

At the state level, the WDNR's Bureau of Endangered Resources (WDNR-BER) Outagamie County Species and/or Natural Community Map lists over 50 rare species as occurring in the county. Of the land sections (640 acre-blocks) located within the project area, only four sections show an occurrence of a rare species. These are shown as aquatic species located in Sections 19, 20, 25, and 28 of T22N, R13E in the Town of Hortonville (see Figure 3.1-10). The occurrence is in an undesignated aquatic species that could be either a fish species in the Wolf River or Blandings Turtle records.

Pending further information from WDNR regarding this project, there could be some additions or revisions of the Natural Heritage Database that is the source of information for project specific

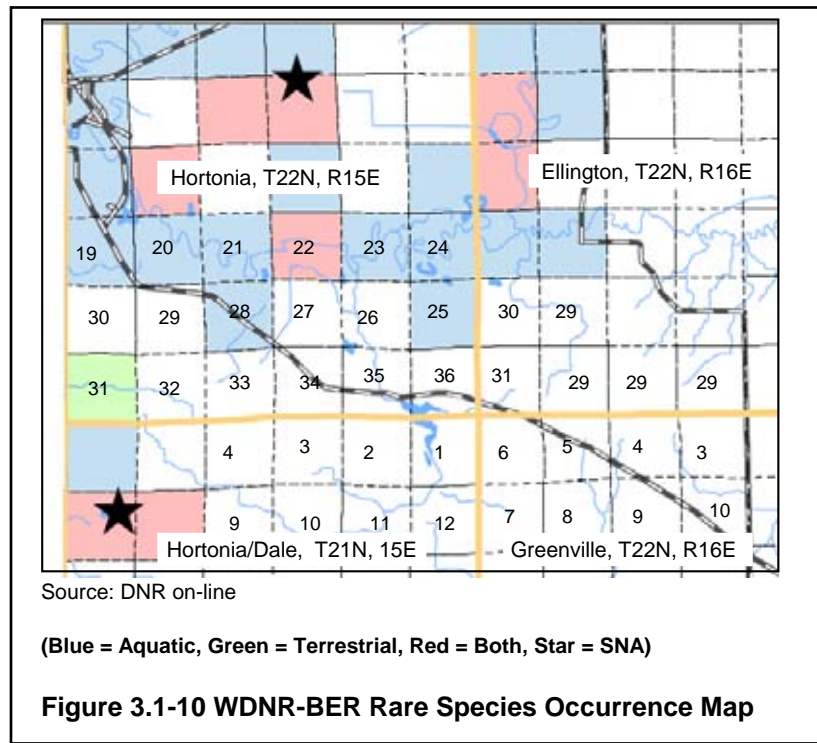
reviews. To date, project managers are knowledgeable concerning the presence of Blandings turtles located on/adjacent to private farmettes north and potentially south of Hortonville. The Blandings turtle prefers marshy habitats with abundant submerged vegetation and can also be found in almost any aquatic habitat. It will frequently move between wetlands during the active season while feeding on crayfish, snails, tadpoles, insect, worms, grasses, and berries. The home range of Blandings' turtles may be 40 to 80 acres as determined by recent Canadian studies. Therefore, it is possible that this species could be present in Black Otter Lake and wetlands.

Detailed threatened and endangered species coordination will be documented in the FEIS. It could be anticipated that alignments infringing on wetland borders or aquatic areas may require avoidance or mitigative techniques to replace riparian buffers, mitigate loss, and prevent "takings" unless an "incident take" permit is issued for any identified and impacted species. See Section 7.0 for agency correspondence with USFWS and WDNR.

#### J. Air Quality

Air pollution is the contamination of the atmosphere with gases or particulate matter that are harmful to the human environment. The United States Environmental Protection Agency (USEPA), through the 1970 Clean Air Act, has established National Ambient Air Quality Standards (NAAQS) for seven Criteria Air Pollutants. These Criteria Air Pollutants are regulated by USEPA on the basis of information on health and environmental effects. The seven pollutants are ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), inhalable particulate matter (PM<sub>10</sub>), hydrocarbons (HC) and airborne lead (Pb). Attainment and maintenance of these standards was reinforced by the 1977 and 1990 Clean Air Act Amendments.

