Appendix D

Field Studies Report

CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT

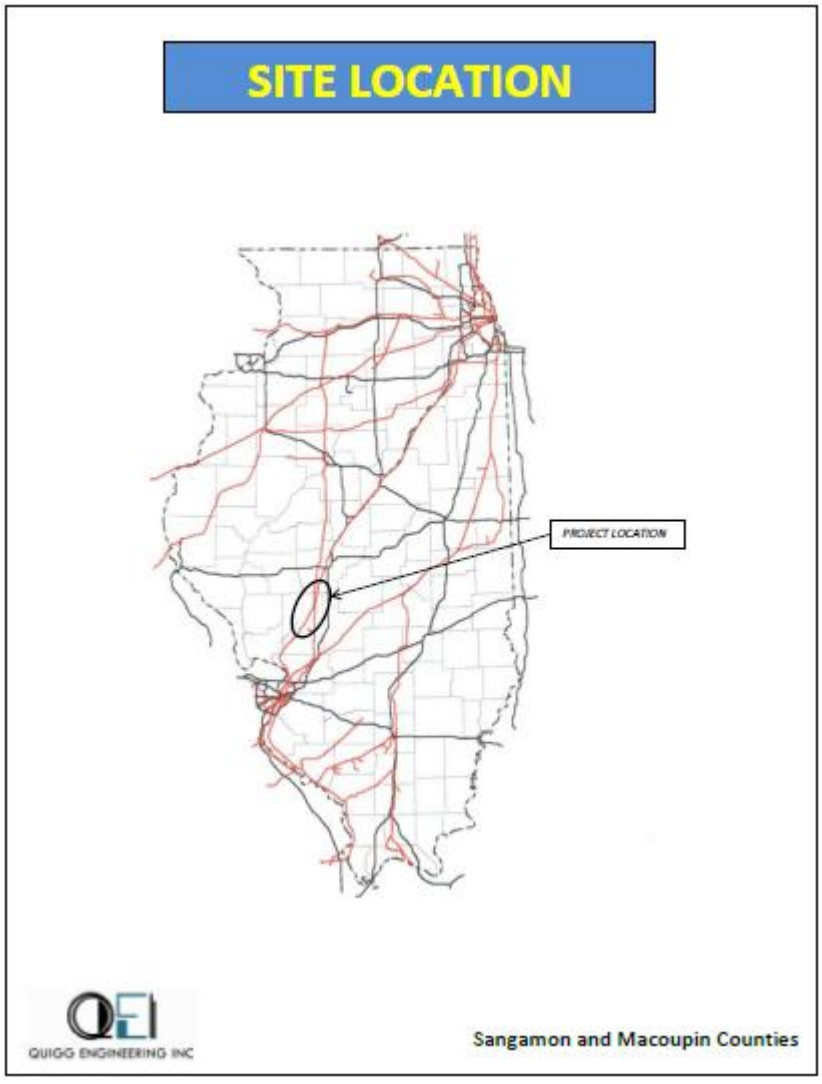
TIER 2 SOUTH - AUBURN TO SHIPMAN, ILLINOIS

REPORT OF FALL 2011/Spring 2012 FIELD STUDIES

UNION PACIFIC MILE POSTS 200.76 TO 236.00

SANGAMON AND MACOUPIN COUNTIES

May 2012



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1.0 PROJECT DESCRIPTION

Field surveys to identify potential natural resources were conducted in September of 2011 and May 2012 for a segment of the Chicago to St. Louis High Speed Rail (HSR) Project. The HSR segment is located between Auburn and Shipman, Illinois and is identified by the Union Pacific Railroad (UPRR) as the Tier 2 South Improvement between UPRR Mile Posts 200.76 and 236.00. The project passes through Sangamon and Macoupin Counties. Field surveys were conducted for the entire Auburn to Shipman route but focused on locations within new right-of-way or easement areas not previously surveyed or cleared through coordination with resource and regulatory agencies or addressed in the Chicago to St. Louis High Speed Rail Environmental Impact Statements and the 2004 Finding of No Significant Impact (FONSI) document for the Girard and Carlinville sidings. Resource surveys were conducted 100 feet on either side of the UPRR mainline track centerline. There are 21 areas where right-of-way or access easements are proposed to be acquired in the UPRR 30% Plans for the Girard and Carlinville Sidings. The total Tier 2 South HSR segment is approximately 35.24 miles in length.

Specific natural resources for which field surveys were conducted included identification of cover types, potential habitats for listed threatened and endangered species, wetlands, and water quality at stream crossings.

2.0 METHODS

Prior to conducting the natural resource field studies, numerous sources and references were consulted (see Appendix B for complete list of references). In order to maximize field work efficiency, previous HSR natural resource reports, dated 1999, and the 2003-2004 High Speed Rail FONSI/EIS were reviewed for potential resources. The reports were compared against the 30% plans for the Girard and Carlinville Sidings prepared by the UPRR between Auburn and Shipman. The 30% plans indicated areas where new rights-of-way or access permits will be acquired. Additional aerial imagery reviews were performed using internet sources to supplement areas lacking 30% plans not covered by siding locations. The UPRR 30% plans containing new rights-of-way, access permit areas and aerial imagery; and supplemental aerial imagery prints were provided to personnel performing the field surveys and used as a basis to record resources. At the time initial field studies were conducted, UPRR 90% plans for the Girard and Carlinville sidings for the Shipman to Auburn segment of the Chicago to St. Louis High Speed Rail Project were being developed. 100 feet on either side of the centerline of the track was

surveyed in areas not covered by 30% plans in an attempt to survey resources potentially contained in future UPRR plans.

The UPRR 30% plans and aerial imagery were used to identify the various cover types that might be impacted by the project and identify potential habitats for sensitive natural resources. This work was done prior to visiting the field in order to prioritize field survey locations. The cover types were ground truthed during the field surveys. The field surveys began September 22nd, 2011 and were completed in October, 2011 for the fall. Additional spring field surveys were conducted May 8th, 2012 and were completed May 16th, 2012. The following is a discussion of those field survey results.

3.0 COVER TYPE

Cover types within the study area (UPRR mile posts 200.76 to 236.00) consist of upland and wetland habitat. The United States Fish and Wildlife Service's (USFWS) Ecological Services Manual cover type definitions were used to assess cover types along the Auburn to Shipman section of the high speed rail corridor. Cover types identified include; forest, shrubland, hedgerow, grassland, agricultural land, and developed land (Appendix C, Cover Type Map). The only Illinois upland cover type not identified was forbland. Wetland habitat was identified at eleven locations during the course of field/desktop reviews. These areas will be discussed further in the Wetlands Section of the document.

Cover type for the entire Auburn to Shipman corridor was determined by use of aerial imagery interpretation and verified using accessible vegetation observed during field reviews conducted in September 2011 (Tables 1 and 2 Tree Surveys and Table 3 Shrub and Herbaceous Vegetation). Due to inaccessibility of portions of the UPRR right-of-way, the entire length of the corridor was not field reviewed.

For the inaccessible areas north of Plainview, IL, sample plots of the forested area and forested wetland were utilized to assess the accessible portions of the area near Hawkeye Road and May Branch of Macoupin Creek. Conclusions for the entire area are based upon observed vegetation at this location. Other inaccessible areas include Denby Prairie Nature Preserve and INAI Sites and Reiher Barrens INAI Site. The Illinois Natural History Survey was tasked to perform surveys of these areas; therefore, they are not covered by this report.

In general, the dominant cover types along the corridor are hedgerow, developed land, and agricultural land. Developed land is dominant within the seven urban areas; Auburn, Thayer, Virden, Girard, Nilwood, Carlinville, and Plainview. Hedgerow is

dominant in the southern portion (south of Carlinville) of the corridor and agricultural land is the dominant cover type in the northern portion (north of Carlinville) of the 35.24 mile long corridor. Forest cover type is found predominately in the southern portion of the Tier 2 corridor, while shrubland, grassland, and wetlands are intermittent throughout the overall length of the project

3.1 Forest Cover Type

Forest accounts for 8.25% (71.17 acres) of the project cover type. Forest cover type consists of trees taller than 5m (16.5 ft.) and has a tree canopy cover of at least 25%. Within the 35.24 miles of the project, forest cover type is found in four primary locations; east of Shipman Road (mile posts 236.00 to 235.06), north of Plainview in two distinct areas (mile posts 234.45 - 231.05, and 228.93 - 227.58) and south of Carlinville surrounding Lake Rinaker (mile posts 225.44 - 225.00). Small areas of forest cover type are located in the northern area of the corridor along the riparian area of Sugar Creek, between Thayer and Auburn, immediately south of Edgewood Golf Course)

The USFWS definition of forest cover type and the IDOT Tree Policy were used in the assessment of the forest areas. Per the IDOT Tree Policy, a tree has a diameter breast height (DBH) of 6 inches or greater. If smaller than 6 inches, the plant is considered a shrub.

