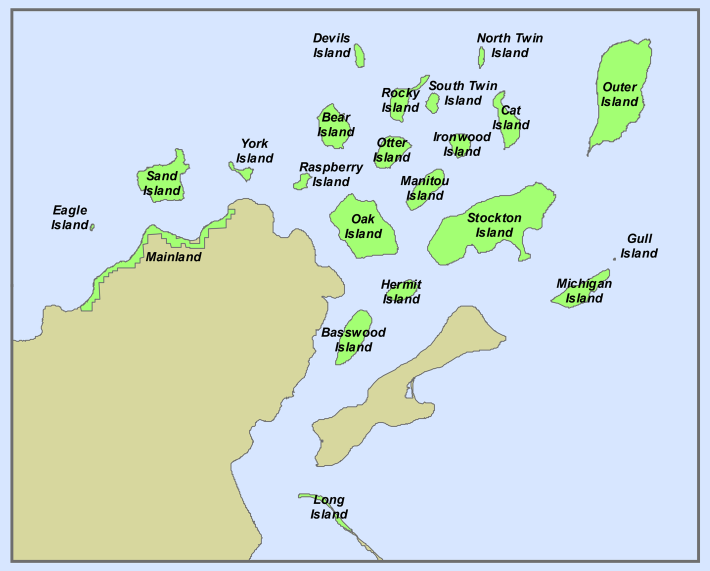
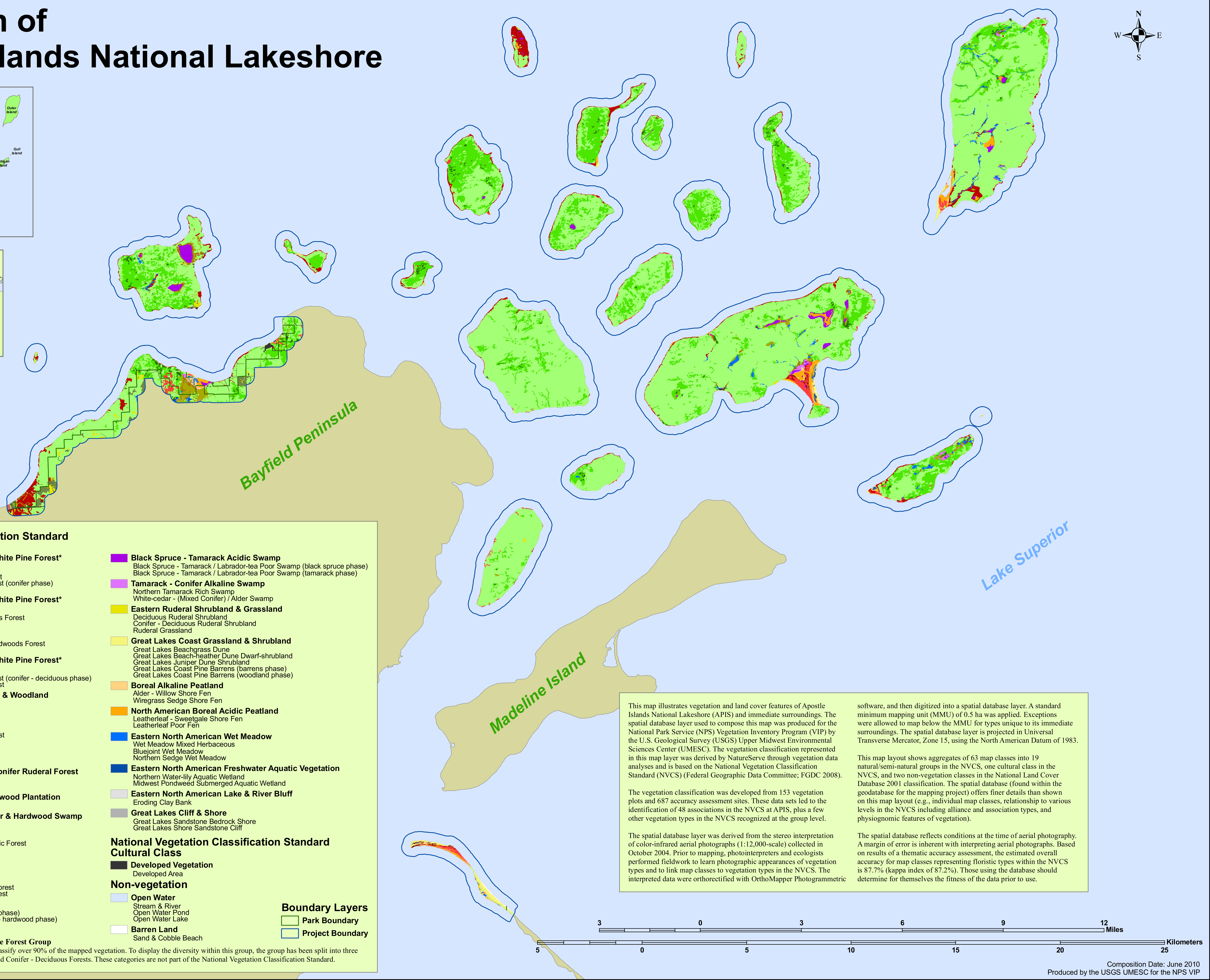
National Park Service Vegetation Inventory Program
Apostle Islands National Lakeshore
Wisconsin

