

12/05/2019

Presentation to the Greenbelt  
Advisory Commission

# Natural & Agricultural Land Assessment & Prioritization Mapping



# Project Outline

1. NAPP Introduction
2. Assessments
3. Prioritization
4. Project Use
5. Project Use - Greenbelt



# Natural Areas Preservation Program (NAPP)

## FUNDING

10-year NAPP Millage  
2000-2010-2020

## PERSONNEL

Acquisition Staff  
Natural Areas Technical Advisory Committee (NATAC)  
Agricultural Lands Technical Advisory Committee (ALPAC)  
Parks Commission  
Stewardship Staff

## METHODS

Nature Preserves (fee simple)  
Conservation Easements

# Natural Areas Preservation Program (NAPP)

Identify lands which, through long-term preservation, will:

- Protect and preserve the natural ecological diversity/heritage of Washtenaw County
- Complement the existing network of publicly and privately protected lands
- Maximize the public benefit, offering opportunities for passive recreation, environmental education and agricultural production

# Natural Areas Preservation Program (NAPP)

## September 2015 Guidelines

- Establish a dedicated reserve that serves as a sustainable funding source for future stewardship of the natural area properties purchased by the Washtenaw County Parks and Recreation Commission. (Approved 9/13/16)
- Utilize a deliberate process for identifying properties that can be considered a high priority for protection, incorporating input from the technical advisory committees and other organizations committed to land preservation in Washtenaw County. (Addressed in this analysis)
- Focus on enhancement and enlargement of existing preserves, especially when it meets the objectives expressed in the previous guideline. (Addressed in this analysis)
- Continue to pursue partnership and collaborative opportunities for both acquisition and stewardship efforts. (Supported by this analysis)
- Continue to acquire conservation easements when appropriate, to preserve and protect natural areas, including high quality agricultural lands. (Supported by this analysis)

# Assessments

GIS evaluation of potential land quality relative to other County land

# Assessments

## **Natural Area Assessment**

*evaluation of natural areas' potential quality*

- aka Bioreserve Site Assessment
- Created by UM, put into use by HRWC
- Expanded to entire Washtenaw County by WCPARC
- Contiguous land, regardless of parcels
- 20 acres or larger assessed
  - (WCPARC considers any size natural area)

## **Agricultural Lands Assessment**

*evaluation of in-use agricultural properties' potential quality*

- Created by ALPAC, digitized by WC GIS
- Parcel-based analysis
- 50% or more of parcel area in active ag assessed
  - This is a requirement for WCPARC ag easements

# Assessments

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# Assessments

## Natural Area Assessment Criteria

- Core habitat size
- Presence of water resources
- Presence of wetlands
- Potential for groundwater recharge
- Potential presence of less common precolonial vegetation types
- Presence of glacial landforms/features
- Topographical variation
- Connectivity to other Bioreserve Sites
- Unchanged vegetation between years 1800 and 2000 (level of site disturbance)
- Restorability potential
- Documented plant and animal occurrence, from Michigan Natural Features Inventory (MNFI)
- Biorarity Index from MNFI

# Assessments – Natural Area

<b>OBJECTID</b>	<b>WETLANDS</b>	<b>RANK_WETLAND</b>	<b>CORE_SIZE_ACRES</b>	<b>RANK_COREAREA</b>	<b>FINALRANK</b>	<b>RANKING</b>
1	1	100	25.7285	0	350	Medium-Low
2	1	100	109.6352	25	408	Medium-Low
3	1	100	128.5673	25	375	Medium-Low
4	1	100	112.7003	25	483	Medium-Low
5	1	100	10.03427	0	375	Medium-Low
6	1	100	126.4425	25	533	Medium-High
7	1	100	31.90096	0	308	Low
8	1	100	13.30941	0	433	Medium-Low
9	1	100	32.50521	0	350	Medium-Low
10	1	100	38.8709	0	500	Medium-High

# Assessments – Natural Area

OBJECTID	WETLANDS	RANK_WETLAND	CORE_SIZE_ACRES	RANK_COREAREA	FINALRANK	RANKING
1	1	100	25.7285	0	350	Medium-Low
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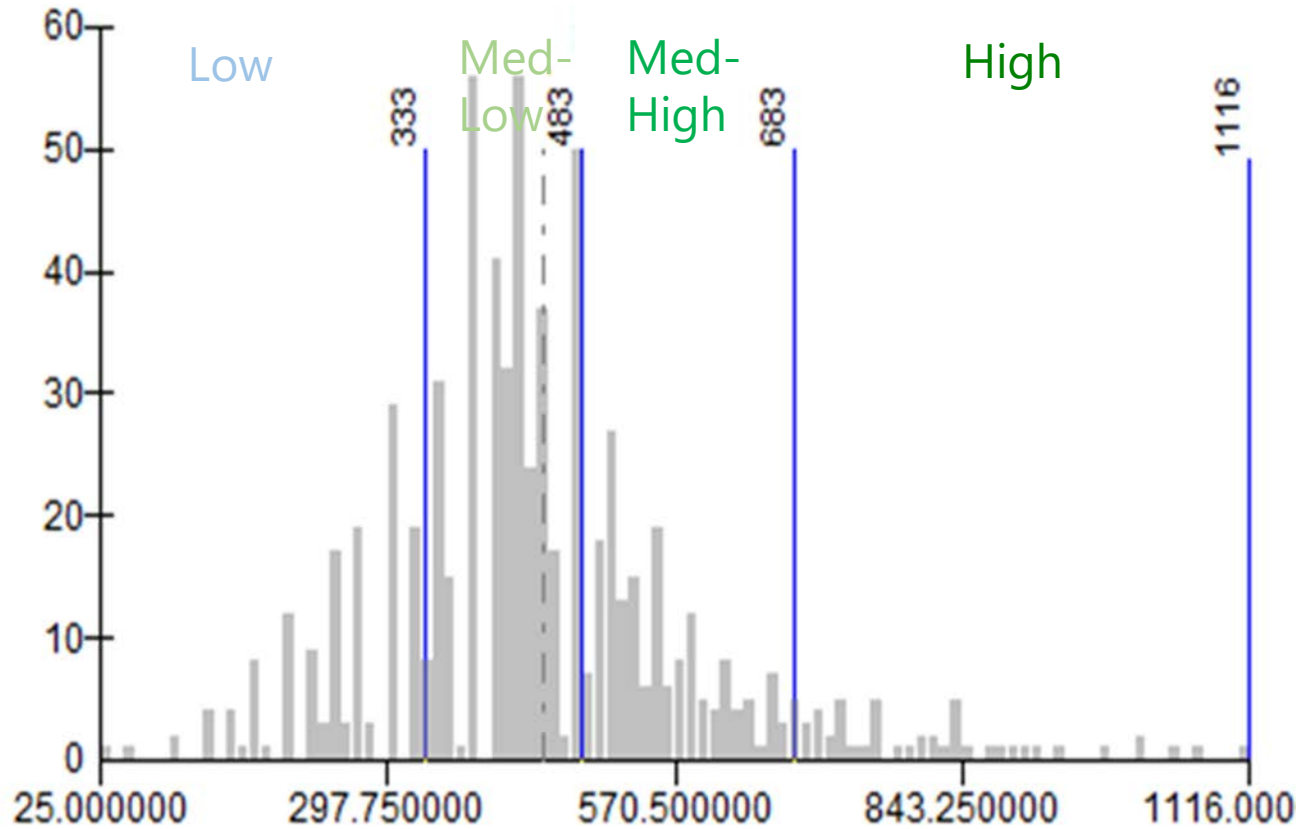
Raw scores

# Assessments – Natural Area

OBJECTID	WETLANDS	RANK_WETLAND	CORE_SIZE_ACRES	RANK_COREAREA	FINALRANK	RANKING
1	1	100	25.7285	0	350	Medium-Low
2	1	100	109.6352	25	408	Medium-Low
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7	1	100	31.90096	0	308	Low
8	1	100	13.30941	0	433	Medium-Low
9	1	100	32.50521	0	350	Medium-Low
10	1	100	38.8709	0	500	Medium-High

Standardization of raw scores

# Assessments – Natural Area



ES	RANK_COREAREA	FINALRANK	RANKING
985	0	350	Medium-Low
952	25	408	Medium-Low
973	25	375	Medium-Low
903	25	483	Medium-Low
927	0	375	Medium-Low
925	25	533	Medium-High
996	0	308	Low
941	0	433	Medium-Low
921	0	350	Medium-Low
909	0	500	Medium-High

# Assessments – Ag Land

## Natural Area Assessment

*evaluation of natural areas' potential quality*

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*evaluation of in-use agricultural properties' potential quality*

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- 50% or more of parcel area in active ag assessed
  - This is a requirement for WCPARC ag easements

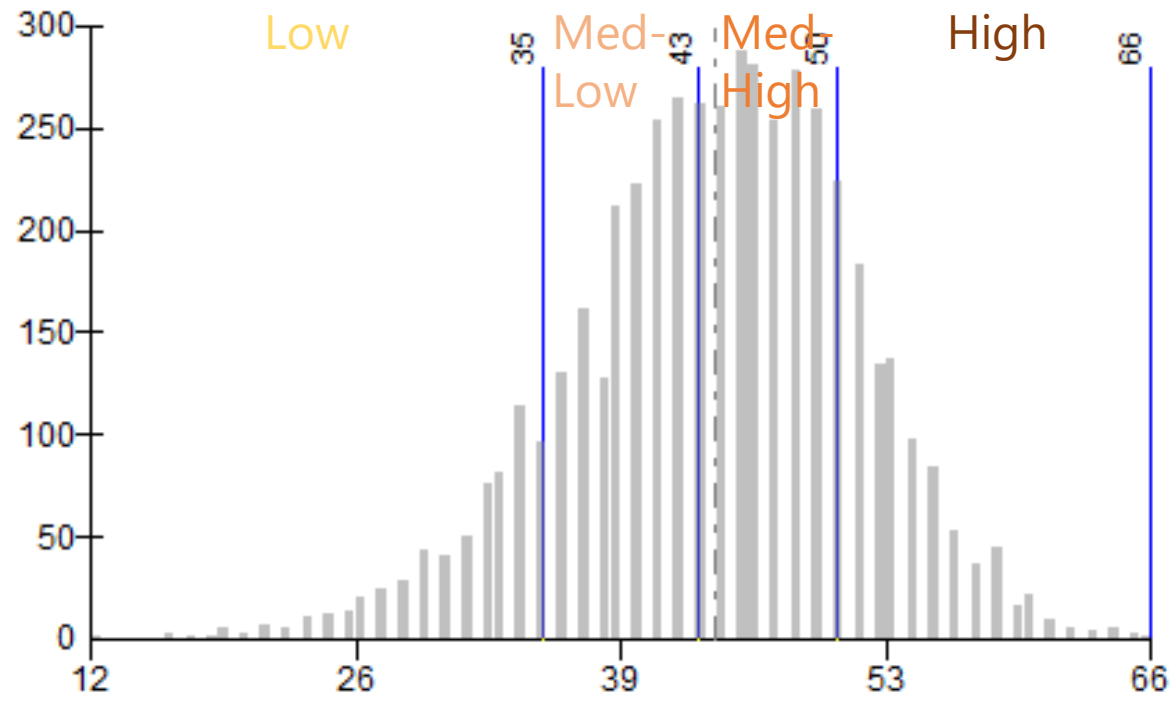
# Assessments – Ag Land

## **Agricultural Lands Assessment Criteria**

- Soil quality, relative to parcel size
- Acreage of parcel
- Percentage of parcel in agricultural use
- Scenic quality (large open views and road frontage)
- Septic field suitability (depth to water table)
- Percentage of perimeter in agricultural use or natural area
- Percentage of perimeter zoned for agriculture or conservation
- Proximity to existing and planned public sanitary sewer or water service area
- Proximity to protected lands
- Protection of water resources
- Biorarity Index, from MNFI

