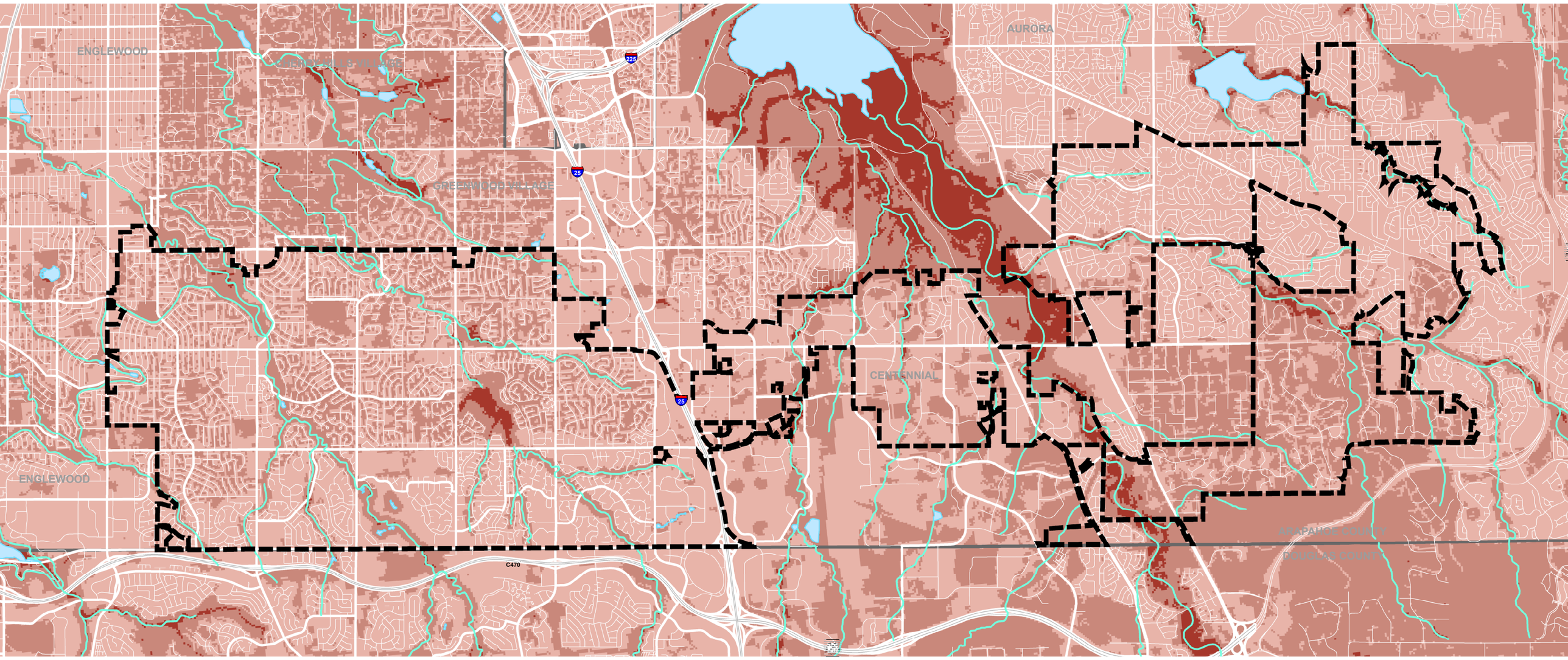
NATURAL RESOURCES ASSESSMENT

JANUARY 2017



WHAT IS A NATURAL RESOURCES ASSESSMENT?

ABOUT THIS STUDY

The 2004 City of Centennial Comprehensive Plan and the 2007 Parks, Open Space, Trails and Recreation (POSTR) Plan both identify the preservation and protection of natural assets, scenic areas, and wildlife habitat as top priorities for the community. The natural resources assessment evaluates City lands and lands surrounding the community for these qualities and identifies sites with the potential for open space conservation. This assessment is a resource for landowners and land use planners to look ahead and play a role in protecting natural landscapes in and around the City of Centennial.