These standards have been adopted by the State of Wisconsin through Wisconsin Administrative Code—Chapter NR 404. Air quality standards are definitions of the characteristics of ambient air quality that in terms of present day knowledge, need to be maintained in order to protect the public health and welfare and our environment from adverse effects of air pollution. The goal of the air quality regulations is to ensure that various levels of pollutants do not exceed set standards, and, where pollution levels are presently less than standards, to prevent the significant deterioration of the ambient air quality.



The proposed WIS 15 project is located in the Lake Michigan Intrastate Air Quality Control Region as designated under Wisconsin Administrative Code–Chapter 404.03. According to the USEPA, Outagamie County is presently in attainment of the NAAQS for all pollutants of concern.

K. Noise

Sound levels are measured in units called decibels. Since the human ear does not respond equally to all frequencies (or pitches), measured sound levels are often adjusted or weighted to correspond to the frequency response of human hearing and the human perception of loudness. The weighted sound level is expressed in units called A-weighted decibels (dBA) and is measured with a calibrated sound level meter. Table 3.1-1 provides an illustration of typical sound levels in dBA. Sound levels which correlate with the human perception, are also expressed with the descriptor  $L_{eq}$ . The term  $L_{eq}$  is defined as the equivalent steady-state sound level which, in a stated period of time, contains the same acoustical energy as the time-varying sound level during the same period.

Sound Source	Sound Level (dBA)	Subjective Response
	140	Threshold of pain
Military jet takeoff with afterburner at 50 feet	130	
Rock and roll band	120	Uncomfortably loud
Jet fly-over at 1,000 feet	110	
Power lawn mower at operator	100	Very loud
Diesel truck (55 mph) at 50 feet	90	
High urban ambient sound automobile (55 mph) at 50 feet	80	Moderately loud
TV audio, vacuum cleaner	70	
Normal conversation	60	
	50	Quiet
Lower limit urban ambient sound	40	
	30	Very Quiet
Unoccupied broadcast studio	20	
	10	
	0	Threshold of Hearing

Sources:  
 Noise Assessment Guidelines Technical Background, HUD Report No. TE/N/A 172  
 Handbook of Noise Control, C.M. Harris, 1979  
 FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108, 1978

**Table 3.1-1 Typical A-Weighted Sound Levels**

Noise is defined as unwanted sound. The sounds generated by vehicular traffic constitute noise to people and can interrupt normal activities when they reach a certain level. There are also many nonhighway noise sources in the WIS 15 corridor area that can affect ambient sound levels, such as railroads, farm machinery, and typical urban sounds associated with industry and commercial development. Areas that would likely be sensitive to noise include residential developments, recreational areas, schools, churches, and public outdoor use or visitation areas such as cemeteries. Commercial and industrial land uses would generally be less sensitive to noise.

Noise sensitive sites along WIS 15 have been identified and readings have been taken at representative locations using a Larsen Davis 312 Noise Meter to determine existing noise levels. See Section 4, Factor Sheet N, Figures N-1 through N-3 for sound level reading locations. A more detailed discussion of the existing and future sound levels, possible noise impacts and possible mitigation measures can be found in Section 4, Factor Sheet N. A discussion of possible construction related noise impacts and possible mitigation measures may also be found in Section 4, Factor Sheet M.

L. Contaminated Materials

It is WisDOT's policy that all transportation improvement projects under its jurisdiction be evaluated to see if they warrant a hazardous materials investigation. The goal is to discover all contaminated parcels early in the facilities development process to permit the timely consideration of options for avoidance or remediation. Early discovery also allows responsible parties time to remediate contamination prior to construction. It may be in the best interests of the state to avoid all involvement with contaminated parcels. When avoidance is not appropriate, early discovery will allow for efficient and environmentally sound remediation of the contamination.

A Phase 1 hazardous material investigation was conducted within the corridor study area along WIS 15. The review identified apparent sources of hazardous materials and assessed the potential for affecting sites that may contain environmental contaminants. The results are discussed in Section 4 – Factor Sheet R.

M. Soils and Mineral Resources

Soils are influenced by parent material geology (mineral resources) and the effect of climate (including such elements as soil deposition and movement with water, wind, and ice). Ultimate soil characteristics are determined by physical and mineralogical composition, topography, and length of time for soil development. Most project soils have been derived either from material deposited by glaciers or from material deposited from rivers or glacial lakes in the form of "lacustrine" sediment. The lacustrine sediment is mainly silt and fine sand within Wolf and Rat River floodplains.