# Assessments – Ag Land

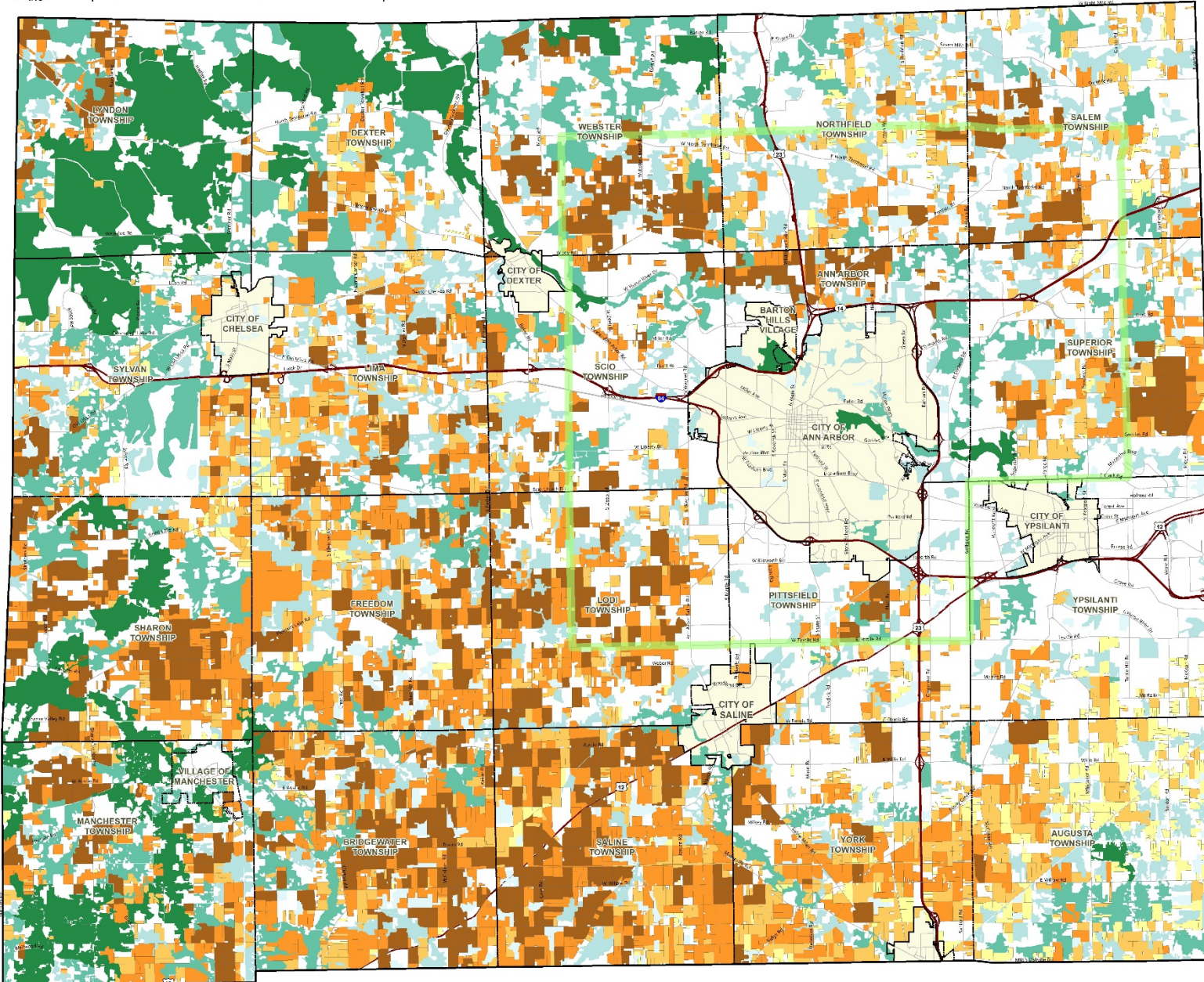
OBJECTID	PIN	ALPAC_AgUseScore	Farmland_Characteristics	Dev_Pressure	ALPAC_Score	ALPAC_Ranking
74		4	21	16	40	Medium-Low
85		4	19	15	39	Medium-Low
86		8	23	17	43	Medium-Low
1968		10	23	18	44	Medium-High
40125		10	27	14	44	Medium-High







# Natural and Agricultural Land Assessments



## Legend

### Natural Area Quality Assessment

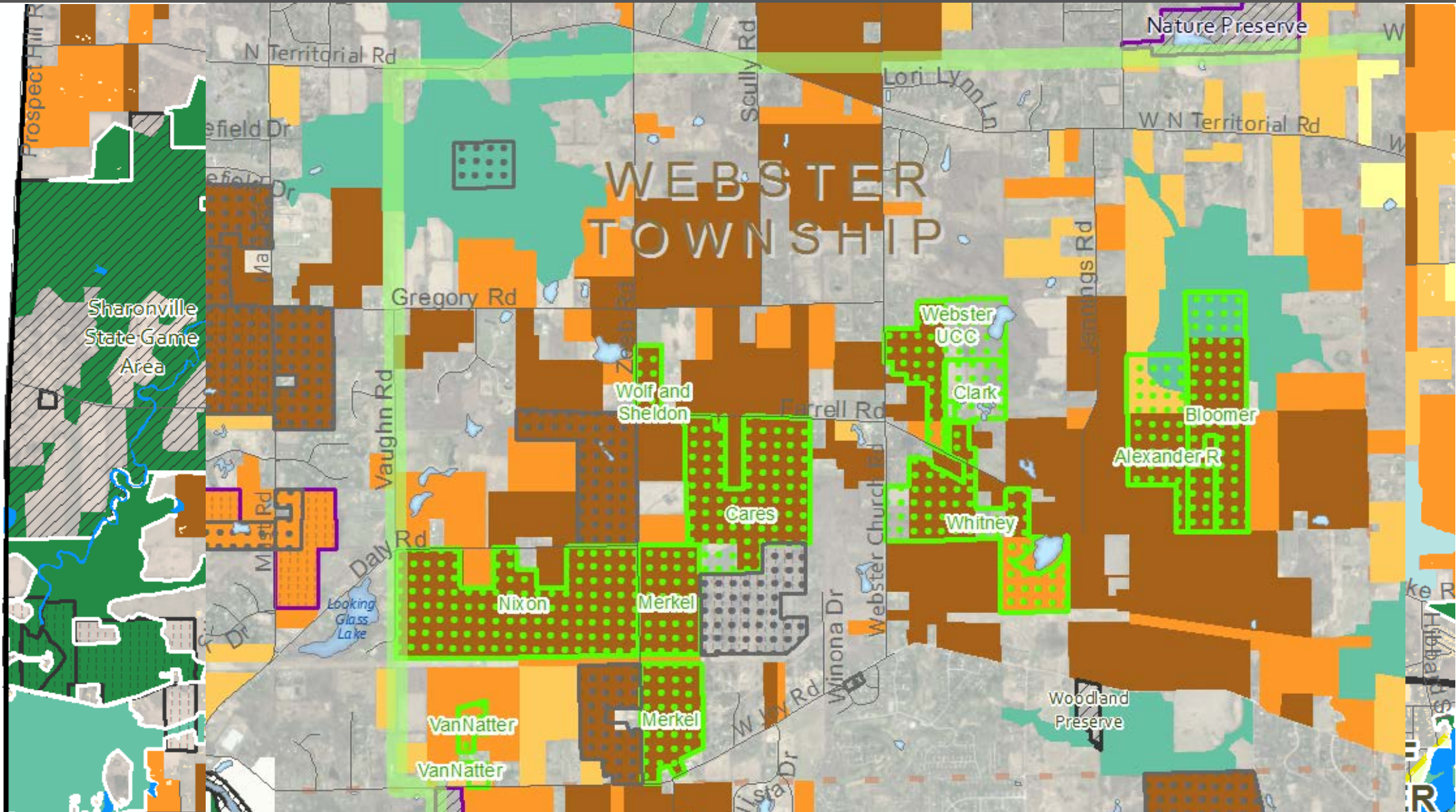
-  Low
-  Medium-Low
-  Medium-High
-  High

### Agricultural Land Quality

-  Low
-  Medium-Low
-  Medium-High
-  High

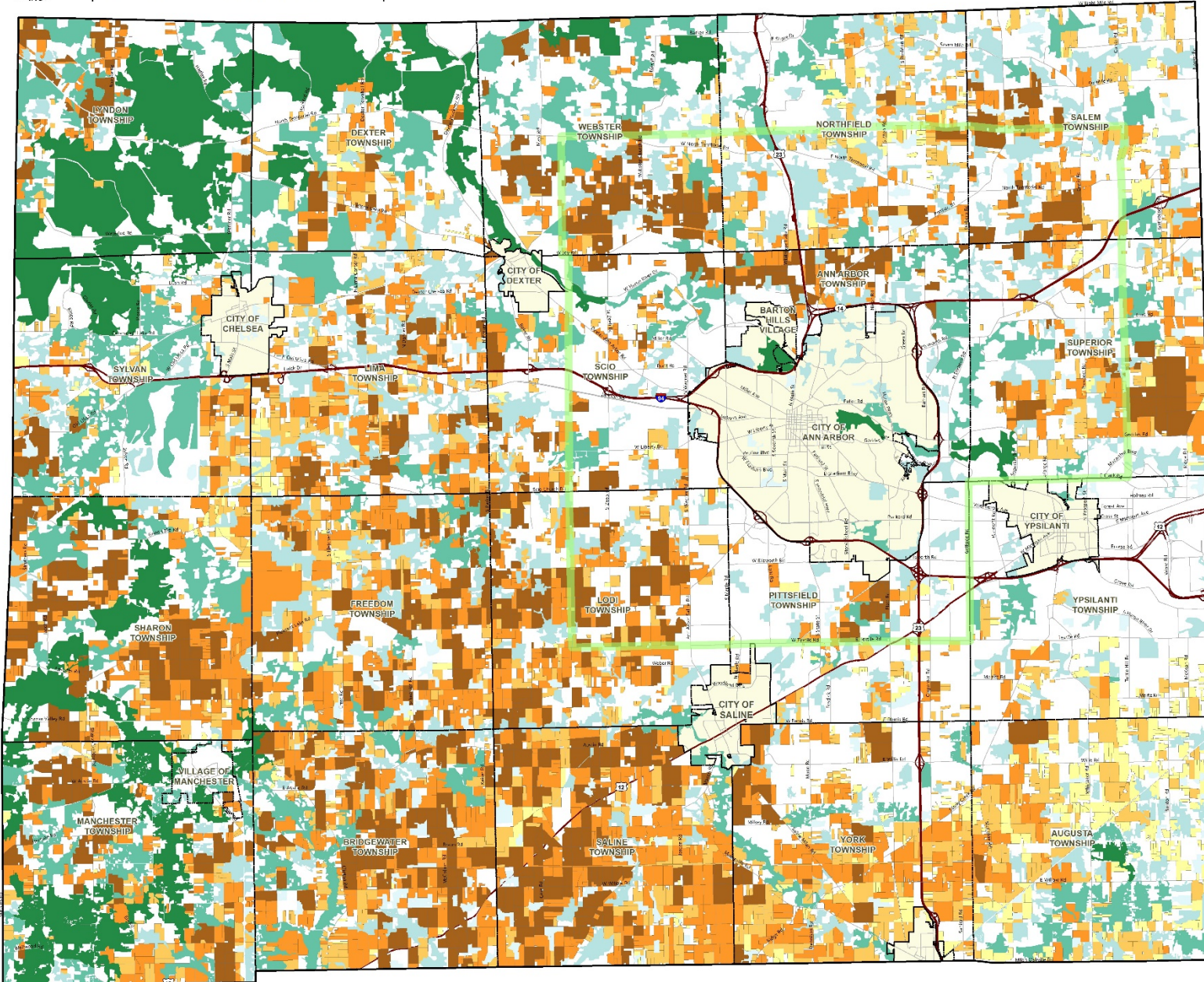


# Assessments






# Natural and Agricultural Land Assessments



## Legend

### Natural Area Quality Assessment

-  Low
-  Medium-Low
-  Medium-High
-  High

### Agricultural Land Quality

-  Low
-  Medium-Low
-  Medium-High
-  High

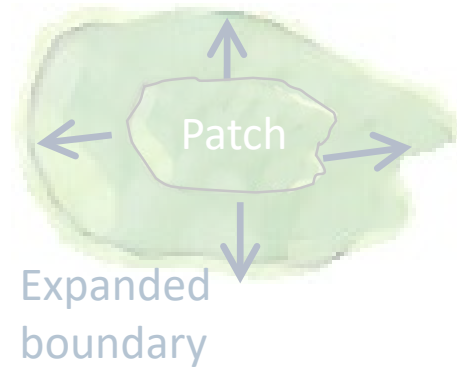


# Prioritization

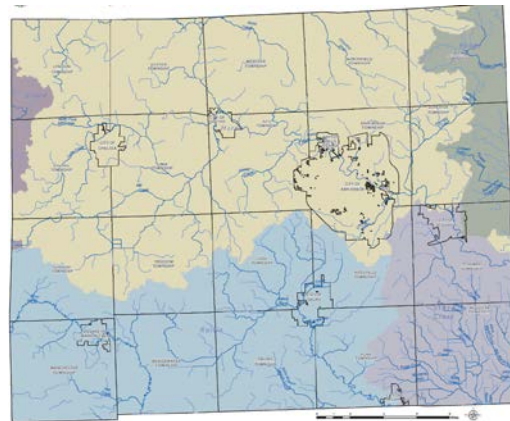
Corridors



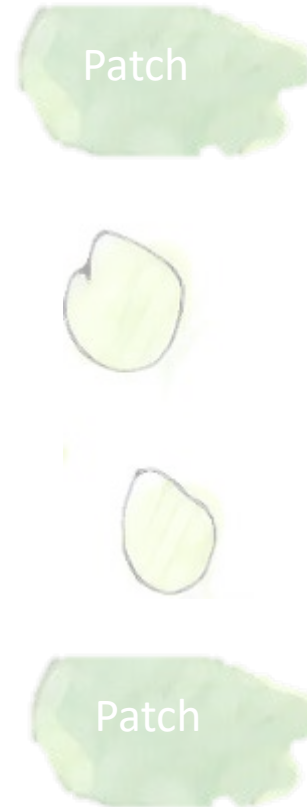
Patch Expansion



Stream Protection



New Patch Establishment



Special Focus: Ecoregion



Image sources:

