Michigan Department of Environmental Quality

Michigan Wetlands Map Viewer

Web Application User Guide

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Michigan Center for Technology Services (CTS)
Department of Technology, Management and Budget (DTMB)

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INTRODUCTION

Welcome to the State of Michigan Wetlands Map Viewer. This application was created for the Department of Environmental Quality, Water Resources Division. The purpose of this application is to provide the public with quick and easy access to wetland spatial data, allowing the users to view, print and export wetland mapping data from their own computer.

Below is the web address for the application:

http://www.mcgi.state.mi.us/wetlands/

This User Guide explains the features and functionality of the Wetlands Map Viewer. The Wetlands application was created in a partnership with the Department of Environmental Quality (DEQ) and the Center for Technology Services (CTS) of the Department of Technology, Management and Budget (DTMB) through Wetland Program Development funding from the Environmental Protection Agency.

CONTACT INFORMATION

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SYSTEM REQUIREMENTS

The Wetlands Viewer requires Internet access. Version 6.0 or higher of Internet Explorer is required. Other web browsers, such as Mozilla Firefox, can also be used. Some displays will look different depending on the web browser.

NOTE: The Wetlands Viewer uses "pop-ups". Make sure that they are **enabled** and that pop-up **blockers are disabled** in the web browser when using the application.

WETLANDS MAP VIEWER DATA DISCLAIMER

This Michigan Department of Environmental Quality (DEQ) Wetlands Map Viewer is intended to be used as one tool to assist in identifying wetlands and provides only potential and approximate location of wetlands and wetland conditions. The DEQ produced this map from the following data obtained from other agencies or organizations:

1. The National Wetland Inventory (NWI) conducted by the United States Fish and Wildlife Service through interpretation of aerial photos and topographic data.
2. Land Cover as mapped by the Michigan Resource Inventory System (MIRIS), Michigan Department of Natural Resources, through interpretation of aerial photographs.
3. Soils as mapped by the United States Department of Agriculture, Natural Resource Conservation Service (NRCS).

This map is not intended to be used to determine the specific locations and jurisdictional boundaries of wetland areas subject to regulation under Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Only an on-site evaluation performed by the DEQ in accordance with Part 303 shall be used for jurisdictional determinations. A permit is required from the DEQ to conduct certain activities in wetlands regulated under Part 303.

More information regarding this map, including how to obtain a copy can be accessed at www.michigan.gov/deqwetlands.

SECTION 1: WETLANDS HOME PAGE OVERVIEW

After entering the web address, the Home page will be displayed. (See Figure 1-1.)

The Home page has three areas of interest:

Links
The links at the top (and bottom) provide access to: Michigan.gov Home page, DEQ Wetlands page, Wetlands Viewer Home page, and Contact Information for DEQ, Text Search, Map Search and a variety of other websites.

Text Search
The text search box provides the ability to search by address, street intersection, zip code, community, town/range/section, latitude and longitude, or watershed.

Map Search
The map search box provides typical map functionality such as zoom, pan, re-center and identify. These functionalities are detailed later.

Status & Trends
The map search box provides users the ability to compare historic wetland data to current information. It also allows statistical data to be generated for acreage and a variety of wetland functions where available.

NOTE: The top and bottom links appear on each web page throughout the application.
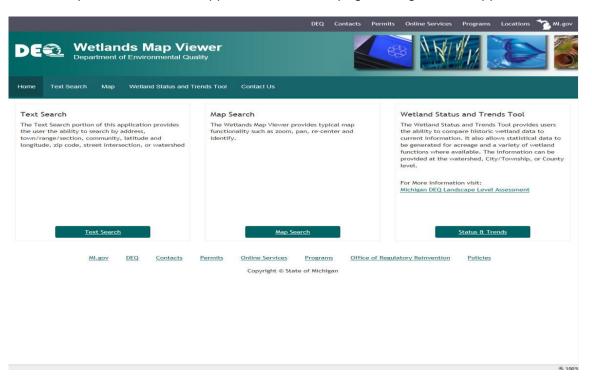

Figure 1-1. Wetlands Home Page.

