

## Miami Valley Land Suitability Assessment - Natural Environment Factors

### Conclusion

The Miami Valley Land Suitability Assessment – Natural Environment Factors provides a comprehensive overview of the Region’s natural landscape. Fifteen natural environment factors were analyzed both individually and in combination with one another in order to identify locations within the Region that are better suited for further physical development than others. However, this assessment alone is not meant to be a comprehensive land suitability assessment, but rather focuses on the natural environment. An assessment of the built environment must be completed in order to complete a comprehensive assessment of the Region’s physical landscape.

The entire Region will benefit if development is planned and executed in a manner that takes advantage of our natural resources without threatening their quality. Each of the 15 factors were mapped and analyzed at both the regional and county levels to provide a broad scope that is often lacking when land use decisions are made at the local level. Each page in this assessment report graphically illustrates the geographic location of the factor and offers an analysis of its distribution throughout the Region and its counties.

This assessment revealed that the land in the Region generally exhibits the following characteristics:

- Mostly flat, dry land with adequate depth to bedrock and load bearing strength;
- Non-forested land with mineral resources not likely to be present;
- Medium ground water pollution potential;
- Not within floodplains or inundation areas;
- Significant amount of prime farmland with relatively good soil drainage and ground water yield capacity ;
- Containing quality sole source aquifers with portions of the Region designated as well-field protection areas.

The Natural Environment Suitability Composite Map provides a comprehensive spatial overview of environmentally sensitive areas in the Region. In general, the map showed that over 80% of regional land is highly or moderately suited to accommodate future land development and that the areas that are the least suited for future development are located adjacent to the major river corridors in the Region.

However, the final result of this assessment is not simply the Natural Environment Suitability Composite Map, but also includes the process used to assess land suitability. A summary of this method is provided in the Introduction and Methodology sections and will be adapted to perform the built environment assessment.

The Miami Valley Region is composed of a variety of different types of communities, from densely built core cities to newly developed suburban cities and townships to rural agricultural communities. These municipalities each have unique constraints and opportunities for improving the quality of life of their residents. The data in this report, however, does not focus on individual municipalities, but rather on the Region as a whole. This emphasis on the need for everyone to consider how their actions contribute to the quality of the Miami Valley is especially important when considering natural resources, which do not adhere to municipal boundaries.

With the variety of information presented in this report, it is MVRPC’s hope that it raises the awareness of the presence and conditions of environmental factors in the planning process. Through examining the potential effects of development on these resources, the Region can achieve a balance between the need to grow and the need to preserve environmental quality.

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# Appendix: Land Suitability Scoring System

## Miami Valley Land Suitability Assessment - Natural Environment Factors

Environment Factors	Data Attributes	Suitability Measures	Attribute Score	Weight Factor	Suitability Score
Depth to Bedrock	Adequate Depth	Suitable	5	2	10
	Shallow Depth	Not Suitable	1		2
	Not Rated	NA	0		0
Flood Plain	Outside Floodplain	Suitable	5	4	20
	500 Year	Somewhat Suitable	2		8
	100 Year	Not Suitable	1		4
Forested Areas	Non-Forested	Suitable	5	2	10
	Forested	Not Suitable	1		2
Ground Water Pollution Potential	Low Potential	Suitable	5	2	10
	Medium Potential	Somewhat Suitable	3		6
	High Potential	Not Suitable	1		2
Ground Water Yield	High Yield	Suitable	5	2	10
	Medium Yield	Somewhat Suitable	3		6
	Low Yield	Not Suitable	1		2
Inundation Area	Non-Inundation Area	Suitable	5	4	20
	Inundation Area	Not Suitable	1		4
Load Bearing Strength	Adequate Strength	Suitable	5	3	15
	Low Strength	Not Suitable	1		3
	Not Rated	NA	0		0
Mineral Resources	Not Likely Present	Suitable	5	1	5
	Likely Present	Not Suitable	1		1
	Not Rated	NA	0		0
Prime Farmland	Not Prime	Suitable	5	3	15
	Prime with Conditions	Somewhat Suitable	3		9
	Naturally Prime	Not Suitable	1		3
Slope	Flat	Suitable	5	3	15
	Rolling	Somewhat Suitable	4		12
	Steep	Not Suitable	1		3
Soil Drainage	Well Drained	Suitable	5	1	5
	Somewhat Poorly	Somewhat Suitable	2		2
	Poorly / Very Poorly	Not Suitable	1		1
	Not Rated	NA	0		0
Sole Source Aquifer	Non-SSA	Suitable	5	3	15
	Class 2	Somewhat Suitable	3		9
	Class 1	Not Suitable	1		3
Surface Water	Not Present	Suitable	5	4	20
	Surface Water Present	Not Suitable	0		0
Well Field Protection Areas	Non-Wellfield	Suitable	5	3	15
	Outer Protection Area	Somewhat Suitable	2		6
	Inner Protection Area	Not Suitable	1		3
Wetlands	Non-Wetlands	Suitable	5	4	20
	Wetlands	Not Suitable	1		4