V. Open Space Visioning Process

This report builds upon the effort to update the regional open space inventory, which was last updated in 2006. This chapter will present a data-driven analysis of priority locations for future open space conservation. Relying on the expertise of members of the Land Team of the Greater Dayton Partners for the Environment (PFE), other conservation professionals, and data sources from the Ohio Department of Natural Resources, this project sought to perform a multi-factor analysis that would highlight the most desirable locations for future conservation. This chapter will explain the process used to conduct this analysis, detail the seven factors employed for the analysis and share the resulting "heat map" from the completed process. This chapter concludes with some thoughts on how conservation agencies and jurisdictions might consider using the results of this analysis.

The GIS Analysis Process

With the regional open space inventory update largely complete for this project, MVRPC staff facilitated a session with the PFE Land Team to elicit from the participants what factors should be used to perform a data-driven analysis of priority areas for future conservation. A full summary of the facilitation is available in the Report Appendix Document. Presented here is the question before the participants and the range of responses received.

Participants in the session were asked to complete this sentence: "Factors for selecting priority locations for future preservation could include…." The responses provided by the participants are listed below, sorted alphabetically.

1. Abandoned commercial properties
2. Above the sole source aquifer
3. Accessibility for underserved populations
4. Accessible for agency management or use
5. Accessible to the public for recreation
6. Connects two or more existing open spaces
7. Contains steep slopes
8. Contiguous with or enlarges existing open space
9. Donated sites
10. Endangered species habitat
11. Existing forested areas
12. Existing prime farmland
13. High value recreation areas
14. Located on the "Dayton Greenbelt"
15. Located with x-feet/meters of a stream or river
16. Located within a headwater stream watershed
17. Located within x-feet/meters of a wetland
18. Parcel size may matter

19. Properties that hold habitats not well represented in the Region's current open spaces
20. Property contains no operational liability
21. Site is threatened with development
22. Sites that come with linked funding
23. Sites with high biodiversity
24. Storm water and flood water control
25. Stream- or river-fronting property
26. The existence of hydric soils
27. The land area would serve multiple purposes
28. Within a "severely impacted" watershed
29. Within a source water protection area
30. Within the x-year floodplain
31. Within x-feet/meters of a historical/cultural site

After the participants reached agreement that this was a comprehensive list of factors for use in the data-driven GIS analysis, a voting technique was used to determine which of these factors were of a higher priority to the group. The following table lists the factors above, shown with the number of votes each received.

Dot Votes	Proposed Factor
7	Contiguous with or enlarges existing open space
6	Connects two or more existing open spaces
	Sites with high biodiversity
	Endangered species habitat
5	Stream- or river-fronting property
	Site is threatened with development
4	Located within a headwater stream watershed
	The land area would serve multiple purposes
3	Within a "severely impacted" watershed
	Within a source water protection area
	High value recreation areas
	Storm water and flood water control
	Within x-feet/meters of a historical/cultural site
2	Donated sites
	Sites that come with linked funding
	Properties that hold habitats not well represented in the Region's current open spaces
	Located with x-feet/meters of a stream or river
1	The existence of hydric soils
	Existing prime farmland
	Above the sole source aquifer
0	Existing forested areas
	Located within x-feet/meters of a wetland
	Parcel size may matter
	Accessibility for underserved populations
	Property contains no operational liability

	Located on the “Dayton Greenbelt”
	Accessible to the public for recreation
	Accessible for agency management or use
	Within the x-year floodplain
	Abandoned commercial properties
	Contains steep slopes

Staff at Miami Valley Regional Planning Commission took these expressed priorities from the Land Team and undertook the task of translating these results into a cohesive set of data factors to input into the GIS-based analysis. To develop any of the proposed factors into a useful layer in the analysis, staff needed to identify an existing spatial data set that has consistent data character and quality across the full seven-county area of this Regional Open Space. In addition, spatial analysis of the data needed to be able to provide the insight intended by the Land Team. This requirement makes some of the proposed factors more suitable than others. For example, proposed factors such as “contains no operational liability” or “donated sites,” while key factors for an individual land management agency’s decision making, do not lend themselves to broad regional analysis. These are factors suited for examination of individual parcels for comparison. Other factors such as “source water protection areas” or “presence of hydric soils” do lend themselves to a spatial assessment and could contribute to a regional analysis. To some extent, it appears the voting results reflect the Land Team’s understanding of how well the proposed factors could operate within the GIS analysis.

Staff sought to select a set of analysis factors that supported the overall goals of the Open Space Planning process as defined by the Land Team at their January meeting. These goals included protection of water quality, and enhancing the connectivity of the Region’s open space resources.[1] The proposed factors can be further classified to examine how they fit into these broad goals, as follows:

Develop a plan that will help protect surface and groundwater (21)

- Stream- or river-fronting property – 5 votes
- Located within a headwater stream watershed – 4 votes
- Within a “severely impacted” watershed – 3 votes
- Within a source water protection area – 3 votes
- Storm water and flood water control – 3 votes
- Located with x-feet/meters of a stream or river – 1 vote
- The existence of hydric soils – 1 vote
- Above the sole source aquifer – 1 vote

Enhance connectivity of resources (parks, etc.) over 30 years (13)

- Contiguous with or enlarges existing open space – 7 votes

[1] A third goal of the Open Space Planning process was to develop a data-driven vision map of priority locations for future open space conservation. This portion of the planning process was conducted to meet this goal.

- Connects two or more existing open spaces – 6 votes

In addition, staff grouped the remaining proposed factors that received votes into logical groupings as follows:

High ecological values (15)

- Sites with high biodiversity – 6 votes
- Endangered species habitat – 6 votes
- Properties that hold habitats not well represented in the Region's current open spaces – 2 votes
- Existing prime farmland – 1 vote

Public accessibility aspects (10)

- The land area would serve multiple purposes – 4 votes
- High value recreation areas – 3 votes
- Within x-feet/meters of a historical/cultural site – 3 votes

Funding-related factors (4)

- Donated sites – 2 votes
- Sites that come with linked funding – 2 votes

Collectively, the ecological values category garnered more interest than the connectivity goal-related factors. Their popularity argues for their inclusion in the final set of factors to be used for the data-driven analysis.

Finally, staff recognized the need to choose a reasonable number of factors so as to not over-complicate the analysis process. The choice of factors was also influenced by the need to identify and acquire spatial data that served the need of the identified factor, and the ability to analyze and assess the data in a manner that met the factor's intent.

In the end, seven factors were selected for development and inclusion into the data-driven analysis. The following table lists these selected factors, and identifies the data sources and a brief description of the spatial analysis process for each. The weights provided in the table are based on the voting process conducted by the Land Team.

Factor		Weight	Data Source	Process Description
A	Enlarging existing open spaces	7	Regional Open Space Data	Establish buffer bands around current open space properties in the data at 880 feet, 1760 feet, and 2640 feet.
B	Connecting two or more existing open spaces	6	Regional Open Space Data	Establish buffer bands around current open space properties in the data at 880 feet, 1760 feet, and 2640 feet. Analysis will select locations that are in more than one open space buffer feature.
C	Sites with High Bio Diversity	6	ODNR Natural Heritage Data	The Ohio Natural Heritage Database contains more than 19,000 records, which represent known locations for Ohio's rare plants and animals, high quality plant communities and other natural features. Features in the Category "Terrestrial Communities" are locations with unique species communities or habitats.
D	Endangered Species Habitat	6	ODNR Natural Heritage Data	The natural heritage data set provides generalized locations of endangered and threatened species. Features in categories for "animals" or "plants" would be used for this analysis
E	Water Quality: Riparian corridors	6	Ohio hydrography dataset	Draw a buffer around stream reaches exhibiting high quality waters: exceptional warm water habitat, cold water habitat, and Superior High Quality and Outstanding State Waters (data provided by Ohio EPA). Set buffer at 300 feet for such areas along Major streams, 150 feet for such areas along Secondary and Minor.
F	Water Quality: Headwater watersheds	4	Ohio HUC 12 watershed data; Ohio hydrography dataset	Select riparian buffer areas within the boundaries of watersheds of less than 20 square miles in total area, excluding those along the main stems of the Region's rivers. Ohio EPA defines headwater watersheds as those draining an area smaller than 20 square miles.
G	Within a severely impacted watershed	3	Ohio HUC 12 watershed data; NLCD Impervious data	Select areas within watersheds based on percent of impervious cover. Categories would include watersheds with greater than 10 percent impervious cover, watersheds with 5 to 9.99 % impervious cover, watersheds with less than 5% impervious cover.

The next section describes each of these factors in detail and provides a map of the resulting analysis for each factor. Following that, is a description of how the seven factors were layered to develop the resulting regional "heat map" of priority locations for future preservation. This composite raster map is also presented at the end of this chapter.

Spatial Analysis Factors

This section will provide details about the seven analysis factors developed for inclusion in the data-driven GIS analysis for priority locations for future conservation. For each a brief description of the factor will be provided, along with the data source(s) used and an overview of the analysis process. Maps are provided for the results of each individual factor, as well.

Factor A – Enlarging Existing Open Spaces

The Land Team recognized that simply enlarging existing open space properties would be an effective and fiscally responsible way to increase open space within the Region. To depict this objective within the GIS analysis, MVRPC staff used the Regional Open Space data set as updated in 2014-2015 as the basis for analysis. Geoprocessing techniques were used to establish buffers around all locations found in the dataset at 880 feet, 1,760 feet and 2,640 feet. Values were assigned to the buffers with higher values set for the closer buffers.