SECTION 2: TEXT SEARCH

The Text Search option has several methods from which to choose. To select Text Search from the Home page, click on "Go to Text Search". This opens the Text Search page. (See Figure 2-1.)
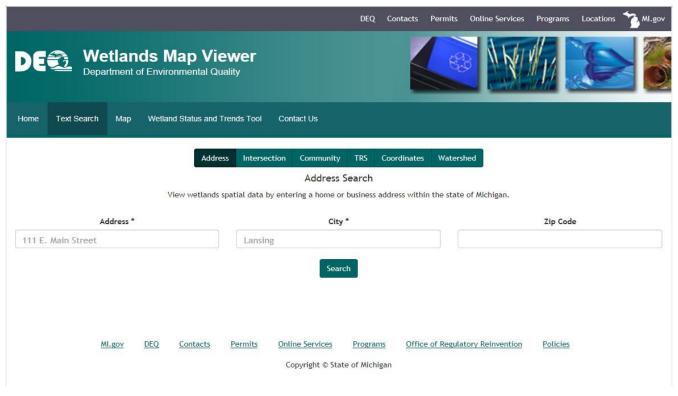

Figure 2-1. Text Search Page.

The Text Search page allows users to search by Address, Intersection, Community, Town/Range/Section, Coordinate and Watershed. For details, see below.

Address Search

The Address Search allows users to search for a map by providing an address. To select the Address Search option:

1. If the Address Search is not visible (as seen in Figure 2-1), click the arrow in the Address Search line. Once clicked, the display will resemble Figure 2-1.

   NOTE: In the address search, boxes noted as "(required)" require that information be entered. For example, Address and City boxes require information before clicking Search [Search] for the results. Once clicked, any possible matches will appear. (See Figure 2-2.)
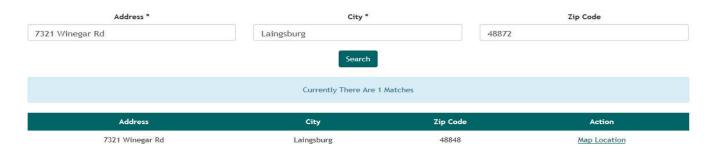
Figure 2-2. Matches.

2. Click Map Location   Map Location   Under the Action Column to map the location for which you search.

Intersection Search

The Intersection Search allows users to search for a map by providing a street intersection. To select:

1. Click the arrow in the Intersection Search line. (See Figure 2-1.) Once clicked, the display will resemble Figure 2-3.
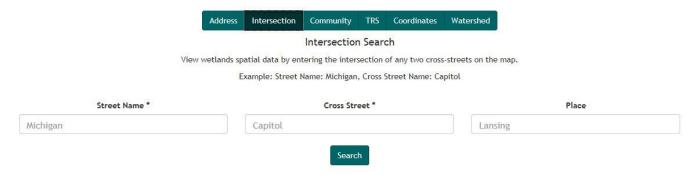
Address	Intersection	Community	TRS	Coordinates	Watershed

Intersection Search

View wetlands spatial data by entering the intersection of any two cross-streets on the map.

Example: Street Name: Michigan, Cross Street Name: Capitol

Street Name *	Cross Street *	Place
Michigan	Capitol	Lansing

Search

Figure 2-3. Intersection Search.

2. Fill in all required information before clicking Search Search . In Figure 2-3, the French/Williams intersection is used for the example. Once the search button has been clicked, any possible matches will appear. (See Figure 2-4.)

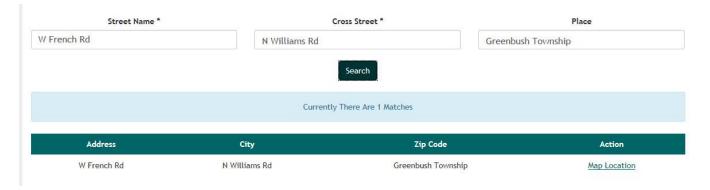| Street Name *	Cross Street *	Place
W French Rd	N Williams Rd	Greenbush Township

Search

Currently There Are 1 Matches

Address	City	Zip Code	Action
W French Rd	N Williams Rd	Greenbush Township	Map Location

Figure 2-4. Intersection Matches.

