shovelnose sturgeon, pallid shiners, American eels, pirate perch, skipjack herrings, and several Pleistocene snails.

- Oak savanna, prairie, shorelines and cliffs are considered critical habitat for terrestrial SGCN in the Blufflands.
- Areas important for SGCN near the trail search corridor are the Upper Mississippi River National Wildlife and Fish Refuge and the Mound Prairie SNA.

**Threatened, Endangered or Special Concern Species**

The Minnesota Natural Heritage Information database was used to identify animal and plant species that are threatened, endangered or of special concern within the vicinity of the proposed trail corridor options. These species are listed in Appendix A. These species are protected by state law, and protecting their habitat must be considered during trail planning, development and maintenance. Terrestrial plant communities and animal assemblages of concern are also listed in Appendix A.

**Recommendation:** Avoid threatened, endangered and special concern species. Data from the Natural Heritage database was used to assess the location of threatened, endangered and special concern species. Parks and Trails Division staff will keep current with this data and perform on-the-ground surveys when an exact alignment is proposed.

**6. Historical and Cultural Resources**

**Archaeological and Historical Context**

The area through which the trail will pass is rich in archaeological and historical resources. A framework developed by the State Historic Preservation Office, Minnesota Historical Society, will be used to provide an overview of the history of the area and to provide a context for archaeological and historic resources that are present along the trail. Artifacts from all context of the Pre-Contact and Contact periods have been found in the area. The most significant context for the trail in the Post Contact Period is the Early Agriculture and River Settlement (1840-1870).

Human occupation of the Blufflands in Minnesota is thought to have begun approximately 8,000 years ago, after the last glaciers retreated from the area. The **Paleoindian Tradition** (9,500 B.C. – 6,000 B.C.) includes the earliest human activity in Minnesota. Evidence of human activity includes scattered surface finds of stone tools and some projectile points.
The **Archaic Tradition** (6,000 B.C. – ca. 500 B.C.) is marked by greater diversity of plant and animal communities resulting from climatic changes and producing distinctive settlement patterns. Evidence of this tradition include chipped stone tools, pecked and ground stone tools, axes and gouges for woodworking. Native copper tools and decorative items made from copper have also been found from this tradition.

By 500 B.C. to 1,650 A.D. the **Woodland Tradition** cultures established more permanent settlements, characterized by the use of pottery and the burial of the dead in earth mounds. Large village sites existed during this time, and the number of sites is more numerous than from earlier traditions.

The **Mississippian Tradition** (1,000 – 1,650), which was dominated by agriculture, spread northward around 1,000 AD from its cultural center in the lower Illinois Valley east of present day St. Louis. These early farmers worked the sandy soils of the river bottoms and terraces with bone hoes and other hand tools. Their settlements were typically large villages of 600 to 800 inhabitants surrounded by fields of corn, beans, squash, sunflowers, and tobacco. Refined pottery and the continued use of burial mounds also characterized this culture.

The **Oneota Tradition** (1,000 – 1,650), common in southeastern and south-central Minnesota, represents a blending of Mississippian and Woodland elements.

An archaeological survey of the trail corridor will be conducted prior to any development. It is likely that pre-contact artifacts will be found based on surveys that have been conducted elsewhere in the Root River Valley.

During the **Contact Period** (1650-1837) European trade goods enter the archaeological record, including beads, bells, knives and ceramics. Evidence of French trade goods appear in the 1670s. The fur trade brought both French and British traders to the area. During the 1690s and early 1700s, the French established trading posts in the Mississippi River Valley. Between 1763 and 1805, British traders and explorers came to Minnesota.

By about 1800, the Mdewakanton and Wahpekute branch ancestors of the present-day Dakota people were living in the area, with summer camps along the Mississippi River near the present site of Winona. The Dakota were dependent on the natural resources of the area and moved seasonally in order to procure food, shelter and clothing. Seasonal activities included maple syruping; hunting and trapping; planting and harvesting corn; harvesting wild berries, nuts and other edible plants; and wild ricing.

In 1837, the Dakota relinquished their claims to the lands east of the Mississippi. The 1851 treaties of Mendota and Traverse des Sioux took all of southern Minnesota away from them. Two years later, the Dakota reluctantly left their
homes along the Mississippi and other area rivers and moved to a narrow reservation of land along the Minnesota River Valley. Additional pressure and abuse by the government and some of its officials led to the Dakota uprising of 1862.

A few areas of tribal land are located near La Crescent. These lands are listed as belonging to members of the Ho-Chunk Nation, formerly known as the Wisconsin Winnebago. The land is not classified as a reservation.

**Root River History**

Although the Root River proved to be advantageous to early settlers because of the access it provided to the Mississippi River, the river did not come without disadvantages. With a valley that stretches nearly two miles wide, the Root River has a long history of flooding, and this history is integral to both local city residents and farmers.

