

Vegetation of Pictured Rocks National Lakeshore

This map illustrates vegetation and land cover features of Pictured Rocks National Lakeshore (PIRO) and immediate surroundings. The spatial database layer used to compose this map was produced for the National Park Service (NPS) Vegetation Inventory Program (VIP) by the U.S. Geological Survey (USGS) Upper Midwest Environmental Sciences Center (UMESC). The vegetation classification represented in this map layer was derived by NatureServe through vegetation data analyses and is based on the National Vegetation Classification Standard (NVCS) (Federal Geographic Data Committee; FGDC 2008).

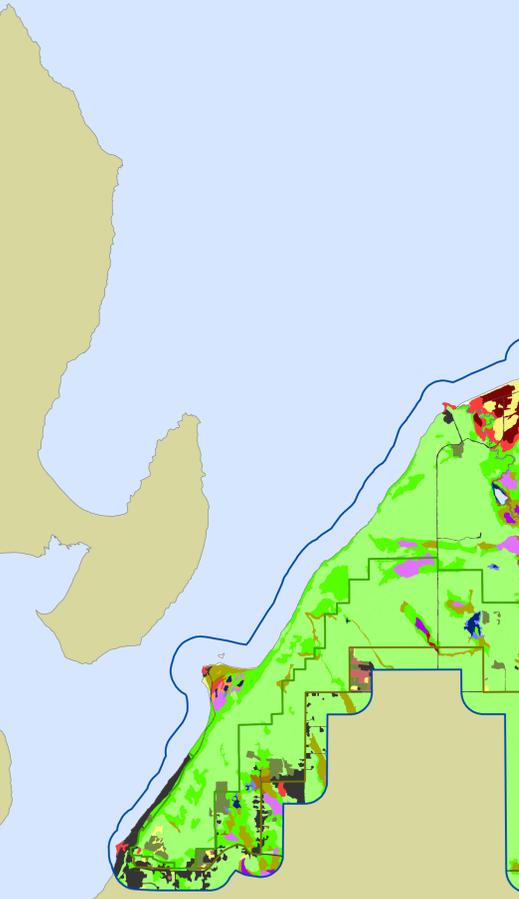
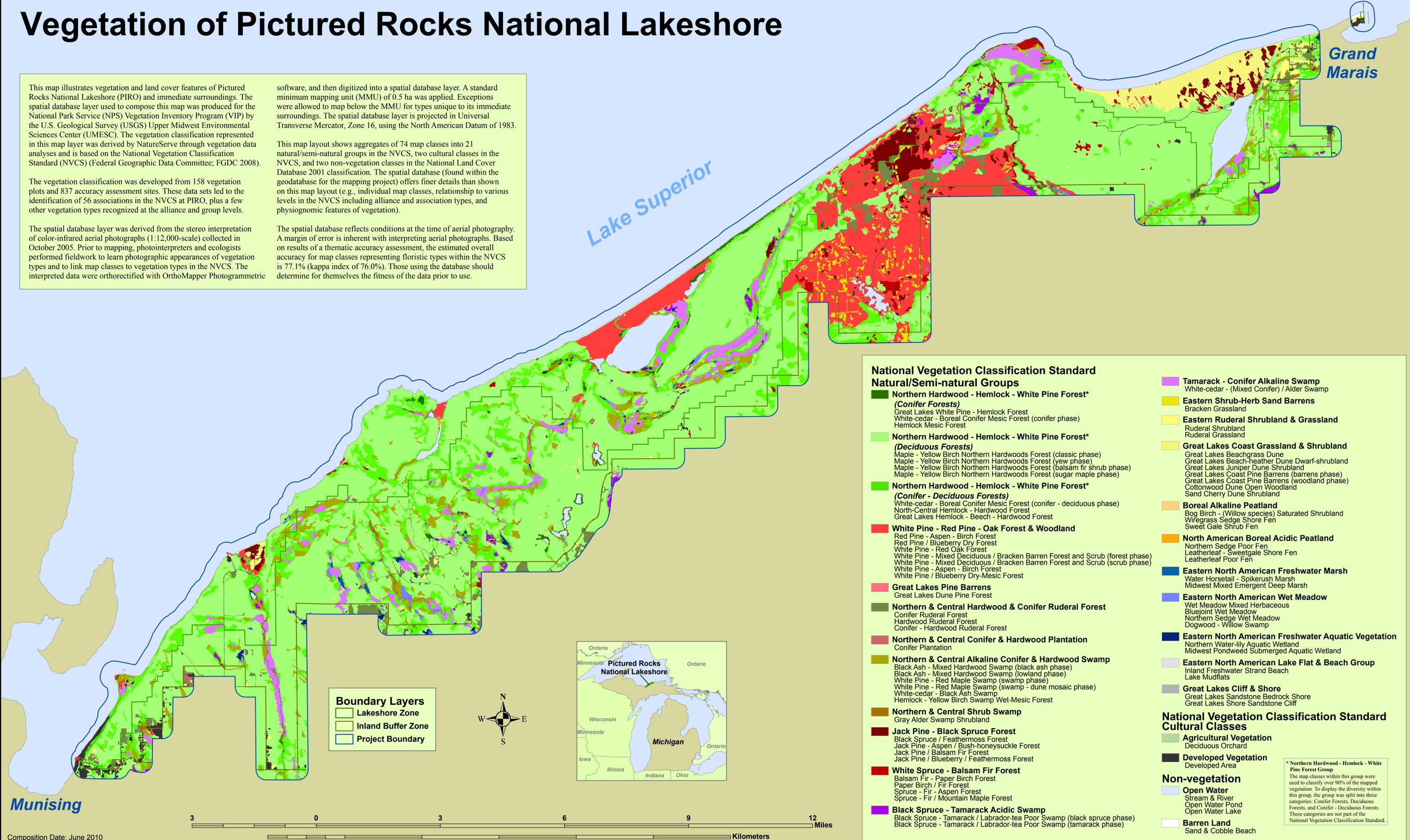
The vegetation classification was developed from 158 vegetation plots and 837 accuracy assessment sites. These data sets led to the identification of 56 associations in the NVCS at PIRO, plus a few other vegetation types recognized at the alliance and group levels.

