

Northern Colorado Plateau Network

Information Brief

National Park Service
U.S. Department of the Interior

Intermountain Region
Inventory & Monitoring Program



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Vegetation Mapping at Black Canyon of the Gunnison National Park

Wondering where in the park to look for a certain bird? Trying to plan a prescribed fire? Need help identifying potential habitat for a threatened species? You need a vegetation map!

Vegetation maps visually display the distribution of vegetation communities across a landscape. Knowing what's growing where, and what kinds of habitat occur in a park, helps park managers to successfully conduct a variety of activities, including park planning, resource monitoring, interpretive programs, prescribed fire, and climate change response. Vegetation maps also provide a baseline for ecological studies.

In cooperation with the U.S. Geological Survey and many other partners, the National Park Service (NPS) is engaged in an effort to classify, describe, and map vegetation communities in more than 270 NPS units across the U.S. Each map represents hundreds to thousands of hours of effort by dozens of contributors: ecologists, field technicians, GIS technicians, data managers, writers, editors, and park staff. Each finished project comprises not just a map and report, but also an entire library of vegetation data and descriptive information.

The Black Canyon of the Gunnison NP mapping project was led by the Northern Colorado Plateau Network, with assistance from park staff and several partners, including engineering-environmental Management, Inc., NatureServe, the U.S. Bureau of Reclamation, Colorado Natural Heritage Program, U.S. Department of Agriculture, and USGS. The team gathered aerial photography, established and collected data from vegetation plots, used those data to classify vegetation types and write descrip-

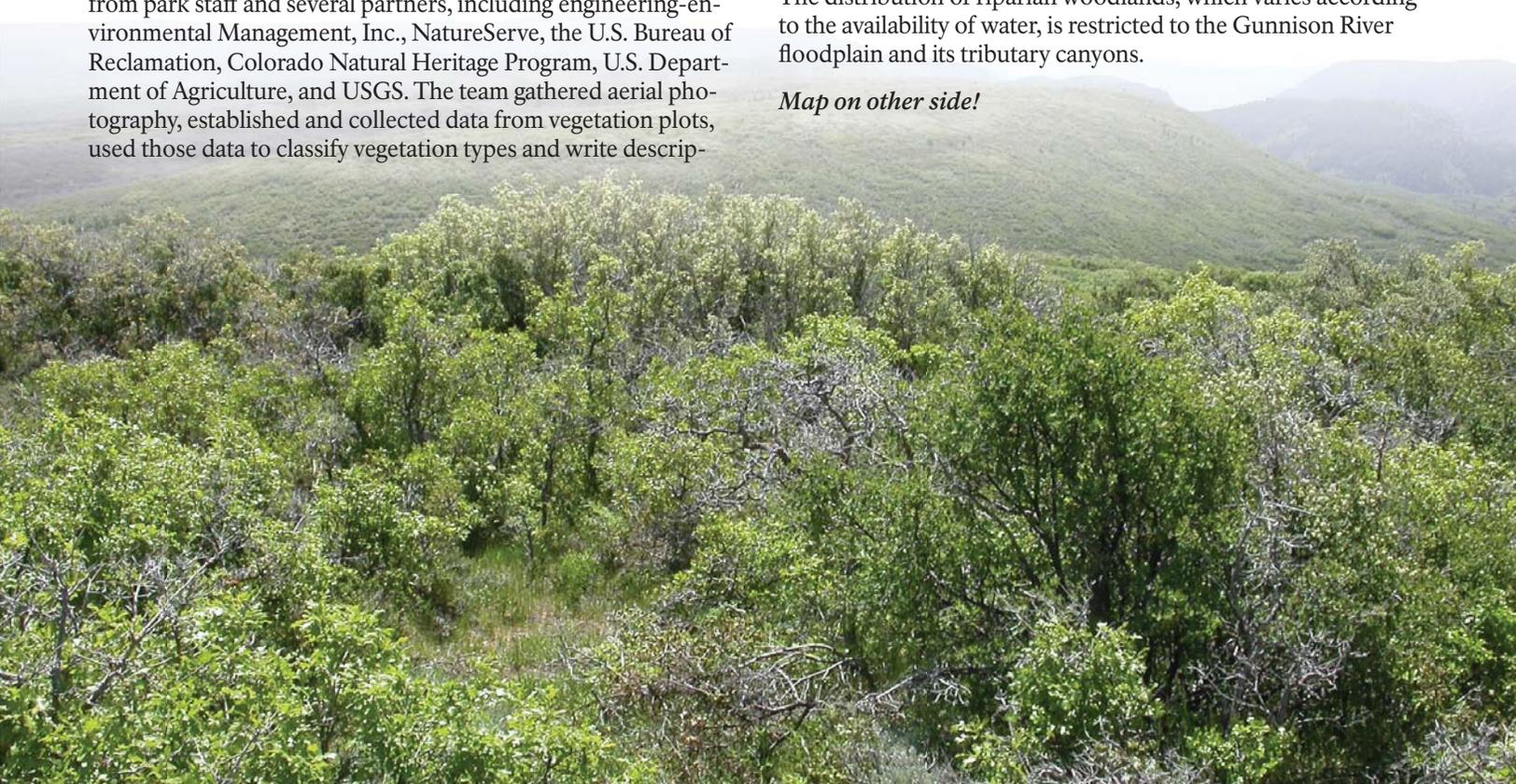
tions, wrote a vegetation-type key, performed photo interpretation, assessed the accuracy of the results, created a geodatabase, and wrote a final report.

