

Glossary of Terms

Land

Land Cover - Pre-Settlement:

Bog

Bog areas are acidic and low in oxygen and nutrients. They form in kettle depressions on pitted outwash and moraines, and in flat areas and shallow depressions on glacial outwash and glacial lakeplain. Bogs are covered by peat and sphagnum mosses and ericaceous shrubs and are subject to flooding.

Emergent Marsh

Emergent marsh is a shallow-water wetland along the shores of lakes and streams. These areas are subject to frequent flooding and support herbs, grasses such as bulrushes and cat-tails, and floating plants such as water plantain.

Forest

Forest lands are lands that are at least 10 percent stocked by trees, which produce an influence on the climate or water regime. Included in this category are deciduous and coniferous forests. Typical species include oak, maple, beech, birch, ash, hickory, aspen, cottonwood, tulip poplar, pine, spruce, balsam, larch, hemlock, and cedar.

Hardwoods/Sugar Maple

Hardwoods are trees such as oak, cherry, and maple that are good sources of dense, compact and highly durable wood. Sugar Maple trees with short trunks and long curving branches were especially useful to native and settler populations as a source of sweet sap that could be made into sugar and syrup, and as a hard wood for making furniture. Several varieties of sugar maples were found on over 70 percent of Ottawa County in the 1800s.

Muskeg

“Muskeg” is the Algonquin word for bog. Similar to bogs, muskegs are low-lying areas of nutrient-poor saturated peat. Muskegs are also characterized by sphagnum mosses, sedge, and stunted black spruce and tamarack trees. Muskegs typically occur near streams or lakes and are fed by groundwater.

Savanna

A savanna area is a prairie, usually near to open plains or woodlands. Savannas feature scattered growths of trees. Most of Michigan’s savanna land has been converted to agricultural use.

Shrub Swamp/Swamp

Shrub Swamp areas have very poor drainage and are flooded most of the year. These areas are dominated by shrubs and can support sparse herbaceous vegetation. Swamps are wet spongy land that is unfit for agriculture but can support certain types of trees.

Wet Prairie

Wet prairie occurs on sandy glacial lakeplains during seasonal flooding, and its degree of flooding is impacted by changing water levels in nearby lakes. Its acidic soil and sand composition has limited water-retention capabilities.

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Land Cover - 2006:

Agriculture

Agricultural land is broadly defined as land used primarily for production of farm commodities. Included in this category are cropland, orchards, bush-fruits, ornamentals, vineyards, confined feeding, permanent pasture, and farmsteads.

Barren

Barren land has little or no vegetation, and has limited ability to support life. Included in this category are beaches, riverbanks, and sand areas other than beaches. Barren land is vital to our green infrastructure open lands. Land temporarily barren due to human activities is not included in this category.

Developed, High Intensity

Includes highly developed areas where people reside or work in high numbers. Impervious surfaces account for 80 to 100 percent of the total cover.

Developed, Medium Intensity

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50 to 79 percent of the total cover.

Developed, Low Intensity

Includes areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 21 to 49 percent of the total cover.

Developed, Open Space

Includes areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for 20 percent or less of the total cover.

Forest

Forest lands are lands that are at least 10 percent stocked by trees, which produce an influence on the climate or water regime. Included in this category are deciduous and coniferous forests. Typical species include oak, maple, beech, birch, ash, hickory, aspen, cottonwood, tulip poplar, pine, spruce, balsam, larch, hemlock, and cedar.

Open Field

Open field refers to grass and shrub lands or very early stages of plant succession. These areas are dominated by grasses, forbs (non-grass or grass-like herbs), and shrubs. These areas are subjected to periodic mowing, grazing, or burning. Typical plant species found in open fields include quack grass, Kentucky bluegrass, upland and lowland sedges, reed canary grass, clovers, blackberry and raspberry briars, dogwood, willow, tag alder, and sumac. Open fields with successional grasses and shrub vegetation are critical for many open land bird species. Note: an increase in open field typically is characteristic of agricultural lands in the process of going fallow and being classified as open field. It is common to see a successional progression of agricultural to open field, and then to forest.

Wetland

Wetlands are those areas where the water table is at, near, or above the land surface for a significant part of most years. The hydrologic regime is such that aquatic or hydrophytic vegetation usually is established although alluvial and tidal flats can be nonvegetated. Wetlands are commonly associated with topographic lows. Examples of wetlands include marshes, mudflats, wooded swamps, and floating vegetation situated on the shallow margins of bays, lakes, rivers, ponds, streams, and man-made impoundments such as reservoirs. Shallow water areas with submerged aquatic vegetation are classified as water.

