

Section 3
Affected Environment

SECTION 3

Affected Environment

Section 3 describes the existing social, economic, and environmental setting of the project corridor that may be affected by the alternatives carried forward as described in [Section 2, Alternatives](#). Socially and environmentally sensitive features discussed in this section, such as the Mississippi River, schools, parks, and recreational areas, are shown in [Appendix B, Aerial Photo Exhibit](#).

3.1 Land Use and Related Characteristics

3.1.1 Geographical Setting

The project corridor is located in the Quad Cities, which includes Moline, East Moline and Rock Island in northwestern Illinois, and Davenport and Bettendorf in eastern Iowa ([Figure 1-1, I-74 Iowa-Illinois Corridor Study Location Map](#), at the end of [Section 1, Purpose of and Need for Action](#)). The project corridor focuses on I-74 from 23rd Avenue in Moline, through Bettendorf, north to 53rd Street in Davenport. The Mississippi River, the most prominent natural feature, crosses through the center of the project corridor. The topography ranges from gently rolling to hilly or steep.

3.1.2 Geology and Soils

The geology of the project corridor includes sedimentary bedrock that resulted from the deposit of sediments in shallow seas that covered the area over hundreds of millions of years. The uplands in the southernmost portion of the project corridor consist of the Pennsylvanian-age Abbot and Spoon Formations, which are composed of rocks containing mostly shale and minor amounts of sandstone, limestone, and coal. The bedrock lying closest to the surface in the lowlands north of 18th Avenue is known as the Middle Devonian, which forms the Cedar Valley Limestone, a largely highly fossiliferous, crystalline limestone, north to 14th Avenue and the Wapsipinicon Limestone, a fine-grained, locally dolomitic limestone, up to the Mississippi River. Middle Devonian bedrock covers the area south of I-80 throughout Scott County, Iowa.

The portion of the project corridor within Iowa contains three soil associations: Tama, Colo-Lawson-Nodaway, and Downs-Fayette. The Tama soils, which can be found in the northernmost extent of the Iowa side of the project corridor, occur on gently sloping to moderately steep topography and are mainly used for row crops. The Colo-Lawson-Nodaway soils are present along the north bank of the Mississippi River. These soils occur on nearly level topography and are very poorly drained, meaning they are often subject to flooding. The Downs-Fayette soils are the most common soils present in the Iowa project corridor. These soils occur on gently sloping to very steep topography.

The Illinois portion of the project corridor contains two soil associations: Raddle-Joslin and Fayette-Sylvan-Hickory. The Raddle-Joslin soils are present along the south bank of the Mississippi River and occur on nearly level to moderately sloping topography. These soils are moderately well-drained soils and are mostly used for cultivated crops, such as corn and

soybeans. The Fayette-Sylvan-Hickory soils, which can be found in the remaining Illinois project corridor, occur on gently sloping to very steep topography.

3.1.3 General Land Use

The project corridor contains a combination of commercial, residential, industrial, agricultural, and park and open space land uses. Most of the commercial land uses are located along the I-74 corridor and along the river in both Moline and Bettendorf. The newer commercial areas are located along the I-74 corridor in Davenport near the northern terminus of the project corridor.

Residential land uses are located throughout the project corridor but mostly south of the commercial area in Moline and north of the commercial area in Bettendorf. Newer residential areas have been developed near the I-74 corridor in Davenport near the northern terminus of the project corridor. The industrial land uses are mainly located along the river in both Moline and Bettendorf. The park and open-space land uses in the project corridor can also be found mostly along the river in both Moline and Bettendorf and along Duck Creek in Bettendorf and Davenport. Two special features along the river include the Great River Trail (Illinois) and the Bettendorf Riverfront Trail (Iowa side). Land use within the corridor is identified on [Figure 3-1, Existing Land Use](#), at the end of Section 3.

3.1.4 Transportation

I-74 plays an important role in the local, regional, and national transportation network. Aside from I-74, three other interstate highways, five U.S. highways, ten state highways, three railroads, one commercial airport, 30 barge terminals, and one general-aviation airport serve the Quad Cities region. In addition, a U.S. Customs Port of Entry and a Foreign Trade Zone serve as economic entryways for the area. The roadway network also provides vehicular and non-motorized access to trails, transit, rail, river, air, and intermodal freight facilities.

Street System and Highways

The Quad Cities area is served by a well-developed interstate network that accommodates both long-distance interstate traffic and regional travel ([Figure 1-1, I-74 Iowa-Illinois Corridor Study Location Map](#), at the end of [Section 1, Purpose of and Need for Action](#)). This network provides the region with excellent interstate connections:

- I-80, providing connections east to Chicago and west to Des Moines
- I-280, forming a beltway around the south and west sides of the Quad Cities
- I-88, providing a second connection east to Chicago
- I-74, providing connections to the southeast through central Illinois and Indiana

Convenient and efficient connections between I-74 and the adjacent local highway system are essential to efficient transportation services to adjacent communities. The I-74 corridor provides important linkages to several major state routes, local streets, and ultimately to the region's residential, retail, commercial, emergency and entertainment centers.

The major intersecting and interchanging roads near I-74 are shown on [Figure 1-1, I-74 Iowa-Illinois Corridor Study Location Map](#), at the end of [Section 1, Purpose of and Need for Action](#). The existing system is characterized by one-way streets in the riverfront area and under-designed connections to the interstate system. Two major marked routes, U.S. 67 in Iowa and IL 92 in Illinois, do not have efficient access to I-74. U.S. 67 is currently operated as a one-way pair

along State Street and Grant Street in Bettendorf, with partial interchanges to I-74. Bettendorf's long-range plans suggest a desire to consolidate U.S. 67 into a two-way facility with Grant Street functioning as the major U.S. 67 through traffic route, and State Street functioning as a local U.S. 67 Business route. On the Illinois side, IL 92 also forms a one-way pair along 4th Avenue and 6th Avenue. IL 92 does not currently interchange with I-74.

Public Transport

As one of the primary north-south routes through the center of the Quad Cities, I-74 is used by, and provides links to, public transportation. Public transit in the Quad Cities is currently provided by only a bus system and water taxi service. Three bus services operate in the Quad Cities. The Bettendorf Transit provides bus services in Bettendorf, Davenport CitiBus provides public transportation in Davenport, and MetroLINK provides transit services on the Illinois side. Only Bettendorf Transit uses I-74 to provide inter-city transit services. Amongst the terminals, transfers between Bettendorf Transit and Davenport CitiBus are available at Duck Creek Plaza and between Bettendorf Transit and MetroLINK at Centre Station in Moline, Illinois. All three bus systems and water taxi service are equipped with bicycle racks, which enhance the linkage between transit and the bicycle/pedestrian trail system.

- Bettendorf Transit is a four fixed-route system with a 1999 ridership of 139,735. The Bettendorf Transit service is available from 6:00 a.m. to 6:30 p.m., Monday through Friday and on Saturday from 8:30 a.m. to 5:30 p.m. Bettendorf Transit operates a route via the I-74 bridge to Centre Station in downtown Moline.
- The Davenport CitiBus is a 12 fixed-route system with a 1999 ridership of 1,041,523. Though the service hours vary by route, the approximate hours of service are from 6:00 a.m. to 6:30 p.m., Monday through Friday and from 9:00 a.m. to 6:30 p.m. on Saturday.
- The MetroLINK is an 11 fixed-route system with a 1999 ridership totaling 2,555,891. MetroLINK service is available 5:30 a.m. to 9:00 p.m., Monday through Friday, 5:00 a.m. to 6:00 p.m. on Saturday and 8:00 a.m. to 5:00 p.m. for limited routes on Sunday.

The MetroLINK also provides a water taxi service, Channel Cat Water Taxi, between Memorial Day and Labor Day. This service operates two 48-passenger vessels, which allows the public to cross the river while making hourly stops at four docks: two in Moline (John Deere Commons Landing and Ben Butterworth Parkway at Celebration Pier), one in Bettendorf (Leach Park), and one in Davenport (Lindsay Park). Channel Cat Water Taxi service is available 11:00 a.m. to 8:00 p.m., Monday through Friday. During the summer, service is also available 9:00 a.m. to 9:00 p.m. on Saturday and Sunday 9:00 a.m. to 8:00 p.m.

Paratransit services in the Quad Cities are operated by the Great River Bend Services, Inc., and are under contract by the cities of Bettendorf and Davenport and in Illinois. Commercial bus lines, including Burlington Trailways and Greyhound, also serve the Quad Cities.

According to the Bi-State Regional Planning Commission's 2025 RTP, the annual average growth rate for transit ridership in the Quad Cities is approximately 2.9 percent. The three transit systems currently operating in the Quad Cities had a ridership of 3,737,149 in 1999. The projected ridership in the Quad Cities for all three systems in 2025 is expected to be 4,858,510, a 30-percent increase. All three systems are compliant with the ADA and all buses in the systems are ADA accessible.

Air Service

I-74 provides direct access to two airports located in the Quad Cities area, the Quad City International Airport and the Davenport Municipal Airport ([Figure 2-5, Quad City Area Transit Facilities](#), at the end of [Section 2, Alternatives](#)). The Quad City International Airport in Moline, Illinois, located south of the project corridor, is the region's major airport. It is classified by the Federal Aviation Administration (FAA) as a "certified air carrier" facility and serves as a U.S. Customs Port of Entry. Six major passenger airlines (Delta Connection, ATA Connection, United Express, Northwest AirlinK, Air Tran Airways, and American Connection) and three airfreight carriers (Airborne Express, Air Cargo Carriers [a UPS Contractor], and DHL) operate at this airport. Approximately 60 arrivals and departures occur daily with connections to seven national destinations and international destinations. The number of passengers served at this airport in 1999 was approximately 750,000 people, an increase by more than 9 percent since 1992. Air freight poundage generally increased over the years until 1998. In 1999, about 20 million pounds of airfreight service occurred.

The Davenport Municipal Airport, located northwest of the project corridor, also serves the area for corporate aircraft and as a reliever for the Quad City International Airport. FAA classifies this airport as a "basic transport" facility. Approximately 75 aircraft a day use this airport.

Rail Service

Although the Quad Cities is not serviced by passenger rail service, it is serviced by three rail freight carriers (Iowa, Chicago and Eastern Railroad [ICE], Burlington Northern Santa Fe, and Iowa Interstate). These freight carriers have terminals in Rock Island, Moline, and Davenport and are projected to benefit from the proposed project due to improved transportation performance throughout the corridor. See [Figure 2-6, Quad City Area Bicycle/Pedestrian and Rail Facilities](#), at the end of [Section 2, Alternatives](#), for a map of the rail lines.

ICE operates a rail line that follows along the northern bank of the Mississippi River in the project corridor. This rail link connects Kansas City, Minneapolis, St. Paul, and Chicago and serves corn and soybean production areas, agriculture-related industries, and carries steel, chemicals, and aggregates.

The Burlington Northern Santa Fe line runs from Davenport to St. Paul, Minnesota, through Illinois.

Iowa Interstate operates a line from Omaha, Nebraska, through Davenport and Moline to Chicago, Illinois. Iowa Interstate primarily transports grain, agriculture products, steel, scrap, appliances, chemicals, and other materials.

Bicycle Facilities

Bicycle facilities are located throughout the Quad Cities with most of the trails along the Mississippi River. The two significant trails along the river are the Great River Trail on the Illinois side, and the Bettendorf Riverfront Trail on the Iowa side. Both trails are generally used for recreation, but they also serve the community as a connection between residential, commercial, and industrial areas. The Bettendorf Riverfront Trail also provides a nonmotorized alternative to using State and Grant Streets (U.S. 67). Currently, no connection between these valued trails exists across the Mississippi River; a safe connection across the river is a goal of the 2025 RTP as is the eventual incorporation of the Great River Trail into the three major area trail networks: the Grand Illinois Trail, the Mississippi River

Trail, and the American Discovery Trail. See [Section 3.11, Parks, Recreational Areas, and Other Public Use Lands](#), for a more detailed description and [Figure 2-6, Quad City Area Bicycle/Pedestrian and Rail Facilities](#), at the end of [Section 2, Alternatives](#).

3.1.5 Navigation

As noted in the previous section, there are approximately 30 barge terminals in the Quad Cities region. The use of the Mississippi River for navigation is an important element of the local and national economy. The project area lies within Pool 15 of the Mississippi River, which is formed by Lock & Dam #15, about 4 miles downstream of the existing I-74 bridge, and Lock & Dam #14, about 7 miles upstream from the I-74 bridge.