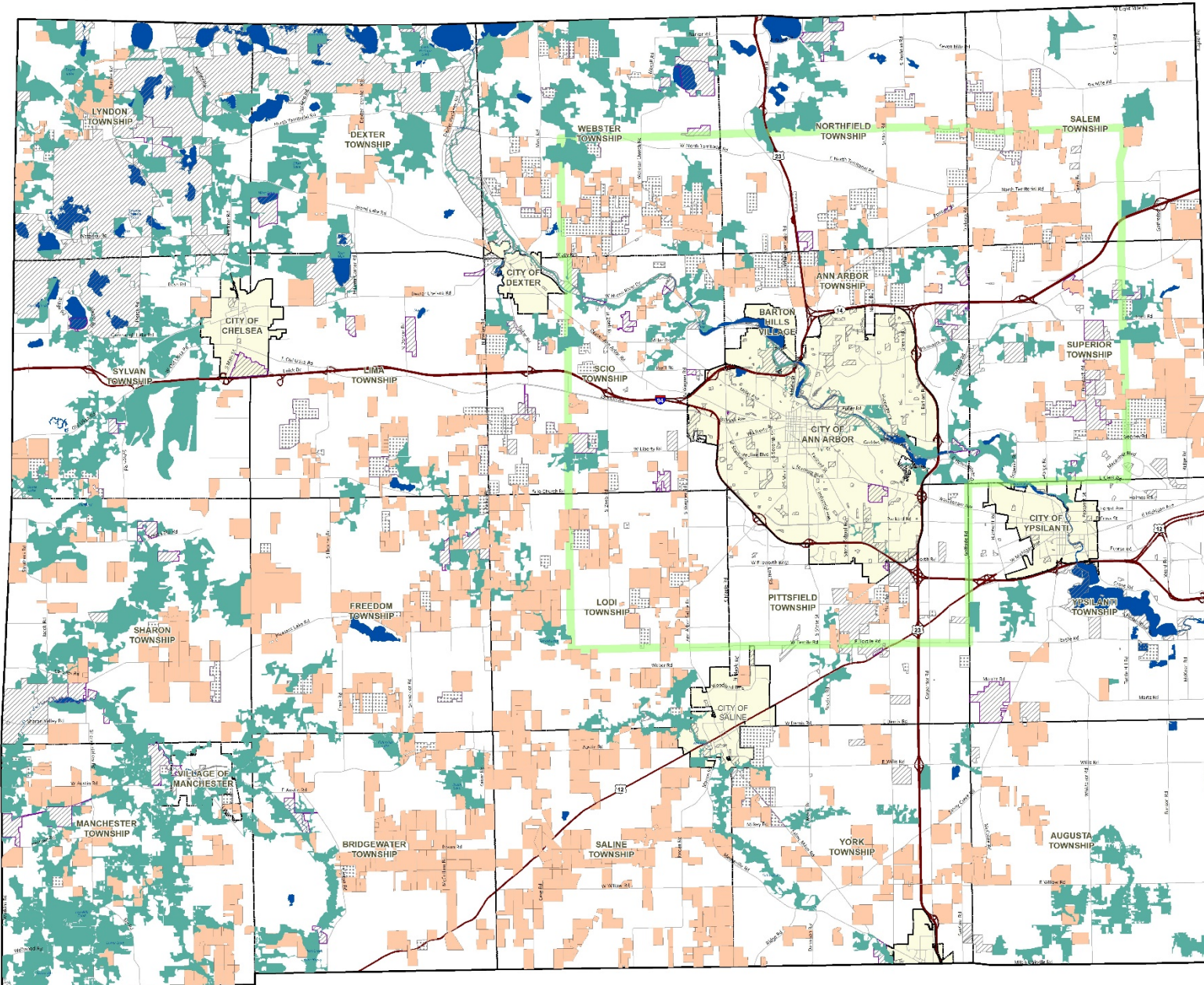
Michelle Miller, [mmillericeland.wordpress.com](http://mmillericeland.wordpress.com)  
Atlas of Michigan, ed. Lawrence M. Sommers, 1977  
Augusta Charter Township, [www.augustatownship.org/](http://www.augustatownship.org/)

# Prioritization

<b>OBJECTID</b>	<b>RANKING</b>	<b>PRIORITYTYPE</b>	<b>PRIORITYTYPE2</b>	<b>PRIORITYTYPE3</b>	<b>PRIORITYTYPE4</b>
12	Medium-High	Corridor	Stream Protection	<Null>	<Null>
257	Medium-High	Corridor	<Null>	<Null>	<Null>
390	Medium-High	Patch Expansion	Stream Protection	<Null>	<Null>
398	Medium-High	Patch Expansion	Corridor	Stream Protection	<Null>
402	Medium-High	Patch Expansion	Stream Protection	<Null>	<Null>
425	Medium-High	Patch Expansion	New Patch Establishment	<Null>	<Null>



# Natural and Agricultural Land Priorities



## Legend

- Natural Area Priorities
- Agricultural Land Priorities

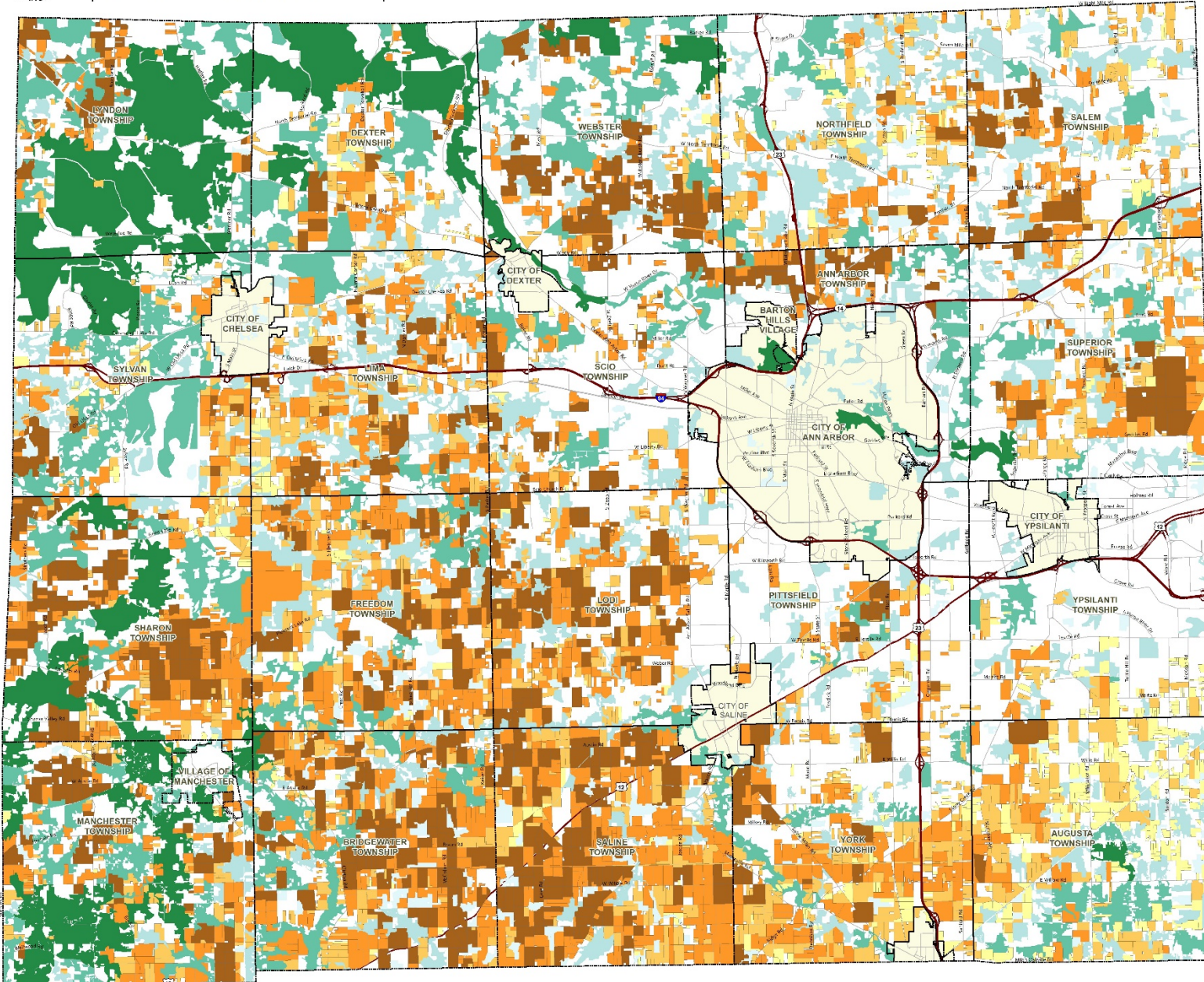
## Other Map Features

- Parks and Preserves
- Conservation Easements
- WCPARC Facilities





# Natural and Agricultural Land Assessments



## Legend

### Natural Area Quality Assessment

-  Low
-  Medium-Low
-  Medium-High
-  High

### Agricultural Land Quality Assessment

-  Low
-  Medium-Low
-  Medium-High
-  High



# Project Use – General

- Engagement
- Outreach
  - Adding distribution component
- Setting goals, strategies
  - In Master Plan
  - Other agencies
- Fulfill guidelines
- Millage
- **Data tool to support a decision**
  - Prioritize locally
  - Incorporated into formal process

“The maps provided will be very helpful to us in setting priorities....  
It was a wonderful and insightful presentation.”  
- *Webster Township*



# Project Use - General

**Does NOT replace site visits, expert opinion, existing processes**

**Not perfect**

# Project Use – NATAAC

Windycrest Partnership Property: Assessment & Prioritization Mapping  
 Natural Areas Preservation Program  
 Nomination ID: 19.306  
 Ann Arbor Township  
 +/-8.48 Acres

Washtenaw County  
 Locator Map



NATAAC NOMINATION - FIELD REVIEW WORKSHEET	
<b>GENERAL DESCRIPTION</b>	
Project Name:	Fee Simple or Easement (circle one)
Location:	Size (acres):
Current Use:	Date of Visit:
<b>NATURAL AREA MAPPED PRIORITY</b>	
<input type="checkbox"/> Yes - Patch Expansion	<input type="checkbox"/> Yes - New Patch Establishment
<input type="checkbox"/> Yes - Corridor	<input type="checkbox"/> Yes - Stream Protection
<input type="checkbox"/> Yes - Lake Plain Ecoregion	
<input type="checkbox"/> No	
NOTES:	
<b>PROXIMITY TO OTHER WCPARC LAND</b>	
<input type="checkbox"/> not proximal	<input type="checkbox"/> in general vicinity
<input type="checkbox"/> adjoins land that has the potential to be protected, and that property adjoins protected land	<input type="checkbox"/> would be expansion of existing preserve
NOTES:	
<b>PROXIMITY TO OTHER OWNED PRESERVED LAND</b>	
<input type="checkbox"/> Yes - Township	<input type="checkbox"/> Yes - Greenbelt
<input type="checkbox"/> Yes - Legacy Land Conservancy	<input type="checkbox"/> Yes - SMLC
<input type="checkbox"/> Yes - Other	
<input type="checkbox"/> No	
NOTES:	
<b>PROPERTY COMPLICATIONS</b>	
<input type="checkbox"/> Access requires other private land; removing significant trees; paving wetlands; or other undesirable actions	<input type="checkbox"/> Trails require full boardwalk
<input type="checkbox"/> Site has debris too costly to remove	<input type="checkbox"/> Building envelope or exclusion complications
NOTES:	
<b>FIELD ASSESSMENT</b>	
Names of Assessors:	
<b>ECOSYSTEMS</b>	
Please check all that apply:	How many veg communities are present? Include all, not just ones listed to the left.
<i>Palustrine</i>	<i>Terrestrial</i>
<input type="checkbox"/> Submergent marsh	<input type="checkbox"/> Dry prairie
<input type="checkbox"/> Emergent marsh	<input type="checkbox"/> Oak savanna



**Legend**

- Current Nomination
- Recreation Lands
- ~ Streams
- Railroad
- Road
- Parcel Boundary