3. Click Map Location   Map Location   to display the map of your choice from the search results.

Community Search

The Community Search allows the user to search for a map by providing the County and Community. To select:

1. Click the arrow in the County Search line. (See Figure 2-5.)
2. Select the desired county from the drop-down list. (See Figure 2-5.) The Community section automatically populates for the chosen County.
3. Select the desired Community from the drop-down list.

Figure 2-5. Community Search.

4. Click Search [Search] to map the County and Community you selected. (See Figure 2-6.)

Figure 2-6. County/Community Map.

NOTE: The available map section tools are detailed in the Map Search Section.

Town/Range/Section Search

Each County is divided into townships and ranges (rows and columns) on a map. The rows are townships and the columns are ranges. Each township/range is broken further into sections. The Town/Range/Section location must be known beforehand for the user to successfully complete this search. To search based on Town/Range/Section, proceed as follows:

1. Click the arrow in the Town/Range/Section Search line. (See Figure 2-1.)
2. Select the Town. The Range field will populate. (See Figure 2-7.)
3. Select the Range. The Section field will populate.
4. Select the Section.
5. Once the required information has been selected from each drop-down menu, the site will automatically search for that location. A map will display that location. (See Figure 2-8.)
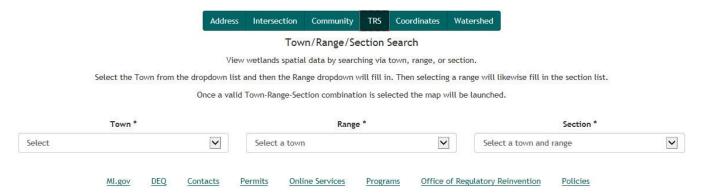

Figure 2-7: Town/Range/Section Search

Figure 2-8. Town/Range/Section Map Results.

Coordinate Search

The Coordinate Search allows the user to search for a map by using Latitude and Longitude (Lat/Lon) in Decimal Degrees and Latitude and Longitude in Degrees/Minutes/Seconds. To select:

1. Click the arrow in the Coordinate Search line. (See Figure 2-1.)

    NOTE: The example in Figure 2-9 shows a search by Lat/Lon in decimal degrees.
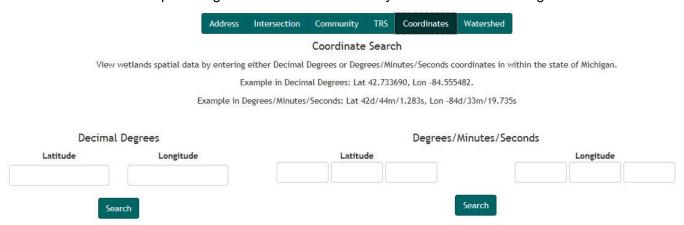

Figure 2-9. Coordinate Search.

2. After entering your choice of Latitude and Longitude values, click Search . The map should zoom to a valid location as in Figure 2-10.
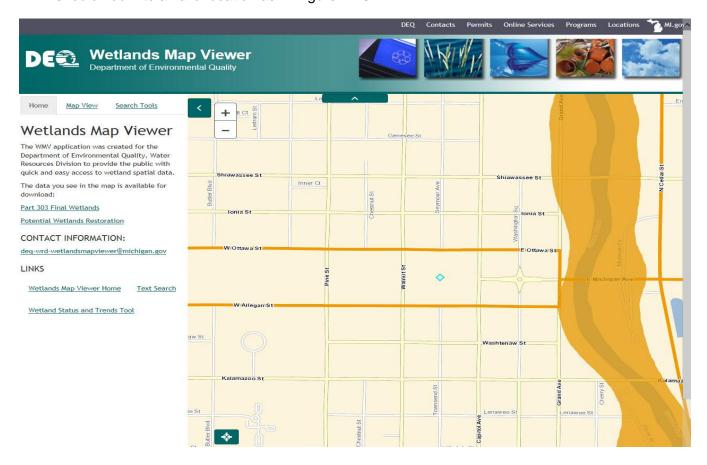

Figure 2-10. Coordinate Search Result.

