☐ Rural recreational property
☐ None of these

17. Do you use a **professional lawn care service**?

- ☐ Yes, just for mowing
☐ Yes, for mowing and fertilizing
☐ Yes, just for fertilizing and pest control
☐ Yes, for mowing, fertilizing and pest control
☐ No

18. In the past three years, **have you heard about water quality issues** in any of the following? (check all that apply)

- ☐ Newsletters/brochures/fact sheets
☐ Internet
☐ Workshops/demonstrations/meetings
☐ Radio - Station name: _____
☐ Newspapers - Name publication: _____
☐ Television - Station name: _____
☐ Water bill - Name provider: _____
☐ Notices posted at local businesses
☐ Notices posted on community bulletin boards
☐ Billboards
☐ Conversations with others
☐ Other (please specify) _____
☐ None of the above

19. What is your **ethnicity**?

- ☐ African American
☐ American Indian
☐ Asian/Asian American/Pacific Islander
☐ Hispanic/Latino
☐ White/Caucasian
☐ Multi-racial
☐ Other

20. What is your **occupation**? (please be as specific as possible)

Lower Fall Creek Water Resources

Thank you for your time and assistance!

Please return your completed questionnaire in the postage-paid envelope provided. Please use the space below for any additional comments about this survey or water resources in your community.

For more information about the Lower Fall Creek Watershed Alliance, please see www.lowerfallcreek.org or contact Ron Lauster at (317) 786-1776.

For more information about this survey, please call Linda Prokopy at (765) 496-2221.

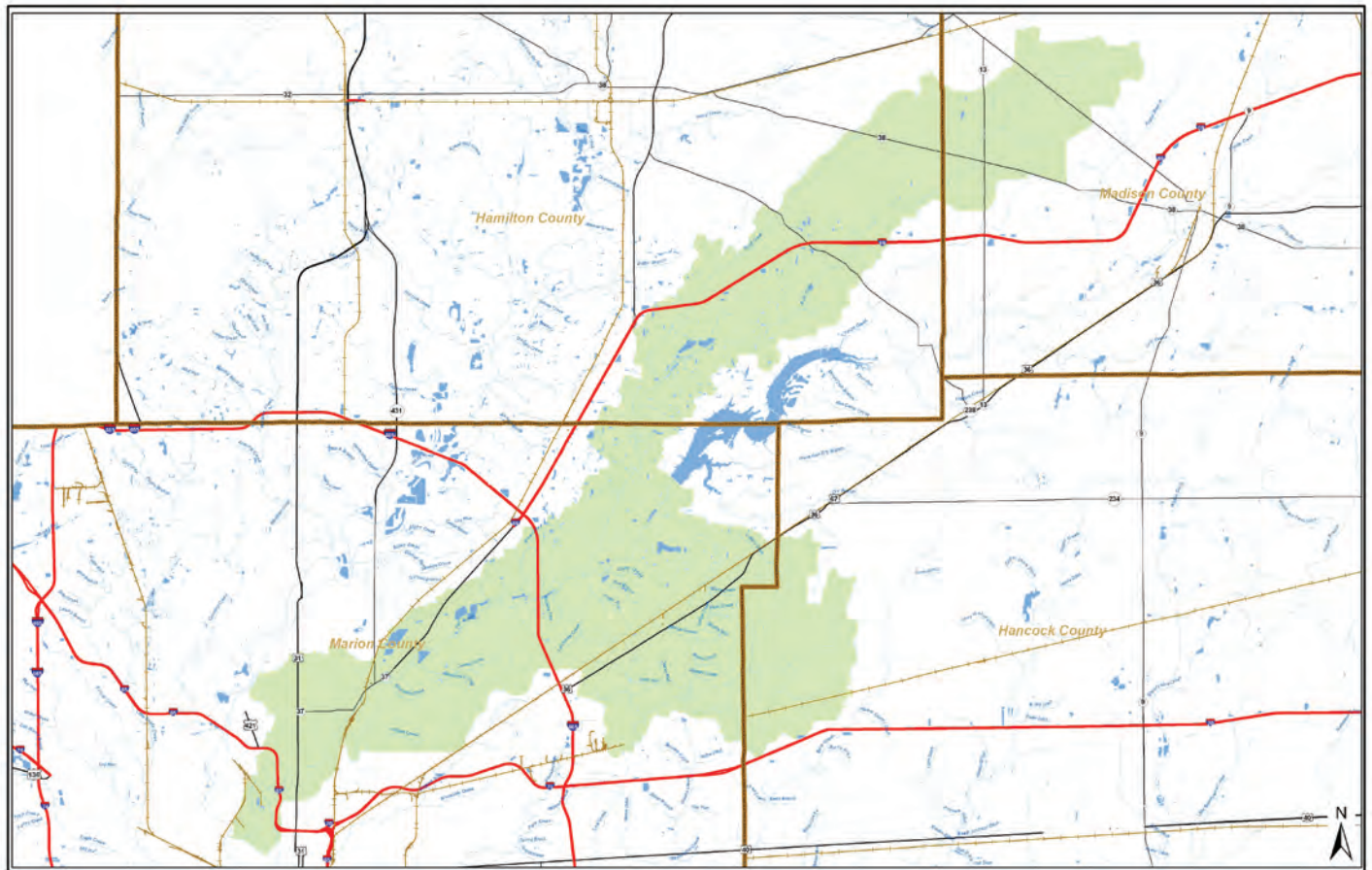
Survey results will be available February 2009 at www.lowerfallcreek.org.



Printed on 30% post-consumer content paper

Thank You

Su punto de vista acerca de los recursos de agua de la cuenca Lower Fall Creek



El proyecto local de cuencas está llevando a cabo esta encuesta en colaboración con la Universidad de Purdue. El propósito de esta encuesta es identificar las necesidades y preocupaciones de la comunidad respecto a la calidad del agua.

Solicitamos que esta encuesta la complete el miembro del hogar que se encarga de las decisiones de jardinería y sea mayor de 18 años. Su participación en la encuesta es totalmente voluntaria. Sus respuestas son confidenciales y se divulgarán únicamente en forma de resúmenes, en los que no se identifican respuestas individuales.

A menos que se le indique lo contrario, marque la casilla que corresponde a la categoría de respuesta que mejor lo describe a usted y su situación u opinión. La encuesta toma entre 20 y 30 minutos aproximadamente para completarla. Lea detenidamente cada una de las preguntas.

Recursos de agua de Lower Fall Creek

POR FAVOR LEA ESTO ANTES DE COMPLETAR LA ENCUESTA:

La encuesta debe completarla un adulto del hogar de 18 años o mayor. Por favor marque todas las respuestas claramente, en bolígrafo o lápiz, como se indica a continuación.

Ejemplo “A” ☐ ☐ ☒

Ejemplo “B” ☐ ☐ ☒

En general, ¿cómo calificaría la calidad del agua en su área?

	Deficiente	Bastante buena	Buena	No sé
1. Para canotaje/practicar kayak/paseos en bote	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Para comer pescados extraídos del agua	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Para nadar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Para hacer picnic/actividades familiares	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Para el hábitat de peces	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Como escenario pintoresco	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

¿Vive en una cuenca?

☐ Sí

☐ No

☐ No sé

¿Sabe hacia dónde se dirige el agua cuando sale de su propiedad?

☐ No, no lo sé

☐ Sí, se dirige a: _____

Por favor indique el nivel de acuerdo o desacuerdo con las siguientes afirmaciones.

	En total desacuerdo	En desacuerdo	No estoy de acuerdo ni en desacuerdo	Estoy de acuerdo	Estoy totalmente de acuerdo
1. La estabilidad económica de mi comunidad depende de una buena calidad de agua.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. La forma en que cuido el césped y el jardín puede afectar la calidad del agua en los arroyos y lagos.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Es mi responsabilidad ayudar a proteger la calidad del agua.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Es importante proteger la calidad del agua, incluso si desacelera el desarrollo económico.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Lo que hago en mi tierra no crea una gran diferencia en la calidad del agua total.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Las prácticas de cuidado de césped y jardín (en lotes individuales) no afectan la calidad del agua local.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Mis actos afectan la calidad del agua.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Tomar medidas para mejorar la calidad del agua es demasiado costoso para mí.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Está bien reducir la calidad del agua para promover el desarrollo económico.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Es importante proteger la calidad del agua, incluso si me genera un gasto mayor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Estaría dispuesto a pagar más para mejorar la calidad del agua (por ejemplo: a través de impuestos o tarifas locales)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Estaría dispuesto a cambiar la forma en que cuido mi césped y jardín para mejorar la calidad del agua.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. La calidad de vida en la comunidad depende de una buena calidad del agua en los arroyos, ríos y lagos locales.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Los promotores inmobiliarios de mi comunidad cumplen las normas actuales.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. La construcción en mi comunidad debería utilizar prácticas que minimicen la erosión del suelo.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Elegiría comprar una vivienda en un vecindario que implemente medidas de conservación de la calidad del agua.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Recursos de agua de Lower Fall Creek

A continuación encontrará una lista con los contaminantes del agua que por lo general están presentes en masas de agua. Los contaminantes y las condiciones se tornan problemáticos si se encuentran en cantidades excesivas. De acuerdo con su opinión, ¿en qué medida los siguientes contaminantes constituyen un problema en su área?

	No es un problema	Problema leve	Problema moderado	Problema grave	No sé
1. Sedimentos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Nitratos/nitrógeno	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Fosfatos/fósforo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. E.coli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Basura y escombros	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Sales (es decir, sales del suelo)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Líquidos vehiculares (por ejemplo: éter metil tert-butílico, aceite y grasa, anticongelantes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Algas verdeazuladas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Plantas acuáticas exóticas o invasivas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Alteración de caudal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Alteración del hábitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Los puntos enumerados a continuación son fuentes de contaminación de la calidad del agua en todo el país. De acuerdo con su opinión, ¿en qué medida las siguientes fuentes constituyen un problema en su área?

	No es un problema	Problema leve	Problema moderado	Problema grave	No sé
1. Erosión del suelo por los sitios de construcción	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Uso excesivo de fertilizantes o pesticidas para césped (desde campos de golf, campos de deportes, hogares)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Eliminación incorrecta de aceites o anticongelantes para motor usados	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Aguas residuales de rebosaderos de cloacas combinados o tanques sépticos defectuosos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Escorrentía pluvial (por ejemplo: techos, entrada de autos, calles)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Excrementos de animales salvajes y mascotas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Arrojar basura/vertederos de basura ilegales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Modificación/desestabilización de la ribera o costa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Conversión de tierras forestales y humedales para uso urbano	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Medicamentos desechados	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

La deficiente calidad del agua puede traer aparejadas múltiples consecuencias para las comunidades. De acuerdo con su opinión, ¿en qué medida las siguientes cuestiones constituyen un problema en su área?

	No es un problema	Problema leve	Problema moderado	Problema grave	No sé
1. Peces contaminados (lo cual ocasiona notificaciones de consumo de pescado)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Costos elevados de tratamiento de agua potable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Belleza reducida de lagos y arroyos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Menos posibilidades de recreación acuática (por ejemplo: natación y paseos en bote)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Mortandad de peces	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Valor de propiedad reducido	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Disminución en las poblaciones de peces y flora y fauna debido a la exposición a mímicos hormonales (a causa de medicamentos desechados incorrectamente)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cada serie de 4 preguntas en estas páginas hace referencia a prácticas específicas que pueden abordar las cuestiones relacionadas con la calidad del agua. Por favor siga las instrucciones en cada casilla sombreada y responda las preguntas correspondientes..

Control de la erosión

Controlar la erosión a lo largo de las riberas y costas con vegetación y otras prácticas.

1. ¿Usa actualmente o usó alguna vez controles de erosión?
- ☐ Actualmente en práctica (dirigirse directamente a la tabla siguiente)
- ☐ No está en práctica actualmente (ir a 3)
- ☐ Nunca se puso en práctica (ir a 2)

2. ¿Qué sabe acerca de los controles de erosión?
- ☐ Nunca escuché hablar sobre esto
- ☐ Estoy algo familiarizado
- ☐ Sé como usarla, pero no la usamos

3. ¿Está dispuesto a poner en práctica los controles de erosión?
- ☐ Sí
- ☐ Quizás
- ☐ No

4. En una escala de 1 a 5, ¿cuál de los siguientes factores le impediría implementar los controles de erosión?

	No es un problema		Problema serio		
	1	2	3	4	5
Falta de conocimiento	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Falta de equipo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No se ajusta a las prácticas actuales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Se requiere demasiado tiempo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mis opiniones sobre cuidado de la yarda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Experiencia personal previa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No se aplica a mi hogar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Seguir las pautas del fabricante

Seguir las instrucciones de uso de pesticidas para césped y jardines.

1. ¿Sigue actualmente las pautas del fabricante o las siguió alguna vez?
- ☐ Actualmente en práctica (dirigirse directamente a la tabla siguiente)
- ☐ No está en práctica actualmente (ir a 3)
- ☐ Nunca se puso en práctica (ir a 2)

2. ¿Qué sabe acerca de seguir las pautas del fabricante?
- ☐ Nunca escuché hablar sobre esto
- ☐ Estoy algo familiarizado
- ☐ Sé como usarla, pero no la usamos

3. ¿Está dispuesto a intentar seguir las pautas del fabricante?
- ☐ Sí
- ☐ Quizás
- ☐ No

4. En una escala de 1 a 5, ¿cuál de los siguientes factores le impediría seguir las pautas del fabricante?

	No es un problema		Problema serio		
	1	2	3	4	5
Falta de conocimiento	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Falta de equipo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No se ajusta a las prácticas actuales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Se requiere demasiado tiempo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mis opiniones sobre cuidado de la yarda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Experiencia personal previa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No se aplica a mi hogar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fertilizantes con bajo contenido fosfórico

Utilizar fertilizantes con bajo contenido de fósforo para césped y jardines

1. ¿Usa actualmente fertilizantes con bajo contenido fosfórico o los utilizó alguna vez?
- ☐ Actualmente en práctica (dirigirse directamente a la tabla siguiente)
- ☐ No está en práctica actualmente (ir a 3)
- ☐ Nunca se puso en práctica (ir a 2)

2. ¿Qué sabe acerca de los fertilizantes con bajo contenido fosfórico?
- ☐ Nunca escuché hablar sobre esto
- ☐ Estoy algo familiarizado
- ☐ Sé como usarla, pero no la usamos

3. ¿Está dispuesto a probar los fertilizantes de bajo contenido fosfórico?
- ☐ Sí
- ☐ Quizás
- ☐ No

4. En una escala de 1 a 5, ¿cuál de los siguientes factores le impediría utilizar fertilizantes con bajo contenido fosfórico?