In 1917, Hokah residents and area farmers endured one of the worst floods on record, with three feet of water standing in some areas. The flood prompted local citizens to implement a plan to straighten the Root River, a plan that had been in discussion for nearly thirty years. For two years, the river was dredged and new channels were created, and, as the *Houston Signal* reports, a ‘judicial ditch’ was created. The judicial ditch process allowed for land to be condemned and then used for the dike and river channel.

The dredging and straightening of the river alleviated the flooding problems effectively until 1980. A flood during this year caused residents to take action because portions of the agricultural dike failed. It was at this time that the federal government questioned the authenticity of the judicial ditch status of the dike.

A flood in February, 2005 caused more damage to the dike, causing a severe flood in the city of Hokah and area farm fields. Record flooding in 2007 resulted in widespread damage in the cities of Houston and Rushford, in Whitewater State Park, and elsewhere in Houston and Winona counties. Discussions continue on how to better control flooding and minimize damage in the Root River floodplain (see discussion above under Water Resources: Floodplains).

**Railroad History**

The Southern Minnesota Railroad, the first railroad in the region, was extended to Houston County in 1866. The railroad was vital to the economic prosperity of the towns, as is evident in both Hokah and Houston’s history. Freight service continued until 1980, when the Chicago, Milwaukee and St. Paul railroad (the Milwaukee Road) abandoned the rail infrastructure. The DNR ultimately acquired 49 miles of the grade for trail purposes, while the remainder reverted to private ownership by adjacent landowners.
Settlement and Agriculture

By the 1850s, active European settlement began in the Mississippi River valley. Settlers initially arrived by steamboat, later by railroad. Wheat was the first major crop harvested throughout Minnesota, and was harvest intensively until the productivity of the soils was reduced. In the 1880s, farmers shifted from wheat to corn and to raising dairy cows and hogs. In addition, timber was harvested in large quantities and shipped downriver to other growing Midwestern communities. Many hillsides were cultivated or grazed, leading to erosion and flooding. By the later 1900s, new farming practices such as crop rotation, contour tillage, strip cropping and terracing became more commonplace on many farms to reduce soil erosion and protect water quality.

Socioeconomic Context

Houston County anchors the southeastern corner of Minnesota, with a county seat in Caledonia, about 12 miles south of Houston. The county’s population was 19,027 in 2010, a slight decline from the 2000 population of 19,718. La Crescent is the largest city in the county. Primary occupations are education and health services, transportation and utilities, manufacturing, public administration, leisure and hospitality, and agriculture.

Houston County’s unemployment rate as of February 2011 was 9.7%, above the statewide rate of 7.4% (these rates are not seasonally adjusted). Houston County is considered part of the La Crosse Metropolitan Statistical Area (MSA), along with La Crosse County in Wisconsin. The unemployment rate in the MSA was 6.7% in January 2011, indicating the MSA’s relative strength as an employment center.

Houston County’s zoning ordinance includes a Scenic Trail Overlay District that includes lands within five feet outside the right-of-way lines of any publicly owned recreational trail. No new commercial uses are allowed within the overlay district except for those already permitted and established prior to the effective date of the ordinance. No new buildings or additions are allowed. Advertising signs are limited to those that conform to the natural appearance of the surroundings, with limits on sign size, colors, and spacing.

Regional Recreation and Tourism Opportunities

Scenic Byways

The Historic Bluff Country Scenic Byway is an important tourist attraction. The 88 miles of Highway 16 between Dexter and La Crescent showcase the scenic Root River Valley, including bluffs, caves, sinkholes, hardwood forest, pastoral rural landscapes, and quaint and hospitable towns. This scenic byway is also designated as an All-American Road – one of only 31 in the United States. The
designation recognizes this scenic drive as a nationally significant “destination unto itself.” The presence of the Root River State Trail adds an important recreational amenity to the byway, while the byway offers trail visitors a variety of other recreational experiences.

The **Apple Blossom Scenic Drive Byway** extends for 19 miles along Highway 29 from La Crescent to the town of Nodine in Winona County, and is known for its rolling hills of apple orchards. Close to the byway is Great River Bluffs State Park, which provides lovers of the outdoors camping and fishing opportunities.

The **Great River Road Scenic Byway**, a national scenic byway, stretches the full length of the Mississippi River from Itasca State Park to the Gulf Coast. The Minnesota segment of the Great River Road through southeastern Minnesota follows Highway 16 south to La Crescent and then follows Highways 16 and 26 to the Iowa border.

