

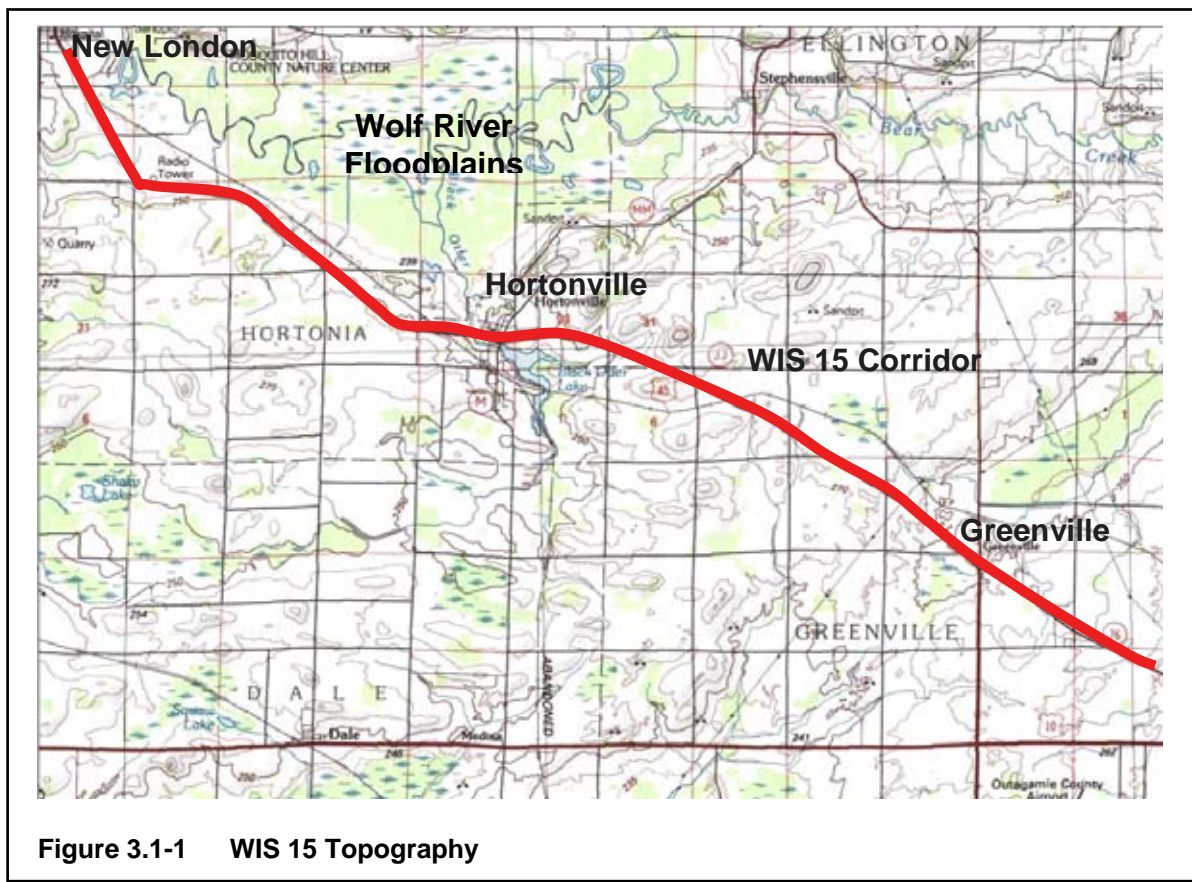
### 3.0 AFFECTED ENVIRONMENT

Section 3 provides background information on the natural, cultural, and socioeconomic environment, as well as land use and planning in the WIS 15 study area. This review of the affected environment establishes the background for which the improvements to WIS 15 and their impacts are evaluated.

### 3.1 NATURAL ENVIRONMENT

#### A. Geographical Setting

The WIS 15 corridor is located in southwest Outagamie County in northeast Wisconsin. The west end of the corridor begins near the City of New London and continues south easterly through the Village of Hortonville, and Towns of Hortonia, Dale, Ellington, and Greenville. The easterly study limits end near Greenville. The rolling topography along this section of WIS 15 runs through the transition from glacial ridges to glacial plain deposits. Unique features in the area include: the exposed western edge of a glacial ridge found on the western portion of WIS 15 in the town of Hortonia; the Wolf River traveling east to west on the north edge of the corridor, thus creating a natural border for that half of the corridor; Black Otter Lake in the Village of Hortonville; and several steep sandstone hills in the project area, such as the local landmarks of Mosquito Hill and Bullseye Hill. Elevations along WIS 15 range from 760 feet (USGS Datum) near US 45 in New London and in the bottomlands and floodplains of the Wolf River (north), and Black Otter Lake/Creek (south), to just over 900 feet near North Road east of Hortonville. Figure 3.1-1 shows the WIS 15 corridor's topography.