	No es un problema		Problema serio		
	1	2	3	4	5
Falta de conocimiento	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Falta de equipo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No se ajusta a las prácticas actuales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Se requiere demasiado tiempo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mis opiniones sobre cuidado de la yarda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Experiencia personal previa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No se aplica a mi hogar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Barriles para agua de lluvia y jardines de lluvia

Los barriles para agua de lluvia son recipientes de almacenamiento sobre nivel que capturan el agua de lluvia proveniente de bocas de descarga. Un jardín de lluvia es un jardín diseñado para absorber y filtrar el agua pluvial. Por lo general se diseñan para recolectar el agua pluvial de una vivienda.

1. ¿Usa actualmente barriles para agua de lluvia o jardines de lluvia o los usó alguna vez?
- ☐ Actualmente en práctica (dirigirse directamente a la tabla siguiente)
- ☐ No está en práctica actualmente (ir a 3)
- ☐ Nunca se puso en práctica (ir a 2)

2. ¿Qué sabe acerca de los barriles para agua de lluvia o jardines de lluvia?
- ☐ Nunca escuché hablar sobre esto
- ☐ Estoy algo familiarizado
- ☐ Sé como usarla, pero no la usamos

3. ¿Está dispuesto a probar los barriles para agua de lluvia o jardines de lluvia?
- ☐ Sí
- ☐ Quizás
- ☐ No

4. En una escala de 1 a 5, ¿cuál de los siguientes factores le impediría utilizar barriles para agua de lluvia y jardines de lluvia

	No es un problema		Problema serio		
	1	2	3	4	5
Falta de conocimiento	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Falta de equipo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No se ajusta a las prácticas actuales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Se requiere demasiado tiempo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mis opiniones sobre cuidado de la yarda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Experiencia personal previa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No se aplica a mi hogar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Recursos de agua de Lower Fall Creek

Por favor indique la afirmación que *describe con mayor precisión su nivel de experiencia con cada práctica.*

	Nunca escuché hablar sobre esto	Estoy algo familiarizado	Sé como usarla, pero no la usamos	La usamos en la actualidad
1. Restablecer las comunidades de plantas autóctonas y plantar árboles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Mantener los recortes de pasto y basura lejos de sumideros pluviales, caminos, cunetas y alcantarillas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Desechar correctamente los residuos del hogar (tales como pilas, medicamentos, productos de limpieza)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. No tirar productos químicos en los sumideros	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Desconectar los bajantes (tuberías de desagüe) del acceso directo a sumideros pluviales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Informar supuestas infracciones a las normas de calidad del agua (por ejemplo: comunicarse con asociaciones vecinales, llamar a TIP-line (línea de sugerencias)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Participar en educación ambiental con los grupos vecinales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cuando toma decisiones acerca de cambiar las prácticas correspondientes al cuidado del césped o aguas pluviales, *¿qué importancia tienen cada uno de los siguientes puntos?*

	No son importantes	Poco importantes	Indefinido	Importantes	Muy importantes
1. Gastos menores personales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Mis propias habilidades físicas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Falta de información disponible sobre las prácticas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Ninguno de mis conocidos implementa la práctica	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Aprobación de mis vecinos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Convenios restrictivos en mi subdivisión	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. No sé donde conseguir información o ayuda acerca de las prácticas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Daño ambiental por causa de la práctica	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Beneficio ambiental por causa de la práctica	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Preocupación acerca del valor de reventa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. No soy propietario de la vivienda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Las personas obtienen información sobre la calidad del agua de una cantidad de fuentes diferentes. *¿En qué medida confía en las organizaciones enumeradas a continuación como fuente de información sobre la calidad del agua?*

	Nada	Muy poco	En forma moderada	Mucho	No estoy al tanto
1. Lower Fall Creek Watershed Alliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Distrito de preservación del agua y de los suelos (SWCD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Servicio de preservación de los recursos naturales (NRCS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Departamento de recursos naturales de Indiana (IDNR)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Departamento de administración de protección ambiental de Indiana (IDEM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Grupos de acción ciudadana	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Terratenientes/amigos locales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Universidades	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Grupos de servicio a la comunidad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Jardinería y clubes recreativos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Fideicomiso de propiedades (por ejemplo: TNC, CILTI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Gobierno local	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Empresas de desarrollo comunitario (CDC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Asociaciones vecinales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Organizaciones religiosas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Organizaciones juveniles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Emisoras de televisión de alcance local	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1. ¿Usted sabe cómo **contactarse con un representante del gobierno local?**

- ☐ Sí
☐ No

2. ¿Cuántas veces en el último año **ha llamado a un representante del gobierno local?**

- ☐ Nunca
☐ Una vez
☐ 2 a 5 veces
☐ Más de 5 veces

3. ¿Usted sabe cómo **funciona la urbanización?**

- ☐ Sí
☐ No

4. ¿Cuántas veces en el último año **ha asistido a una reunión del gobierno local?**

- ☐ Nunca
☐ Una vez
☐ 2 a 5 veces
☐ Más de 5 veces

Recursos de agua de Lower Fall Creek

1. ¿Vive cerca de un lago o arroyo?

- ☐ Propiedad en la zona ribereña
- ☐ A ¼ de milla
- ☐ A ½ milla
- ☐ A 1 milla
- ☐ Más lejos

2. ¿Participa en alguna de las siguientes actividades de recreación acuáticas en esta área? (marque las que correspondan)

- ☐ Paseos en bote
- ☐ Natación
- ☐ Pesca
- ☐ Ninguna

3. ¿Usted vive en un lugar afectado negativamente por la calidad de agua deficiente?

- ☐ Sí
- ☐ No

4. ¿La calidad del agua deficiente afecta sus actividades?

- ☐ Sí
- ☐ No

5. ¿La calidad del agua deficiente afecta el valor de su propiedad?

- ☐ Sí
- ☐ No

6. ¿Cuál de los siguientes puntos realiza en forma regular? (marque las que correspondan)

- ☐ Conduce un vehículo híbrido
- ☐ Recicla
- ☐ Viaja en transporte público
- ☐ Va caminando o en bicicleta al trabajo/ escuela
- ☐ Utiliza bombillas fluorescentes compactas
- ☐ Otra (especificar) _____

7. ¿Usted toma las decisiones de cuidado del hogar y césped en su núcleo familiar?

- ☐ Sí
- ☐ No

8. ¿Cuál es su sexo?

- ☐ Masculino
- ☐ Femenino

9. ¿En qué año nació? _____

10. ¿Cuál es el grado de estudio superior que completó?

- ☐ Algún grado de escuela secundaria
- ☐ Título de escuela secundaria (GED)
- ☐ Universitario
- ☐ Título universitario de dos años
- ☐ Título universitario de 4 años
- ☐ Título de postgrado

11. ¿Cuál es el tamaño aproximado de su lote de vivienda (residencial)?

- ☐ ¼ de acre o menos
- ☐ Más de ¼ de acre pero menos de 1 acre
- ☐ 1 acre a menos de 5 acres
- ☐ 5 acres o más

12. ¿Es propietario o inquilino?

- ☐ Propietario
- ☐ Inquilino

13. ¿Por cuánto tiempo ha vivido en su residencia actual? _____ años

14. ¿Cuál es su fuente de agua potable?

- ☐ Pozo individual
- ☐ Pozo municipal
- ☐ Fall Creek
- ☐ Eagle Creek

15. ¿Cuál es su código postal? _____

16. Además de su residencia, ¿cuál de las siguientes administra o de cuál es propietario? (marque las que correspondan)

- ☐ Una operación agrícola
- ☐ Tierra forestada
- ☐ Propiedad rural recreativa
- ☐ Ninguna

17. ¿Utiliza un servicio profesional de cuidado de césped?

- ☐ Sí, sólo para cortar el césped
- ☐ Sí, para cortar el césped y fertilizar
- ☐ Sí, sólo para la fertilización y control de plagas
- ☐ Sí, para cortar el césped, fertilizar y controlar plagas
- ☐ No

18. En los últimos tres años, ¿ha escuchado hablar sobre cuestiones de calidad del agua en alguno de los siguientes? (marque las que correspondan)

- ☐ Boletines/folletos/hojas de datos
- ☐ Internet
- ☐ Talleres/demostraciones/reuniones
- ☐ Radio – Nombre de la emisora: _____
- ☐ Periódicos – Nombre de la publicación: _____
- ☐ Televisión – Nombre de la emisora: _____
- ☐ Boleta del agua – Nombre del proveedor: _____
- ☐ Avisos en negocios locales
- ☐ Avisos publicados en el tablón de anuncios de la comunidad
- ☐ Carteleras
- ☐ Conversaciones con otras personas
- ☐ Otro (especificar) _____
- ☐ Ninguno

19. ¿Cuál es su origen étnico?

- ☐ Afroamericano
- ☐ Indígena de Estados Unidos
- ☐ Isleño asiático/asiático americano/del Pacífico
- ☐ Hispano/Latino
- ☐ Blanco/Caucásico
- ☐ Mestizo
- ☐ Otro

20. ¿Cuál es su ocupación? (por favor, sea lo más específico posible)

Recursos de agua de Lower Fall Creek

¡Gracias por su tiempo y colaboración!

Por favor envíe el cuestionario completo en el sobre con franqueo prepago provisto. Utilice el espacio a continuación para **comentarios adicionales** sobre esta encuesta o recursos del agua en su comunidad.

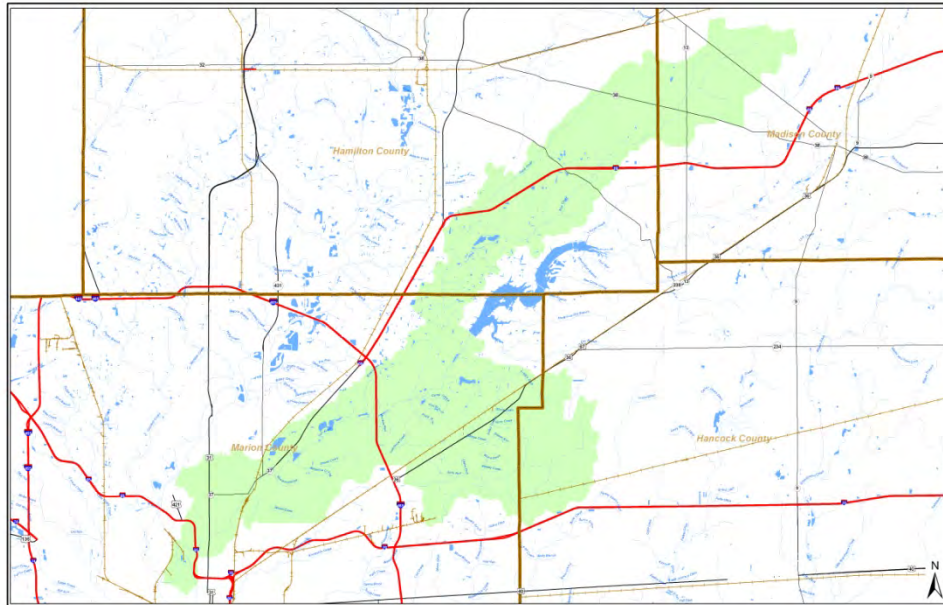
Para más información sobre Lower Fall Creek Watershed Alliance, visite www.lowerfallcreek.org o comuníquese con Ron Lauster al (317) 786-1776.

Para más información acerca de esta encuesta, comuníquese con Linda Prokopy al (765) 496-2221.

Los resultados de la encuesta estarán disponibles en febrero de 2009, en www.lowerfallcreek.org.



Results: Your Views on Lower Fall Creek Water Resources



The purpose of this study was to collect social indicators data from residents of the Lower Fall Creek watershed to inform the Project's planning and implementation activities. The results of this survey also provide baseline social indicator information that may be used for comparison with a follow up survey in order to examine changes that occurred in the watershed over the project's lifetime.

The questions in the survey were developed by a regional team of researchers for utilization in nonpoint source pollution (NPS) projects. More information about this regional project can be found at: <http://www.uwex.edu/ces/regionalwaterquality/flagships/indicators.htm> Social indicators data collected include awareness of water quality issues, sources, and practices for improvement; general water quality attitudes and attitudes toward implementation of practices; and behavior. In Fall of 2008, a survey was mailed to residents of Marion County using a stratified sampling approach in which census tracts with high percentages of African Americans and Latinos were oversampled to ensure their representation in the final dataset. The survey covered the social indicators developed for use in 319 funded watershed projects. The survey was mailed to over 1000 residents but only 692 addresses were valid (i.e. mailings were not returned as undeliverable). Only 187 people completed the survey leading to a very low response rate of only 27%. A follow-up focus group was held to get a better sense of residents' awareness, attitudes, and practices related to water quality in the watershed.

In the survey results, you will find that the number of people answering each question is different. This is a result of all respondents not answering every question. The total in each table is the total number of people answering that question. The numbers in the columns represent the percentage of respondents who chose that response. The results have not been weighted.