Lock & Dam #15 is the most proximate and well-documented location in terms of total number of vessels and cargo tonnage passing through the Quad Cities on the Mississippi River. According to historical records kept by the U.S. Army Corps of Engineers (Personal communication 2003), total tonnage of cargo and vessels that pass through Lock & Dam #15 steadily rose in the mid to late 1900s until the early 1980s when traffic and tonnage began to fluctuate year by year, but, on average, increase. In 1985, 19,341,477 tons of cargo, 2,291 commercial vessels, and 6,345 recreational vessels passed through Lock & Dam #15. In 1990, 31,944,894 tons of cargo, 3,609 commercial vessels, and 5,968 recreational vessels passed through Lock & Dam #15. In 2000, a total of 28,753,278 tons of cargo was carried through Lock & Dam #15. The number of commercial and recreational vessels that passed through Lock & Dam #15 in 2000 totaled 3,351 and 6,559, respectively.

3.1.6 Utilities

The Quad Cities area is served primarily by major national utility companies. MidAmerican energy provides electrical and natural gas services within the project corridor. Major telephone service providers include Ameritech, QWEST, and McLeod for local service, and AT&T, MCI WorldCom, McLeod, and Sprint for long-distance service. Ameritech, QWEST, and AT&T Cable Services also provide fiber optic communications to the area. Water and wastewater services are provided by the local municipalities. The Moline Water Treatment Plant is located just to the west of the existing I-74 bridges along the riverfront. This facility treats the Moline water supply and distributes water to the distribution system. There are no substations or power lines along the corridor. Specific potential utility impacts will be discussed in [Section 4, Environmental Consequences](#). Locations of utilities in the project corridors are incorporated into CAD drawings included in the “Major Utility Involvement” section of the *Draft Location/Design Report*.

3.1.7 Public Facilities and Services

Several churches, schools, and other public facilities and services are located within or near the project corridor. Those discussed below can be found in [Appendix B, Aerial Photo Exhibit](#).

Four churches are located within the project corridor: Our Lady of Lourdes, the Apostolic Assembly, the First Congregational Church, and the Kingdom Hall of Jehovah’s Witnesses. Our Lady of Lourdes is located to the east of I-74 in Bettendorf, Iowa. The church has been in this location since 1903 and has 1,200 families in its parish. The present church and rectory was built in 1963, and replaced the old structure that dated back to the early 20th century. The school was built in 1952 and has 428 students enrolled in preschool through 8th grade. The Apostolic Assembly was built in 1939 and is located to the east of I-74 in Bettendorf. The First Congregational Church, located to the east of I-74 in Moline, was built in 1917 and added on

to in the 1930s and has a congregation of approximately 1,300. The Kingdom Hall of Jehovah’s Witnesses is located on the east side of I-74 on Lincoln Road in Bettendorf, Iowa. Their building was constructed in 1985 and their membership is approximately 350 congregates. The Knights of Pythias (a benevolent fraternal organization) Lodge Hall no longer functions as the group’s facility. This property was converted to an apartment building.

There are numerous colleges, universities, and technical schools located within the Quad Cities metropolitan statistical area (MSA) (see [Table 3-1, Quad Cities Schools of Higher Education](#)). None of them are within close proximity to the project area. The public school districts that are located in the project corridor include Moline United 40, Davenport’s Eisenhower, Lincoln Fundamental and McKinley Elementary Districts, Sudlow Intermediate School District, Central and North High School District, and Bettendorf. The Thomas Edison Learning Center is located in downtown Bettendorf and within the project corridor. No private/parochial schools are located in the project corridor in Illinois and Our Lady of Lourdes is a private/parochial school located in the project corridor in Iowa.

TABLE 3-1
Quad Cities Schools of Higher Education

School	Location
Augustana College	Rock Island, IL
Black Hawk Community College	Moline, IL
Saint Ambrose University	Davenport, IA
Scott Community College	Bettendorf, IA
Quad-Cities Graduate Study Center	Rock Island, IL
Marycrest International University	Davenport, IA
Western Illinois University Regional Center	Moline, IL
Hamilton Technical College	Davenport, IA
Kaplan College	Davenport, IA
Trinity College of Nursing and Health Sciences Schools	Moline, IL
Palmer College of Chiropractic	Davenport, IA

Sources: Quad Cities Online www.qconline.com, Quad City Times www.qctimes.com

No cemeteries are located within the project corridor.

3.2 Farmland Resources

3.2.1 Agriculture in the Project Corridor

The project corridor is predominantly urban. The only agricultural land use in the project corridor is near the northern project terminus (Iowa). According to Davenport’s future land use plan, this farmland is planned by the municipalities to be converted for future development. Approximately 6,500 linear feet of farmland property border the proposed project in the northern portion of the project corridor. No farmland is actually within the footprint of the proposed project. (See [Figure 3-1, Existing Land Use](#), at the end of Section 3).

Although the project corridor is largely urban and suburban in nature, farming is an important economic resource in Scott County, where corn, soybeans, hay, and oats are the main crops

produced. Over the last 50 years, Scott County has been one of the most agriculturally productive counties in Iowa. [Table 3-2, *Scott County Iowa, Farm Characteristics and Crop Production \(1997\)*](#), shows the agricultural production in Scott County.

TABLE 3-2
Scott County, Iowa, Farm Characteristics and Crop Production (1997)

Crop	Bushels	Crop	Bushels
Corn for grain or seed	15,877,875	Oats	135,561
Soybeans	3,635,063	Wheat	7,029

Source: USDA 1997 Census of Agriculture, *Highlights of Agriculture: 1997 and 1992*.

Between 1992 and 1997, the amount of land devoted to farming and the number of farms decreased in Scott County ([Table 3-3, *Scott County, Iowa, Farm Characteristics*](#)). Scott County experienced an increase in average farm size during this period. This is consistent with national trends in agriculture, as farming has shifted from small, family-owned operations to big-business enterprises that are more efficient and mechanized. Nationally, the amount of land devoted to farming has decreased as well.

TABLE 3-3
Scott County, Iowa, Farm Characteristics

	1992	1997	Percent Change
Land in Farms (acres)	94,380 (233,217)	91,155 (225,248)	-3
Average size of farms (acres)	103 (255)	114 (282)	+11
Full time Farms	592	488	-18

Source: USDA 1997 Census of Agriculture, *County Profile*

3.2.2 Prime and Important Farmland

Prime farmland is common throughout Iowa and represents the farmland in the northern portion of the project corridor. Prime farmland, as defined by the U.S. Department of Agriculture (USDA), is the land best suited for food, feed, forage, fiber, and oilseed crops, producing the highest yields with the least expenditure of energy or economic resources. According to the Natural Resources Conservation Service (NRCS), there are 150,098 acres of prime farmland in Scott County.

The build alternatives would not require any additional right-of-way at the north end of the project corridor; therefore, no farmland will be converted. As a result, coordination with Illinois or Iowa Departments of Agriculture is not required.

3.3 Socioeconomic Characteristics

3.3.1 Population and Ethnicity

The Quad Cities' population levels are summarized in [Table 3-4, *Regional and County Population Change*](#). The 2000 population of the MSA, which includes Scott County, Rock

Island County, and Henry County, was nearly 360,000. While lower than its peak population of nearly 384,000 in 1980, it nonetheless represents a 2.3-percent increase in population since 1990. Scott and Rock Island counties also saw population increases between 1990 and 2000, reversing some of the loss experienced in the 1980s ([Table 3-4, Regional and County Population Change](#)).

TABLE 3-4
Regional and County Population Change

Year	Quad Cities MSA		Scott County, IA		Rock Island County, IL	
	Total	Percent Change	Total	Percent Change	Total	Percent Change
1980	383,958	—	160,022	—	165,968	—
1990	350,861	-8.6	150,979	-5.7	148,723	-10.4
2000	359,062	+2.3	158,668	+5.1	149,374	+0.4

Source: U.S. Census Bureau, 2000

The City of Davenport is the largest of the three communities in the project corridor, with a population of 98,359 in 2000. In 2000, the cities of Bettendorf, Davenport, and Moline all saw increases in population over 1990 levels. Further, Bettendorf is the only community whose 2000 population was higher than its 1980 population. Both Davenport's and Moline's 2000 populations are below their 1980 populations. While Bettendorf experienced a higher percentage of growth than the others ([Table 3-5, Municipality Population Change](#)), it is also the smallest of the three communities.

TABLE 3-5
Municipality Population Change

Year	Bettendorf, IA		Davenport IA		Moline, IL	
	Total	Percent Change	Total	Percent Change	Total	Percent Change
1980	27,381	—	103,264	—	45,709	—
1990	28,139	+2.8	95,333	-7.7	43,080	-5.8
2000	31,275	+11.1	98,359	+3.2	43,768	+1.6

Source: U.S. Census Bureau, 2000

The racial composition of the region is predominantly white, accounting for nearly 86 percent of the population in the MSA ([Table 3-6, 2000 Detailed Minority Population](#)). In 2000, African Americans accounted for nearly 6 percent of the MSA population, of whom slightly more than half are located in Rock Island County and slightly less than half are located in Scott County. Other racial group categories (American Indian and Alaskan Native, Asian, Native Hawaiian, Other Pacific Islander, or Other) accounted for 2.6 percent. Within the MSA, the 2000 Census data indicates there are 20,703 people of Hispanic origin, representing approximately 6 percent of the MSA's population.

TABLE 3-6
2000 Detailed Minority Population

	Quad Cities MSA		Scott County, IA		Rock Island County, IL		Bettendorf, IA		Davenport, IA		Moline, IL	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent
White	307,512	85.6	14,0481	88.5	127,742	85.5	29,715	95.0	82,311	83.7	36,030	82.3
Black or African American	21,166	5.9	9,689	6.1	11,260	7.5	494	1.6	9,093	9.2	1,325	3.0
Other (includes 2 or more races)	4,757	1.3	2,413	1.5	8,393	5.7	551	1.8	4,596	4.7	535	1.2
American Indian and Alaska Native	755	0.2	500	0.3	410	0.3	67	0.2	368	0.4	56	0.1
Asian	4,102	1.1	2,502	1.6	1,524	1.0	444	1.4	1,967	2.0	601	1.4
Native Hawaiian and Other Pacific Islander	67	0.0	32	0.0	45	0.0	4	0.0	24	0.0	9	0.0
Hispanic or Latino	20,703	5.8	6,445	4.1	12,791	8.6	772	2.5	5,268	5.4	5,212	11.9
Total Population	359,062	—	158,668	—	149,374	—	31,275	—	98,359	—	43,768	—

Source: U.S. Census Bureau, 2000

3.3.2 Employment and Income

Employment

Employment in the Quad Cities MSA increased by 40 percent (translating to 65,000 new jobs) between 1970 and 2000 ([Table 3-7, Total Employment](#)). Most of this growth occurred between 1970 and 1980, and then between 1990 and 2000. In comparison, the state of Illinois experienced a 44-percent increase, and the state of Iowa experienced a 50-percent increase in jobs over the same period.

TABLE 3-7
Total Employment (number of jobs)

	MSA	Percent Change	State of Illinois	Percent Change	State of Iowa	Percent Change
1970	163,665	—	5,143,845	—	1,294,603	—
1980	197,312	20.6	5,688,059	10.6	1,541,054	19.0
1990	199,969	1.3	6,441,625	13.2	1,646,434	6.8
2000	228,723	14.4	7,442,406	15.5	1,946,893	18.2

Midwest PROfiles, Public Resources Online, www.profiles.iastate.edu, Department of Economics, Iowa State University, Ames, Iowa

Although total employment remained steady through the 1980s (the number of jobs in the MSA increased by approximately 2,600 jobs over the 10-year period between 1980 and 1990), a fundamental shift in employment occurred—a shift from a manufacturing economy to a service economy. The Quad Cities’ history as the “Farm Equipment Capital of the Midwest” changed in the 1980s when many of the major manufacturers—Caterpillar, Farmall, International Harvester, Case, and Deere—cut back or left the area entirely. As detailed in [Table 3-8, MSA Employment by Industry](#), in 1980, manufacturing was the largest employment sector in the MSA, and accounted for nearly 26 percent of the jobs (48,971 of the 197,312 jobs). By 2000, manufacturing declined by 35 percent and accounted for just 14.1 percent of the jobs in the county (31,692 of 228,723 jobs). The services sector saw the greatest increase during that period, increasing by nearly 85 percent, from 37,809 jobs in 1980 to 69,703 jobs in 2000. By 2000, the services sector accounted for the greatest percent of jobs in the MSA (69,703 of 228,703 jobs, or nearly 31 percent). The wholesale and retail trade sector also experienced a significant increase in number of jobs between 1980 and 2000, increasing by 9,789 jobs. In 2000, the wholesale and retail trade sector accounted for 24 percent of all jobs in the MSA. In 2000, the economy was much less dependent on one sector of the economy, and more diversified.

