



WATERSHED RESOURCES FOR INTERESTED CITIZENS



ENGINEERING COMPUTER NETWORK

Watershed Resources for Interested Citizens, was created to fill a need that has been seen at a local level. Many times people come in to offices like the local Purdue Extension Office or Soil and Water Office and want to know if their property is suitable for a septic tank or if a piece of property they are looking at buying is going to flood. Because of liability issues, it is difficult for these types of offices to give definite answers. By giving this resource out will help these clients make decisions on their own based on their own research.

Another way this resource can be used is with local officials who sit on boards like planning and zoning. They have to make decisions based on the plans presented before them, but those plans don't always provide information on the watershed. Providing this resource to officials will help them as they perform their own research on the projects presented to them.

The online resources presented in this handout are both state and national level resources. The resources include: U.S. Fish and Wildlife Services National Wetland Inventory, Indiana Watershed Group/HUC Finder, Indiana Water Monitoring Inventory, Websoil Survey, and Indiana Map. These resources are relatively easy to use for someone who doesn't know a lot about watersheds. The directions given with these resources also make them easy for a novice to use.

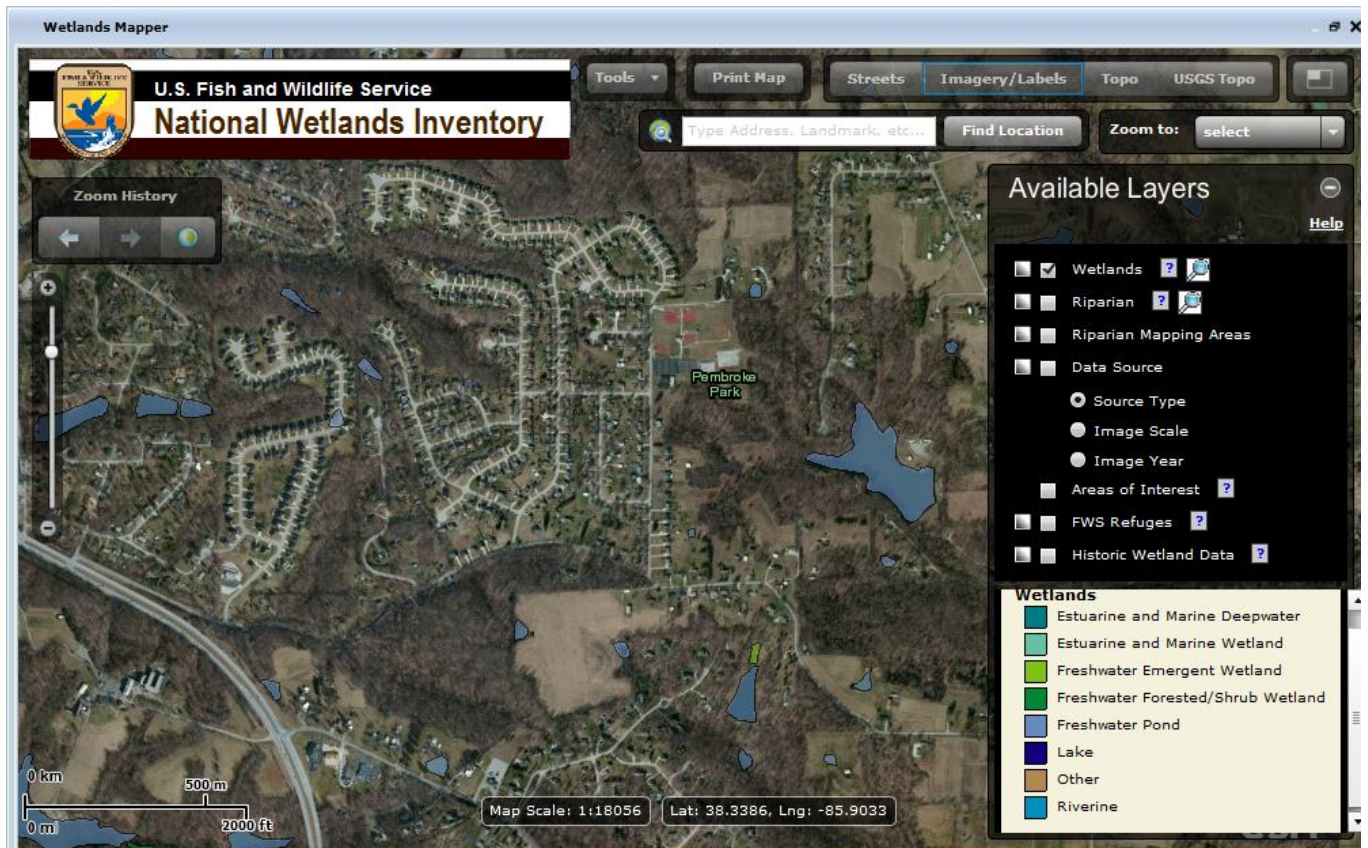
U.S. Fish and Wildlife Services National Wetland Inventory

