

OHIO BRUSH CREEK BASIN

There are 1,336 square miles contributing to the Ohio River drainage between the Scioto and Little Miami rivers; Ohio Brush Creek drains 435 square miles of this area.

Physiography

Most of Adams County is an unglaciated limestone area, considered physiographically to be part of the Bluegrass Section of the Interior Low Plateau Province, but the soils are thin, the topography rough, and there is little resemblance to the fertile Kentucky Bluegrass region. North and west of Adams County the area is in the Till Plains, but the terrain is rugged and the drift relatively thin.

Geology

The surface rocks are extremely variable, ranging from sandstone and shale in the eastern part to dolomite and limestone in the central part and to calcareous shale in the western sector. The western part of the area is covered with Illinoian drift, generally thin, but with some local areas of thick and relatively impermeable deposits. The glaciated area has lower dry-weather streamflow than the unglaciated, but not as low as in the Little Miami River Basin.

Soils

The soils of this area may be placed in three groups according to their parent materials and physiographic relationship: (1) those derived from limestone and shale that are generally shallow and occur on steep, hilly topography; (2) those derived from relatively shallow Illinoian glacial till on undulating to gently rolling relief; and (3) soils derived from sandstone and shale on steep, hilly topography. Principal soils in the first group are the Eden, Bratton, Brushcreek, and Cedarville. The permeability of these soils is generally moderate to slow. Soils of the second group include the moderately slow to slowly permeable Jessup, Bonnell, and Rossmoyne soils series. In the third group, the principal soils are the steep phases of Shelocta, Latham, and Rarden.

There are some alluvial soils, but the valleys are narrow and of limited extent, except along the Ohio River where there are areas of moderately permeable soils.

Water Development

There are no large inland water developments in the area.

Flow Characteristics

Ohio Brush Creek has relatively low sustained flow. With the exception of a small area in the headwaters, Ohio Brush Creek drains an unglaciated area. Some alluvium and glacial outwash is present under the valley floor. The Brassfield limestone of Silurian age, which is a notable spring horizon, is exposed along the valley of Ohio Brush Creek throughout a large portion of its course. The spring water and possibly some discharge from the alluvium support the rather low dry-weather flow.