TABLE 3-8
MSA Employment by Industry (number of jobs)

Industry	1980	1990	2000	Percent Change 1980-1990	Percent Change 1990-2000
Farm employment	5,482	4,133	3,379	-24.6	-18.2
Non-farm employment	191,830	195,836	225,344	2.1	15.1
Ag service, forestry, fishing, and other	578	1,898	1,147	228.4	-39.6
Mining	266	290	167	9.0	-42.4
Construction	9,490	8,819	12,549	-7.1	42.3
Manufacturing	48,971	32,036	31,692	-34.6	-1.1
Transportation and Public Utilities	8,074	8,476	11,882	5.0	40.2
Wholesale and Retail Trade	45,140	52,470	54,929	16.2	4.7
Finance, Insurance, and Real Estate	13,325	12,606	14,701	-5.4	16.6
Services	37,809	50,179	69,713	32.7	38.9
Government	28,176	29,062	27,464	3.1	-5.5
Total Full- and Part-Time Employment	197,312	199,969	228,723	1.3	14.4

Midwest PROfiles, Public Resources Online, www.profiles.iastate.edu, Department of Economics, Iowa State University, Ames, Iowa

Historically, the riverfront was the first area where settlement occurred in the region. Industrial and manufacturing developed along the river's transportation route. The communities' commercial/downtown areas also developed nearby. Over the years, as transportation needs changed and as the population shifted outward, many manufacturers moved to outlying suburban areas along the interstates. Much of the land adjacent to the riverfront is vacant, and subject to redevelopment efforts of the cities of Moline and Bettendorf. However, the area still contains large manufacturing employers and some service businesses. Major manufacturing employers that remain close to the project area include Deere & Company (located in Moline on River Drive, approximately 0.5 mile west of I-74), Montgomery Kone (located in Moline east of I-74 at the river), and Sivyer Steel Company (located in Bettendorf on the north side of the river approximately 2 miles east of I-74). In addition, the Isle of Capri Riverboat Casino and Hotel is located in Bettendorf, adjacent to the river, just east of I-74.

The major employers in the Quad Cities are listed in [Table 3-9, Major Employers in Quad Cities MSA](#). As shown in the table, the area's economic base includes a mix of manufacturing, commercial, and service-related businesses.

TABLE 3-9
Major Employers in Quad Cities MSA

Company	Number of Employees	Company	Number of Employees
Deere & Company*	7,878	APAC Teleservices	500
Rock Island Arsenal	6,000	UPS Distribution	500
Genesis Medical Center	3,000	Von Hoffman Graphics	445
ALCOA	2,600	Thomas Proestler	438
IBP	2,500	Von Maur	435
Trinity Medical Center	2,500	3M	430
Oscar Mayer	1,890	Norcross Safety Products, Inc.	398
MidAmerican Energy Company*	987	Modern Woodmen of America Insurance	385
Illini Hospital	950	Eagle Foods Distributing Center	379
CNH Global	900	Ralston Purina	347
Montgomery Kone*	600	Sivyer Steel Company*	330

Source: Dunn & Bradstreet MarketPlace, 2nd Quarter, 2000

*Located within project corridor.

Deere and Company, a manufacturer of agricultural and construction equipment, is the area's largest employer with almost 7,900 employees; with Rock Island Arsenal, a military manufacturing operation, following close behind with 6,000 employees. Health care centers, such as Genesis Medical Center, Trinity Medical Center, and Illini Hospital, together employ about 5,900 people. Montgomery Kone, a manufacturer of elevators and the 11th-largest employer, is located adjacent to the existing I-74 corridor in Moline along the river.

Income

According to 2000 census data shown in [Table 3-10, Project Corridor Income](#), the median household income in Iowa was \$39,469, which is less than Scott County (\$42,701) and the Quad Cities (\$40,621). The median household income in Illinois was \$46,590, which was greater than Rock Island County (\$38,608) and the Quad Cities (\$40,621).

TABLE 3-10
Project Corridor Income

Area	1989 Median Household Income	1999 Median Household Income
Quad Cities MSA	\$28,077	\$40,621
Iowa	\$26,229	\$39,469
Illinois	\$32,252	\$46,590
Scott County, IA	\$29,979	\$42,701
Rock Island County, IL	\$26,803	\$38,608
Bettendorf, IA	\$40,174	\$54,217
Davenport, IA	\$26,218	\$37,242
Moline, IL	\$27,512	\$39,363

Source: U.S. Census Bureau, 1990, 2000.

3.3.3 Residential

Single-family residential land uses tend to occur at the north and south ends of the project. Closer to the river, land use transitions to business uses, with some single and multi-family residential areas interspersed among commercial uses (see [Figure 3-1, Existing Land Use](#), at the end of Section 3).

3.4 Air Quality

The National Ambient Air Quality Standards (NAAQS), established by the U.S. Environmental Protection Agency (USEPA), set maximum allowable concentration limits for six criteria air pollutants. Areas in which air pollution levels persistently exceed the NAAQS may be designated as “non-attainment.” States in which a non-attainment area is located must develop and implement a State Implementation Plan (SIP) containing policies and regulations that will bring about attainment of the NAAQS.

All areas of Illinois currently are in attainment of the standards for four of the six criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. Chicago and Metro-East St. Louis are classified as non-attainment for the 1-hour ozone standard. In addition, Cook, DuPage, Kane, Lake, McHenry, and Will counties and Aux Sable and Goose Lake townships in Grundy County and Oswego Township in Kendall County have been classified as a severe ozone non-attainment area. Lake Calumet and McCook in Cook County have been designated as non-attainment for the particulate matter (PM10) standard. The sources of particulate matter that prompted the non-attainment classification are unrelated to transportation. All other areas of Illinois currently are in attainment for the ozone and PM10 standards. No portion of this project is located within a designated non-attainment area; Iowa has no non-attainment areas.

3.5 Ambient Noise Levels

Vehicular traffic on I-74 and local roadways is the predominant source of noise in the project corridor. Local roadways are an additional source of noise. Noise levels were monitored at 21 sensitive receiver locations throughout the project corridor. Receiver descriptions are given in [Table 3-11, Description of Noise Monitoring Locations Within the I-74 Project Corridor](#), and receiver locations are shown in [Appendix B \(Aerial Photo Exhibit\)](#). Receiver locations were residential in nature, but a few churches were monitored as well as one park. Existing traffic noise levels range from 58-76 decibel A-rated (dBA). They currently approach or exceed the Iowa and Illinois DOT noise abatement criterion of 67 dBA at a majority of first row receiver locations (e.g., in a residential neighborhood, those houses that front the roadway) along the I-74 corridor. First row category B receiver locations (picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals) experience peak hour noise levels from mid-60s dBA to mid-70s dBA. Noise receivers 500 feet from the corridor and farther experience peak noise levels in the low 60s dBA.

TABLE 3-11
Description of Noise Monitoring Locations Within the I-74 Project Corridor

Monitoring Location	Site Description and Location	Distance to I-74 (ft)*	Time of Day	Measured Noise Levels L_{eq} (dBA)
R1	3617 E. 59 th St.—backyard of property in the grass area	180	AM peak	68
R2	Grass field—approximately 30 yards south of Tanglewood Lane, near chain link fence facing I-74	120	AM peak	72
R3	715 Hillside—south of apartment parking lot in grass area	80	AM	69
R4	Intersection of Cypress & Hawthorn—grass area south of intersection	120	AM	70
R5	Hampton Inn—parking lot on east side of hotel	90	AM	69
R6	Daycare/residence—edge of east parking lot and field	430	AM	58
R7	Bettendorf Presbyterian Church—grass median in front of church	300	AM	67
R8	1125 Fairlane Dr.—grass area northwest of residence	110	PM	69
R9	Apartment complex—grass area near chainlink fence	100	PM	67
R10	1205 Highland Park Dr.—driveway apron east side of residence	120	PM	68
R11	Lincoln Manor Apartment Complex—1018 Lincoln east parking lot	150	PM	69
R12	1006 18 th St. A – on concrete sidewalk near fire hydrant	70	PM peak	71
R13	Corner of 18 th St. A and 14 th Ave.—end of sidewalk	60	PM peak	76
R14	1613 18 th St. C—grass area near chain link fence	80	PM peak	75
R15	2302 16 th Ave.—grass area northwest of residence	340	AM peak	67
R16	2301 14 th Ave.—west edge of driveway	310	AM peak	62
R17	923 22 nd St.—grass area north of residence	220	AM	68
R18	McManus Park—southwest corner, just south of covered picnic area in grass	420	AM peak	65
R19	Our Lady of Lourdes Catholic Church—parking lot near handicap parking spaces	400	AM peak	69
R20	Scottish Rite Cathedral—parking lot just east of church	490	AM peak	62
R21	513 21 st St.—grass area near alley	230	AM peak	60

* Distance from microphone to edge of nearest lane

3.6 Surface Water and Aquatic Resources

The project corridor is located adjacent to the Mississippi River. Most of the land drains into the Mississippi either directly or via tributaries. The proposed improvements to I-74 in Rock Island

and Scott counties would require crossings for the Mississippi River and four other surface water bodies that are located in Scott County north of the Mississippi River: Duck Creek and its three unnamed tributaries. Locations of these water bodies are depicted in [Appendix B, Aerial Photo Exhibits](#). Water body characteristics are described in [Table 3-12, Surface Water Crossings for Improvement of I-74](#). Review of U.S. Geological Survey (USGS) topographic maps suggests that Tributaries 1-3 each drain an area less than 1 square mile, but Duck Creek drains an area greater than 1 square mile (see Table 3-12). Floodplain characteristics associated with these rivers and streams are discussed in [Section 3.8, Floodplains](#).

TABLE 3-12
Surface Water Crossings for Improvement of I-74

Stream ID	Stream Location	Drainage Basin	Upstream Drainage Area ^c	Flow Characteristics	NWI Classification ^b
Tributary 1 ^a	0.30 mi. north of 53 rd St. (Iowa)	Copperas-Duck	<1 mi ²	Intermittent	R4UB
Tributary 2 ^a	0.38 mi. south of 53 rd St. (Iowa)	Copperas-Duck	<1 mi ²	Intermittent	R4UB
Tributary 3 ^a	0.78 mi. south of 53 rd St. (Iowa)	Copperas-Duck	<1 mi ²	Intermittent	R4UB
Duck Creek	1.06 south of U.S. 6 (Iowa)	Copperas-Duck	>1 mi ²	Perennial	R3UB
Mississippi River	Iowa and Illinois border (Iowa/Illinois)	Mississippi River	>1 mi ²	Perennial	L1UBHh

^a Tributary of Duck Creek

^b Data from National Wetland Inventory:

R4: Intermittent Riverine; R3: Riverine Upper Perennial; L1: Lacustrine Limnetic; UB: Unconsolidated Bottom; Hh: Permanently Inundated, Diked/Impounded

^c Calculated from USGS 7.5 minute topographic map (1:24,000)

3.6.1 Physical, Chemical, and Biological Description of Surface WaterBodies

Physical Description of Surface Water Bodies

Mississippi River. The Mississippi River is classified as a First Order Stream. Near the I-74 bridge, portions of the Mississippi River bottom are greater than 20 feet deep. This reach of the Mississippi River is impounded by Lock & Dam #15 downstream from the I-74 bridge and Lock & Dam #14 upstream from the bridge. The maintained 9-foot navigation channel of the Mississippi River runs through the project area. Maintenance of the navigation channel requires frequent dredging and associated substrate disturbance. The river substrate is variable but includes areas of silt, sand, gravel, and rubble.