Wetlands provide a multitude of ecological, economic and social benefits. They provide habitat for fish, wildlife and a variety of plants. Wetlands are nurseries for many saltwater and freshwater fishes and shellfish of commercial and recreational importance. Wetlands are also important landscape features because they hold and slowly release flood water and snow melt, recharge groundwater, recycle nutrients, and provide recreation and wildlife viewing opportunities for millions of people.

The Wetlands Mapper integrates digital map data with other resource information to produce timely and relevant management and decision support tools.

To navigate the *Wetland Mapper*, click on the following website:

<http://www.fws.gov/wetlands/Data/Mapper.html>. Follow steps 1, 2, and 3 to use the wetlands mapper. An instruction manual can be found under step 2.



Wetland Descriptions:

Estuarine and Marine Deepwater-Open water estuary, bay, sound, open ocean

Estuarine and Marine Wetland- Vegetated and non-vegetated brackish and saltwater marsh, shrubs, beach, bar, shoal or flat

Freshwater Emergent Wetland- Herbaceous march, fen, swale and wet meadow,

Freshwater Forested/Shrub Wetland-Forested swamp or wetland shrub, bog, or wetland

Freshwater Pond-Pond

Lake-Lake or reservoir basin

Other- Farmed wetland, saline seep, and other miscellaneous wetland

Riverine- River or stream channel

Indiana Watershed Group/HUC Finder

The *Indiana Watershed Group/HUC Finder* is a website that can be used to easily find hydrologic unit codes (HUC) and watershed groups throughout the state of Indiana.

A “watershed group” is defined as anyone actively working with a watershed focus.

A “hydrologic unit code” is a numbering system for watersheds.

Go to the following website and follow the step-by-step instructions for the *Indiana Watershed Group Finder*: http://inwater.agriculture.purdue.edu/huc_group/

Indiana Watershed Group Finder

Background: The Indiana Watershed Group Finder helps you find watershed group information in Indiana. "Watershed groups" are defined as anyone actively working with a watershed focus, including watershed-focused organizations (such as Friends of the St. Joe River or the St. Joe River Enhancement Corporation), and also projects through SWCDs (such as Washington Mill Creek-Blue River Watershed Project).

Instructions: Locate a watershed group(s) by searching below, either (A) by selecting a watershed group on the map, or (B) by entering a HUC, waterbody name, county, group keyword, and clicking on the SEARCH button. Then click on the highlighted area groups that are active in that area. Basic contact information is provided to allow you to contact a group for more information.

Option A: Search by clicking on the map. First select which Hydrologic Unit Code (HUC) you are searching for, then click within a HUC to see watershed group information. Click "No search options under (B)".

HUC08 HUC10 HUC12 None

Option B: Search by one of the following, then click the Search button below:

Watershed Group Name:

Waterbody Name (stream, river, lake):

Indiana County Name:

All HUC08 HUC10 HUC12:

Keyword Search:

Download your watershed delineation as a shapefile or KML: Once you have located a watershed and have displayed the information balloon on the map, click on a HUC10...

