



Vegetation Mapping at Arches 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 Arches 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 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-

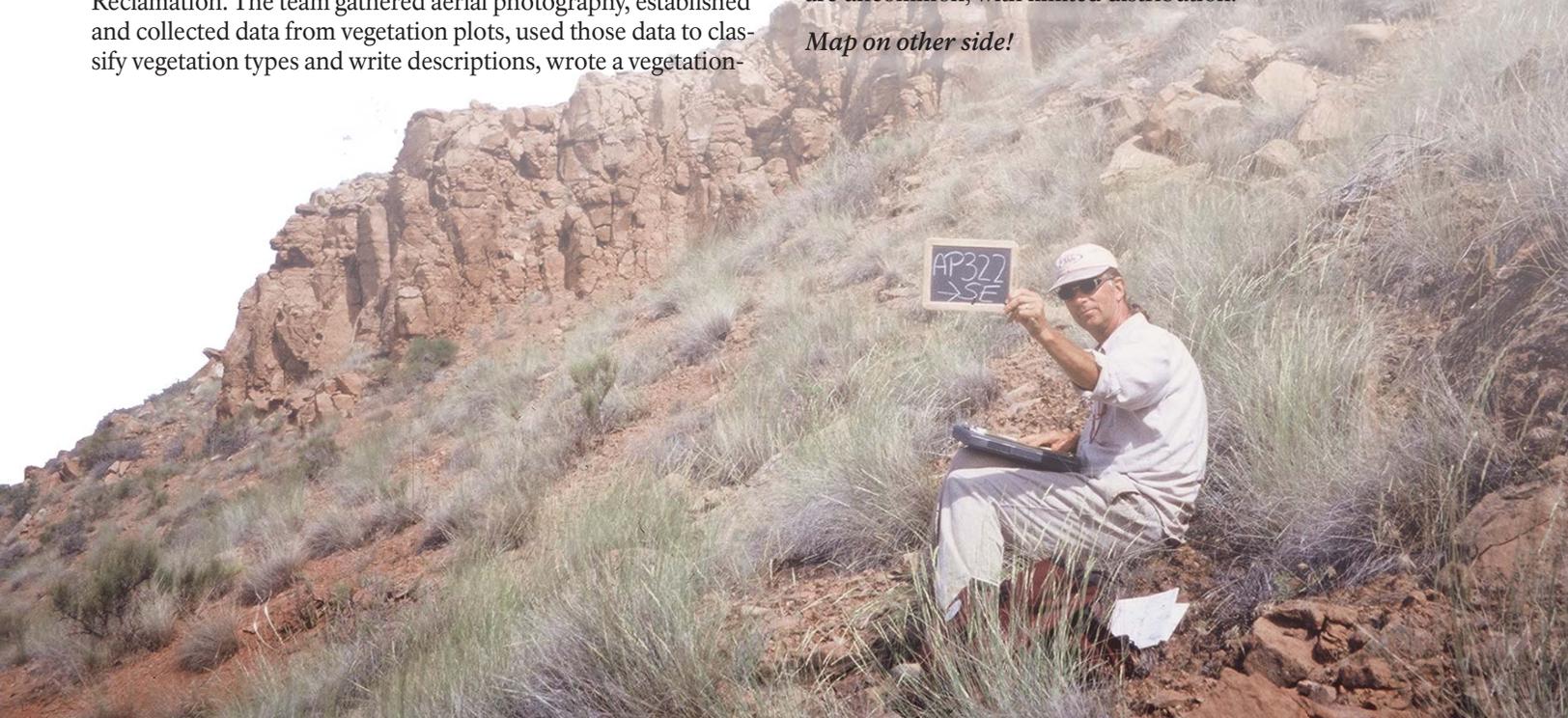
type key, performed photo interpretation, assessed the accuracy of the results, created a geodatabase, and wrote a final report.

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. *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 Arches NP project, the NCPN crew developed 31 natural or semi-natural vegetation map classes, represented by 6,709 map polygons. The mapped vegetation was classified into 75 community types, including 42 shrubland types, 20 woodland types, 12 herbaceous types, and 1 complex of woodland and shrubland communities.

