Watershed Report

Driftwood (05120204)

Land Use

	Total (Ac.)	Crops (Ac.)	% of Total	Forest (Ac.)	% of Total	Water/Wetland (Ac.)	% of Total	Pasture/Hay (Ac.)	% of Total	Urban (Ac.)	% of Total	No Data (Ac.)	% of Total
Bartholomew	47,663	7,911	1.07	22,201	3.01	418	0.06	15,391	2.08	969	0.13	322	0.04
Brown	6,254	1	0.00	5,283	0.72	180	0.02	738	0.10	50	0.01	3	0.00
Hancock	171,118	119,377	16.17	6,952	0.94	187	0.03	34,847	4.72	8,232	1.11	218	0.03
Henry	120,265	73,869	10.00	11,681	1.58	1,100	0.15	27,846	3.77	4,534	0.61	130	0.02
<u>Johnson</u>	122,901	67,801	9.18	9,227	1.25	592	0.08	37,017	5.01	6,152	0.83	436	0.06
Madison	3,780	3,146	0.43	95	0.01	0	0.00	490	0.07	16	0.00	2	0.00
Marion	27,323	9,333	1.26	1,469	0.20	118	0.02	11,038	1.49	5,060	0.69	50	0.01
Rush	72,825	56,001	7.58	4,484	0.61	128	0.02	10,472	1.42	520	0.07	175	0.02
Shelby	166,302	121,537	16.46	6,384	0.86	346	0.05	30,059	4.07	4,879	0.66	991	0.13
Totals	738,432	458,977	62.16	67,776	9.18	3,069	0.42	167,898	22.74	30,413	4.12	2,327	0.32

Data Source = National Ag Statistics Service, 2006, http://www.nass.usda.gov/research/Cropland/SARS1a.htm

% Crop = Sum of the acres of corn, soybeans, wheat, other small grains, etc. divided by the total acres in the watershed.

% Pasture/Hay = Sum of the acres of pasture, hay, and idle land divided by the total acres in the watershed.

% Forest = Sum of the acres of forest land divided by the total acres in the watershed.

% Urban = Sum of the acres of residential and urban land divided by the total acres in the watershed.

% Water/Wetland = Sum of the acres of streams, lakes, ponds, etc. divided by the total acres in the watershed.

% Data Not Available = Sum of the acres of clouds on arial photographs divided by the total acres in the watershed.

(data are viewable on the corresponding watershed map)

	Public Lands												
	Public Lands (Ac.)	% of Total											
Bartholomew	25,047	3.39											
Brown	2,865	0.39											
<u>Hancock</u>	3	0.00											
<u>Henry</u>	3,597	0.49											
<u>Johnson</u>	11,433	1.55											
<u>Madison</u>	0	0.00											
<u>Marion</u>	667	0.09											
Rush	0	0.00											
Shelby	58	0.01											
Totals	43,669	5.91											

Data Source = Indiana Department of Natural Resources (State-Managed Lands), 2004; Hoosier National Forest - U.S. Forest Service, 2004 and Patoka River USFWS, 2003 (Federal-Managed Lands)

% Public = Sum of the acres of federal, state, and local government land divided by the total acres in the watershed.

(data are viewable on the corresponding watershed map)

	Cropland Types														
	Crop (Ac.) % of Total Corn (Ac.) % of Total Wheat (Ac.) % of Total Soybeans(Ac.) % of Total Other (Ac.) % of														
Bartholomew	7,911	1.07	1,895	0.26	515	0.07	4,463	0.60	620	0.08					
Brown	1	0.00	1	0.00	0	0.00	0	0.00	0	0.00					
<u>Hancock</u>	119,377	16.17	50,377	6.82	4,150	0.56	64,134	8.69	678	0.09					
<u>Henry</u>	73,869	10.00	29,808	4.04	1,490	0.20	41,275	5.59	946	0.13					
<u>Johnson</u>	67,801	9.18	32,903	4.46	1,742	0.24	31,627	4.28	1,195	0.16					
Madison	3,146	0.43	1,805	0.24	35	0.00	1,274	0.17	33	0.00					
<u>Marion</u>	9,333	1.26	3,458	0.47	221	0.03	5,381	0.73	138	0.02					
<u>Rush</u>	56,001	7.58	23,630	3.20	1,128	0.15	30,634	4.15	501	0.07					
Shelby	121,537	16.46	56,238	7.62	3,618	0.49	60,545	8.20	1,072	0.15					
Totals	458,977	62.16	200,115	27.10	12,899	1.75	239,333	32.41	5,183	0.70					