To create a map, vegetation is first classified into *associations* and/or *alliances*, which are repeating assemblages of plants in similar habitats. Those assemblages are then organized into *map classes*, which identify meaningful units to represent existing vegetation and land uses (see map, next page). *Ecological systems* are used to organize the map classes. They represent groups of communities that occur in similar environments and are shaped by similar ecological processes.

For the Black Canyon of the Gunnison NP project, the NCPN crew developed 24 natural or semi-natural vegetation map classes, represented by 3,135 map polygons. The mapped vegetation was classified into 77 community types. The most common map class was Gambel Oak / Mixed Montane Shrubland, covering 28.6% of the mapping area. Pinyon-juniper woodlands and sagebrush shrublands dominated the vegetation, accounting for 32 associations.

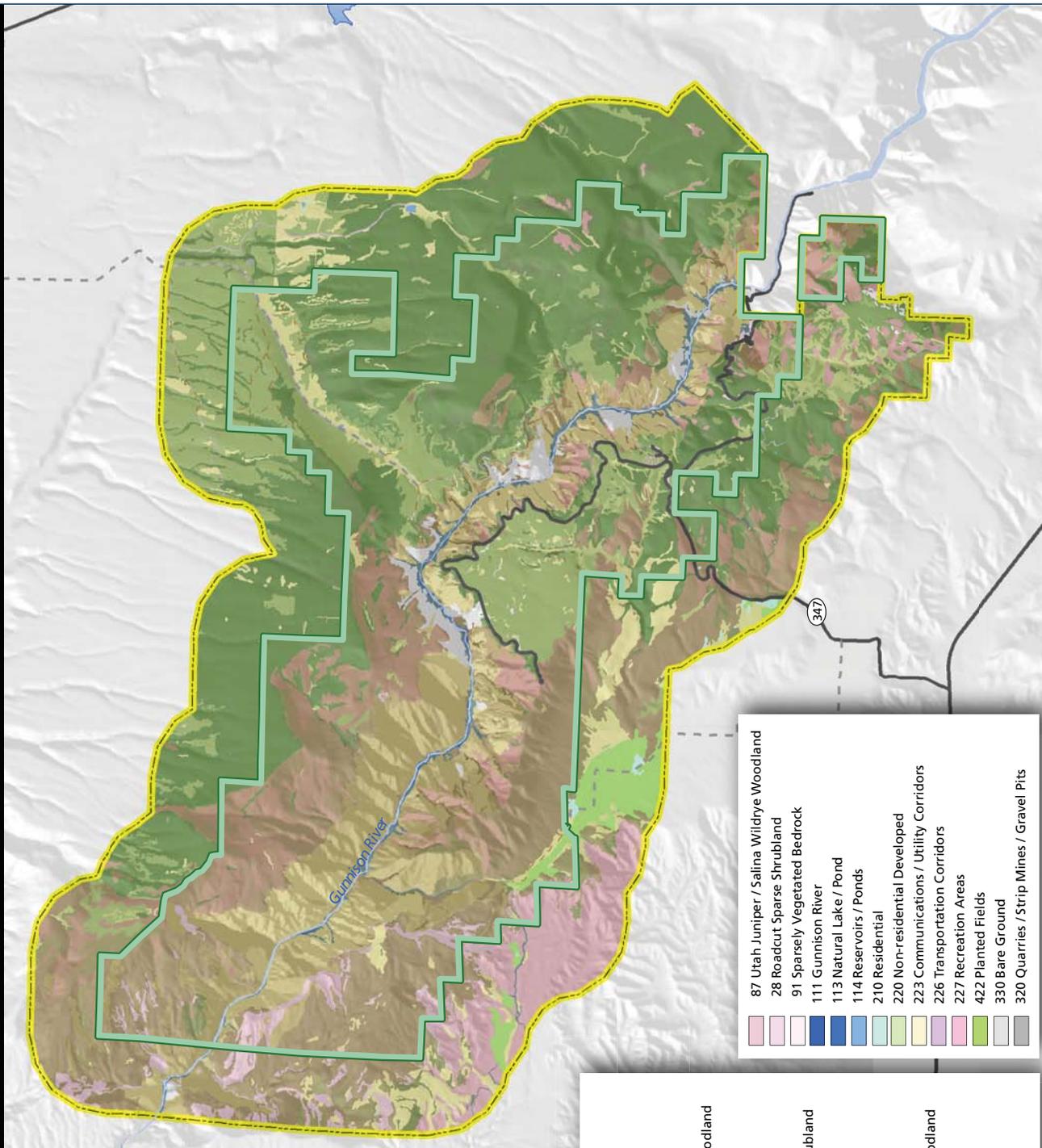
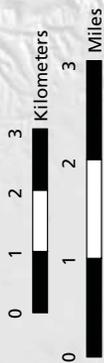
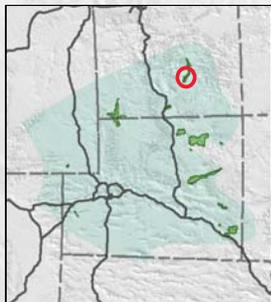
Woodland types are common within the park, occupying many available habitats. Shrubland associations occupy diverse habitats across much of the park. Herbaceous associations are uncommon, tending to occur in small patches or in transitional communities of grassland and shrubland or woodland. Dense forests are rare and limited to protected, north-facing slopes. The distribution of riparian woodlands, which varies according to the availability of water, is restricted to the Gunnison River floodplain and its tributary canyons.