3.1.1 Shipman Road (mile posts 236.00 – 235.06)

The forest is located east of Shipman Road, between Shipman and Plainview, Illinois in Macoupin County. The forest is located on the east side of the UPRR right-of-way and sampling of tree and understory species was conducted in two areas. Both areas sampled are part of the one larger tract of woods.

The first 100 ft x 100 ft sample transect location was at mile post 235.5, east of the UPRR tracks. Of the 11 trees contained in the sampling area, dominant tree species include white oak (*Quercus alba*) and yellow bud hickory (*Carya cordiformis*) (Table 1, Tree Survey Form). Occasional tree species include American elm (*Ulmus americana*) and green ash (*Fraxinus subintegerrima*).

Dominant shrub species within the mile post 235.5 sample tract include young tree species such as yellow bud hickory, black walnut (*Juglans nigra*), sassafras (*Sassafras albidum*), white oak, green ash, American elm, box elder (*Acer negundo*), and honeysuckle (*Lonicera spp*).

Dominant herbaceous vegetation within the mile post 235.5 sample tract includes poison ivy (*Toxicodendron radicans*), boneset (*Eupatorium perfoliatum*) and bindweed (*Convolvulus arvensis*).

The second 100ft x 100ft sample transect location was located at mile post 235.1, east of the UPRR tracks. Of the 23 trees contained in the sampling area, dominant tree species include white oak and black oak (*Quercus velutina*). Occasional species include yellow bud hickory, American elm, and shagbark hickory (*Carya ovata*). One snag is located within the sampling area but species was not determined.

Dominant shrub species within the mile post 235.1 sample tract include young tree species such as yellow bud hickory, basswood (*Tilia americana*), Japanese honeysuckle (*Lonicera japonica*), wild black cherry (*Prunus serotina*), and multiflora rose (*Rosa multiflora*).

Dominant herbaceous vegetation within the mile post 235.1 sample tract includes snake root (*Eupatorium rugosum*), poison ivy, and buck brush (*Symphoricarpus spp*).

Based upon data gathered for the two sampling transects located east of the UPRR right-of-way, this is a young forested area consisting of three dominant species. Dominant species includes white oak, yellow bud hickory, and black oak, totaling 84.8% of the total tree species for the Shipman Road Wooded area. A total of 33 trees were documented, resulting in an average diameter breast height of 13.96 inches. Canopy enclosure is approximately 60%, allowing for vining vegetation such as poison ivy to become established. Overall canopy height is estimated to be 25 feet from ground level.

3.1.2 Forest Cover Types North of Plainview, Illinois

The second forest area is located north of Plainview, Illinois and south of Carlinville, Illinois in Macoupin County. This forested area consists of two distinct areas. Locations fall between mile posts 234.45 – 231.05 in the general vicinity of Shipman Road and Newby Road. Sampling of this area was conducted in May 2012, on both the east and west sides of the UPRR right-of-way. UPRR mile posts 228.93 – 227.58 are located in or near the Denby Prairie and Reiher Barrens INAI Sites.

The area in the vicinity of Shipman Road and Newby Road (MP 234.45 -231.05) consisted of five sample areas in the general area of May Branch creek and Hawkeye Road (Table 4, Hawkeye Road). Three sample areas were reviewed on the east side of the tracks and two on the west side.

Sample Plot 1 is located immediately south of May Branch Creek on the east side of the UPRR right-of-way. The plot dimensions are 100 feet long x 50 feet wide. The area is classified as forested wetland on National Wetland Inventory Maps (see wetland discussion). Tree composition includes box elder, slippery elm, cottonwood, and silver maple. Overall tree DBH is 12.94 inches. Box elder and slippery elm are smaller trees, 8.76 and 6.61 inch DBH, respectively. Cottonwood average 22.52 and silver maple 16.1 inch DBH. Herbaceous layer consists of horsetail, wild ginger (*Asarum* spp.), and stinging nettle (*Urtica dioica*). A shrub layer is lacking in this area, however an occasional young box elder or slippery elm is found, averaging a 3 inch DBH.

Sample Plot 2 is located immediately south of Sample Plot 1 and north of the utility right-of-way east of the UPRR right-of-way. The plot dimensions are 100 feet long x 50 feet wide. The area is classified as forested wetland on National Wetland Inventory Maps. Tree composition includes slippery elm, box elder, and cottonwood. Overall DBH is 12.89 inches. Slippery elm and box elder are smaller trees, 8.57 and 8.90, respectively. Cottonwood averages 27.3 inch DBH. Herbaceous layer consists of wild ginger and stinging nettle and dominant species. Shrub layer is present in this location, consisting of young box elder and slippery elm, averaging a 3 inch DBH.

Sample Plot 3 is located immediately south of the utility right-of-way and the old roadbed for Hawkeye Road east of the UPRR right-of-way. This area consists of two general areas, an upland and wetland. The upland area contains young trees, less than 6 inches in diameter, consisting of box elder, silver maple, and black walnut. Black walnut is dominant in the upland area, consisting of approximately 35 trees. The herbaceous area in the upland portion consists of poison ivy, fine leaf fescue, and goldenrod as the dominant species. The wetland portion of the site contains trees larger than 6 inches in diameter. The wetland area is composed of slippery elm, sycamore, and cottonwood. Trees were not measured due to the area being inundated with water as a result of recent heavy rainfall. Shrub density is very high compared to sample points 1 and 2, containing approximately 35-40 shrub stems per sampling location.

Sample Plot 4 is located immediately south of May Branch Creek on the west side of the UPRR right-of way. The plot extends from the creek to the Hawkeye Road, approximately 75 feet from toe of the UPRR railroad embankment. This area is composed of a shelf or benched contour habitat, spanning the area between the wetland area and upland slopes. The tree composition reflects a combination of wetland and upland species, including green ash, buckeye, sycamore, cottonwood, American elm, slippery elm, white oak, hackberry, and black walnut. The trees average 11.63 inch DBH. Herbaceous vegetation includes May apple, catbrier, stinging nettle, Queen

Anne's lace, sticktites (*Bidens* spp.), spiderwort (*Tredescantia* spp.), flea bane (*Erigeron* spp.), plantain (*Plantago* spp.), poison ivy (*Toxicodendron radicans*), poor man's pepper (*Lepidium virginicum*), ragweed (*Ambrosia spp*.), and sunflower (*Helianthus* spp.). Bladdernut (*Staphylea trifolia*) is the most prevalent shrub with other shrubs including redbud, American elm, multiflora rose, box elder, white mulberry, slippery elm, honeysuckle, white oak, sycamore, buckeye, and gray dogwood.

Sample Plot 5 is located immediately south of Hawkeye Road on the west side of the UPRR right-of way. The plot extends from the road to the top of the slope, approximately 75 feet from toe of the UPRR railroad embankment. This area is composed of upland habitat, consisting of American elm, shingle oak, white oak, black cherry, yellow bud hickory, shagbark hickory, and black oak. The shrub layer consists of yellow bud hickory, buckeye, bladdernut, white ash, and sassafras. Bladdernut is the most dominant of the shrubs on the north face of the slope. Closer to the tracks, young white oak, and yellow bud hickory are more common. There are approximately 22 shrub stems per 20 foot sampling radius, averaging 2-3 inch DBH. The herbaceous layer consists of Virginia creeper and May apple.

The northernmost forested tract of land, mile post 228.93 – 227.58, contains forest vegetation included in the Denby Prairie and Reiher Barrens INAI Sites. Denby Prairie Nature Preserve boundaries were indicated on internet sources for aerial imagery, aiding in this determination. In a letter received from Steve Hamer, Illinois Department of Natural Resources, it is indicated by the Agency that "There will be no impacts, direct or indirect, to the Nature Preserve" (Appendix D). Per IDNR recommendations, the Illinois Natural History Survey has been tasked with review of this area, therefore the area is not included in this report. The INHS report is the definitive source for boundaries and resources of the Denby Prairie and Reiher Barrens INAI sites.

3.1.3 Rinaker Lake Area (mile posts 225.44 – 225.00)

The forest is located west of Carlinville/Shipman Road and the UPRR right-of-way, south of Carlinville, Illinois in Macoupin County. The area is currently serving as privately owned campgrounds, consisting of primitive cabins and Lake Rinaker. Observations of tree and understory species were conducted along the private gravel road, parallel to the UPRR tracks in the Fall of 2011. Actual tree counts were conducted in Spring 2012.

Observed tree species include; black walnut (*Juglans nigra*), white oak, shagbark hickory, snags, black oaks, bald cypress, American elm, hackberry, sassafras, pin oak, white mulberry, slippery elm, yellow bud hickory, wild black cherry, osage orange,

cottonwood, shingle oak, persimmon, gray dogwood, black locust, and mockernut hickory. Shrub species include young black walnut, young silver maple, multiflora rose, blackberry, Lonicera, poison ivy, young green ash, blackberry, young shagbark hickory, young American elm, hazelnut, young hickories, gooseberry, sumac and young white ash. The herbaceous layer is composed of impatients biflora (*Impatiens capensis*), poison ivy, Virginia creeper, May apple, catbrier, spiderwort, fescues, bluegrass, grapevine, lambs ear, winter creeper, bell flower, and Jack-in-the-pulpit.