Data Source = National Ag Statistics Service, 2006, http://www.nass.usda.gov/research/Cropland/SARS1a.htm

% Corn = Acres of corn divided by the acres in the watershed.

% **Beans** = Acres of soybeans + double-crop soybeans/wheat divided by the acres in the watershed.

% Wheat = Acres of wheat divided by the acres in the watershed.

We Other Row Crop = Difference of the sum of the acres of corn, soybeans, and wheat minus total cropland acres in the watershed divided by the acres in the watershed. (data are viewable on the corresponding watershed map)

Ac.: Acres #: Number Ft.: Feet %: Percent <: Less Than

Mi.: Miles

>: Greater Than

All data are the measure of that parameter within the Indiana portion of the watershed.

	Beef and Swine Processing												
	Beef Plants	Beef Animals	Swine Plants	Swine Animals									
<u>Bartholomew</u>	0	0	0	0									
<u>Brown</u>	0	0	0	0									
<u>Hancock</u>	0	0	0	0									
<u>Henry</u>	1	419	1	431									
<u>Johnson</u>	0	0	0	0									
<u>Madison</u>	0	0	0	0									
Marion	0	0	0	0									
<u>Rush</u>	0	0	0	0									
Shelby	0	0	0	0									
Totals	1	419	1	431									

Data Source = Indiana Board of Animal Health, 2006 (Slaughter Processing), http://www.in.gov/boah/food_safety/inspection/meat_poulty.html

	Confined Livestock 2006														
	CAFO/CFO*		niry Animals		eef Animals	Sv Farms	wine Animals	Pou Farms	ultry Animals	She Farms	ep Animals				
Bartholomew	0	0	0	0	0	0	0	0	0	0	0				
Brown	0	0	0	0	0	0	0	0	0	0	0				
<u>Hancock</u>	22	1	199	4	794	21	46,942	1	25,498	1	2,072				
Henry	3	0	0	0	0	3	8,396	0	0	0	0				
<u>Johnson</u>	6	2	1,173	1	110	4	6,931	0	0	0	0				
<u>Madison</u>	0	0	0	0	0	0	0	0	0	0	0				
<u>Marion</u>	1	0	0	0	0	1	7,100	0	0	0	0				
Rush	8	0	0	1	700	7	20,252	0	0	0	0				
Shelby	9	0	0	1	725	9	23,824	0	0	0	0				
Totals	49	3	1,372	7	2,329	45	113,445	1	25,498	1	2,072				

*Because a CAFO/CFO permit may include multiple types of animals, the total number of permits in the county might be less than the sum of the farms with each animal type. **Data Source** = Indiana Department of Environmental Management, Office of Land Quality, 2007, http://www.state.in.us/idem/agriculture/livestock/cfo/index.html (data is viewable on the corresponding watershed map)

Confined Animal Feeding Operation (CAFO) = (U. S. Environmental Protection Agency definition) Operations with at least one of the following: 200 dairy cows; 300 veal calves; 300 beef cattle; 750 swine 55 pounds or more; 3000 swine under 55 pounds or more; 3000 swine under 55 pounds or nore; 3000 swine under 55 pounds or inchease; 150 horses; 3000 sheep or lambs; 16,500 turkeys; 9000 chickens (liquid manure); 27,500 chickens - not laying hens (not liquid manure); 1,500 ducks (liquid manure); 10,000 ducks (not liquid manure); 1,500 ducks (liquid manure); 1,500 du

Confined Feeding Operation (CFO) = (Indiana Department of Environmental Management definition) = Operations with at least one of the following: 300 cattle; 600 swine or sheep; or 30,000 poultry.

