



Vegetation Mapping at Canyonlands 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.

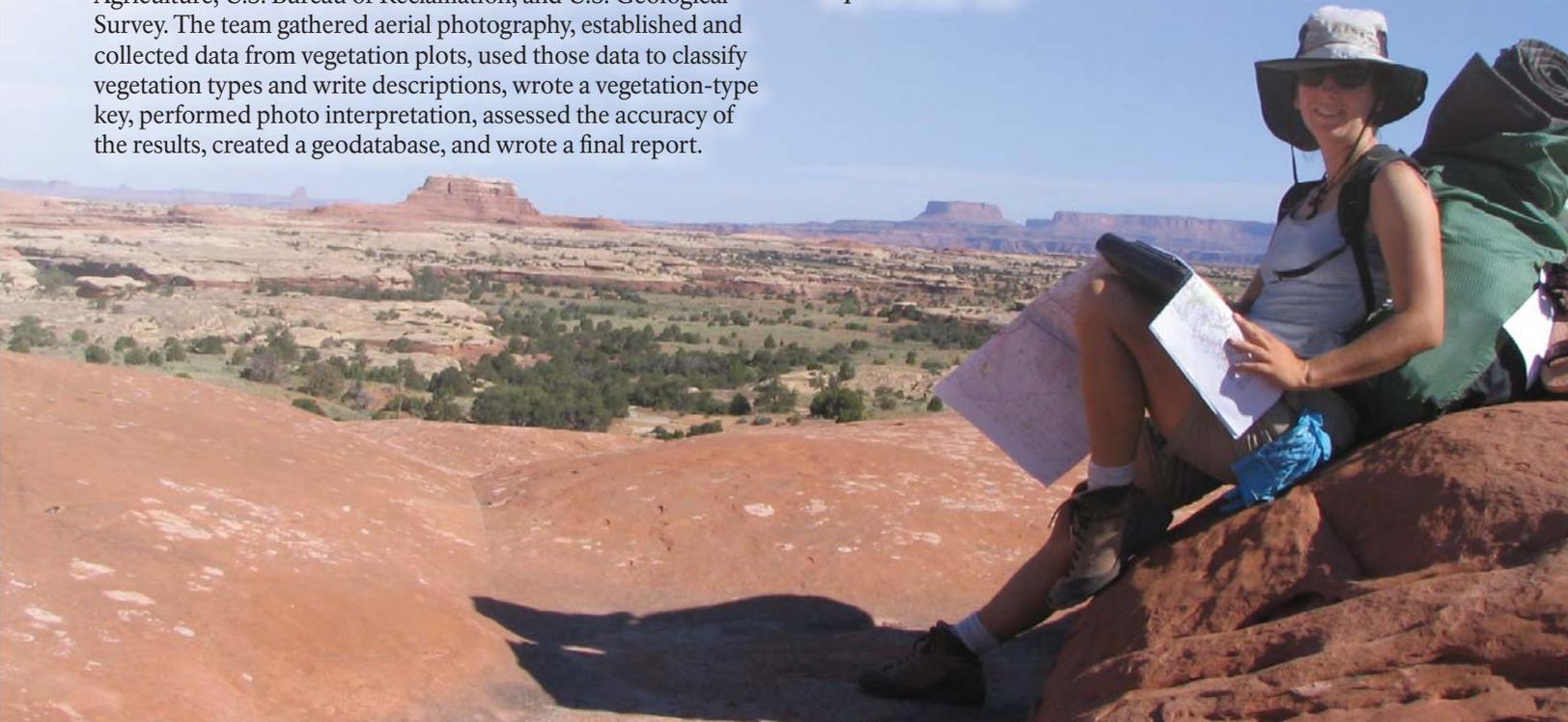
The Canyonlands National Park (NP) mapping project was led by the Northern Colorado Plateau Network (NCPN), with assistance from park staff and several partners, including engineering-environmental Management, Inc., NatureServe, the Colorado Natural Heritage Program, U.S. Department of Agriculture, U.S. Bureau of Reclamation, and U.S. Geological Survey. The team gathered aerial photography, established and collected data from vegetation plots, used those data to classify vegetation types and write descriptions, wrote a vegetation-type key, performed photo interpretation, assessed the accuracy of the results, created a geodatabase, and wrote a final report.