Based upon data gathered for the area west of the UPRR right-of-way at Lake Rinaker, the area consists of four dominant tree species which includes white oak (average 13.75" dbh), shagbark hickory (average 13.28" dbh), American elm (average 8.82" dbh), and shingle oak (average 10.94" dbh). Overall, these four species total 73.6% of the total tree species for the Lake Rinaker wooded area. A total of 269 trees, consisting of 20 species, were documented with an average diameter breast height of 11.27 inches (Table 5, Lake Rinaker Woods). Canopy enclosure is approximately 60%, allowing for vining vegetation such as poison ivy and Virginia creeper to become established. The north end of the area consists of younger trees. Overall canopy height is estimated to be 30 feet from ground level.

Shrub layer averages 18 – 20 shrubs per 10 ft^2 . The shrub layer is denser at the north end of the site, shading out the poison ivy and Virginia creeper. The southern portion of Lake Rinaker sampling area contains more herbaceous vegetation, dominated by Lonicera and poison ivy (herbaceous and shrub growth forms).

3.2 Shrubland Cover Type

Shrubland accounts for 8.60% (74.17 acres) of the project cover type, located throughout the 35.24 miles of the Tier 2 south portion of the high speed rail corridor. Shrubland cover type consists of shrubs and trees shorter than 5m (16.5 ft.) and has a shrub canopy cover of at least 25%. Within the length of the project, shrubland cover type is found throughout the entire length, but is most abundant between mile posts 205.00 – 211.80. Typical shrub vegetation along the railroad right-of-way includes hazelnut (*Corylus americana*), staghorn sumac (*Rhus typhina*), and small tree species typical of surrounding forested and hedgerow cover types.

3.3 Hedgerow Cover Type

Hedgerow cover type consists of a linear growth of shrubs and sparse tree species, typically separating two or more cover types. A hedgerow consists of landscape, volunteer, or a combination or landscape and volunteer species. Hedgerow is common

along transportation rights-of-way, accounting for 25.99% (224.18 acres) of the project cover type.

Hedgerow, the dominant cover type, is found throughout the 35.24 miles of the Auburn to Shipman section of the high speed rail corridor, except for areas where it is replaced by other cover types such as developed land, grassland, wetland, shrubland, and forest. Hedgerow cover type is lacking in developed areas including; Auburn, Thayer, Virden, Girard, Nilwood, Carlinville, and Plainview. Hedgerow cover type is more prevalent from Girard to the southern limit of the Tier 2 corridor at UPRR mile post 236.00. The section of the Tier 2 corridor from Girard to Auburn contains small areas of hedgerow cover type.

Hedgerow dimensions between Auburn and Shipman vary significantly from 140 feet to 9,760 feet in length and 40 feet to 100 feet in width depending on location and other cover types present. Dominant tree species include cottonwood (*Populus deltoids*), silver maple (*Acer saccharinum*), green ash, wild black cherry, hedge apple (*Maclura pomifera*), hackberry (*Celtis occidentalis*), black walnut, American elm, red mulberry (*Morus rubra*), white pine (*Pinus strobus*), and black willow (*Salix nigra*). Dominant shrub layer species include hazelnut, young silver maple, blackberry (*Rubus allegheniensis*), honeysuckle (*Lonicera spp*.), buttonbush (*Cephalanthus occidentalis*), and staghorn sumac. Dominant herbaceous species include giant ragweed (*Ambrosia trifida*), little ragweed (*Ambrosia artemisiifolia*), pokeweed (*Phytolacca Americana*), cup plant (*Silphium perfoliatum*), sunflower (*Helianthus spp*.), goldenrod (*Solidago spp*.), common hop (*Humulus lupulus L.*), poison ivy, common teasel (*Dipsacus follonum*), big bluestem (*Andropogon gerardi*), Indian grass (*Sorghastrum nutans*), fescues (*Festuca spp*.), and smartweed (*Polygonium spp*.).

3.4 Grassland Cover Type

Grassland accounts for 16.9% (145.81 acres) of the project cover type, located in three general locations; south of Plainview in small prairie/grass areas (MP 235.07 - 234.05), south of Carlinville in a large prairie/grass area (MP 227.44 - 223.94), north of Carlinville, extending to Nilwood in larger, intermittent prairie/grass areas (MP 220.84 – 215.24), and from Nilwood extending to Auburn in small, intermittent prairie/grass areas (MP 211.72 – 201.90). Other small areas of grassland are present throughout the Tier 2 corridor. Grassland cover type consists of a canopy cover of all vegetation of at least 25% and is dominated by nonwoody plants, dominated by grass, both native and introduced species, including tall grass prairie and limited forbs (Table 6 Prairie Remnants).

Dominant grassland species include giant ragweed, little ragweed, goldenrod, big bluestem, foxtail, fescues, and Indian grass (*Sorghastrum nutans*). Within prairie remnants, sunflowers, prairie dock (*Silphium tetebinthinaceum*), ironweed (*Veronia altissima*), lead plant (*Amorpha canescens*) and pale coneflower (*Echinacea pallida*) are included as dominant species along with grasses and invasive species. Since the prairie remnants contain more grass species than forb species, the prairie remnants are discussed within grassland cover type rather than forbland cover type.

3.4.1 Prairie Remnant 1

Prairie 1 is located south of Plainview, Illinois, in Macoupin County between mile posts 234.05 and 235.01. The 19,536 foot long x 82.02 foot wide prairie remnant is located on the fore slope and back slope of the ditch between Shipman Road and UPRR right-of-way. It is graded as an A - B remnant due to its high forb diversity. Dominant species include big bluestem, little bluestem, giant ragweed, goldenrod, prairie dock, ironweed, prairie sunflower, pale purple coneflower, fescue, lead plant, and Indian grass. The prairie remnant was identified in the 2004 Inventory of Roadside Prairie Report prepared by William Handel of the Illinois Natural History Survey for IDOT District 8. The complete species list is available in in this report, available on the Illinois Department of Transportation's website.

3.4.2 Prairie Remnant 2

Prairie 2 is located south of Carlinville, Illinois, between mile posts 224 and 227. The 16,368 foot long prairie varies in width from 262.5 feet wide at its southern portion to 49.2 feet wide at its northern limit near the south side of Carlinville. The prairie is graded an A – B remnant due to its high forb diversity, with greatest forb diversity occurring at the southern end. The southern end of the prairie is part of Denby Prairie, an INAI site. The northern portion of the prairie is part of the Carlinville Prairie Restoration Project, where forb diversity is lower. Dominant species noted during the fall field survey includes prairie dock, bull thistle, prairie sunflower, Indian grass, goldenrod, gray-headed coneflower, prairie sunflower, and big bluestem. A complete species list is available in the 2004 Inventory of Roadside Prairie Report, IDOT District 8.

3.4.3 Prairie Remnant 3

Prairie 3 is located north and south of Standard City Road between mile posts 215.55 and 218.65. This prairie remnant was not field reviewed due to lack of access via roads.

The 3.1 mile long, linear prairie is rated as a C+ in the Native Prairie Report Appendix, March 1999. A complete species list is available in the Report.

3.4.4 Prairie Remnant 4

Prairie 4 is located between Nilwood and Girard, Illinois, between mile posts 213.66 and 211.91. This degraded prairie is 1.5 miles in length, occurring between Illinois Route 4 and UPRR right-of-way. This prairie remnant overlaps south into areas identified as hedgerow cover type, where it tapers out. The prairie had been mowed in the IDOT right-of-way making species identification and quantification difficult. The prairie is included in the 2004 Inventory of Roadside Prairie, IDOT District 8, where it is assigned a D grade. Plants identified outside IDOTs right-of-way included little bluestem, prairie dock, boneset, giant ragweed, bull thistle, gray-headed coneflower, sunflower, fescue, big bluestem, staghorn sumac, and goldenrod. The complete species list is available in the 2004 Inventory of Roadside Prairie Report, IDOT District 8.

3.4.5 Prairie Remnant 5

Prairie 5 is located at a utility substation at Crown Mine Road 2. The prairie remnant at this location is highly degraded and would be most likely be assigned a D rating. The area is 225 feet long x 25 feet wide. Species identified include big bluestem, foxtail, and fescue. This remnant was not identified in the 2004 Inventory of Roadside Prairie Report, IDOT District 8 or in the Native Prairie Report Appendix, March 1999.

3.5 Forbland Cover Type

Forbland cover type consists of a canopy cover of all vegetation of at least 25% and is dominated by nonwoody plants, dominated by herbaceous species other than grasses. This cover type may include weedy fields, old fields, and other areas in early successional stages, accounting for 0% of the project between Auburn and Shipman.

