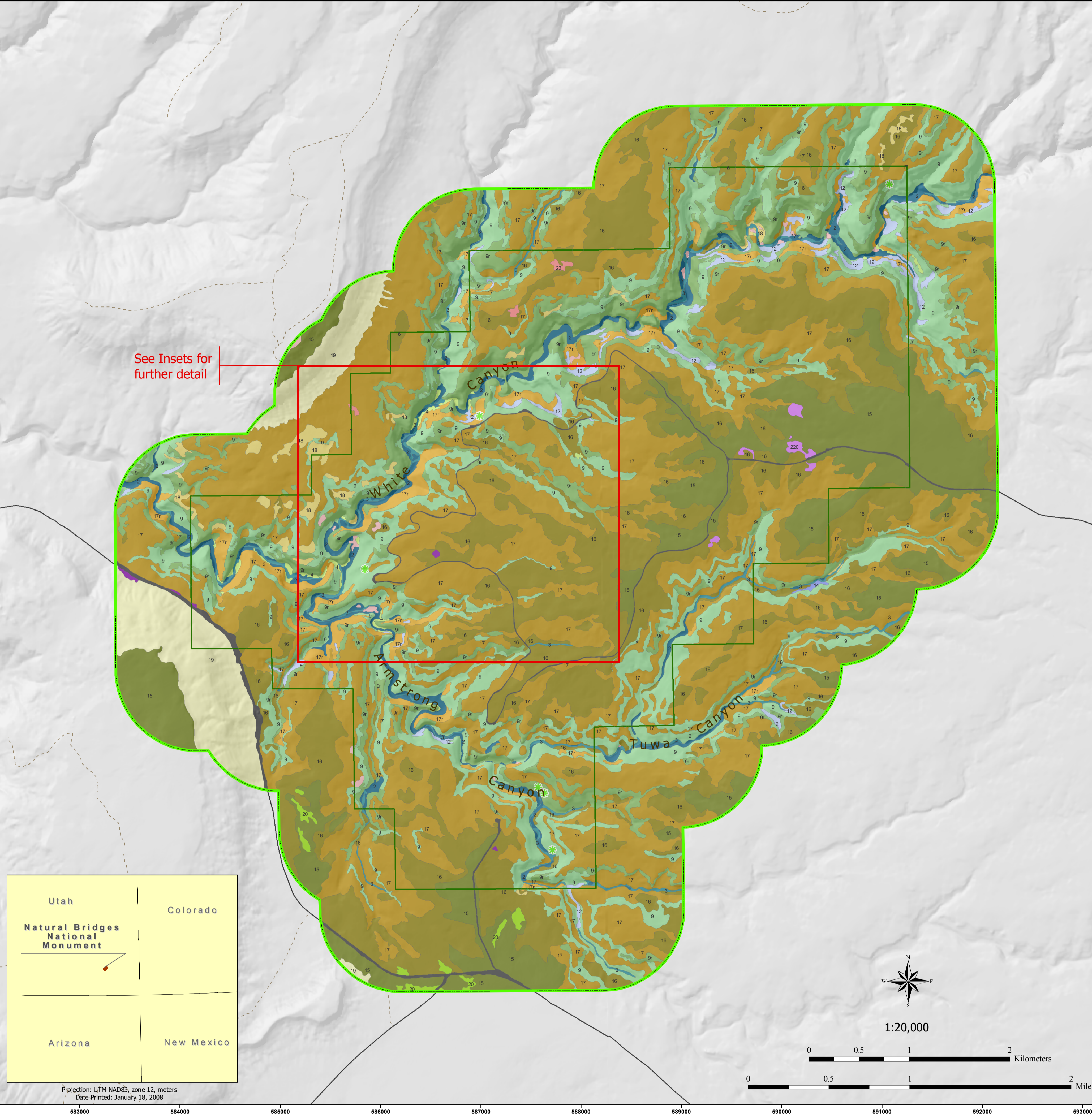


# Vegetation Mapping Project

## Natural Bridges National Monument

U.S. Department of the Interior  
National Park Service



### Vegetation Map Classes

- 1 Hanging Gardens
- 2 Canyon Bottom Vegetation
- 3 Stream Channel - Sand Bar Sparse Vegetation
- 12 Douglas-fir Woodland
- 14 Ponderosa Pine - Pinyon-Juniper Woodland
- 9 Pinyon-Juniper / Littleleaf Mountain Mahogany Woodland
- 9r Slickrock Sparse Vegetation
- 15 Pinyon-Juniper / Sagebrush Woodland
- 16 Pinyon-Juniper / Sparse Understory Woodland
- 17 Pinyon-Juniper / Mixed Shrubs Woodland
- 17r Pinyon-Juniper / Mixed Shrubs Woodland
- 18 Pinyon-Juniper / Native Grass Woodland
- 19 Pinyon-Juniper / Buffalo-berry-Serviceberry Woodland
- 4 Gambel Oak Tall Shrubland
- 20 Wyoming Sagebrush Shrubland
- 21 Needle-and-Thread-Ricegrass Bunchgrass Grassland
- 22 Galleta - Blue Grama Grassland
- 220 Park facility
- 320 Quarry / Borrow Pit
- 226 Road

