



Vegetation Mapping at Fossil Butte National Monument

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 Fossil Butte NM mapping project was led by the Northern Colorado Plateau Network, with assistance from several partners, including engineering-environmental Management, Inc., NatureServe, 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 Fossil Butte NM project, the NCPN crew developed 37 natural or semi-natural vegetation map classes, represented by 1,687 map polygons. The mapped vegetation was classified into 71 community types, more than half of which were shrubland types. The most frequent vegetation mapping unit was Low Sagebrush Shrubland, covering 35% of the project area.

The mapping results revealed that shrublands are the most diverse and widespread communities in the monument, occupying buttes and ridgetops, slopes, hills, alluvial fans, drainages, and flats. Upland forest and woodland types are uncommon and distributed mostly on north-facing slopes. Herbaceous associations are uncommon and patchy. Riparian woodlands are rare, restricted in their distribution to seeps on the southwestern face of Fossil Butte. Mesic and wetland shrub communities, as well as riparian and wetland herbaceous associations, are uncommon, with limited distribution.

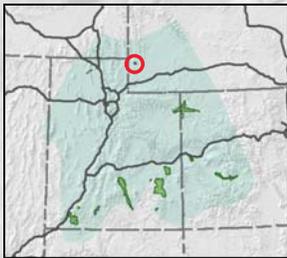
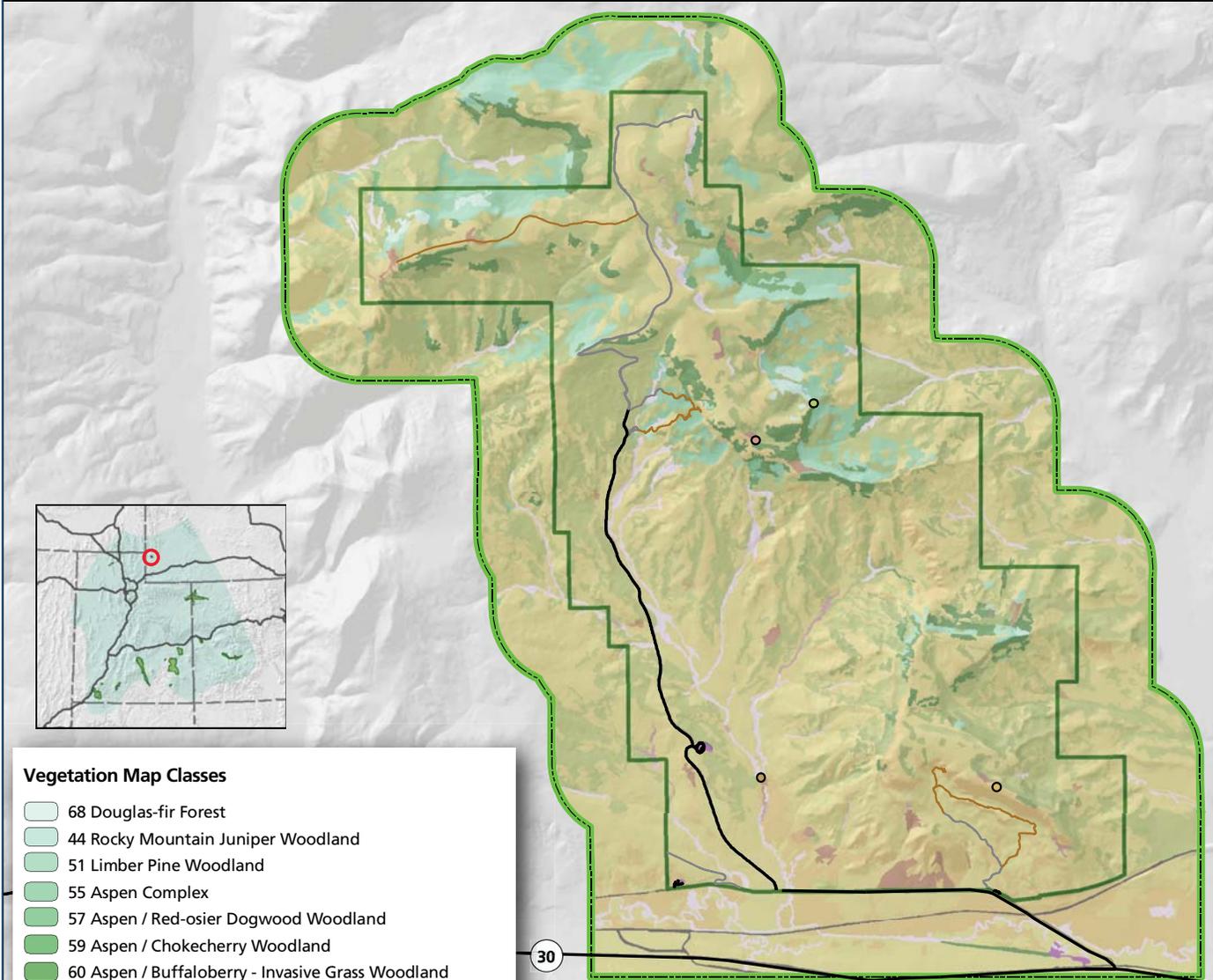
Map on other side!



Fossil Butte National Monument

Vegetation Map

U.S. Department of the Interior
National Park Service



Vegetation Map Classes

- 68 Douglas-fir Forest
- 44 Rocky Mountain Juniper Woodland
- 51 Limber Pine Woodland
- 55 Aspen Complex
- 57 Aspen / Red-osier Dogwood Woodland
- 59 Aspen / Chokecherry Woodland
- 60 Aspen / Buffaloberry - Invasive Grass Woodland
- 1 Mixed Mountain Shrubland
- 33 Martin's Buckbrush Shrubland
- 63 Chokecherry Shrubland
- 69 Bitterbrush Shrubland
- 74 Mountain Snowberry Shrubland
- 11 Sagebrush - Serviceberry Shrubland
- 16 Mountain Big Sagebrush Shrubland
- 13 Basin Big Sagebrush / Great Basin Wild Rye Shrubland
- 15 Basin Big Sagebrush / Bluegrass Shrubland
- 23 Wyoming Big Sagebrush Shrubland
- 4 Low Sagebrush Shrubland
- 10 Black Sagebrush Shrubland
- 36 Windswept Ridge Complex
- 28 Saline Flat Shrubland
- 29 Shadscale Cliff Sparse Shrubland
- 37 Rockloving Wavewing Meadow
- 48 Virginia Pepperweed Sparse Vegetation
- 49 Great Basin Wild Rye Grassland
- 50 Western Wheatgrass Grassland

- 53 Kentucky Bluegrass Meadow
- 40 Streamside Wildrye Grassland
- 42 Meadow Barley Grassland
- 38 Shrubby Cinquefoil Shrubland
- 27 Snow Glade
- 54 Narrowleaf Cottonwood Woodland
- 9 Silver Sagebrush Wet Meadow
- 70 Yellow Willow Shrubland
- 71 Scouler's Willow Shrubland
- 39 Marsh Spikerush Wetland
- 32 Wet Meadow Herbaceous
- 75 Park Infrastructure
- 76 Roads
- Fossil Butte NM Boundary
- Vegetation Mapping Project Boundary