U.S. Department of the Interior
National Park Service
U.S. Geological Survey
Assisted by NatureServe

Vegetation of Apostle Islands National Lakeshore





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
- Northern Maple - Basswood Forest
- Yellow Birch - (White Spruce) Forest
- Aspen - Birch - Red Maple Forest
- Aspen - Birch / Sugar Maple - Mixed Hardwoods Forest
- Northern Red Oak - Sugar Maple Forest

Northern Hardwood - Hemlock - White Pine Forest*
(Conifer - Deciduous Forests)
- White-cedar - Boreal Conifer Mesic Forest (conifer - deciduous phase)
- North-Central Hemlock - Hardwood Forest

White Pine - Red Pine - Oak Forest & Woodland
- Jack Pine - Northern Pin Oak Forest
- Red Pine - Aspen - Birch Forest
- Red Pine / Blueberry Dry Forest
- White Pine - Aspen - Birch Forest
- White Pine / Blueberry Dry-Mesic Forest
- White Pine / Mountain Maple Mesic Forest
- Northern Pin Oak - (Bur Oak) Forest

Great Lakes Pine Barrens
- Great Lakes Dune Pine Forest

Northern & Central Hardwood & Conifer Ruderal Forest
- Hardwood Ruderal Forest
- Conifer - Hardwood Ruderal Forest

Northern & Central Conifer & Hardwood Plantation
- Conifer Plantation

Northern & Central Alkaline Conifer & Hardwood Swamp
- Red Maple - Ash - Birch Swamp Forest
- Black Ash - Mixed Hardwood Swamp
- 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 / Blueberry / Feathermoss Forest

White Spruce - Balsam Fir Forest
- Balsam Fir - Paper Birch Forest (conifer phase)
- Balsam Fir - Paper Birch Forest (conifer - hardwood phase)
- Paper Birch / Fir Forest
- Aspen - Birch / Boreal Conifer 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)

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

Eastern Ruderal Shrubland & Grassland
- Deciduous Ruderal Shrubland
- Conifer - Deciduous 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)

Boreal Alkaline Peatland
- Alder - Willow Shore Fen
- Wiregrass Sedge Shore Fen

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

Eastern North American Wet Meadow
- Wet Meadow Mixed Herbaceous
- Bluejoint Wet Meadow
- Northern Sedge Wet Meadow

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

Eastern North American Lake & River Bluff
- Eroding Clay Bank

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

National Vegetation Classification Standard Cultural Class

Developed Vegetation
- Developed Area

Non-vegetation

Open Water
- Stream & River
- Open Water Pond
- Open Water Lake

Barren Land
- Sand & Cobble Beach

Boundary Layers

- Park Boundary
- Project Boundary

*** 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 has been split into three categories: Conifer Forests, Deciduous Forests, and Conifer - Deciduous Forests. These categories are not part of the National Vegetation Classification Standard.

This map illustrates vegetation and land cover features of Apostle Islands National Lakeshore (APIS) 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 153 vegetation plots and 687 accuracy assessment sites. These data sets led to the identification of 48 associations in the NVCS at APIS, plus a few other vegetation types in the NVCS recognized at the group level.

The spatial database layer was derived from the stereo interpretation of color-infrared aerial photographs (1:12,000-scale) collected in October 2004. 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 15, using the North American Datum of 1983.

This map layout shows aggregates of 63 map classes into 19 natural/semi-natural groups in the NVCS, one cultural class 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 87.7% (kappa index of 87.2%). Those using the database should determine for themselves the fitness of the data prior to use.

Composition Date: June 2010
Produced by the USGS UMESC for the NPS VIP