This factor was the subject of some discussion with the Land Team. Initial concepts included placing higher values for buffers surrounding certain types of open spaces – favoring natural environment protection and recreation areas, open space links and outdoor recreation areas over other types such as airfields, cemeteries and mineral extraction sites. This initially seemed a logical approach as these nature areas are accessible to the public, and provide habitat and natural ecosystem services. However, upon further discussion there was a realization that adding open space next to an existing open space does not require that the new open space be of the same kind as the existing open space. Therefore the general principle that adding open space adjacent to existing open space is a good approach led to buffering all open spaces in the data set.

The values assigned to the buffer bands were as follows:

Open Space Categories	Buffer Band	Band Category	Weights
All	0 to 880 feet	A	6
	881 feet to 1760 feet	B	4
	1761 feet to 2640 feet	C	2

The map on the following page displays the resulting analysis for Factor A.

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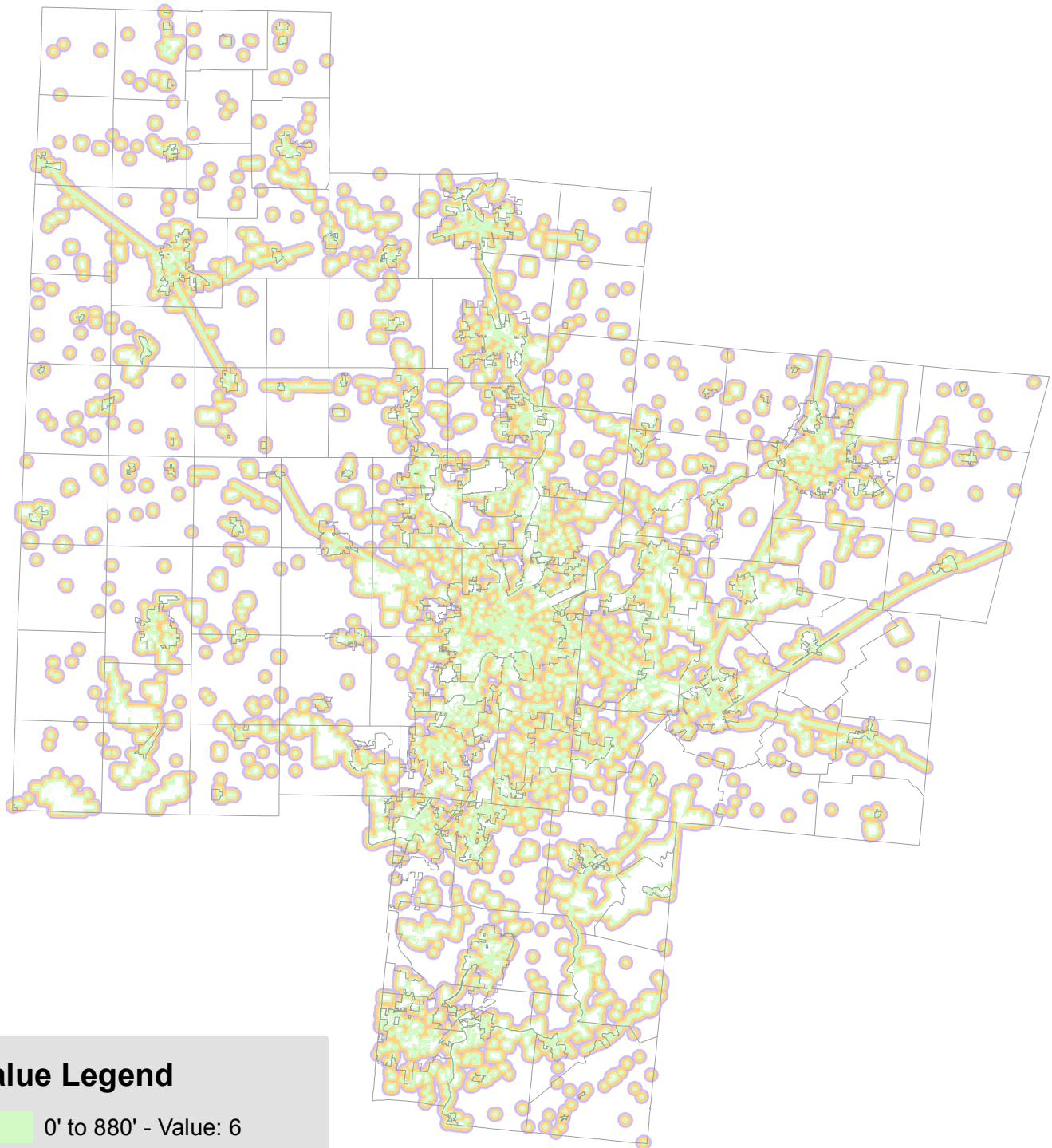
Factor A: Enlarging Open Spaces



Value Legend

- 0' to 880' - Value: 6
- 880' to 1,760' - Value: 4
- 1,760' to 2,640' - Value: 2

Factor B – Connecting two or more open spaces

The analysis for the second factor was built directly upon the work done for Factor A. Rather than identify parcels that might directly connect two or more existing open spaces, this analysis used a proxy analysis to highlight locations that are within certain distances of two or more open spaces. To accomplish this task, geoprocessing was used to identify locations where buffer bands from different open space locations intersected one another. Higher values were assigned to locations where closer-in buffers intersect. For example, locations where the inner-most buffers of two open spaces intersect are assigned a value of 6. Locations where the outer-most buffers from two open spaces intersect are assigned a value of 2.

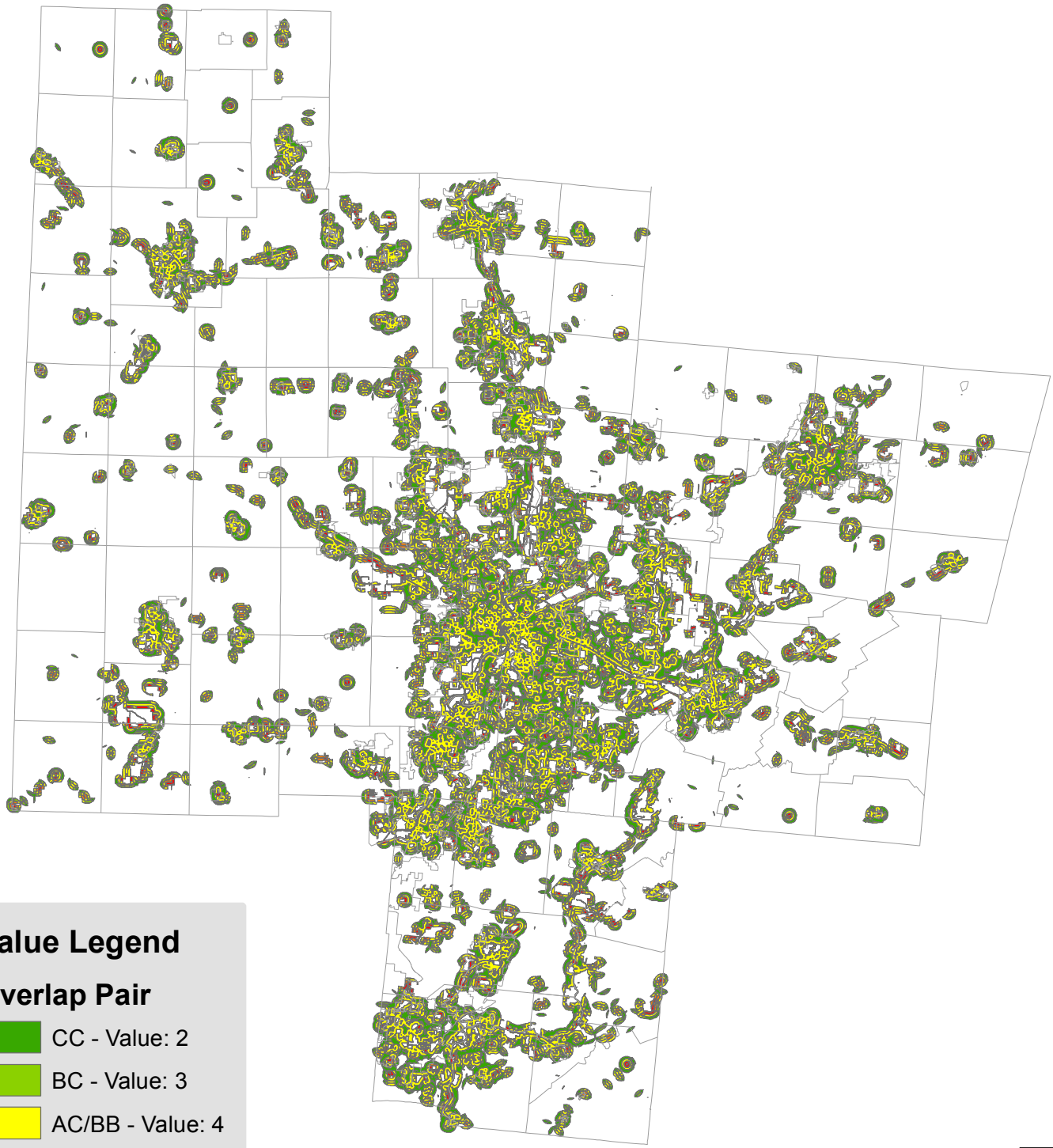
Using the "Band Category" from the description of Factor A, the following table presents the values associated with different overlap pairs for Factor B.

Overlap Pair	Weight	Overlap Pair	Weight	Overlap Pair	Weight
AA	6	AC	4	BC	3
AB	5	BB	4	CC	2

The map presented on the next page depicts the results of the Factor B analysis.