### Vegetation Mapping Project Boundary

- Vegetation Mapping Project Boundary
- Park Boundary
- Plot Locations
- Observation Locations
- Accuracy Assessment Locations

### Density Classes

- Closed Tree Canopy / Continuous (>60% coverage)
- Open Tree Canopy / Discontinuous (25-60% coverage)
- Dispersed - Sparse Tree Canopy (10-25% coverage)
- Dense Sagebrush Canopy (>40% coverage)
- Light Sagebrush Canopy (<10-40% coverage)
- N/A

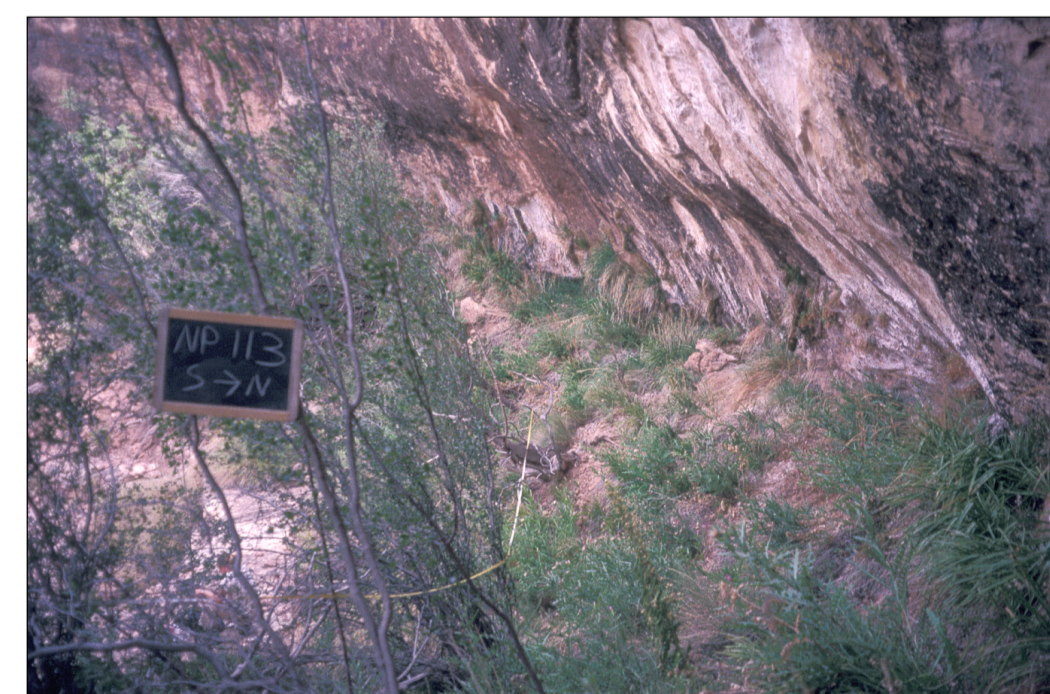
### Height Classes

- G = 15 - 30 meters
- H = 5 - 15 meters
- I = 1 - 5 meters
- K = 1 - 5 meters
- L = 0.5 - 1 meter
- M = 0 - 0.5 meter