The project area lies within Pool 15 of the Mississippi River, which is formed by Lock & Dam #15, about 3 river miles downstream of the existing I-74 bridge, and Lock & Dam #14, about 7 miles upstream from the I-74 bridge. Arsenal Island lies just downstream from, i.e., west of, the existing I-74 bridge. The main navigation channel runs adjacent to the Iowa side of the Mississippi River, along the north side of Arsenal Island.

At the existing I-74 bridge, the width of the Mississippi River is approximately 3,160 feet (0.6 miles) across. The I-74 bridge bisects a small linear island immediately east of the easternmost extent of Arsenal Island. The channel south of Arsenal Island is known as

Sylvan Slough, a documented mussel bed. See [Section 3.6.1.3, *Biological Description of Surface Water Bodies*](#), and [Section 3.10.1, *Threatened and Endangered Species*](#), for additional information on biological features of the Mississippi River near the project area.

Duck Creek. Duck Creek is a warm-water, perennially flowing Second Order Stream. Duck Creek has been in part channelized and flows through an urbanizing landscape. The deepest part of Duck Creek in the project area is about 4 feet and the substrate type is variable and includes gravel, silt, and rubble.

Duck Creek Tributaries. The tributaries of Duck Creek all flow intermittently and have all been in part channelized. These tributaries are subject to a high degree of hydrologic bounce as a result of stormwater runoff.

Chemical Description of Surface Water Bodies

The Mississippi River is subject to a wide variety of chemical inputs. Duck Creek and its tributaries are generally subject to chemical inputs associated with agricultural and urban runoff.

[Table 3-13, *Water Quality Data for the Mississippi River Near I-74 as Compared to Acute and Chronic State Standards in Illinois and Iowa*](#), shows measured concentrations of selected chemicals and associated water quality standards for the Mississippi River near the project area. Measured water quality data in Table 3-13 is from the STORET database maintained by the USEPA; measured values represent the average of 4 years of data, specifically 1999-2002. All measured water quality data derives from samples and measurements taken at Lock & Dam #15, about 3 miles downstream from the existing I-74 bridge. The next nearest water quality sampling stations on the Mississippi River were too distant from the I-74 bridge to be useful for analysis.

Water quality use designations applicable to the Mississippi River on the Illinois side of the project area are “General Use” and in Iowa applicable use designations are Class A—Primary Contact/Recreation, and Class B (Warm-Water Resource). Chemical constituents included in Table 3-13 are those chemicals that are frequently associated with road construction, operation, and maintenance (Dupuis 2002). [Table 4-20, *Common Highway Runoff Pollutants and Their Primary Sources*](#), in [Section 4, *Environmental Consequences*](#), explains the potential sources of these chemicals.

[Table 3-13, *Water Quality Data for the Mississippi River Near I-74 as Compared to Acute and Chronic State Standards in Illinois and Iowa*](#), shows that measured levels of road-related chemical constituents are well below the established chronic and acute standard threshold levels in Illinois and Iowa.

Biological Description of Surface Water Bodies

Faunal associations in perennial surface water bodies serve as indicators of stream conditions. Based on Illinois Department of Natural Resources (DNR) electrofishing sampling (ongoing from 1970 to 2001), approximately 69 species of fish are known to occur in reaches of the Mississippi River near the I-74 project corridor. The most common fish species, listed here in order of decreasing abundance, are the bluegill (*Lepomis macrochirus*), river carpsucker (*Carpoides carpio*), carp (*Cyprinus carpio*), channel catfish (*Ictalurus punctatus*), and the emerald shiner (*Notropis antherinoides*).

TABLE 3-13
Water Quality Data for the Mississippi River Near I-74 as Compared to Acute and Chronic State Standards in Illinois and Iowa

Parameter	Units	Actual Water Quality Data *	Illinois Standards		Iowa Standards	
			Acute Criteria	Chronic Criteria	Acute Criteria	Chronic Criteria
Nitrogen, ammonia (NH ₃), Total	mg/L	0.17	7.9	2.3	9.8	2.0
Nitrogen, Kjeldahl, Total	mg/L	0.83		No established standard		
Nitrogen, nitrite (NO ₂) and nitrate (NO ₃)	mg/L	1.50		No established standard		
Phosphorus (as P), dissolved	mg/L	0.05		No established standard		
Phosphorus (as P), Total	mg/L	0.12		No established standard		
Lead, dissolved	µg/L	0.00	135.1	28.3	200	30
Lead, Total	µg/L	0.00		No established standard		
Zinc, dissolved	µg/L	0.00	188.3	34.0	500	450
Zinc, Total	µg/L	0.00		No established standard		
Iron, dissolved	µg/L	16.8	1,000	1,000	No established standard	
Iron, Total	µg/L	664		No established standard		
Copper, dissolved	µg/L	0.00	28.2	18.0	60	35
Copper, Total	µg/L	0.00		No established standard		
Cadmium, dissolved	µg/L	0.00	16.5	1.5	75	15
Cadmium, Total	µg/L	0.00		No established standard		
Chromium, hexavalent total	µg/L	0.00	16.0	11.0	60	40
Chromium, trivalent Total	µg/L	0.00	851.5	276.2	No established standard	
Nickel, dissolved	µg/L	0.00	129.7	7.9	5,800	650
Nickel, Total	µg/L	0.00		No established standard		
Manganese, dissolved	µg/L	3.45		No established standard		
Manganese, Total	µg/L	85.3		No established standard		
Cyanide	µg/L	0.00	22	5.2	45	10
Sodium, dissolved	mg/L	9.85		No established standard		
Sodium, Total	mg/L	8.1		No established standard		
Calcium, dissolved	mg/L	39.1		No established standard		
Calcium, Total	mg/L	40.6		No established standard		
Chloride, Total	mg/L	23.1	500	No established standard		
Sulfate	mg/L	17.3	500	No established standard		
Arsenic, dissolved (trivalent)	µg/L	<0.79	360	190	360	200
Arsenic, Total	µg/L	0.79		No established standard		
Total Dissolved Solids (Solids, Fixed, Total)	mg/L	33.5	1,000	No established standard	750	750

135 IL. Adm. Code Part 302 (1999)

* Based on the average of 4 years of water quality data. Five years of recent data, per FHWA guidelines, is not currently available.

Viable populations of native mussel species are an important indicator of water quality in the water bodies they inhabit. See [Section 3.10.1 \(*Threatened and Endangered Species*, Section 4.11 \(*Threatened and Endangered Species*\), and \[Appendix D \\(*Detailed Action Report*\\)\]\(#\) for a thorough discussion of listed mussel species known to occur in and near the project area.](#)

Three important mussel beds near the I-74 project corridor were identified during surveys undertaken in 1994-95: Illiniwek, Case-IH, and Sylvan Slough (Whitney et al. 1997). While extensive mussel sampling has occurred in these mussel beds, the exact aerial extent of these beds has never been delineated (Whitney et al. personal communication July 10, 2003). The Sylvan Slough mussel bed has been designated as a mussel refuge since 1988. The designation of “mussel refuge” implies that no mussel harvesting is allowed. Mussel beds, whether designated as “mussel refuge” or not, are discussed in Section 404 (Clean Water Act [CWA]) permitting as related to General Condition 17 (shellfish beds). The study area of Whitney et al. (1997) is defined as Navigation Pool 15 of the Upper Mississippi River, which is bounded on upstream and downstream termini by Lock & Dam #14 and #15, respectively. The existing I-74 bridge is located at approximate River Mile 485.8. River Miles increase in the upstream direction (e.g., River Mile 490 is 4.2 miles upstream of existing I-74 bridge).

The Illiniwek mussel bed, located at River Mile 492.4, lies approximately 6.6 miles upstream from the existing I-74 bridge and was commercially harvested during the late 1960s and early 1970s. Of the three important mussel beds in Navigation Pool 15, the greatest abundance and diversity of mussels is found at the Illiniwek bed (Whitney et al. 1996). The Higgin’s Eye, Spectacle Case, and Butterfly threatened and endangered species, all either state or federally listed, were recorded at the Illiniwek mussel bed. [Section 3.10.1, *Threatened and Endangered Species*](#), discusses these species and mussel beds in more detail. [Table 3-14, *Summary of Mussel Bed Attributes Near I-74*](#), summarizes mussel information for each known mussel bed near the project corridor.

Duck Creek, located on the Iowa side, provides habitat for a warm-water fishery. The assemblage of fish in Duck Creek is a subset of the fish assemblage found in the Mississippi River. Based on electrofishing sampling efforts in 1999 and 2000, 24 fish species were observed in Duck Creek. Fish species abundance data for Duck Creek are not available.

The tributaries of Duck Creek flow intermittently and therefore do not support mussels. A limited number of fish species may enter these tributaries for brief periods during high water events.

TABLE 3-14
Summary of Mussel Bed Attributes Near I-74 ^a

Mussel Bed Name	Number of Mussel Species	Dominant Mussel Species (top three most abundant species in descending order of abundance)	Rare Mussel Species ^b	Estimated Total Sampled Individual Mussels (Mussel density X sampled area) ^c	Estimated Total Individual Live Native Mussels/ 100 Meters Squared	Estimated Mussel Density - mussels / m ² (all live native mussels)	Mussel Bed Extent (Miss. River Mile)
Illiniwek	25	<i>Truncilla truncata</i> <i>Ellipsaria lineolata</i> <i>Quadrula pustulosa</i>	<i>Lampsilis higginsii</i> - FE <i>Cumberlandia monodonta</i> - FC <i>Ellipsaria lineolata</i> - ST (Illinois), SE (Iowa)	3,422	11,800	118	492.4
Case-IH	24	<i>Quadrula pustulosa</i> <i>Trucilla truncata</i> <i>Amblyma plicata</i>	<i>Lampsilis higginsii</i> - FE <i>Ellipsaria lineolata</i> - ST (Illinois), SE (Iowa)	1,566	8,700	87	488.5
Sylvan Slough	25	<i>Quadrula pustulosa</i> <i>Trucilla truncata</i> <i>Ellipsaria lineolata</i>	<i>Lampsilis higginsii</i> - FE <i>Cumberlandia monodonta</i> - FC <i>Ellipsaria lineolata</i> - ST (Illinois), SE (Iowa) <i>Plethobasus cyphus</i> - ST (Illinois), SE (Iowa)	1,802	5,300	53	485.8 ^d

^a From Whitney *et al.* 1997

^b FE= Federally Endangered, FC= Federal Candidate, SE= State Endangered, ST= State Threatened

^c Total Sampled Individual Mussels as shown in this column will necessarily be less than total individual mussels within the mussel bed because sampled area is less than total mussel bed area.

^d Upriver end of the Sylvan Slough Mussel Bed is approximately between existing I-74 and the upriver end of Arsenal Island, though a portion of the bed may extend upriver of the existing I-74 bridge.

Water Quality Standards for Surface Water Bodies

In Illinois and Iowa, the Illinois Pollution Control Board and the Iowa DNR, respectively, determine water quality standards in order to comply with the CWA.

Water quality, pursuant to the CWA, is characterized in part by how well a given water body supports its designated use, which states assign to water bodies. Terminology for designated uses is not standardized between the states of Illinois and Iowa. The Illinois Pollution Control Board and the Iowa DNR can determine to what degree water bodies fulfill their designated use. The Iowa DNR's Water Quality Bureau of the Environmental Protection Division applies the use designations and water quality standards provided in the Iowa Administrative Code for evaluating the quality of Iowa's water bodies. If the states' data indicate that the water body does not provide for its designated use, then it must develop a Total Maximum Daily Load (TMDL) plan to return it to full potential. The following are the categories each state designates to water bodies. Oftentimes, water bodies are designated as having more than one use by the same state.

Illinois's categories include:

- Overall
- Aquatic Life

- Primary Contact (Swimming)
- Secondary Contact (Recreation)
- Public Water Supply
- Fish Consumption
- Indigenous Aquatic Life

Iowa's categories include:

- Primary Contact Recreation
- Aquatic Life and Secondary Contact Recreation
- Drinking Water

The levels of support of designated use categories for both Iowa and Illinois are as follows:

- **Full support.** The water quality meets the needs of all designated uses protected by applicable water quality standards.
- **Full threatened support.** Water quality is presently adequate to maintain designated uses, but if a declining trend continues, only partial support may be attained in the future.
- **Partial support.** Water quality is impaired and the water body is only partially meeting the needs of its designated use.
- **Nonsupport.** Water quality is severely impaired and not capable of supporting the designated use to any degree.