METHODOLOGY

Geographic Information System (GIS) data from the City of Centennial, Arapahoe County, South Suburban Parks and Recreation District and Douglas County was utilized to create a database of land elements and characteristics. Each data element is weighted based on priorities identified in the City of Centennial Comprehensive Plan and a number of other relevant regional studies.

To assess the viability of lands for the preservation of open space, four major groups of data were assessed. These groups include:

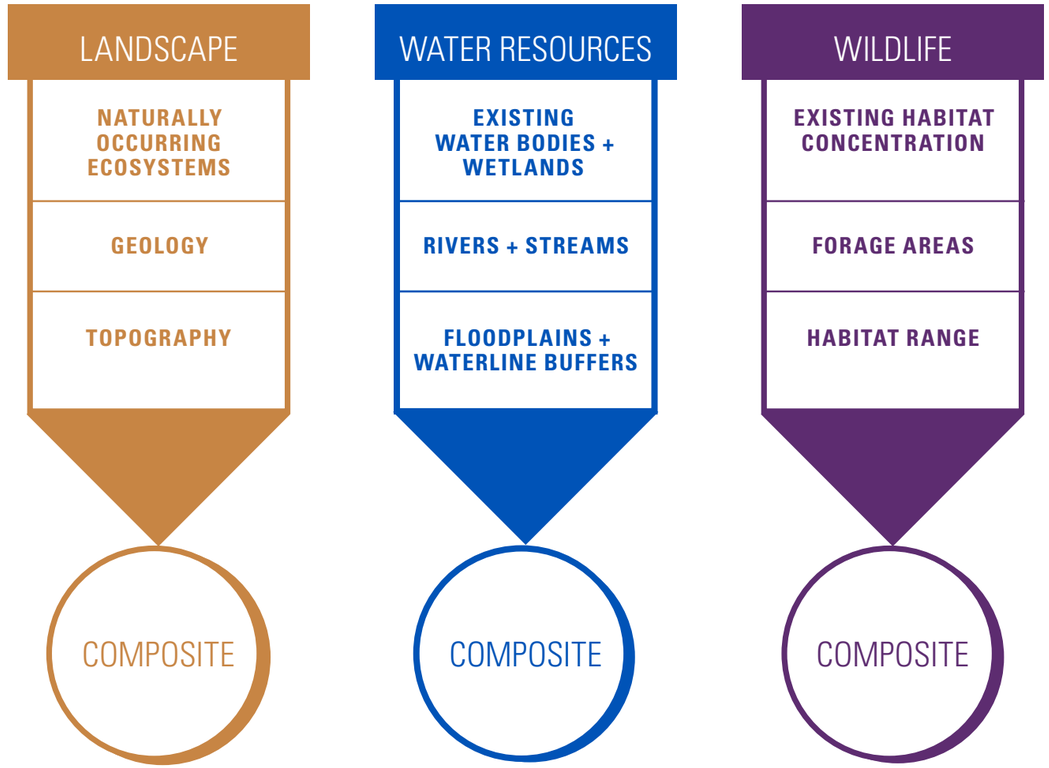
Landscape
Levels of development across the region are evaluated with the presence of unique or natural ecosystems, geology and topography to study landcover suitability for open space conservation.

Water Resources
Areas possessing or adjacent to water resources such as lakes, streams, rivers and wetlands are highly valued as sites with a potential for preservation.

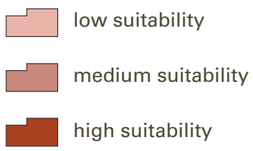
Wildlife
Migration corridors and the concentration of wildlife habitats in areas in and around the City are considered important locations for preservation.