Watershed Search

The Watershed Search allows the user to search land areas that catch rain or snow and drain to specific marshes, streams, rivers, lakes or ground water. View this data by selecting a watershed name from the provided drop-down menu. To select:

1. Click the arrow in the Watershed Search line. (See Figure 2-1.)
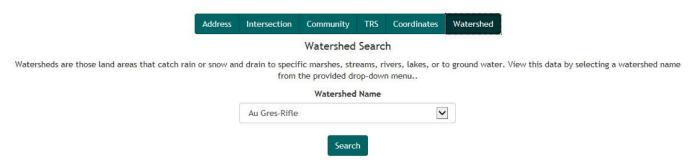2. Select a watershed from the dropdown. (See Figure 2-11.)

Figure 2-11. Watershed Search.

3. Once the watershed has been selected from the drop down, click Search [Search]. The map should zoom to a valid location as in Figure 2-12.
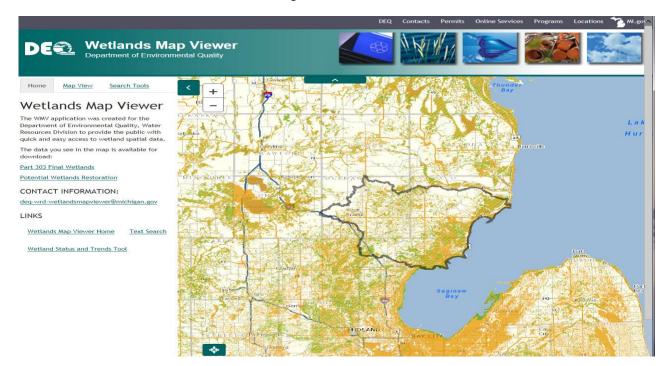

Figure 2-12. Watershed Search Result.

Although the Text Search option has multiple ways to search for Wetland maps, the Map Search option has additional ways to search and view the Wetland maps. There are different map views, layers, and tools that allow viewing and/or printing of the generated maps. There is also an option to download the wetland data by county.

SECTION 3: MAP SEARCH

The Map Search option has multiple viewable layers including: Default (Street), various Aerial and TOPO. It also has typical map functions such as: Zoom, Pan, Re-Center, Identify, Measure and Buffer. Users have the option of viewing, printing, and/or saving the map, and the option of downloading the wetland data by county. This section describes in detail all of the options available to the user under the Map Search.

To select Map Search from the home page, click "Map Search"(See Figure 1-1). This opens the Map Search page. (See Figure 3-1.)
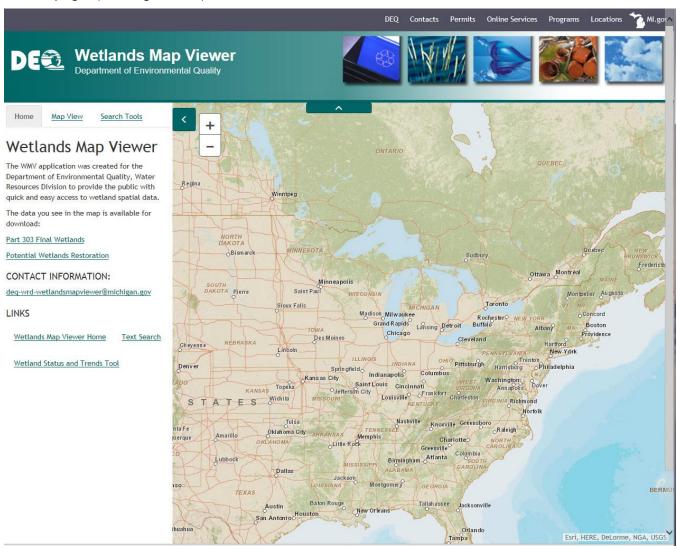

Figure 3-1. Map Search Page.

Zoom Tool

On the Map Search Page, on the Map there is a zoom tool that will zoom the user in and out of the map by clicking on the plus or minus signs. For the zoom tool, see Figure 3-2.

Figure 3-2. Zoom Tool (Map Search Page).

On the map the user will also notice two green arrow buttons. The top arrow button [∧] will collapse the DEQ banner area on top of the map, so the map becomes larger. The side arrow button

[<] will collapse the legend bar on the side to make the map area larger.