Biofuel Plants Ethanol Biodiesel Bartholomew Brown 0 <u>Hancock</u> 0 0 Henry Λ 0 <u>Johnson</u> 0 0 Madison 0 Marion 0 0 Rush 0 0 Shelby Totals

Data Source = Indiana Department of Transportation, 2006 (Biofuels Processing), http://www.in.gov/isda/biofuels/

Surface and	Groundwater	Resource	Concern	Areas
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	Impaired Streams (Mi.)	Impaired Lakes (Ac.)	Wellhead Protection (Ac.)	Karst (Ac.)	% Karst
Bartholomew	12.97	0	571	0	0.00
<u>Brown</u>	0.00	0	0	0	0.00
<u>Hancock</u>	46.62	0	6,308	0	0.00
<u>Henry</u>	57.09	0	6,136	0	0.00
<u>Johnson</u>	89.38	0	6,098	0	0.00
Madison	0.00	0	0	0	0.00
Marion	4.89	0	0	0	0.00
<u>Rush</u>	11.36	0	784	0	0.00
Shelby	71.01	0	6,329	0	0.00
Totals	293.32	0	26,226	0	0.00

Data Source (Impaired Water Bodies) = 2006 Indiana Department of Environmental Management 303(d) List, http://www.state.in.us/idem/programs/water/303d/index.html (data is viewable on the corresponding watershed map) 303(d)-listed streams = impaired waterbodies that have been identified by IDEM as exceeding threshold limits of specific contaminants.

Data Source (Wellhead Protection Areas) = Indiana Department of Environmental Management, 2007, http://www.in.gov/idem/programs/water/swp/whpp/ (data is not available for viewing)

Data Source (Karst) = Karst Data, 2002, Indiana NRCS, data unpublished (data are viewable on the corresponding watershed map)

Soils-Based Resource Concerns and Analyses

	Hydric (Ac.)	%	Leaching Index >= 10 (Ac.)	%	Subsurface Drainage= H/VH (Ac.)	%	Soil Erosion (Wind) >500 (Ac.)	%	Potential for Frequent Flooding (Ac.)	%	Surface Runoff Class =H/VH (Ac.)	%	Soil Erosion (Water) >37 (Ac.)	%	Sheet/Rill Erosion Potential Between 1T & 2T (Ac.)	%	Sheet/Rill Erosion Potential >=2 (Ac.)	%
<u>Bartholomew</u>	2,517	0.34	22,419	3.04	12	0.00	0	0.00	4,951	0.67	19,699	2.67	24,153	3.27	3,682	0.50	12,238	1.66
<u>Brown</u>	0	0.00	770	0.10	0	0.00	0	0.00	4	0.00	4,296	0.58	5,472	0.74	968	0.13	3,609	0.49
<u>Hancock</u>	60,548	8.20	68,104	9.22	132,833	17.99	264	0.04	10,038	1.36	7,142	0.97	7,684	1.04	2,000	0.27	0	0.00
<u>Henry</u>	31,424	4.26	50,538	6.84	59,626	8.07	1,162	0.16	0	0.00	39,662	5.37	14,754	2.00	10,369	1.40	3,379	0.46
<u>Johnson</u>	35,929	4.87	57,598	7.80	77,476	10.49	0	0.00	10,260	1.39	21,344	2.89	11,185	1.51	2,268	0.31	1,420	0.19
<u>Madison</u>	1,920	0.26	0	0.00	3,487	0.47	0	0.00	29	0.00	240	0.03	12	0.00	0	0.00	0	0.00
<u>Marion</u>	9,827	1.33	9,235	1.25	19,837	2.69	0	0.00	1,706	0.23	5,527	0.75	1,111	0.15	173	0.02	36	0.00
<u>Rush</u>	21,840	2.96	33,228	4.50	47,478	6.43	0	0.00	4,935	0.67	13,222	1.79	5,215	0.71	1,934	0.26	0	0.00
<u>Shelby</u>	40,600	5.50	541	0.07	107,442	14.55	0	0.00	14,570	1.97	17,395	2.36	10,997	1.49	1,849	0.25	1,953	0.26
Totals	204,605	27.71	242,433	32.83	448,191	60.69	1,427	0.19	46,493	6.30	128,527	17.41	80,583	10.91	23,243	3.15	22,635	3.07

Data Source (Hydric Soils) = NRCS Soil Data Mart (2007) - http://soildatamart.nrcs.usda.gov/. A soil mapunit was considered hydric if a majority of its component soils is hydric.

