

UMASS PLYMOUTH PITCH PINE DATALAYER

BACKGROUND

The Plymouth Pitch Pine coverage (PPP) was created by the University of Massachusetts Amherst in the late 1990's. Dr Curtice Griffin in the Department of Forestry & Wildlife was the principal investigator for the project, which was funded by the Massachusetts Natural Heritage & Endangered Species Program. The project area included all of the town of Plymouth, and the eastern part of Carver. The aerial photo interpretation was done using March 1993 1:12,000 scale color infrared transparencies. The classification system was a much expanded version of the Patterson Pitch Pine classification, using the state forestry "Massachusetts Standard Classification" which has numerous vegetative types and percent canopy closure combinations in the overstory and understory. An explanation of the PPP classification system is included below. The classifications and delineations were inked on acetate overlays that were registered to the aerial photo transparencies. These overlays were then individually scanned and mosaiced together, and geo-rectified to a rectified photo mosaic base. There are 271 codes, and several thousand polygons. The final original UMass version of this data is available through Dr. Curtice Griffin in the Department of Forestry and Wildlife, University of Massachusetts, Amherst.

PLYMOUTH PITCH PINE BARRENS CLASSIFICATION SYSTEM

This classification system is based on the Department of Environmental Protection's Standard Forest Classification, with additions to better describe the pitch pine barrens community types. It consists of both overstory and understory (where known), and includes height and canopy closure as well. If there is only one vegetation label, such as SO, then there is only overstory information. If the label has two vegetation types with a slash between them, such as PP1A/SO1A, then the first is the overstory, and the second the understory. If there are two vegetation types with a dash between them, then they are both common overstory types, such as PP2-RP2B. The number that follows the vegetation code is the height, such as PP1A for 0-20 feet tall, or PP2B for 21-40 feet tall. The letter that follows the height number is the canopy closure, such as A for 80% or greater canopy closure. In addition there is a prefix and a suffix that describe location information for certain types. They are the prefix PL for powerline (pipeline, or right-of-way), and the suffix FP for frost pocket.

Therefore the general structure of the labels is vegetation type/height/canopy closure. The different pine barren vegetation type codes are SO for scrub oak, PP for Pitch Pine, RP for Red Pine, WP for White Pine, G1 for native grassland, G2 for managed or disturbed grassland, HE for heathland, and IHW for immature hardwoods. The codes for the heights are 1 for 0-20 feet tall, 2 for 21-40 feet tall, and 3 for 41-60 feet tall. The codes for the canopy closure are A for 80% or more canopy closure, B for 40-80% canopy closure, and C for less than 40% canopy closure. In addition the forest types are subdivided into two B canopy closure types, to crosswalk with the Patterson Pitch Pine classification system. These are Ba for 40-60% canopy closure, and Bb for 60-80% canopy closure.

The following are brief descriptions of the Plymouth Pitch Pine classification types:

SO1A - Areas of predominately scrub oak (*Quercus ilicifolia*) 0-20 feet tall, with approximately 80% cover, and less than 10% pitch pine (*Pinus rigida*).

SO1B - Scrub oak 0-20 feet tall, with approximately 40-60 % cover, and less than 10% pitch pine.

SO1C - Scrub oak barrens, with sparse scrub oak 0-20 feet tall and less than 40% shrub cover (mostly herbaceous).

PP1A, PP1B, PP1C - Pitch pine 0-20 feet tall, with 80% (A), 40-60% (B) or <40% (C) canopy cover.

PP2A , PP2A/SO1A,B - Pitch pine scrub oak forest 21-40 feet tall, with pitch pine canopy cover of 60% or more, and an understory of scrub oak..

PP3A, PP3A/SO1A,B - Same as above, but with pitch pine 41-60 feet tall.

PP2Ba, PP2Ba/SO1A,B - Pitch pine scrub oak thicket-with a 40-60% canopy of pitch pine 21-40 feet tall and dense understory of scrub oak.

PP3Ba, PP3Ba/SO1A,B - Same as above, but with pitch pine 41-60 feet tall.

PP2Bb, PP2Bb/SO1A,B - Pitch pine scrub oak forest 21-40 feet tall, with pitch pine canopy cover of 60-80%, and an understory of scrub oak.

PP3Bb, PP3Bb/SO1A,B - Same as above, but with pitch pine 41-60 feet tall.

PP2 or 3C, PP2 or 3C/SO1A,B - Pitch pine scrub oak thicket, with a sparse canopy (< 40%) of pitch pine 21-40 (2) or 41-60 (3) feet tall.

PO - Pitch pine (at least 20%) intermixed with tree oaks.

WP - White pine stand. If 20% or more pitch pine present, will be classified as **PP-WP**.

RP - Red pine stand. If 20% or more pitch pine present, will be classified as **PP-RP**.

SW - Unidentified stands of softwoods.

HW - Unidentified stands of hardwoods.

IHW - Immature hardwoods.

OM - Mixed tree oaks. If 20% or more pitch pine, will be classified **PP-HWF** (pitch pine hardwood forest).

HE - Areas dominated by low shrubs such as bearberry (*Arctostaphylos uva-ursi*), low bush blueberry (*Vaccinium* spp.) and other ericaceous shrubs.

G1 - Areas dominated by native grasses, in a relatively undisturbed state. Also includes grassy areas under power lines and within right of ways.

G2 - Disturbed areas dominated by grasses and other herbaceous vegetation. Includes abandoned fields, pastures and previously cleared areas.

PL - Power lines and other right of ways that are maintained and wide enough to delineate on the aerial photos. When possible, a further classification will follow the PL to describe the vegetation more specifically, such as **PL-G1** or **PL-SO**.

AL - Farmland that is being used intensively for crops. Also includes orchards.

DL - Developed land. Any land that has been built upon, paved, or has been cleared and is in the process of being developed. Includes lawns and golf courses. Some specific additions for this project include **DL-URF** (urban residential within a forested area) and **DL-CG** (campground).

NV - No vegetation- bare soil or rock.

S - Areas that appear to be exposed sand with little or no vegetation. When identifiable on the aerial photos, sand and gravel pits will be classified as SGP.

CC - Clear cut. Areas where it appears all the standing timber on the site has been recently harvested.

W - Water.

WT - Wetlands.

-FP- Frost pocket. Will be used as a suffix following a vegetation type.