Cooperator: U.S. Geological Survey



Assisted by: e<sup>2</sup>M and NatureServe

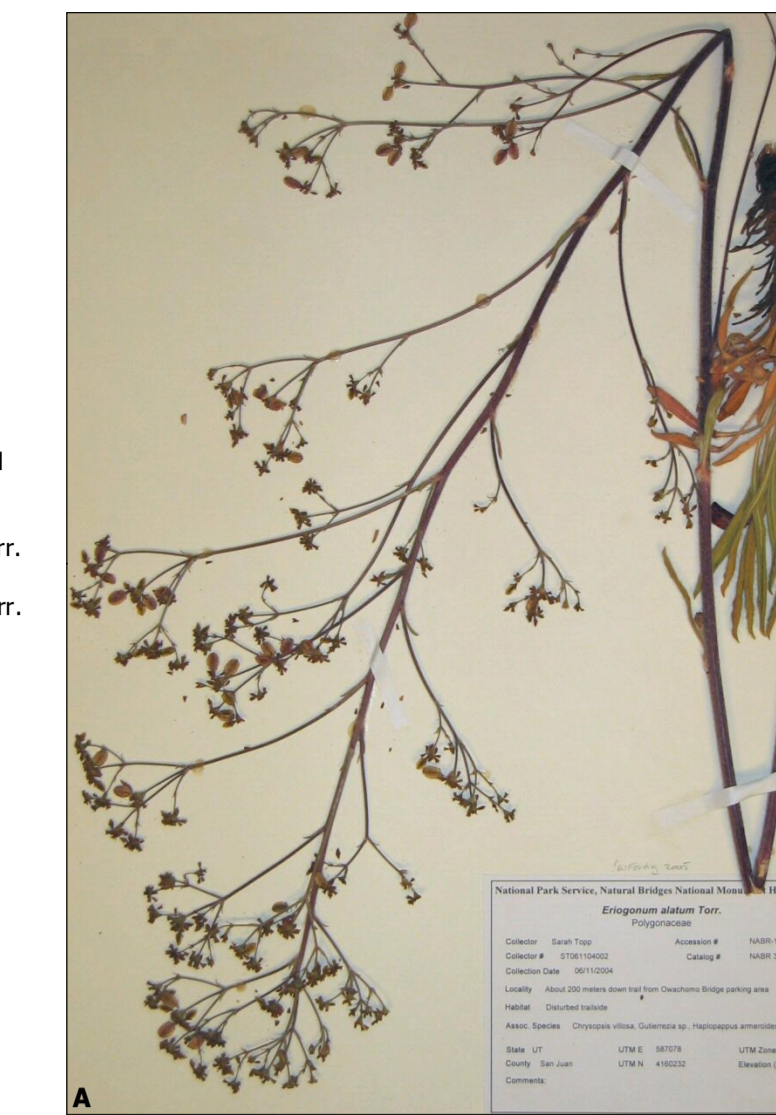


### Vegetation found at Plot NABR.0113

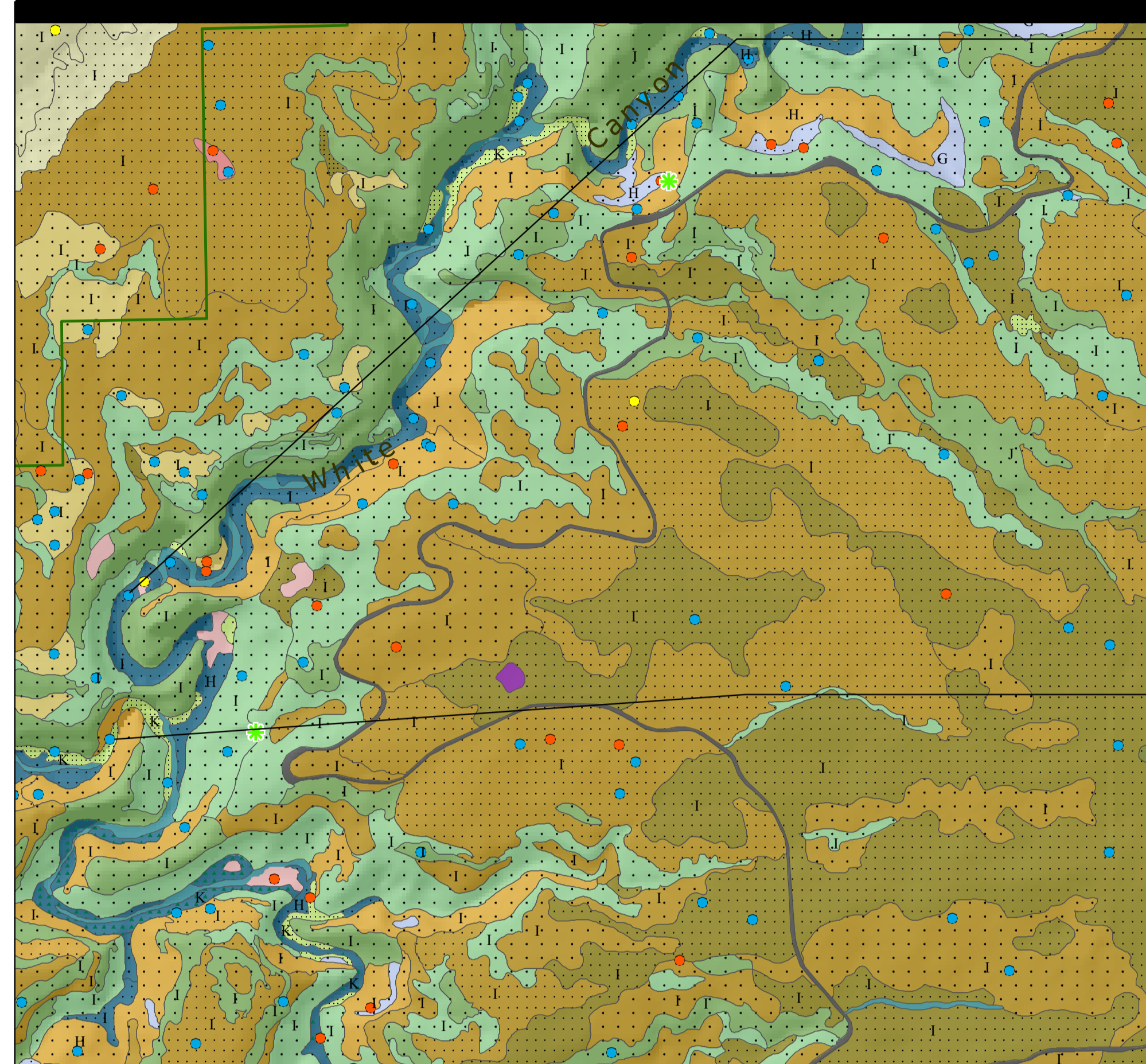
STRATUM	SPECIES
Canopy	<i>Pinus edulis</i>
Tall Shrub	<i>Amelanchier utahensis</i> <i>Rhus aromatica</i> <i>Cercocarpus montanus</i> <i>Fraxinus anomala</i> <i>Quercus gambelli</i> <i>Prunus virginiana</i>
Dwarf Shrub	<i>Paxistima myrsinites</i>
Graminoid	<i>Calamagrostis scopulorum</i> <i>Juncus arcticus</i>
Forb	<i>Solidago velutina</i> <i>Solidago</i> <i>Suaeda radiata</i> <i>Aquilegia micrantha</i> <i>Zigadenus virginicus</i> <i>Chrysoopsis villosa</i> <i>Cymopterus</i> <i>Habenaria zolnerici</i> <i>Galium multiflorum</i> <i>Thelypodium integrifolium</i> <i>Cnicum calcitrem</i> <i>Hymenoxys acutis</i>
Seedling	<i>Pinus edulis</i>
Nonvascular	Moss



Plant Specimens collected during the vegetation mapping process:  
A - *Eriogonum alatum* Torr. Polygonaceae  
B - *Asclepias speciosa* Torr. Asclepiadaceae



### Inset 1: 1:12,000 scale Vegetation Polygons with Density and Height classes



### Vegetation found at Accuracy Assessment Point NABR\_AA.187

STRATUM	SPECIES
Canopy	<i>Juniperus osteosperma</i>
Tall Shrub	<i>Quercus gambelli</i>
Shrub	<i>Symphoricarpos oreophilus</i> <i>Chrysothamnus nauseosus</i> <i>Ephedra viridis</i>
Dwarf Shrub	<i>Gutierrezia sarothrae</i>
Graminoid	<i>Bromus tectorum</i> <i>Stipa hymenoides</i>
Forb	<i>Cryptantha flava</i>
Vine	<i>Clematis ligusticifolia</i>



### Vegetation found at Accuracy Assessment Point NABR\_AA.212

STRATUM	SPECIES
Canopy	<i>Pinus fremontii</i> <i>Acer negundo</i>
Tall Shrub	<i>Salix exigua</i>
Shrub	<i>Chrysothamnus nauseosus</i>
Graminoid	<i>Phalaris arundinacea</i> <i>Solidago canadensis</i>
Forb	<i>Cirsium</i>