This report was prepared for the Lower Fall Creek Watershed Project by:

Natural Resource Social Science Lab
Department of Forestry and Natural Resources
Purdue University
(765) 496-2221

Your Watershed:

Overall, *how would you rate the quality of water in your area?*

	Poor (1)	Okay (2)	Good (3)	Don't Know	Mean (n)
1. For canoeing/kayaking/boating	13.3	26.5	10.8	49.4	1.95 (166)
2. For eating fish caught in the water	45.5	12.6	4.2	37.7	1.34 (167)
3. For swimming	50.6	13.3	5.4	30.7	1.35 (166)
4. For picnicking/family activities	17.6	46.1	16.4	20.0	1.98 (165)
5. For fish habitat	26.5	25.3	12.7	35.5	1.79 (166)
6. For scenic beauty	13.1	47.6	31.0	8.3	2.19 (168)

Do you live in a watershed? n=175

31.4% -Yes

20.6% -No

48.0% -Don't know

Do you know where the water goes when it runs off your property? n=166

56.0% - No, I don't know

44.0 % - Yes, it goes to: (see appendix A)

Your Opinions:

Please indicate your level of agreement or disagreement with the statements below.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean (n)
1. The economic stability of my community depends upon good water quality.	1.7	6.7	17.4	47.8	26.4	3.90 (178)
2. The way that I care for my lawn and yard can influence water quality in local streams and lakes.	2.2	7.8	13.9	50.6	25.6	3.89 (180)
3. It is my personal responsibility to help protect water quality.	2.2	3.4	12.4	53.9	28.1	4.02 (178)
4. It is important to protect water quality even if it slows economic development.	1.7	4.5	18.4	52.5	22.9	3.91 (179)
5. What I do on my land doesn't make much difference in overall water quality.	25.8	44.4	15.2	12.4	2.2	2.21 (178)
6. Lawn and yard-care practices (on individual lots) do not have an impact on local water quality.	29.2	44.9	16.3	8.4	1.1	2.07 (178)

7. My actions have an impact on water quality.	2.2	3.3	16.7	56.1	21.7	3.92 (180)
8. Taking action to improve water quality is too expensive for me.	8.5	31.1	44.6	13.6	2.3	2.70 (177)
9. It is okay to reduce water quality to promote economic development.	39.8	38.6	14.8	5.1	1.7	1.90 (176)
10. It is important to protect water quality even if it costs me more.	3.4	8.4	28.7	48.9	10.7	3.55 (178)
11. I would be willing to pay more to improve water quality (for example: through local taxes or fees).	7.3	13.5	31.5	41.6	6.2	3.26 (178)
12. I would be willing to change the way I care for my lawn and yard to improve water quality.	1.1	5.0	19.4	57.8	16.7	3.84 (180)
13. The quality of life in my community depends on good water quality in local streams, rivers and lakes.	1.7	7.3	15.2	53.4	22.5	3.88 (178)
14. Developers in my community follow current regulations.	2.8	10.2	68.2	14.8	4.0	3.07 (176)
15. Construction in my community should use practices that minimize soil erosion.	1.1	2.8	12.8	53.6	29.6	4.08 (179)
16. I would choose to purchase a home in a neighborhood that uses water quality conservation measures.	0.6	1.1	27.7	49.2	21.5	3.90 (177)

Water Impairments:

Below is a list of water pollutants that are generally present in water bodies to some extent. The pollutants and conditions become a problem when present in excessive amounts. In your opinion, *how much of a problem are the following pollutants in your area?*

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't Know	Mean (n)
1. Sediments	12.2	5.2	18.0	9.3	55.2	2.55 (172)
2. Nitrates/nitrogen	9.2	5.8	12.7	5.8	66.5	2.45 (173)
3. Phosphate/phosphorus	7.1	3.5	13.5	7.1	68.8	2.66 (170)
4. <i>E.coli</i>	12.9	6.4	8.2	9.9	62.6	2.41 (171)
5. Trash and debris	8.6	18.4	22.4	23.0	27.6	2.83 (174)
6. Salt (i.e. road salt)	8.8	10.5	21.1	8.8	50.9	2.61 (171)
7. Automotive fluids (e.g. MTBE, oil & grease, antifreeze)	12.6	9.8	13.2	12.6	51.7	2.54 (174)
8. Blue-green algae	9.7	5.7	20.6	12.6	51.4	2.74 (175)

9. Exotic or invasive aquatic plants	14.9	8.6	11.5	5.2	59.8	2.17 (174)
10. Flow alteration (e.g. large discharges from Geist Reservoir)	14.9	7.5	7.5	2.9	67.2	1.95 (174)
11. Habitat alteration (e.g. land use change)	12.1	9.2	12.1	11.5	55.2	2.51 (174)

Sources of Pollutants:

The items listed below are sources of water quality pollution across the country. In your opinion, *how much of a problem are the following sources in your area?*

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't Know	Mean (n)
1. Soil erosion from construction sites	16.9	16.3	21.5	7.6	37.8	2.32 (172)
2. Excessive use of lawn fertilizers and/or pesticides (from golf courses, sports fields, homes)	14.0	17.4	20.9	17.4	30.2	2.60 (172)
3. Improper disposal of used motor oil and/or antifreeze	11.0	18.0	15.1	11.0	44.8	2.47 (172)
4. Sewage from combined sewer overflows or failing septic tanks	15.3	10.8	15.3	23.3	35.2	2.72 (176)
5. Stormwater runoff (e.g. roofs, driveways, streets)	13.3	22.5	26.0	15.6	22.5	2.57 (173)
6. Droppings from wildlife and pets	18.9	26.3	13.7	8.0	33.1	2.16 (175)
7. Littering/illegal dumping of trash	12.8	23.8	22.1	21.5	19.8	2.65 (172)
8. Streambank or shoreline modification/destabilization	16.0	9.1	15.4	7.4	52.0	2.30 (175)
9. Conversion of forest land and wetlands to urban use	14.9	10.3	18.3	20.0	36.6	2.68 (175)
10. Discarded medications	13.9	13.9	12.1	11.0	49.1	2.40 (173)

Consequences of Poor Water Quality:

Poor water quality can lead to a variety of consequences for communities. In your opinion, *how much of a problem are the following issues in your area?*

	Not a Problem	Slight Problem	Moderate Problem	Severe Problem	Don't Know	Mean (n)
1. Contaminated fish resulting in Fish Consumption Advisories	13.4	12.2	17.4	12.8	44.2	2.53 (172)
2. High drinking water treatment costs	9.2	13.3	20.2	19.1	38.2	2.79 (173)
3. Reduced beauty of lakes or streams	14.6	20.5	21.1	18.7	25.1	2.59 (171)

4. Reduced opportunities for water recreation (e.g. swimming and boating)	12.8	13.4	22.1	22.1	29.7	2.76 (172)
5. Fish kills	12.8	14.5	21.5	18.0	33.1	2.67 (172)
6. Decreased property value	16.5	12.4	14.7	15.9	40.6	2.50 (170)
7. Decrease in fish and wildlife populations due to exposure to hormone-mimics (from improperly disposed of medications)	12.8	7.6	13.4	11.6	54.7	2.53 (172)

Practices to Improve Water Quality:

Controlling erosion: Controlling erosion along streambanks and shorelines with vegetation and other practices.

1. Do you use or have you ever used erosion controls? n=174

10.3% -Currently use ([go directly to table below](#))

10.3% -Don't currently use ([go to question 3](#))

79.3% -Never used ([go to question 2](#))

2. How familiar are you with erosion controls? n=154

39.6% -Never heard of it

52.6% -Somewhat familiar with

7.8% -Know how to use it; not using

3. Are you willing to try erosion controls? n=157

29.9% -Yes

52.9% -Maybe

17.2% -No

4. On a scale of 1-5, which of the following factors would prevent you from using erosion controls?

Not a problem -----Major problem

	1	2	3	4	5	Mean (n)
Lack of skills	24.8	9.0	30.3	19.3	16.6	2.94 (145)
Lack of equipment	16.4	5.5	24.0	26.0	28.1	3.44 (146)
Doesn't fit with current practices	31.9	8.5	31.9	17.0	10.6	2.66 (141)
Too much time required	25.7	13.9	35.4	14.6	10.4	2.70 (144)
My views about home management	36.4	16.4	30.0	10.7	6.4	2.34 (140)

Prior personal experience	34.0	16.3	26.2	13.5	9.9	2.49 (141)
Does not apply to my home	39.0	10.4	29.3	9.8	11.6	2.45 (164)

Follow manufacturer guidelines: Following pesticide application instructions for lawn and garden.

1. Do you now or have you ever followed manufacturer guidelines? n=163

40.5% -Currently use ([go directly to table below](#))

30.7% -Don't currently use ([go to question 3](#))

28.8% -Never used ([go to question 2](#))

2. How familiar are you with following manufacturer guidelines? n=94

29.8% -Never heard of it

41.5% -Somewhat familiar with

28.7% -Know how to use it; not using

3. Are you willing to try following manufacturer guidelines? n=111

51.4% -Yes

36.9% -Maybe

11.7% -No

4. On a scale of 1-5, which of the following factors would prevent you from using pesticides?

Not a problem -----Major problem

	1	2	3	4	5	Mean (n)
Lack of skills	40.0	15.6	20.7	8.1	15.6	2.44 (135)
Lack of equipment	31.7	16.5	23.0	12.9	15.8	2.65 (139)
Doesn't fit with current practices	36.8	12.0	28.6	7.5	15.0	2.52 (133)
Too much time required	38.6	18.9	27.3	7.6	7.6	2.27 (132)
My views about home management	39.1	17.4	23.9	7.2	12.3	2.36 (138)
Prior personal experience	43.5	13.0	28.2	5.3	9.9	2.25 (131)
Does not apply to my home	46.1	11.3	28.4	4.3	9.9	2.21 (141)

Low-phosphate fertilizers: Using low-phosphate fertilizers for lawn and garden.

1. Do you use or have you ever used low-phosphate fertilizers? n=173

16.2% -Currently use ([go directly to table below](#))

28.3% -Don't currently use ([go to question 3](#))

55.5% -Never used ([go to question 2](#))

2. How familiar are you with low-phosphate fertilizers? n=131

51.1% -Never heard of it

34.4% -Somewhat familiar with

14.5% -Know how to use it; not using

3. Are you willing to try low-phosphate fertilizers? n=146

25.3% -Yes

54.1% -Maybe

20.5% -No

4. On a scale of 1-5, which of the following factors would prevent you from using low-phosphate fertilizers?

Not a problem -----Major problem

	1	2	3	4	5	Mean (n)
Lack of skills	39.4	8.0	26.3	6.6	19.7	2.59 (137)
Lack of equipment	32.6	10.6	25.5	12.8	18.4	2.74 (141)
Doesn't fit with current practices	37.3	9.7	34.3	7.5	11.2	2.46 (134)
Too much time required	37.3	12.7	33.6	6.7	9.7	2.39 (134)
My views about home management	38.1	14.4	28.8	7.9	10.8	2.39 (139)
Prior personal experience	43.6	9.8	30.1	6.0	10.5	2.30 (133)
Does not apply to my home	47.9	7.0	26.8	6.3	12.0	2.27 (142)

Rain barrels and rain gardens: Rain barrels are above ground water storage vessels that capture rain. Rain gardens are designed to absorb and filter stormwater. They are usually designed to collect stormwater from a house.

1. Do you use or have you ever used rain barrels or rain gardens? n=178

6.2% -Currently use ([go directly to table below](#))

15.2% -Don't currently use ([go to question 3](#))

78.7% -Never used ([go to question 2](#))

2. How familiar are you with rain barrels or rain gardens? n=157

33.1% -Never heard of it

44.6% -Somewhat familiar with

22.3% -Know how to use it; not using

3. Are you willing to try rain barrels or rain gardens? n=164

32.3% -Yes

46.3% -Maybe

21.3% -No

4. On a scale of 1-5, which of the following factors would prevent you from using rain barrels or rain gardens?

Not a problem -----Major problem

	1	2	3	4	5	Mean (n)
Lack of skills	36.6	13.1	21.4	10.3	18.6	2.61 (145)
Lack of equipment	22.3	8.8	25.7	14.2	29.1	3.19 (148)
Doesn't fit with current practices	37.9	6.9	29.7	12.4	13.1	2.56 (145)
Too much time required	35.9	13.1	31.7	6.2	13.1	2.48 (145)
My views about home management	40.8	16.2	28.9	6.3	7.7	2.24 (142)
Prior personal experience	39.9	14.7	23.8	6.3	15.4	2.43 (143)
Does not apply to my home	45.0	11.9	25.2	5.3	12.6	2.28 (151)

Making Decisions for My Property:

Please indicate which statement *most accurately describes your level of experience with each practice*.

	Never heard of it	Somewhat familiar with it	Know how to use; not using	Currently use it	Mean (n)
1. Restoring native plant communities and planting trees	20.2	50.3	16.8	12.7	2.22 (173)
2. Keeping grass clippings and leaves out of the roads, ditches and gutters	7.0	33.1	5.8	54.1	3.07 (172)
3. Properly disposing of household wastes (such as batteries, medicines, cleaners)	6.4	23.4	10.5	59.6	3.23 (171)
4. Not putting chemicals down sewers	4.1	18.6	12.2	65.1	3.38 (172)
5. Disconnecting downspouts from direct access to storm drains	24.7	25.9	10.0	39.4	2.64 (170)
6. Reporting suspected violations of water quality regulations (e.g. contact neighborhood association, call TIP-line)	45.6	31.2	13.5	8.8	1.85 (170)
7. Participating in environmental education outreach with neighborhood groups	47.4	33.5	13.9	5.2	1.77 (173)

When you make decisions about changing your lawn care and/or stormwater practices, *how important is each of the following?*

	Not at all important	Somewhat important	Undecided	Important	Very important	Mean (n)
1. Personal out-of-pocket expense	1.1	14.4	16.7	31.6	36.2	3.87 (174)
2. My own physical abilities	7.5	13.8	13.2	37.4	28.2	3.65 (174)
3. Lack of available information about a practice	3.0	14.5	22.4	41.8	18.2	3.58 (165)
4. No one else I know is implementing the practice	31.5	11.3	31.5	13.1	12.5	2.64 (168)
5. Approval of my neighbors	38.0	14.0	25.7	13.5	8.8	2.41 (171)
6. Restrictive covenants in my subdivision	35.7	8.9	30.4	12.5	12.5	2.57 (168)
7. Don't know where to get information and/or assistance about the practice	8.8	15.2	22.2	32.7	21.1	3.42 (171)

8. Environmental damage caused by practice	2.9	7.6	22.4	38.8	28.2	3.82 (170)
9. Environmental benefit of practice	2.4	3.6	20.2	39.9	33.9	3.99 (168)
10. Concerns about resale value	7.1	10.6	18.8	34.1	29.4	3.68 (170)
11. I do not own my own property	45.3	4.7	14.0	18.7	17.3	2.58 (150)

Information Sources

People get information about water quality from a number of different sources. To what extent *do you trust the organizations list below as a source of information about water quality?*

	Not at all	Slightly	Moderately	Very much	Am not familiar	Mean (n)
1. Lower Fall Creek Watershed Alliance	5.2	5.7	20.1	10.9	58.0	2.88 (174)
2. Soil and Water Conservation District (SWCD)	3.5	5.3	20.5	15.2	55.6	3.07 (171)
3. Natural Resources Conservation Service (NRCS)	3.0	7.8	22.8	13.8	52.7	3.00 (167)
4. Indiana Department of Natural Resources (IDNR)	1.8	8.8	36.3	25.7	27.5	3.19 (171)
5. Indiana Department of Environmental Management (IDEM)	2.9	8.2	29.8	25.1	33.9	3.17 (171)
6. Citizen action groups	5.9	15.3	28.2	12.9	37.6	2.77 (170)
7. Local landowners/friends	4.1	27.6	27.1	9.4	31.8	2.61 (170)
8. Universities	5.3	14.1	28.2	25.3	27.1	3.01 (170)
9. Community service groups	7.1	16.5	31.2	8.8	36.5	2.66 (170)
10. Gardening and recreational clubs	7.7	18.9	23.7	10.7	39.1	2.61 (169)
11. Land Trusts (e.g. TNC, CILTI)	8.9	10.1	16.0	7.7	54.7	2.53 (169)
12. Local government	11.8	23.5	31.2	10.0	23.5	2.52 (170)
13. Community Development Corporations (CDCs)	12.4	15.9	17.1	5.9	48.8	2.32 (170)
14. Neighborhood associations	9.8	20.8	25.4	16.2	27.7	2.66 (173)
15. Religious organizations	23.5	16.5	22.9	7.1	30.0	2.19 (170)