Data Source (Sheet/Rill Erosion Potential) = NRCS Soil Data Mart, 2007, http://soildatamart.nrcs.usda.gov/ and the Revised Universal Soil Loss Equation, Version 2 (RUSLE2). Erosion potential is based on the RUSLE2 calculation for the soil with a "C" Factor equal to that of a typical cropland management system used in Indiana (no-till soybeans, followed by chisel-plowed corn with an injected annydrous application). Soils (if used to produce annual crops) under this management system between 1 and 2 times of tolerable limits are eroding above sustainable levels; soils (if used to produce annual crops) under this management system greater than 2 times of tolerable limits may be ineligible for certain USDA benefits. Management systems that leave more residue on the surface, those with less soil disturbance, crop rotations with higher-residue crops, etc. will decrease soil erosion compared to those under the typical cropland system. Management systems that leave less residue, disturb the soil more, and those with crop rotations with lower-residue crops may increase soil erosion above the typical cropland system.

Data Source (Leach Index, Wind Erosion, Water Erosion, Flood Potential, and Surface and Subsurface Drainage) = NRCS Soil Data Mart, 2007, http://soildatamart.nrcs.usda.gov/ and the NRCS Indiana Offsite Risk Index (ORI) (Section II of the Indiana Field Office Technical Guide (FOTG)). http://efotg.nrcs.usda.gov/efotg_locator.aspx?map=IN. NOTE: Because climatic and other data elements may be county-based, threshold values may differ among adjacent counties and result in abrupt data thresholds.

Hydric soils = Characterized by, relating to, or requiring an abundance of water. Hydric soils may be indicators of wetlands, which represent unique management considerations including groundwater impacts, crop production limitations, wildlife considerations, etc. A soil mapunit was considered hydric if a majority of its component soils is hydric.

Leach Index = soils with a relatively high risk of water percolating below the crop root zone; developed using annual precipitation, rainfall distribution data and hydrologic soil groups.

Subsurface Drainage = soils with a relatively high risk of having subsurface drainage; determined from a matrix based on soil drainage class and depth to seasonal high water, and the presence of artificial subsurface drainage and surface tile inlets. Soil Erosion (Wind) = soils with a relatively high risk of eroding by wind; determined from a location's C (Climate) Factor and a soil's Soil Erodibility Index (I).

Flooding Potential = soils with a relatively frequent risk of being covered by flowing water from any source; determined from the NRCS soil survey.

Surface Runoff Class = soils with a relatively high risk of soil solution movement from the surface of a management unit; determined using soil permeability and percent slope.

Soil Erosion (Water) = soils with a relatively high risk of eroding by water; determined from a location's R (Rainfall-Runoff Erosivity) Factor, and a soil's K (Soil Erodibility) and LS (Length-Slope) factors. (All data are viewable on the corresponding watershed map)

	Water Resources													
Standing Streams 1st Order 2nd Order 3rd Order 4th Order 5th Order 6th+ Order Stream Ord Water (Ac.) (Mi.) (Mi.) (Mi.) (Mi.) (Mi.) (Mi.) (Mi.) Unavailable (
<u>Bartholomew</u>	183	63.30	40.61	7.29	0.00	0.00	15.40	0.00	0.00					
<u>Brown</u>	134	3.99	3.99	0.00	0.00	0.00	0.00	0.00	0.00					
<u>Hancock</u>	254	181.94	100.52	70.01	5.74	3.24	0.00	0.00	2.44					
<u>Henry</u>	1,203	110.53	73.99	21.46	15.07	0.00	0.00	0.00	0.00					
<u>Johnson</u>	389	127.12	73.75	28.94	0.26	22.36	0.57	0.00	1.26					
<u>Madison</u>	0	2.10	1.64	0.46	0.00	0.00	0.00	0.00	0.00					
<u>Marion</u>	35	37.92	25.56	3.80	8.56	0.00	0.00	0.00	0.00					
Rush	152	81.22	44.30	18.83	18.08	0.00	0.00	0.00	0.00					
Shelby	266	186.17	74.11	32.34	29.05	46.73	0.00	0.00	3.94					
Totals	2,617	794.29	438.48	183.13	76.76	72.32	15.97	0.00	7.64					