MVRPC

Factor B: Connecting Open Spaces



Value Legend

Overlap Pair

- CC - Value: 2
- BC - Value: 3
- AC/BB - Value: 4
- AB - Value: 5
- AA - Value: 6

Factor C – Sites with High Biodiversity

To develop this factor, MVRPC staff relied upon data from the Ohio Natural Heritage Database, as maintained by the Ohio Department of Natural Resources (ODNR). MVRPC requested access to the database from ODNR and received the data used for this factor on June 29, 2015. The following is ODNR's description of the database:

> *The Ohio Natural Heritage Database contains more than 19,000 records, which represent known locations for Ohio's rare plants and animals, high quality plant communities and other natural features. Data are obtained from a broad range of sources throughout the state and are used in the environmental review process and are provided to consulting firms, federal, state and local government agencies, researchers, and conservation groups.*

The Ohio Natural Heritage Database includes data of varying ages; some of the data is very old, but remains in the database because it represents the most recent data about locations and/or species. While recognizing this shortcoming of the data, the Natural Heritage Database still provides the best data with consistent coverage across the seven-county study area, which is critical for this kind of GIS analysis.

This analysis drew from a particular subset of the data provided by the State. Using the "Category" field in the data, this factor selected for "Terrestrial Communities" and "Other (Ecological)". Also provided by ODNR was a dataset of "Conservation Sites," showing areas deemed by the Natural Heritage Program to be high quality sites which harbor outstanding plant communities, rare species or unique geological features. Together, the locations in the seven-county study area falling under any of these categories were buffered and included in this Factor analysis.

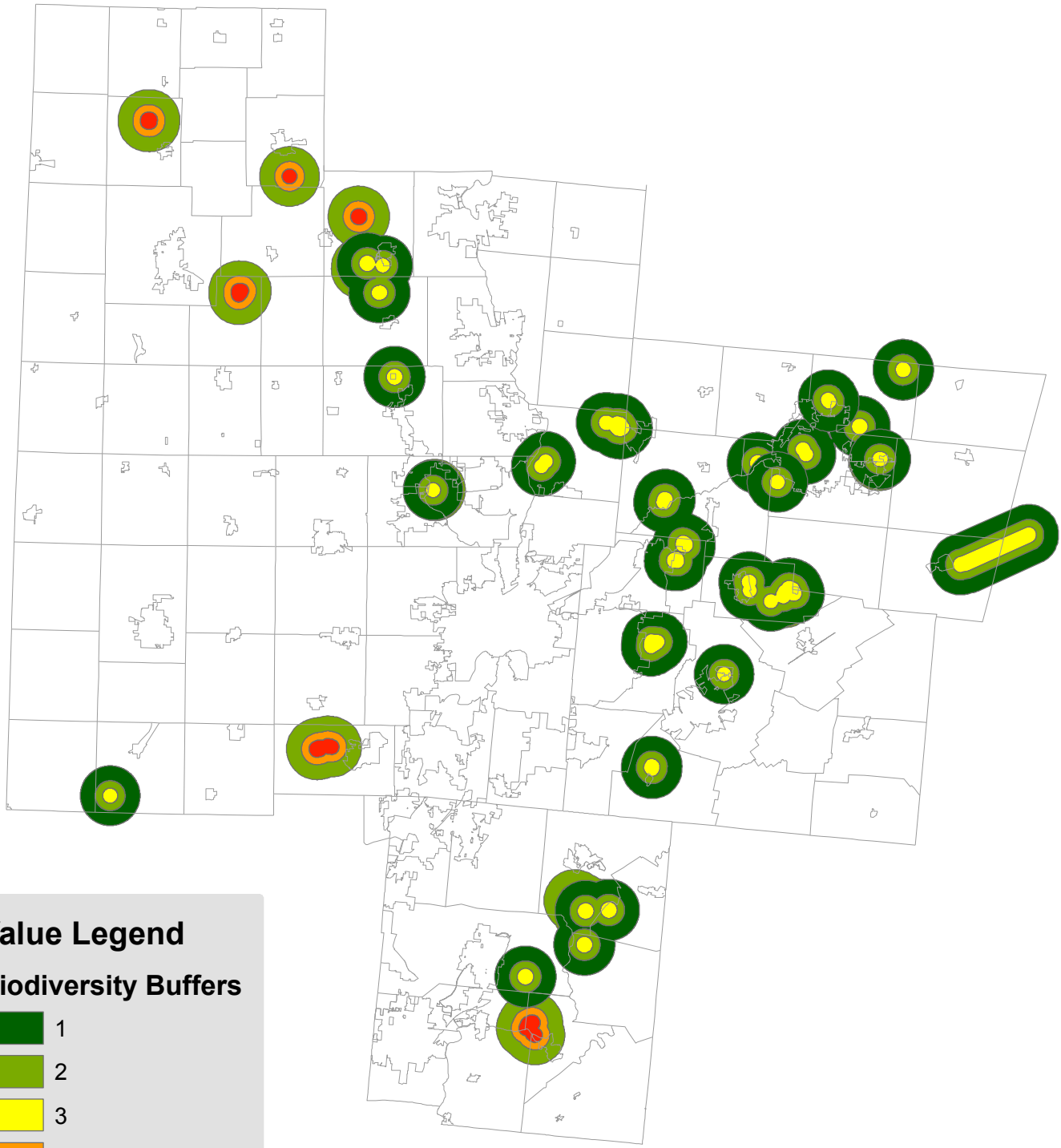
The following table lists the values assigned to the various buffers set around these locations.

Data Set	Category	Buffer Band	Value
ODNR Natural Heritage "Data"	Terrestrial Communities	0 to 2640 feet	6
		2641 feet to 5280 feet	4
		5280 feet to 10560 feet	2
	Other (Ecological)	0 to 2640 feet	3
		2641 feet to 5280 feet	2
		5280 feet to 10560 feet	1
ODNR Natural Heritage "conservation sites"	All	0 to 2640 feet	3
		2641 feet to 5280 feet	2
		5280 feet to 10560 feet	1

The map on the following page depicts the geographic results of this factor analysis.

MVRPC

Factor C: Sites with High Biodiversity



Factor D – Endangered Species Habitat

This factor also relies upon the data provided from the Ohio Natural Heritage Database. Please see the description of the database provided in the discussion of "Factor C – Sites with High Biodiversity." The database includes locations of species that are listed on either the federal or state endangered lists.

As was the case for Factor C, locations in the database were selected based on the content of the "Category" field. Buffers for Factor D were defined around locations with the following "Category" attributes:

Nonvascular Plant	Invertebrate Animal
Vascular Plant	Vertebrate Animal

The Natural Heritage Database as provided to MVRPC is scrubbed of any detail as to the specific specie noted for each location. As a practical matter, it is therefore impossible to know if a series of locations near one another represent the identification of multiple species, or the identification of multiple individuals of the same species. The analysis approach taken here was to identify locations for endangered plants and animals separately, knowing that in at least these cases, these are known to be different species. Data was selected for species with either a state or federal listing as endangered.

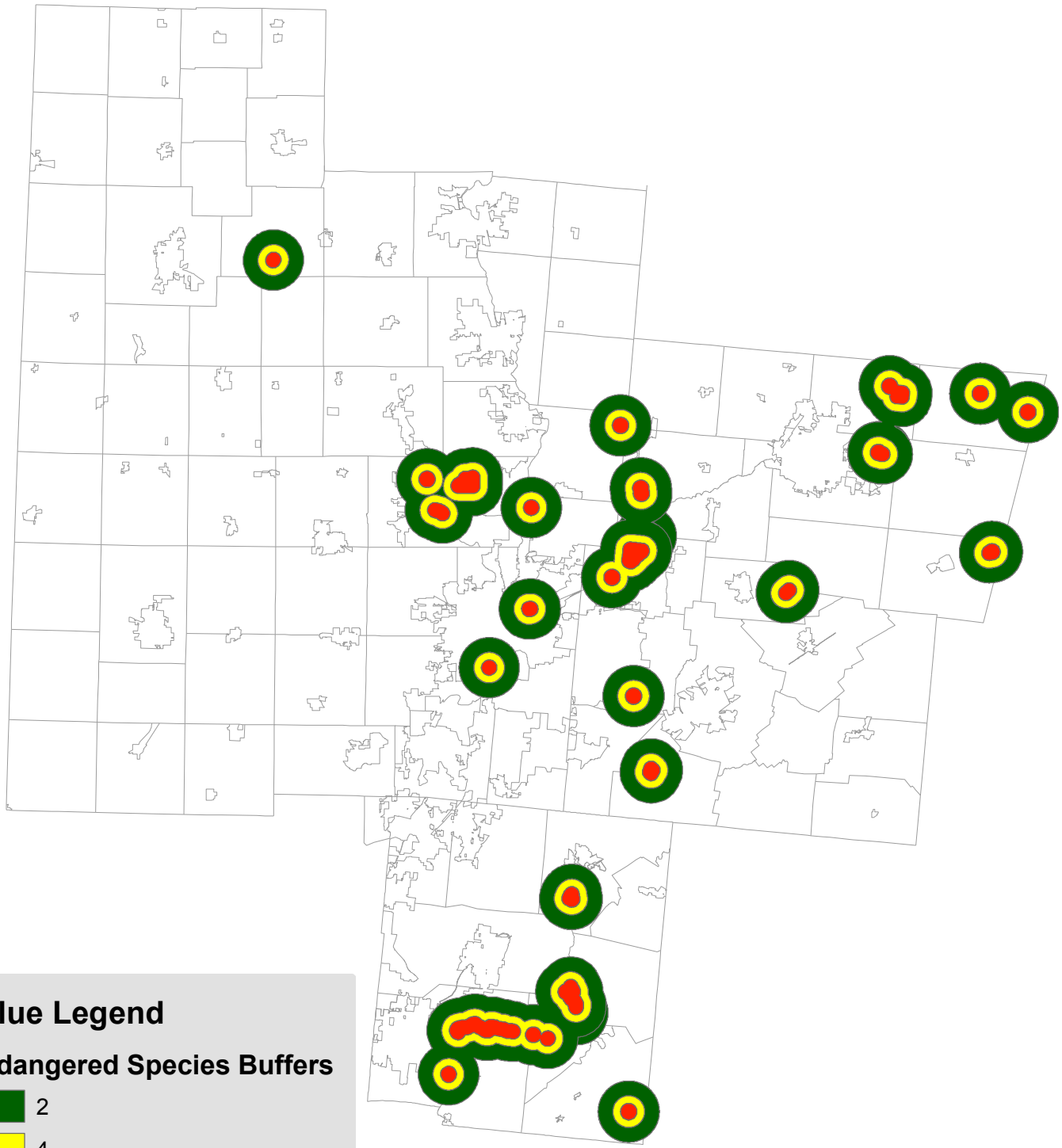
The following table lists the values assigned to the buffers defined around the locations of the endangered plant and animal species.

