

Introduction

Pointe Mouillee State Game Area encompassed 4,040 acres on the western shore of Lake Erie in South Rockwood, Michigan. This area is a renowned waterfowl hunting location, and one of the largest freshwater marsh restoration areas in the world. The diverse and unique wildlife also attract bird watchers, wildlife photographers, and fishermen.

Although Pointe Mouillee State Game Area is a popular waterfowl hunting location, there are some complex guidelines that go along with hunting there. Certain areas are off limits from September 1st-December 31st, while other areas are only open to hunting on Sunday, Tuesday, and Thursday and only through a permit drawing. This still leaves 1,900 acres of the area open to hunting without the need for a permit. This poses the problem of “where can I hunt?” A problem which can be difficult to understand for a visiting or new hunter, which could deter outdoorsmen from utilizing the area.

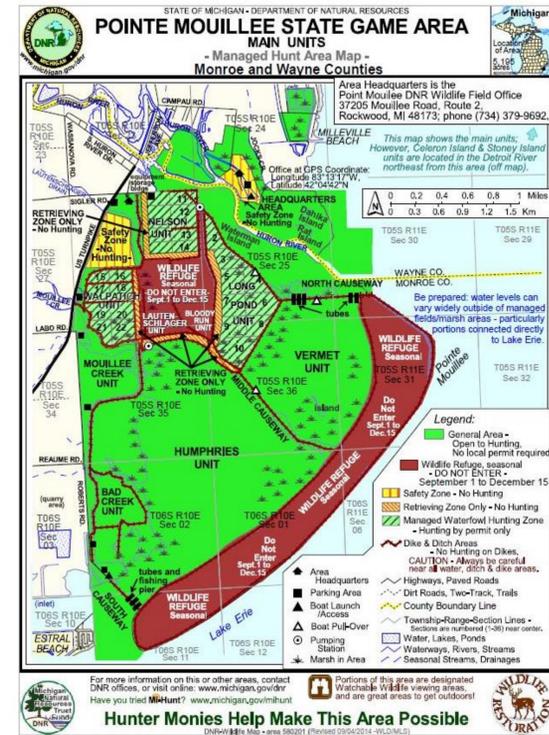


Figure 1. Current Print Map. The current downloadable map lacks detail in the basemap, making it difficult to identify locations either in the field or by referencing other resources.



Figure 2. Updated Print Map. The use of satellite imagery as a basemap allows for easier location identification. Notice that it is easier to distinguish between land and water in the hunt areas.

What Resources are Out There Currently?

The Michigan Department of Natural Resources's (DNR) web page for the Pointe Mouillee State Game Area provides an introduction to the area's rules, the names of the units that are closed to use and managed (permit drawing). There is also a map (Figure 1) available for download as a PDF file, which also includes more in-depth rules that apply to the area.

The DNR's generic “Hunting and Trapping” Page includes a “Find Hunting Land” page. This page contains a link to the MI-HUNT application, a web map application. The MI-HUNT application shows only that Pointe Mouillee is open to hunting (Figure 3), not the ins and outs of the units within the Game Area.

Methods

The PDF map was converted to a JPEG file and georeferenced in ArcMap. Due to the lack of landmarks in the original map, most of the digitization had to be done using identifiable features (Dikes, two-tracks, etc.). Points of interest (Boat Launches, Parking Lots, etc.) were digitized in the same manner. Some Points of Interest found on the original map were deliberately left out to reduce confusion and eliminate unnecessary features (Figure 3).

The web map (Figure 4) version was created using ArcGIS Online's Web Application Builder. The application includes the ability to change zoom, change basemaps, and click individual units to view a pop-up window that shows the name of the unit and whether it is open to hunting or not.

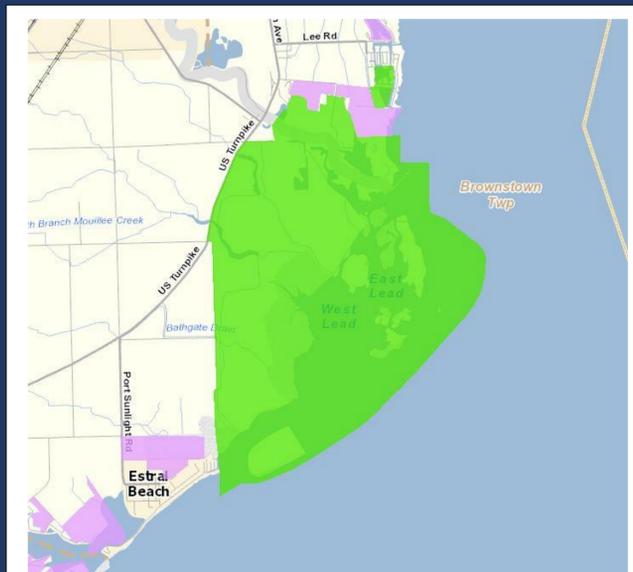


Figure 3. Current Online Map. A screenshot of the MI-HUNT Application showing the Pointe Mouillee State Game Area. An Identify tool is available which does allow the viewer to see individual units, but all unit cannot be viewed simultaneously.

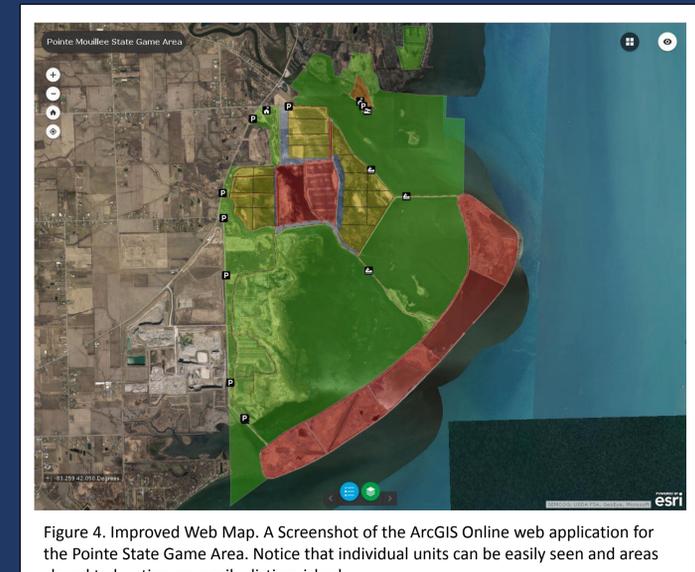


Figure 4. Improved Web Map. A Screenshot of the ArcGIS Online web application for the Pointe State Game Area. Notice that individual units can be easily seen and areas closed to hunting are easily distinguished.

Benefits of Improving Print Map

- Less clutter
 - Features that are unnecessary to user are removed
- Satellite imagery basemap
 - Provides easier interpretation of landscape
 - More clearly shows difference between land and water.

Benefits of Improving Web Map

- More informative
 - Individual units are visible without clicking on the area
 - Open and Closed hunting areas are more intuitive
- Mobile
 - Can be used on a mobile device (Cell Phone or Tablet)
- Shows Location
 - Shows devices location on web map, allowing

References

Michigan Department of Natural Resources. (n.d.). Pointe Mouillee. Retrieved from Michigan Department of Natural Resources: http://www.michigan.gov/dnr/0,4570,7-153-10370_62146_62150-283172--,00.html

Michigan Department of Natural Resources. (n.d.). Where Can I Hunt? Retrieved from Michigan Department of Natural Resources: http://www.michigan.gov/dnr/0,4570,7-153-10363_10913--,00.html

QR Codes



Figure 3 Link



Figure 4 Link