Data Source = National Hydrography Data - U.S. Geological Survey, 2006, http://www.horizon-systems.com/nhdplus/

Stream Order = A hierarchal stream classification system. The confluence of two first order streams forms a second order stream; the confluence of two second order streams forms a third order stream; etc. Generally, larger order streams (such as the Ohio or Mississippi Rivers) have more volume, depth and channel width. They also are located in the lower reaches of watersheds. First order streams (unforked or unbranched streams) are in the upper reaches of watersheds. (data are viewable on the corresponding watershed map)

Air Resource Concern Areas

	% of Watershed
<u>Bartholomew</u>	0.00
<u>Brown</u>	0.00
<u>Hancock</u>	23.15
<u>Henry</u>	0.00
<u>Johnson</u>	16.62
<u>Madison</u>	0.51
<u>Marion</u>	3.70
<u>Rush</u>	0.00
<u>Shelby</u>	22.52
Totals	66.50

Data Source = Environmental Protection Agency, 2006, data no longer published.

(data are viewable on the corresponding watershed map)

Ac.: Acres #: Number

Ft.: Feet %: Percent Mi.: Miles <: Less Than >: Greater Than

All data are the measure of that parameter within the Indiana portion of the watershed.

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Unique Habitat Areas % of Watershed Ac. Within Range Within Range of Natural % of Watershed Permanent Known T & E Communities Easement in Permanent Species (Ac.) (Ac.) Easement

32.20

Data Source (Threatened & Endangered (T & E) Species and Natural Communities) = Indiana Department of Natural Resources, Division of Nature Preserves; Analysis by NRCS, 2007, data source is not public. Habitat ranges indicate the likely life-history range surrounding known locations of threatened & endangered species (state and federal listed) that have the potential to be used by the species (ranges for plants = point - 0 miles; amphibians/reptiles/insects/aquatic species = 1/4 - 1/2 mile; mammals/birds = 1 mile).

577.00

Data Source (Natural Communities) = Areas identified and classified by the IDNR as unique/rare (data include the Natural Community acreage + 1/4 mile buffer), data not published.

15 89

of Known T & E

Species

117.327.33

2002

Totals (2002-2007):

Data Source (Permanent Easements) = Indiana NRCS (Wetlands Reserve Program), 2008 data not published

	Farm Census Data														
	Farms	Farms <10 Ac.	Farms <50 Ac.	Farms <180 Ac.	Farms <500 Ac.	Farms <1000 Ac.	Farms >1000 Ac.	Minority Farmers	Full Time Farmers	Part Time Farmers					
Bartholomew	107	12	33	27	18	8	8	2	21	47					
Brown	7	0	3	2	1	0	0	0	2	2					
<u>Hancock</u>	538	94	184	112	70	36	43	15	73	249					
<u>Henry</u>	354	37	128	96	45	29	19	3	52	145					
<u>Johnson</u>	369	47	150	73	47	30	22	5	54	156					
Madison	12	2	4	3	1	1	1	0	2	5					
Marion	38	13	15	6	3	1	1	1	5	15					
Rush	172	11	35	40	42	28	17	1	36	62					
Shelby	404	42	125	88	68	42	39	7	75	162					
Totals	2,001	258	677	447	295	175	150	34	320	843					

Data Source = National Ag Statistics Service 2002 Census of Agriculture (http://www.nass.usda.gov/census/census02/volume1/in/index2.htm). Estimates for each watershed were derived from county values based on the percentage of each county in the watershed.