16. Youth organizations	22.8	13.5	22.8	7.0	33.9	2.21 (171)
17. Local access television stations	8.8	25.1	33.3	9.9	22.8	2.58 (171)

1. Do you know how to [contact a local government representative](#)? n=179

64.2% -Yes

35.8% -No

2. How many times in the last year [have you called a local government representative](#)?

n=179

70.9% -Never

14.0% -Once

12.3% -2 – 5 times

2.8% -More than 5 times

3. Do you know how [zoning works](#)? n=176

41.5%-Yes

58.5% -No

4. How many times in the last year have you [attended a local government meeting](#)? n=178

80.3% -Never

12.4% -Once

5.6% -2 – 5 times

1.7% -More than 5 times

About You:

1. Do you [live in close proximity](#) to a lake or stream? n=174

4.6% -Waterfront property

13.2% -Within ¼ mile

12.1% -Within ½ mile

27.0% -Within a mile

43.1% -Further

2. Do you participate in any of the following [water-based recreation activities](#) in this area?

(check all that apply) n=185

11.4% -Boating

9.2% -Swimming

14.1% -Fishing

73.5% -None of the above

3. Do you live in a place adversely affected by poor water quality? n=168

30.4% -Yes

69.6% -No

4. Does poor water quality impact your activities? n=172

33.7% -Yes

66.3% -No

5. Does poor water quality impact your property values?

32.9% -Yes

67.1% -No

6. Which of the following do you do on a regular basis? (check all that apply) n=185

3.2% -Drive a hybrid vehicle

51.9% -Recycle

5.9% -Take public transportation

11.4% -Walk/bike to work/school

60.5% -Use compact fluorescent light bulbs

8.6% -Other (specify: see appendix B)

7. Do you make the home and lawn care decisions in your household? n=173

9.2% -No

90.8% -Yes

8. What is your gender? n=175

49.7% -Male

50.3% -Female

9. In what year were you born? n=161

range = 1918-1987 mean=1950.88

10. What is the highest grade in school you have completed? n=170

3.5% - Some formal schooling

22.9% - High school diploma/GED

22.4% - Some college

11.8% - 2 year college degree

28.8% - 4 year college degree

10.6% - Post-graduate

11. What is the approximate size of your residential lot? n=168

47.0% - ¼ acre or less

33.3% - more than ¼ acre but less than 1 acre

16.7% - 1 acre to less than 5 acres

3.0% - 5 acres or more

12. Do you own or rent your home? n=172

89.5% - Own

10.5% - Rent

13. How long have you lived at your current residence? n=171

range=0.08-64 years mean=17.85

14. What is the source of your drinking water? n=138

4.3% -Individual well

39.9% -Municipal well

55.1% -Fall Creek

0.7% -Eagle Creek

15. What is your zip code? n=174

(See appendix D)

16. In addition to your residence, which of the following do you own or manage? (check all that apply) n=184

0.5% - An agricultural operation

1.6% - Forested land

3.3% - Rural recreational property

88.0% - None of these

17. Do you use a professional lawn care service? n=175

5.7% - Yes, just for mowing

7.4% - Yes, for mowing and fertilizing

9.7% - Yes, just for fertilizing and pest control

2.9% - Yes, for mowing, fertilizing, and pest control

74.3% - No

18. In the past three years, have you heard about water quality issues in any of the following? (check all that apply) n=185

31.9% -Newsletters/brochures/fact sheets

13.5% -Internet

3.2% -Workshops/demonstrations/meetings

9.7% -Radio – Station name: (see appendix C)

31.9% -Newspapers – Name of publication: (see appendix C)

29.2% -Television – Station name: (see appendix C)

31.4% -Water bill – Name provider: (see appendix C)

2.7% -Notices posted at local businesses

2.7% -Notices posted on community bulletin boards

2.7% -Billboards

22.2% -Conversations with others

2.2% -Other (please specify: see appendix C)

21.1% -None of the above

19. What is your ethnicity? n=171

39.2% -African American

0.6% -American Indian

2.3% -Asian/Asian American/Pacific Islander

0.6% -Hispanic/Latino

51.5% -White/Caucasian

1.2% -Multi-racial

4.7% -Other

20. What is your occupation? (please be as specific as possible)
(see appendix E)

Appendix A:

Do you know where the water goes when it runs off your property? Yes it goes to:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	108	58.7	58.7	58.7
a sewer system	1	.5	.5	59.2
Butler Canal	1	.5	.5	59.8
city sewer	2	1.1	1.1	60.9
city sewer system	1	.5	.5	61.4
creek - feed to Fall Creek	1	.5	.5	62.0
creek across the street	1	.5	.5	62.5
creek below the house to Fall Creek	1	.5	.5	63.0
Devon Creek into Fall Creek	1	.5	.5	63.6
Devon Lake > Berkshire Creek > Fall Creek	1	.5	.5	64.1
disch	1	.5	.5	64.7
down the drain on the street	1	.5	.5	65.2
evaporation	1	.5	.5	65.8
eventually into Fall Creek	1	.5	.5	66.3
Fall Creek	13	7.1	7.1	73.4
Fall Creek and my septic tank	1	.5	.5	73.9
in the man holes	1	.5	.5	74.5
in the sewer	1	.5	.5	75.0
Indian Creek	1	.5	.5	75.5
Indian Lake, Fall Creek, White River	1	.5	.5	76.1
into a sewer line	1	.5	.5	76.6
into the city sewer system	1	.5	.5	77.2
into the ground	1	.5	.5	77.7
into the Lawrence storm- sewer system in our street	1	.5	.5	78.3
Kesslerwood East Lake and Fall Creek	1	.5	.5	78.8
Lake Maxinhall	1	.5	.5	79.3
Mud Creek	2	1.1	1.1	80.4

Mud Creek???	1	.5	.5	81.0
Pouque Run	1	.5	.5	81.5
retension pond	1	.5	.5	82.1
sewer	13	7.1	7.1	89.1
sewer drain	1	.5	.5	89.7
sewer in backyard	1	.5	.5	90.2
sewers	1	.5	.5	90.8
Sewers and settles in some backyards	1	.5	.5	91.3
sits in the street until it evaporates	1	.5	.5	91.8
small streams --> Fall Creek	1	.5	.5	92.4
soil	1	.5	.5	92.9
storm sewer	3	1.6	1.6	94.6
storm sewer in street	1	.5	.5	95.1
storm sewers in the street	1	.5	.5	95.7
the Crooked Creek	1	.5	.5	96.2
the lot to the north of me	1	.5	.5	96.7
the river	1	.5	.5	97.3
the sewer	1	.5	.5	97.8
west on Pleasant Woods to drain to pond by VFW	1	.5	.5	98.4
white river	1	.5	.5	98.9
woods behind house	1	.5	.5	99.5
ditch in front of my yard - neighborhood creek - Fall Creek	1	.5	.5	100.0
Total	184	100.0	100.0	

Appendix B:

Which of the following do you do on a regular basis?:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	165	89.2	89.2	89.2
buy environmetal safe products	1	.5	.5	89.7
buy water (distilled) to drink	1	.5	.5	90.3
car	1	.5	.5	90.8
car pool	1	.5	.5	91.4
carpool	1	.5	.5	91.9
compost yard debris and vegetable food waste	1	.5	.5	92.4
compost, don't water lawn	1	.5	.5	93.0
Conserve water, don't water lawn, conserve electicity, now hanging laundry to dry	1	.5	.5	93.5
don't mow or use -icides	1	.5	.5	94.1
drive as little as possible	1	.5	.5	94.6
feed nature's animals, birds, squirrels	1	.5	.5	95.1
high efficiency appliance	1	.5	.5	95.7
no	1	.5	.5	96.2
none	2	1.1	1.1	97.3
organic fertilizer, reel(manual) lawnmower	1	.5	.5	97.8
rain barrel, clothes line use, composting	1	.5	.5	98.4
Rain recycle	1	.5	.5	98.9
Runner	1	.5	.5	99.5
shut off water while taking a shower and brushing teeth	1	.5	.5	100.0
Total	185	100.0	100.0	

Appendix C:

Radio Station:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	176	95.1	95.1	95.1
106.7 FM	1	.5	.5	95.7
NPR	4	2.2	2.2	97.8
PBS	1	.5	.5	98.4
WFYI	1	.5	.5	98.9
WIBC	1	.5	.5	99.5
WTLC	1	.5	.5	100.0
Total	185	100.0	100.0	

Newspaper Publication:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	142	76.8	76.8	76.8
Indianapolis News	1	.5	.5	77.3
Indianapolis Star	26	14.1	14.1	91.4
Indianapolis Star & News	1	.5	.5	91.9
Indianapolis Star News	1	.5	.5	92.4
Indpls. Star	1	.5	.5	93.0
Indy Star	6	3.2	3.2	96.2
star	1	.5	.5	96.8
Star	6	3.2	3.2	100.0
Total	185	100.0	100.0	

Television Stations:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	153	82.7	82.7	82.7
#59	1	.5	.5	83.2
13-59	1	.5	.5	83.8

6,8,13	1	.5	.5	84.3
All	1	.5	.5	84.9
all stations	1	.5	.5	85.4
All stations news	1	.5	.5	85.9
CBS	2	1.1	1.1	87.0
CBS NBC ABC	1	.5	.5	87.6
CBS News	1	.5	.5	88.1
Ch 8 & 13	1	.5	.5	88.6
Channel 6 evening news	1	.5	.5	89.2
Indianapolis Stations	1	.5	.5	89.7
NBC	1	.5	.5	90.3
NBC, WTHR	1	.5	.5	90.8
NBS, CBS, ABC, Fox News	1	.5	.5	91.4
several	1	.5	.5	91.9
WFYI	1	.5	.5	92.4
WTHR	1	.5	.5	93.0
WTHR, WTTV	1	.5	.5	93.5
WISH	1	.5	.5	94.1
WISH Ch 8	1	.5	.5	94.6
Wish TV	1	.5	.5	95.1
WISH TV 8	1	.5	.5	95.7
WISH, WTHR	1	.5	.5	96.2
WISH, WTHR, WRTV	1	.5	.5	96.8
WRTV6	2	1.1	1.1	97.8
WRTV6, WISH8, WTHR13	1	.5	.5	98.4
WTHR	2	1.1	1.1	99.5
WTHR, WRTV, WISH	1	.5	.5	100.0
Total	185	100.0	100.0	

Water Provider:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	142	76.8	76.8	76.8
Indianapolis Water	9	4.9	4.9	81.6
Indianapolis Water - Veolia	1	.5	.5	82.2

Indianapolis Water Co.	6	3.2	3.2	85.4
Indianapolis Water Company	1	.5	.5	85.9
Indianpolis Water	1	.5	.5	86.5
Indianpolis water co	1	.5	.5	87.0
Indpls. Water	1	.5	.5	87.6
IPL	1	.5	.5	88.1
Lawrence	1	.5	.5	88.6
Lawrence Utilities	9	4.9	4.9	93.5
Lawrence Water	1	.5	.5	94.1
Lawrence Water Co.	1	.5	.5	94.6
super markets	1	.5	.5	95.1
Veola	3	1.6	1.6	96.8
VEOLA	1	.5	.5	97.3
Veolia	4	2.2	2.2	99.5
Veolia Water	1	.5	.5	100.0
Total	185	100.0	100.0	

Other:

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	181	97.8	97.8	97.8
barber shop	1	.5	.5	98.4
home owners association	1	.5	.5	98.9
IDEM	1	.5	.5	99.5
red signs at river	1	.5	.5	100.0
Total	185	100.0	100.0	

Appendix D:

What is your zip code?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	8	1	.5	.6	.6
	46055	1	.5	.6	1.1
	46202	1	.5	.6	1.7
	46205	22	11.9	12.6	14.4
	46206	1	.5	.6	14.9
	46208	17	9.2	9.8	24.7
	46218	23	12.4	13.2	37.9
	46220	5	2.7	2.9	40.8
	46226	59	31.9	33.9	74.7
	46228	1	.5	.6	75.3
	46235	5	2.7	2.9	78.2
	46236	16	8.6	9.2	87.4
	46239	1	.5	.6	87.9
	46250	1	.5	.6	88.5
	46256	17	9.2	9.8	98.3
	46308	1	.5	.6	98.9
	462051031	1	.5	.6	99.4
	462085452	1	.5	.6	100.0
	Total	174	94.1	100.0	
Missing	System	11	5.9		
Total		185	100.0		

Appendix E:

What is your occupation?