**Natural Area Quality**

- Medium-High Quality
- High Quality

**At least one parcel or area on this property was prioritized based on:**

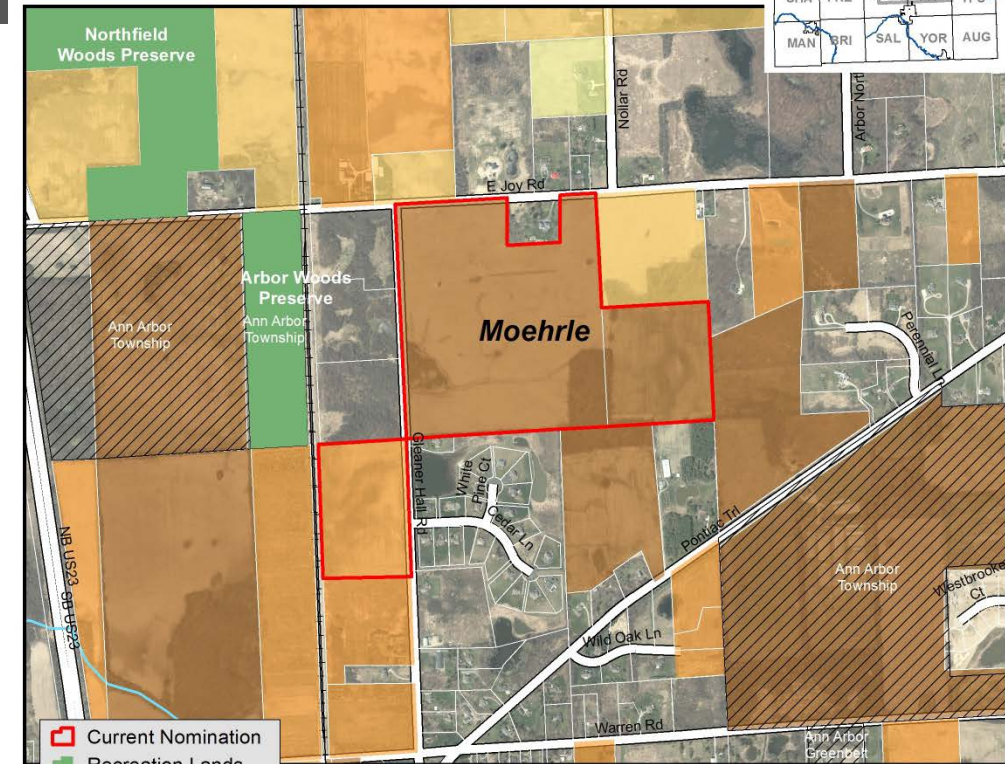
- **Patch Expansion:** This site is located in a dense area of higher quality land and protection thereof enlarges the footprint of existing protected land.  
 New Patch Establishment: This site is located in a dense area of higher quality land and protection thereof helps preserve land where none is currently preserved, in a manner that still offers "stepping stone" connectivity.
- **Corridor:** Protection of this site protects land within an identified path of linear habitat connectivity.
- **Stream Protection:** Protection of this site preserves or is ecologically connected to a site that preserves creek frontage.
- Lake Plain Ecoregion: Protection of this site preserves land in the lake plain ecoregion, much of which has been developed and is significantly underrepresented in NAPP's portfolio.
- Not prioritized

# Project Use – ALPAC

NAME			
Parcel ID numbers			
<b>Eligibility Criteria</b>		<b>Raw</b>	<b>Data</b>
<b>TOTAL</b>			<b>Score</b>
<b>IV Leveraged Properties (in initial scoring provide minimum points for all properties where landowner participation is anticipated)</b>			<b>0</b>
A) Farmland in Which Matching Funds From Other Sources Accompany Application/% funding from other sources (>75%= 15, 50-74%= 12, 25-49%= 9, > 0-24%= 6, 0% =0)			0
B) Applicant Willingness to Accept % of Appraised Value of the Development Rights of the Property (<40%= 10, 40-59%= 8, 60-75%= 6, 76-90%= 4, >90%= 0)			0
<b>TOTAL</b>			<b>0</b>
<b>V Open Space Value</b>			
A) Proximity to Existing Private and/or Public Protected Lands (adjacent=5, within 1 mile=3, > 1mile=0)			0
B) Natural Features Supported by Protection of Agricultural Land (Contains a Bioreserve site = 5, MNFI defined special plants/animals = 5, recreation/scientific value = 5) (Enter total - 0, 1, 2 or 3 of these features)			0
<b>TOTAL</b>			<b>0</b>
<b>EVALUATION TOTAL, unleveraged (Out of 87)</b>			<b>0</b>
<b>EVALUATION TOTAL, leveraged (Out of 112)</b>			<b>0</b>

## Moehrle Property: Assessment & Prioritization Mapping

Natural Areas Preservation Program  
Nomination ID: A18.113  
Ann Arbor Township  
+/- 114 Acres



- Current Nomination
- Recreation Lands
- Conservation Lands
- ~ Streams
- Railroad
- Road
- Parcel Boundary
- Ag Quality Assessment**
- Low Quality
- Medium-Low Quality
- Medium-High Quality
- High Quality

### At least one parcel or area on this property was prioritized based on:

- Patch Expansion:** This site is located in a dense area of higher quality land and protection thereof enlarges the footprint of existing protected land.
- New Patch Establishment:** This site is located in a dense area of higher quality land and protection thereof helps preserve land where none is currently preserved, in a manner that still offers "stepping stone" connectivity.
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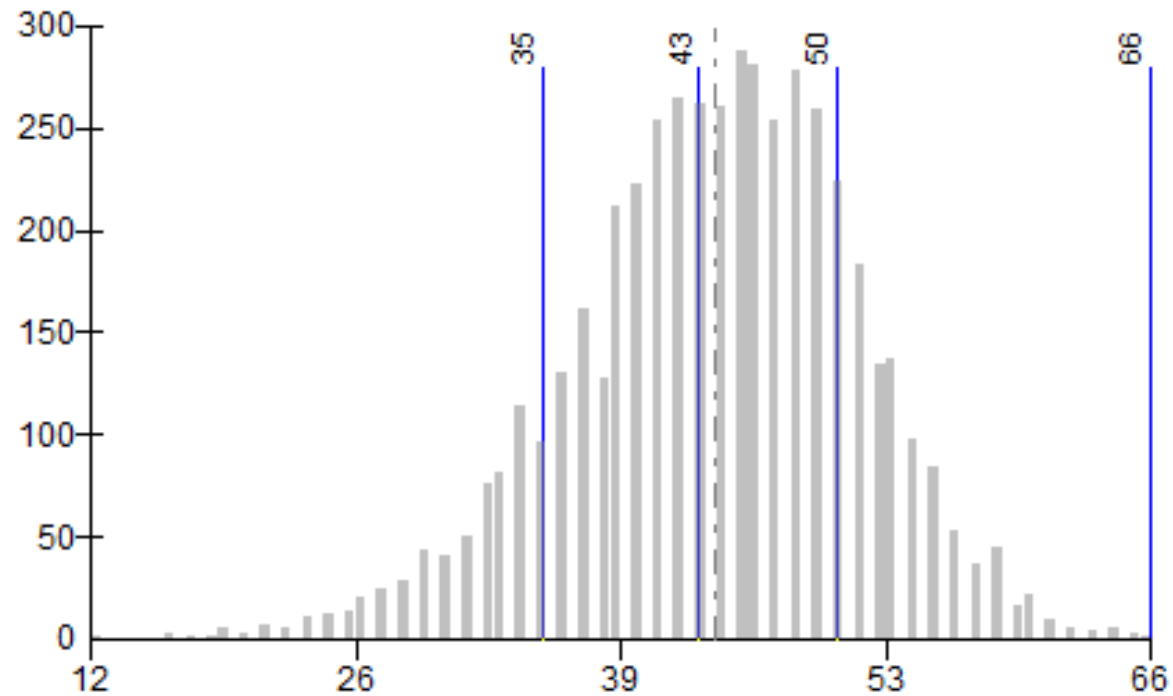
Not prioritized

# Project Use – Parks Commission



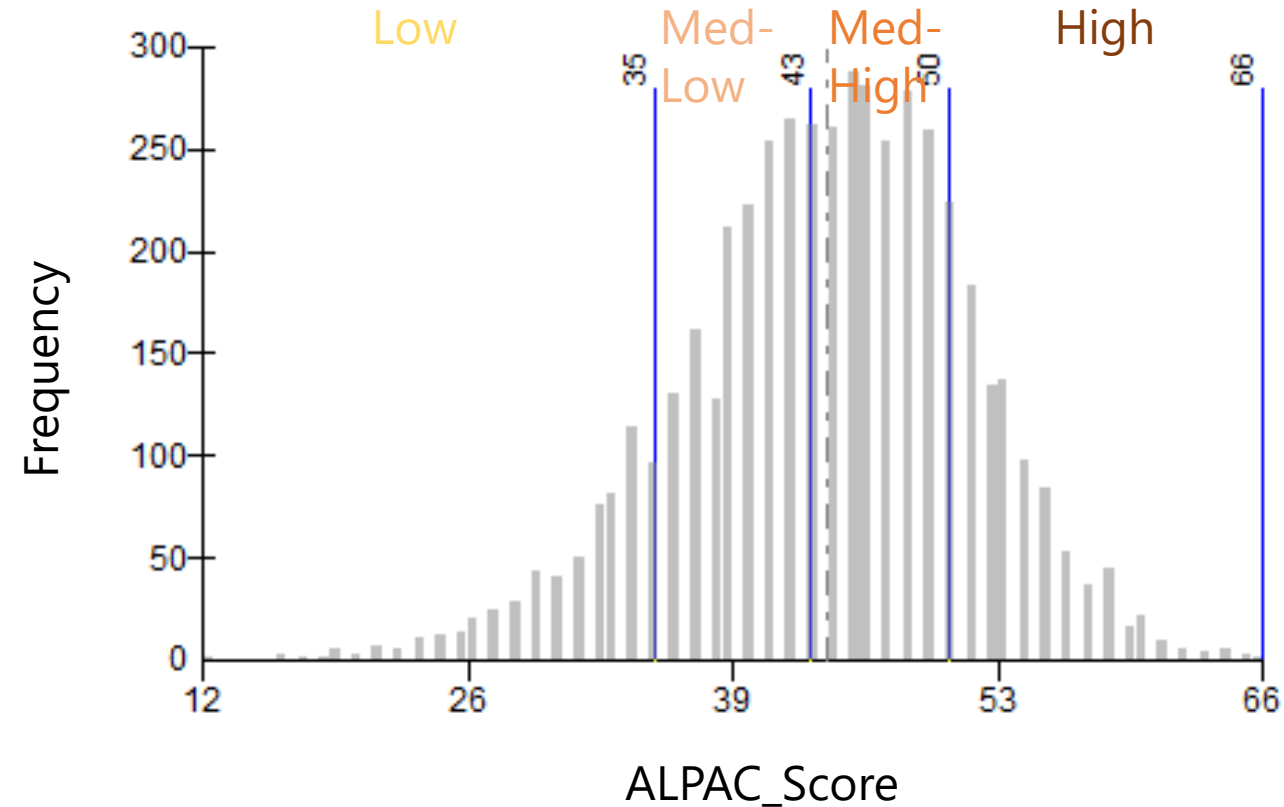
# Project Use – Greenbelt

OBJECTID	PIN	ALPAC_AgUseScore	Farmland_Characteristics	Dev_Pressure	ALPAC_Score	ALPAC_Ranking
74		4	21	16	40	Medium-Low
85		4	19	15	39	Medium-Low
86		8	23	17	43	Medium-Low
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# Project Use – Greenbelt

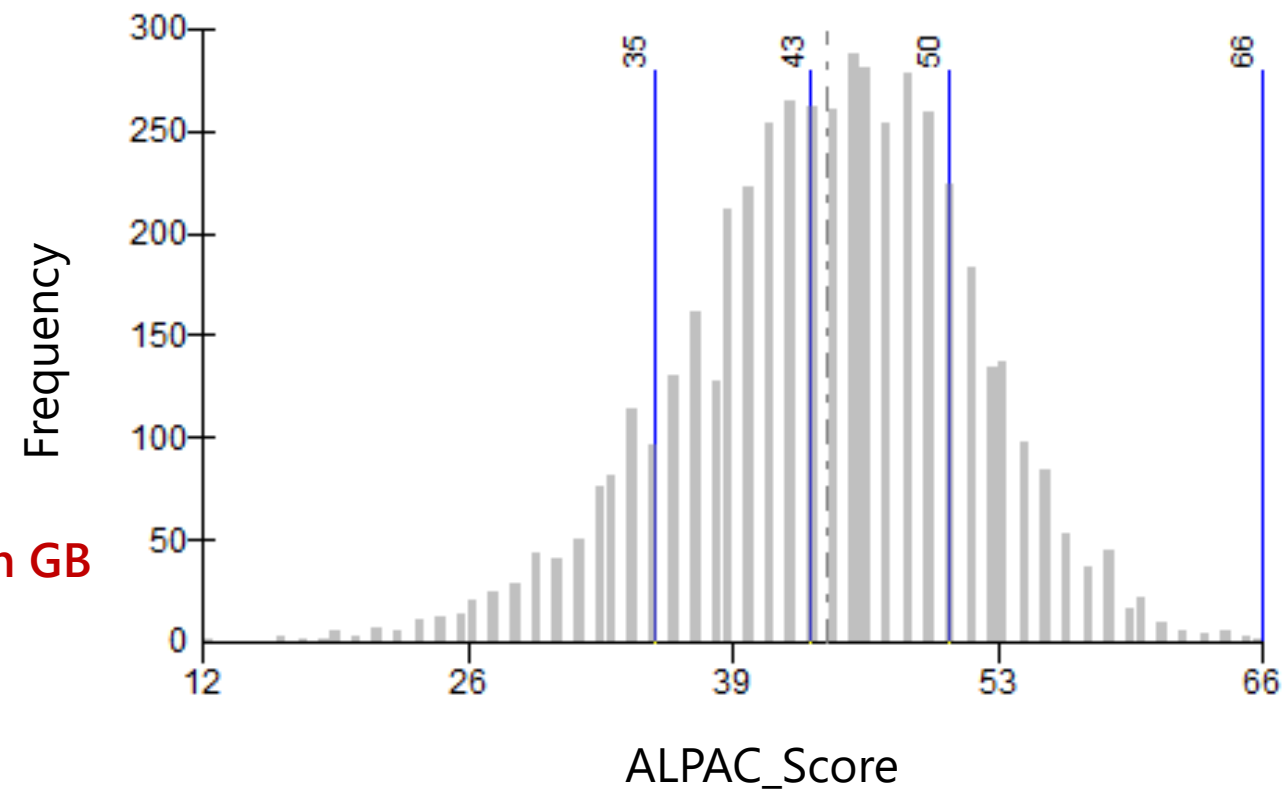
OBJECTID	ALPAC_Score	ALPAC_Ranking
1	40	Medium-Low
2	39	Medium-Low
3	43	Medium-Low
4	44	Medium-High
5	44	Medium-High
6	51	High
7	38	Medium-Low
8	50	High
9	49	Medium-High
10	35	Medium-Low
11	55	High
12	35	Medium-Low
13	43	Medium-High
14	44	Medium-High