2

137

						IN	KCS PIA	ctices								
Year:	Vegetative Agronomic Practices (Ac.)	No Till (Ac.)	Mulch Till (Ac.)	Upland Buffers (Ft.)	Aquatic Buffers (Ac.)	Grazing Practices (Ac.)	Nutrient Mgt. (Ac.)	Pest Mgt. (Ac.)	Irrigation (Ac.)	CNMPs (#)	Gully Control Grassed Waterway (Ac.)	Gully Control Other (#)	Wildlife Habitat (Ac.)	Forestry Practices (Ac.)	Confined Livestock Waste Storage (#)	Wetland Practices (Ac.)
2007	272	6,039	3,857	751	120	549	7,051	7,002	0	2	8	8	284	0	1	0
2006	167	156	0	11,402	29	200	3,778	3,782	Ō	ō	62	3	2,195	39	0	10
2005	0	2,116	6,093	630	25	142	7,061	6,995	0	0	28	8	515	73	0	3
2004	0	1,877	1,857	4,500	109	266	1,340	0	0	n/a	39	5	34	102	0	0
2003	n/a	1,427	359	198,960	97	130	924	924	0	0	n/a	n/a	130	251	0	1

4,724

23,427

NDCC Desertions

5,614

25,768

Data Source = NRCS Performance Results System Reports, 2007, http://ias.sc.egov.usda.gov/prshome/index.aspx.

2,401

14.567

3,200

219.443

Vegetative Agronomic Practices = Acres of Conservation Cover (327) + 342 (Critical Area Planting) + 340 (Cover Crops) practices installed in the given fiscal year.

No-Till = Acres of Residue & Tillage Management, No-Till/Strip Till/Direct Seed (329) + Residue Management, No-Till/Strip Till (329A) practices installed in the given fiscal year.

Mulch-Till = Acres of Residue & Tillage Management, Mulch Till (345) + Residue Management, Mulch Till (329B) practices installed in the given fiscal year.

Upland Buffers = Feet of Field Border (386) + Windbreak/Shelterbelt Establishment (380) + Hedgerow Planting (422) + Windbreak/Shelterbelt Renovation (650) practices installed in the given fiscal year.

439

Aquatic Buffers = Acres of Filter Strips (393) + Riparian Forest Buffers (391) practices installed in the given fiscal year.

Grazing Practices = Acres of Prescribed Grazing (528 and 528A) + Pasture and Hayland Planting (512) practices installed in the given fiscal year.

Nutrient Mgmt = Acres of Nutrient Management (590) + Waste Utilization (633) practices installed in the given fiscal year. **Pest Mgmt** = Acres of Pest Management (595) practices installed in the given fiscal year.

Irrigation = Acres of Irrigation System, Microirrigation (441) + Irrigation System, Sprinkler (442) + Irrigation System, Sprinkler (442) + Irrigation System, Sprinkler (442) + Irrigation System, Sprinkler (443) + Irrigation System, S CNMPs = Number of Comprehensive Nutrient Management Plans written in the given fiscal year.

25

1,312

2,438

14,053

439

Gully Control - grassed waterways = Acres of Grassed Waterway (412) practices installed in the given fiscal year.

Gully Control - other = Acres of Grade Stabilization Structure (410) + Water and Sediment Control Basin (638) practices installed in the given fiscal year.

Wildlife habitat = Acres of Upland Wildlife Habitat Management (645) + Wetland Wildlife Habitat Management (647) + Restoration and Management of Rare and Declining Habitats (653) + Early Successional Habitat Development/Management (647) practices installed in the given fiscal year.

practices installed in the given instal year.

Forestry Practices – Acres of Tree/Shrub Establishment (612) + Forest Stand Improvement (666) practices installed in the given fiscal year.

Confined Livestock Waste Storage Facilities = Number of Waste Storage Facility (313) + Composting Facility (317) + Waste Treatment Lagoon (359) practices installed in the given fiscal year.

Wetland Practices = Acres of Wetland Restoration (657) + Wetland Creation (658) + Wetland Enhancement (659) practices installed in the given fiscal year.

3.250

560

0

14