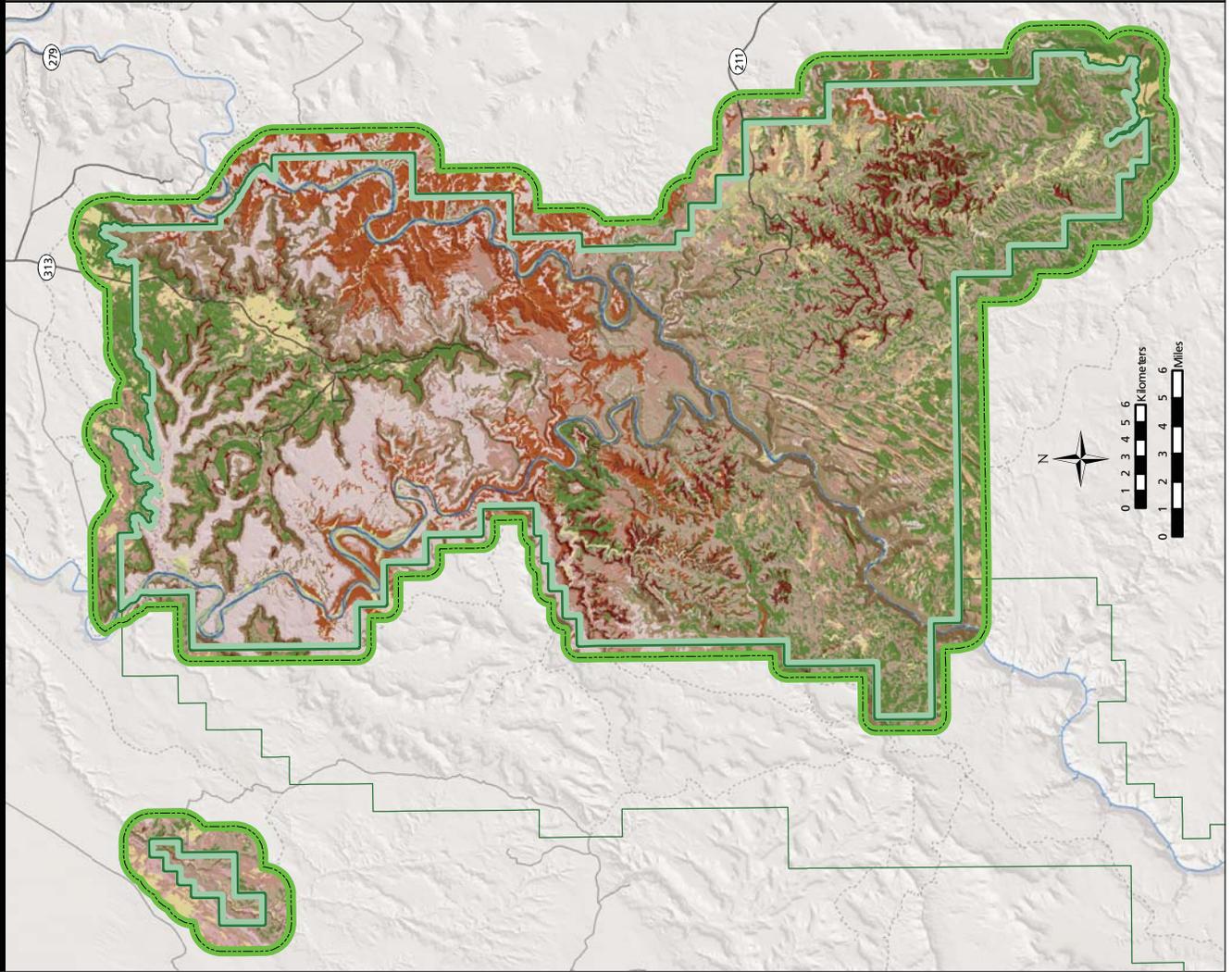
To create a map, vegetation is first classified into *associations* and/or *alliances*, which are repeating assemblages of plants in similar habitats. Those assemblages are then organized into *map classes*, which identify meaningful units to represent existing vegetation and land uses. *Ecological systems*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

For the Canyonlands NP project, the NCPN crew developed 54 map classes represented by 31,497 map polygons. The mapped vegetation was classified into 164 community types, 90 of which were shrubland, wooded shrubland, dwarf-shrubland, or sparse shrubland types. The most frequent vegetation map class was the Potholed and Jointed Sandstone Woodland Complex, covering 17.9% of the project area.

The mapping effort revealed that although shrublands are the most diverse community type, occupying a wide variety of habitats, the park is spatially dominated by upland woodlands. Upland herbaceous communities are common but restricted in distribution, occurring primarily in the Needles District. Riparian woodlands are found on the floodplains of the Colorado and Green rivers, near seeps and springs in tributary canyons, and below pour-offs in alcoves and other sheltered locations. Wetland and riparian shrublands are the most common vegetation types established along the park's two major river corridors. Riparian and wetland herbaceous associations are both uncommon and limited to areas with water at or near the surface for some or all of the growing season.

Map on other side!





Ecological Systems

- Southern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest and Woodland
- Colorado Plateau Pinyon-Juniper Woodland
- Rocky Mountain Gambel Oak - Mixed Montane Shrubland
- Intermountain Basins Big Sagebrush Shrubland
- Intermountain Basins Greasewood Flat
- Intermountain Basins Mixed Salt Desert Scrub
- Colorado Plateau Blackbrush - Mormon tea Shrubland (Mormon tea)
- Intermountain Basins Semi-desert Grassland
- Intermountain Basins Semi-desert Shrub Steppe
- Intermountain Basins Semi-desert Grassland (Disturbed)
- Colorado Plateau Blackbrush - Mormon tea Shrubland
- Intermountain Basins Active and Stabilized Dune
- Intermountain Basins Wash
- Intermountain Basins Shale Badland
- Colorado Plateau Pinyon-Juniper Shrubland
- Intermountain Basins Mat Saltbush Shrubland
- Intermountain Basins Cliff and Canyon
- North American Warm Desert Riparian Woodland and Shrubland
- Rocky Mountain Lower Montane - Foothill Riparian Woodland and Shrubland
- North American Arid West Emergent Marsh
- Apacherian-Chihuahuan Semi-desert Grassland and Steppe
- Intermountain Basins Playa
- Colorado Plateau Mixed Bedrock Canyon and Tableland
- Bare rock
- Water
- Sandbars/Islands/Mudflats
- Roads
- Park facilities
- Canyonlands National Park boundary
- Glen Canyon National Recreation Area boundary
- Vegetation mapping project boundary