Map on other side!





Black Canyon of the Gunnison National Park Vegetation Map



Vegetation Map Classes

5	Canyon Bottom Mosaic
9	Blue Spruce Woodland Alliance
48	Gambel Oak / Rock Spirea Scree Shrubland
60	Douglas-fir Scree Woodland
69	Pinyon-Juniper / Sparse Mixed Shrubs Scree Woodland
93	Rock Spirea Sparsely Vegetated Rock Outcrop
20	Mixed Upland Grasslands
31	Wyoming Big Sagebrush Shrubland
33	Mountain Big Sagebrush Shrubland
49	Mountain Big Sagebrush / Mixed Montane Shrubland
40	Gambel Oak / Big Sagebrush Shrubland
42	Gambel Oak / Mixed Montane Shrubland
43	Gambel Oak Woodlands
78	Utah Juniper / Big Sagebrush Woodland
72	Pinyon-Juniper / Sagebrush Species Woodland
74	Pinyon-Juniper / Mixed Shrubs and Grasses Woodland
71	Pinyon-Juniper / Gambel Oak Woodland
62	Douglas-fir Forest
52	Quaking Aspen Forest
80	Mancos Shale Badlands Complex

87	Utah Juniper / Salina Wildrye Woodland
28	Roadcut Sparse Shrubland
91	Sparsely Vegetated Bedrock
111	Gunnison River
113	Natural Lake / Pond
114	Reservoirs / Ponds
210	Residential
220	Non-residential Developed
223	Communications / Utility Corridors
226	Transportation Corridors
227	Recreation Areas
422	Planted Fields
330	Bare Ground
320	Quarries / Strip Mines / Gravel Pits