# Project Use – Greenbelt

OBJECTID	ALPAC_Score	ALPAC_Ranking
1	40	Medium-Low
[Redacted]		
3	43	Medium-Low
4	44	Medium-High
5	44	Medium-High
6	51	High
7	38	Medium-Low
8	50	High
[Redacted]		
10	35	Medium-Low
11	55	High
12	35	Medium-Low
[Redacted]		
14	44	Medium-High

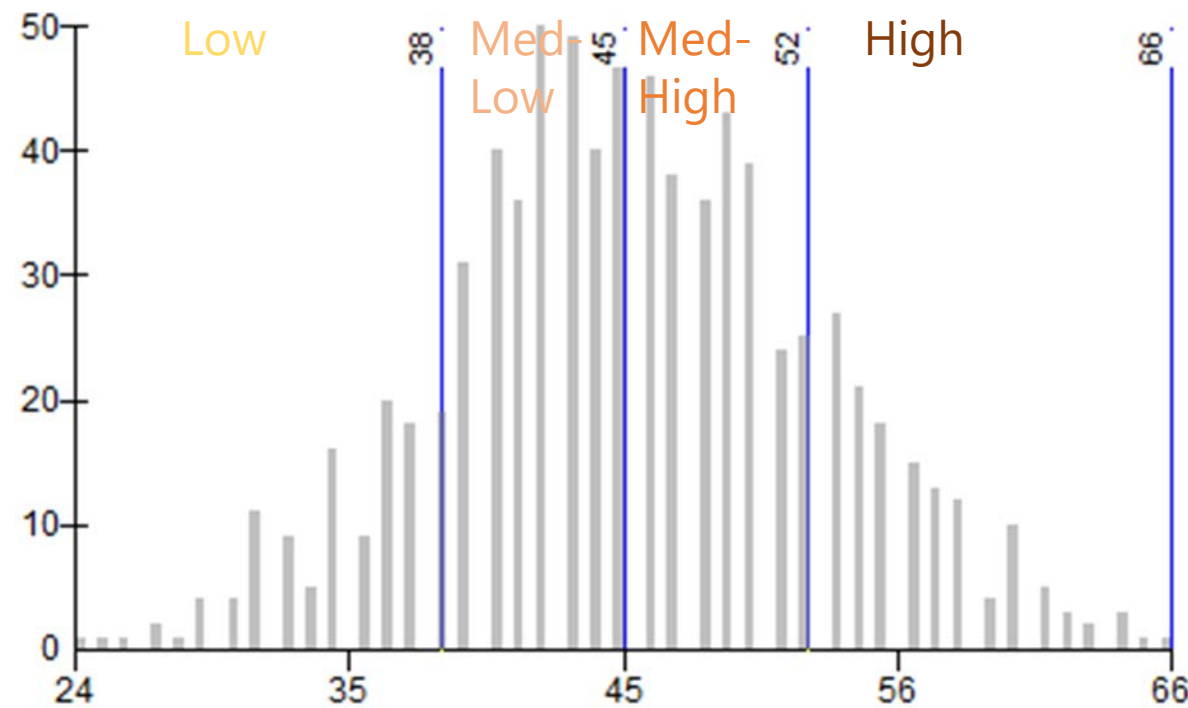
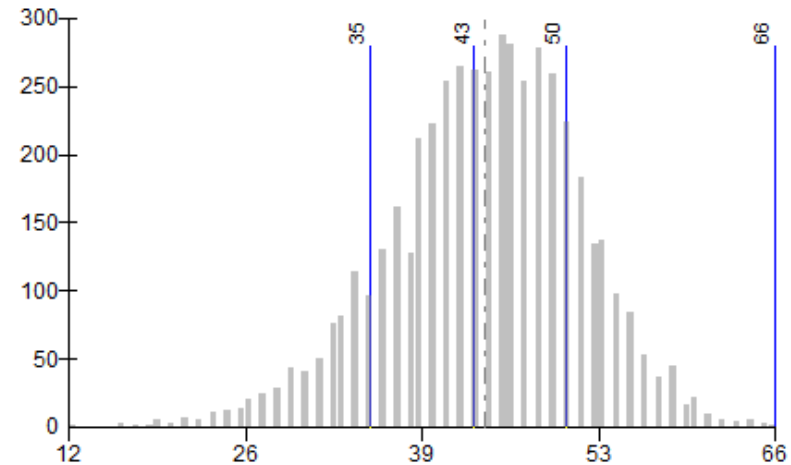
Not in GB



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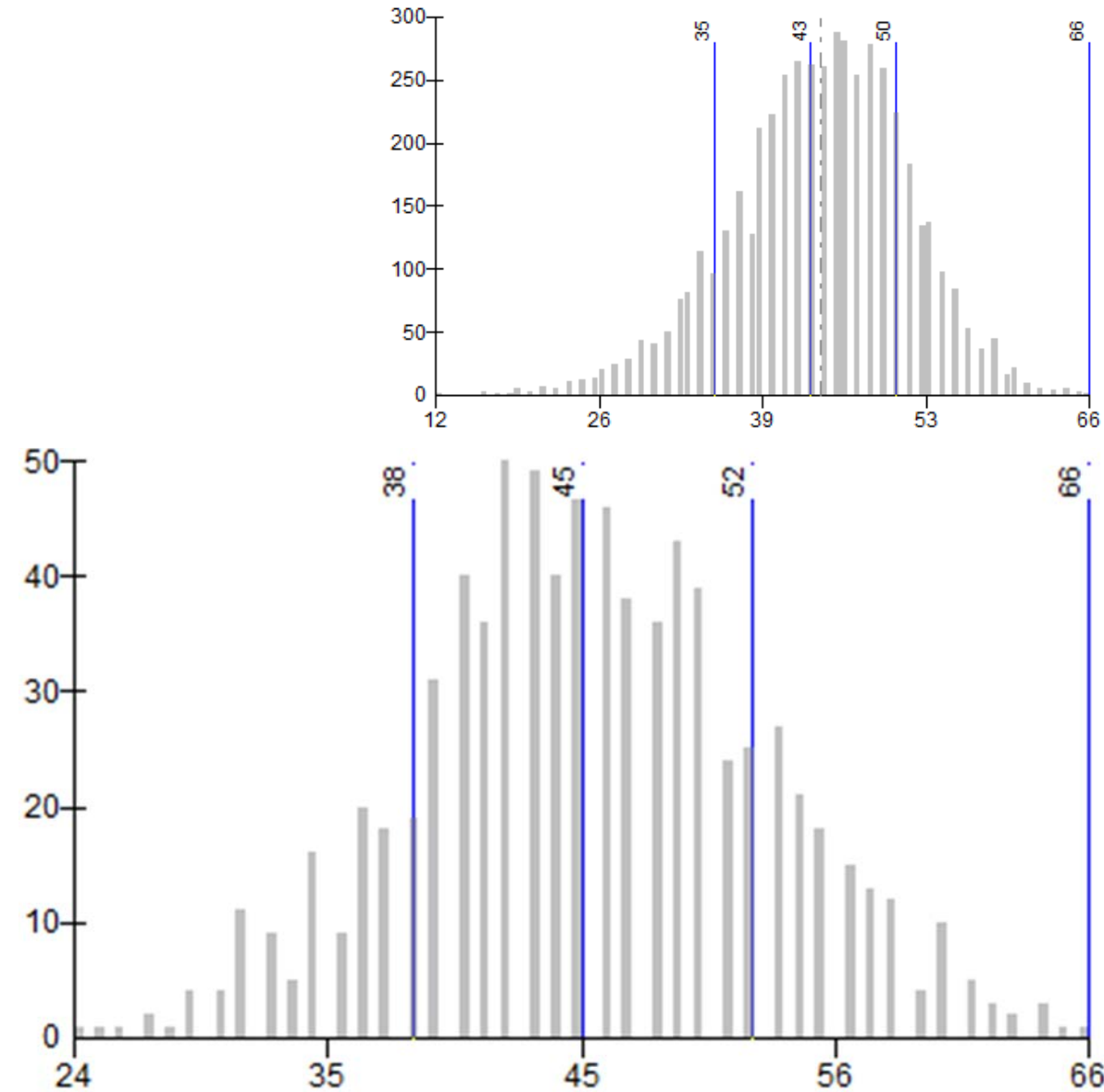
Not in GB





# Project Use – Greenbelt

OBJECTID	ALPAC_Score	ALPAC_Ranking	Ranking_GB
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6	51	High	Medium-High
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8	50	High	Medium-High
10	35	Medium-Low	Low
11	55	High	High
12	35	Medium-Low	Low
14	44	Medium-High	Medium-Low

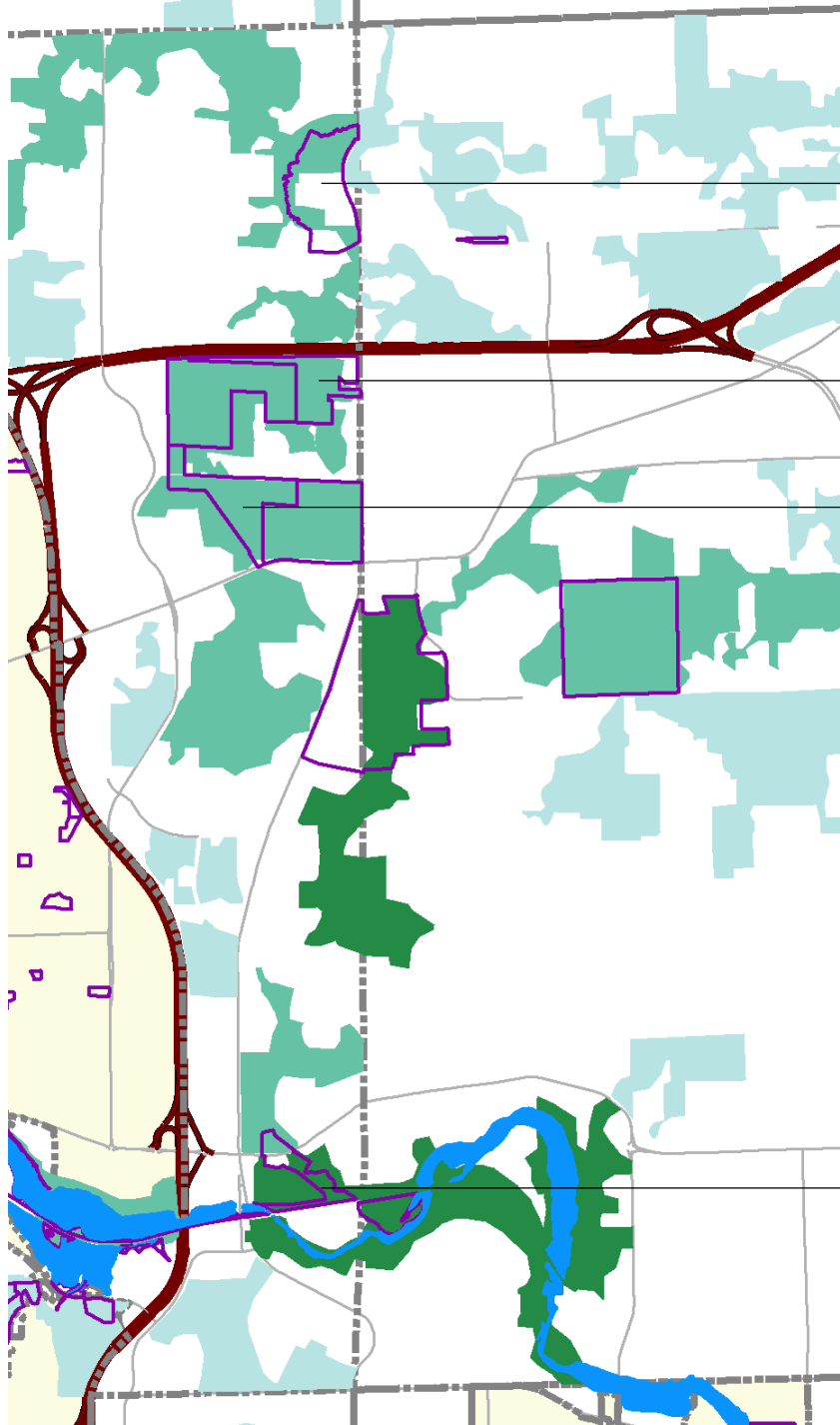




THANK YOU

The following slides use old language, but can help visualize results of the prioritization strategies

These slides are from 2017. Numbers have changed since. Use with discretion.



