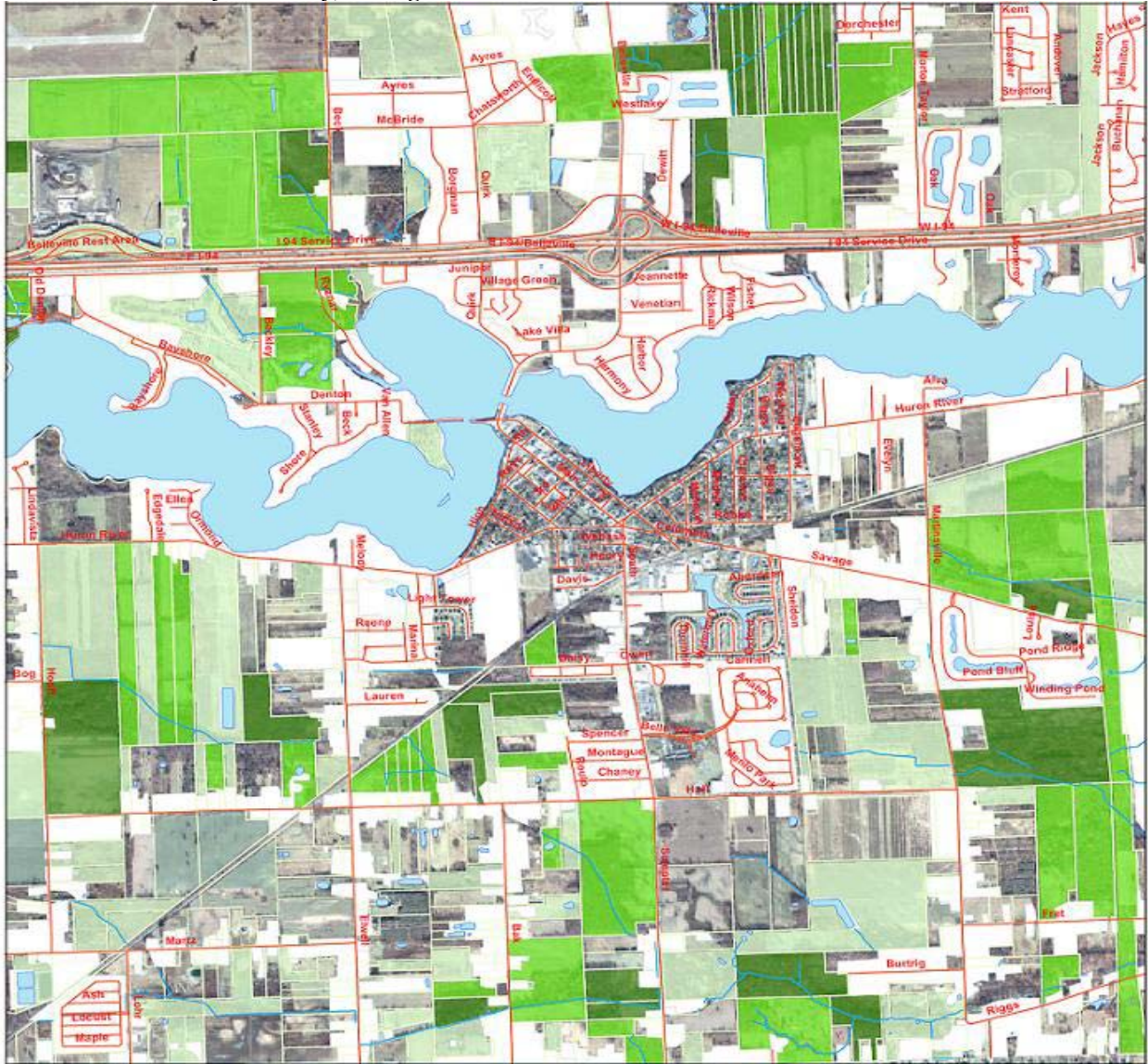


Van Buren Township

Open Space Evaluation & Prioritization



UTILIZING GEOGRAPHIC INFORMATION SYSTEM TECHNOLOGY
Wayne County, Michigan



LEGEND	
	Roads
	Hydroline
	Hydropoly
	Parcels
	Development
	Open Space Evaluation Score 9 - 17
	Open Space Evaluation Score 18 - 23
	Open Space Evaluation Score 24 - 38



Open Space Evaluation & Prioritization

Executive Summary

An evaluation was performed by the Institute for Geospatial Research & Education at Eastern Michigan University and Nativescape, LLC for Van Buren Township. The purpose of the evaluation was to identify privately owned, undeveloped parcels in the Township that exhibit sufficient natural features to warrant their inclusion into the Township's developing Open Space Preservation Program. This evaluation scored individual parcels based upon their existing ecological potential for restoration. Using a geographic information database (GIS) developed for this purpose, individual parcels were prioritized, evaluated, characterized and compared to established criteria.