Of the seven soil associations and 85 soils in Outagamie County, the project crosses two soil formations and about 45 different soils. The soils north and west of Hortonville formed from the lacustrine silt and sand deposits mentioned above. These soils include the sandy greys, Kenowns, Nichols, Shiocton, and other soils of the Menomonee-Greys-Raussesu association. The WIS 15 alignment west of Hortonville and scattered other areas contains extensive sand spots or deposits of sand as shown on the 1978 Outagamie Soil Survey Map No. 57. Typical soils here are coarse to fine textured silt loam and fine red sands and loams of glacial till. The Hortonville-Symco Soil Association contains level to steep soils formed within calcareous loam or clay loam from glacial till. Examples of soils that formed from this drift include Hortonville, Onaway, Pella, and Soloma soils. Included in this association are the Carbondale muck and Pella/Pay/Poygan silt and loams formed with organic material collected within the Black Otter Creek depressions and stream channels. Some of the soils in the area have shallow bedrock that can be 40 to 60 inches below ground surface. This is most evident near some glacial escarpments west of Hortonville. The bedrock geology of the project area documents the glaciated nature of the area and the varying topography, soils, and depth to bedrock.

Geotechnical investigations will be conducted on the preferred alternative route prior to final design. Based upon the general rolling topography of the area and the prevalence of many diverse soil types, it would be suspected that planning and design could alleviate inherent locally deficient soils. Extensive sources of fill materials (sand, gravel, and rock) appear to be locally available as based on soil resource mapping for quarries and sandy spots west of Hortonville.

N. Aesthetics

The visual character and aesthetic quality of an area is created by its composition of landscape features including landforms, streams and other water bodies, wetlands, woodlands, open space, cropland, historic structures, commercial and residential development, and parkland and other recreational facilities.

The natural scenery along this section of WIS 15 contains broad floodplains below surrounding rolling hills. Large encompassing views are possible on some of the unique hills surrounding Hortonville, as most of Outagamie is relatively flat. The outer ridges of Hortonville allow for unique more encompassing views. Ledge Hill Road and CTH T are near the glacial escarpment on the high west side of Hortonville and provide long viewsheds. Hillview Road is elevated atop rolling agricultural areas, located south east of Hortonville. Grandview Road on the northeast side of Hortonville presents views similar to that preserved by the WisDOT rustic road designation for nearby CTH MM. Figure 3.1-11 is a



**Figure 3.1-11 View of Wolf River Bottom Lands**

photo near the intersection of Nash and Crest Roads that illustrates the aesthetics of the area. The above noted roads are just some of the local roads that provide topographic relief and interesting views in the project area. Pine plantations and moderately sized forested blocks of 50 to 150 acres in size are also located in the corridor. Wetlands and woodlands to the north of WIS 15 along the Wolf River would be viewable with a north alignment (see Figure 3.1-11). A wide natural wooded swamp corridor relatively free of invasive species is located to the south of WIS 15 along the Wiouwash State Trail. This is generally viewable from the hills on County T to the west. Black Otter Lake is the largest lake in the corridor. Encroachment could diminish the inherent quality or scenery of the area observed by recreational hikers, skiers, cyclists, or horse riders using the trail. The lake is located a few hundred feet south of WIS 15 and is fed by the Black Otter Creek. The creek's headwaters continue through the Black Otter Lake to feed the wooded swamp and wetlands along the Wiouwash State Trail. Several intermittently flowing tributaries cross the WIS 15 corridor. They are tributaries to the Wolf River, Rat River, and Black Otter Creek. Most of the tributaries have large box culverts with seasonal flow. Some are wide or diverse enough to present somewhat of a viewshed from the road. There is one bridge in the corridor that is located just south of WIS 15. The bridge is at the Black Otter Lake Dam and Creek. Railroad tracks go through the corridor parallel to WIS 15 to the south, crossing WIS 15 in Hortonville continuing north.

This region has been settled mostly as a farming area, thus providing a scenic rural setting. However, increasing farmette and small residential wood lots are changing the rural character of the area. Visible landscape features include pasturelands, farmsteads, and larger lot residential subdivisions. The existing highway consists of asphalt with gravel shoulders. The existing roadway is exhibiting minor signs of distress (cracks and ruts). Aesthetic quality of the majority of this corridor is considered moderate to high.