Dominican Meadows Preserve

Goodrich Preserve

Freeman Preserve

Parker Mill and Forest Nature Area

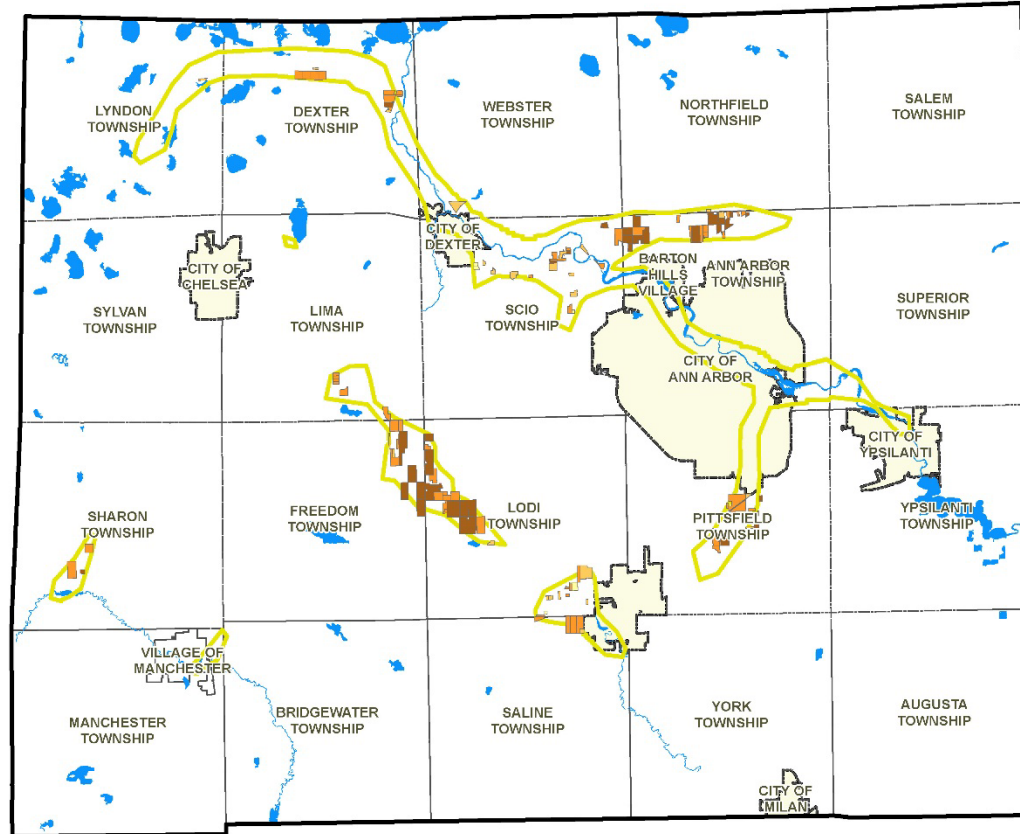
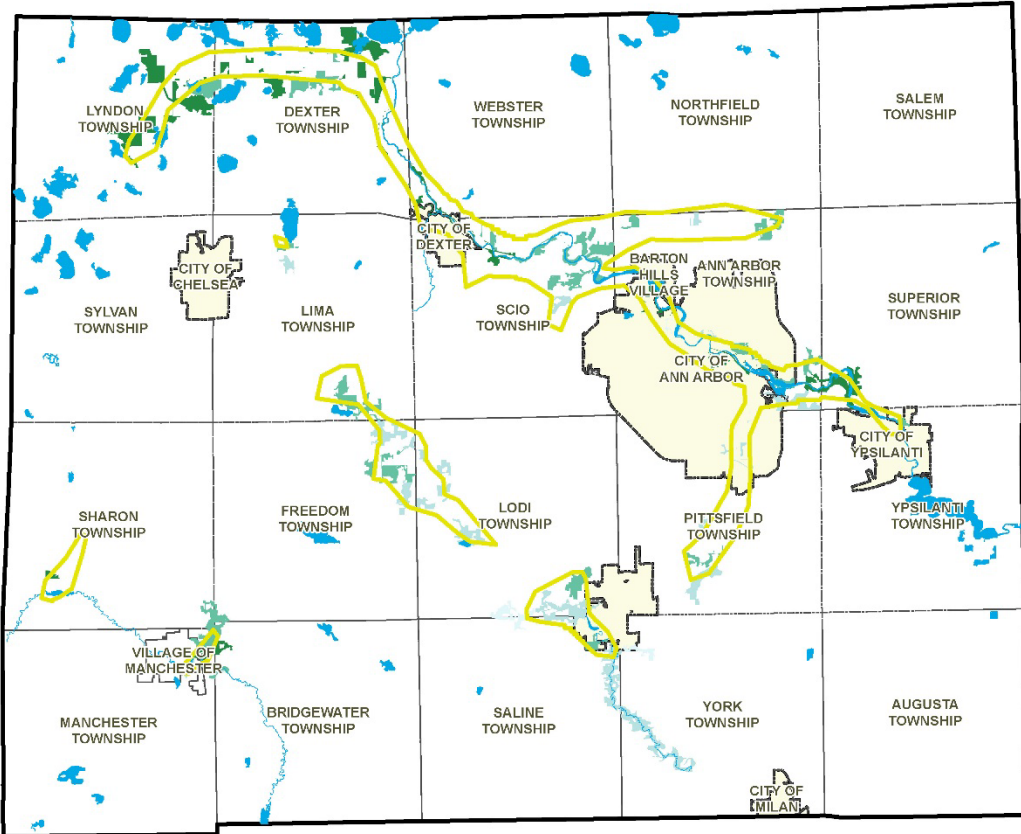


Corridor



# Bioreserve

# ALPAC



### Bioreserve Quality Ranking

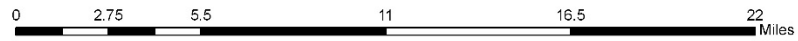
- Low
- Medium-Low
- Medium-High
- High

### Agricultural Quality Ranking

- Low
- Medium-Low
- Medium-High
- High

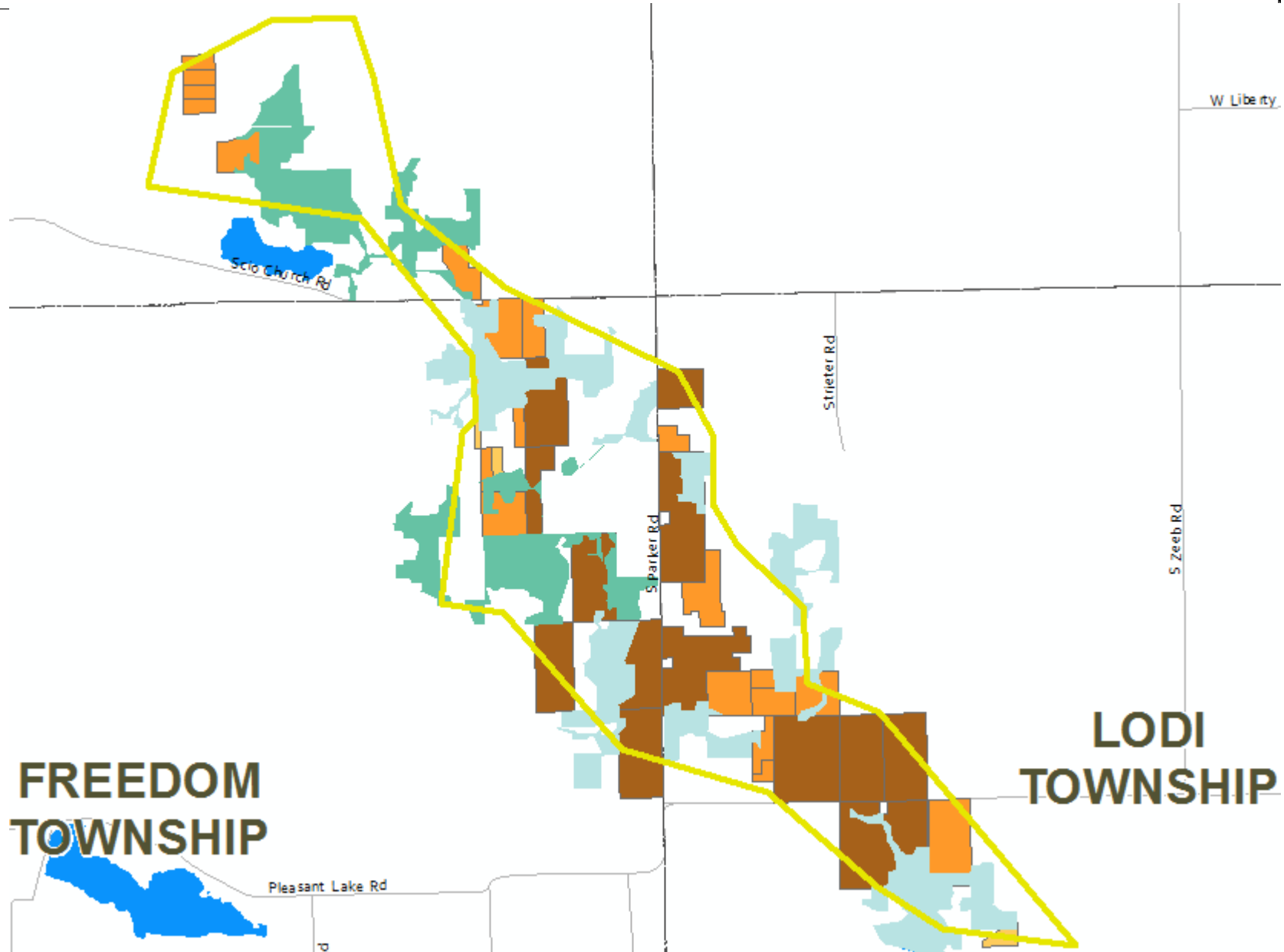
### Other Map Features

- Water Bodies
- Corridors



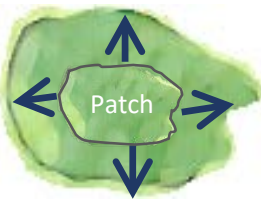
Sources  
 Washtenaw County GIS, Huron River Watershed Council,  
 State of Michigan, Michigan Natural Features Inventory  
 Date Created  
 2/2/2017  
 Created by  
 WCPARC