Portions of the criteria established for prioritizing parcels was adapted from a report prepared by the Michigan Natural Features Inventory titled "2002 Oakland County, Potential Conservation/Natural Areas Report." To paraphrase from that report, 'the highest scoring properties will have the highest potential to hold unique natural features, possess high quality natural areas, and be dominated by native vegetation. These areas may provide essential ecological functions like maintaining water quality and quantity, flood control, soil stabilization and improvement, travel corridors for wildlife, refueling areas for migratory birds, and resources for genetic diversity'. A collaborative effort by the project participants designed the other criterion used for this evaluation.

The goal of the evaluation was to quantify various site characteristics in order to rank the parcels for *preservation priority*. Thematic maps were composed from the criteria to visualize parcel rankings and the connectivity between parcels.

Methods

1. The first step performed for this evaluation was to obtain and assemble the required datasets into a functional GIS database. This database was then used as a spatial comparative and query tool for evaluating and prioritizing individual parcels. The individual geographic data layers were the foundation used for evaluating potential candidates for inclusion into the Open Space inventory. For this study, the project team acquired the following data layers:

- VBT Parcel Layer
- VBT 2002 IKONOS Digital Orthophoto
- VBT Development / Existing Land Use Layer
- SEMCOG 2000 Landuse
- VBT Hydrography
- National Wetlands Inventory from the US Fish & Wildlife Service

2. Before the open space evaluation was conducted, an up-to-date existing land use layer had to be created. This involved updating the SEMCOG 2000 Landuse layer, by comparing it to both an IKONOS 2002 image and to the McKenna Associates 2002 Landuse dataset. To prepare the updated Development layer, IGRE extracted areas related to development classifications from SEMCOG's 2000 Landuse layer. This resulted in the digitization of approximately 100 parcels in order to change the development classifications to reflect current conditions existing in the township. This step eliminated parcels that were already developed or already in public use. Parcels meeting the following criteria were not evaluated.

- Parcels that are in public use like Airports, Landfills and Lakes.

3. The next processing step performed before the evaluation was performed, was to reduce the number of parcels based on overall size. Only parcels with the following properties were evaluated:

- Parcels greater than 5 acres.

4. The scoring of each parcel was based on the criteria listed below and performed to identify those parcels that possessed the highest quality of natural areas in the Township. The final criteria selected involved considerable input from the Township. The final evaluation was based on the presence / absence and/or percentage of the following characteristics:

1. Size of the parcel in total acres.
2. Core Area of the parcel in acres.
3. Stream Corridor - Presence/Absence within the parcel.
4. Wetlands % - Percentage of wetlands within the parcel.
5. Woodlands % - Percentage of woodlands within the parcel.

6. Wooded Wetlands % - Percentage of woodlands within the parcel.
 7. Grassland & Shrubs % - Percentage of Grassland & Shrubland within the parcel.
 8. Agricultural % - Percentage of agricultural lands within the parcel.
 9. NWI / Van Buren Wetlands - Presence/Absence within the parcel.
 10. Development - Percentage of development within the parcel.
5. The points for each criterion were summed for each parcel and the parcels were broken into six natural breaks. We then selected those parcels that fell under the top three classifications as the best potential Open Space candidates. Connectivity was then calculated for each parcel based on the criteria below, and those points were added to those parcels in the top three classifications.
- Connectivity
 - A. Percentage % - Percentage of potential natural areas of surrounding lands within ¼ mile.
 - B. Proximity - Number of potential natural areas within 100ft.
6. Total scores were then re-calculated along with the connectivity points and broken into three classifications at natural breaks.
7. Finally, a list of the three highest scoring groups of parcels was generated and a map composed to show preservation priority. A color ramp (darker to lighter shades of green) was developed in the “Open Space Evaluation” maps to visualize the score group classifications.

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