The spatial database layer was derived from the stereo interpretation of color-infrared aerial photographs (1:12,000-scale) collected in October 2005. Prior to mapping, photointerpreters and ecologists performed fieldwork to learn photographic appearances of vegetation types and to link map classes to vegetation types in the NVCS. The interpreted data were orthorectified with OrthoMapper Photogrammetric

software, and then digitized into a spatial database layer. A standard minimum mapping unit (MMU) of 0.5 ha was applied. Exceptions were allowed to map below the MMU for types unique to its immediate surroundings. The spatial database layer is projected in Universal Transverse Mercator, Zone 16, using the North American Datum of 1983.

This map layout shows aggregates of 74 map classes into 21 natural/semi-natural groups in the NVCS, two cultural classes in the NVCS, and two non-vegetation classes in the National Land Cover Database 2001 classification. The spatial database (found within the geodatabase for the mapping project) offers finer details than shown on this map layout (e.g., individual map classes, relationship to various levels in the NVCS including alliance and association types, and physiognomic features of vegetation).

The spatial database reflects conditions at the time of aerial photography. A margin of error is inherent with interpreting aerial photographs. Based on results of a thematic accuracy assessment, the estimated overall accuracy for map classes representing floristic types within the NVCS is 77.1% (kappa index of 76.0%). Those using the database should determine for themselves the fitness of the data prior to use.