The highest forb diversity is located in prairie remnants but forbs are not the dominant vegetation species found within the prairies. Two prairie remnants, Prairie Remnant 1 and Prairie Remnant 2, were graded "A to B" remnants by William Handel of the INHS, due to high forb diversity. However, prairie grass species dominate over the forb species in these two prairie remnants, thus these two prairie remnants were discussed in detail under grasslands in Section 3.4.1 and 3.4.2.

3.6 Agricultural Land Cover Type

Agricultural land accounts for 18.75% (161.71 acres) of the overall cover type area, the third largest cover type for the project. Agricultural land consists of lands that are periodically plowed and planted, mowed for hay at least once per year, or support buildings or other man-made structures directly supporting agricultural activities. Orchards, vineyards, cropland, and pasture and hayland are possible land use types considered agriculture.

Agricultural land is found intermittently throughout the entire length of the project, except for more highly developed areas within Plainview, Carlinville, Nilwood, Girard, Virden, Thayer, and Auburn. This is the dominant cover type north of Carlinville. The primary agricultural practice consists of cultivation of row crops (corn and soybean). Two orchards, Malham's Orchard and Broom Orchard, are located south of Carlinville. Malham's Orchard, located west of the UPRR right-of-way, and has a private access crossing to Shipman Road across the UPRR tracks, immediately south of the Lake Rinaker Private Campgrounds. Broom Orchard, located east of Shipman Road and the UPRR right-of-way, does not have a private crossing. Other agricultural uses along the high speed rail corridor include intermittent pasture land between Virden and Auburn.

3.7 Developed Land Cover Type

Developed land accounts for 19.00% (163.91 acres) of the project cover type, located predominately in and around the seven urban areas of Plainview, Carlinville, Nilwood, Girard, Virden, Thayer, and Auburn. By USFWS definition, developed land cover type consists of mining areas, urban, and built-up land. Mining areas are classified as lands used for mineral extraction or recently abandoned, previously serving mining purposes. Urban and built-up land is "comprised of areas of intensive use with much of the land covered by structures". The types of developed land present along the Auburn to Shipman high speed rail corridor are urban and built-up land. Outside of the seven urban areas along the route, developed land is intermittent, including commercial and residential properties and Edgewood Golf Course south of Auburn.

4.0 ENDANGERED AND THREATENED SPECIES

The USFWS Illinois County Distribution list for Federally Endangered and Threatened Species was consulted to obtain a listing of species occurring in Macoupin and Sangamon counties. An EcoCAT was submitted to the Illinois Department of Natural Resources (IDNR) Natural Heritage Database on October 12, 2011 to identify potential State listed Endangered and Threatened Species as well as Illinois Natural Areas and

Illinois Nature Preserves within the study area. A subsequent EcoCAT was submitted to the IDNR on November 8, 2011 in order to obtain information about the INAI Reihers Barrens site in Macoupin County.

Through this consultation with the USFWS and the IDNR, a list of federal and state species potentially occurring within the study limits was developed (Table 7 Threatened and Endangered Species). Habitat requirements were noted and potential habitats were identified in the field. Federally listed plant and animal species are also State listed species.

4.1 FEDERALLY THREATENED PLANT SPECIES

Listed plants likely to occur within the limits of the high speed rail project are included in this report. The only federally listed plant species is the Eastern Prairie Fringed Orchid (*Platanthaera leucophaea).*

4.1.1 EASTERN PRAIRIE FRINGED ORCHID (*Platanthaera leucophaea*)

The USFWS lists *Platanthaera leucophaea* in Macoupin and Sangamon Counties. The orchid can occur in a wide variety of habitats, from mesic prairie to wetlands such as sedge meadows and the edges of marshes. The plant requires full sun and a grass habitat with little woody encroachment for optimum growth. Prairie fringed orchid flowers from June to early July. The proposed right-of-way and easement areas were surveyed in September 2011, past the orchids flowering time. Previous botanical studies (1999) of the high speed rail project in Macoupin or Sangamon counties did not identify prairie fringed orchid in any of the wetlands or prairie remnants along the project corridor. The prairie remnants identified during field surveys contain dry soils and do not contain the mesic to wet soils the species requires to survive. A number of these areas are disturbed due to maintenance activities. The plant is unlikely to occur within the project study limits.

4.2 FEDERALLY ENDANGERED ANIMAL SPECIES

The only Federally endangered animal species possibly occurring within the limits of the high speed rail project from Auburn to Shipman is the Indiana bat (*Myotis sodalis).*

4.2.1 INDIANA BAT (*Myotis sodalis*)

The USFWS lists the Indiana bat in Macoupin and Sangamon Counties. The Indiana bat spends summer months in hardwood forests. Indiana bats hibernate in specific hibernacula during winter months. Studies indicate the bats arrive at hibernacula from

summer roosting sites in late August or September. The Indiana bats hibernation period can vary from October to April or September to May, depending on location within their range. Females emerge from hibernation and arrive at summer locations beginning in mid-April. The females form nursery colonies with other females during the summer months. The bats utilize a variety of tree species for roosting and rearing young in forests. Primary roosts consist of snags within the forest gaps, forest edge and /or trees with exfoliating bark such as shagbark hickory or eastern cottonwood; although bats can use many other tree species such as ashes, maples and oak species. Indiana bats forage for insects in the forested areas, forested edges near old fields, or along primary or secondary streams with 50%-70% canopy closure. Indiana bats have been documented (Humphrey) to forage under or around the tree canopy at heights ranging from 7 to 30 feet.

Proposed right-of-way areas containing sections of forest cover type at stream crossings were examined to determine if the woods within the project limits contained potential Indiana bat habitat for foraging or roosting. One forested tract, located at Mile Post 230.77 at a railroad bridge crossing Macoupin Creek, contains a canopied forest cover along the creek. Documentation provided by Olsson and Associates dated July 5, 2011 indicated IDNR records for the Indiana bat occurring in two wooded tracts approximately 2,500 feet east and approximately 3,000 feet west of the UPRR crossing of Macoupin Creek at this location. Canopied locations along Macoupin Creek may provide foraging areas for the bat. However, there is an opening in the canopy over the creek where the existing railroad bridge crosses Macoupin Creek. No suitable trees for roosting or foraging were identified within the open area on either side of the railroad bridge.

Potential Indiana bat habitat is also found at Lake Rinaker south of Carlinville, IL (UPRR mile posts 225.44-225.00). The area contains snags to serve as bat roosts. The open canopy with 60% coverage over the road, in addition to the lake provides open areas for foraging.

4.3 STATE LISTED SPECIES

Requests for information about State listed species and Illinois Natural Area Inventory (INAI) and Illinois Nature Preserve (INP) locations within the project study limits for Macoupin and Sangamon Counties were submitted to the Illinois Department of Natural Resources Natural Heritage Database. The request was submitted through the IDNR Ecological Compliance Assessment Tool (EcoCAT) process. The EcoCAT response identified a total of four State listed plant species and two state listed animal

species that might occur in the vicinity of the project in Macoupin County. The plant species are Blazing Star (*Liatris scariosa* var. *nieulandii*); Bunchflower (*Melanthium virginicum);* Large Ground Plum (*Astragalus crassicarpus* var. *trichocalyx);* and Ear-Leafed Foxglove (*Tomanthera auriculata).* The two listed animal species are the Indiana bat (see Federal species) and Franklin's Ground Squirrel (*Spermophilus franklinii).*

4.3.1 STATE LISTED PLANT SPECIES

4.3.1.1 BLAZING STAR (*Liatris scariosa var.nieuwlandii*)

The IDNR database has species occurrence records of *Liatris scariosa var.nieuwlandii* in Township 8 N, Range 8 W in Macoupin County. Blazing star is found in prairies, savannas, or woodland edges. In Illinois, it is most often found in savannas with Bur Oak (*Quercus macrocarpa*) and big bluestem. The species can tolerate some disturbance and shade and occurs in well drained soils. Blooming period spans July thru October. The prairie remnants along the UPRR alignment in Macoupin County north of Shipman were surveyed in an attempt to locate blazing star. The species was not recorded in the field surveys within the railroad easement areas.

4.3.1.2 BUNCHFLOWER (*Melanthium virginicum*)

The IDNR database has species occurrence records for *Melanthium* in Township 8 N, Range 8 W in Macoupin County. Bunchflower is found in wet, mesic prairies with blooming period spanning June through August. The plant is rare in Illinois. The prairie and wet areas along the UPRR alignment at MP 234-236, MP 224-227, MP 215.55-218.65, MP 213.66-211.91, and MP 207.7 were surveyed for this species. The species was not found nor was it recorded in the railroad right-of-way or easement areas.

4.3.1.3 LARGE GROUND PLUM (*Astragalus crassicarpus var.*)

The IDNR database has species occurrence records for *Astragalus* in Township 9N in Macoupin County. The large ground plum prefers dry rocky prairies, gravel prairies, open woods and bluff tops. The plant is a perennial and blooms from May to June. See the INHS Reiher Barrens study for futher details.

