

## Land Suitability Analysis for the Big Horn County Land Use Plan

Land Suitability Analysis is the method by which maps from the Plan Map Series are combined. Combining the maps allows us to rate areas of the county in terms of suitability for future growth and development.

The mapping units for this analysis are derived from the Public Land Survey (PLS). For areas of the county that are predominantly public lands, PLS land sections are the mapping unit. In areas containing deeded land, quarter-sections are the mapping unit. In total 6,609 PLS units were used in this analysis.

We have produced four maps that are combinations of the single-theme maps that were produced earlier. The four combination maps are:

**Land Suitability Analysis - Agriculture:** This map is a combination of the maps Agricultural Land Use, Irrigated Land, Soil Capability - Irrigated Agriculture, and Agricultural Parcel Size.

**Land Suitability Analysis - Infrastructure:** This map is a combination the maps Road Network, Services Efficiency, and Water Systems.

**Land Suitability Analysis - Land Use Limitations:** This map is a combination of the maps Big Game Habitats, Flood Plains, Groundwater Sensitivity, Geohydrologic Setting, Land Slope, and Wetlands.

**Land Suitability Analysis - Land Status:** This map is a combination of the maps Current Land Use, Land Parcel Size, Population Density, and Land Surface Management.

**Land Suitability Analysis - All Factors:** This map is a combination of all the maps included in the analysis. This map combines the four maps above (Agriculture, Infrastructure, Limitations, and Status) to produce a single map representing development/conservation suitability for the entire county. This map will become the basis for designating future land use in the land use plan.

There are two alternative presentations of this map. This first map, **Alternative #1**, shows emphasizes conservation more than development. The second map, **Alternative #2** emphasizes more development and less conservation.

## Single-Theme Maps Used in the Land Suitability Analysis

MAP THEME	MEASUREMENT	SCALE
<b><i>Agricultural Themes</i></b>		
<b>Irrigated lands</b>	Percent of PLS unit that is irrigated	0-100 Percent
<b>Ag Parcel size</b>	Percent of PLS unit that is agricultural use parcels of 100+ acres in size	0-100 Percent
<b>Ag Land Use</b>	Percent of PLS unit that is classified as agricultural land use	0-100 Percent
<b>Ag Soils CC 2&amp;3 Irrigated</b>	Percent of PLS unit that is Capability Class 2 and 3 soils for irrigated crops	0-100 Percent
<b><i>Infrastructure Themes</i></b>		
<b>Road network</b>	Percent of PLS unit containing road buffers (one-mile for state roads, ½ mile for county roads)	0-100 Percent
<b>Services efficiency</b>	Total Service Points per PLS Unit	0-86 Total Service Points
<b>Water lines</b>	Percent of PLS unit containing water line buffer (½ mile wide)	0-100 Percent
<b><i>Land Use Limitation Themes</i></b>		
<b>Geohydrologic setting</b>	Average Geohydrologic Rating per PLS Unit	1 -8 Geohydrologic Rating
<b>Big game habitats</b>	Percent of PLS unit that is big game habitat	0-300 Sum of Species Percents
<b>Floodplains</b>	Percent of PLS unit that is floodplains	0-100 Percent
<b>Groundwater sensitivity</b>	Average Sensitivity Rating /PLS Unit	1.5-6.0 Sensitivity Rating
<b>Slope of land</b>	Average Slope Rating /PLS unit	0-5 Slope Rating Points
<b>Wetlands</b>	Percent of PLS unit that is wetlands	0-100 Percent
<b><i>Land Status Themes</i></b>		
<b>Current land use</b>	Predominant Use Rating/PLS unit	0-4 Use Rating (0=No Predominant Use; 1= Agriculture; 2=Residential; 3=Commercial; 4=Industrial)
<b>Parcel density</b>	Parcel centroids/PLS unit (x 160)	0-386 Parcel Density
<b>Population density</b>	Population density rating /PLS unit	0-5 Population Density Rating (0=0-1; 1=1-6; 2=6-60; 3=60-120; 4=120-600; 5=>600)
<b>Surface management</b>	Surface management rating / PLS unit	Rating 0-4 (0=NPS, FS Wilderness; 1=FS, DOD; 2=BLM, BOR; 3=State; 4=Deeded)