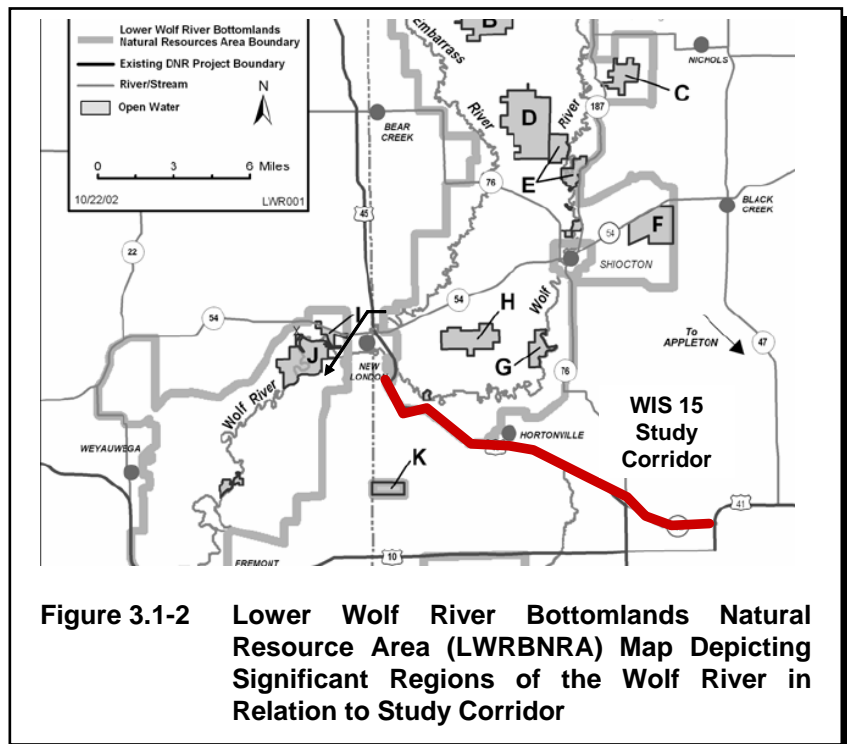
B. Natural and Conservancy Areas

Designated State Natural Areas, as defined by the Wisconsin Department of Natural Resources (WDNR) and Wisconsin Natural Areas Preservation Council, are tracts of land or water that have been only slightly modified by man’s activity or sufficiently recovered from the effects of such activity that they contain intact or restorable native plant and animal communities. Many times these communities are believed to be representative of the presettlement landscape. Natural areas protect this natural diversity, provide sites for research and environmental education, and serve as benchmarks for assessing and guiding use of other lands in the State. Current listings of State Natural Areas are maintained on the WDNR’s Bureau of Endangered Species Web site at [www.dnr.state.wi.us/org/land/er/SNA/NAPC.htm](http://www.dnr.state.wi.us/org/land/er/SNA/NAPC.htm).

Other natural environmental settings or conservancy areas can be owned, designated, or maintained by other private nonprofit, local, state, or federal groups. This includes state wildlife areas, state fishery areas, private nonprofit conservancy lands, federal Waterfowl Production Areas or Refuges, and government-owned forest and recreational lands or trails. The purchase and/or protection of these lands prevents the privatization of important land, waterway access, and game lands and protects important habitat and vegetation communities. Listings of most Natural or Conservancy lands must be gathered by soliciting input during the agency or public notice phase, by obtaining hard copy or digital mapping, or by reviewing plat books with property ownership. Identifying private lands that may have entered into some type of conservancy agreement with such agencies as the USDA–Natural Resources Conservation Service, U.S. Fish & Wildlife Service, or State WDNR (Managed Forest/Forest Crop Land) are beyond the scope of this document. Title searches during detailed design efforts may be utilized to identify such lands and appropriately address issues related to participation in any of these or other programs.

Shakey Lake State Natural Area (No. 180) is a marl-bottomed bog lake surrounded by sedge meadow, tamarack swamp, and lacustrine forest. It is a 220-acre size area and is located greater than 2 miles distance from the project about 4 to 5 miles southwest of Hortonville. Hortonville Bog State Natural Area (No. 214) covers one square section (640 acres) is one of the best protected bogs in Southern Wisconsin and contains a deep sphagnum layer with no open water. Well protected, variable age class wet-mesic coniferous forests surround the bog. The area is greater than 3 to 4 miles north of the project and the Wolf River.