Boundary Layers
 Lakeshore Zone
 Inland Buffer Zone
 Project Boundary



National Vegetation Classification Standard
Natural/Semi-natural Groups

- Northern Hardwood - Hemlock - White Pine Forest* (Conifer Forests)**
 Great Lakes White Pine - Hemlock Forest
 White-cedar - Boreal Conifer Mesic Forest (conifer phase)
 Hemlock Mesic Forest
- Northern Hardwood - Hemlock - White Pine Forest* (Deciduous Forests)**
 Maple - Yellow Birch Northern Hardwoods Forest (classic phase)
 Maple - Yellow Birch Northern Hardwoods Forest (yew phase)
 Maple - Yellow Birch Northern Hardwoods Forest (balsam fir shrub phase)
 Maple - Yellow Birch Northern Hardwoods Forest (sugar maple phase)
- Northern Hardwood - Hemlock - White Pine Forest* (Conifer - Deciduous Forests)**
 White-cedar - Boreal Conifer Mesic Forest (conifer - deciduous phase)
 North-Central Hemlock - Hardwood Forest
 Great Lakes Hemlock - Beech - Hardwood Forest
- White Pine - Red Pine - Oak Forest & Woodland**
 Red Pine - Aspen - Birch Forest
 Red Pine / Blueberry Dry Forest
 White Pine - Red Oak Forest
 White Pine - Mixed Deciduous / Bracken Barren Forest and Scrub (forest phase)
 White Pine - Mixed Deciduous / Bracken Barren Forest and Scrub (scrub phase)
 White Pine - Aspen - Birch Forest
 White Pine / Blueberry Dry-Mesic Forest
- Great Lakes Pine Barrens**
 Great Lakes Dune Pine Forest
- Northern & Central Hardwood & Conifer Ruderal Forest**
 Conifer Ruderal Forest
 Hardwood Ruderal Forest
 Conifer - Hardwood Ruderal Forest
- Northern & Central Conifer & Hardwood Plantation**
 Conifer Plantation
- Northern & Central Alkaline Conifer & Hardwood Swamp**
 Black Ash - Mixed Hardwood Swamp (black ash phase)
 Black Ash - Mixed Hardwood Swamp (lowland phase)
 White Pine - Red Maple Swamp (swamp phase)
 White Pine - Red Maple Swamp (swamp - dune mosaic phase)
 White-cedar - Black Ash Swamp
 Hemlock - Yellow Birch Swamp Wet-Mesic Forest
- Northern & Central Shrub Swamp**
 Gray Alder Swamp Shrubland
- Jack Pine - Black Spruce Forest**
 Black Spruce / Feathermoss Forest
 Jack Pine - Aspen / Bush-honeysuckle Forest
 Jack Pine / Balsam Fir Forest
 Jack Pine / Blueberry / Feathermoss Forest
- White Spruce - Balsam Fir Forest**
 Balsam Fir - Paper Birch Forest
 Paper Birch / Fir Forest
 Spruce - Fir - Aspen Forest
 Spruce - Fir / Mountain Maple Forest
- Black Spruce - Tamarack Acidic Swamp**
 Black Spruce - Tamarack / Labrador-tea Poor Swamp (black spruce phase)
 Black Spruce - Tamarack / Labrador-tea Poor Swamp (tamarack phase)

Natural Vegetation Classification Standard Cultural Classes

- Agricultural Vegetation**
 Deciduous Orchard
- Developed Vegetation**
 Developed Area
- Non-vegetation**
- Open Water**
 Stream & River
 Open Water Pond
 Open Water Lake
- Barren Land**
 Sand & Cobble Beach

Tamarack - Conifer Alkaline Swamp
 White-cedar - (Mixed Conifer) / Alder Swamp

Eastern Shrub-Herb Sand Barrens
 Bracken Grassland

Eastern Ruderal Shrubland & Grassland
 Ruderal Shrubland
 Ruderal Grassland

Great Lakes Coast Grassland & Shrubland
 Great Lakes Beachgrass Dune
 Great Lakes Beach-heather Dune Dwarf-shrubland
 Great Lakes Juniper Dune Shrubland
 Great Lakes Coast Pine Barrens (barrens phase)
 Great Lakes Coast Pine Barrens (woodland phase)
 Cottonwood Dune Open Woodland
 Sand Cherry Dune Shrubland

Boreal Alkaline Peatland
 Bog Birch - (Willow species) Saturated Shrubland
 Wiregrass Sedge Shore Fen
 Sweet Gale Shrub Fen

North American Boreal Acidic Peatland
 Northern Sedge Poor Fen
 Leatherleaf - Sweetgale Shore Fen
 Leatherleaf Poor Fen

Eastern North American Freshwater Marsh
 Water Horsetail - Spikerush Marsh
 Midwest Mixed Emergent Deep Marsh

Eastern North American Wet Meadow
 Wet Meadow Mixed Herbaceous
 Bluejoint Wet Meadow
 Northern Sedge Wet Meadow
 Dogwood - Willow Swamp

Eastern North American Freshwater Aquatic Vegetation
 Northern Water-lily Aquatic Wetland
 Midwest Pondweed Submerged Aquatic Wetland

Eastern North American Lake Flat & Beach Group
 Inland Freshwater Strand Beach
 Lake Mudflats

Great Lakes Cliff & Shore
 Great Lakes Sandstone Bedrock Shore
 Great Lakes Shore Sandstone Cliff

National Vegetation Classification Standard Cultural Classes

Agricultural Vegetation
 Deciduous Orchard

Developed Vegetation
 Developed Area

Non-vegetation

Open Water
 Stream & River
 Open Water Pond
 Open Water Lake

Barren Land
 Sand & Cobble Beach

* Northern Hardwood - Hemlock - White Pine Forest Group
 The map classes within this group were used to classify over 90% of the mapped vegetation. To display the diversity within this group, the group was split into three categories: Conifer Forests, Deciduous Forests, and Conifer - Deciduous Forests. These categories are not part of the National Vegetation Classification Standard.