



Vegetation Mapping at Bryce Canyon 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 Bryce Canyon 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, Cogan Technology, Inc., the Colorado Natural Heritage Program, 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

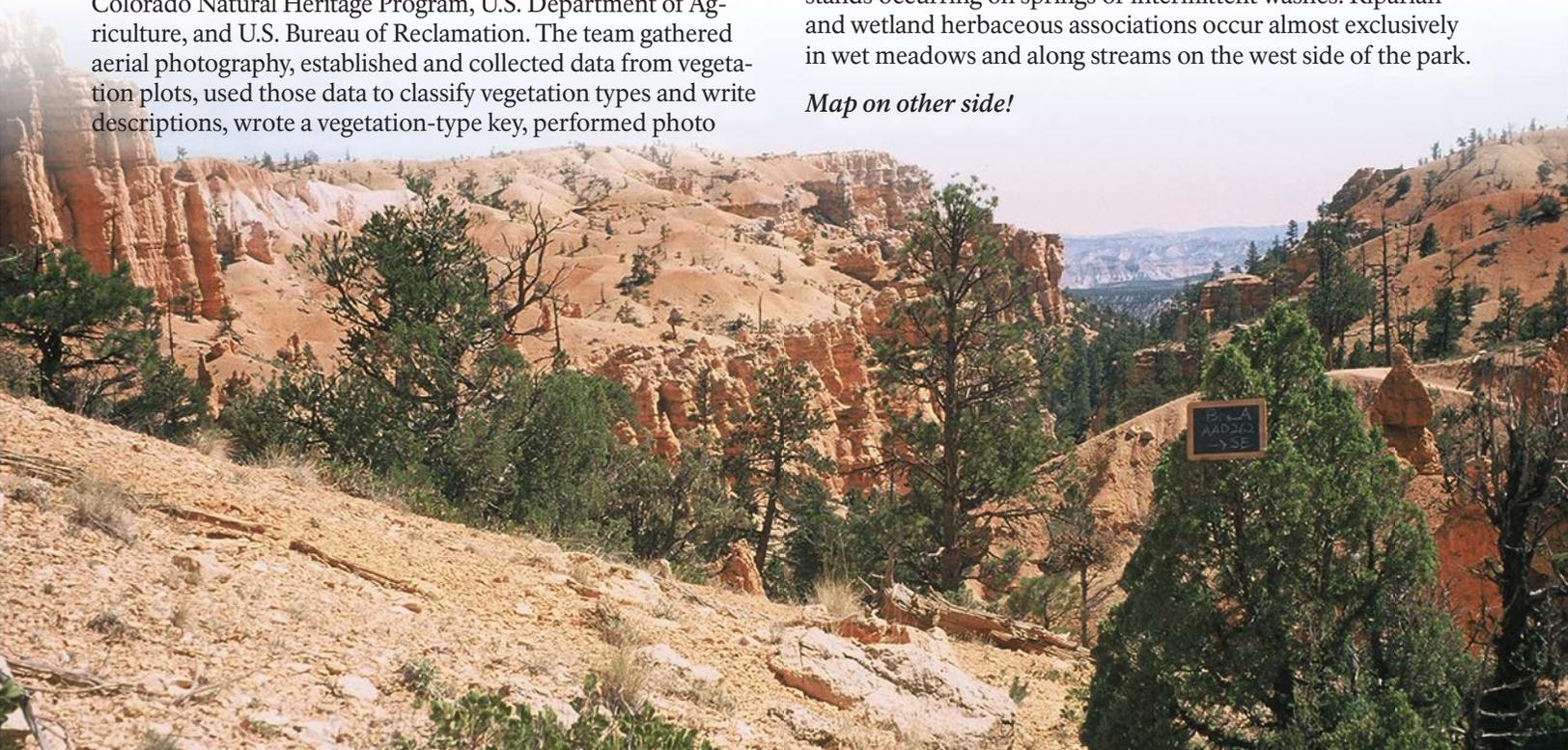
interpretation, assessed the accuracy of the results, created a geodatabase, and wrote a final report.