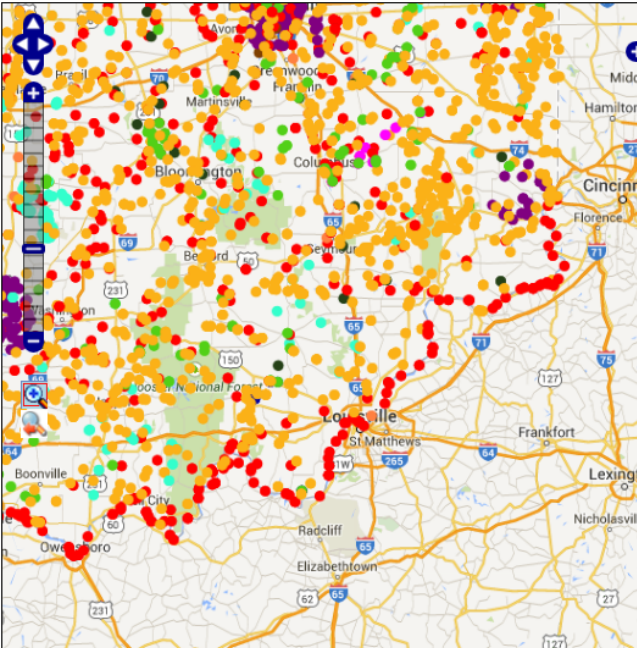
Indiana Water Monitoring Inventory

The *Indiana Water Monitoring Inventory* is tool that has collected water monitoring information from multiple sources and compiled into one location. Monitoring sites, description of data collected, and data holder contact information can be found at this website. Actual data cannot be found on the website.

Navigate to the following website and follow the given directions:

<http://inwater.agriculture.purdue.edu/monitoring/>

The Indiana Water Monitoring Inventory is a portal for locating water monitoring information in the state of Indiana. Many government agencies and organizations monitor Indiana's waters, and this site provides a one-stop site where you can locate monitoring sites, determine what data have been collected, and contact the data holders or their web site for more information. The actual monitoring data is not stored here -- only detailed information on the location of the monitoring site and what is being monitored or was monitored in the past.



Map

Zoom in using the slider at left or hold the shift key and draw a box around the area you want.

Or search by city, state (i.e., Lafayette, IN) or zipcode

HUC 8, 10, and 12 Layer: NHD Water Layer:

All Locations: There are currently more than 5400 locations in the database so we recommend zooming in before displaying all locations. "Download all locations" provides the location information in a spreadsheet.

Legend:

<input type="radio"/> Federal and regional agencies	<input type="radio"/> Counties	<input type="radio"/> Watershed organization
<input type="radio"/> State agencies	<input type="radio"/> Private sector	<input type="radio"/> Drinking water
<input type="radio"/> Cities and towns (except drinking water)	<input type="radio"/> Universities	<input type="radio"/> Volunteers
<input type="radio"/> Non-governmental organizations		

Select Locations

1. Agency Type:

Agency:

Web Soil Survey

According to the Web Soil Survey website, “Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation’s counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information.

Soil surveys can be used for general farm, local, and wider area planning. Onsite investigation is needed in some cases, such as soil quality assessments and certain conservation and engineering applications. For more detailed information, contact your local [USDA Service Center](#) or your [NRCS State Soil Scientist](#). “

Navigate to the Web Soil Survey website at: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

The Web Soil Survey website has many resources located on the right-hand side of the home page, including ‘How to use Web Soil Survey’ and ‘Frequently Asked Questions’.

The screenshot shows the Web Soil Survey (WSS) website home page. At the top, there is a header with the USDA logo and the text "United States Department of Agriculture Natural Resources Conservation Service". Below this is a navigation bar with links for "Home", "About Soils", "Help", and "Contact Us". The main content area features a search box on the left with the text "Enter Keywords" and a "Go" button. To the right of the search box is a large green button that says "START WSS". Below the search box is a "Browse by Subject" section with a list of links: "Soils Home", "National Cooperative Soil Survey (NCSS)", "Archived Soil Surveys", "Status Maps", "Official Soil Series Descriptions (OSD)", "Soil Series Extent Mapping Tool", "Geospatial Data Gateway", "eFOTG", "National Soil Characterization Data", "Soil Quality", and "Soil Geography". The main content area also includes a "Welcome to Web Soil Survey (WSS)" section with a photo of people in a field and text describing the service. Below this is a "Four Basic Steps" section with a numbered list starting with "1 Define..." and a sub-section for "Area of Interest (AOI)". On the right side, there are two sections: "I Want To..." with a list of links and "Announcements/Events" with a list of links and a "Sign up for e-mail updates via GovDelivery" button.

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Additional step-by-step instructions created for the Indiana Watershed Leadership Academy for 3 of the website's functions are as follows:

*Calibrate your scale by clicking on the 'Scale' button and following the directions that pop up.

1. To create a table:

- a. Zoom into a location you'd like to investigate
- b. Use the 'draw' tool (probably the irregularly shaped one) to outline the field. Double click to close the shape when you get to the end. This is now your 'Area of Interest'.
- c. Click on the 'Soil Map' tab at the top.

2. To identify drainage class:

- a. Click on 'Soil Data Explorer' tab.
- b. Click on the 'Soil Properties and Qualities' tab.
- c. Click on 'Soil Qualities and Features'.
- d. Click on "Drainage Class' and then 'View rating'.