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	22	11.9	11.9	11.9
401(K) Plan Administrator	1	.5	.5	12.4
Account manager for audio visual rental company	1	.5	.5	13.0
Accounting Technician	1	.5	.5	13.5
Admin assistant	1	.5	.5	14.1
Administrative Assistant	1	.5	.5	14.6
Architect	1	.5	.5	15.1
Art Director	1	.5	.5	15.7
Assembly	1	.5	.5	16.2
baby day care	1	.5	.5	16.8
Barber	1	.5	.5	17.3
Bartender	1	.5	.5	17.8
Business Manager	1	.5	.5	18.4
CAN	1	.5	.5	18.9
car wash owner/operator. RV Park & Pier Rental Lake Wawasee. Home remodeler.	1	.5	.5	19.5
Cashier	1	.5	.5	20.0
Chef De Cuisine @ popular restaurant in downtown area	1	.5	.5	20.5
Claim Handler	1	.5	.5	21.1
College Educational Sales & retention	1	.5	.5	21.6
Commercial Driver	1	.5	.5	22.2
computer repairs	1	.5	.5	22.7
Courier	1	.5	.5	23.2
Creative director	1	.5	.5	23.8
CSR	2	1.1	1.1	24.9
Customer service rep	1	.5	.5	25.4
Customer Service Supervisor	1	.5	.5	25.9
Delivery contractor	1	.5	.5	26.5
Disabled	1	.5	.5	27.0

Dog Groomer	1	.5	.5	27.6
driver for furniture company	1	.5	.5	28.1
Engineer	1	.5	.5	28.6
Executive Assistant	1	.5	.5	29.2
Factory Worker	2	1.1	1.1	30.3
Flow- unload trucks	1	.5	.5	30.8
Fund raiser State museum	1	.5	.5	31.4
General Management	1	.5	.5	31.9
Graphic Designer	1	.5	.5	32.4
High school shop teacher	1	.5	.5	33.0
Home repairs specialist for nonprofit CDC	1	.5	.5	33.5
Homemaker	2	1.1	1.1	34.6
Homemaker - Widow	1	.5	.5	35.1
House mother	1	.5	.5	35.7
Housekeeping	2	1.1	1.1	36.8
housewife	1	.5	.5	37.3
HVAC/Mechanical Engineer	1	.5	.5	37.8
INDOT crew leader	1	.5	.5	38.4
Insurance agent	1	.5	.5	38.9
Insurance underwriter	1	.5	.5	39.5
IT Professional	1	.5	.5	40.0
Letter carrier	1	.5	.5	40.5
LSS, Childcare, CRS.	1	.5	.5	41.1
Mail Carrier (USPS)	1	.5	.5	41.6
Manager local business	1	.5	.5	42.2
Manufacturing/Purchasing Agent	1	.5	.5	42.7
Marketing/Communications Director	1	.5	.5	43.2
Medical technologist/customer service	1	.5	.5	43.8
Merchandising Manager	1	.5	.5	44.3
Mortician	1	.5	.5	44.9
Newspaper copy editor	1	.5	.5	45.4
Night sup at Marsh	1	.5	.5	45.9

none	1	.5	.5	46.5
NONE	1	.5	.5	47.0
Nurse	3	1.6	1.6	48.6
Nursing	1	.5	.5	49.2
Optician	1	.5	.5	49.7
Outside Sales Representative	1	.5	.5	50.3
Philosophy Professor	1	.5	.5	50.8
Physician (MD)	1	.5	.5	51.4
Police Officer	1	.5	.5	51.9
Postal Worker	2	1.1	1.1	53.0
process control engineer	1	.5	.5	53.5
Proctor at Ivy Tech Community College	1	.5	.5	54.1
Procurement	1	.5	.5	54.6
Professional Services - Architectural/Engineering	1	.5	.5	55.1
Public Safety Dispatcher	1	.5	.5	55.7
realter, Broker,Author, Minister, Student	1	.5	.5	56.2
Receptionist at Direct Buy Indianapolis	1	.5	.5	56.8
Respiratory Therapist	1	.5	.5	57.3
Retail Service Manager	1	.5	.5	57.8
retired	1	.5	.5	58.4
Retired	40	21.6	21.6	80.0
Retired - Disability	1	.5	.5	80.5
Retired (Insurance underwriter)	1	.5	.5	81.1
Retired Engineer	1	.5	.5	81.6
Retired Fire Fighter	1	.5	.5	82.2
Retired for INDOT	1	.5	.5	82.7
Retired from Marsh as a back door receiver	1	.5	.5	83.2
Retired from mental health field and artist	1	.5	.5	83.8
Retired GM employee	1	.5	.5	84.3
Retired Millwright	1	.5	.5	84.9

retired minister	1	.5	.5	85.4
Retired RCA recorder	1	.5	.5	85.9
retired social work	1	.5	.5	86.5
Retired system analyst	1	.5	.5	87.0
Retired teacher	5	2.7	2.7	89.7
Retired teacher - Chicago Public Schools	1	.5	.5	90.3
retirement	1	.5	.5	90.8
RN	1	.5	.5	91.4
self employed	1	.5	.5	91.9
Stay at home mom and full time student	1	.5	.5	92.4
Student - Pharmacy at Butler University	1	.5	.5	93.0
student full time	1	.5	.5	93.5
Teacher	2	1.1	1.1	94.6
Technician	1	.5	.5	95.1
Truck Driver	1	.5	.5	95.7
Tutor for K-8	1	.5	.5	96.2
unemployed	3	1.6	1.6	97.8
US Navy (Retired)	1	.5	.5	98.4
waiter	1	.5	.5	98.9
Warehouse Manager	1	.5	.5	99.5
Warehouse Worker	1	.5	.5	100.0
Total	185	100.0	100.0	

APPENDIX 4

Endangered, Threatened, and Rare Species

This page intentionally blank

Indiana County Endangered, Threatened and Rare Species List

County: Hamilton

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Epioblasma torulosa rangiana	Northern Riffleshell	LE	SE	G2T2	S1
Epioblasma triquetra	Snuffbox		SE	G3	S1
Lampsilis fasciola	Wavyrayed Lampmussel		SSC	G4	S2
Ligumia recta	Black Sandshell			G5	S2
Obovaria subrotunda	Round Hickorynut		SSC	G4	S2
Plethobasus cyphus	Sheepnose	C	SE	G3	S1
Pleurobema clava	Clubshell	LE	SE	G2	S1
Ptychobranchus fasciolaris	Kidneyshell		SSC	G4G5	S2
Quadrula cylindrica cylindrica	Rabbitsfoot		SE	G3T3	S1
Toxolasma lividus	Purple Lilliput		SSC	G2	S2
Toxolasma parvum	Lilliput			G5	S2
Villosa fabalis	Rayed Bean	C	SSC	G1G2	S1
Villosa lienosa	Little Spectaclecase		SSC	G5	S2
Fish					
Ammocrypta pellucida	Eastern Sand Darter			G3	S2
Amphibian					
Necturus maculosus	Common mudpuppy		SSC	G5	S2
Reptile					
Clemmys guttata	Spotted Turtle		SE	G5	S2
Sistrurus catenatus catenatus	Eastern Massasauga	C	SE	G3G4T3T4	S2
Bird					
Bartramia longicauda	Upland Sandpiper		SE	G5	S3B
Buteo lineatus	Red-shouldered Hawk		SSC	G5	S3
Certhia americana	Brown Creeper			G5	S2B
Dendroica cerulea	Cerulean Warbler		SSC	G4	S3B
Ixobrychus exilis	Least Bittern		SE	G5	S3B
Nycticorax nycticorax	Black-crowned Night-heron		SE	G5	S1B
Thryomanes bewickii	Bewick's Wren			G5	S1B
Mammal					
Lynx rufus	Bobcat	No Status		G5	S1
Taxidea taxus	American Badger			G5	S2
Vascular Plant					
Armoracia aquatica	Lake Cress		SE	G4?	S1
Chelone obliqua var. speciosa	Rose Turtlehead		WL	G4T3	S3
Drosera intermedia	Spoon-leaved Sundew		SR	G5	S2
Platanthera leucophaea	Prairie White-fringed Orchid	LT	SE	G3	S1
High Quality Natural Community					
Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	G3?	S3
Forest - upland mesic	Mesic Upland Forest		SG	G3?	S3

Indiana County Endangered, Threatened and Rare Species List

County: Hancock

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Alasmidonta viridis	Slippershell Mussel			G4G5	S2
Epioblasma triquetra	Snuffbox		SE	G3	S1
Lampsilis fasciola	Wavyrayed Lampmussel		SSC	G4	S2
Pleurobema clava	Clubshell	LE	SE	G2	S1
Ptychobranthus fasciolaris	Kidneyshell		SSC	G4G5	S2
Toxolasma lividus	Purple Lilliput		SSC	G2	S2
Toxolasma parvum	Lilliput			G5	S2
Villosa lienosa	Little Spectaclecase		SSC	G5	S2
Bird					
Ardea herodias	Great Blue Heron			G5	S4B
Bartramia longicauda	Upland Sandpiper		SE	G5	S3B
Lanius ludovicianus	Loggerhead Shrike	No Status	SE	G4	S3B
Nycticorax nycticorax	Black-crowned Night-heron		SE	G5	S1B
Mammal					
Mustela nivalis	Least Weasel		SSC	G5	S2?
Myotis sodalis	Indiana Bat or Social Myotis	LE	SE	G2	S1
Taxidea taxus	American Badger			G5	S2
Vascular Plant					
Magnolia acuminata	Cucumber Magnolia		SE	G5	S1

Indiana County Endangered, Threatened and Rare Species List

County: Madison

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Epioblasma torulosa rangiana	Northern Riffleshell	LE	SE	G2T2	S1
Lampsilis fasciola	Wavyrayed Lampmussel		SSC	G4	S2
Plethobasus cyphys	Sheepnose	C	SE	G3	S1
Pleurobema clava	Clubshell	LE	SE	G2	S1
Ptychobranchus fasciolaris	Kidneyshell		SSC	G4G5	S2
Quadrula cylindrica cylindrica	Rabbitsfoot		SE	G3T3	S1
Toxolasma lividus	Purple Lilliput		SSC	G2	S2
Toxolasma parvum	Lilliput			G5	S2
Villosa lienosa	Little Spectaclecase		SSC	G5	S2
Insect: Odonata (Dragonflies & Damselflies)					
Cordulegaster bilineata	Brown Spiketail		SE	G5	S1
Bird					
Ardea herodias	Great Blue Heron			G5	S4B
Lanius ludovicianus	Loggerhead Shrike	No Status	SE	G4	S3B
Nycticorax nycticorax	Black-crowned Night-heron		SE	G5	S1B
Rallus elegans	King Rail		SE	G4	S1B
Mammal					
Taxidea taxus	American Badger			G5	S2
Vascular Plant					
Deschampsia cespitosa	Tufted Hairgrass		SR	G5	S2
Hypericum pyramidatum	Great St. John's-wort		ST	G4	S1
Juglans cinerea	Butternut		WL	G3G4	S3
Onosmodium hispidissimum	Shaggy False-gromwell		SE	G4	S1
Poa paludigena	Bog Bluegrass		WL	G3	S3
Selaginella apoda	Meadow Spike-moss		WL	G5	S1
Spiranthes lucida	Shining Ladies'-tresses		SR	G5	S2
Valerianella chenopodiifolia	Goose-foot Corn-salad		SE	G5	S1
High Quality Natural Community					
Forest - upland mesic	Mesic Upland Forest		SG	G3?	S3
Wetland - fen	Fen		SG	G3	S3
Wetland - marsh	Marsh		SG	GU	S4

Indiana County Endangered, Threatened and Rare Species List

County: Marion

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Alasmidonta viridis	Slippershell Mussel			G4G5	S2
Epioblasma torulosa rangiana	Northern Riffleshell	LE	SE	G2T2	S1
Epioblasma triquetra	Snuffbox		SE	G3	S1
Obovaria subrotunda	Round Hickorynut		SSC	G4	S2
Plethobasus cyphysus	Sheepnose	C	SE	G3	S1
Pleurobema clava	Clubshell	LE	SE	G2	S1
Ptychobranchnus fasciolaris	Kidneyshell		SSC	G4G5	S2
Quadrula cylindrica cylindrica	Rabbitsfoot		SE	G3T3	S1
Toxolasma parvum	Lilliput			G5	S2
Venustaconcha ellipsiformis	Ellipse		SSC	G3G4	S2
Villosa lienosa	Little Spectaclecase		SSC	G5	S2
Insect: Neuroptera					
Sisyra sp. 1	Indiana Spongilla Fly		ST	GNR	S2
Fish					
Ammocrypta pellucida	Eastern Sand Darter			G3	S2
Percina evides	Gilt Darter		SE	G4	S1
Amphibian					
Rana pipiens	Northern Leopard Frog		SSC	G5	S2
Reptile					
Clemmys guttata	Spotted Turtle		SE	G5	S2
Clonophis kirtlandii	Kirtland's Snake		SE	G2	S2
Emydoidea blandingii	Blanding's Turtle		SE	G4	S2
Thamnophis butleri	Butler's Garter Snake		SE	G4	S1
Bird					
Aimophila aestivalis	Bachman's Sparrow			G3	SXB
Ardea alba	Great Egret		SSC	G5	S1B
Ardea herodias	Great Blue Heron			G5	S4B
Bartramia longicauda	Upland Sandpiper		SE	G5	S3B
Botaurus lentiginosus	American Bittern		SE	G4	S2B
Buteo lineatus	Red-shouldered Hawk		SSC	G5	S3
Buteo platypterus	Broad-winged Hawk	No Status	SSC	G5	S3B
Certhia americana	Brown Creeper			G5	S2B
Dendroica cerulea	Cerulean Warbler		SSC	G4	S3B
Falco peregrinus	Peregrine Falcon	No Status	SE	G4	S2B
Haliaeetus leucocephalus	Bald Eagle	LT,PDL	SE	G5	S2
Helmitheros vermivorus	Worm-eating Warbler		SSC	G5	S3B
Ixobrychus exilis	Least Bittern		SE	G5	S3B
Lanius ludovicianus	Loggerhead Shrike	No Status	SE	G4	S3B
Mniotilta varia	Black-and-white Warbler		SSC	G5	S1S2B
Nycticorax nycticorax	Black-crowned Night-heron		SE	G5	S1B
Pandion haliaetus	Osprey		SE	G5	S1B
Rallus elegans	King Rail		SE	G4	S1B
Sitta canadensis	Red-breasted Nuthatch			G5	S1B
Wilsonia citrina	Hooded Warbler		SSC	G5	S3B
Mammal					
Lutra canadensis	Northern River Otter			G5	S2
Lynx rufus	Bobcat	No Status		G5	S1
Myotis sodalis	Indiana Bat or Social Myotis	LE	SE	G2	S1
Taxidea taxus	American Badger			G5	S2
Vascular Plant					
Chelone obliqua var. speciosa	Rose Turtlehead		WL	G4T3	S3
Deschampsia cespitosa	Tufted Hairgrass		SR	G5	S2
Hydrastis canadensis	Golden Seal		WL	G4	S3

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list
GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Indiana County Endangered, Threatened and Rare Species List

County: Marion

Species Name	Common Name	FED	STATE	GRANK	SRANK
Juglans cinerea	Butternut		WL	G3G4	S3
Melanthium virginicum	Virginia Bunchflower		SE	G5	S1
Panax quinquefolius	American Ginseng		WL	G3G4	S3
Poa wolfii	Wolf Bluegrass		SR	G4	S2
Rubus odoratus	Purple Flowering Raspberry		ST	G5	S2
Trifolium stoloniferum	Running Buffalo Clover	LE	SE	G3	S1
High Quality Natural Community					
Forest - flatwoods central till plain	Central Till Plain Flatwoods		SG	G3	S2
Forest - floodplain mesic	Mesic Floodplain Forest		SG	G3?	S1
Forest - floodplain wet	Wet Floodplain Forest		SG	G3?	S3
Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	G3?	S3
Forest - upland dry-mesic	Dry-mesic Upland Forest		SG	G4	S4
Forest - upland mesic	Mesic Upland Forest		SG	G3?	S3
Wetland - fen	Fen		SG	G3	S3