The Mississippi River, bordered by both Illinois and Iowa, and Duck Creek, located in Iowa, are the two water bodies in the project corridor that have been assigned designated uses. Illinois has designated the following uses for the Mississippi River: Overall, Aquatic Life, and Fish Consumption. According to the Illinois Environmental Protection Agency's Illinois Water Quality report for 2002, the stretch of the Mississippi River located in the project corridor is in full support of its Overall, Aquatic Life, and Public Water Supply uses and is in partial support of its Fish Consumption use. The potential cause of impairment of the Fish Consumption use is polychlorinated biphenyls (PCBs) from unknown sources. Iowa has categorized the Mississippi River as Primary Contact Recreation use and Drinking Water Supply. Duck Creek, located in Iowa, is designated as Aquatic Life and Secondary Contact Recreation and is in full support of this designation.

Several resource agencies also classify water quality with respect to support for various fish and aquatic species. The Iowa DNR classifies Duck Creek as a Limited Resource Warm-Water stream. Limited Resource Warm-Water streams support limited aquatic life populations primarily composed of minnows and other nongame fish species. The classification of "Warm-Water" implies that water temperatures are too high to support species dependant on colder water temperatures, e.g., trout species. Water quality data for the Mississippi River compared to state standards is included in [Table 3-13, Water Quality Data for the Mississippi River Near I-74 as Compared to Acute and Chronic State Standards in Illinois and Iowa](#).

Illinois Designated Natural Area

An Agency Action report submitted by the Illinois DOT and reviewed by the Illinois DNR revealed the presence of the Mississippi River—Moline Natural Area (the Natural Area) and several listed species near the I-74 bridge across the Mississippi River.

The Natural Area was added to the Illinois Natural Areas Inventory (INAI) in 1999. The Natural Area extends linearly along the Mississippi River on the Illinois side of the river from Lock & Dam #15 to Lock & Dam #14. Lock & Dam #15 is about 4 miles downstream from the existing I-74 bridge. Lock & Dam #14 is located about 7 miles upstream from the existing I-74 bridge. The Natural Area excludes land on Arsenal and Campbells Islands.

The Natural Area contains specific suitable habitat for threatened or endangered species. Portions of what is now the Natural Area have been designated as a mussel refuge since 1988.

Listed species known to occur within the Natural Area include several mussel species, including the federally-endangered Higgins' eye pearly mussel (*Lampsilis higginsii*), the federal candidate spectacle case (*Cumberlandia monodonta*), the state-threatened (Illinois) butterfly mussel (*Ellipsaria lineolata*), and the state threatened (Illinois) sheepsnose mussel (*Plethobasus cyphus*). The federally-threatened bald eagle (*Haliaeetus leucocephalus*) is also known to use the Natural Area as wintering habitat. See more information in [Section 3.10.1, Threatened and Endangered Species](#), and in [Appendix D, Detailed Action Report. Appendix C, Correspondence](#), contains agency correspondence relevant to the designated INAI site.

3.6.2 Groundwater and Groundwater Quality

Groundwater

Groundwater recharge potential is graded on a scale from Zone 1 to Zone 7; Zone 1 locations signify the highest potential for groundwater recharge (Keefer and Berg 1990). The portion of the project corridor in Illinois is located in Zones 1 and 5 for groundwater recharge potential. Iowa does not have similar information on groundwater recharge available. No areas have been designated as principal or sole-source aquifers in Illinois or Iowa by the USEPA under Section 1424(c) of the Safe Drinking Water Act.

Drinking Water

Generally, municipalities proximate to surface waters obtain their drinking water from them. Conversely, those without a surface water body nearby use groundwater as their source of drinking water. Bettendorf, Davenport, Moline (including East Moline), and Rock Island receive their drinking water from the Mississippi River.

Rock Island's water supply is drawn at Lock & Dam 15, about 3 miles downstream of the I-74 bridge, and the Rock Island Arsenal water supply intake is located 1.8 miles downstream of the I-74 bridge. The Moline water intake is located at river mile marker 85.8, which is about 200 hundred feet downstream of the existing I-74 bridges. The water supply intake for Davenport and Bettendorf is located 1.9 miles downstream of the I-74 bridge.

3.7 Wetlands

Existing data and field surveys were used to characterize potential wetlands within the project corridor. Maps showing National Wetlands Inventory (NWI) wetlands and NRCS hydric/hydric inclusion soils for the project corridor were used to initially locate wetland resources. A field survey of the project corridor (see Aerial Photo Exhibit) was conducted to verify the presence of potential wetlands identified during the offsite review and to identify any additional wetlands located within the study corridor. The field survey identified nine wetlands within the project corridor. See [Section 3.7.1, *Wetland Identification and Characterization*](#), for discussion.

Procedures described by the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers 1987), hereafter referred to as “The Manual,” were used to determine the presence and extent of wetlands. The Manual defines wetlands as:

...areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

For an area to be classified as a wetland it must, under normal conditions, contain hydric (waterlogged) soils, predominance of wetland (hydrophytic) vegetation, and evidence of wetland hydrology.

Wetland field delineations for the I-74 project corridor were performed in April 2001 near the average start date of the growing season for the Quad Cities area. Winter annual plants and some spring ephemerals had greened prior to fieldwork. Many trees and shrubs were in bud, but leaf-out had not yet occurred.

Wetlands within the project corridor were delineated according to the routine onsite method described in The Manual. Representative sample points were selected and wetland data sheets were completed within each wetland. Additionally, wetland type, as defined by Cowardin (1979), was recorded for each wetland. Areas observed in the field that met the three wetland parameters were mapped on aerial photography (1 inch=400 feet), and drawings of wetland boundaries were then digitized. [Figure 3-2, *Wetlands*](#), at the end of Section 3, depicts wetland locations.

3.7.1 Wetland Identification and Characterization

Wetland data sheets were completed for ten sites within the I-74 study corridor, nine of which were determined to meet wetland vegetation, soils, and hydrology requirements. The delineated wetland areas consist of palustrine emergent (PEM), forested (PFO1), scrub/shrub (PSS1), and unconsolidated bottom (PUB) types. Results for the delineation at each wetland area are summarized in [Table 3-15, *Wetland Areas Within the I-74 Study Corridor*](#), and wetland locations are shown on [Figure 3-2, *Wetlands*](#), at the end of Section 3, and [Appendix B, *Aerial Photo Exhibit*](#).

TABLE 3-15
Wetland Areas Within the I-74 Study Corridor

Wetland ID	Cowardin Classification ^a	Wetland Area ^b (ac)	Predominant Vegetation
WT-1	PFO1/PEM	4.46	Box Elder (<i>Acer negundo</i>), elderberry (<i>Sambucus canadensis</i>), reed canarygrass (<i>Phalaris arundinacea</i>), stinging nettle (<i>Urtica dioica</i>), giant ragweed (<i>Ambrosia trifida</i>), ground ivy (<i>Glechoma hederacea</i>)
WT-2	PEM	0.18	Pennsylvania smartweed (<i>Polygonum pennsylvanicum</i>), cocklebur (<i>Xanthium strumarium</i>), lakebank sedge (<i>Carex lacustris</i>), reed canary grass (<i>Phalaris arundinacea</i>)
WT-3	PFO1/PSS1	0.43	Box Elder (<i>Acer negundo</i>), Silver Maple (<i>Acer saccharinum</i>), bed straw (<i>Galium aparine</i>), reed canary grass (<i>Phalaris arundinacea</i>), white avens (<i>Geum canadense</i>), sandbar willow (<i>Salix exigua</i>)
WT-4,5,6	PFO1	4 = 01.33 5 = 6.45 6 = 1.86	Silver Maple (<i>Acer saccharinum</i>), cottonwood (<i>Populus deltoides</i>), reed canary grass (<i>Phalaris arundinacea</i>)
WT-7	PFO1/PEM	0.93	Hackberry (<i>Celtis occidentalis</i>), stinging nettle (<i>Urtica dioica</i>), goose grass (<i>Galium aparine</i>), white avens (<i>Geum canadense</i>), sandbar willow (<i>Salix exigua</i>), narrowleaf cattail (<i>Typha angustifolia</i>)
WT-8	PUB/PFO1	0.90	Duckweed (<i>Lemna minor</i>), American elm (<i>Ulmus americana</i>), cottonwood (<i>Populus deltoides</i>), Box Elder (<i>Acer negundo</i>), Missouri gooseberry (<i>Ribes missouriense</i>), Tartarian honeysuckle (<i>Lonicera tatarica</i>)
WT-9	PFO1	0.72	Box Elder (<i>Acer negundo</i>), Tartarian honeysuckle (<i>Lonicera tatarica</i>), violet (<i>Viola sororia</i>), reed canary grass (<i>Phalaris arundinacea</i>)

^aClassification describes dominant wetland type within hydrologically connected wetlands

^b Estimated Wetland Area includes only the portion of wetland located within the study corridor limits

PFO1—Palustrine Forested Wetlands—Broad-leaved, deciduous forested wetlands typically known as swamps. Within the project corridor, these communities consist primarily of areas of floodplain forest along or in association with small creeks and drainages. Species such as elm and silver maple are common in these locations. Other species present include cottonwood, sycamore, black willow, and green ash.

PSS1—Palustrine Scrub/Shrub Wetlands—Wetlands dominated by small trees and shrubs are identified as PSS1 communities. Species of willow and dogwood dominate the PSS1 wetlands in the project corridor. Many of these wetland types are found in conjunction with forested wetlands (PFO1). In these cases, periodic flooding and overland flow provide the primary source of hydrology. Small areas of PSS1 are also found along the margins of some ponds and lakes.

PEM—Palustrine Emergent Wetlands—PEM wetlands consist of marshes, wet meadows, wet prairies, and sloughs that are dominated by perennial herbaceous vegetation. Within the project corridor, PEM wetlands consist mainly of depressions, vegetated waterways, and stream banks. PEM wetlands support a relatively wide variety of wetland plants. Species such as reed canary grass and cattail occupy many depressional areas, while species of bulrush and sedge are found in other locations.

PUB—Palustrine Unconsolidated Bottoms —These sites consist primarily of constructed farm and stock ponds. These ponds are often small, less than 1.2 acres in size, and often support wetland vegetation, including willow and various emergent species such as bulrush and cattail.

The following provides a brief description of the wetlands within the I-74 project corridor. See [Appendix B, Aerial Photo Exhibits](#), for the location of each site.

Wetland 1

Wetland 1 occurs along Tributary 1 of Duck Creek and primarily lies west of I-74, though it is connected via a culvert to a small portion on the east side of I-74. Most of the tributary has been severely disturbed as a result of channelization and excessive stormwater flow. Driftlines of herbaceous vegetation approximately 2.5 feet above the stream stage were observed in branches of streamside shrubs. Two berms have been constructed perpendicular to stream flow direction approximately 0.30 miles north of 53rd Street. These berms impound surface water and may help to reduce water flow velocity and associated stream bank scouring. Parking lot runoff from several businesses in the northwest quadrant of the 53rd Street/I-74 interchange has caused severe embankment gullying and silt loading into this drainageway.

Wetland 2

Wetland 2 is located approximately 0.5 miles south of the I-80/I-74 interchange, on the east and west sides of I-74. On the west side of I-74, Wetland 2 is a small, circular wet depression in and adjacent to a farm field. The portion east of I-74 is a linear swale.

Wetland 3

This wetland is located approximately 0.75 miles south of the 53rd Street/I-74 interchange on the east and west sides of I-74. Wetland 3 occurs along Tributary 3 of Duck Creek. Flowing water in the stream bottom was approximately 3 inches deep and the stream channel was incised about 2 feet from the adjacent linear wetland zone.

Wetlands 4, 5, and 6

Wetlands 5 and 6 are linear islands in the Mississippi River that run under the I-74 bridge. Wetland 4 is very close to 5 and 6, but is a small portion of the northeast corner of Arsenal Island. The NWI mapped these islands as PFO1 wetlands. Portions of these islands are inundated with relatively high floodwaters of the Mississippi River. These wetlands were not accessible during the field study; field observations of soils were not conducted but dominant vegetation was identified through binoculars.