In 2002, the State WDNR designated eco-system and project boundaries for the Lower Wolf River Bottomlands Natural Resource Area (LWRBNRA). This is an area that encompasses portions of over four counties, approximately 30,000 acres, and contains the convergence of approximately four ecological landscapes of the eight ecological landscapes covering 3,670 square miles within the larger Wolf River Basin (see Figure 3.1-2).



**Figure 3.1-2 Lower Wolf River Bottomlands Natural Resource Area (LWRBNRA) Map Depicting Significant Regions of the Wolf River in Relation to Study Corridor**

These ecological landscapes include the Southeast Glacial Plains, Central Sand Hills, Forest Transition, and Central Lake Michigan Coastal. A recent “Wolf River Basin Biotic Inventory and Analysis” was completed in 2002. (See : [www.dnr.wi.gov/org/land/er/nhi/projects/wolf/#report](http://www.dnr.wi.gov/org/land/er/nhi/projects/wolf/#report)). That document and project specific LWRBNRA publications have been issued and chronicle the purpose and significance of the designated area. WIS 15 has been designated as the southern limits of the LWRBNRA. Areas north of the existing highway encompass privately owned land of environmental value and are understood to be designated as “habitat areas” within the WDNR’s project boundary. No state-owned lands within this recently designated area are directly involved in alignments being considered.

A review of reference documents and GIS records did not identify other natural or conservancy lands within the project. Some parks and the Wiouwash State Trail are present in Hortonville and contain some assemblages of natural communities or conservancy areas. They are discussed under the “Parks or Recreational Lands” portion of this document.

### C. Surface Water and Fishery

Two watersheds cross the project boundaries. This includes the Wolf River/New London and Bear Creek Branch and the Arrowhead River and Dogget’s Creek Branch of the Wolf River Basin. Three references were consulted to describe surface water and fisheries in more detail. This included the WDNR’s Surface Water Resources of Outagamie County (1978), the Outagamie County Land and Water Resource Management Plan (2005), and the Outagamie County Outdoor Recreation and Open Space Plan (2002).

The Wolf River is a warm-water fishery that covers major expanses of the lands and watersheds north of the project. It and the Lower Wolf River are located just north of the project area. The Wolf River is listed on the WDNR’s 303(d) list of impaired waters as a result of PCB containing sediment in various locations. Separate from the regionally significant expansive floodplain ecosystem of the Wolf River to the north of the project, there are few lakes and streams in the Hortonville Area. There are 33 lakes in Outagamie County covering an estimated 175 acres of surface area. Of these only five are named and Black Otter Lake, south of Hortonville, represents the largest of these lakes (See Figure 3.1-3). Black Otter Lake is an impoundment lake with the dam located approximately 170 feet south of the intersection of WIS 15/ County M. The dam is near city hall and water levels are managed by the Public Works Department directly adjacent to the dam. At 75 acres, the lake comprises nearly 47 percent of the entire lake area within the county and has a depth of nine feet with about 3.2 miles of shoreline. Less than 50 percent of the shoreline is developed and contains good buffering habitat to the lake. Black Otter Lake’s water chemistry is described as good and it contains walleye, pike, bass, panfish, perch, carp, and some rough-fish.



**Figure 3.1-3 Black Otter Lake**

Outagamie County's stream resources help offset the County's deficiency in lakes. Black Otter Creek, various tributaries to the Wolf River, and small agriculturally dominated tributaries to the Rat River are the main stream threads in the project area (See Figure 3.1-4). The main Wolf/Little Wolf is distant to all alternatives under consideration and numerous small intermittent semi-permanent waterways occur in the area. Black Otter Creek is the only perennial stream shown on the USGS mapping and is designated to contain 13.1 acres of open channel in the Town of Hortonia, south of Black Otter Lake. It begins in this area and meanders north through the northwest side of the City and north through golf course, parkland and ultimately wildlands associated with the floodplain of the Wolf River beyond the city limits. Many more riparian areas contain marsh, forested lowlands, and idle lands border Black Otter Creek between WIS 15 and Spring Road to the South. Small tributaries of the Wolf River, Hay Creek, and the Rat River are located elsewhere in the project area. Almost all of these have existing stream thread crossings of less than 6 feet in width. Water bodies with active recreational fisheries are generally limited to Black Otter Creek/lake and its tributaries as discussed above. Northern Pike spawning areas may extend into smaller creeks, tributaries, and ditches. Details regarding specific locations of water bodies are discussed on the factor sheets provided with this document.