4.3.1.4 EAR LEAFED FOXGLOVE (*Tomanthera auriculata).*

The IDNR database has species occurrence records for *Tomanthera* in Township 10 North in Macoupin County. The report titled, Threatened and Endangered Species, High Speed Rail, Chicago to St. Louis, 1999, noted an IDNR record for ear leafed foxglove near UPRR Mile Post 219.60 near Anderson. Ear leafed foxglove prefers dry to

moist prairies and can be found in open fallow fields, edges, or open woods. The plant can flower into mid-September with the fruits persisting until late fall or early winter. Prairie areas and open grassland locations along the UPRR alignment and within proposed easements and right-of-way were field surveyed for ear leafed foxglove. The location cited in the 1999 report was included in the field studies. The species was not found during the surveys.

4.3.2 STATE LISTED ANIMAL SPECIES

4.3.2.1 FRANKLIN'S GROUND SQUIRREL (*Spermophilus franklinii*).

The IDNR database has a species occurrence record for *Spermophilus* in Township 10 North in Macoupin County. Franklin's ground squirrel habitat includes grasslands, shrublands, and woodland edges. The squirrel habitat is usually taller grasses and weeds, providing protection from predation, and where they can dig burrows. They have been known to occur along railroad beds overgrown with grasses and shrubs. Burrow diameters range from 3-5 inches. The animal begins hibernation September through October and will emerge from hibernation in March or April. The species is rare and spends most of its life below ground making it difficult to observe. At the time the field surveys were conducted, Franklin's ground squirrel activity may have been decreasing due to the fall season. During the cover typing surveys, the shrubland and grassland areas were searched for evidence of burrows. Transects were walked through easements and right-of-way locations in search of potential burrows. No evidence of Franklin's ground squirrel activity was recorded.

4.4 ILLINOIS NATURE PRESERVES AND ILLINOIS NATURAL AREAS

Illinois Nature Preserves and Illinois Natural Areas were surveyed by the Illinois Natural History Survey, therefore, they are not included in this field report. Contact the Illinois Department of Transportation for the Biological Resources Report prepared by the INHS for these areas. The November 8, 2011 IDNR EcoCAT response letter from Steve Hamer (Appendix D), recommends the INHS conduct surveys for the Nature Preserves and INAI sites.

5.0 WATER QUALITY

Water conditions were visually assessed at stream crossings encountered by the UPRR right-of-way extending from IL Route 104 in Auburn to Shipman (north of UPRR MP 236.00). Drought conditions experienced in the region during late summer hindered visual assessments, as most channels were dry. Spring 2012 water quality surveys were

conducted as water levels were receding from flood stage, creating the problem of heavy silt loads in some streams, hindering visual assessments. Analytical testing for pollutants and microscopic analysis of water samples for algae/bacterial identification was not conducted.

5.1 METHODS

Streams and water bodies were assessed visually for water quality, clarity, stream vegetation, nutrient loads (excessive algae growth), and animal species. Sources of information utilized for the water quality field studies included the UPRR 30% plans for the Girard and Carlinville sidings, 7.5 minute United State Geological Survey (USGS) Quadrangle maps to identify named streams and their tributaries, the Final Environmental Impact Statement (FEIS), and Record of Decision (ROD). Photographs were taken at stream crossings (Appendix E Photographs).

5.2 DISCUSSION

Most of the drainages crossed by the UP HSR alignment within the limits of the 35.24 mile (MP 200.76-MP 236.00) study area are narrow and shallow. Several named streams are crossed by the alignment (See location map, Appendix A). The field studies were conducted in September 2011 when the area was experiencing drought conditions, and again in May 2012, immediately following a prolonged rain event. Very few of the crossings had flowing or standing water in the fall due to the lack of precipitation. Spring 2012 surveys were conducted as high flows were receding. Due to 1 inch plus of rainfall, stream water clarity was impaired from sediment load.

5.3 STREAMS

The streams crossed by the UPRR alignment are Sugar Creek and two of its tributaries, an unnamed tributary of Brush Creek, four unnamed tributaries of Otter Creek, two unnamed tributaries of Anderson Branch, a tributary of Briar Creek, Hurricane Creek, Macoupin Creek and May Branch of Macoupin Creek (Table 8, Stream Crossings). The following is a discussion of each of these water resources.

5.3.1 SUGAR CREEK and TRIBUTARIES

Sugar Creek and two of its branches, where the alignment crosses the creeks, were reviewed in the field. Both branches occur in the upper reaches of the Sugar Creek watershed in Sangamon County. All stream crossings by the railroad occur between Auburn and Thayer.

The northern branch of Sugar Creek is crossed south of Auburn Cemetery. The stream is entrenched (10-15 feet depth) with steep side slopes. Stream width is 20 feet from bank to bank. Water was present with a depth of approximately 2-4 feet. The water was clear and appeared to contain very little sediment, despite recent heavy rainfall. The channel bottom is composed of rock, cobble, sand, and sediment. No fish species were observed. There was little to no evidence of nutrient enrichment, however this may have been due to recent high flow conditions (surrounding land use is agricultural).

Vegetation was present along the banks of the stream near the railroad crossing structure. Vegetation on both sides consisted of identical plant species. Trees included hackberry and green ash, averaging 8-10 inch DBH. The shrub layer consisted of young hackberry, green ash, box elder, and poison ivy. Tree and shrub vegetation is limited to the riparian edge, with pasture ground and grasses surrounding areas further away from the channel. Immediately adjacent to the stream and railroad structure, canopy cover was estimated to be 10%.

Sugar Creek is crossed south of Auburn Cemetery and north of Thayer, IL. The stream is entrenched (15-20 feet depth) with steep side slopes. Stream width is 35-40 feet from bank to bank. Water was present with an estimated depth of approximately 4-6 feet. The water was sediment laden, likely a result of recent heavy rainfall. Based on observations of bank material composition, it is assumed the stream channel is sediment lined. No fish species were observed, but evidence on the bank (fishing tackle) indicates fish are present in the stream.

Vegetation was present along the banks of the stream near the railroad crossing structure. Vegetation on both sides consisted of identical plant species. Trees included silver maple, sycamore, hackberry, and green ash, averaging 10 inch DBH. One 28 inch DBH silver maple snag is present west of the UPRR right-of-way. The shrub layer consisted of young box elder and honeysuckle. Herbaceous vegetation includes reed canary grass, poison ivy, Virginia creeper, catbrier, snakeroot, wild onion, and stinging nettle. 60% canopy cover is present.

The south branch of Sugar Creek is crossed at the south side of Thayer, IL. The stream is entrenched (5-8 feet depth) with very gradual side slopes. Stream width is 5 feet from bank to bank. Water was present with an estimated depth of approximately 4-6 inches. The water was clear flowing through a gravel, sand, and sediment lined channel. No fish species were observe and minor nutrient enrichment was evident.

Vegetation was present along the banks of the stream near the railroad crossing structure. Vegetation on both sides consisted of identical plant species. Trees included willow, wild black cherry, hackberry, and slippery elm, averaging 8 inch DBH. The shrub layer consisted of young trees, honeysuckle, and blackberry. Herbaceous vegetation includes reed canary grass, large bed straw (*Galium boreale L.*), poison ivy, Queen Anne's lace, and ragweed. 5-10% canopy cover is present.

5.3.2 UNNAMED TRIBUTARY OF BRANCH CREEK

The unnamed tributary of Branch Creek, where the UPRR HSR alignment crosses the creek, was reviewed in the field. This tributary is located in the Sangamon watershed in Macoupin County.

The unnamed tributary of Branch Creek is crossed in the village of Virden, IL. The stream is entrenched (15 feet depth) with steep side slopes. Stream width is 15 feet from bank to bank. Water was present with an estimated depth of approximately 4-6 inches. The water was clear flowing through a cobble, gravel, sand, and sediment lined channel. No fish species were observed and nutrient enrichment was evident from algae growth on the rock in the channel.

Vegetation was present along the banks of the stream near the railroad crossing structure. The south side of the stream crossing contained hackberry and shingle oak, averaging 15.3 inch DBH. The north side of the stream crossing contained wild black cherry, slippery elm, and a silver maple snag. Living trees averaged 12.0 inch DBH and the snag measured 16 inch DBH. The shrub layer is identical on both sides of the stream and consisted of young silver maple and honeysuckle. Herbaceous vegetation is present on both sides, consisting of reed canary grass. 5% canopy cover is present.

5.3.3 UNNAMED TRIBUTARIES OF OTTER CREEK

The unnamed tributaries of Otter Creek, where the UPRR HSR alignment crosses the creeks, were reviewed in the field. These tributaries are located in the Macoupin watershed, between Virden and Girard in Macoupin County.

The first unnamed tributary of Otter Creek is crossed south of the village of Virden, IL. The stream is entrenched (10 feet depth) with steep side slopes. Stream width is 15 feet from bank to bank. Water was present with an estimated depth of approximately 6-8 inches. The water was clear, flowing through a sediment-lined channel. No fish species were observed and nutrient enrichment was evident.