Wetland 7

This wetland is mostly a forested riparian area adjacent to Duck Creek, which crosses beneath I-74 between the U.S. 6 interchange and the Middle Road interchange. Streamflow in Duck Creek is easterly toward its confluence with the Mississippi River. Duck Creek has become incised about 6 feet below its natural floodplain. Driftlines of herbaceous vegetation were observed in tree branches about 4 feet above the stream stage level. Surface-scoured areas were observed on the floodplain north and south of Duck Creek; standing water was present in a low-lying area on the south side of Duck Creek west of I-74.

Wetland 8

This wetland is located on the south side of the Mississippi River east of I-74 and north of the 12th Avenue underpass, within an older residential neighborhood. The NWI mapped Wetland 8 as a PUBGh (Palustrine Unconsolidated Bottom, Intermittently Exposed, Diked/Impounded wetland area). It appears to be an excavated pond impounded in part by

a residential street running along its southern edge. The pond is surrounded by young to sub-mature wet-mesic forest.

Wetland 9

Wetland 9 is located on the north side of the Mississippi River, east of I-74 between the Lincoln Road overpass and the I-74/Middle Road interchange. It is a forested wetland area (PFO1) within a residential neighborhood and appears to be fed hydrologically by two storm sewer outlets that converge at this location.

3.8 Floodplains

Floodplains are defined as those flood-prone areas identified as part of the National Flood Insurance Study Program (NFIP).

The project corridor crosses the Mississippi River, and the downtown areas of Moline and Bettendorf, located within the Mississippi River floodplain. A levee exists on the Mississippi River bank in Iowa east of the bridge but the floodplain spills onto the land encompassing Leach Park and further north about 350 feet. The city of Moline was built within the Mississippi River 100-year floodplain according to Flood Insurance Rate Maps (FIRM). There is no flood control structure located in the downtown area. Lands within the project corridor lie within the Copperas-Duck Basin (HUC #07080101).

Several areas within the project corridor have been mapped by FIRM maps as 100-year floodplain, i.e., those areas that have a 1-percent probability of flooding in any given year. Mapped 100-year floodplain is present in low-lying areas along Duck Creek and its unnamed tributaries. Duck Creek and its associated floodplain traverses the project corridor just south of Kimberly Road. Across the river in Illinois, there is no mapped 100-year floodplain within the project limits.) One-hundred-year floodplains within the project area, as mapped by FEMA, are depicted on [Figure 3-3, Flood Insurance Rate Map](#), at the end of Section 3.

3.9 Upland Plant Communities

Upland plant communities within the project area are sparse and consist of non-native grassland along roadsides. Such sparse cover is of limited value for foraging wildlife.

3.10 Wildlife Resources

The Mississippi River flyway remains a very important migration route for migrating waterfowl and other bird species. Abundant loafing and foraging habitat is present for diving ducks within reaches of the Mississippi River near the project corridor. Foraging and loafing habitat for dabbling ducks is less abundant in the corridor, though marginally present in sheltered shallow water habitat associated with islands and spits within the Mississippi River.

Several mammal species, adapted to urbanizing conditions, may be found in the project corridor. Mammal species such as raccoon, striped skunk, gray squirrel, fox squirrel, eastern cottontail, Virginia opossum, and several mouse species frequently occupy such habitat.

White-tailed deer may occupy agricultural habitat present near the extreme northern terminus of the project area. Common songbird and other avian species in urbanizing land within the project corridor include English sparrow, starling, brown-headed cowbird, grackle, Eastern kingbird, black crow, American kestrel, and mourning dove. Most of these common wildlife species are habitat generalists and can occupy disturbed habitats associated with an urbanizing landscape.

3.10.1 Threatened and Endangered Species

Federally Protected Species

The threatened and endangered species assessment was accomplished by consultation with state and federal resource agencies, review of published and file information, and field surveys. *The Checklist of Endangered and Threatened Animals and Plants of Illinois* (Illinois Endangered Species Protection Board 1999), and *Endangered and Threatened Species of Illinois: Status and Distribution, Vol. 1—Plants and Vol. 2—Animals* (Herkert 1992) were consulted to confirm current listed species' status and basic biology.

During preparations for field survey of the study corridor, the U.S. Field and Wildlife Service (USFWS) was contacted to identify whether any federally threatened and/or endangered species or other recognized species of concern were potentially located near and possibly within the project corridor. The USFWS identified the federally threatened bald eagle (*Haliaeetus leucocephalus*), the federally endangered Higgins' eye (*Lampsilis higginsii*) mussel, and the federal candidate (Category 2) spectacle case (*Cumberlandia monodonta*) mussel as being recorded near the project corridor ([Appendix B, Aerial Photo Exhibit](#)). [Table 3-16, Occurrences of Listed and Candidate Mussel Species](#), summarizes the status and generalized location of the federally endangered mussel species. Occurrences and biology of listed mussel species and the bald eagle in the project area are discussed further in the detailed action report associated with this Draft EIS. See [Section 3.6.1, Physical, Chemical, and Biological Description of Surface Water Bodies](#), for more information on listed mussel species in the project area. Detailed studies of the mussels have been deferred until the preparation of the Final EIS to ensure that the studies will identify current mussel locations if a mussel relocation plan is necessary.

The bald eagle prefers large, tall trees near rivers or reservoirs. Mature floodplain trees, often cottonwoods, are considered prime habitat. Eagles roost or nest in the upper branches of the tallest trees. Edges and openings in forests (riverbank, rangeland, cropland) are important for easy surveillance of food and accessibility. Large dead or dying trees are also frequently used as perches for similar reasons. Eagles prey primarily on small fish but also on small mammals, waterfowl (particularly when injured), small birds, and carrion (e.g., road kills).

The Illinois DNR identified a bald eagle (*Haliaeetus leucocephalus*) record at a location (1997 "018") within the river channel approximately 0.25 mile east (upstream) of the I-74 bridge (see [Appendix C, Correspondence](#)). The bald eagle is a federally threatened species that has been proposed for de-listing. It is also listed as an endangered species in Illinois. The Natural Area is used as wintering habitat for the bald eagle. The use of the Natural Area by the bald eagle was first reported in 1986 and the last observations were reported in 1999. During the winter of 1999, approximately 63 to 108 bald eagles were observed to be using habitat within the Natural Area. The Elton-Fox Eagle night roost site is located within Rock Island County, Illinois; however, it is not within the I-74 project area.

State Protected Species

The Iowa and Illinois DNRs were contacted to identify whether any state threatened and/or endangered species, or other recognized species of concern were potentially located near and possibly within the project corridor. Consistent with the USFWS, the Illinois DNR identified the bald eagle, Higgins' eye mussel, and spectacle case mussel, all of which are listed as Illinois and Iowa endangered, and as being recorded in near the project corridor ([Appendix C, Correspondence](#)). Additionally, the Illinois DNR identified the state (Illinois and Iowa) threatened butterfly mussel (*Ellipsaria lineolata*) and the state (Illinois and Iowa) endangered sheepnose mussel (*Plethobasus cyphus*) as being recorded near the project corridor. [Table 3-16, Occurrences of Listed and Candidate Mussel Species](#), summarizes listed status, generalized known locations, and habitat requirements of known state-listed mussel occurrences near the I-74 bridge. The exact boundaries of mussel beds near the project area have never been delineated (Scott Whitney, USACOE-Rock Island District, personal communication, June 2003).

TABLE 3-16
Occurrences of Listed and Candidate Mussel Species

Species	Status	Mussel Bed Name/River Mile ^a /Source	Habitat Requirements	Mussel Density
Higgins' eye (<i>Lampsilis higginsii</i>)	Federal and state (Iowa and Illinois) endangered	Illiniwek Bed/492.4/Whitney et al. (1996)	"Large rivers with gravel and sand" ^c	<0.03/ft ²
		Case-IH/488.5/Whitney et al. (1996) and Illinois DNR ^b		<0.03/ft ²
		Sylvan Slough/ 485.8/ Whitney et al. (1996)		<0.03/ft ²
		482.82/Illinois DNR		Unspecified
Spectacle case (<i>Cumberlandia monodonta</i>)	Federal candidate and state (Iowa and Illinois) endangered	Illiniwek Bed/492.4/ Whitney et al. (1996)	"Large rivers with swiftly flowing, among boulders in patches of sand, cobble or gravel in areas where current is reduced" ^c	<0.03/ft ²
		486.42/Illinois DNR		Unspecified
		Case-IH/488.5/Whitney et al. (1996)		>1.86/ft ²
Butterfly mussel (<i>Ellipsaria lineolata</i>)	State (Iowa and Illinois) threatened	Sylvan Slough/ 485.8/ Whitney et al. (1996)	"Large rivers in sand or gravel" ^c	0.09— 0.93/ft ²
		Illiniwek Bed/ 492.4/ Whitney et al. (1996)		>1.86/ft ²
		486.42/Illinois DNR		Unspecified
		Case-IH/488.5/Whitney et al. (1996)		>1.86/ft ²
Sheepnose (<i>Plethobasus cyphus</i>)	State (Iowa and Illinois) threatened	Sylvan Slough/ 485.8/ Whitney et al. (1996)	"Medium to large rivers in gravel or mixed sand and gravel" ^c	<0.03/ft ²
		486.42/Illinois DNR		Unspecified

^a The existing I-74 bridge is located at River Mile 485.8

^b Approximate River Mile for Illinois DNR reported occurrences.

^c Per *Freshwater Mussels of the Midwest* (Cummings and Mayer 1992)

The Case-IH mussel bed is located at River Mile 488.5, approximately 2.7 miles upstream from the existing I-74 bridge. The Case-IH mussel bed was harvested for mussels heavily in the 1970s and occasionally over the past 10 years. The Case-IH mussel bed represents the second most abundant and diverse mussel bed of the three important beds in Navigation Pool 15 (Whitney et al. 1996). The Higgins' eye and butterfly mussel species were observed in the Case-IH mussel bed ([Table 3-16, Occurrences of Listed and Candidate Mussel Species](#)).

The Sylvan Slough, located at River Mile 485.8, lies nearly underneath the existing I-74 bridge and slightly on the downstream side. The Sylvan Slough has been designated as a mussel refuge since 1988 and mussel harvesting is not permitted at this site. Of the three important mussel beds in Navigation Pool 15, the Sylvan Slough had the lowest abundance and diversity of mussels (Whitney et al. 1996), though one federally listed (Higgins' eye) and two state listed (butterfly and sheepsnose) mussels were found at the site ([Table 3-16, Occurrences of Listed and Candidate Mussel Species](#)).

In addition to the mussel beds summarized above, the Illinois DNR ([Appendix C, Correspondence](#)) reports a record of the spectacle case, butterfly, and sheepsnose mussel species approximately 0.37 miles upstream of the existing I-74 bridge, and Higgins' eye mussel about 3 miles downstream ([Table 3-16, Occurrences of Listed and Candidate Mussel Species](#)).

3.11 Parks, Recreational Areas, and Other Public Use Lands

3.11.1 Bill Glynn Memorial Park and Iowa-Illinois Memorial Bridge Monument

This 1.95-acre parcel of land is known as a "park" but is actually an excess parcel owned by the Iowa DOT. The parcel is located adjacent to the U.S. 67 interchange in the City of Bettendorf. The Iowa DOT does not consider the site to be recreational in nature; it is an excess parcel remaining from highway construction. Through a previous lease, the Parks Department of the City of Bettendorf landscaped the property and continues to maintain the park. A monument honoring the World War I veterans resides in the park. All park resources are shown in [Appendix B, Aerial Photo Exhibit](#).

3.11.2 Leach Park

Located on the Mississippi River, Leach Park is 4.3 acres and has available picnic shelters, picnic tables, boat and jet ski docks, a boat ramp, passive rest areas, a fitness trail, fishing piers, an information kiosk, and public washrooms. It is located along the Mississippi River waterfront in Bettendorf and is connected to the riverfront trail system. It is used for trail connections, boat launches, and scenic vistas of the river and is included in local planning efforts. The property is designated as a park by the City of Bettendorf and is shown in the *City of Bettendorf Comprehensive Plan 2000 to 2020*. The property is in public ownership.

3.11.3 McManus Park

Located on Holmes Street between 12th and 13th streets, McManus Park is 4.4 acres and is located adjacent to a neighborhood. The park is open to the public. Available uses include picnic shelters, picnic tables, barbecue grills, playground equipment (handicap accessible), volleyball and basketball courts, and public washrooms. During several visits to the park by study team staff, the park was in fairly heavy use by area residents. The property is

designated as a park. It is also identified as having “recreational/conservation” use in Bettendorf’s November 2000 land use map.