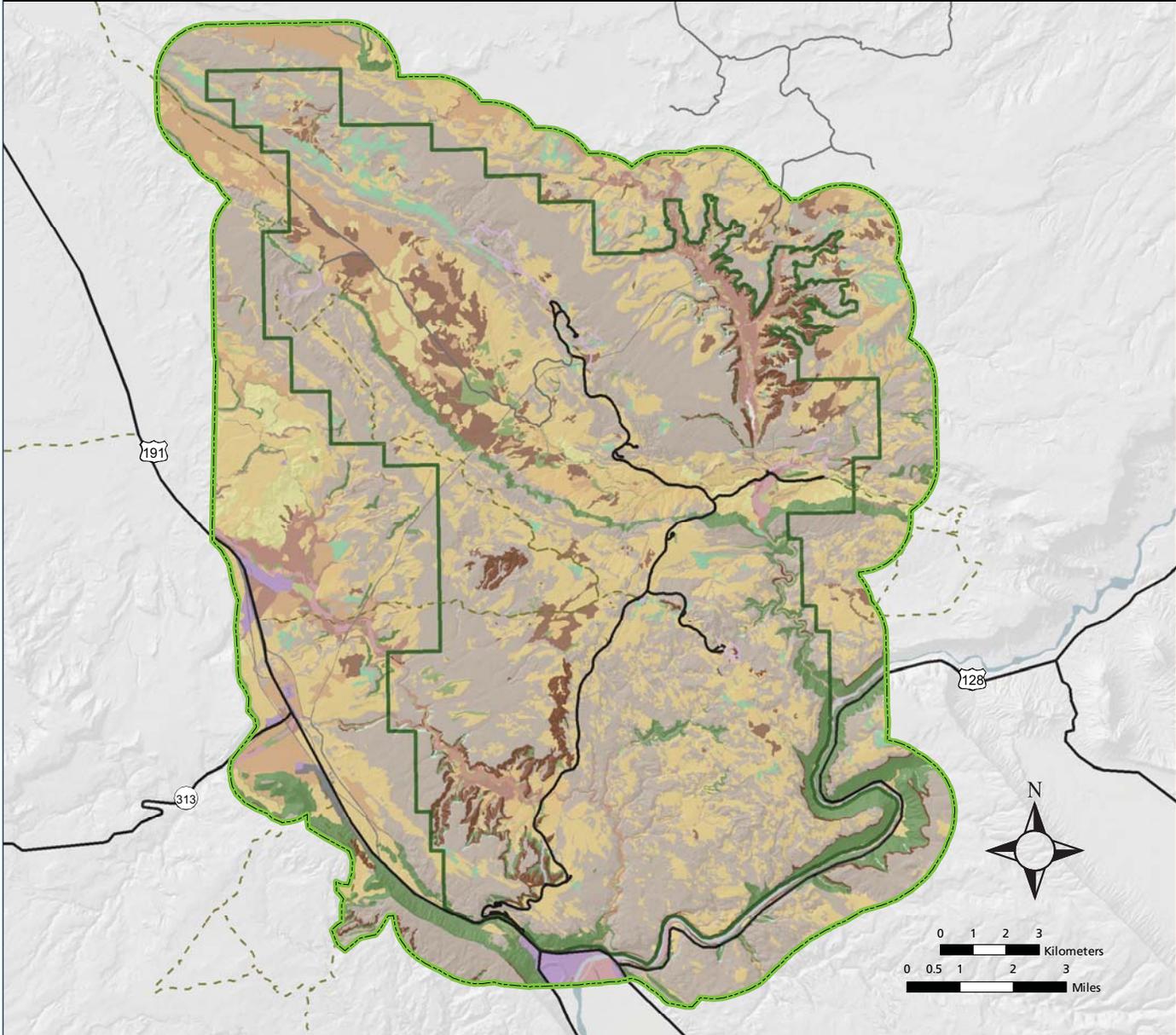
Desert shrublands are the most common vegetation type within Arches NP, occupying areas of shallow or poor soils throughout the park. Woodlands and sparse woodlands are common and widely distributed. Shrublands are the most diverse community type within the mapping area; badlands communities are extremely sparse, while those on deep soils with good water-holding capacity are relatively densely vegetated. Herbaceous associations are common but their distribution is restricted. Riparian woodlands occur only on the Colorado River floodplain, tributary canyons, and below pour-offs. Mesic and wetland shrub communities are very limited in size and distribution within the park. Riparian and wetland herbaceous associations are uncommon, with limited distribution.

Map on other side!



Arches National Park Vegetation Map

U.S. Department of the Interior
National Park Service



Ecological Systems

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| Colorado Plateau Pinyon-Juniper Woodland | North American Warm Desert Riparian Woodland and Shrubland |
| Colorado Plateau Pinyon-Juniper Shrubland | Temperate Pacific Freshwater Emergent Marsh |
| Rocky Mountain Gambel Oak - Mixed Montane Shrubland | Colorado Plateau Mixed Bedrock Canyon and Tableland |
| Colorado Plateau Mixed Low Sagebrush Shrubland | Inter-Mountain Basins Cliff and Canyon |
| Inter-mountain Basins Active and Stabilized Dune | North American Warm Desert Active and Stabilized Dune |
| Inter-mountain Basins Greasewood Flat | Land use class (Geology) |
| Inter-Mountain Basins Mat Saltbush Shrubland | Land use class (Roads) |
| Inter-Mountain Basins Mixed Salt Desert Scrub | Land use class (Water) |
| Colorado Plateau Blackbrush - Mormon-tea Shrubland | Land use class |
| Inter-Mountain Basins Semi-desert Shrub-Steppe | Project boundary |
| Inter-Mountain Basins Semi-desert Grassland | |
| Inter-Mountain Basins Wash | |
| North American Warm Desert Playa | |
| North American Warm Desert Lower Montane Riparian Woodland and Shrubland | |