Category	**Buffer Band**	**Value**
Plant	0 to 2640 feet	6
	2641 feet to 5280 feet	4
	5280 feet to 10560 feet	2
Animal	0 to 2640 feet	6
	2641 feet to 5280 feet	4
	5280 feet to 10560 feet	2

The map on the following page depicts the resulting geography developed from this factor analysis.

MVRPC

Factor D: Endangered Species Habitat



Value Legend

Endangered Species Buffers

- 2
- 4
- 6

Factor E – Riparian Corridors of High Quality Waters

The Land Team recognized the inherent value of protecting the lands immediately adjacent to the streams and rivers of the Miami Valley Region, and so buffering around these features was a natural factor to bring into this analysis. Discussions with the Nature Conservancy resulted in a suggestion used for narrowing the selection of streams and rivers to be buffered. It was suggested that the only the existing "high quality" waters be buffered. For this analysis, "high quality" was defined, in part, as stream lengths assessed by Ohio EPA to be "Exceptional Warm Water Habitat" or "Cold Water Habitat." In addition, stream lengths subject to Ohio EPA's 2003 anti-degradation rule were also included in this "high quality" definition.

Shapefiles from Ohio EPA were obtained by MVRPC that included the classification of stream segments by habitat quality. Also, the 2003 Anti-Degradation list was reviewed to locate stream segments subject to that rule in the seven-county study area.

At the suggestion of the Land Team, main stem stream lengths fitting these categories were buffered at a distance of 300 feet on both sides of the stream. Minor and secondary streams fitting these categories were buffered at a distance of 150 feet on both sides of the stream.

All areas within these buffers were assigned a value of 6. The map on the following page depicts the locations of the buffers developed by this factor analysis.

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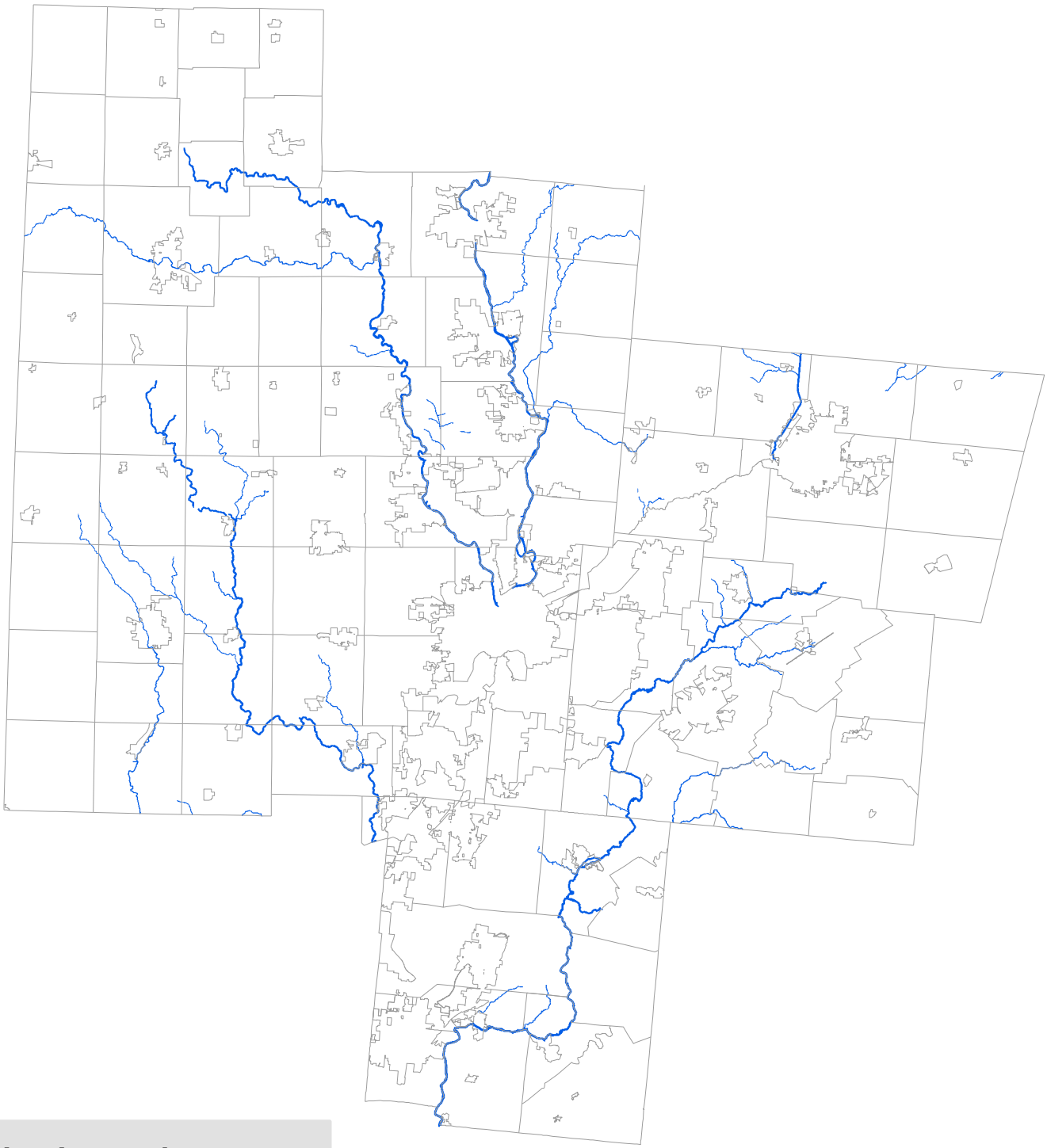
Factor E: High Quality Waters' Riparian Areas



Value Legend

Riparian Buffers - Value: 6

Factor F – Riparian areas within headwater watersheds

Both the Land Team and the Ohio EPA recognize the critical role of protecting headwater streams in the overall goal of improving and preserving surface water quality in Ohio. This factor was developed to include this benefit in the overall analysis of future conservation locations.

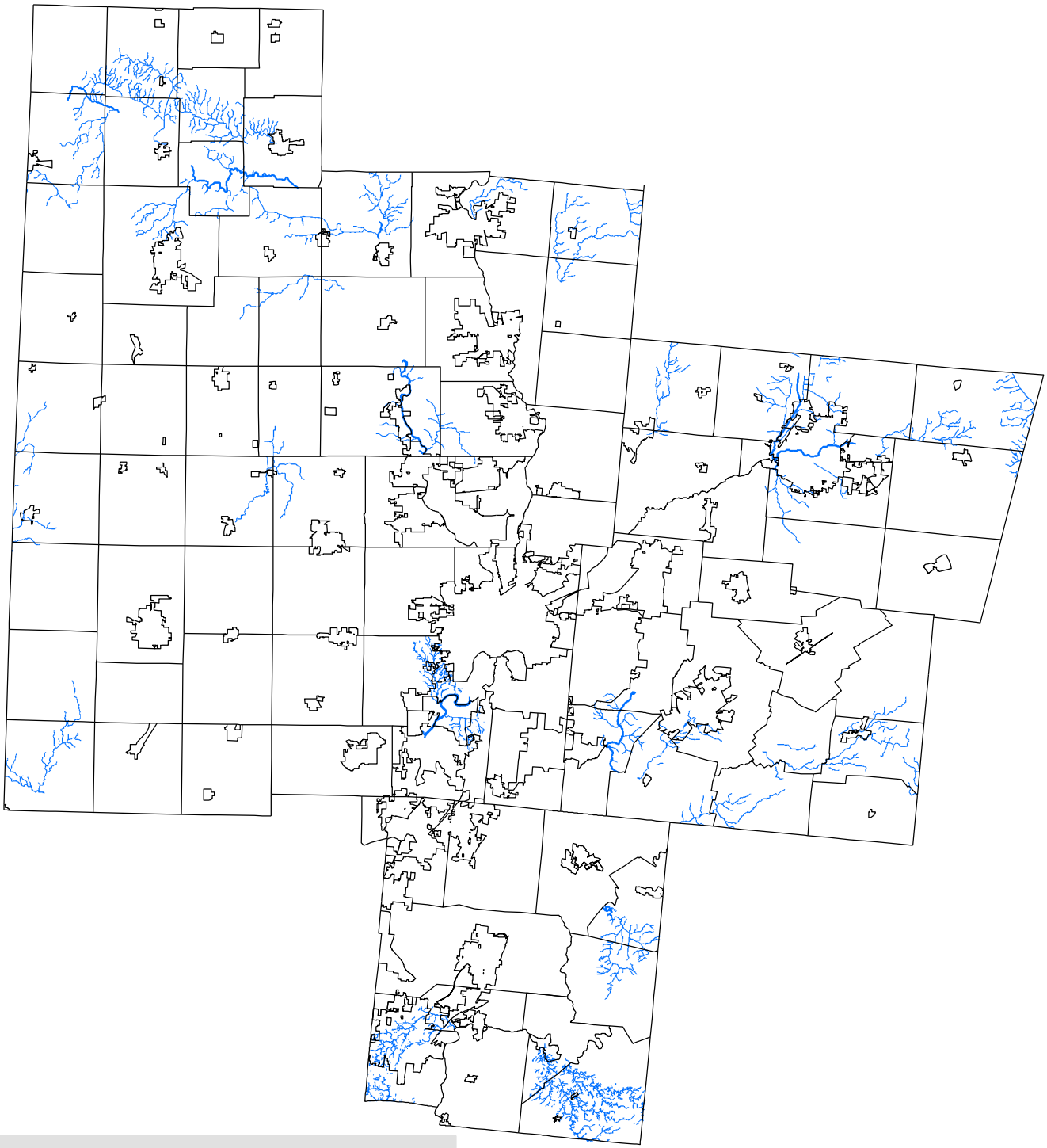
The Ohio EPA defines a headwater watershed as a drainage basin that drains no more than twenty square miles (12,800 acres). MVRPC staff used the latest available data for hydrologic units in Ohio found in the Watershed Boundary Dataset (WBD) downloaded from the United States Geological Survey (USGS). The smallest unit of drainage is the so called 12-digit hydrologic unit (HU). This data set was searched for 12-digit HUs with an area no greater than 12,800 acres within the study counties.