Figure 68: Ohio Brush Creek Watershed

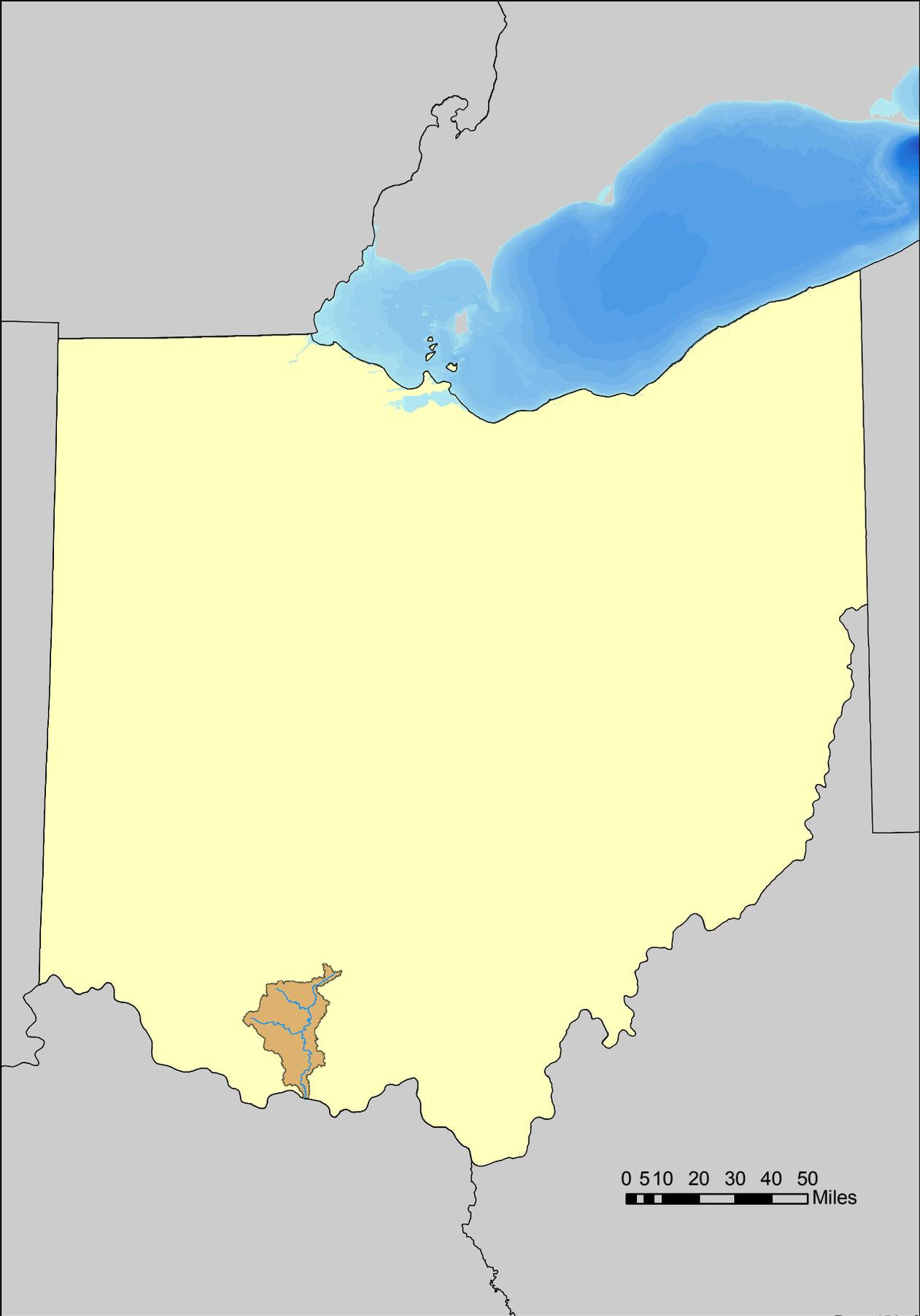


Figure 69: Ohio Brush Creek Watershed Land Cover

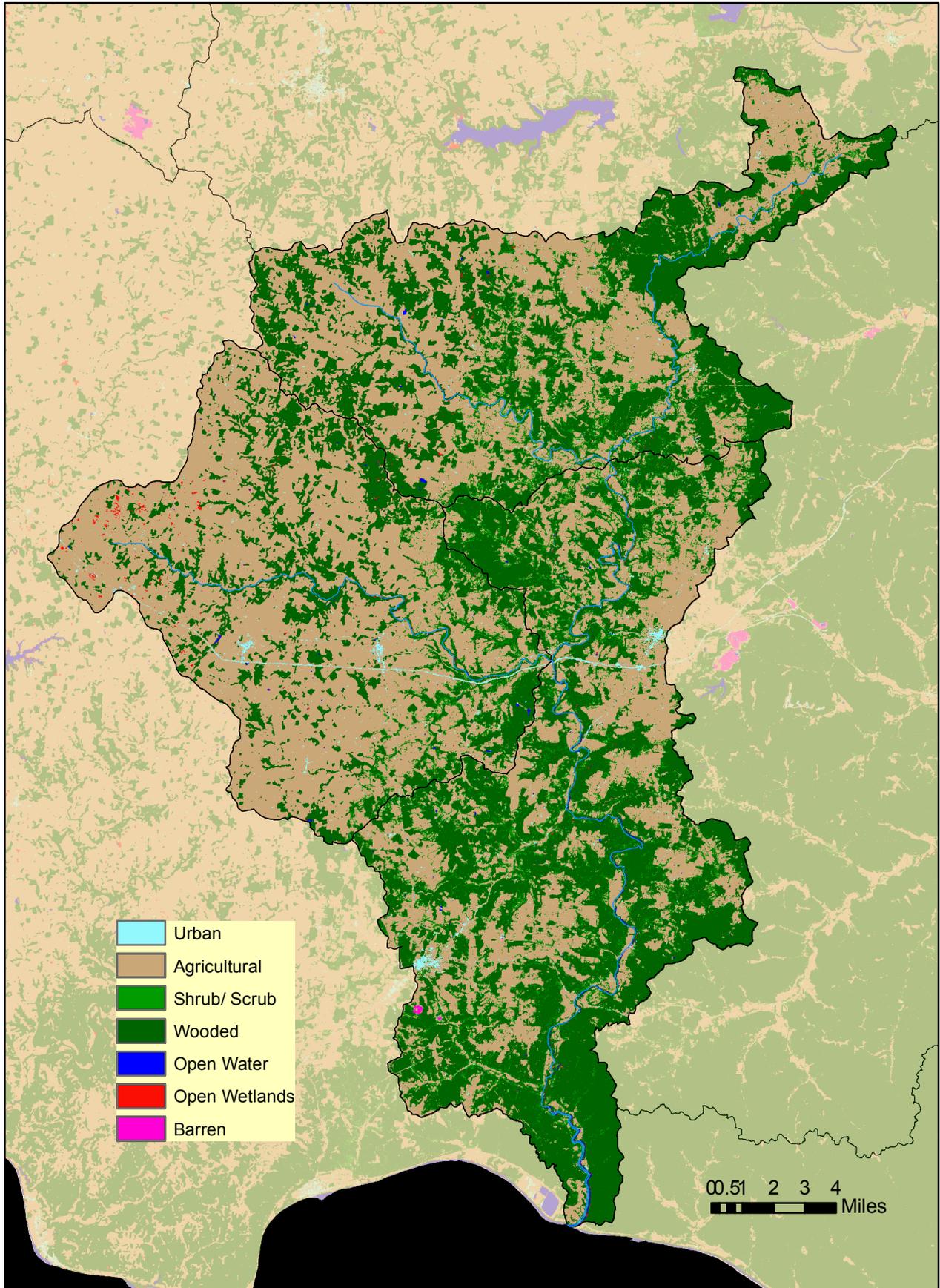


Figure 70: Ohio Brush Creek Watershed Protected Lands