The **Map Search** option has 3 buttons on the left side of the map [Home | Map View | Search Tools] . The [Home] button takes the user back to the home Map Search Page. The [Map View] button brings up a new legend with clickable buttons [Map Legend](Figure 3-2.) and [Base Maps](Figure 3-3) . If the user clicks on the Map Legend Button, a Map Legend appears where the user can toggle on and off the legend items by checking or unchecking the boxes. If the user clicks on the Base Maps Button, the user can turn toggle on and off different items such as Streets, Hybrid (combination of streets and aerials), High Resolution aerials and Topo maps, and the user has a choice of years for the aerial photography.
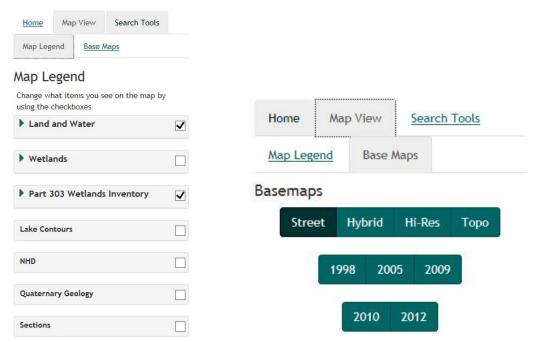

Figure 3-2. Map Legend (Map Search Page)

Figure 3-3. Base Maps (Map Search Page)

The **Search Tools** button ![Search Tools] brings up a new menu of clickable options for the user.
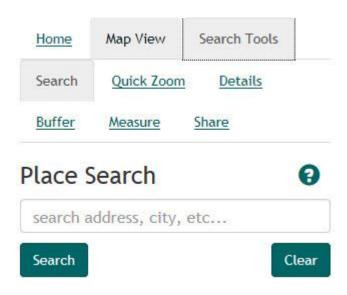

Figure 3-4. (Map Search Page)

![Search] The Search button allows the user to key in an address in the Place Search box (see figure 3-4) and search by the address keyed in.

![Quick Zoom] The Quick Zoom button brings up a new menu for the user. The user can zoom by Coordinates (Lat, Long), County, Town, Range, Section (TRS) or Watershed.

Figure 3-5. (Map Search Page)

Details

Allows the user to click anywhere on the map and get information. After you click an area on the map the information will display to the left of the map.

Details

Click on the map to get area information, wetland data, wetland layers and HUC based status and trends report(s).

Figure 3-6.(Map Search Page)

Buffer

Allows the user to buffer an area around certain wetland areas. To do this see Figure 3-7.

Buffer ❓

Buffer Parameters

Distance: Unit:

Ex: 10   Feet ▼

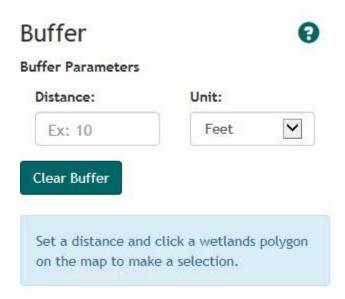Clear Buffer

Set a distance and click a wetlands polygon on the map to make a selection.

Figure 3-7.(Map Search Page)

Measure

Allows the user to measure a distance or an area on the map displayed.

Measure ❓

Select Your Type of Measurement

Straight Line ⌄

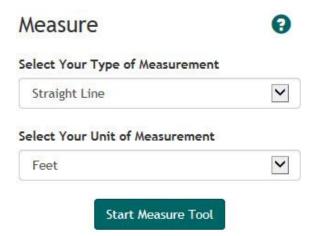**Select Your Unit of Measurement**

Feet ⌄

Start Measure Tool

Figure 3-8.(Map Search Page)

Share   Allows the user to make a Printable PDF, Generate an Email Link, it also allows the user to Export Shape Files of many different Wetland layers.
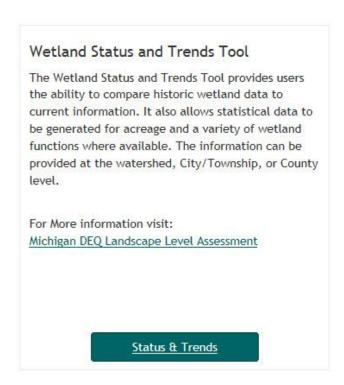
SECTION 4: STATUS & TRENDS

Wetland Status and Trends Tool

The Wetland Status and Trends Tool provides users the ability to compare historic wetland data to current information. It also allows statistical data to be generated for acreage and a variety of wetland functions where available. The information can be provided at the watershed, City/Township, or County level.

