Northern Colorado Plateau Network
Information Brief

National Park Service
U.S. Department of the Interior

Intermountain Region
Inventory & Monitoring Program

2011

Vegetation Mapping at Capitol Reef 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 Capitol Reef 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. Department of Agriculture, and U.S. Bureau of Reclamation. 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.

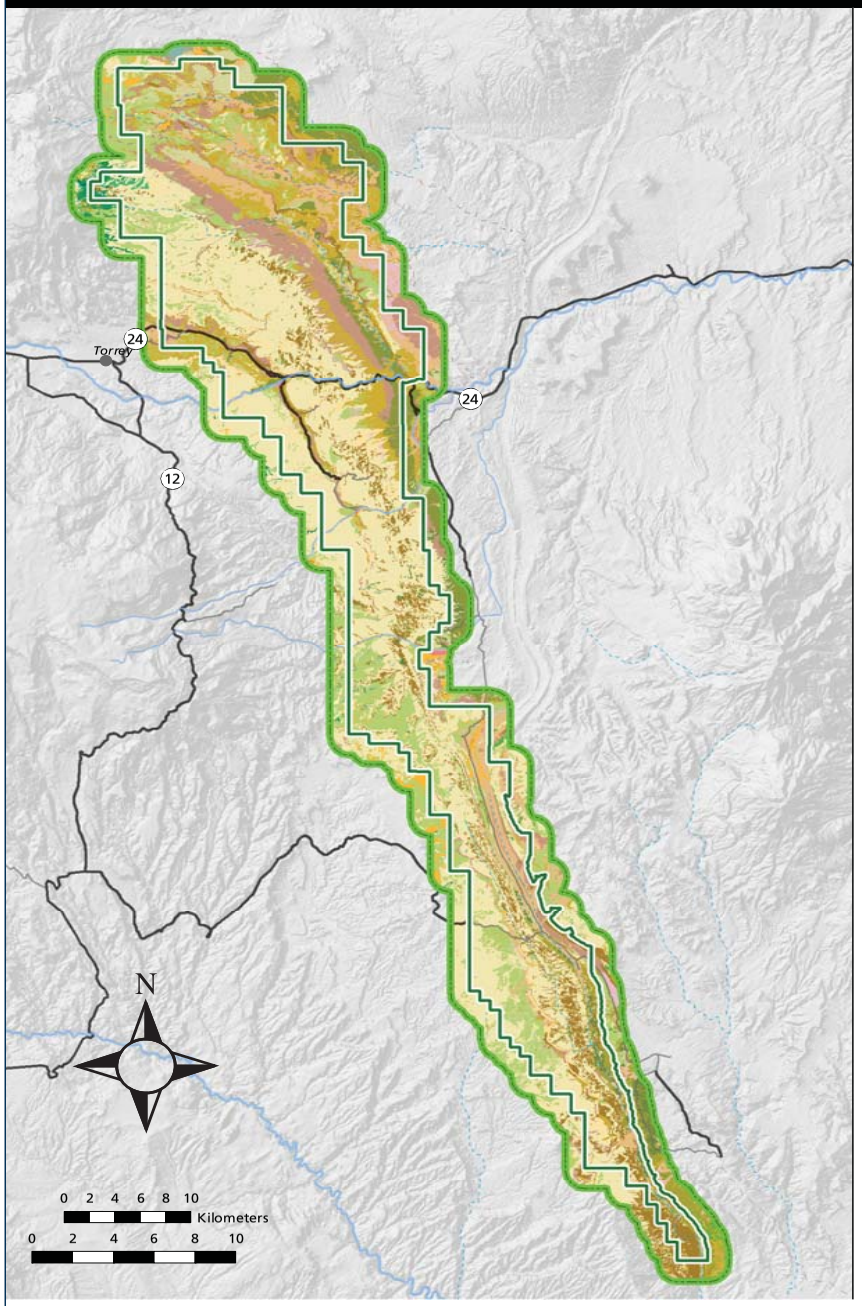
For the Capitol Reef NP project, the NCPN crew developed 70 natural or semi-natural vegetation map classes, represented by 18,633 map polygons. The mapped vegetation was classified into 175 community types, of which woodlands and saltbush shrublands accounted for 58 types. The most frequent vegetation map class was the Pinyon-Juniper / Mesic Shrubs Woodland Complex, covering 28.7% of the project area.

The mapping effort revealed that woodlands and forests are the most common and widely distributed vegetation types within the park, occupying nearly every available habitat. Shrublands are the most diverse community type; some communities on badlands are extremely sparse, while others, on deep soils with good water-holding capacity, are densely vegetated. Herbaceous associations are common but patchy, and the distribution of riparian woodlands is restricted to floodplains, tributary canyons, and below pouroffs. Mesic and wetland shrub communities are small in size and limited in distribution, restricted to areas with high water tables. Riparian and wetland herbaceous associations are also uncommon and limited in distribution.

Map on other side!

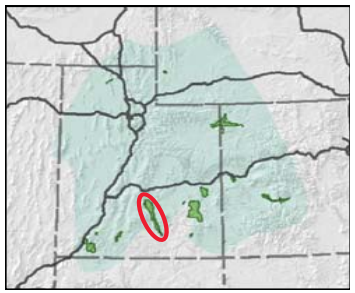
Capitol Reef National Park
Vegetation Map

U.S. Department of the Interior
National Park Service



Ecological Systems

- Rocky Mountain Aspen Forest and Woodland
- Southern Rocky Mountain Mesic Montane Mixed Conifer Forest and Woodland
- Southern Rocky Mountain Dry - Mesic Montane Mixed Conifer Forest and Woodland
- Southern Rocky Mountain Ponderosa Pine Woodland
- Inter-Mountain Basins Subalpine Limber - Bristlecone Pine Woodland
- Inter-Mountain Basins Curl-leaf Mountain Mahogany Woodland and Shrubland
- Colorado Plateau Pinyon-Juniper Shrubland
- Colorado Plateau Pinyon-Juniper Woodland
- Colorado Plateau Mixed Bedrock Canyon and Tableland
- Rocky Mountain Gambel Oak - Mixed Montane Shrubland
- Rocky Mountain Lower Montane - Foothill Shrubland
- Great Basin Semi-desert Chaparral
- Inter-Mountain Basins Montane Sagebrush Steppe
- Inter-Mountain Basins Big Sagebrush Shrubland
- Colorado Plateau Mixed Low Sagebrush Shrubland
- Colorado Plateau Blackbrush - Mormon-tea Shrubland
- Inter-Mountain Basins Semi-desert Shrub-Steppe
- Southern Colorado Plateau Sand Shrubland
- Inter-Mountain Basins Active and Stabilized Dune
- Inter-Mountain Basins Greasewood Flat
- Inter-Mountain Basins Mixed Salt Desert Scrub
- Inter-Mountain Basins Shale Badland
- Inter-Mountain Basins Wash
- Inter-Mountain Basins Semi-desert Grassland
- Rocky Mountain Subalpine - Montane Riparian Woodland
- Rocky Mountain Lower Montane - Foothill Riparian Woodland and Shrubland
- North American Warm Desert Riparian Woodland and Shrubland
- North American Arid West Emergent Marsh
- Colorado Plateau Hanging Garden
- Natural Features of Special Interest
- Unvegetated Geologic Exposures
- Developed Areas
- Open Water
- Vegetation Mapping Project Boundary
- Capitol Reef National Park Boundary



Northern Colorado Plateau Network: http://science.nature.nps.gov/im/units/ncpn/
USGS/NPS Vegetation Characterization Program: http://biology.usgs.gov/npsveg/index.html