Once identified, these small HUs were used to select stream lines within the headwater watersheds, and these streamlines were the ones buffered for this analysis. The buffer widths used were the same as those used for Factor E – Riparian Corridors of High Quality Waters. Main stem streams were buffered by 300 feet on both sides of the stream. Minor and secondary stream lengths received buffers of 150 feet on both sides.

All areas inside these buffers were assigned a value of 6. The map on the following page depicts the areas resulting from this factor analysis.

MVRPC

Factor F: Headwaters Watersheds



Value Legend

Headwaters Riparian Buffers - Value: 6

Factor G – Severely impacted watersheds

The simple basis of this analysis factor comes from the emerging understanding of the effects impervious cover has on water quality and aquatic habitat. The initial paper regarding this topic was developed by the Center for Watershed Protection in Ellicott City, Maryland.[2] This paper, and others that have followed, have coalesced thinking around the critical boundary of 10 percent imperviousness. Simply put, watersheds with greater than 10 percent impervious cover in aggregate consistently suffer from degraded water quality and aquatic habitat.

This analysis factor was intended to identify the 12-digit HUs with higher levels of impervious surfaces. To accomplish this, the HU data set was matched up with the National Land Cover Database, 2011. The 2011 data is the most recent set of land cover and percent developed imperviousness data available from the United States Geological Survey.

To assess the percentage of impervious cover for each of the 12-digit HUs in the study area, the "Percent Developed Imperviousness" raster was downloaded for 2011 and was "cut" using the 12-digit HUs as a "cookie cutter." Once completed, each individual HU raster was mathematically assessed for the degree of impervious cover.

Hydrologic Units with imperviousness greater than 2 percent were selected to be assigned a value for this analysis layer. The following table lists the values assigned to the HUs selected for inclusion in the analysis.

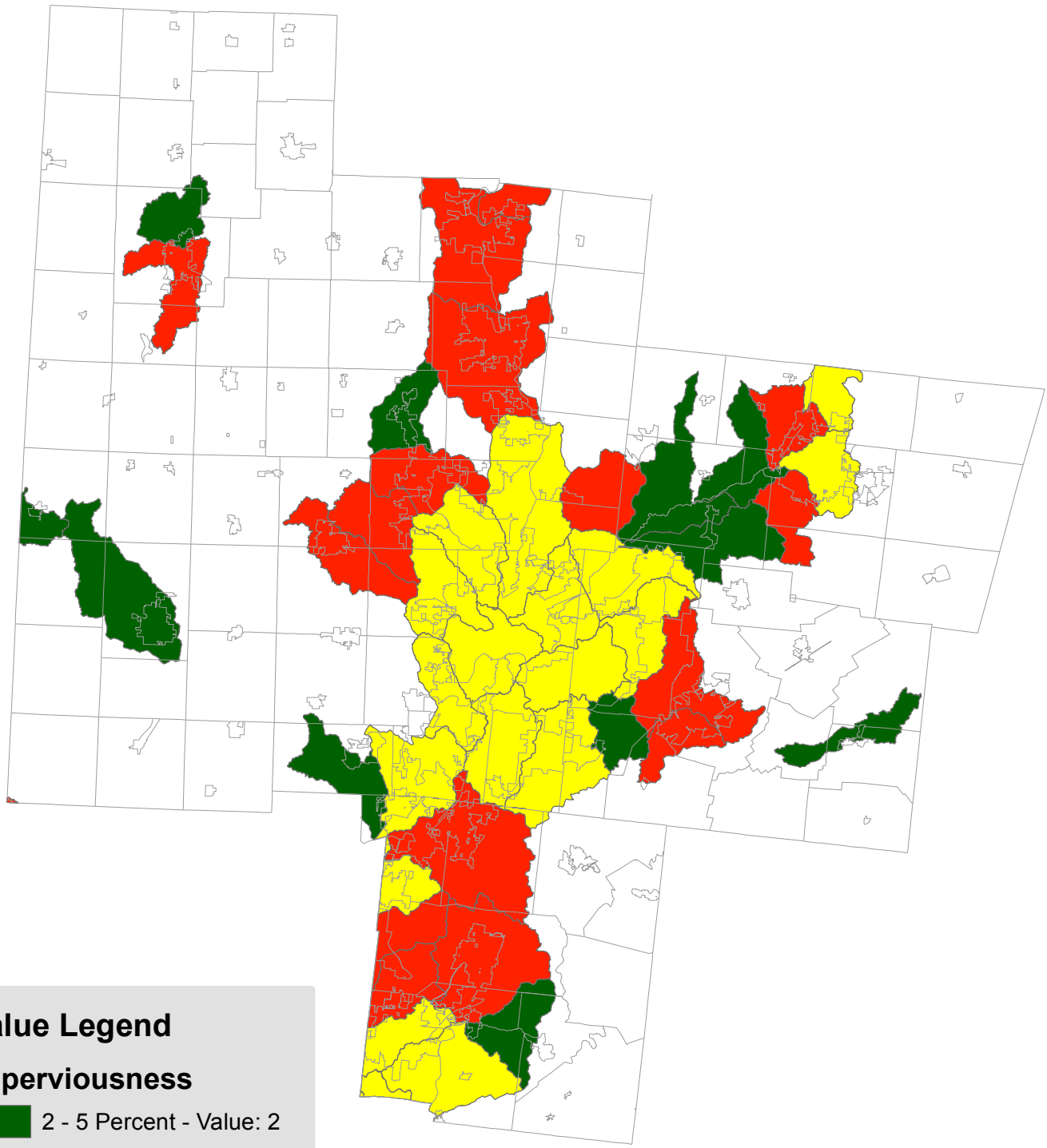
Category	Range	Weights
Percent impervious cover	3% - 5%	2
	6% - 10%	6
	11% or more	4

Higher values were assigned to those watersheds calculated to have greater than five percent impervious cover and up to ten percent. This decision was taken to give priority to watersheds that are threatened, but have not yet, crossed the consensus threshold of ten percent impervious cover. The map on the following page depicts the resulting coverage of this factor analysis.

[2] *Impacts of Impervious Cover on Aquatic Systems.* Watershed Protection Research Monograph No. 1, Center for Watershed Protection, Ellicott City, MD, 2003.

Factor G: Imperviousness by Sub Watershed

MVRPC



Value Legend

Imperviousness

- 2 - 5 Percent - Value: 2
- 10+ Percent - Value: 4
- 5 - 10 Percent - Value: 6

Composite Factor Mapping

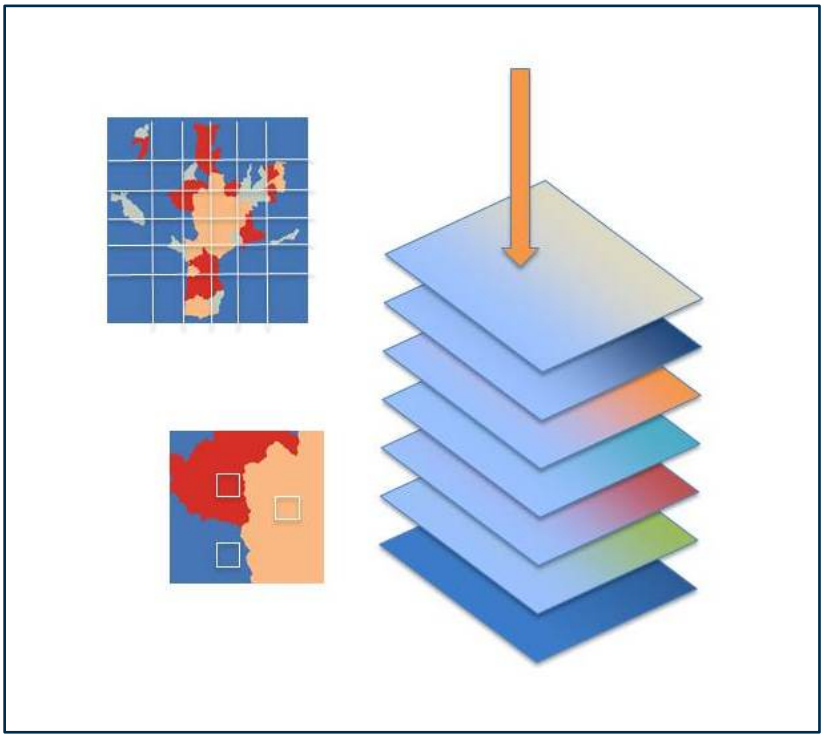
The seven analysis factors described in the foregoing section can be combined into a single, combined analysis to highlight locations that have high and low combined values. The composite map can be seen as a guide to higher and lower priority locations within the study Region for potential future open space conservation.