For More information visit:
Michigan DEQ Landscape Level Assessment

Status & Trends

Figure 4-1.(Status & Trends)

Allows the user to click the **Status & Trends** button. That brings up another Search that allows the user to search on any of the five buttons below and generate a report by clicking on the Status and Trends Report button.

Figure 4-2 (Status & Trends)

Map Layers

The Map Layer section shows the different layers that can be turned on or off within the map. (See Figure 3-10.) The user can have any number of layers selected. The different available layers are within Part 303 Final Wetlands Inventory. It includes: Hydric Soils, 1978 MIRIS Wetlands, and National Wetlands Inventory. There are additional layers available, such as: Watershed Basins, Conservation Easement, High Risk Erosion Areas. Below are the definitions for some layers. To turn on the map layer, check the box next to the desired layer. Uncheck the box to turn off the layer.

Part 303 Final Wetlands Inventory

This layer includes the Hydric Soils, 1978 MIRIS Wetlands and the National Wetland Inventory.

Wetland (Hydric) Soils

The Hydric Soil layer shows soil areas that are anaerobic due to conditions of saturation, flooding, or ponding during the growing season.

National Wetlands Inventory

The National Wetlands Inventory (NWI) was developed by US Fish and Wildlife Service. This data was compiled through manual photo interpretation of aerial photography supplemented by soil surveys and field checking. This process took place over a long period of time, from 1979-1994.

1978 MIRIS Wetlands

The 1978 MIRIS Wetlands were derived from the 1978 MIRIS landuse maps. The MDNR 1978 land cover files represent a compilation of data from county and regional planning commissions or their subcontractors. The original 1978 landuse files have been converted into a GIS environment. Evaluation of the data editing and manipulation was completed by the Michigan State University Center for Remote Sensing and GIS and by MDNR. The files have been checked by MDNR against their original digital files for errant land cover/land use classification codes. The original files derived from data received from the counties and regional planning commissions were not edited.

NOTE: Some layers cause a Data Disclaimer popup to appear on the map. When these show up, click once on the "CLOSE X" in the lower left corner of the disclaimer window to close it.
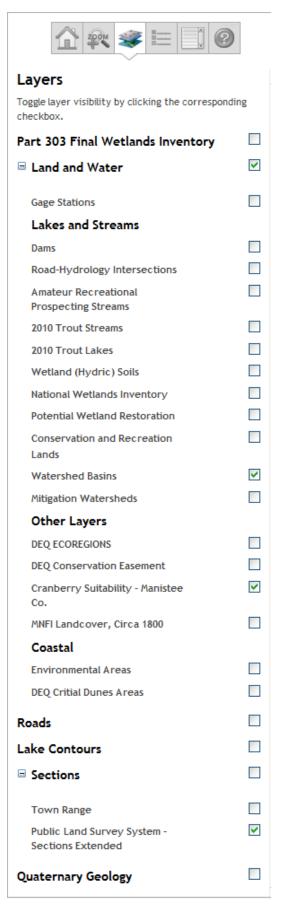

Figure 3-10. Map Layers.

Map Legend

The Map Legend shows the list of symbols represented on the map. The list can vary depending on the map layer(s) selected. (See Figure 3-11.)
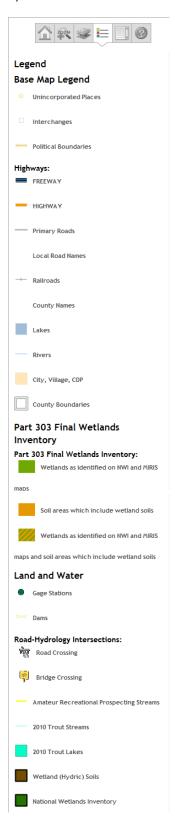

Figure 3-11. Map Legend.