Corridor

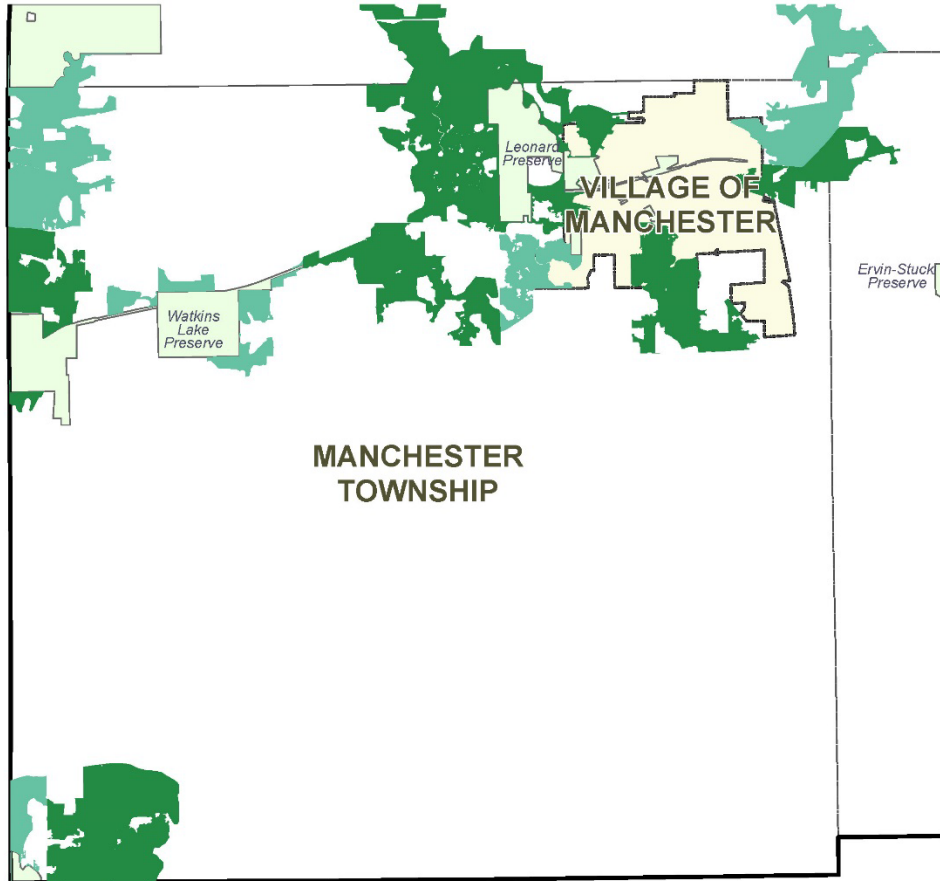


**FREEDOM  
TOWNSHIP**

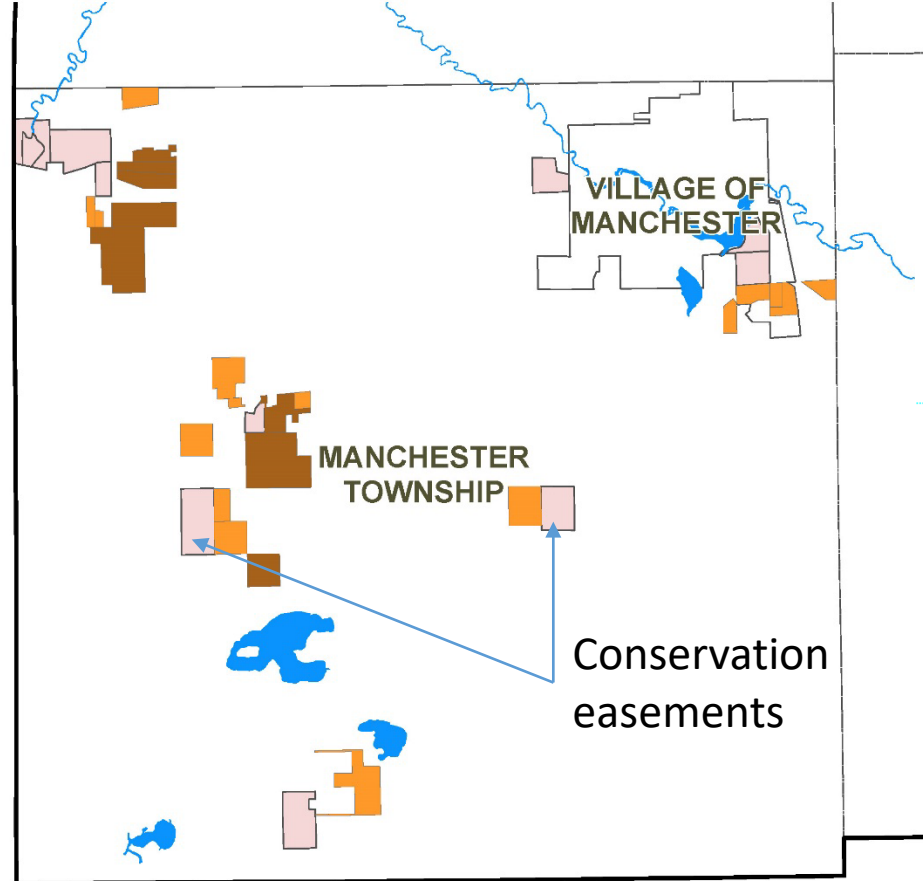
**LODI  
TOWNSHIP**



## Bioreserve



## ALPAC



### Bioreserve Quality Ranking

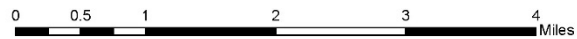
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- Medium-Low
- Medium-High
- High

### Agricultural Quality Ranking

- Low
- Medium-Low
- Medium-High
- High

### Other Map Features

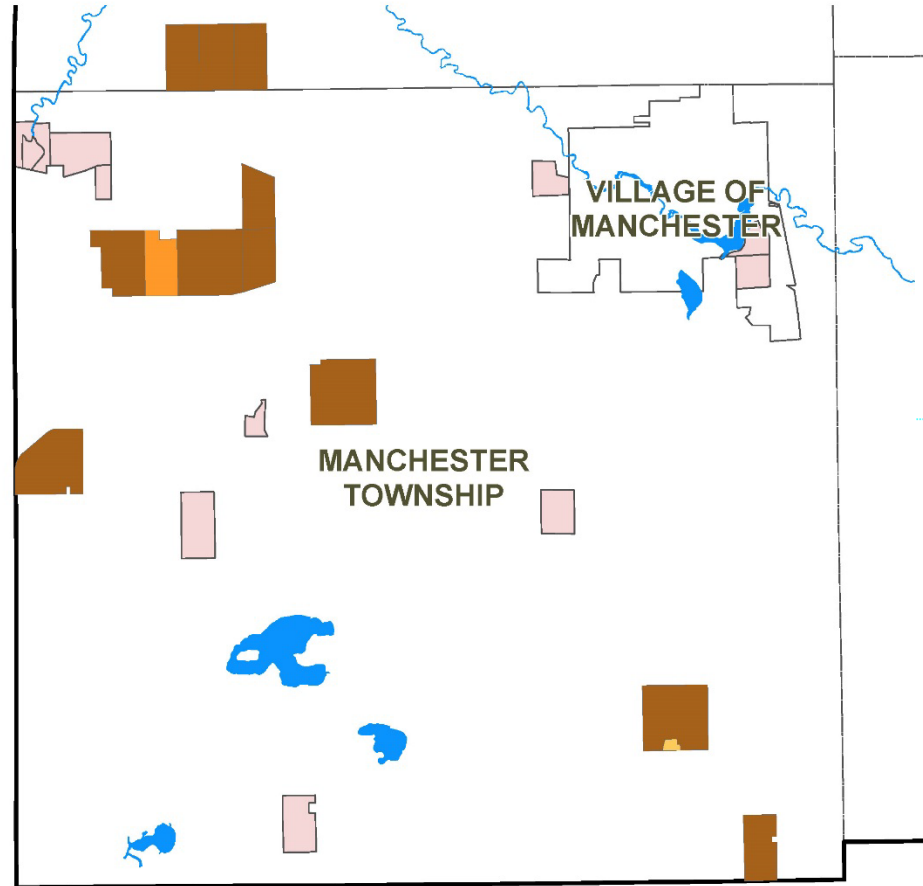
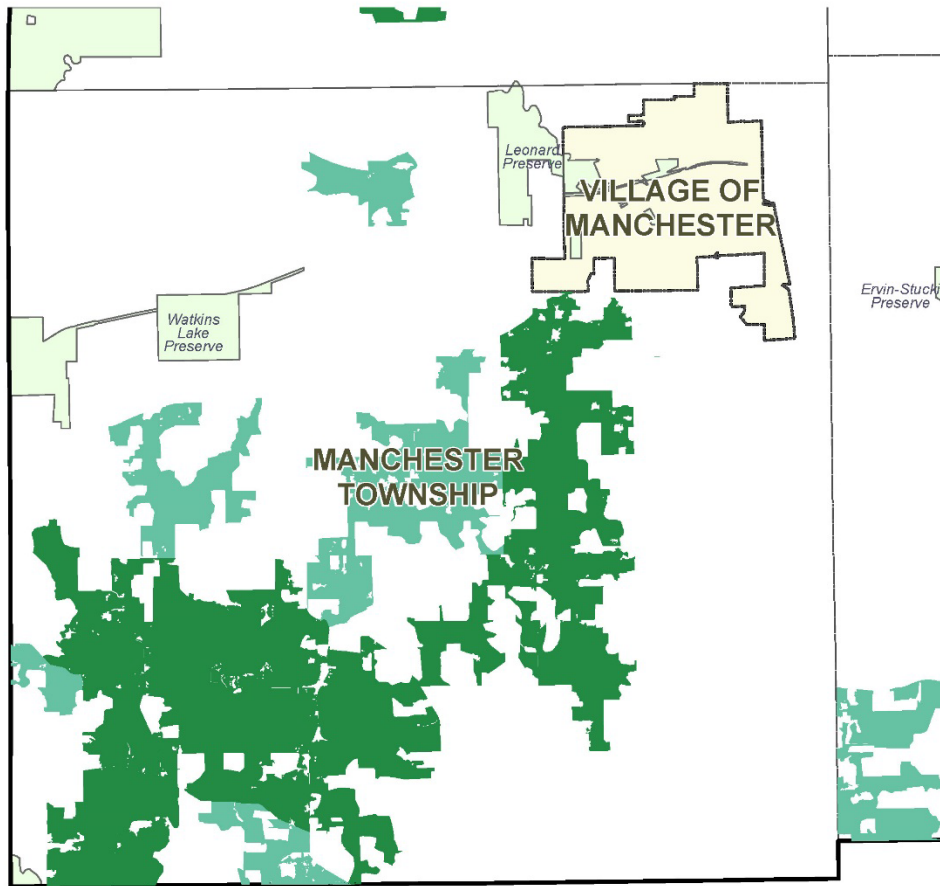
- Water Bodies



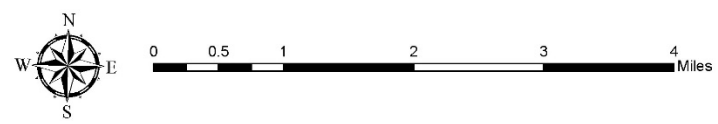


# Bioreserve

# ALPAC

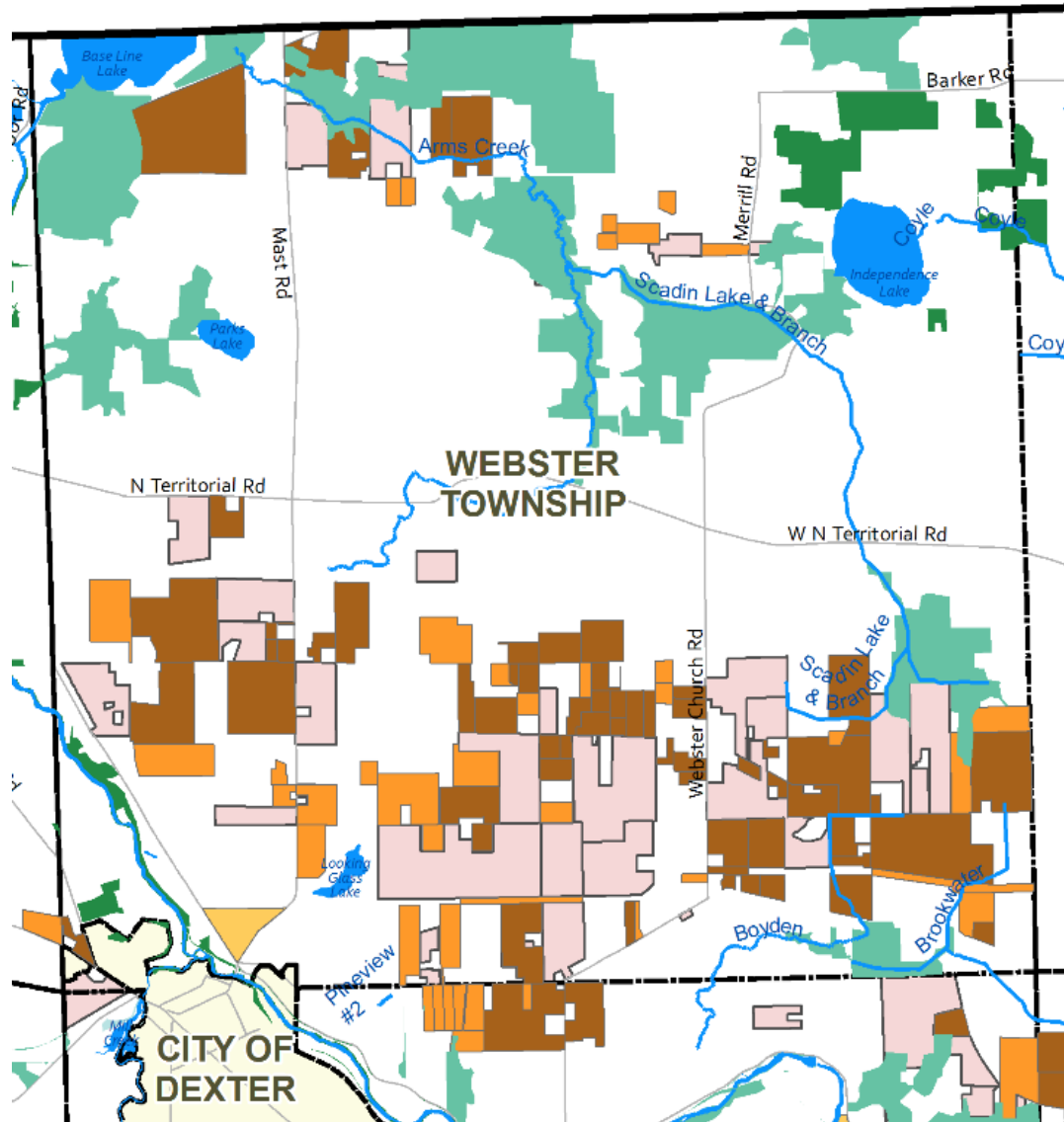


- Bioreserve Quality Ranking**
- Low
  - Medium-Low
  - Medium-High
  - High
- Agricultural Quality Ranking**
- Low
  - Medium-Low
  - Medium-High
  - High
- Other Map Features**
- Water Bodies



Sources  
 Washtenaw County GIS, Huron River Watershed Council,  
 State of Michigan, Michigan Natural Features Inventory  
 Date Created  
 2/3/2027  
 Created by  
 WCPARC