The process for combining these seven factors into a single composite analysis is fairly simple.

1. Each of the seven factor maps is converted into a raster type file. The coverage of each of the factor maps is "gridded" out in to cells of 50 feet by 50 feet. Each of the cells is assigned the value for the buffer or location in which it is located. Locations outside any of the buffers or locations are assigned a value of zero.
2. The seven analysis rasters are "stacked" on top of one another, aligning the corresponding cells. At this stage the different factors can be weighted differently to reflect their importance in the composite analysis. For this step, the weights assigned were based on the votes received at the factor selection facilitation held in May, 2015.
3. The GIS software calculates a composite value for each cell based on the seven different layers' values and weights and produces a new raster reflecting the thousands of cell-by-cell calculations.
4. The composite values can be displayed on a color-coded scale to indicate the high, medium and low values.

The diagram here graphically depicts the process described.

The weights applied in step two described, above, were in this analysis set based upon the voting conducted by members of the Land Team. The weighting process is, however, a toggle that the GIS analysis can use to examine the relative role each factor has in the overall composite. This technique does alter the relative values of some composite cells versus others.



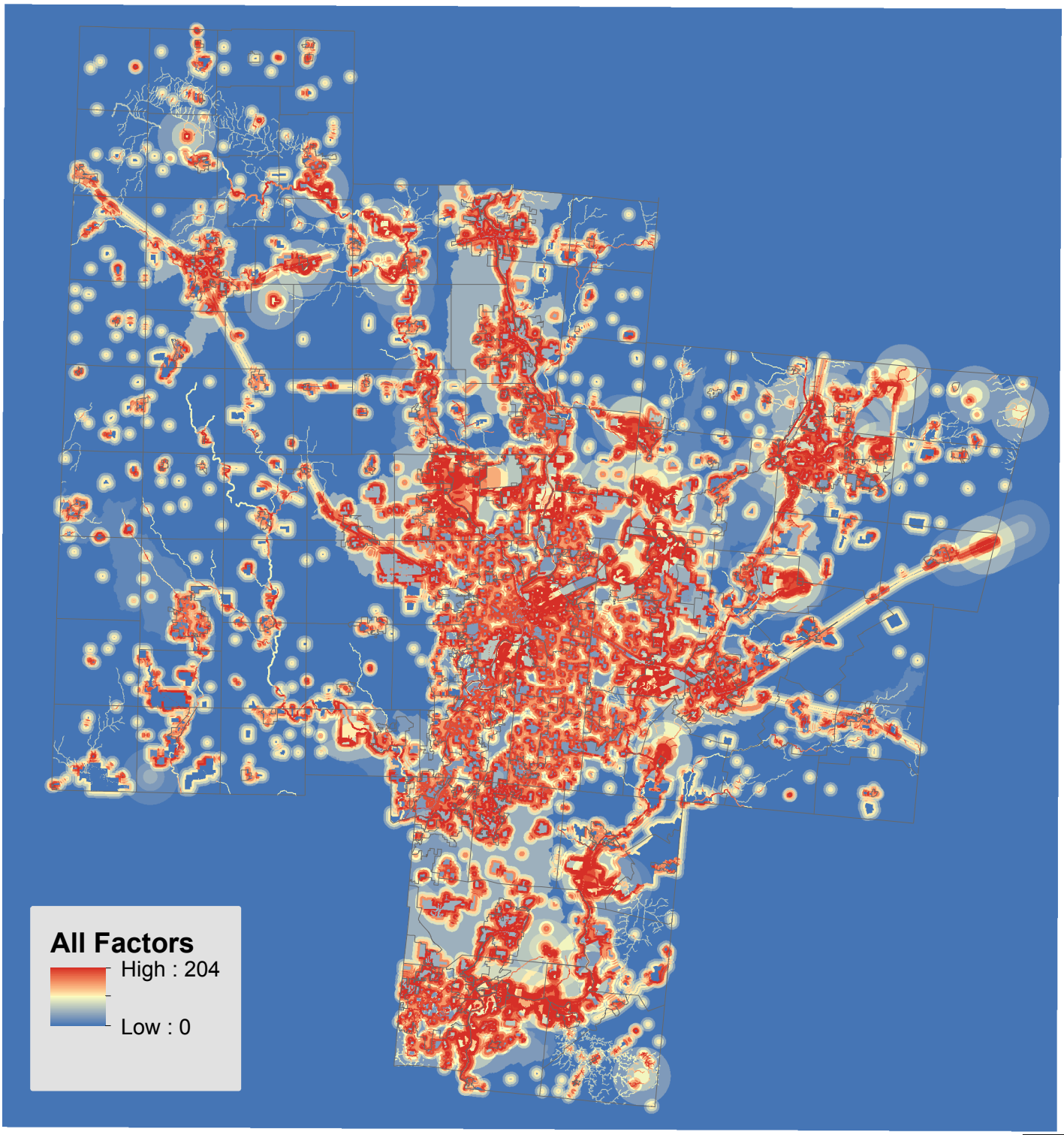
It is further possible to calibrate the color-coded display from step four to emphasize or de-emphasize different areas along the

composite scale. This technique does not change the composite values assigned to each cell, but it does draw the eye to different areas of the map.

The composite map presents a geographic expression of the preferences or desires of the people and the process that developed the factors that make it up. In the case of the Regional Open Space Plan, the Land Team was asked to describe characteristics of locations that would be desirable to protect in future years. From the many proposed factors MVRPC staff endeavored to develop spatial representations of the factors that received greater priority from the voting process. The resulting Composite Map is presented on the next pages in a color and grayscale format.

MVRPC

Composite Factor Analysis: Priority Conservation Locations



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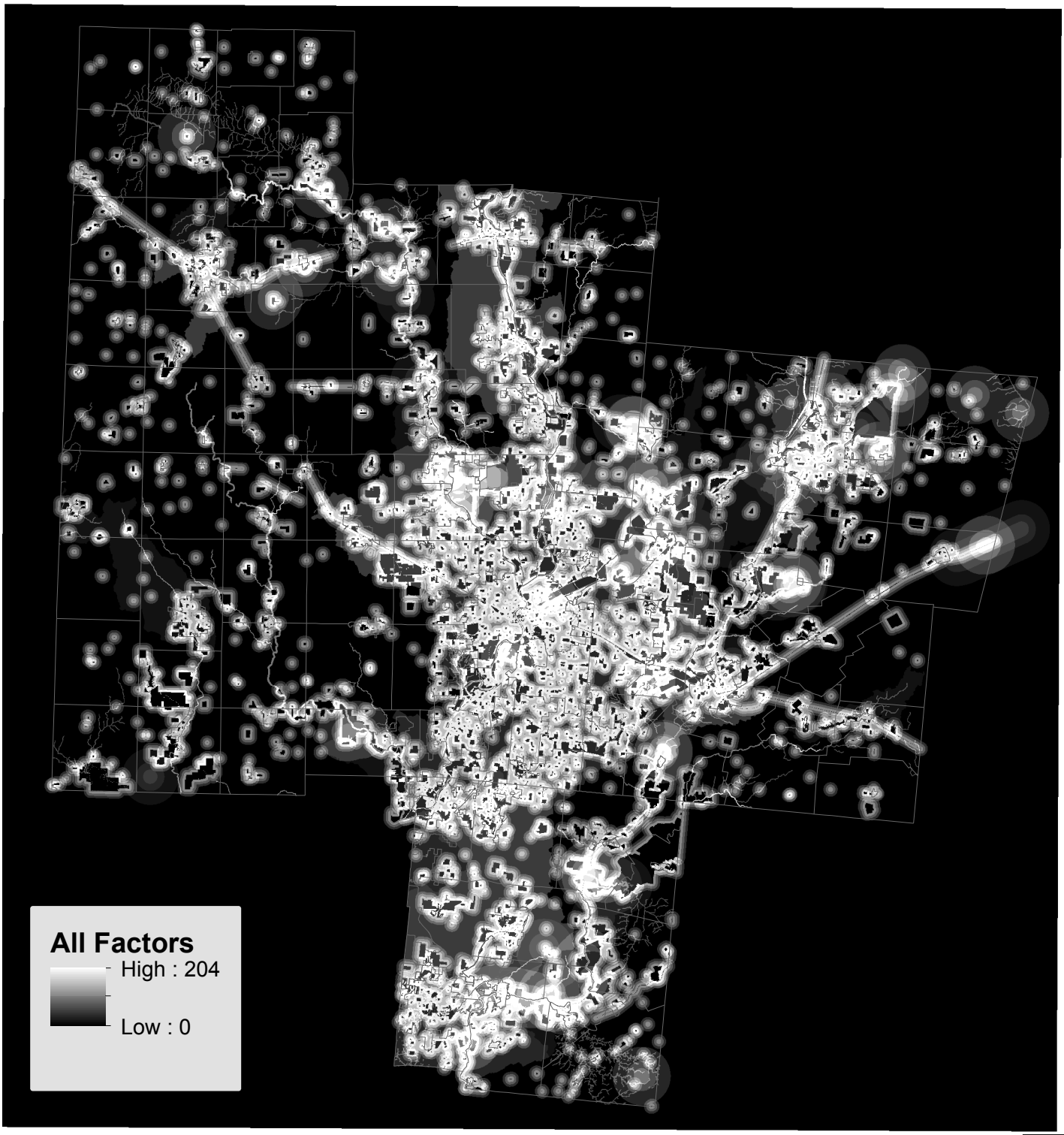
MVRPC

Composite Factor Analysis: Priority Conservation Locations



Composite Map Discussion

The maps presented on the two preceding pages are exactly the same except for the color scale used to present them. The breakpoints set for the color scales are those set automatically by the algorithm within the GIS software used for the analysis.