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 (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 Bryce Canyon NP project, the NCPN crew developed 38 natural or semi-natural vegetation map classes, represented by 5,549 map polygons. The mapped vegetation was classified into 126 community types, including 47 shrubland types, 59 forest or woodland types, and 20 herbaceous vegetation types. The most common map class was the Ponderosa Pine - (Douglas-Fir) / Manzanita Woodland Complex, covering 21% of the mapping area.

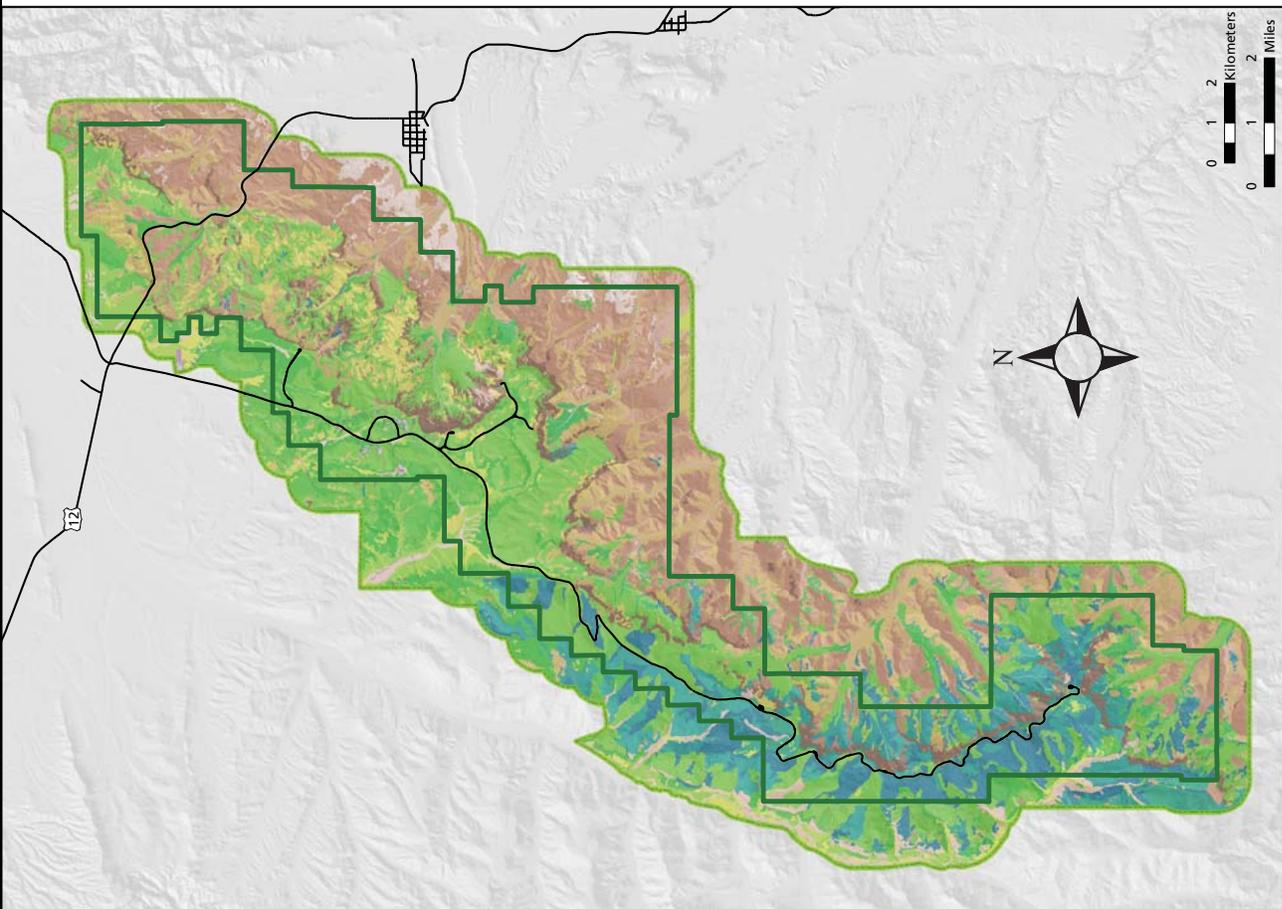
Overall, upland woodlands dominate the park—especially ponderosa pine and/or two-needle pinyon-juniper species. Upland forests dominate the park's southern, high-elevation regions. Most shrublands occur as small patches, as do the park's rare upland herbaceous communities. Native grasslands occur intermixed with shrublands on gentle valley floors and in and among ponderosa-pine woodlands. Wetland and riparian communities are uncommon, and wooded riparian wetlands rare. Wetland and riparian shrublands are also rare, with most stands occurring on springs or intermittent washes. Riparian and wetland herbaceous associations occur almost exclusively in wet meadows and along streams on the west side of the park.