**Bioreserve Quality Ranking**

- Low
- Medium-Low
- Medium-High
- High

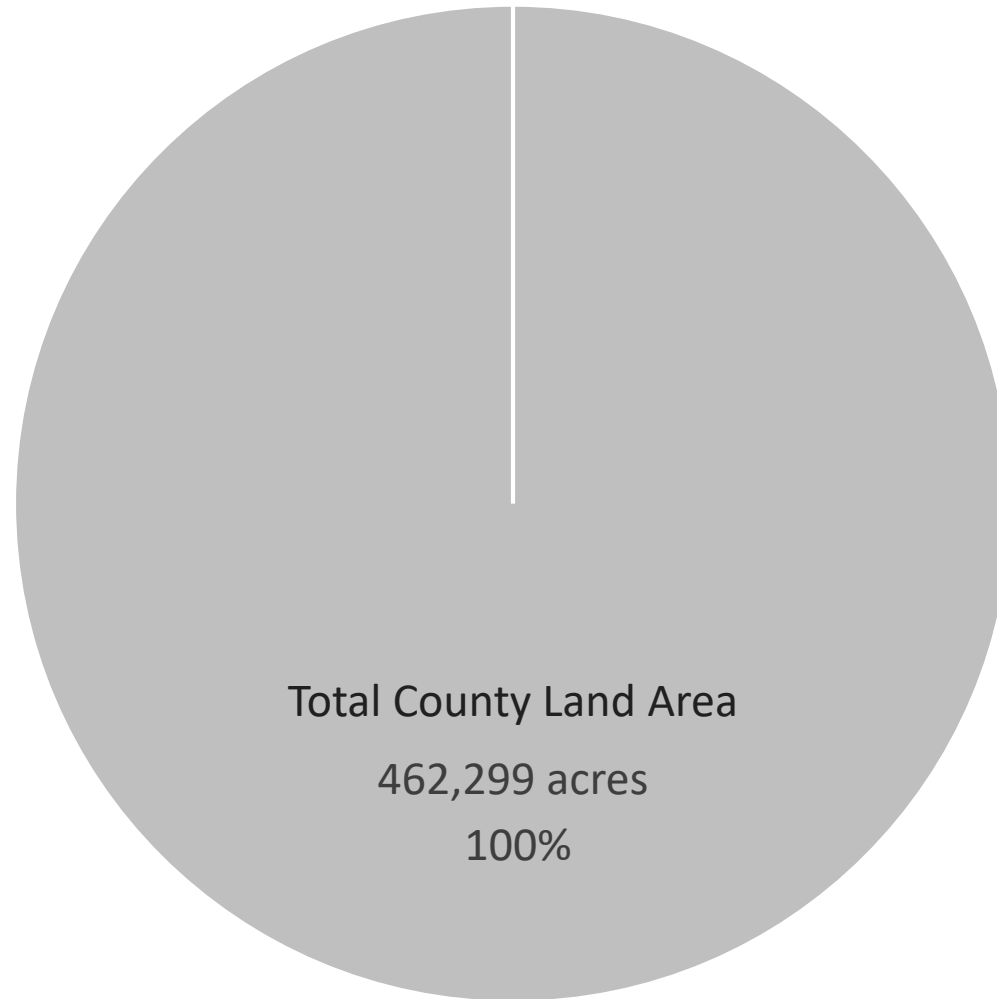
**Agricultural Quality Ranking**

- Low
- Medium-Low
- Medium-High
- High

**Other Map Features**

- Water Bodies

# Comparing acreage to entire county



WCPARC Parks & Preserves

5,800 acres

1.2%

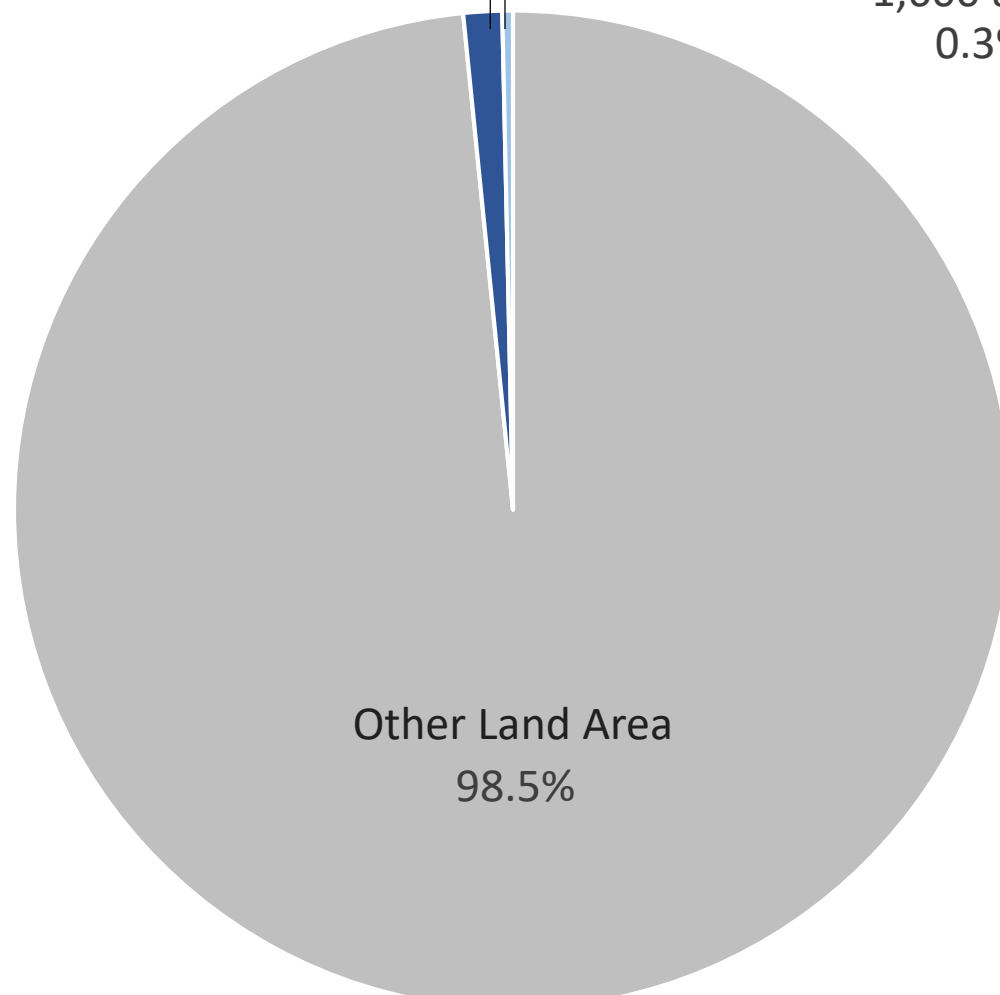
WCPARC Conservation Easements

1,600 acres

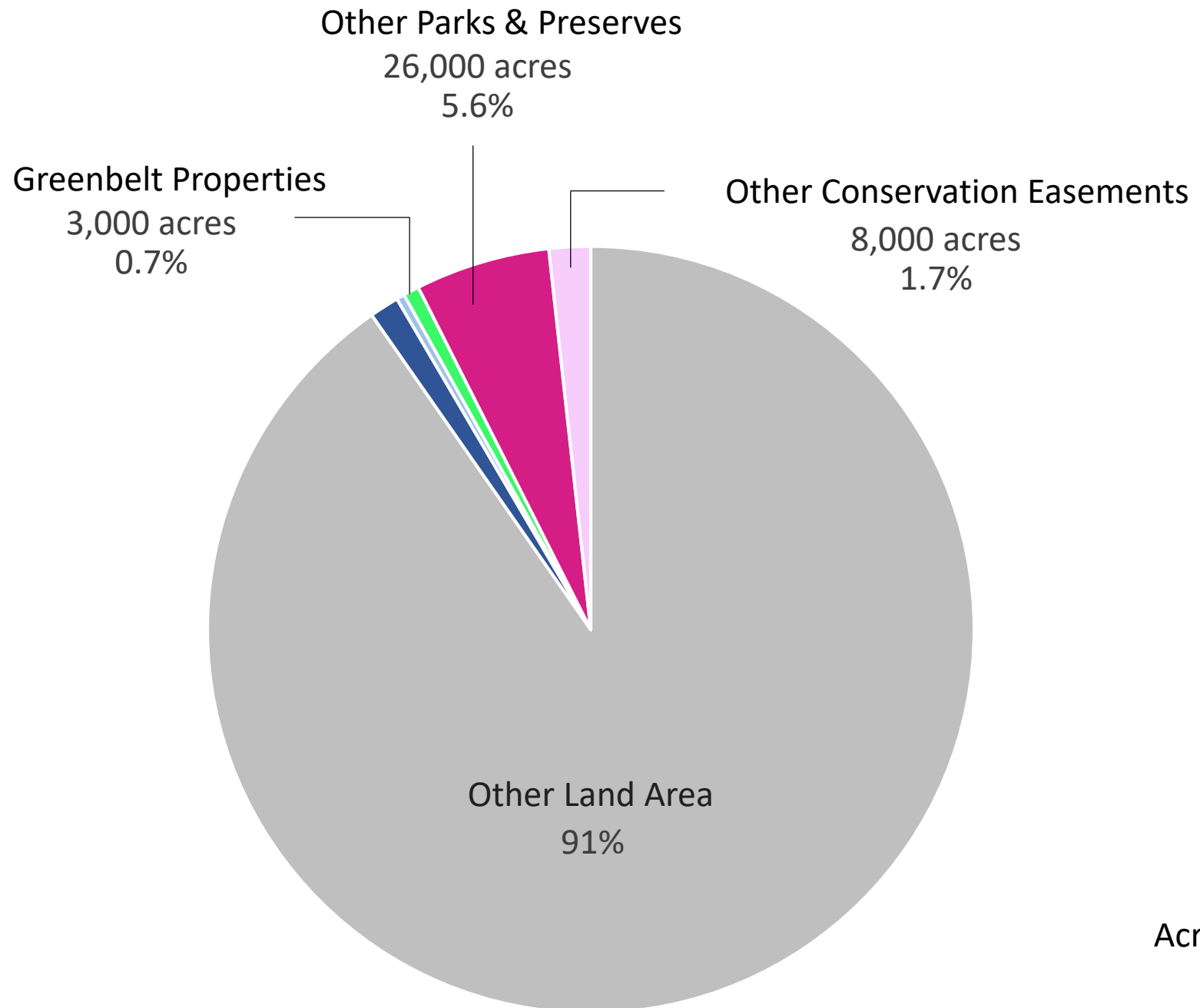
0.3%

Other Land Area

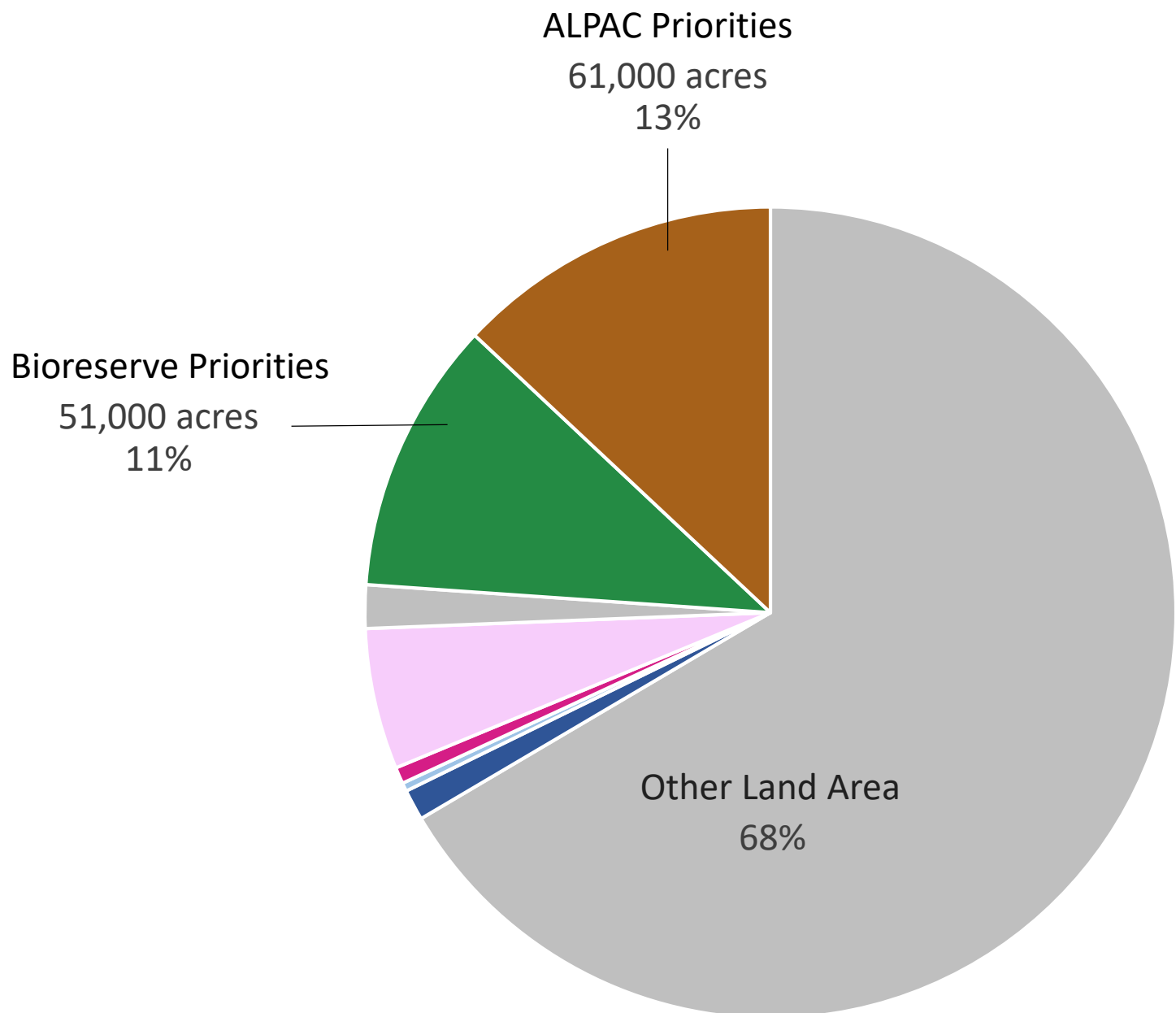
98.5%



Acres and percentages are rounded for clarity



Acres and percentages are rounded for clarity



Acres and percentages are rounded for clarity