



Vegetation Mapping at Hovenweep 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 Hovenweep NM mapping project was led by the Northern Colorado Plateau Network, with assistance from engineering-environmental Management, Inc., and NatureServe. 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 Hovenweep NM project, the NCPN crew developed 29 natural or semi-natural vegetation map classes, represented by 338 map polygons. The mapped vegetation was classified into 34 community types, including 13 woodland, 14 shrubland, and 6 herbaceous associations, as well as one association that appeared to be unique to the monument. Three associations were dominated by exotic herbaceous species; the others were predominantly native vegetation. The most frequent vegetation mapping unit was Wyoming Sagebrush Disturbed Shrubland, covering 24% of the mapped area.

The mapping results revealed that the monument's shrubland types are influenced by precipitation, landscape position, soil depth and alkalinity/salinity. Woodland associations are established on canyon sides, canyon rims, slopes, and hills. Herbaceous plant communities are a relatively minor component of the monument's vegetation. Riparian vegetation is rare, as there are no perennial streams within the monument and many of the springs and seeps have low flows.

Map on other side!



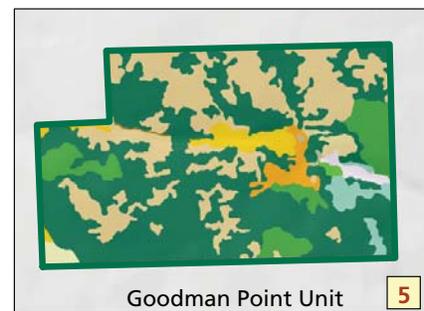
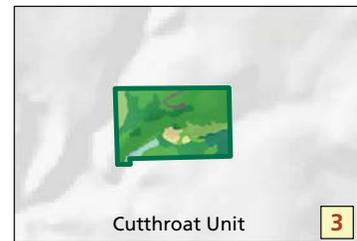
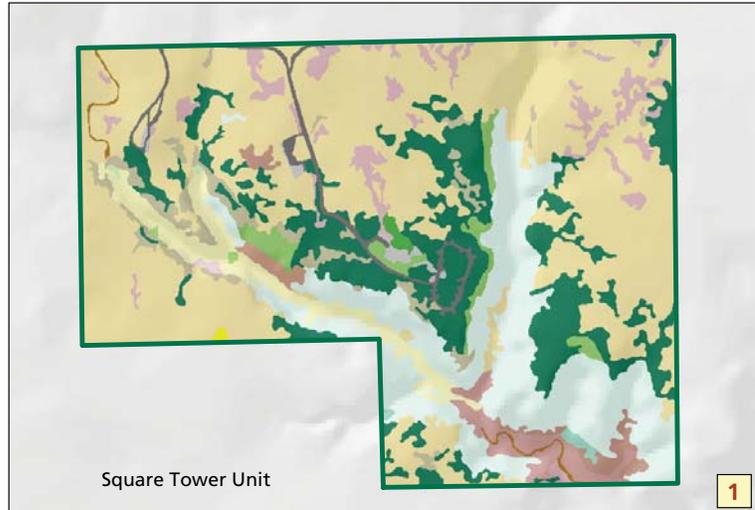
Hovenweep National Monument Vegetation Map

U.S. Department of the Interior
National Park Service



Vegetation Map Classes

-  41 Juniper Woodland
-  42 Pinyon-Juniper / Gambel Oak Woodland
-  43 Pinyon-Juniper / Saltbush Woodland
-  44 Pinyon-Juniper / Grasses Woodland
-  45 Pinyon-Juniper / Wyoming Sagebrush Woodland
-  46 Pinyon-Juniper / Mountain Mahogany Woodland
-  47 Pinyon-Juniper / Sparse Understory Woodland
-  48 Pinyon-Juniper / Bitterbrush Woodland
-  49 Pinyon-Juniper / Bigelow Sagebrush Woodland
-  40 Hackberry Woodland
-  50 Rio Grande Cottonwood / Rabbitbrush Woodland
-  51 Rio Grande Cottonwood / Coyote Willow Woodland
-  20 Basin Big Sagebrush Shrubland
-  22 Wyoming Sagebrush - Shadscale Shrubland
-  23 Wyoming Sagebrush Disturbed Shrubland
-  24 Wyoming Sagebrush / Native Grass Shrubland
-  25 Wyoming Sagebrush / Sparse Understory Shrubland
-  26 Bigelow Sagebrush Shrubland
-  27 Fourwing Saltbush / Galleta Shrubland
-  28 Shadscale / Galleta Shrubland
-  33 Greasewood Shrubland
-  15 Snakeweed - Sparse Grasses Dwarf-Shrubland
-  31 Montane Deciduous Shrubland
-  34 Mixed Riparian Shrubland
-  10 Mixed Short Grassland
-  8 Alkali Sacaton Grassland
-  11 Western Wheatgrass Grassland
-  12 Smooth Brome Grassland
-  13 Cheatgrass Grassland
-  2 Slickrock (unvegetated)
-  3 Unvegetated Wash
-  60 Roads
-  61 Monument Facilities
-  Hovenweep National Monument Boundary



0 250 500 1,000 Meters