APPENDIX 5

Demographic Data

This page intentionally blank


[about the profile](#) | [release calendar](#) | [a to z](#) | [hoosiers by the numbers](#)

Select County	
<input type="text" value="Indiana"/>	
Select Region	
<input type="text" value="IEDC NW"/>	
Create a Region	
<input type="text" value="Custom Region"/>	

Hamilton County IN Depth Profile

County Seat: Noblesville

Hamilton County, Indiana

Organized in 1823 and named for Alexander Hamilton, first secretary of the treasury

Largest City: Fishers (pop in 2006: 61,840)

Population per Sq. Mile: 630.8 Sq. Miles: 397.9

[Link to County's in.gov Site](#)

Population Over Time	Number	Rank in State	Percent of State	Indiana
Yesterday(1990)	108,936	12	2.0%	5,544,156
Today(2006)	250,979	5	4.0%	6,313,520
Tomorrow(2010 proj.)	298,642	4	4.7%	6,417,198
Percent Change 1990 to 2000	67.7%	1		9.7%

Sources: US Census Bureau; Indiana Business Research Center

Components of Population Change in 2006	Number	Rank in State	Percent of State	Indiana
Net Domestic Migration 2005 to 2006	7,531	1		5,011
Net International Migration 2005 to 2006	303	8		10,419
Natural Increase (births minus deaths)	2,481	3	7.9%	31,308

Source: US Census Bureau

Population Estimates by Age in 2006	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Preschool (0 to 4)	18,767	5	7.5%	6.8%
School Age (5 to 17)	52,462	4	20.9%	18.2%
College Age (18 to 24)	20,957	7	8.4%	9.8%
Young Adult (25 to 44)	80,171	4	31.9%	27.6%
Older Adult (45 to 64)	59,566	5	23.7%	25.2%
Older (65 plus)	19,056	8	7.6%	12.4%
Median Age	33.9			Median Age = 36.3

Sources: US Census Bureau; Indiana Business Research Center

Population Estimates by Race or Hispanic Origin in 2006	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
American Indian or Alaska Native Alone	425	7	0.2%	0.3%
Asian Alone	9,543	2	3.8%	1.3%
Black Alone	8,629	9	3.4%	8.9%
Native Hawaiian and Other Pac. Isl. Alone	72	8	0.0%	0.0%
White Alone	229,920	4	91.6%	88.3%
Two or More Race Groups	2,390	6	1.0%	1.1%
Hispanic or Latino(can be of any race)				
Non-Hispanic or Latino	244,297	5	97.3%	95.2%
Hispanic or Latino	6,682	8	2.7%	4.8%

Source: US Census Bureau

Household Types	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Households in 2000 (Includes detail not shown below)	65,933	7	100.0%	100.0%
Married With Children	24,585	4	37.3%	23.8%

Married Without Children	19,922	6	30.2%	29.8%
Single Parents	4,209	8	6.4%	9.1%
Living Alone	12,259	12	18.6%	25.9%

Source: US Census Bureau

Housing	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Total Housing Units in 2006 (estimate)	95,690	5	100.0%	100.0%
Total Housing Units in 2000 (includes vacant units)	69,478	7	100.0%	100.0%
Owner Occupied (Pct. distribution based on all housing units)	53,369	5	76.8%	65.9%
Median Value (2000)	\$166,300	1	--	--
Renter Occupied (Pct. distribution based on all housing units)	12,564	13	18.1%	26.3%
Median Rent (2000)	\$709	1	--	--

Source: US Census Bureau

Education	Number	Rank in State	Percent of State	Indiana
School Enrollment (2006/2007 Total Reported)	48,376	4	4.2%	1,154,826
Public	47,424	4	4.5%	1,045,702
Private	952	93	0.9%	109,124
High School Graduates (2005/2006)	2,490	6	4.0%	62,296
Going on to Higher Education	2,303	5	4.4%	51,976
4-year	1,970	5	5.1%	38,334
2-year	269	10	3.0%	8,991
Voc/tech.	64	16	1.4%	4,651
Adults (25+ in 2000 Census)	116,457	5	3.0%	3,893,278
with High School diploma or higher	94.2%	1		82.1%
with B.A. or higher degree	48.9%	1		19.4%

Sources: Indiana Department of Education; US Census Bureau

Notes: 1) School enrollment figures for 2006/2007 are preliminary. 2) Private enrollment includes home schools. 3) County rankings for high-school graduates continuing to higher education are subject to revision. Data from the Indiana Department of Education for Vigo County appear to include an erroneous entry. Until the data has been corrected by IDOE, Vigo will be removed from the rankings.

Income and Poverty	Number	Rank in State	Percent of State	Indiana
Per Capita Personal Income (annual) in 2005	\$44,354	1	142.3%	\$31,173
Median Household Income in 2004	\$82,196	1	190.2%	\$43,217
Poverty Rate in 2004	3.9%	92	35.1%	11.1%
Poverty Rate among Children under 18	4.5%	92	28.7%	15.7%
Welfare (TANF) Monthly Average Families in 2006	204	1		
Foodstamp Recipients in 2006	4,246	1		
Free and Reduced Fee Lunch Recipients in 2006	4,123	20	1.1%	374,221

Sources: U.S. Bureau of Economic Analysis; US Census Bureau; Indiana Family Social Services Administration; Indiana Department of Education

Health and Vital Statistics in 2005	Number	Rank in State	Percent of State	Indiana
Births	3,693	5	4.2%	87,088
Births to Teens	117	20	1.2%	9,604
Deaths	1,023	14	1.8%	55,623

Source: Indiana State Department of Health

Labor Force in 2006	Number	Rank in State	Percent of State	Indiana
Total Resident Labor Force	134,885	5	4.1%	3,271,496
Employed	130,502	4	4.2%	3,108,806
Unemployed	4,383	7	2.7%	162,690
Unemployment Rate	3.2	92	64.0%	5.0
November 2007 Unemployment Rate	3.0	90	68.2%	4.4

Source: Bureau of Labor Statistics; Indiana Department of Workforce Development

Employment and Earnings by Industry in 2005 (NAICS)	Employment	Pct Dist. in County	Earnings (\$000)	Pct Dist. In County	Avg. Earnings Per Job
Total by place of work	146,696	100.0%	\$6,184,898	100.0%	\$42,161

Wage and Salary	104,938	71.5%	\$4,263,701	68.9%	\$40,631
Farm Proprietors	597	0.4%	\$350	0.0%	\$586
Nonfarm Proprietors	41,161	28.1%	\$1,002,121	16.2%	\$24,346
Farm	754	0.5%	\$9,626	0.2%	\$12,767
Nonfarm	145,942	99.5%	\$6,175,272	99.8%	\$42,313
Private	135,036	92.1%	\$5,666,323	91.6%	\$41,962
Accommodation, Food Serv.	9,106	6.2%	\$160,734	2.6%	\$17,651
Arts, Ent., Recreation	4,468	3.0%	\$64,986	1.1%	\$14,545
Construction	10,379	7.1%	\$531,187	8.6%	\$51,179
Health Care, Social Serv.	11,742	8.0%	\$469,336	7.6%	\$39,971
Information	3,891	2.7%	\$212,135	3.4%	\$54,519
Manufacturing	6,642	4.5%	\$426,607	6.9%	\$64,229
Professional, Tech. Serv.	12,767	8.7%	\$607,576	9.8%	\$47,590
Retail Trade	17,382	11.8%	\$548,503	8.9%	\$31,556
Trans., Warehousing	1,225	0.8%	\$32,629	0.5%	\$26,636
Wholesale Trade	7,639	5.2%	\$541,703	8.8%	\$70,913
Other Private (not above)	48,782*	33.3%*	\$2,032,963*	32.9%*	\$41,674*
Government	10,906	7.4%	\$508,949	8.2%	\$46,667

Source: US Bureau of Economic Analysis

* These totals do not include county data that are not available due to BEA non-disclosure requirements.

Assessed Property Value in 1999 (for taxes payable in 2000)	Value	Rank in State	Pct Dist. in County	Pct Dist. in State
Assessed Value by Property Class	\$2,666,509,670	4	100.0%	100.0%
Commercial & Industrial	\$636,326,690	9	23.9%	43.2%
Residential	\$1,865,515,830	2	70.0%	41.5%
Agricultural	\$82,673,070	13	3.1%	9.6%
Utilities	\$81,994,080	9	3.1%	5.6%
Total Assesed Value Per Capita	\$16,382	2		

Source: The State Board of Tax Commissioners

Residential Building Permits in 2006	Units	Pct Dist. in County	Pct Dist. in State	Cost (\$000)	State Cost (\$000)
Total Permits Filed	3,895	100.0%	100.0%	\$686,436	\$4,687,933
Single Family	3,030	77.8%	84.1%	\$629,800	\$4,343,823
Two Family	116	3.0%	3.5%	\$11,301	\$103,869
Three & Four Family	113	2.9%	2.0%	\$9,002	\$41,336
Five families and More	636	16.3%	10.4%	\$36,333	\$198,905

Source: US Census Bureau (Greene County totals are not included as it does not currently issue building permits.) Note: Detail cost may not sum to total due to rounding.

Commuting Patterns - Top 5 in 2005					
Into Hamilton FROM	Number	Percent	Out of Hamilton TO	Number	Percent
All Areas	27,421	22.9%	All Areas	61,340	39.9%
Marion County	11,861	9.9%	Marion County	51,703	33.7%
Madison County	4,449	3.7%	Howard County	2,420	1.6%
Boone County	1,772	1.5%	Madison County	1,530	1.0%
Hancock County	1,463	1.2%	Boone County	841	0.5%
Hendricks County	1,378	1.2%	Hancock County	581	0.4%

Source: Indiana Department of Revenue

Cities and Towns in Hamilton County

	Population in 2006	% of County
Arcadia	1,820	0.7%
Atlanta	838	0.3%
Carmel	60,570	24.1%
Cicero	4,400	1.8%
Fishers	61,840	24.6%
Noblesville	40,115	16.0%

Order by Size	
Fishers	<div></div>
Carmel	<div></div>
Noblesville	<div></div>
Westfield	<div></div>
Cicero	<div></div>
Sheridan	<div></div>

Sheridan	2,779	1.1%	Arcadia
Westfield	13,444	5.4%	Atlanta

Links to Maps:

Census Tract Boundary Map of [Hamilton](#) county

Tiger Mapping Service [Map of Area](#)

[Top of page](#)

County Profiles is a component of **STATS Indiana**, a web-based information service of the [State of Indiana](#) and the [Indiana Department of Workforce Development](#), developed and maintained by the [Indiana Business Research Center](#) at [Indiana University's Kelley School of Business](#).

Updated: December 21, 2007 at 20:03


[about the profile](#) | [release calendar](#) | [a to z](#) | [hoosiers by the numbers](#)

Select County	
<input type="text" value="Indiana"/>	
Select Region	
<input type="text" value="IEDC NW"/>	
Create a Region	
<input type="text" value="Custom Region"/>	

Hancock County IN Depth Profile

County Seat: Greenfield

Hancock County, Indiana

Named in 1828 for John Hancock, signer of the Declaration of Independence

Largest City: Greenfield (pop in 2006: 17,453)

Population per Sq. Mile: 212.5 Sq. Miles: 306.1

[Link to County's in.gov Site](#)

Population Over Time	Number	Rank in State	Percent of State	Indiana
Yesterday(1990)	45,527	26	0.8%	5,544,156
Today(2006)	65,050	25	1.0%	6,313,520
Tomorrow(2010 proj.)	67,426	25	1.1%	6,417,198
Percent Change 1990 to 2000	21.7%	6		9.7%

Sources: US Census Bureau; Indiana Business Research Center

Components of Population Change in 2006	Number	Rank in State	Percent of State	Indiana
Net Domestic Migration 2005 to 2006	1,784	5		5,011
Net International Migration 2005 to 2006	6	63		10,419
Natural Increase (births minus deaths)	307	20	1.0%	31,308

Source: US Census Bureau

Population Estimates by Age in 2006	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Preschool (0 to 4)	4,185	24	6.4%	6.8%
School Age (5 to 17)	11,618	24	17.9%	18.2%
College Age (18 to 24)	5,858	23	9.0%	9.8%
Young Adult (25 to 44)	18,392	23	28.3%	27.6%
Older Adult (45 to 64)	17,263	25	26.5%	25.2%
Older (65 plus)	7,734	25	11.9%	12.4%
Median Age	37.3			Median Age = 36.3

Sources: US Census Bureau; Indiana Business Research Center

Population Estimates by Race or Hispanic Origin in 2006	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
American Indian or Alaska Native Alone	109	37	0.2%	0.3%
Asian Alone	492	24	0.8%	1.3%
Black Alone	1,271	23	2.0%	8.9%
Native Hawaiian and Other Pac. Isl. Alone	13	38	0.0%	0.0%
White Alone	62,733	25	96.4%	88.3%
Two or More Race Groups	432	27	0.7%	1.1%
Hispanic or Latino(can be of any race)				
Non-Hispanic or Latino	64,268	25	98.8%	95.2%
Hispanic or Latino	782	41	1.2%	4.8%

Source: US Census Bureau

Household Types	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Households in 2000 (Includes detail not shown below)	20,718	25	100.0%	100.0%
Married With Children	6,294	23	30.4%	23.8%

Married Without Children	7,696	25	37.1%	29.8%
Single Parents	1,304	31	6.3%	9.1%
Living Alone	3,891	29	18.8%	25.9%

Source: US Census Bureau

Housing	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Total Housing Units in 2006 (estimate)	26,947	25	100.0%	100.0%
Total Housing Units in 2000 (includes vacant units)	21,750	25	100.0%	100.0%
Owner Occupied (Pct. distribution based on all housing units)	16,872	25	77.6%	65.9%
Median Value (2000)	\$129,700	4	--	--
Renter Occupied (Pct. distribution based on all housing units)	3,846	32	17.7%	26.3%
Median Rent (2000)	\$571	5	--	--

Source: US Census Bureau

Education	Number	Rank in State	Percent of State	Indiana
School Enrollment (2006/2007 Total Reported)	12,677	21	1.1%	1,154,826
Public	12,677	20	1.2%	1,045,702
Private	N/R			109,124
High School Graduates (2005/2006)	747	25	1.2%	62,296
Going on to Higher Education	643	27	1.2%	51,976
4-year	393	26	1.0%	38,334
2-year	128	50	1.4%	8,991
Voc/tech.	122	23	2.6%	4,651
Adults (25+ in 2000 Census)	37,073	25	1.0%	3,893,278
with High School diploma or higher	87.8%	6		82.1%
with B.A. or higher degree	22.2%	11		19.4%

Sources: Indiana Department of Education; US Census Bureau

Notes: 1) School enrollment figures for 2006/2007 are preliminary. 2) Private enrollment includes home schools. 3) County rankings for high-school graduates continuing to higher education are subject to revision. Data from the Indiana Department of Education for Vigo County appear to include an erroneous entry. Until the data has been corrected by IDOE, Vigo will be removed from the rankings.