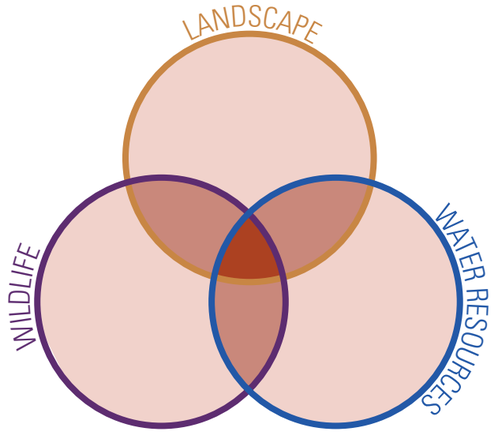
THE RESULT

A weighted assessment of the data within each of these topics produces a composite map illustrating levels of suitability for protection as open space. As the Trails and Recreation Plan moves forward in step with the on-going Comprehensive planning process, these maps provide a tool for evaluating land values and identifying spaces for future conservation.



OPEN SPACE SUITABILITY



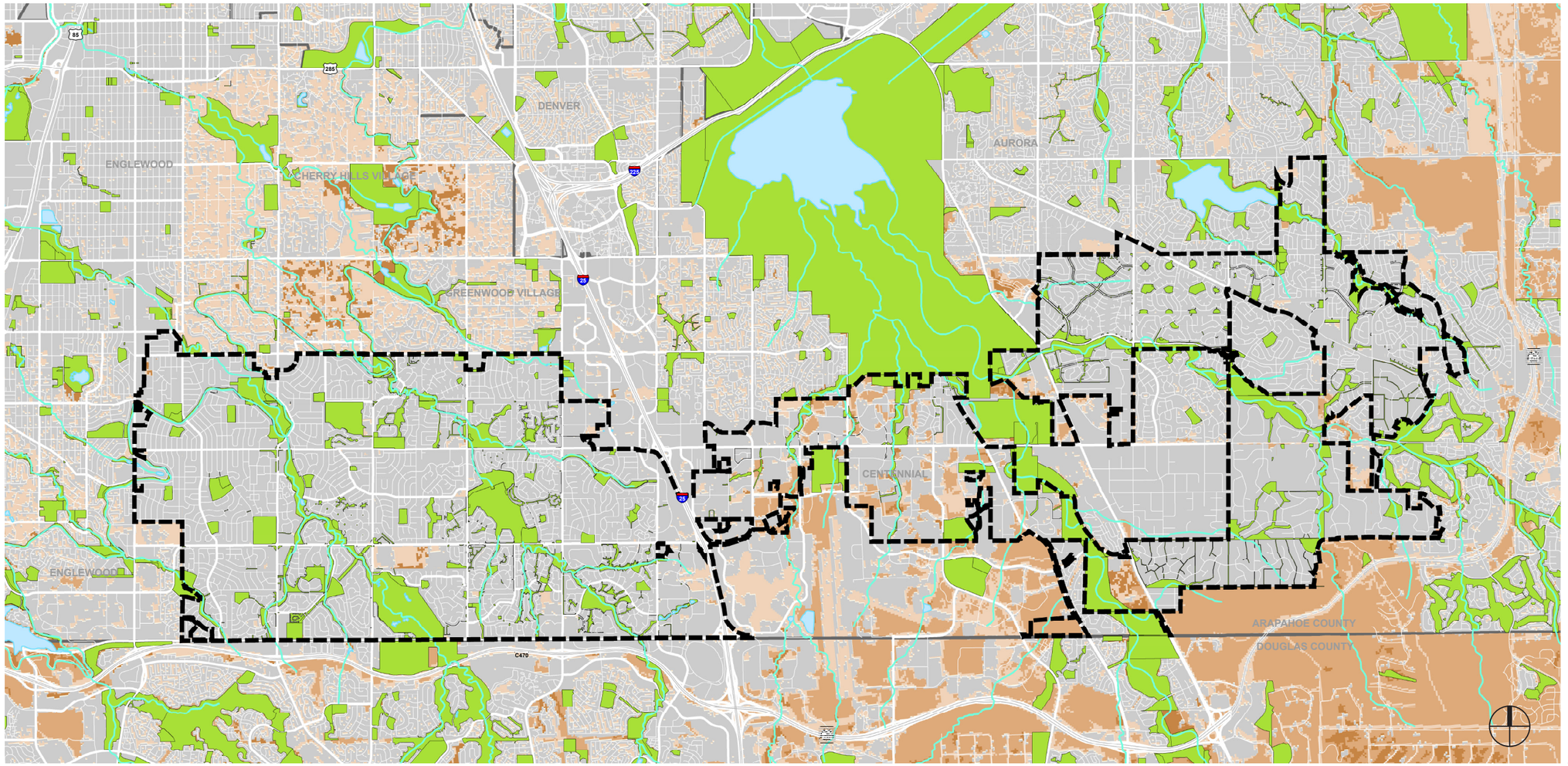


RESOURCES