### Inset 2: 1:12,000 scale Vegetation Polygons with True-color 2002 Ortho-photography



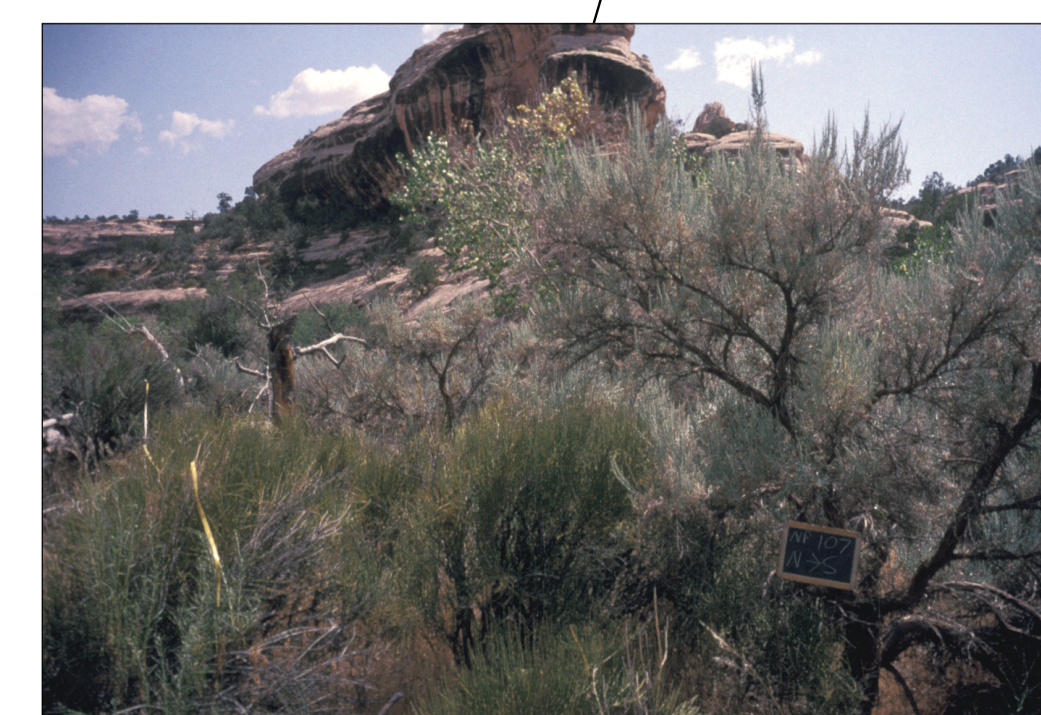
### Vegetation found at Accuracy Assessment Point NABR\_AA.147

STRATUM	SPECIES
Canopy	<i>Juniperus osteosperma</i> <i>Pinus edulis</i>
Tall Shrub	<i>Fraxinus anomala</i>
Dwarf Shrub	<i>Gutierrezia sarothrae</i>
Forb	<i>Petrorhiza pumila</i>



### Vegetation found at Accuracy Assessment Point NABR\_AA.192

STRATUM	SPECIES
Canopy	<i>Juniperus osteosperma</i> <i>Pinus edulis</i>
Shrub	<i>Shepherdia rotundifolia</i> <i>Cercocarpus nitriculatus</i>
Forb	<i>Senecio multibotulus</i>



### Vegetation found at Plot NABR.0107

STRATUM	SPECIES
Tall Shrub	<i>Artemisia tridentata</i> ssp. <i>tridentata</i> <i>Ephedra viridis</i> <i>Chrysothamnus nauseosus</i> <i>Muhlenbergia fremontii</i>
Shrub	<i>Artemisia canescens</i>
Dwarf Shrub	<i>Artemisia frigida</i> <i>Opuntia polyacantha</i> <i>Echinocereus triglochidiatus</i> <i>Stipa comata</i> <i>Stipa hymenoides</i> <i>Festuca octiflora</i> <i>Bromus tectorum</i>
Graminoid	<i>Stipa comata</i> <i>Stipa hymenoides</i> <i>Festuca octiflora</i> <i>Bromus tectorum</i>
Forb	<i>Machaeranthera canescens</i> <i>Sphaeralcea parviflora</i> <i>Senecio multibotulus</i> <i>Lepidium montanum</i> <i>Cryptantha</i> <i>Thelypodium integrifolium</i> <i>Lesquerella</i> <i>Silene arvensis</i>
Nonvascular	Moss Dark cyanobacteria



### Vegetation found at Plot NABR.0104

STRATUM	SPECIES
Shrub	<i>Chrysothamnus nauseosus</i> <i>Artemisia canescens</i>
Canopy	<i>Juniperus osteosperma</i> <i>Pinus edulis</i>
Dwarf Shrub	<i>Opuntia polyacantha</i>
Graminoid	<i>Stipa comata</i> <i>Stipa hymenoides</i> <i>Festuca octiflora</i> <i>Sporobolus cryptandrus</i> <i>Chrysothamnus viscidiflorus</i>
Forb	<i>Machaeranthera canescens</i> <i>Hymenopappus filifolius</i> <i>Plantago patagonica</i> <i>Cryptantha</i> <i>Astragalus</i> <i>Salsola tragus</i> <i>Sphaeralcea parviflora</i>
Nonvascular	Moss Dark cyanobacteria Lichens