Vegetation was present along the banks of the stream near the railroad crossing structure (limestone block material). The trees included black willow, wild black cherry, hackberry, and osage orange and averaged 14.67 inch DBH. The shrub layer consisted of elderberry and poison ivy. Herbaceous vegetation consisted of reed canary grass, wild parsnip, and fescue. 15% canopy cover is present.

The second unnamed tributary of Otter Creek is crossed south of Crown 2 Mine Road. The stream is dammed by UPRR embankment, with the overflow outlet located at the triple barrel culvert. The ponded water results in an emergent wetland area (discussed in further detail in the wetlands section of this report). The sediment load is high in this area due to the recent heavy rainfall and the surrounding agricultural land use beyond the limits of the surrounding trees. Water is currently 2-4 feet deep in the area immediately adjacent to the triple barrel culvert. Tree composition consists of silver maple and osage orange (see forest cover type discussion for further details). Herbaceous vegetation includes Queen Anne's lace, milkweed, smartweed, and American lotus.

The third unnamed tributary of Otter Creek is located south of Substation Road. The stream is entrenched (10 feet depth) with moderate to steep side slopes. Stream width is 18 feet from bank to bank. Water was present with an estimated depth of approximately 12-16 inches. The water was clear, flowing through a sediment-lined channel. No fish species were observed and nutrient enrichment was evident.

Vegetation along this stream crossing lacks trees. The herbaceous layer on the stream banks consists of reed canary grass, giant ragweed and Queen Anne's lace.

The fourth unnamed tributary of Otter Creek is located south of Substation Road, south of the previously discussed stream crossing. The stream is entrenched (10 feet depth) with moderate to steep side slopes. Stream width is 15 feet from bank to bank. Water was present with an estimated depth of approximately 12-16 inches. The water was clear, flowing through a sediment-lined channel. No fish species were observed and nutrient enrichment was evident in the form of algae attached to the channel substrate.

Vegetation along this stream crossing lacks trees. The herbaceous layer on the stream banks consists of reed canary grass, giant ragweed and Queen Anne's lace.

The fifth unnamed tributary of Otter Creek is located in the village of Girard. The stream is entrenched (10 feet depth) with steep side slopes. Stream width is 10 feet from bank to bank. Water was present with an estimated depth of approximately 8 inches.

The water was clear, flowing through a sediment-lined channel. No fish species were observe and nutrient enrichment was evident.

Vegetation along this stream crossing lacks trees. The shrub layer consisted of honeysuckle. Herbaceous vegetation consisted of reed canary grass.

5.3.4 ANDERSON BRANCH OF MACOUPIN CREEK & UNNAMED TRIBUTARY

Anderson Branch of Macoupin Creek and an unnamed branch of Anderson Branch, where the alignment crosses the creeks, were reviewed in the field. Anderson Branch and its unnamed tributary are in the upper reaches of Anderson Branch watershed in Macoupin County. Both crossings are located between Allen Road and Standard City Road.

Anderson Branch of Macoupin Creek is crossed south of Allen road. The stream is entrenched (10-15 feet depth) with steep side slopes. Stream width is 8 feet from bank to bank. Water was present with a depth of approximately 1 foot. The water was clear and appeared to contain very little sediment, despite recent heavy rainfall. The channel bottom is composed of rock, cobble, sand, and sediment. No fish species were observed. There was little to no evidence of nutrient enrichment, however this may have been due to recent high flow conditions (surrounding land use is agricultural).

Vegetation was present along the banks of the stream near the railroad crossing structure. Vegetation on both sides consisted of identical plant species. Trees included wild black cherry and white mulberry, averaging 7 inch DBH. The shrub layer consisted of poison ivy and blackberry. Herbaceous vegetation includes poison ivy and spiderwort. Immediately adjacent to the stream and railroad structure, canopy cover was estimated to be 20%.

The unnamed tributary of Anderson Branch of Macoupin Creek is crossed north of Standard City Road. The stream is entrenched (20 feet depth) with steep side slopes. Stream width is 21 feet from bank to bank. Water was present with a depth of approximately 18 inches. The water was clear and appeared to contain very little sediment, despite recent heavy rainfall. The channel bottom is composed of sediment and rip rap. No fish species were observed. There was little to no evidence of nutrient enrichment, however this may have been due to recent high flow conditions (surrounding land use is agricultural).

Vegetation was present along the banks of the stream near the railroad crossing structure. Vegetation on both sides consisted of identical plant species. Trees included

silver maple and slippery elm, averaging 9.5 inch DBH. The shrub layer consisted of blackberry and honeysuckle. Herbaceous vegetation includes poison ivy and spiderwort. Immediately adjacent to the stream and railroad structure, canopy cover was estimated to be 20%.

5.3.5 UNNAMED TRIBUTARY OF BRIAR CREEK

An unnamed tributary of Briar Creek, where the alignment crosses the creek, was reviewed in the field. The unnamed tributary of Briar Creek is located near the headwaters of Briar Creek south of Carlinville, IL in Macoupin County. The stream crossing is south of Carlinville, adjacent to Shipman Road.

The unnamed branch of Briar Creek is crossed south of Carlinville. The stream is entrenched (5 feet depth) with moderate to steep side slopes. Stream width is 8 feet from bank to bank. Water was present with a depth of approximately 1 foot at its deepest area. The water was clear and appeared to contain very little sediment, despite recent heavy rainfall. The channel bottom is composed of rock and sediment. No fish species were observed. There was little to no evidence of nutrient enrichment, however this may have been due to recent high flow conditions (surrounding land use is agricultural).

Vegetation was present along the banks of the stream near the railroad crossing structure. Trees are lacking from this stream crossing, likely due to regular maintenance from the railroad and Macoupin County highway department. The shrub layer consisted of honeysuckle. Herbaceous vegetation includes smart weed (*Polygonum* spp.), milkweed (*Asclepias* spp)., and Queen Anne's lace.

5.3.6 HURRICANE CREEK

Hurricane Creek, where the alignment crosses the creek, was reviewed in the field. Hurricane Creek is located north of Macoupin Station in Macoupin County, Illinois. The stream crossing is immediately east of Shipman Road.

Hurricane Creek is crossed north of Macoupin Station. The stream is entrenched (10 foot depth) with steep side slopes. Stream width is 30 feet from bank to bank. Water was present with a depth of approximately 3-5 feet. The water was sediment laden due to recent heavy rainfall. The channel bottom is composed of sediment (assumption based upon visual analysis of stream banks above the water line). No fish species were observed. There was little to no evidence of nutrient enrichment, however this may have been due to recent high flow conditions (surrounding land use is agricultural).

Vegetation was present along the banks of the stream near the railroad crossing structure. Silver maple is the dominant tree, with a 15 inch DBH. The shrub layer consisted of honeysuckle and blackberry. Herbaceous vegetation includes poison ivy and fescue.

5.3.7 MACOUPIN CREEK

Macoupin Creek, where the alignment crosses the creek, was reviewed in the field. Macoupin Creek is located south/southwest of Macoupin Station in Macoupin County, Illinois. The stream crossing was reviewed from the Lake Catatoga Road bridge over the creek.

Macoupin Creek is crossed south/southwest of Macoupin Station. The stream is entrenched (15-20 foot depth) with steep side slopes. Stream width is 45 feet from bank to bank. Water was present with a depth of approximately 3-6 feet. The water was sediment laden due to recent heavy rainfall. The channel bottom is composed of sediment (assumption based upon visual analysis of stream banks above the water line). No fish species were observed. There was little to no evidence of nutrient enrichment, however this may have been due to recent high flow conditions (surrounding land use is agricultural).

Vegetation was present along the banks of the stream near the railroad crossing structure. Silver maple and hackberry are the dominant trees, with a 22 inch DBH. The shrub layer consisted of honeysuckle and blackberry. Herbaceous vegetation includes poison ivy and fescue.

5.3.8 MAY BRANCH OF MACOUPIN CREEK

May Branch of Macoupin Creek, where the alignment crosses the creek, was reviewed in the field. May Branch of Macoupin Creek is located south of Beaver Dam State Park in Macoupin County, Illinois. The stream crossing was reviewed from the toe of UPRR embankment slope at the UPRR bridge structure crossing the creek.

May Branch of Macoupin Creek is crossed south of Beaver Dam State Park. The stream is entrenched (15 foot depth) with moderate side slopes. Stream width is 45 feet from bank to bank. Water was present with a depth of approximately 2 inches to 2 feet. The water was extremely clear, with no apparent sediment load. The channel bottom is composed of sand and gravel with occasional shale and igneous rock (likely from railroad). The channel exhibits characteristics of a braided stream, including numerous sandbars and smaller channels. No fish species were observed. There was little to no

evidence of nutrient enrichment. Forested wetland surrounds the creek channel, possibly filtering out nutrients prior to runoff entering the creek.

Vegetation was present along the banks of the stream near the railroad crossing structure. Buckeye and cottonwood are the dominant trees, with a 17.5 inch DBH. The canopy is open with no dead trees immediately at the toe of UPRR embankment slope. The shrub layer consisted of bladdernut, green ash and elms. Herbaceous vegetation includes poison ivy and spiderwort.