Income and Poverty	Number	Rank in State	Percent of State	Indiana
Per Capita Personal Income (annual) in 2005	\$36,466	4	117.0%	\$31,173
Median Household Income in 2004	\$62,657	3	145.0%	\$43,217
Poverty Rate in 2004	5.4%	90	48.6%	11.1%
Poverty Rate among Children under 18	6.9%	90	43.9%	15.7%
Welfare (TANF) Monthly Average Families in 2006	134	1		
Foodstamp Recipients in 2006	2,802	1		
Free and Reduced Fee Lunch Recipients in 2006	1,425	61	0.4%	374,221

Sources: U.S. Bureau of Economic Analysis; US Census Bureau; Indiana Family Social Services Administration; Indiana Department of Education

Health and Vital Statistics in 2005	Number	Rank in State	Percent of State	Indiana
Births	888	23	1.0%	87,088
Births to Teens	61	37	0.6%	9,604
Deaths	503	27	0.9%	55,623

Source: Indiana State Department of Health

Labor Force in 2006	Number	Rank in State	Percent of State	Indiana
Total Resident Labor Force	35,526	23	1.1%	3,271,496
Employed	34,086	23	1.1%	3,108,806
Unemployed	1,440	27	0.9%	162,690
Unemployment Rate	4.1	83	82.0%	5.0
November 2007 Unemployment Rate	3.6	82	81.8%	4.4

Source: Bureau of Labor Statistics; Indiana Department of Workforce Development

Employment and Earnings by Industry in 2005 (NAICS)	Employment	Pct Dist. in County	Earnings (\$000)	Pct Dist. In County	Avg. Earnings Per Job
Total by place of work	35,349	100.0%	\$1,065,943	100.0%	\$30,155

Wage and Salary	20,358	57.6%	\$690,547	64.8%	\$33,920
Farm Proprietors	554	1.6%	\$1,884	0.2%	\$3,401
Nonfarm Proprietors	14,437	40.8%	\$197,138	18.5%	\$13,655
Farm	643	1.8%	\$4,680	0.4%	\$7,278
Nonfarm	34,706	98.2%	\$1,061,263	99.6%	\$30,579
Private	30,585	86.5%	\$882,758	82.8%	\$28,862
Accommodation, Food Serv.	2,018	5.7%	\$25,211	2.4%	\$12,493
Arts, Ent., Recreation	732	2.1%	\$10,007	0.9%	\$13,671
Construction	3,627	10.3%	\$124,613	11.7%	\$34,357
Health Care, Social Serv.	1,966	5.6%	\$56,513	5.3%	\$28,745
Information	488	1.4%	\$14,829	1.4%	\$30,387
Manufacturing	2,917	8.3%	\$179,619	16.9%	\$61,577
Professional, Tech. Serv.	3,025	8.6%	\$146,881	13.8%	\$48,556
Retail Trade	4,070	11.5%	\$70,873	6.6%	\$17,414
Trans., Warehousing	1,186	3.4%	\$29,788	2.8%	\$25,116
Wholesale Trade	1,173	3.3%	\$73,879	6.9%	\$62,983
Other Private (not above)	9,248*	26.2%*	\$142,089*	13.3%*	\$15,364*
Government	4,121	11.7%	\$178,505	16.7%	\$43,316

Source: US Bureau of Economic Analysis

* These totals do not include county data that are not available due to BEA non-disclosure requirements.

Assessed Property Value in 1999 (for taxes payable in 2000)	Value	Rank in State	Pct Dist. in County	Pct Dist. in State
Assessed Value by Property Class	\$513,414,590	25	100.0%	100.0%
Commercial & Industrial	\$130,805,970	35	25.5%	43.2%
Residential	\$276,399,810	24	53.8%	41.5%
Agricultural	\$85,178,610	11	16.6%	9.6%
Utilities	\$21,030,210	37	4.1%	5.6%
Total Assesed Value Per Capita	\$9,421	39		

Source: The State Board of Tax Commissioners

Residential Building Permits in 2006	Units	Pct Dist. in County	Pct Dist. in State	Cost (\$000)	State Cost (\$000)
Total Permits Filed	594	100.0%	100.0%	\$103,572	\$4,687,933
Single Family	564	94.9%	84.1%	\$100,927	\$4,343,823
Two Family	30	5.1%	3.5%	\$2,645	\$103,869
Three & Four Family	0	0.0%	2.0%	\$0	\$41,336
Five families and More	0	0.0%	10.4%	\$0	\$198,905

Source: US Census Bureau (Greene County totals are not included as it does not currently issue building permits.) Note: Detail cost may not sum to total due to rounding.

Commuting Patterns - Top 5 in 2005					
Into Hancock FROM	Number	Percent	Out of Hancock TO	Number	Percent
All Areas	6,023	20.4%	All Areas	20,661	46.8%
Marion County	1,573	5.3%	Marion County	16,600	37.6%
Henry County	1,317	4.5%	Hamilton County	1,463	3.3%
Madison County	693	2.4%	Shelby County	615	1.4%
Shelby County	596	2.0%	Madison County	484	1.1%
Hamilton County	581	2.0%	Henry County	283	0.6%

Source: Indiana Department of Revenue

Cities and Towns in Hancock County

	Population in 2006	% of County	Order by Size
Cumberland	2,660	4.1%*	Greenfield
Fortville	3,691	5.7%	Fortville
Greenfield	17,453	26.8%	Cumberland*
McCordsville	1,289	2.0%	New Palestine
New Palestine	2,014	3.1%	McCordsville
Shirley	713	1.1%*	Shirley*

Spring Lake	276	0.4%
Wilkinson	353	0.5%

Wilkinson |
Spring Lake |

* Population in this county is shown, this city or town crosses county lines.

Links to Maps:

Census Tract Boundary Map of [Hancock](#) county

Tiger Mapping Service [Map of Area](#)

[Top of page](#)

County Profiles is a component of [STATS Indiana](#), a web-based information service of the [State of Indiana](#) and the [Indiana Department of Workforce Development](#), developed and maintained by the [Indiana Business Research Center](#) at [Indiana University's Kelley School of Business](#).

Updated: December 21, 2007 at 20:03


[about the profile](#) | [release calendar](#) | [a to z](#) | [hoosiers by the numbers](#)

Select County	
<input type="text" value="Indiana"/>	
Select Region	
<input type="text" value="IEDC NW"/>	
Create a Region	
<input type="text" value="Custom Region"/>	

Madison County IN Depth Profile

County Seat: Anderson

Madison County, Indiana*Formed in 1823 and named in honor of President James Madison*

Largest City: Anderson (pop in 2006: 57,496)

Population per Sq. Mile: 288.8 Sq. Miles: 452.1

[Link to County's in.gov Site](#)

Population Over Time	Number	Rank in State	Percent of State	Indiana
Yesterday(1990)	130,669	7	2.4%	5,544,156
Today(2006)	130,575	12	2.1%	6,313,520
Tomorrow(2010 proj.)	129,019	13	2.0%	6,417,198
Percent Change 1990 to 2000	2.1%	72		9.7%

Sources: US Census Bureau; Indiana Business Research Center

Components of Population Change in 2006	Number	Rank in State	Percent of State	Indiana
Net Domestic Migration 2005 to 2006	57	23		5,011
Net International Migration 2005 to 2006	91	23		10,419
Natural Increase (births minus deaths)	9	83	0.0%	31,308

Source: US Census Bureau

Population Estimates by Age in 2006	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Preschool (0 to 4)	8,002	11	6.1%	6.8%
School Age (5 to 17)	22,049	12	16.9%	18.2%
College Age (18 to 24)	10,977	15	8.4%	9.8%
Young Adult (25 to 44)	34,995	12	26.8%	27.6%
Older Adult (45 to 64)	34,387	9	26.3%	25.2%
Older (65 plus)	20,165	7	15.4%	12.4%
Median Age	39.3			Median Age = 36.3

Sources: US Census Bureau; Indiana Business Research Center

Population Estimates by Race or Hispanic Origin in 2006	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
American Indian or Alaska Native Alone	330	14	0.3%	0.3%
Asian Alone	593	20	0.5%	1.3%
Black Alone	10,623	8	8.1%	8.9%
Native Hawaiian and Other Pac. Isl. Alone	23	25	0.0%	0.0%
White Alone	117,715	12	90.2%	88.3%
Two or More Race Groups	1,291	16	1.0%	1.1%
Hispanic or Latino(can be of any race)				
Non-Hispanic or Latino	127,705	12	97.8%	95.2%
Hispanic or Latino	2,870	15	2.2%	4.8%

Source: US Census Bureau

Household Types	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Households in 2000 (Includes detail not shown below)	53,052	10	100.0%	100.0%
Married With Children	10,780	12	20.3%	23.8%

Married Without Children	17,055	9	32.1%	29.8%
Single Parents	5,098	7	9.6%	9.1%
Living Alone	14,421	9	27.2%	25.9%

Source: US Census Bureau

Housing	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Total Housing Units in 2006 (estimate)	59,245	10	100.0%	100.0%
Total Housing Units in 2000 (includes vacant units)	56,939	10	100.0%	100.0%
Owner Occupied (Pct. distribution based on all housing units)	39,358	9	69.1%	65.9%
Median Value (2000)	\$81,600	57	--	--
Renter Occupied (Pct. distribution based on all housing units)	13,694	10	24.1%	26.3%
Median Rent (2000)	\$490	29	--	--

Source: US Census Bureau

Education	Number	Rank in State	Percent of State	Indiana
School Enrollment (2006/2007 Total Reported)	21,244	12	1.8%	1,154,826
Public	20,080	12	1.9%	1,045,702
Private	1,164	92	1.1%	109,124
High School Graduates (2005/2006)	1,109	14	1.8%	62,296
Going on to Higher Education	948	14	1.8%	51,976
4-year	633	14	1.7%	38,334
2-year	198	14	2.2%	8,991
Voc/tech.	117	8	2.5%	4,651
Adults (25+ in 2000 Census)	89,458	9	2.3%	3,893,278
with High School diploma or higher	80.1%	55		82.1%
with B.A. or higher degree	14.4%	30		19.4%

Sources: Indiana Department of Education; US Census Bureau

Notes: 1) School enrollment figures for 2006/2007 are preliminary. 2) Private enrollment includes home schools. 3) County rankings for high-school graduates continuing to higher education are subject to revision. Data from the Indiana Department of Education for Vigo County appear to include an erroneous entry. Until the data has been corrected by IDOE, Vigo will be removed from the rankings.

Income and Poverty	Number	Rank in State	Percent of State	Indiana
Per Capita Personal Income (annual) in 2005	\$28,688	31	92.0%	\$31,173
Median Household Income in 2004	\$40,480	61	93.7%	\$43,217
Poverty Rate in 2004	12.1%	20	109.0%	11.1%
Poverty Rate among Children under 18	18.2%	17	115.9%	15.7%
Welfare (TANF) Monthly Average Families in 2006	1,151	1		
Foodstamp Recipients in 2006	15,414	1		
Free and Reduced Fee Lunch Recipients in 2006	8,141	7	2.2%	374,221

Sources: U.S. Bureau of Economic Analysis; US Census Bureau; Indiana Family Social Services Administration; Indiana Department of Education

Health and Vital Statistics in 2005	Number	Rank in State	Percent of State	Indiana
Births	1,650	11	1.9%	87,088
Births to Teens	222	7	2.3%	9,604
Deaths	1,406	6	2.5%	55,623

Source: Indiana State Department of Health

Labor Force in 2006	Number	Rank in State	Percent of State	Indiana
Total Resident Labor Force	63,189	13	1.9%	3,271,496
Employed	59,385	13	1.9%	3,108,806
Unemployed	3,804	8	2.3%	162,690
Unemployment Rate	6.0	17	120.0%	5.0
November 2007 Unemployment Rate	5.6	4	127.3%	4.4

Source: Bureau of Labor Statistics; Indiana Department of Workforce Development

Employment and Earnings by Industry in 2005 (NAICS)	Employment	Pct Dist. in County	Earnings (\$000)	Pct Dist. In County	Avg. Earnings Per Job
Total by place of work	56,491	100.0%	\$2,173,002	100.0%	\$38,466

Wage and Salary	46,429	82.2%	\$1,438,361	66.2%	\$30,980
Farm Proprietors	734	1.3%	\$422	0.0%	\$575
Nonfarm Proprietors	9,328	16.5%	\$346,014	15.9%	\$37,094
Farm	1,002	1.8%	\$7,372	0.3%	\$7,357
Nonfarm	55,489	98.2%	\$2,165,630	99.7%	\$39,028
Private	48,343	85.6%	\$1,816,914	83.6%	\$37,584
Accommodation, Food Serv.	4,364	7.7%	\$57,397	2.6%	\$13,152
Arts, Ent., Recreation	1,354	2.4%	\$40,464	1.9%	\$29,885
Construction	3,076	5.4%	\$95,537	4.4%	\$31,059
Health Care, Social Serv.	7,581	13.4%	\$278,968	12.8%	\$36,798
Information	691	1.2%	\$25,939	1.2%	\$37,538
Manufacturing	6,699	11.9%	\$671,388	30.9%	\$100,222
Professional, Tech. Serv.	1,923	3.4%	\$59,615	2.7%	\$31,001
Retail Trade	7,162	12.7%	\$147,938	6.8%	\$20,656
Trans., Warehousing	2,115	3.7%	\$85,016	3.9%	\$40,197
Wholesale Trade	1,598	2.8%	\$79,261	3.6%	\$49,600
Other Private (not above)	11,661*	20.6%*	\$271,027*	12.5%*	\$23,242*
Government	7,146	12.6%	\$348,716	16.0%	\$48,799

Source: US Bureau of Economic Analysis

* These totals do not include county data that are not available due to BEA non-disclosure requirements.