3.11.4 Duck Creek Parkway

The Duck Creek Parkway is an approximate 15-mile bicycle/pedestrian trail that follows Duck Creek throughout the cities of Davenport and Bettendorf to Devil’s Glen Park (Figure 2-6, *Quad City Area Bicycle/Pedestrian and Rail Facilities*, at the end of Section 2, *Alternatives*). The trail provides a connection to Middle Park and Palmer Hills Golf Course, which is located about 1 mile east of I-74, outside of the project corridor.

I-74 in the study corridor currently crosses Duck Creek in the northern part of the project corridor. The Duck Creek Parkway is used for recreational purposes and is identified as having “recreational/conservation” use in Bettendorf’s November 2000 land use map.

3.11.5 Great River Trail

The Great River Trail is currently a 27-mile trail that lies along the Mississippi River on the Illinois side (Figure 2-6, *Quad City Area Bicycle/Pedestrian and Rail Facilities*, at the end of Section 2, *Alternatives*). It currently stretches from Rock Island’s Sunset Park to Cordova’s levee. Extensions to the trail will be added in the future. When completed, it will be an over 60-mile continuous recreational trail. The Great River Trail is planned to be part of three other major trails that will extend across the country. The Great River Trail is generally used for recreation, but it also serves the community as a connection between residential, commercial, industrial, and recreational areas. The Great River Trail connects nearly 50 parks, gardens, playgrounds, and picnic areas.

3.11.6 Bettendorf Riverfront Trail

The Bettendorf Riverfront Trail is currently a 0.8-mile recreational trail that extends from 10th Street to 17th Street in Bettendorf (Figure 2-6, *Quad City Area Bike/Pedestrian Facilities*, at the end of Section 2, *Alternatives*). The trail is planned to be extended to connect with the Davenport Riverfront Trail system on the west and to Riverdale on the east. The Bettendorf Riverfront Trail is primarily used for recreation but also serves as a commuter facility for those traveling between residential areas and the commercial, industrial, and recreational localities in the downtown area. The eastern trailhead is located in Leach Park.

3.12 Cultural Resources

Fieldwork and research were done by each state’s State Historic Preservation Officer (SHPO) to assess the project corridor for cultural resources that might be listed or eligible for listing on the National Register of Historic Places (NRHP). The results of the fieldwork and research were transmitted from each state’s Department of Transportation to their respective SHPO. Correspondence between each state’s DOT’s and SHPO’s can be found in Appendix C, *Correspondence*.

3.12.1 Archaeological Resources

Archaeological investigations for the Iowa side of the project corridor consisted of pre-field research into site records, previous surveys, and area history; field survey of 305 acres in the project’s area of potential effect using pedestrian surface examination and geomorphological

investigations using shovel/auger tests, backhoe test trenches, and 1-meter by 1-meter excavated test units; and analysis and evaluation of the results.

The investigations identified one archaeological site along the riverfront that consisted of indeterminate prehistoric artifacts. Excavation at the site produced no evidence of intact features or significant cultural deposits and it was concluded that it is not eligible for the NRHP.

An Iowa DOT Tribal Notification form was completed and reported that no Native American Indian sites eligible for the NRHP were found (see [Appendix C, Correspondence](#)).

3.12.2 Standing Structures

A preliminary survey was completed December 4, 2001, in order to determine which, if any, standing structures within the project corridor are either listed, eligible or potentially eligible for the NRHP. The *Intensive Survey and Evaluation of the Architectural Properties for the I-74 Quad Cities* project corridor was fully completed in August 2002, resulting in a finalized listing of properties considered eligible for the National Register (Rogers 2002). In recent years, Moline and Bettendorf have seen demolition of former historic properties as well as redevelopment and modernization of older buildings, both impacting the historic nature of the structures and thus, their eligibility for the NRHP. Out of the 195 properties investigated within the designated survey area, nine properties were determined to be eligible for listing, five in Moline and the other four in Bettendorf. Two additional buildings, one in Moline, Illinois, and one in Bettendorf, Iowa, were listed on the NRHP in 1994. In addition, five buildings in Moline are considered NRHP eligible and/or designated local historic landmarks and were situated outside of the designated survey area but are considered in the overall I-74 study area.

Many of the structures under consideration for their historic value are or represent older commercial institutions important to the economic history of the Quad Cities. Also researched for their historic importance are buildings that are or once were homes to residents and are characterized by notable architecture. [Table 3-17, Architectural Site Summaries in the I-74 Project Corridor](#), summarizes those properties found to be eligible or listed through the architectural analysis process. Following, are descriptions of those properties that were fully analyzed in the Intensive Survey and Evaluation Investigation as they were found to be potentially affected by the proposed project.

Bettendorf Grocery/Bettendorf Improvement Company Building

Bettendorf Grocery/Bettendorf Improvement Company Building is located at 1536-1540 State Street in Bettendorf and currently houses J & M Window and Siding, Ed's Appliance, and apartments. This two-story brick building has a Classical Revival-inspired commercial brickfront with sufficient integrity to be considered eligible for the NRHP. The building was built by, and once housed the offices of the, Bettendorf Improvement Company, an economically and socially important business in the development of Bettendorf in the early 20th century.

W.F. Bruhn & Son General Merchandise Store (Bettendorf)

The W.F. Bruhn & Son General Merchandise Store is located at 1542-1546 State Street and houses Century Carpet Cleaners and Blake's Gunsmithing. It is a two-story, front-gabled frame commercial building dating from the early commercial development of Bettendorf in its prior incarnation as the town of Gilbert. While modified, it is considered to represent a notable survival of an early commercial building type and an important early business in Bettendorf's history.

TABLE 3-17
Architectural Site Summaries in the I-74 Project Corridor

Site # or Name	Description	NRHP Recommendation
Iowa		
Regina Coeli Monastery	Now known as the Abbey Hotel and operated for commercial purposes, this property was listed in the NRHP in 1994.	Listed
Bettendorf Grocery/Bettendorf Improvement Company Building	This property has two commercial units on the ground floor and apartments on the second. The building is a Classical Revival-inspired commercial brickfront design and is notable for both its architectural significance and its historical association with the locally-important Bettendorf Improvement Company.	Eligible
W.F. Bruhn & Son General Merchandise Store	This property is front-gabled frame commercial building representing a rare survival from the early commercial development of Bettendorf.	Eligible
Iowana Farms Milk Company	Art Moderne-style building housed a major dairy operation in the mid to late 20 th century in Bettendorf.	Eligible
The Iowa-Illinois Memorial Bridge and Memorial Bridge Monument (bridge is located in both Iowa and Illinois, statue in Iowa).	Currently carries Iowa-bound I-74 traffic across the Mississippi River. It was completed in 1935 and is determined eligible for the NRHP. The monument was erected as a dedication to veterans. It contributes to the historic eligibility of the Iowa-Illinois Memorial Bridge, but is not individually eligible.	Eligible
Illinois		
Davenport, Rock Island and Northwestern Railroad Depot	This building currently houses the Quad Cities Convention and Visitors Center. It is designated as a local historic landmark.	Eligible
Eagle Signal Building	This building is one of the few early 20 th century industrial buildings that remains standing in this part of Moline. It has retained its historical architectural integrity to warrant its eligibility for listing on the NRHP.	Eligible
Moline Post Office on 3 rd Ave.	This post office was built in 1910. It is also designated as a local historic landmark.	Eligible
LeClaire Hotel	Designated as a local historic landmark as well as listed in the NRHP in 1994.	Listed
C. Ivar Josephson House	A well-preserved example of the Queen Anne architectural style.	Eligible
Moline Public Library	This building is also designated as a local historic landmark.	Eligible
Moline Post Office on 17 th St.	This post office was built in 1935.	Eligible
B.P.O.E. (Elks) Building	This building currently houses the Community Christian Fellowship.	Eligible
Scottish Rite Cathedral	The Cathedral has also been designated as a local historic landmark.	Eligible
Knights of Pythias Lodge Hall	This building is an interesting example of an early 20 th century lodge building reflecting design influence from the Prairie and Craftsman styles of architecture.	Eligible
Thomas/Lewis/Wilson House	This building could possibly be the oldest standing house in Moline and considering its age, it is very well preserved.	Eligible

Iowana Farms Milk Company (Bettendorf)

The Iowana Farms Milk Company, which is located at 1416 State Street/312 15th Street, is currently owned by Knox Corporation and houses two other companies, Wonder Bread and Interstate Brands. It was built in 1937 in the Art Moderne style of architecture and retains sufficient integrity to be considered architecturally significant. Furthermore, its significance increases when consideration is given to the fact that it not only has remained standing while other businesses also critical to the creation of Bettendorf as a city have been torn down, but it is one of the only remaining buildings that once housed a successful business not owned by the Bettendorf Company.

Iowa-Illinois Memorial Bridge (Memorial Bridge)

The Iowa-bound I-74 Mississippi River bridge has been determined to be eligible for the NRHP. It has not been listed, however. The newer of the two bridges, the Illinois-bound bridge, is not currently eligible for the NRHP.

The Memorial Bridge currently carries I-74 across the Mississippi River, and is a major point of access between Bettendorf and Moline. The Memorial monument located in Bill Glynn Park was also part of the memorial dedication to area veterans, but it is not independently eligible for the NRHP.

Davenport, Rock Island and Northwestern Railroad Depot (Moline)

The Depot, located at 2021 River Drive, is currently occupied by the Quad Cities Convention and Visitors Center. It is eligible for the NRHP and has been designated as a local historic landmark by the City of Moline. It was built in 1900 as a passenger depot for the Davenport, Rock Island and Northwestern Railway Company. It is a notable example of a Revival style-influenced design, with some Prairie School influence as well. It is Moline's only surviving depot and is a well preserved example of early 20th century depot architecture.

Eagle Signal Building (Moline)

Spiegel Moving and Storage, located at 202 20th Street in Moline, is one of the few remaining factory buildings representative of 20th century manufacturing structures that maintains much of its historic integrity. As one of few remaining examples of early 20th century industrial buildings and retaining good integrity, the Eagle Signal Building is considered eligible for the NRHP. Its location next to the historic depot (Quad Cities Convention and Visitors Center) provides an opportunity to interpret not only Moline's railroad history but its industrial heritage as well.

LeClaire Hotel (Moline)

The LeClaire Hotel, located directly west of I-74 in Moline, is in the process of being converted to apartments. Built in 1922, this 15-story building was listed on the NRHP in 1994. The City of Moline has also designated this property as a local historic landmark.

C. Ivar Josephson House (Moline)

The C. Ivar Josephson House, located at 1925 6th Avenue, is currently used as a residence and antiques shop. It is a well-preserved example of the Queen Anne style and is a standout

in this part of Moline. Built in 1895, it is considered eligible for the NRHP for its architectural significance.

Scottish Rite Cathedral (Moline)

The Scottish Rite Cathedral, located near the southbound I-74 on-ramp at 1800 17th Avenue, is considered eligible for the NRHP for its architectural significance and has also been designated as a local historic landmark by the City of Moline. This Gothic Revival building was completed in 1930 and is still used by the Scottish Rite Masons.

Knights of Pythias Lodge Hall (Moline)

The Knights of Pythias Lodge Hall, located at 2011 6th Avenue in Moline, is currently used as apartments. The building appears to have been built in the mid-1920s as a lodge hall and reflects stylistic influence from the Craftsman and Prairie School styles of architecture. It retains sufficient integrity to be considered architecturally significant and may hold some historical significance as well for its lodge history.

Thomas/Lewis/Wilson House (Moline)

The Thomas/Lewis/Wilson House, located at 604 21st Street, is currently owned by Trimble Funeral Homes, Ltd., and is used for a stationer's business. It is possibly the oldest standing house in Moline and is in a well-preserved example of the Greek Revival style. It is considered eligible for the NRHP for its architectural and potential historic significance.

3.13 Regulated Materials

3.13.1 Hazardous Waste

The USEPA listing of potential, suspected, and known hazardous waste or hazardous substance sites in Illinois (i.e., the Comprehensive Environmental Response Compensation and Liability Information System [CERCLIS]) has been reviewed to ascertain whether the proposed project will involve any listed site(s). According to the Illinois Environmental Protection Agency, Kone Inc., building is an archived CERCLIS site as found on the USEPA CERCLIS list as of August 16, 2002.