**Recreational Opportunities**

**Camping and Lodging**

There are a variety of public and private campgrounds in Houston County. The City of Houston offers a public campground adjacent to the Root River trailhead. Camping and horseback trails are available in the Oak Ridge/Wet Bark Recreation Area of the R.J. Dorer State Forest. Beaver Creek Valley State Park, about ten miles south of Houston, offers semi-modern, rustic and cart-in campsites. Several private campgrounds are located near or within the trail search corridor.

Other lodging options include motels, bed and breakfast facilities, and a bunkhouse and stable facility for visitors with horses.

**Watercraft Access Facilities**

As a State Water Trail, the Root River offers numerous carry-in accesses for canoes and kayaks, including accesses in Houston, at Mound Prairie and at Miller’s Corner (Highway 26). Sportsmen’s Landing, a water access managed by the DNR at the Highway 14/61 Bridge in La Crescent, offers parking, boat ramps, toilets and a fishing dock.

**Angling**

Many of the designated trout streams within or near the trail corridor provide excellent fishing opportunities. The DNR Division of Fisheries has acquired streamside easements on many of these trout streams to provide angler access. Easements are found on portions of Thompson’s Creek south of Hokah and Badger and Swede Bottom creeks south of Houston. Habitat development projects have been completed on many streams.
Trail Opportunities

In addition to the Root River Trail itself, a variety of other trail opportunities exist close to the trail corridor. Some units of the Richard J. Dorer Memorial Hardwood State Forest provide trail opportunities. The Vinegar Ridge Unit, located between Houston and Rushford, provides approximately six miles of hiking and snowmobile trails. The Oak Ridge/Wet Bark Recreation Area, located southwest of Houston, offers 11 miles of horseback riding trails, hiking trails, six miles of designated mountain biking trails in the summer and 11 miles of ski touring and six miles of snowmobile trails in the winter.

The Mound Prairie Scientific and Natural Area is open to low-impact hiking.

Beaver Creek Valley State Park, located about ten miles south of Houston, offers eight miles of hiking trail traversing rugged limestone bluffs along the valley of this pristine trout stream.

There are over 375 miles of snowmobile trails in Houston County. These trails are part of the statewide grant-in-aid snowmobile trail system totaling over 20,000 miles. Local snowmobile clubs develop and maintain these trails with funds distributed by a local government sponsor.

Community Benefits of Trail Development

Communities that support trails and respond to the needs of trail users have seen positive effects on their local economies. Both DNR and national trail studies indicate that tourists attracted to the trails use local facilities for eating, shopping, and lodging. The newly revitalized economy can create jobs for residents and increase public revenue. The existing Root River State Trail provides clear evidence of this relationship, with measurable economic benefits to cities such as Lanesboro, Rushford and Preston.

The DNR estimates that for five trails surveyed between 2007 and 2009, summer spending totaled nearly $5 million. Most of that spending (95% in total) comes from trail users who reside outside the local economy of the trail, and the spending represents “new” dollars to the local economy. Trail users who have traveled a long distance to the trail, not surprisingly, outspend local users by a factor of about 20 on a daily basis, primarily on food, travel, and overnight accommodations.

The Root River – Harmony Preston Valley Trail generated the highest amount of summer spending in this study, about $2.27 million, and the highest proportion of use by tourists (70% traveled 50 miles or more to use the trail).

Trails also appear to increase property values and enhance the quality of life in the communities through which they run. Homes close to trails have become increasingly desirable. A number of studies of existing bike trails have shown that the average value of property near the trails is similar to or slightly above the value of other properties in the area.5

- A Minnesota study of two trails found that 87% of the homeowners along the trail felt the trail either had no effect or increased their property value.
- A National Park Service funded study of three trails found that 87% to 97% of those surveyed felt a trail either increased the value of their home or had no effect on its value. The study found that 89% of real estate professionals concurred.

Trails also yield benefits that are significant but difficult to quantify. To the extent that trail use replaces motor vehicle use, benefits result from lower air pollution and congestion. Multiple benefits to public health result from the use of trails for outdoor recreation. Regular, moderate exercise has been proven to reduce the risk of coronary heart disease, stroke, colon cancer, hypertension, diabetes, osteoporosis, obesity and depression. It increases muscular strength and flexibility, which leads to a greater range of movement in the later years of life.

Trail use has been shown to be valuable not only in combating obesity and related public health problems but also in reducing stress, improving mental health, and encouraging healthy lifestyles. Trail recreation incorporates fitness into everyday routines – commuting to work, exercising the dog, running errands, and socializing. In addition, relationships within and between communities can become stronger as people work together to plan, seek funding for, and help monitor and maintain trails. Communities can be physically tied together with trail systems, linking residential areas to schools, parks and other amenities and services. Trails can also create civic pride and enhance a city or region’s identity.

5 For example, see “Home Sales Near Two Massachusetts Rail-Trails,” 2005. http://www.americantrails.org/resources/adjacent/dellapennasales.html