Contributing data is from following sources:

City of Centennial
National Land Cover Database
Colorado Parks and Wildlife Species Activity Mapping
Colorado Fish and Wildlife Wetland Mapping

LANDSCAPE | CITY OF CENTENNIAL - NATURAL RESOURCES ASSESSMENT



LAND CHARACTERISTICS LEGEND

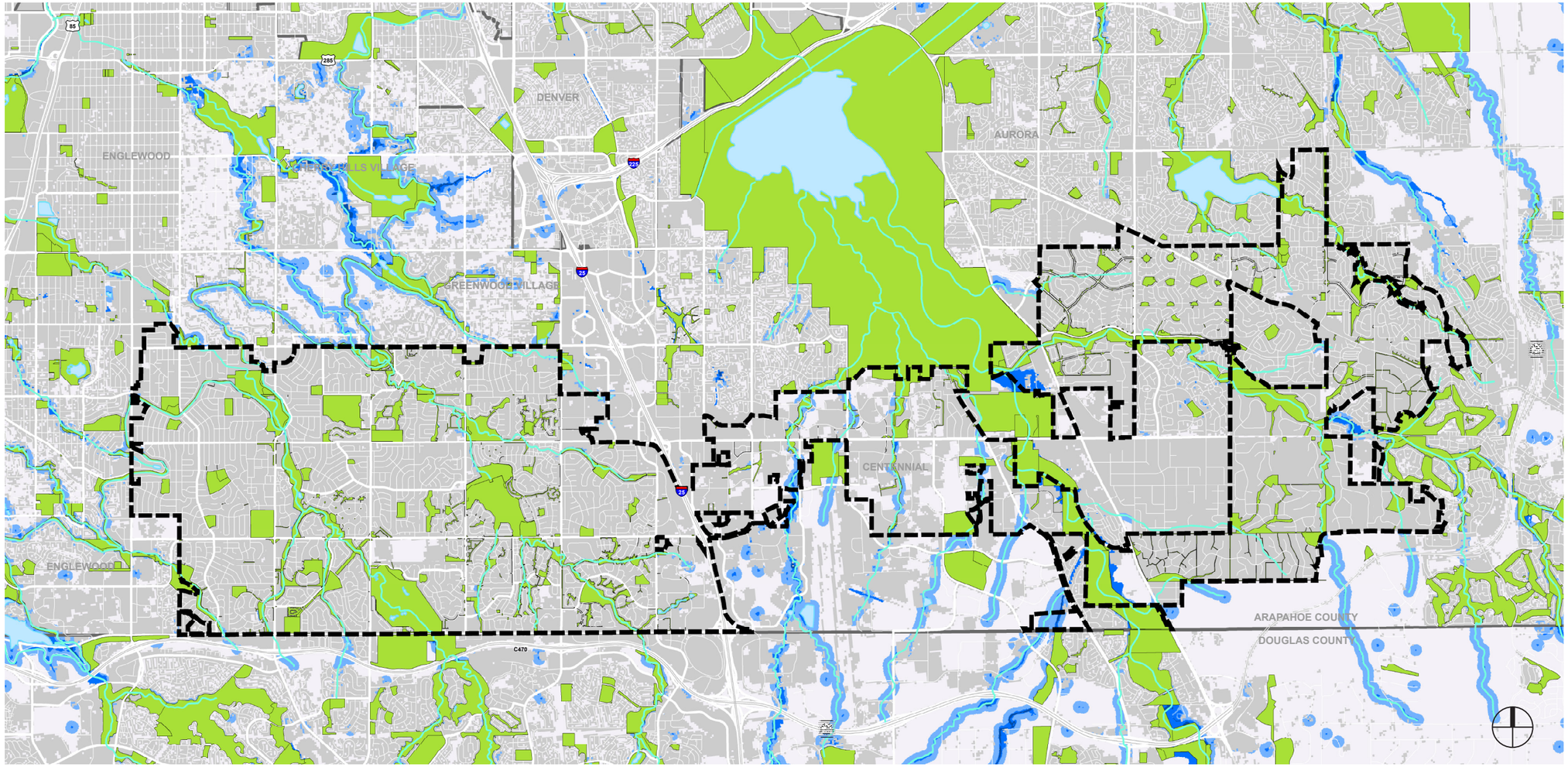
- low suitability
- medium suitability
- high suitability
- existing developed areas
- existing parks, open space, cemeteries, golf courses, and school yards