Map on other side!



Bryce Canyon National Park
Vegetation Map

U.S. Department of the Interior
National Park Service



Vegetation Map Classes

- 1 White Fir Forest Complex
- 2 White Fir / Gambel Oak - (Bigtooth Maple) Forest
- 3 White Fir / Manzanita - Mixed Shrub Forest
- 5 White Fir / Mixed Grass Forest
- 23 Aspen Forest Complex
- 4 Douglas Fir Forest Complex
- 10 Ponderosa Pine / Gambel Oak Woodland
- 9 Ponderosa Pine / Mixed Herbaceous Woodland Complex
- 8 Ponderosa Pine / Mixed Mountain Shrub Woodland Complex
- 7 Ponderosa Pine - (Douglas-fir) / Manzanita Woodland Complex
- 30 Black Sagebrush Shrubland Complex
- 32 Viscid Rabbitbrush Shrubland Complex
- 40 Dry Meadow Mixed Herbaceous Vegetation Mosaic
- 41 Perennial Disturbed Grassland Complex
- 43 Roadside Restored Herbaceous Complex
- 13 Bristlecone Pine Woodland
- 25 Curl-leaf Mountain-mahogany Woodland Complex
- 31 Manzanita Shrubland Complex
- 27 Mixed Mountain Shrubland Complex
- 11 Ponderosa Pine / Pinyon Pine - Juniper spp. / Gambel Oak
- 12 Ponderosa Pine / PJ / Mixed Mountain Shrub Woodland Complex
- 17 Pinyon Pine - Juniper spp. / Gambel Oak
- 18 Pinyon Pine - Juniper spp. / Sparse Understorey
- 14 Pinyon Pine - Juniper spp. / Saline Wildrye Woodland
- 15 Pinyon Pine - Juniper spp. / Sagebrush spp. Woodland Complex
- 16 Pinyon Pine - Juniper spp. / Mixed Mountain Shrub Woodland Complex
- 26 Gambel Oak Shrubland Complex
- 28 Water Birch Shrubland
- 29 Willow spp. Temporarily Flooded Shrubland Complex
- 24 Narrowleaf Cottonwood Woodland Complex
- 34 Big Sagebrush Shrubland Complex
- 33 Bottomland Shrubland Complex
- 6 Blue Spruce Forest Complex
- 35 Shrubby-cinquefoil Shrubland
- 42 Sedge and Rush Wet Meadow Herbaceous Vegetation
- 37 Pygmy Sagebrush Dwarf Shrubland
- 45 Mixed Desert Shrubland Complex
- 48 Silbush Sparse Vegetation
- 46 Claron Formation
- 47 Barren Washes
- 61 Seeps and Springs
- 56 Intermittent Streams
- 57 Reservoirs
- 59 Stock Ponds
- 51 Mixed Urban or Built-up Land
- 52 Croplands and Pastures
- 54 Other Agricultural Lands
- 50 Roadways
- 60 Strip Mines, Quarries, and Gravel Pits