- Visually, these maps do not, in their present form, provide clear guidance as to priority locations. At first glance the higher values seem to be evenly spread across the Region. Shifting the color classifications can help to clarify what areas have a higher composite value than others.
- Closer inspection indicates that the analysis favors locations proximate to existing open space. This conclusion is warranted since two of the seven factors (A and B) both directly draw from buffers of the existing open spaces. As it happens, these two factors are also among the highest weighted factors in the composite calculations. Factor A with a weight of seven is the highest weighted factor; Factor B with a weight of 6 is equal with three other factors (C, D, and E).
- The regional open space dataset includes all forms of open spaces – from parks to preserves to schools to gravel mines to airfields. However, based on the selected factors, it is reasonable to conclude that the Land Team had parks and preserves in mind during the facilitation that led to the selection. The composite map appears to direct future conservation to areas within the already developed, urbanized area of the Region.

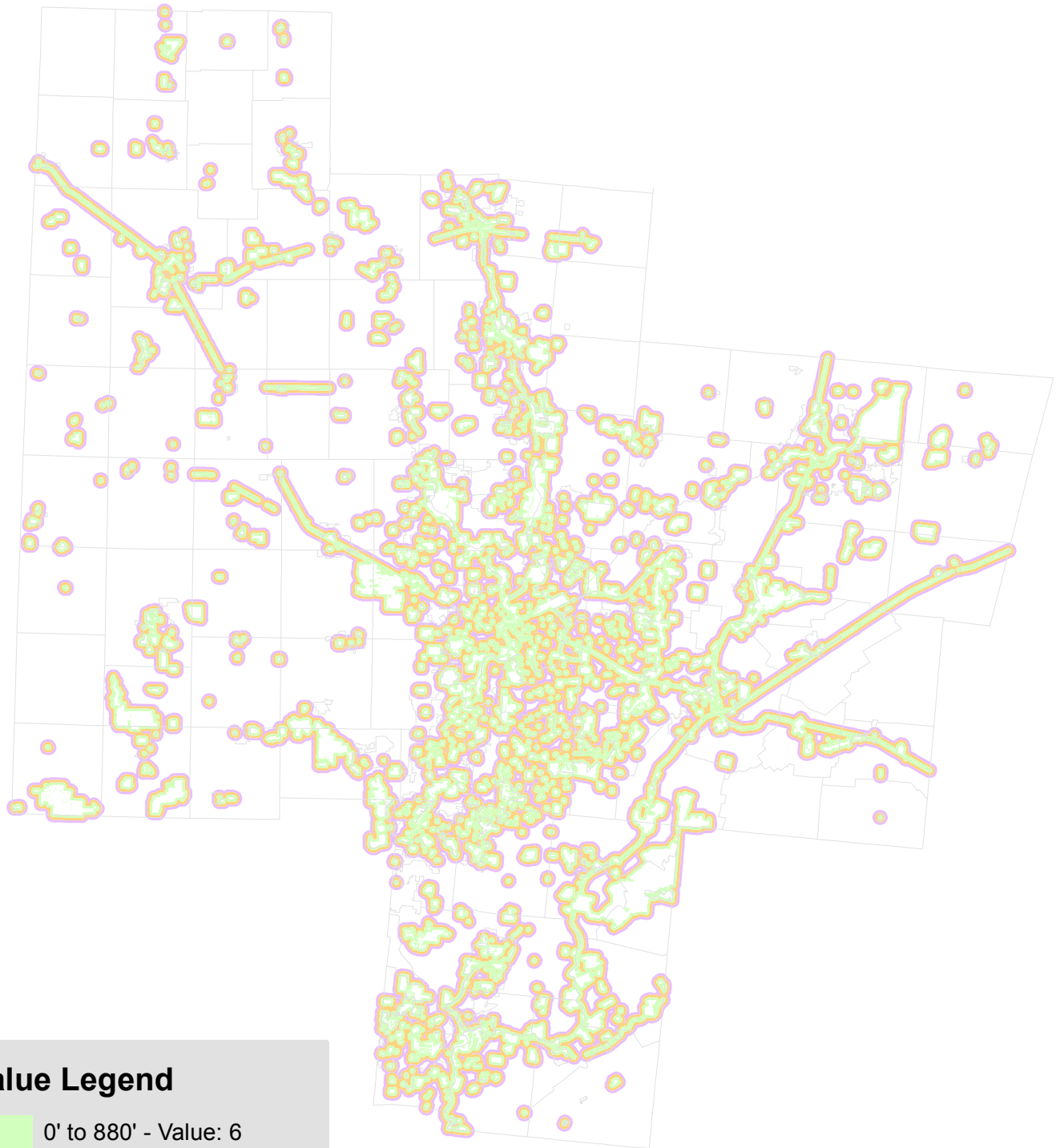
The Land Team provided feedback on these issues with the initial composite map and suggested two changes to the analysis factors:

1. It was decided to remove Factor B (Connectivity) from the composite mapping analysis. The main reason for this decision was because this factor was seen as “double counting” existing open spaces, particularly those open spaces that happen to be proximate to other open spaces. Factor A (Enlarging) was seen as a sufficient factor to emphasize the need to build upon the Region’s existing open space assets.
2. It was decided to re-do Factor A (Enlarging) to buffer only the open spaces in categories that are traditionally open to the public. Parks, recreation parks, preserves, open space links were selected for their more natural character and their utility to the general public for connecting with nature and recreation. In addition, emphasis was to be given only to the larger open spaces, those with median acreage or above.

The resulting Factor A and composite maps are presented on the following pages. The identified priority areas for future conservation do not vary significantly from the initial composite map, but these areas do more clearly appear on this version of the map. The Little Miami River corridor, portions of the Mad River and Great Miami River corridors, the area surrounding Englewood MetroPark and the Stillwater River corridor are clearly in evidence in this version of the composite map. Portions of the Twin Creek and Sevenmile Creek corridors are also highlighted in the map. The final section of this report will suggest how land conservation agencies can use the recommendations and findings of this report.

MVRPC

Factor A: Enlarging Public Open Spaces

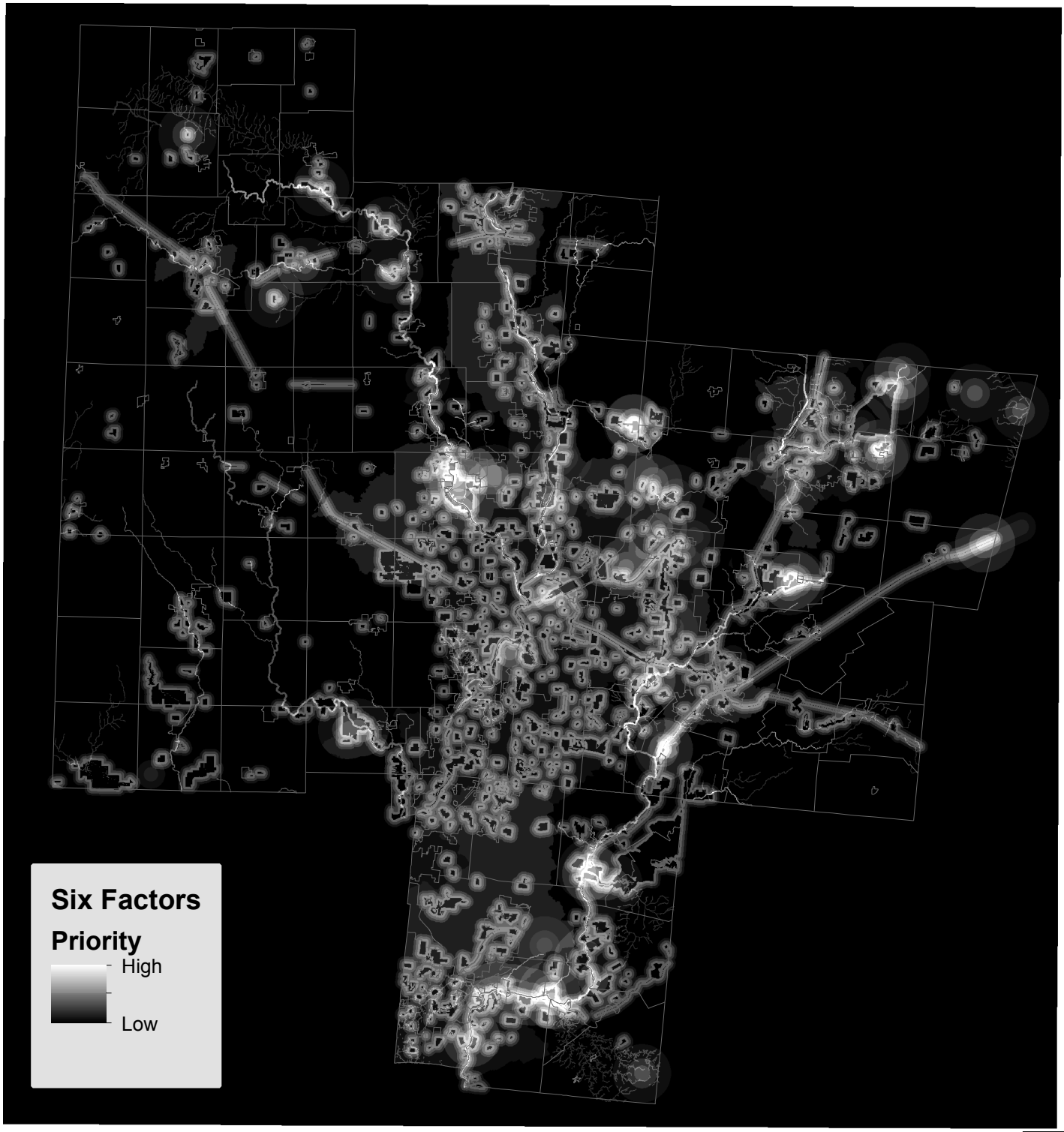


Value Legend

- 0' to 880' - Value: 6
- 880' to 1,760' - Value: 4
- 1,760' to 2,640' - Value: 2