6.0 WETLANDS

The study area for the field surveys was targeted to those areas where new right-of-way or access easements were proposed between Auburn and Shipman as indicated on 30% plans for the Girard and Carlinville sidings. All other areas not covered by 30% plans were assessed to approximately 100 feet in both directions from the center line of the main UPRR track. The acquisition areas designated on the UPRR 30% plans were field reviewed and surveyed for the presence of wetlands, along with all areas falling within 100 feet of the centerline of the track. The length and width of any wetland locations were recorded. During the field surveys, wetland investigations were conducted based upon Army Corps of Engineers Methodology. The wetlands are defined using the classification system developed by Cowardin et al. (1979).

Prior to initiating field work, the USFWS National Wetland Inventory (NWI) Maps; UPRR 30% plans; aerial imagery; the Wetland Technical Report for the High Speed Rail Project, Chicago to St. Louis (1999); and the Natural Resource Conservation Service's (NRCS) county soil surveys for Sangamon and Macoupin counties were consulted. Wetland locations indicated on the UPRR 30% plans were field verified and any new wetland or wetland location deviation was recorded. Due to preparation of NWI maps from "high altitude imagery in conjunction with collateral data sources and field work", a margin of error exists in use of this data. Therefore, if an NWI wetland was located close to 100 feet of the UPRR rail centerline, it was considered for review due to potential location errors. The wetland reviews for the area between Auburn and Shipman were conducted the week of September 22, 23, 29, and 30, 2011 and May 8, 2012.

Plant species and hydrology were recorded for each location identified. The soils were identified using the NRCS county soils classification system. Eleven wetland sites were identified within the proposed right-of-way/access easements or within 100 feet of centerline of UPRR track (Table 9 Wetlands). Additional wetland

identification/delineations are being conducted by a UPRR consultant for the various project Tiers.

Three types of wetlands were recorded for the Auburn to Shipman segment of the HSR project. Two palustrine emergent, six palustrine forested, and three palustrine unconsolidated bottom (diked/impounded/excavated) wetlands were identified during the field studies and NWI review. The wetland areas were recorded by mile post for accuracy and are depicted in the cover type map (Appendix C, Cover Type Map). Three of the palustrine forested wetlands were not field verified due to lack of access and the late season when the survey was conducted. Time constraints and lack of access only permitted one field verification of a forested wetland in the vicinity of Hawkeye Road in the Spring of 2012.

6.1 WETLAND 1 (Mile Post 208.50 - 209)

Wetland 1 is located west of the UPRR right-of-way in the general location where the Burlington Northern Santa Fe Railroad and UPRR rights-of-way diverge/converge, north of Girard, Illinois. The UPRR 30% plans indicate ROW acquisition is planned for the agricultural land located north of the open wetland area and additional ROW acquisition is planned for the forested wetland area located immediately south of the open wetland. The overall wetland is a combination of open water dominated by American lotus and forested wetland dominated by silver maple. Occasional species include black willow, hedge apple, cottonwood, American elm, and river birch (within the forested wetland portion). Standing water was not present during the field survey but soil conditions and vegetation were indicative of past standing water (mud cracks, American lotus, and bladderwort growing on the soil in shaded areas). The wetland would be categorized as both palustrine with an unconsolidated bottom and palustrine forested. The presence of American lotus indicates water depths were three to four feet in the open wetland area, prior to the onset of drought conditions. The wetland is the result of human activities from diking/impoundment.

6.2 WETLAND 2 (Mile Post 211.03)

Wetland 2 is located on the west side of the alignment and is depicted as open water in the UPRR 30% plans. The wetland is 0.54 acres in size, located south of West South Street in Girard, Illinois. Standing water was present, despite drought conditions. The water had a green tint indicating excessive algal growth, with silver maple and black willow along the margins of open water to the toe of the ballast on UPRR ROW. No part of the wetland occurs on UPRR ROW. Land south of the wetland was planted in

row crops. The wetland is categorized as palustrine with an unconsolidated bottom. The wetland is the result of human activities from diking/impoundment.

6.3 WETLAND 3 (Mile Post 211.85)

Wetland 3, located south of Cambridge Road and west of UPRR ROW, occurs along both sides of the abandoned railroad bed between the UPRR and Illinois Route 4. The UPRR 30% plans indicate right-of-way is to be acquired along this segment, including the wetland area located between the existing UPRR ROW and the abandoned railroad ROW. The wetland is approximately 485 feet in length and 25 feet wide (with tapering width on the northernmost 100 feet). Dominant plant species are sedges, cattail, black willow, and reed canary grass. Standing water was not present, likely due to drought conditions. The soil conditions indicated past saturation. The wetland is categorized as palustrine emergent.

6.4 WETLAND 4 (Mile Post 212.7)

Wetland 4 is located north of Greenridge Road, on the east side of the UPRR ROW. The NWI map indicated two distinct palustrine, unconsolidated bottom wetlands due to excavation by humans. However, field reviews determined the two wetlands to be one continuous wetland consisting of two open water areas. A dense growth of phragmites separated the two open water areas. The wetland follows a northeast/southwest trend parallel to the UPRR ROW. NWI maps indicated total acreage for these two sites to be 1.37 acres but field review indicates approximately 1.60 acres. In addition to phragmites, dominant species include duckweed in the areas of open water, with silver maple, honeysuckle, red cedar, and black locust along the margins of the wetland. Standing water was present in the north and south portions of the wetland. The phragmites indicates moist soil conditions located between areas of open water. Overall, the wetland is categorized as Palustrine with an unconsolidated bottom.

6.5 WETLAND 5 (Mile Post 214.76)

Wetland 5 is located south of Nilwood, Illinois, on the west side of the UPRR ROW. The wetland follows a northeast/southwest trend parallel to the UPRR ROW. The wetland is 2.23 acres in size. Dominant species include black willow, smartweed, cottonwood, mulberry, and honeysuckle. Occasional species include hackberry, black walnut, and blackberry. Standing water was not present, likely due to the late summer /early fall season and drought conditions. The wetland is categorized as palustrine emergent, seasonally flooded.

6.6 WETLAND 6 (Mile Post 212.55 – 218.05)

Wetland 6 is a cluster of five smaller wetlands (Mile Post 212.55A, B, C, D from the wetland report dated 1999 for the Chicago to St. Louis high speed rail corridor , and on the NWI map) located in the area of Bray and Allen roads south of Nilwood, Illinois, along the UPRR ROW on the west side of the tracks. The wetlands exist in the area between the existing UPRR ROW and abandoned railroad right-of-way. The wetlands follow a northeast/southwest trend, parallel to the UPRR ROW.

The previously described wetlands are categorized as palustrine emergent with an over all area of approximately 0.27 acres. Dominant species include smartweed, cattail, foxtail, Johnson grass, buttonbush, honeysuckle, staghorn sumac, and occasional cottonwoods. Standing water was not present in any of the wetland areas previously mentioned in environmental reports. Lack of standing water is likely due to drought conditions at the time of the field review. Field observations revealed culverts under Bray Road and Allen Road had been blocked, preventing drainage of the area.

In addition to the four palustrine emergent wetlands described in the previous environmental survey, the NWI map for the area indicated a palustrine forested, temporarily flooded, wetland is present. Field reviews verified the 1.22 acre forested wetland to be present in this UPRR mile post range. Standing water was not present at the time of the field review, likely due to drought conditions during the fall 2011 season. Dominant species included honeysuckle and cottonwood along the margins with buttonbush dominant in the center area.

6.7 WETLAND 7

Wetland 7 is an NWI indicated wetland area consisting of multiple wetland classifications located northeast of Macoupin Station, Illinois, on the southeast side of the UPRR ROW. The NWI map indicated two distinct palustrine forested wetlands, one seasonally flooded and one temporarily flooded. Field reviews were not conducted for this 3.58 acre area due to lack of access via roads and due to the late season field review. Due to time constraints and lack of access, this area was not field verified in the spring 2012 field surveys. It is assumed the wetland is located at the toe of slope on UPRR right-of-way, as observed east of the UPRR ROW at Hawkeye Road.

6.8 WETLAND 8

Wetland 8 is an NWI indicated, field verified, wetland area consisting of temporarily flooded, forested wetland along Macoupin Creek, located south of Beaver Dam State

Park. Field review conducted for this 36.26 acre area was limited to the immediate vicinity of Lake Catatoga Road and the UPRR bridge structure over Macoupin Creek. Dominant plant species include silver maple, sunflower, cup plant, common hops, and black willow. The wetland is a palustrine forested wetland, experiencing inundation during periods of high water in the Macoupin Creek floodplain.