3.13.2 Non-Hazardous Waste

A Preliminary Environmental Site Assessment (PESA) was completed on the Illinois side of the project corridor in August of 2002. Fourteen special waste sites were located during the PESA. Excavation stipulations were subsequently identified for the 14 sites where there were special waste concerns. All sites are on or along the project corridor ([Figure 3-4, Potentially Contaminated Sites](#), at the end of Section 3). If excavation or additional right-of-way is required at any of these sites, further soil testing is recommended to determine the extent and nature of contamination. Detail regarding the nature of the sites and stipulations for construction can be found on [Table 3-18, Hazardous and Non-Hazardous Special Waste Sites of Concern in Illinois](#).

TABLE 3-18
Hazardous and Non-Hazardous Special Waste Sites of Concern in Illinois

Facility Name	Facility Location	Finding
Vacant lot	100 Block of 19 th St.	PESA stated that this site was found to be contaminated and any excavation or grading below 3 feet within 50 feet of soil boring 1314-2a will require the management of special waste.
Kone Inc.	1 Kone Ct.	PESA stated that this site was found to be contaminated by VOCs relating to the operations of Kone Inc., and any excavation or grading at Kone Inc. will require the management of special waste.
Former Frank Foundries Corp.	2020 River Dr.	PESA stated that this site was found to be contaminated by VOCs from LUSTs, USTs, and machine and tool shops, oil houses, metals from the former foundry sites and machine shops, and PCBs in the former transformer and drum-storage areas. Any excavation or grading at the former Frank Foundries Corp. will require the management of special waste.
Vacant lot	2000 block of 4 th Ave.	PESA stated that this site was found to be contaminated by metals and VOCs associated with the foundry operation and any excavation or grading below two ft within 50 feet of soil boring 1314-13b will require the management of special waste.
Deere & Co. parking lot	2000 4 th Ave.	PESA stated that this site was found to be contaminated by VOCs and metals from the machine shops and metals from the blacksmith and grinding facilities and any excavation or grading at Deere & Co. parking lot will require the management of special waste.
Riverside Products	400 21 st St.	PESA stated that this site was found to be contaminated by VOCs and metals from the machine shop and any excavation or grading below 6 feet within 50 feet of soil boring 1314-15 will require the management of special waste.
Iowa Interstate Railroad	2401 4 th Ave.	PESA stated that this site was found to be contaminated and any excavation or grading at Iowa Interstate Railroad will require the management of special waste.
Aman Gas and Food Mart	1830 5 th Ave.	PESA stated that this site was found to be contaminated and any excavation or grading below 2 feet within 50 feet of soil boring 1314-17b will require the management of special waste.
Mike's Automotive and Towing	428 19 th St.	PESA stated that this site was found to be contaminated and any excavation or grading below 6 feet within 50 feet of soil boring 1314-18a will require the management of special waste.
Vacant lot	1934 5 th Ave.	PESA stated that this site was found to be contaminated and any excavation or grading below 6 feet within 50 feet of soil boring 1314-23b will require the management of special waste.
Brannen's Auto Works	2100 5 th Ave.	PESA stated that this site was found to be contaminated and any excavation or grading below 6 feet at Brannen's Auto Works will require the management of special waste.
Office Building	602-608 19 th St.	PESA stated that this site was found to be contaminated and any excavation or grading below 2 feet within 50 feet of soil boring 1314-31a or any excavation or grading below 50 feet of soil boring 1314-31c will require the management of special waste.
Scottish Rite Cathedral	1800 7 th Ave.	PESA stated that this site was found to be contaminated by VOCs from any USTs or repair facilities associated with the former auto dealer and any excavation or grading below 4 feet within 50 feet of soil boring 1314-34a will require the management of special waste.
Vacant lot	702 19 th St.	PESA stated that this site was found to be contaminated and any excavation or grading below 2 feet at boring 1314-35a will require the management of special waste.

Table 3-19, *Hazardous and Non-Hazardous Special Waste Sites of Concern in Iowa*, contains information regarding special waste sites of concern found during the Limited Phase 1 Environmental Investigation on the Iowa side of the project corridor. Resources to identify these sites include historical information, current site conditions, current site usage, and existing environmental records. These sites are classified as “high risk,” which indicates that they have known or suspected the presence of contamination above minimum cleanup levels or require further subsurface investigation to be ruled low or medium risk. See [Figure 3-4, *Potentially Contaminated Sites*](#), at the end of Section 3, for their location in the project corridor.

TABLE 3-19
Hazardous and Non-Hazardous Special Waste Sites of Concern in Iowa

Facility Name	Facility Location	Finding
H&H Car Care Center	612 Kimberly Rd.	LUST/UST. Former filling station with BTEX plume starting under south center, extending towards southwest corner of property. Currently automotive detailing business. Possibly source of odors emanating from storm inlet on Mississippi Boulevard.
Dale Snapp Co.	536 14 th St.	LUST/UST. Former filling station with BTEX plume starting under center, extending towards south edge of the property. Currently automotive sales/rental business. Possibly source of odors emanating from storm inlet on Mississippi Boulevard.
Handy Stop	1430 Grant St.	LUST/UST. Current filling station with possible BTEX plume onsite. "No Action Required" status due to lack of receiver pathways.
Crescent Economy Inc.	1303 Grant St.	RCRIS. Current dry cleaning business. Potentially affected by contaminant plume from former Showboat Car Wash site.
(Former) Showboat Car Wash	1215 Grant St.	LUST/UST. Former car wash/filling station with BTEX plume starting under center, extending towards the east/northeast. Likely reaching offsite.
(Former) Hoyt & Son Automotive	1210 Grant St.	LUST/UST. Apparent former filling station with BTEX plume centered onsite. Currently automotive service center.
Johnny's Amoco (BP)/QC Mart	1402 State St.	RCRIS/LUST/UST. Current filling station with BTEX plume under most of the site, possibly extending offsite to the north and likely extending offsite to the east. Potentially affected by contamination migrating from the Twin Bridges 66 site.
Twin Bridges 66	333 14 th St.	LUST/UST. Current filling station with BTEX plume under most of the site, possibly extending offsite to the north and east, and likely extending offsite to the south. Potentially affected by contamination migrating from the Johnny's Amoco site. Free product may also be present as part of the plume.
(Former) Lindquist Ford Site	1910 State St. (East of Corridor)	RCRIS/LUST/UST. Former automotive dealership location, with possible BTEX plume onsite. "No Action Required" status due to lack of receptor pathways. Site is significantly to the east of the project corridor.
Plaza Building	1843-1841 State St. (East of Corridor)	LUST/UST. Former commercial building with BTEX plume under southeast portion of the site. Site is significantly to the east of the project corridor
City Hall	1609 State St.	LUST/UST. Current City Hall with BTEX plume under the majority of the site, possibly extending offsite to the north, and likely extending offsite to the south and east. Possibly affected by contamination extending from Kelley's Gas site.
Kelley's Gas	1543 State St.	UST/LUST. Current filling station with BTEX plume under most of the site, likely extending offsite to the east and west. Free product may also be present as part of the plume.
Twin Bridges Truck City	131 12 th St.	RCRIS/LUST/UST. Site is used for office and storage for QC Pools and Spa. Residual petroleum soil and/or groundwater contamination may be present at the site at levels below cleanup standards. "No Further Action" status granted by the Iowa DNR on January 10, 1996.
Adel Parking Lot	1159 State St.	Former location of filling station dating to 1950-1960 period. Site does not have documented contamination, but without any data on subsurface conditions, the potential exists.

TABLE 3-19 CONTINUED
 Hazardous and Non-Hazardous Special Waste Sites of Concern in Iowa

Facility Name	Facility Location	Finding
Adel Parking Lot	1207 State St.	Former location of filling station dating to 1950-1960 period. Site does not have documented contamination, but without any data on subsurface conditions, the potential exists.
Village Inn	1208-1210 State St.	Former location of filling station dating to 1950-1960 period. Site does not have documented contamination, but without any data on subsurface conditions, the potential exists.
Nextel Phone	1504 State St.	Former location of filling station dating to the 1960s. One monitoring well was found in the southwest corner of the site, but no information was found as to its purpose or properties. Site does not have documented contamination, but without any data on subsurface conditions, the potential exists.
Great American Window Company	710 14 th St.	Former location of filling station dating to 1950-1960 period. Manager indicated that USTs at the site had been removed many years ago. Site does not have documented contamination, but without any data on subsurface conditions, the potential exists.
Rapid Lube and Oil	1740 State St.	RCRIS/LUST/UST. Current site of oil change and auto service business and location of former filling station. Site is impacted by BTEX free product and contamination from former leaking USTs. BTEX plume lies under most of the site, possibly extending offsite to the south and west.
Car Quest	312 17 th St.	Current location of auto parts store. One monitoring well was found on the site, possibly serving as upgradient well for City Hall subsurface investigation. This monitoring well had documented BTEX contamination in samples taken in 1989 and 1990. The source of the contamination has not been determined.
US Petro Mart	845 State St.	Current filling station with BTEX plume under most of the site, likely extending offsite to the south and west. Site is significantly to the west of the proposed corridor.
Dart Mart	411 14 th St.	Current filling station. Site may be impacted by BTEX plume from Twin Bridges 66 filling station.
US West	1437 Grant St.	Currently used for telephone operations. Potentially impacted by BTEX plume from Twin Bridges 66 filling station.
Hans Body Shop	1720 State St.	RCRIS. Former location of filling station dating to 1950-1960 period. Site may be impacted by BTEX contamination from Rapid Lube site.
Bettendorf Auto	1705 to 1719 State St.	Current auto sales operation. Potentially impacted by contamination from City Hall BTEX plume.
Twin Bridges Motor Inn/Paddle Wheel Lounge	221 15 th St.	Current site of restaurant and motel. Likely impacted by BTEX contamination from Kelley's gas site.
(Former) Ross' Drive Through	512 14 th St.	Current site of abandoned restaurant. Potentially impacted by BTEX contamination from Dale Snapp site.
Knox Corporation	1416 State St.	Potentially impacted by BTEX contamination from Johnny's Amoco and Twin Bridges 66 sites.

Source: Raymond Professional Group, Inc. *Limited Phase I Environmental Investigation Report, I-74 Iowa-Illinois Corridor Study (Project No. 813-8275)*. 2003.

3.14 Visual Resources/Aesthetics

The I-74 corridor in the project corridor can be broken into three distinct viewsheds:

- The southern section of the project from 23rd Avenue in Moline to the top of the bluff.
- The river valley, from the bluff in Illinois to approximately Kimberly Road in Bettendorf.
- The northern section of the project from approximately Kimberly Road to 53rd Street in Davenport.

The southern end of the project is dominated by residential development. Scattered patches of native trees are present throughout the corridor. I-74 traverses a ridgeline through this section, with residential areas to the west rising above I-74 in some locations, and residential and scattered commercial areas to the east falling below I-74 in some locations. I-74 dominates the corridor throughout this section.

The river valley is characterized by urban development, including both residential and commercial establishments. The most prominent natural feature is the Mississippi River itself, and the bluffs on either side. Throughout the I-74 corridor, the Mississippi River bridges dominate the landscape. Travelers on I-74 have a long-distance view of the twin bridges as they approach the bluff on the Illinois side from the south and as they approach Kimberly Road from the north. The suspension form of the bridges, with tall towers supporting the cables, is a unique presence in the viewshed. For the motorist, the bridges may be viewable at distances up to 1 mile. The presence of the truss approach structures on the Illinois side of the main span obscures a view of the towers to some degree for Iowa-bound motorists.

Due to their height and form, the bridges are one of the primary notable features for a person at ground level in the river valley at a distance of up to 1 mile. Beyond that distance, the bridges begin to have a much reduced impact on the viewshed.

Beyond the river valley, the northern section of the I-74 corridor begins to take on a more common urban Midwestern appearance. Without the dominating natural feature of the Mississippi River and the river bridges, the I-74 corridor in this area is marked by the mixed residential and commercial development present. In the southern and eastern ends of this section, residential development dominates, while in the northern and western ends commercial development is more dominant. Areas of row crops currently located at the north end of the project corridor are in the process of being converted to commercial uses.