SECTION 5: WETLANDS DATA

Click the "Part 303 Final Wetlands" or "Potential Wetlands Restoration" download link to open the Geographic Data Library (GDL) within the Service Development and Delivery' website. The Wetlands Data available for download allows the download of three different wetland layers within one Zip file. This makes it easier to get all three files at once.
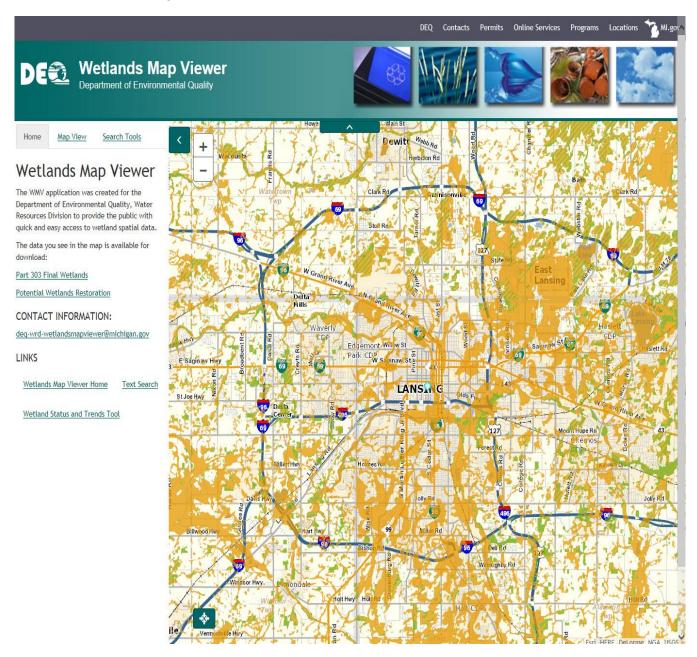

Figure 5-1. Wetlands Data Links.

Within the Geographic Data Library under the Hydrography, the "Final_Wetland_Inventory" are arranged alphabetically by County. There are Related Links and Geographic Tools on the right side of the screen. (See Figure 5-2.)
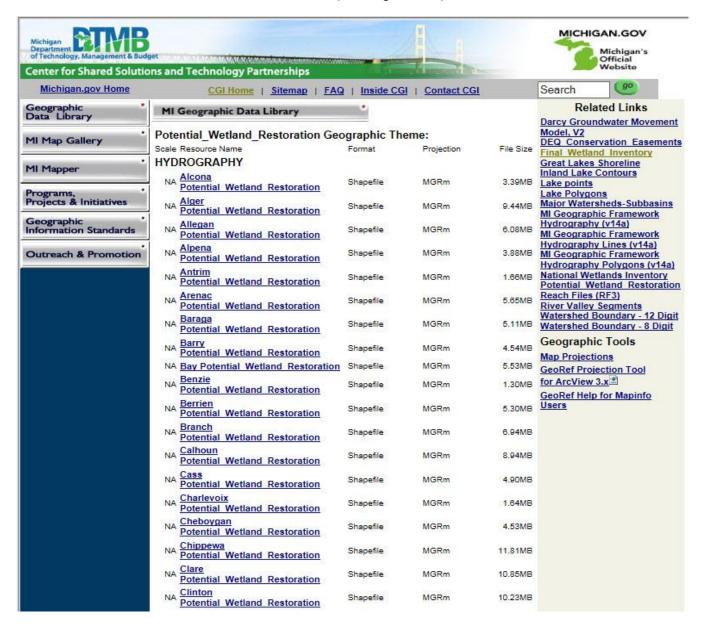

Figure 5-2. Wetland Inventory Data.

The geographic information provided through the library comprises several data formats inherent to GIS software. To interact with these file types you need access to software that supports them. The Data is also available thru the Center for Shared Solutions New Open Data Portal, Copy the following URL, Click on the Environment, then click on the DEQ Potential Wetland Restoration Tab.

http://gis.michigan.opendata.arcgis.com

If the user encounters a problem with the download, they can contact the Center for Technology Services at (517) 373-7910 and ask for the Geographic Data Library Help Desk.