3. To identify septic limitations:

- a. Click on 'Suitabilities and Limitations for Use' tab.
- b. Click on 'Sanitary Functions'.
- c. Click on 'Septic Tank Absorption Fields'.

Indiana MAP

According to the IndianaMAP website, “IndianaMAP is the largest publicly available collection of Indiana geographic information system (GIS) map data. It is made possible by an alliance of partners from federal, state, local organizations and agencies, and universities. You can:

- Access easy-to-use interactive web maps from a computer or mobile device
- Select from a gallery of predefined maps to view or customize
- Download free GIS data and metadata
- Learn about IndianaMap GIS projects, initiatives, and news”

indianamap

View the Map Follow Us: [Twitter] [RSS] [Facebook]

NEW & Updated Layers

- ▶ 2 New Layers Added - (Crops 2011, 2012)
- ▶ 3 Layer Updates (Managed Lands, Institutional Controls, Broadband Coverage)
- ▶ 4 Layers Updated - 2 New Layers Added
- ▶ Local-Resolution (1:2,400 scale) NHD Layers Added

IndianaMap News

- ▶ IndianaMAP Receives National Recognition
- ▶ Three Layers Removed from IndianaMap

GIS Conference 2014
Indianapolis, Indiana

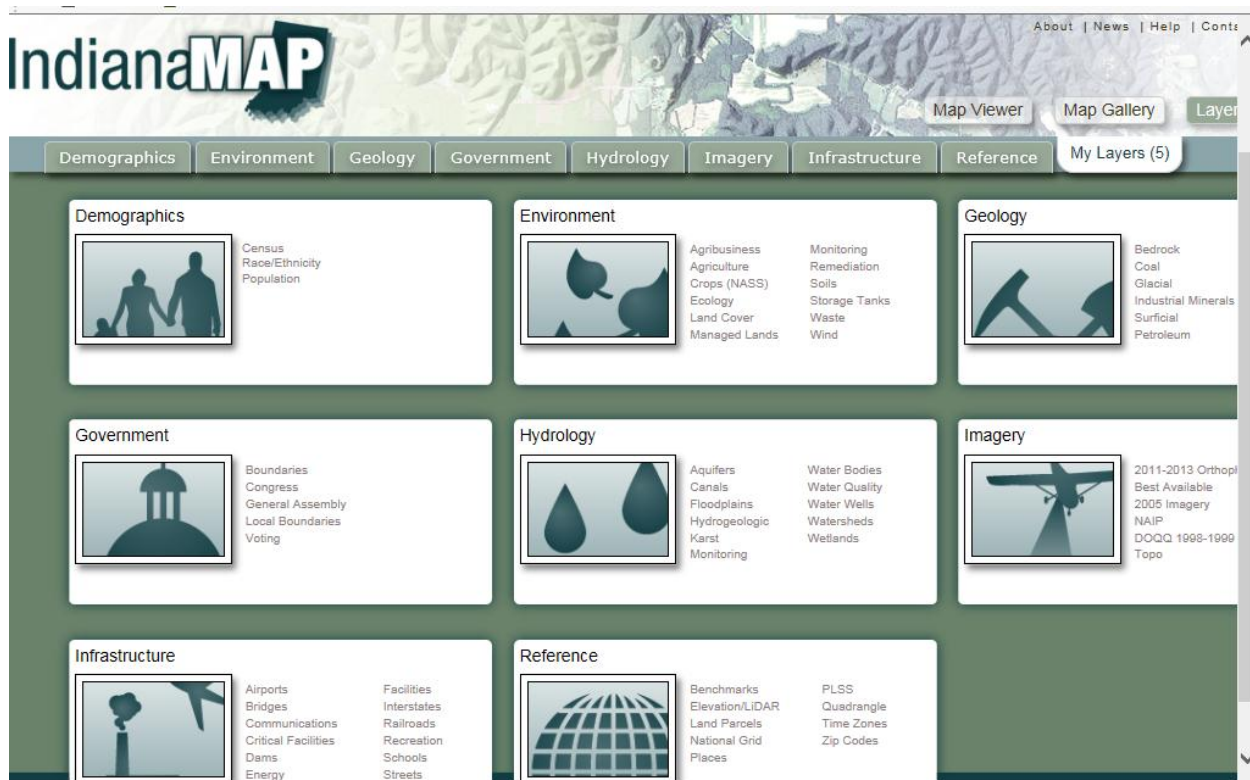
Department of Homeland Security

VIEW the Map DATA and Resources INITIATIVES PARTNERS

Welcome to IndianaMap Important Links

Navigate to IndianaMAP: <http://indianamap.org/> :

Watershed Resources for Interested Citizens



The following step-by-step instructions for IndianaMAP were created for the Indiana Watershed Leadership Academy:

*Make sure your pop-up blocker is disabled or the 'Identify' tool won't give any results. This is very important with the past version of the Indiana Map, but it does not seem to be an issue for the current version.