WEIGHTED VALUE	HIGH	MEDIUM	LOW
A. NATURALLY OCCURRING ECOSYSTEMS	Emergent Wetlands Woody Wetlands Open Water Evergreen Forest	Shrub/Scrub Herbaceous Lands Pastures Crops Developed O.S.	Barren Land
B. GEOLOGY	Alluvial fans	Sand dunes	Sandstone
C. TOPOGRAPHY	Ridges Cliffbands	Steep slopes	Hillsides Foothills

Land within the City of Centennial is largely developed with residential, office, retail and mixed uses. This landcover analysis evaluates undeveloped lands using the National Land Cover Database to determine which areas are most suitable for preservation as open space. The National Land Cover Database provides a basic understanding of which undeveloped lands possess a natural character or quality that may be worth preserving or could be of interest for future open space conservation.

For the purpose of this study, the highest values were assigned to areas with topographic or geologic interest, forested lands, wetlands and open water to align with City and County goals to preserve natural landscapes. Within the City, areas with landcover most suitable for open space are primarily located in the central and eastern portions of the City; in particular, those adjacent to Cherry Creek, Cherry Creek State Park and a number of other drainageways.

WATER RESOURCES | CITY OF CENTENNIAL - NATURAL RESOURCES ASSESSMENT



WATER RESOURCES LEGEND

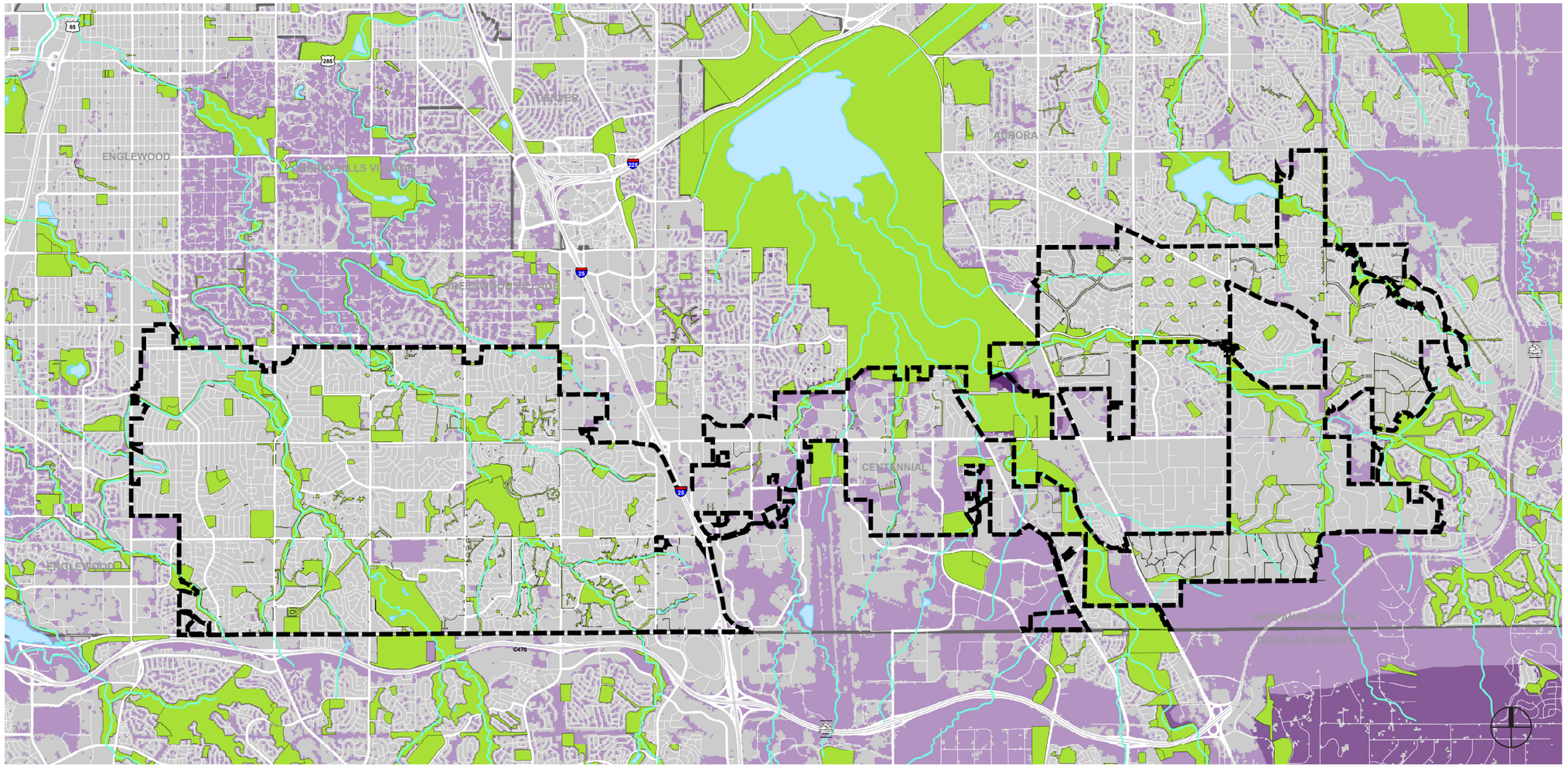
- no suitability
- low suitability
- medium suitability
- high suitability (not shown)
- existing developed areas
- existing parks, open space, cemeteries, golf courses, and school yards

WEIGHTED VALUE	HIGH	MEDIUM	LOW
A. EXISTING WATER BODIES	Lake areas Wetland areas Floodplain areas		
B. RIVERS + STREAMS		Rivers Streams	
C. WATERLINE BUFFER			300ft buffer

Surface water resources provide important wildlife habitat and recreational value. While there are no major lakes within the City boundaries, Centennial does have access to eleven creek corridors, including the Highland Canal, Little Dry Creek, Big Dry Creek, Willow Creek, Cottonwood Creek, Lone Tree Creek, Windmill Creek, Cherry Creek, Dove Creek, Piney Creek and West Toll Gate Creek. The 100-year floodplains of these waterways are key areas for open space since they handle runoff and floodwaters, contain wetland and riparian zones, and provide important corridors for wildlife migration and habitat.

Some of the most suitable areas for open space, both in and outside the City's boundaries are present along the Cherry Creek corridor and the Piney Creek Trail.