Water

This category includes all areas that are predominantly or persistently water covered. Included in this category are streams and water ways, lakes, reservoirs, and the Great Lakes. Water bodies that are vegetated are placed in the Wetland category. Sewage treatment or water supply facilities are a basic part of the urban pattern, and are included in the Developed categories.

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Soils:

Prime Farmland Soil

Includes land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and that is available for these uses. In general, it is land that has an adequate and dependable water supply, a favorable temperature and growing season, an acceptable level of acidity, an acceptable content of salt, and few or no rocks.

Quaternary Geology:

Quaternary

Refers to the geology of the present period of earth history, which is the Cenozoic Era that started about 2 million years ago.

Alluvium

Unconsolidated sorted or semi-sorted sediment deposited during comparatively recent time by a stream or other body of running water.

End Moraines

A ridge, or series of ridges, formed by accumulations of drift built along the outer margin of an actively flowing glacier at any given time.

Lacustrine

Produced or belonging to a lake.

Till

Unconsolidated, non-sorted, unstratified drift, deposited by and underneath a glacier, and consisting of a heterogeneous mixture of different sizes and kinds of rock fragments.

Outwash

Stratified glacially derived sediment deposited by melt water streams in channels, deltas, outwash plains on flood plains, and in glacial lakes.

Bedrock:

Bedrock

Bedrock is the geological layer underlying glacial deposits of gravel and sand.

Bayport Limestone

Consists of sandy yellow limestone, cross-bedded with sandstone, and a little dolomite. This bedrock was formed during the Paleozoic Era and the Mississippian Period, between 325 and 360 million years ago.

Coldwater Shale

Consists of light-colored greenish to bluish shale, which is a sedimentary rock formed by the deposit of successive layers of clay. This bedrock was formed during the Paleozoic Era and the Mississippian Period, between 325 and 360 million years ago.

Marshall Formation

Consists of a lower Marshall sandstone and Napoleon sandstone member that formed during the Paleozoic Era and the Mississippian Period, between 325 and 360 million years ago.

The Michigan Formation

Contains sedimentary rocks that were deposited in a circular depression that formed in the Earth's crust during Paleozoic time, between about 286 and 544 million years ago. During most of this period, Michigan was flooded by the sea. The Michigan Basin is an important source of crude oil, natural gas, salt, gypsum, and limestone, as well as brines containing bromine, magnesium and other elements that are the basis for much of the chemical industry in the state.

Red Beds

Reddish sedimentary rock, consisting of sandstone, shale and clay, that was formed during the Paleozoic Era and the Jurassic Period, between 145 and 200 million years ago.

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Wetland Inventory:

Wetland Class

The class describes the general appearance of the habitat in terms of the dominant life form of vegetation.

Aquatic Bed

This wetland class includes wetlands and deepwater habitats dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years.

Emergent

This wetland class is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. Vegetation is present for most of the growing season in most years.

Forested

This wetland class is characterized by woody vegetation that is 20 feet tall or taller.

Scrub-Shrub

This wetland class includes areas dominated by woody vegetation less than 20 feet tall. The species include true shrubs, young trees, and trees or shrubs that are small or stunted because of environmental conditions.

Unconsolidated Bottom

This wetland class includes all wetland and deepwater habitats with at least 25% cover of particles smaller than stones, and vegetative cover less than 30%.

Unconsolidated Shore

This wetland class includes all wetland habitats having the following three characteristics: (1) unconsolidated substrates with less than 75% areal cover of stones, boulders, or bedrock; (2) less than 30% areal cover of vegetation other than pioneering plants; and (3) any of the following water regimes: irregularly exposed, regularly flooded, irregularly flooded, seasonally flooded, temporarily flooded, intermittently flooded, saturated, or artificially flooded.

Critical Dunes:

Critical Dune Areas

Critical Dune areas protected by Part 353 of the Natural Resources and Environmental Protection Act of 1994 represent the highest and most spectacular dunes extending along much of Lake Michigan's shoreline and the shores of Lake Superior; an area totaling about 80,000 acres in size. The legislature has found that Critical Dune areas of the state are a unique, irreplaceable, and fragile resource that provides significant recreational, economic, scientific, geological, scenic, botanical, educational, agricultural, and ecological benefits to the people of Michigan.

Climate Conditions

Weather Underground, Inc.

This company was started in 1991 by Ph.D. candidate Jeff Masters while working under the direction of Perry Samson at the University of Michigan. In 1995, the company evolved as a separate commercial entity from the university. Today, Weather Underground (www.wunderground.com) has developed the world's largest network of personal weather stations, which provides users with the most localized weather conditions available.