**Remember to use the Legend (upper-left corner) to see the symbols used for each attribute.

1. To find your watershed
 - a. Click on VIEW the Map
 - b. Click on the Add Content tab (upper left corner) and turn on the Watersheds HUC10 2009 layer. Find Watersheds HUC 10 2009 under the heading Hydrology, then click on the box to the left of the Watersheds HUC10 2009 label.
 - c. Zoom into your watershed.
2. To find impaired streams
 - a. Click on the Add Content tab and turn on the Water Quality Stream Impaired layer (under the heading Hydrology) by clicking the box on the left of the label.

- b. To identify the name of the stream and the impairments, click on the 'Identify' tool (upper right corner) then click on the stream segment. If you have more than one layer activated (for example, Watershed HUC10 2009 and Water Quality Streams Impaired, you may have to click to the next feature to obtain the impaired stream information.

Use the scroll bar on the right to see the cause of the impairment. The cause of impairment is designated by the '1' or '0' on each line. A '1' designates impairment for a particular reason, while a '0' means that type of impairment is not applicable to that stream.

3. Outstanding waters

- a. Click on the Add Content tab and turn on the Outstanding Waters layer by clicking the box next to Water Quality Rivers Outstanding (under the heading Hydrology)
- b. Use the same identify procedure to identify the outstanding waters

4. Total Area

- a. Click on the identify button (upper right corner) if it is not already highlighted.
- b. Click within your HUC 10 to display your HUC10 information. Total areas are listed within the information box.

5. Dams

- a. Click on Add Content tab and turn on the Dams layers by clicking the boxes next to Dams EPA and Dams IDNR (under the heading Infrastructure)
- b. Use the same identify procedure to find the dams.

6. The layers needed in this map to complete #5 can be found under the Add Content tab

- a. NPDES permit sites—Waste Water NPDES Facilities (under Environment)
- b. Confined feeding operation-Agribusiness Confined Feeding Operations (under Environment)
- c. Septage waste sites—Waste Septage Sites (under Environment)
- d. Leaking underground storage tanks—Storage Tanks Underground (under Environment—see legend for leaking vs not leaking sites)
- e. Floodplains FIRM (under Hydrology)
- f. To print the picture:
 - i. Go to Print in upper-right corner (printer icon)
 - ii. Add a Map Title and Author (choose layout if different)
 - iii. Click on Download Your Map. This converts map to a pdf.

The following can be found in the IndianaMAP layer gallery:

- Demographics: Census, Race/Ethnicity, Population
- Environment: Agribusiness, Agriculture, Crops (NASS), Ecology, Land Cover, Managed Lands, Monitoring, Remediation, Soils, Storage Tanks, Waste, Wind
- Geology: Bedrock, Coal, Glacial, Industrial Minerals, Surficial, Petroleum, Physiography, Seismic, Silurian
- Government: Boundaries, Congress, General Assembly, Local Boundaries, Voting
- Hydrology: Aquifers, Canals, Floodplains, Hydrogeologic, Karst, Monitoring, Water Bodies, Water Quality, Water Wells, Watersheds, Wetlands
- Imagery: 2011-2013 Orthophotos, Best Available, 2005 Imagery, NAIP, DOQQ 1998-1999, Topo
- Infrastructure: Airports, Bridges, Communications, Critical Facilities, Dams, Energy, Facilities, Interstates, Railroads, Recreation, Schools, Streets
- Reference: Benchmarks, Elevation/LiDAR, Land Parcels, National Grid, Places, PLSS, Quadrangle, Time Zones, Zip Codes

REFERENCES

Indiana Finder Tools. Retrieved May 13, 2015 from <http://inwater.agriculture.purdue.edu/hucgroup/>.

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United States Department of Agriculture. *Web Soil Survey*. Retrieved May 15, 2015 from <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

U.S. Fish and Wildlife Service. *National Wetlands Inventory*. Retrieved May 12, 2015 from <http://www.fws.gov/wetlands/>.