WILDLIFE | CITY OF CENTENNIAL - NATURAL RESOURCES ASSESSMENT



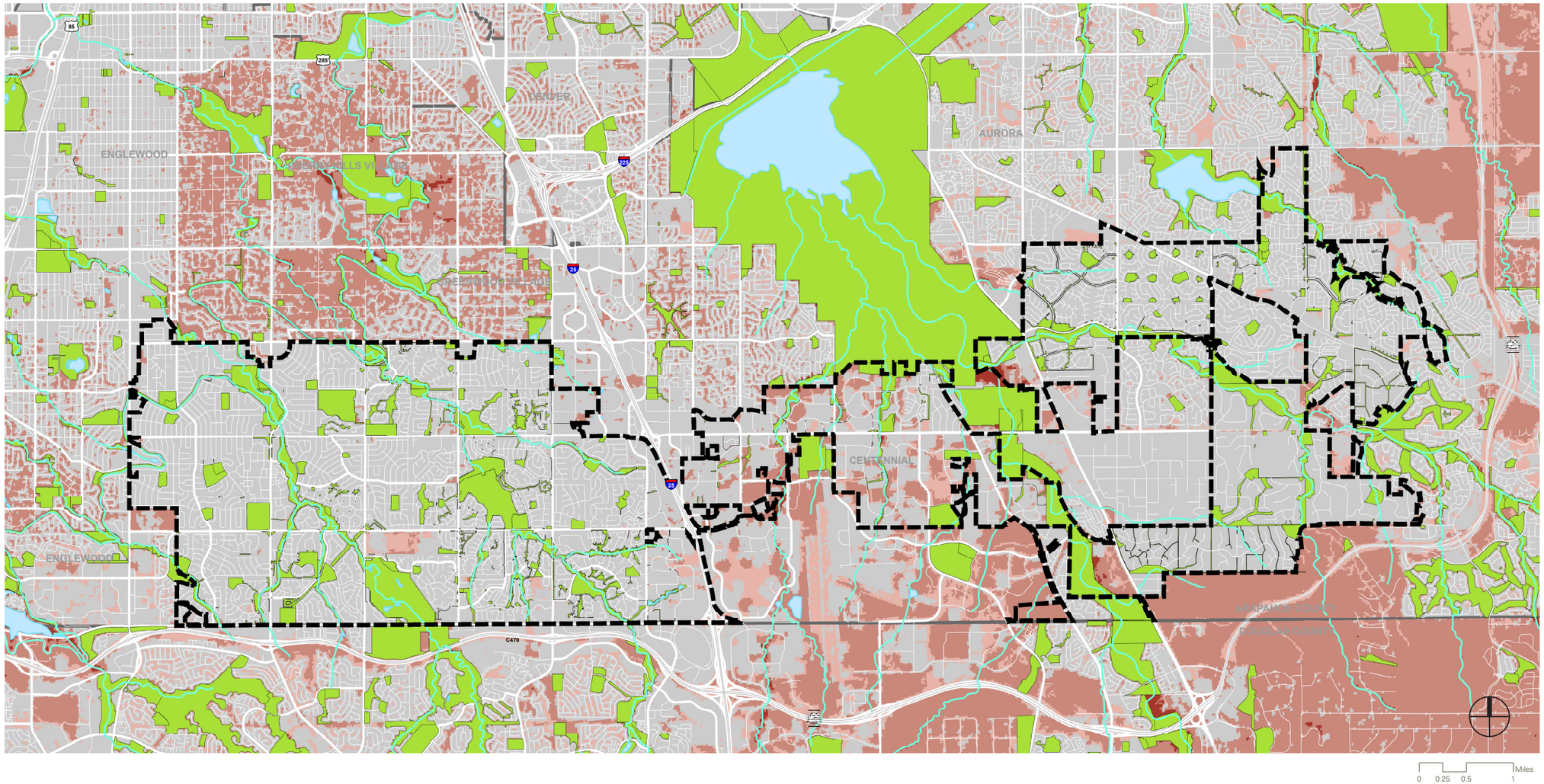
WILDLIFE LEGEND

- low suitability
- medium suitability
- high suitability (not shown)
- existing developed areas
- existing parks, open space, cemeteries, golf courses, and school yards