MVRPC

Composite Factor Analysis: Priority Conservation Locations



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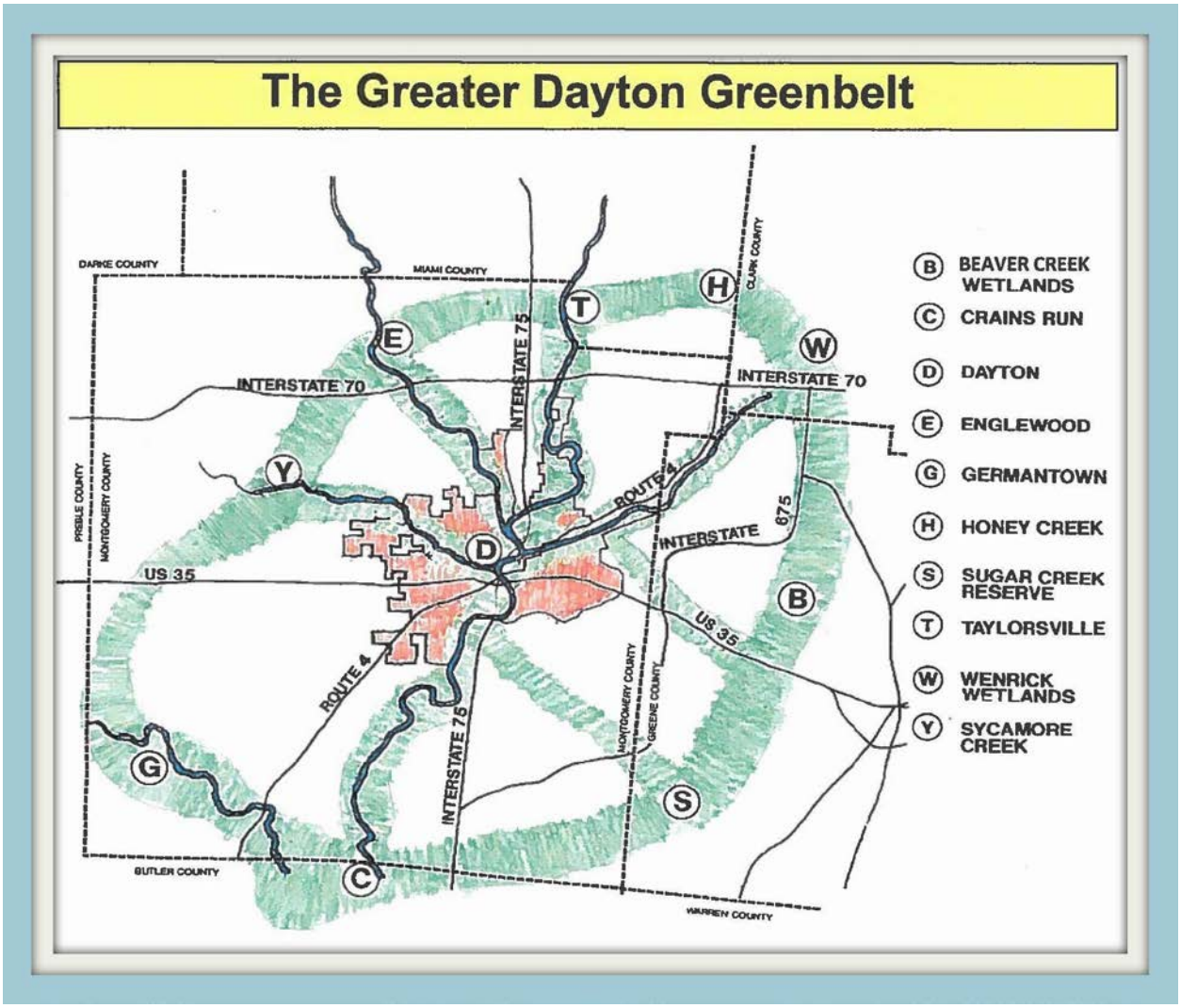
Concluding Thoughts on the Composite Map

The Greater Dayton Greenbelt

The priority areas highlighted on this final composite map have a significant congruity with the "Greater Dayton Greenbelt" proposal developed in the 1990s by Mark Sexton, David Schmenk and Greenways of Greater Dayton (GGD). The swath of priority locations from Caesar Creek State Park north and then west to Englewood MetroPark is nearly a perfect match for the S-B-W-H-T-E arc in the Greenbelt Vision. The analysis conducted for this report has reduced emphasis on areas surrounding Sycamore State Park (Y), Germantown MetroPark (G), and Crains Run Park (C).

GGD is now a defunct organization, and other entities that had taken up the mantle of the greenways have also faded away. A currently active land trust, B-W Greenways, takes its name from the segment of the greenways vision map that they work to preserve between the Beavercreek Wetlands and the Wenrick Wetlands. The PFE Land Team may be described as the current keeper of the greenbelt. The image below depicts the Dayton Greenbelt vision.



The results of this analysis suggest two potential revisions to the Greenbelt Vision. First would be to make explicit a second outer ring that is implied by the vision diagram: the Agriculture ring. The Greenbelt today resides almost entirely within the urbanized areas of the Miami Valley. (An exception is the southwestern portion of that ring; more about that will come below.) As the trends in open space preservation have borne out, dedicated open space tends to flourish in concert with urbanizing the landscape, rather than as an anecdote or preventative measure. The balancing force for urban sprawl, instead, may be Farmland Preservation. Therefore, a suggested update to the Greenbelt Vision would be to indicate areas where farmland preservation via agricultural and conservation easements would be the priority approaches. A second suggestion would be to clip the Y-G-C arc and simply have the arc travel through point D, Dayton. Western Montgomery County has not developed as may have been anticipated at the time of the original Greenbelt Vision. This area of Montgomery County remains in largely rural and agricultural land uses, and may more appropriately be identified within in the agricultural area described above.

This analysis, by its nature, does not identify preferred locations for use of agricultural easements or other tools to protect prime farmland and to maintain a local profile for Ohio's number one industry. The factors for such an analysis would differ significantly from those used herein. Conservation agencies interested in holding agricultural easements should, if they have not already, conduct a separate analysis for priority locations for farm preservation.

To date the Greater Dayton Greenbelt has not been formally adopted as a regional open space vision or plan by any public entity. That is not to say that the vision has been dormant. As already noted, the B-W segment is largely protected and under active management. Regional bikeways trace many of the "spoke" greenways depicted in the map. Five Rivers MetroParks manages parks at four of the critical points on the map: Sugarcreek MetroPark, Taylorsville MetroPark, Englewood MetroPark, and Germantown MetroPark (all of which, except Sugarcreek, are owned by the Miami Conservancy District). Crains Run Park is jointly owned by the Miami Conservancy District and Miami Township; Sycamore State Park remains under the management of the Ohio Department of Natural Resources. The Miami Valley Regional Planning Commission and the commission's member jurisdictions should give consideration to adopting the Greater Dayton Greenways as a unifying vision for future open space preservation. Adoption of this Open Space Plan report by the Miami Valley Regional Planning Commission should not be construed as adoption of the Greater Dayton Greenways vision.

Open Space Categories

For this report the categories used for the inventory of open space were not altered from categories first used in 1993 and then used again in 2005. Although to do so would cost future analyses continuity with this and past studies, it may be beneficial in the future to restrict the open space inventory to facilities that truly preserve natural landscapes and ecosystem services, with more detailed attention to sites that offer public access.

The process for identifying priority locations for future conservation was guided by factors related to parks and natural preserves, and it is only natural that it would be done this way. Parks and natural environment areas represent a unique category of regional assets: they offer respite from developed land uses, recreational opportunities and preservation of ecosystem services. Even though schools, gravel pits and airfields are included in the regional open space data set, it was not the purpose of this study to identify the best locations for such enterprises and entirely different factors would go into finding the best future locations for these kinds of facilities. And, indeed, such facilities are actually intensely developed parcels, meaning they do not share a key characteristic that makes open space a valuable asset to be studied and for which the Region should plan.

To assess whether the Miami Valley has sufficient open space resources to serve our population (as the first four plans attempted to do) it is plain that including, for example, utility properties and gravel pits does not help the Region in reaching any conclusions.

The Balanced Growth Initiative

Development priority, natural resource conservation, and farmland preservation are the three pillars of the Ohio Balanced Growth initiative, a planning process encouraged by the State of Ohio to identify and adopt – on a watershed basis – zones of development, conservation and agricultural priority. Endorsed Balanced Growth plans confer certain benefits within state programs and grants to the communities associated with the plan. Communities interested in pursuing a Balanced Growth Plan may find the information developed for the open space inventory, as well as the open space analysis useful in the development of such a plan. The Miami Valley Regional Planning Commission can assist coalitions of communities interested in undertaking the Balanced Growth planning process.