



Vegetation Mapping at Golden Spike National Historic Site

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 Golden Spike NHS 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 Golden Spike NHS project, the NCPN crew developed 29 natural or semi-natural vegetation map classes, represented by 552 map polygons. The mapped vegetation was classified into 18 community types. Eight of the classified types were dominated by non-native herbaceous species; the other ten associations described predominantly native vegetation. The most frequent vegetation mapping unit was Big Sagebrush / Cheatgrass Shrubland, covering 28% of the project area.

The mapping results revealed that basin big sagebrush and rubber rabbitbrush are the most common shrub communities. Most of the park's herbaceous plant communities occur where fire has removed the big sagebrush canopy. Burn sites are usually invaded by non-native annual cheatgrass. Two other exotics, crested wheatgrass and tall wheatgrass, deliberately introduced in the mid-1900s for soil stabilization, persist where they were planted. Relict stands and patches of native bunchgrasses also persist, including bluebunch wheatgrass and Great Basin wildrye. Sparse herbaceous to shrub-herbaceous vegetation occurs as relatively small landscape patches on outcrops of Oquirrh Limestone. Riparian vegetation is limited to a very short reach of Blue Creek that crosses the extreme eastern end of the park.

Map on other side!



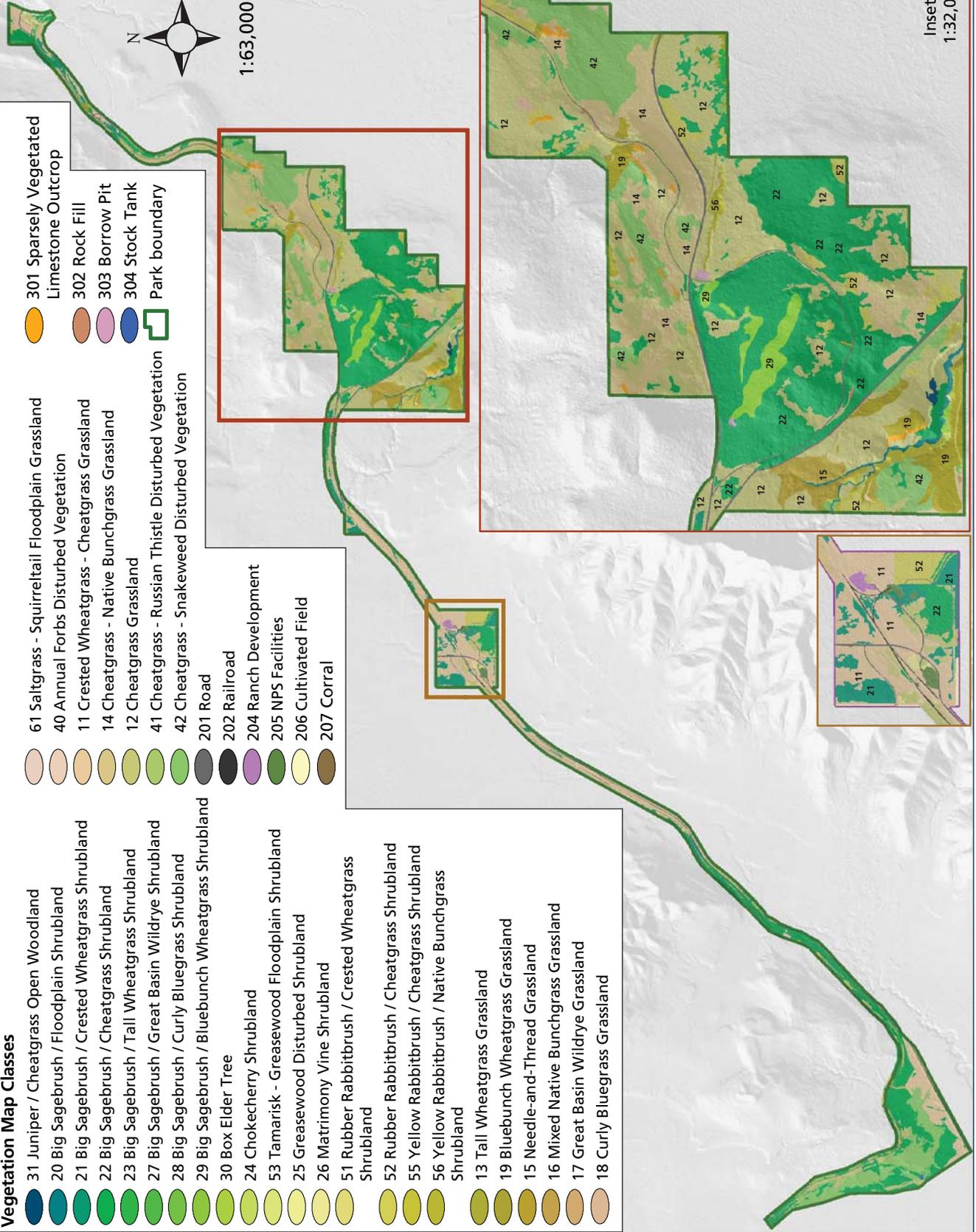
Golden Spike National Historic Site Vegetation Map

Vegetation Map Classes

- 31 Juniper / Cheatgrass Open Woodland
- 20 Big Sagebrush / Floodplain Shrubland
- 21 Big Sagebrush / Crested Wheatgrass Shrubland
- 22 Big Sagebrush / Cheatgrass Shrubland
- 23 Big Sagebrush / Tall Wheatgrass Shrubland
- 27 Big Sagebrush / Great Basin Wildrye Shrubland
- 28 Big Sagebrush / Curly Bluegrass Shrubland
- 29 Big Sagebrush / Bluebunch Wheatgrass Shrubland
- 30 Box Elder Tree
- 24 Chokecherry Shrubland
- 53 Tamarisk - Greasewood Floodplain Shrubland
- 25 Greasewood Disturbed Shrubland
- 26 Matrimony Vine Shrubland
- 51 Rubber Rabbitbrush / Crested Wheatgrass Shrubland
- 52 Rubber Rabbitbrush / Cheatgrass Shrubland
- 55 Yellow Rabbitbrush / Cheatgrass Shrubland
- 56 Yellow Rabbitbrush / Native Bunchgrass Shrubland
- 13 Tall Wheatgrass Grassland
- 19 Bluebunch Wheatgrass Grassland
- 15 Needle-and-Thread Grassland
- 16 Mixed Native Bunchgrass Grassland
- 17 Great Basin Wildrye Grassland
- 18 Curly Bluegrass Grassland

- 61 Saltgrass - Squirreltail Floodplain Grassland
- 40 Annual Forbs Disturbed Vegetation
- 11 Crested Wheatgrass - Cheatgrass Grassland
- 14 Cheatgrass - Native Bunchgrass Grassland
- 12 Cheatgrass Grassland
- 41 Cheatgrass - Russian Thistle Disturbed Vegetation
- 42 Cheatgrass - Snakeweed Disturbed Vegetation
- 201 Road
- 202 Railroad
- 204 Ranch Development
- 205 NPS Facilities
- 206 Cultivated Field
- 207 Corral

- 301 Sparsely Vegetated Limestone Outcrop
- 302 Rock Fill
- 303 Borrow Pit
- 304 Stock Tank
- Park boundary



Insets:
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