WEIGHTED VALUE	HIGH	MEDIUM	LOW
A. EXISTING HABITAT	Mule Deer (Winter)	Mule Deer (Year-round) White-Tailed Deer (Year-Round)	Geese Nesting
B. FORAGE AREAS	Great Blue Heron Bald Eagle		
C. HABITAT RANGE	Bald Eagle Red-Necked Pheasant White-Tailed Deer	Swift Fox Mountain Lion (peripheral range)	

The natural vegetation occurring within the City of Centennial consists mainly of riparian corridors lined with cottonwoods and willows. These corridors provide important habitat for wildlife species including mule deer, white-tailed deer and the bald eagle. Winter habitat in Centennial is particularly important for these animals; recent mapping indicates that areas of Centennial do support a winter habitat for deer and the bald eagle. The diversity of wildlife species found in the City includes mule deer, white-tailed deer, geese, great blue heron, Preble's jumping mouse, red-necked pheasant, the swift fox and a peripheral habitat range for the mountain lion.

COMPOSITE SUITABILITY MAP | CITY OF CENTENNIAL - NATURAL RESOURCES ASSESSMENT



COMPOSITE SUITABILITY LEGEND

- low suitability
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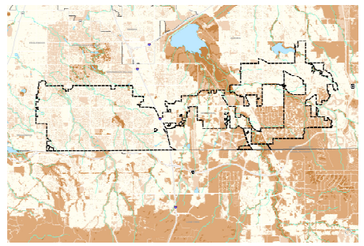
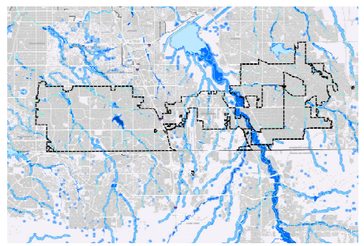
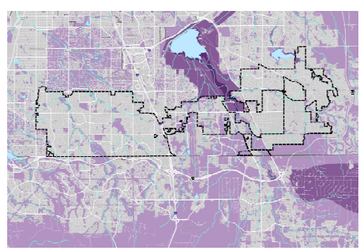
CONTRIBUTING DATA



Landscape



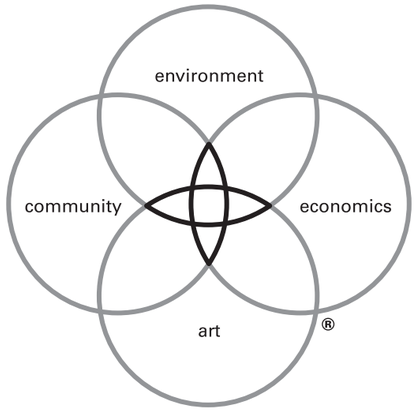
Water Resources



Wildlife

RESULTING VALUES	HIGH	MEDIUM	LOW
NATURAL RESOURCES ASSESSMENT	Areas with high natural value and habitat quality that possess characteristics deemed critical for open space within the City of Centennial.	Areas with moderate natural value and habitat quality possessing some importance to the City.	Areas with low natural value, habitat quality and/ or are facing significant growth and development pressures making open space conservation at lesser priority.

The natural resources assessment map illustrates open space suitability for undeveloped areas within the City of Centennial and the surrounding region. Four criteria for quality open space were considered, include landcover, water resources, scenic value and wildlife habitat. This assessment confirms some of the 2008 open space opportunity recommendations and provides the addition of a weighted analysis, identifying areas with the highest suitability as potential priority areas for open space conservation.



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