Assessed Property Value in 1999 (for taxes payable in 2000)	Value	Rank in State	Pct Dist. in County	Pct Dist. in State
Assessed Value by Property Class	\$888,010,630	15	100.0%	100.0%
Commercial & Industrial	\$344,820,600	17	38.8%	43.2%
Residential	\$421,010,600	13	47.4%	41.5%
Agricultural	\$90,067,280	8	10.1%	9.6%
Utilities	\$32,112,160	31	3.6%	5.6%
Total Assesed Value Per Capita	\$6,767	84		

Source: The State Board of Tax Commissioners

Residential Building Permits in 2006	Units	Pct Dist. in County	Pct Dist. in State	Cost (\$000)	State Cost (\$000)
Total Permits Filed	328	100.0%	100.0%	\$56,216	\$4,687,933
Single Family	314	95.7%	84.1%	\$54,012	\$4,343,823
Two Family	14	4.3%	3.5%	\$2,204	\$103,869
Three & Four Family	0	0.0%	2.0%	\$0	\$41,336
Five families and More	0	0.0%	10.4%	\$0	\$198,905

Source: US Census Bureau (Greene County totals are not included as it does not currently issue building permits.) Note: Detail cost may not sum to total due to rounding.

Commuting Patterns - Top 5 in 2005					
Into Madison FROM	Number	Percent	Out of Madison TO	Number	Percent
All Areas	8,289	11.1%	All Areas	16,816	20.2%
Delaware County	2,060	2.8%	Marion County	6,830	8.2%
Hamilton County	1,530	2.1%	Hamilton County	4,449	5.4%
Henry County	1,392	1.9%	Delaware County	1,633	2.0%
Marion County	782	1.0%	Grant County	830	1.0%
Grant County	488	0.7%	Howard County	704	0.8%

Source: Indiana Department of Revenue

Cities and Towns in Madison County

	Population in 2006	% of County
Alexandria	5,888	4.5%
Anderson	57,496	44.0%
Chesterfield	2,773	2.1%*
Country Club Heights	87	0.1%
Edgewood	1,872	1.4%
Elwood	9,089	7.0%*

Order by Size	
Anderson	<div></div>
Elwood*	<div></div>
Alexandria	<div></div>
Pendleton	<div></div>
Chesterfield*	<div></div>
Edgewood	<div></div>

Frankton	1,866	1.4%
Ingalls	1,585	1.2%
Lapel	1,859	1.4%
Markleville	384	0.3%
Orestes	324	0.2%
Pendleton	3,919	3.0%
River Forest	27	0.0%
Summitville	1,048	0.8%
Woodlawn Heights	71	0.1%

Frankton
Lapel
Ingalls
Summitville
Markleville
Orestes
Country Club Heights
Woodlawn Heights
River Forest

* Population in this county is shown, this city or town crosses county lines.

Links to Maps:

Census Tract Boundary Map of [Madison](#) county

Tiger Mapping Service [Map of Area](#)

[Top of page](#)

County Profiles is a component of [STATS Indiana](#), a web-based information service of the [State of Indiana](#) and the [Indiana Department of Workforce Development](#), developed and maintained by the [Indiana Business Research Center](#) at [Indiana University's Kelley School of Business](#).

Updated: December 21, 2007 at 20:04


[about the profile](#) | [release calendar](#) | [a to z](#) | [hoosiers by the numbers](#)

Select County	
<input type="text" value="Indiana"/> <input type="button" value="GO"/>	
Select Region	
<input type="text" value="IEDC NW"/> <input type="button" value="GO"/>	
Create a Region	
<input type="text" value="Custom Region"/>	

Marion County IN Depth Profile

County Seat: Indianapolis

Marion County, Indiana

Named in 1821 for Revolutionary War General Francis Marion

Largest City: Indianapolis [Consolidated](#) (pop in 2006: 767,255)

Population per Sq. Mile: 2,184.5 Sq. Miles: 396.2

[Link to County's in.gov Site](#)

Population Over Time	Number	Rank in State	Percent of State	Indiana
Yesterday(1990)	797,159	1	14.4%	5,544,156
Today(2006)	865,504	1	13.7%	6,313,520
Tomorrow(2010 proj.)	866,409	1	13.5%	6,417,198
Percent Change 1990 to 2000	7.9%	44		9.7%

Sources: US Census Bureau; Indiana Business Research Center

Components of Population Change in 2006	Number	Rank in State	Percent of State	Indiana
Net Domestic Migration 2005 to 2006	-6,122	92		5,011
Net International Migration 2005 to 2006	2,486	1		10,419
Natural Increase (births minus deaths)	7,282	1	23.3%	31,308

Source: US Census Bureau

Population Estimates by Age in 2006	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Preschool (0 to 4)	72,464	1	8.4%	6.8%
School Age (5 to 17)	160,143	1	18.5%	18.2%
College Age (18 to 24)	70,032	1	8.1%	9.8%
Young Adult (25 to 44)	260,402	1	30.1%	27.6%
Older Adult (45 to 64)	208,200	1	24.1%	25.2%
Older (65 plus)	94,263	1	10.9%	12.4%
Median Age	35.3			Median Age = 36.3

Sources: US Census Bureau; Indiana Business Research Center

Population Estimates by Race or Hispanic Origin in 2006	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
American Indian or Alaska Native Alone	2,967	1	0.3%	0.3%
Asian Alone	13,935	1	1.6%	1.3%
Black Alone	226,050	1	26.1%	8.9%
Native Hawaiian and Other Pac. Isl. Alone	654	1	0.1%	0.0%
White Alone	608,734	1	70.3%	88.3%
Two or More Race Groups	13,164	1	1.5%	1.1%
Hispanic or Latino(can be of any race)				
Non-Hispanic or Latino	808,693	1	93.4%	95.2%
Hispanic or Latino	56,811	2	6.6%	4.8%

Source: US Census Bureau

Household Types	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Households in 2000 (Includes detail not shown below)	352,164	1	100.0%	100.0%
Married With Children	64,880	1	18.4%	23.8%

Married Without Children	80,281	1	22.8%	29.8%
Single Parents	41,470	1	11.8%	9.1%
Living Alone	111,990	1	31.8%	25.9%

Source: US Census Bureau

Housing	Number	Rank in State	Pct Dist. in County	Pct Dist. in State
Total Housing Units in 2006 (estimate)	416,045	1	100.0%	100.0%
Total Housing Units in 2000 (includes vacant units)	387,183	1	100.0%	100.0%
Owner Occupied (Pct. distribution based on all housing units)	208,957	1	54.0%	65.9%
Median Value (2000)	\$99,000	19	--	--
Renter Occupied (Pct. distribution based on all housing units)	143,207	1	37.0%	26.3%
Median Rent (2000)	\$567	8	--	--

Source: US Census Bureau

Education	Number	Rank in State	Percent of State	Indiana
School Enrollment (2006/2007 Total Reported)	171,295	1	14.8%	1,154,826
Public	139,029	1	13.3%	1,045,702
Private	32,266	7	29.6%	109,124
High School Graduates (2005/2006)	7,743	2	12.4%	62,296
Going on to Higher Education	6,689	2	12.9%	51,976
4-year	5,179	2	13.5%	38,334
2-year	1,051	2	11.7%	8,991
Voc/tech.	459	2	9.9%	4,651
Adults (25+ in 2000 Census)	553,459	1	14.2%	3,893,278
with High School diploma or higher	81.6%	36		82.1%
with B.A. or higher degree	25.4%	5		19.4%

Sources: Indiana Department of Education; US Census Bureau

Notes: 1) School enrollment figures for 2006/2007 are preliminary. 2) Private enrollment includes home schools. 3) County rankings for high-school graduates continuing to higher education are subject to revision. Data from the Indiana Department of Education for Vigo County appear to include an erroneous entry. Until the data has been corrected by IDOE, Vigo will be removed from the rankings.

Income and Poverty	Number	Rank in State	Percent of State	Indiana
Per Capita Personal Income (annual) in 2005	\$36,286	5	116.4%	\$31,173
Median Household Income in 2004	\$42,702	45	98.8%	\$43,217
Poverty Rate in 2004	14.1%	6	127.0%	11.1%
Poverty Rate among Children under 18	21.1%	4	134.4%	15.7%
Welfare (TANF) Monthly Average Families in 2006	9,858	1		
Foodstamp Recipients in 2006	116,272	1		
Free and Reduced Fee Lunch Recipients in 2006	75,981	1	20.3%	374,221

Sources: U.S. Bureau of Economic Analysis; US Census Bureau; Indiana Family Social Services Administration; Indiana Department of Education

Health and Vital Statistics in 2005	Number	Rank in State	Percent of State	Indiana
Births	14,653	1	16.8%	87,088
Births to Teens	1,823	1	19.0%	9,604
Deaths	7,526	1	13.5%	55,623

Source: Indiana State Department of Health

Labor Force in 2006	Number	Rank in State	Percent of State	Indiana
Total Resident Labor Force	471,981	1	14.4%	3,271,496
Employed	449,005	1	14.4%	3,108,806
Unemployed	22,976	1	14.1%	162,690
Unemployment Rate	4.9	48	98.0%	5.0
November 2007 Unemployment Rate	4.4	44	100.0%	4.4

Source: Bureau of Labor Statistics; Indiana Department of Workforce Development

Employment and Earnings by Industry in 2005 (NAICS)	Employment	Pct Dist. in County	Earnings (\$000)	Pct Dist. In County	Avg. Earnings Per Job
Total by place of work	677,633	100.0%	\$36,401,765	100.0%	\$53,719

Wage and Salary	632,031	93.3%	\$26,412,019	72.6%	\$41,789
Farm Proprietors	211	0.0%	\$1,163	0.0%	\$5,512
Nonfarm Proprietors	45,391	6.7%	\$3,348,789	9.2%	\$73,776
Farm	508	0.1%	\$10,521	0.0%	\$20,711
Nonfarm	677,125	99.9%	\$36,391,244	100.0%	\$53,744
Private	597,723	88.2%	\$31,635,841	86.9%	\$52,927
Accommodation, Food Serv.	48,507	7.2%	\$891,937	2.5%	\$18,388
Arts, Ent., Recreation	11,622	1.7%	\$555,941	1.5%	\$47,835
Construction	36,555	5.4%	\$2,413,972	6.6%	\$66,037
Health Care, Social Serv.	72,701	10.7%	\$3,682,501	10.1%	\$50,653
Information	12,594	1.9%	\$850,662	2.3%	\$67,545
Manufacturing	72,587	10.7%	\$6,957,494	19.1%	\$95,850
Professional, Tech. Serv.	38,483	5.7%	\$2,894,435	8.0%	\$75,213
Retail Trade	66,396	9.8%	\$1,981,131	5.4%	\$29,838
Trans., Warehousing	37,141	5.5%	\$1,642,907	4.5%	\$44,234
Wholesale Trade	33,493	4.9%	\$2,188,288	6.0%	\$65,336
Other Private (not above)	167,644	24.7%	\$7,576,573	20.8%	\$45,194
Government	79,402	11.7%	\$4,755,403	13.1%	\$59,890

Source: US Bureau of Economic Analysis

Assessed Property Value in 1999 (for taxes payable in 2000)	Value	Rank in State	Pct Dist. in County	Pct Dist. in State
Assessed Value by Property Class	\$9,598,695,170	1	100.0%	100.0%
Commercial & Industrial	\$5,483,077,030	1	57.1%	43.2%
Residential	\$3,678,313,170	1	38.3%	41.5%
Agricultural	\$24,252,960	89	0.3%	9.6%
Utilities	\$413,052,010	1	4.3%	5.6%
Total Assesed Value Per Capita	\$11,811	16		

Source: The State Board of Tax Commissioners

Residential Building Permits in 2006	Units	Pct Dist. in County	Pct Dist. in State	Cost (\$000)	State Cost (\$000)
Total Permits Filed	2,891	100.0%	100.0%	\$431,067	\$4,687,933
Single Family	2,145	74.2%	84.1%	\$354,218	\$4,343,823
Two Family	148	5.1%	3.5%	\$17,312	\$103,869
Three & Four Family	124	4.3%	2.0%	\$10,009	\$41,336
Five families and More	474	16.4%	10.4%	\$49,529	\$198,905

Source: US Census Bureau (Greene County totals are not included as it does not currently issue building permits.) Note: Detail cost may not sum to total due to rounding.

Commuting Patterns - Top 5 in 2005					
Into Marion FROM	Number	Percent	Out of Marion TO	Number	Percent
All Areas	198,507	28.7%	All Areas	34,151	6.5%
Hamilton County	51,703	7.5%	Hamilton County	11,861	2.3%
Hendricks County	35,182	5.1%	Hendricks County	5,933	1.1%
Johnson County	29,583	4.3%	Johnson County	5,318	1.0%
Hancock County	16,600	2.4%	Hancock County	1,573	0.3%
Morgan County	15,099	2.2%	Boone County	1,161	0.2%

Source: Indiana Department of Revenue

Cities and Towns in Marion County

	Population in 2006	% of County	Order by Size	
Beech Grove	14,082	1.6%	Indianapolis Remainder	
Clermont	1,465	0.2%	Lawrence	
Crows Nest	105	0.0%	Beech Grove	
Cumberland	2,738	0.3%*	Speedway	
Homecroft	733	0.1%	Cumberland*	
Indianapolis Remainder	785,597	90.8%	Southport	
Lawrence	41,791	4.8%	Meridian Hills	

Meridian Hills	1,708	0.2%	Warren Park
North Crows Nest	42	0.0%	Clermont
Rocky Ripple	698	0.1%	Homecroft
Southport	1,731	0.2%	Rocky Ripple
Speedway	12,416	1.4%	Williams Creek
Spring Hill	97	0.0%	Wynnedale
Warren Park	1,619	0.2%	Crows Nest
Williams Creek	410	0.0%	Spring Hill
Wynnedale	272	0.0%	North Crows Nest

* Population in this county is shown, this city or town crosses county lines.

Links to Maps:

Census Tract Boundary Map of [Marion](#) county

Tiger Mapping Service [Map of Area](#)

[Top of page](#)

County Profiles is a component of [STATS Indiana](#), a web-based information service of the [State of Indiana](#) and the [Indiana Department of Workforce Development](#), developed and maintained by the [Indiana Business Research Center](#) at [Indiana University's Kelley School of Business](#).

Updated: December 21, 2007 at 20:04