6.9 WETLAND 9

Wetland 9 is an NWI indicated wetland area located west of Newby Road. The NWI map indicated a palustrine forested wetland, temporarily flooded, east of the UPRR ROW. Field review of this wetland was conducted in May 2012 for this 17.35 acre wetland (three sample areas were reviewed). Surveys were conducted north to May Branch of Macoupin Creek and approximately 200 feet south of the abandoned road bed for Hawkeye Road, east of the UPRR right-of-way. This wetland is dominated by cottonwood, slippery elm, and box elder. Silver maple is more common at the south end. Average DBH for all trees is 12.86 inches. Shrub layer is lacking in areas (likely due to scouring during high water) or contains young box elder, silver maple, cottonwood, and slippery elm. Shrub layer stems per sampling area range from 0 to 40, depending on sampling plot. Herbaceous vegetation includes horsetail, wild ginger, stinging nettle, and poison ivy.

6.10 WETLAND 10 and 11

Wetland 10 and Wetland 11 are both forested wetlands located south of and contiguous to wetland 9. NWI maps indicate these are both palustrine forested wetlands, temporarily flooded. Sampling at wetland 9 and field observations indicated that wetlands 10 and 11 contain vegetation similar to wetland 9. Therefore, plant species composition is uniform throughout the 3 forested wetland locations.

TABLES

CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT

TIER 2 – AUBURN TO SHIPMAN, ILLINOIS

REPORT FOR FALL FIELD STUDIES

TABLE 1 (6 PAGES)

AUBURN TO SHIPMAN TO TREE SURVEY

TABLE 1
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011

Tree #	W or E Offset	Station or UPRR MP	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
1	W	12450+00	17	Silver Maple (*Acer saccharinum*)	V	13 trees in north forested wetland area at Coop Branch
2	W	12450+00	N/A	Snag	V	1 snag in north forested wetland area at Coop Branch
3	W	12450+00	8	American Elm (*Ulmus americana*)	V	10 trees in north forested wetland area at Coop Branch
4	W	12450+00	22	Cottonwood (*Populus deltoides*)	V	2 trees in north forested wetland area at Coop Branch
5	W	12453+00	12	Cottonwood (*Populus deltoides*)	V	19 trees in south forested wetland area at Coop Branch
6	W	12453+00	18	Cottonwood (*Populus deltoides*)	V	3 trees in south forested wetland area at Coop Branch
7	W	12453+00	9.5	American Elm (*Ulmus americana*)	V	4 trees in south forested wetland area at Coop Branch
8	W	12458+00 to 12450+00	N/A	Silver Maple (*Acer saccharinum*)	V	Trees found in the forested wetland south of Coop Branch, area further south of trees 5-7. Area is across from Kelly Road.
				American Elm (*Ulmus americana*)		
				Cottonwood (*Populus deltoides*)		
				Box Elder (*Acer negundo*)		
				Snag (*Species unknown*)		
				Basswood (*Tilia americana*)		
				Green Ash (*Fraxinus subintegerrima*)		
				Wild Black Cherry (*Prunus serotina*)		
				Sycamore (*Platanus occidentalis*)		
	E			Black Oak (*Quercus velutina*)	V	Trees found on east side of tracks, opposite forested wetland area at Kelly Road. Observation made at southern limit of area.
				White Oak (*Quercus alba*)		
				Green Ash (*Fraxinus subintegerrima*)		
				American Elm (*Ulmus americana*)		
				Wild Black Cherry (*Prunus serotina*)		
				Sycamore (*Platanus occidentalis*)		

[a] Size: MS=Multi-stem
Origin: V=Volunteer,
[b] L=Landscape

TABLE 1
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011

Tree #	W or E Offset	Station or UPRR MP	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
9	E	N/A	35	White Oak (*Quercus alba*)	V	11 trees sampled in sample point 1, north of the forested wetland area. 100'x100' area. Approximate MP 235.5
10	E	N/A	13.8	White Oak (*Quercus alba*)	V	
11	E	N/A	13.8	White Oak (*Quercus alba*)	V	
12	E	N/A	13.8	White Oak (*Quercus alba*)	V	
13	E	N/A	35	White Oak (*Quercus alba*)	V	
14	E	N/A	7.5	White Oak (*Quercus alba*)	V	
15	E	N/A	7.5	Yellow Bud Hickory (*Carya cordiformis*)	V	
16	E	N/A	7.5	Yellow Bud Hickory (*Carya cordiformis*)	V	
17	E	N/A	7.5	Yellow Bud Hickory (*Carya cordiformis*)	V	
18	E	N/A	7.5	Green Ash (*Fraxinus subintegerrima*)	V	
19	E	N/A	7.5	American Elm (*Ulmus americana*)	V	
20	E	N/A	30.4	White Oak (*Quercus alba*)	V	23 trees sampled in sample point 2. 100'x100' area. Approximate MP 235.1
21	E	N/A	21.3	White Oak (*Quercus alba*)	V	
22	E	N/A	10.1	White Oak (*Quercus alba*)	V	
23	E	N/A	10.2	White Oak (*Quercus alba*)	V	
24	E	N/A	11.1	White Oak (*Quercus alba*)	V	
25	E	N/A	12.6	White Oak (*Quercus alba*)	V	
26	E	N/A	7.6	White Oak (*Quercus alba*)	V	
27	E	N/A	11.5	White Oak (*Quercus alba*)	V	
28	E	N/A	9	Black Oak (*Quercus velutina*)	V	
29	E	N/A	20	Black Oak (*Quercus velutina*)	V	
30	E	N/A	9.3	Black Oak (*Quercus velutina*)	V	
31	E	N/A	14.1	Black Oak (*Quercus velutina*)	V	
32	E	N/A	11.8	Black Oak (*Quercus velutina*)	V	
33	E	N/A	21.2	Black Oak (*Quercus velutina*)	V	

[a] Size: MS=Multi-stem
Origin: V=Volunteer,
[b] L=Landscape

TABLE 1
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
34	E	N/A	8.1	Black Oak (*Quercus velutina*)	V	See previous page
35	E	N/A	14.3	Black Oak (*Quercus velutina*)	V	
36	E	N/A	16.6	Black Oak (*Quercus velutina*)	V	
37	E	N/A	22.5	Black Oak (*Quercus velutina*)	V	
38	E	N/A	6.1	Yellow Bud Hickory (*Carya cordiformis*)	V	
39	E	N/A	N/A	Snag	V	
40	E	N/A	12.6	American Elm (*Ulmus americana*)	V	
41	E	N/A	10.8	Shagbark Hickory (*Carya ovata*)	V	
42	E	N/A	13	Shagbark Hickory (*Carya ovata*)	V	
43	W	MP 226 11930+00 to 11903+00	N/A	Black Walnut (*Juglans nigra*)	V	Location is south of Carlinville, at a private campground/sportsman club. North of Malham's Orchard.. Potential bat habitat. See Tree/Vegetation Survey Table for Lake Rinaker for detailed tree information.
			N/A	White Oak (*Quercus alba*)		
			N/A	Shagbark Hickory (*Carya ovata*)		
			N/A	Snag		
			N/A	Black Oak (*Quercus velutina*)		
44	W	N/A	N/A	Cottonwood (*Populus deltoides*)	V	Tree common along UP RR and abandoned RR ROW bed, south of Bray Rd in Macoupin County. (photos). Approximate MP 217.5
			N/A	Silver Maple (*Acer saccharinum*)		
			N/A	Green Ash (*Fraxinus subintegerrima*)		
45	W	N/A	N/A	Red Mulberry (*Morus rubra*)	V	Trees south of Nilwood in Macoupin County along west side of UP RR ROW. Approximate MP 215.5
			N/A	Cottonwood (*Populus deltoides*)		
			N/A	Silver Maple (*Acer saccharinum*)		
			N/A	Hackberry (*Celtis occidentalis*)		
			N/A	Black Walnut (*Juglans nigra*)		

[a] Size: MS=Multi-stem
Origin: V=Volunteer,
[b] L=Landscape

TABLE 1
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
45	W	N/A	N/A	White Pine (*Pinus strobus*)	L	See previous comment for tree 45

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 1
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
46	W	MP 213.75 Stationing 11280+00 to 11278+00	9	Wild Black Cherry (*Prunus serotina*)	V	Sample point on north side of Nilwood along west side of UP RR ROW and following abandoned RR ROW bed. 35'x200' sample plot. (photos).
47	W		5.9	Wild Black Cherry (*Prunus serotina*)	V	
48	W		MS 7	Wild Black Cherry (*Prunus serotina*)	V	
49	W		6.8	Wild Black Cherry (*Prunus serotina*)	V	
50	W		8.6	Wild Black Cherry (*Prunus serotina*)	V	
51	W		6.2	Wild Black Cherry (*Prunus serotina*)	V	
52	W		6.9	Wild Black Cherry (*Prunus serotina*)	V	
53	W		6.8	Wild Black Cherry (*Prunus serotina*)	V	
54	W		8.8	Wild Black Cherry (*Prunus serotina*)	V	
55	W		9.1	Wild Black Cherry (*Prunus serotina*)	V	
56	W		7.8	Hedge Apple (*Maclura pomifera*)	V	
57	W		6	Hedge Apple (*Maclura pomifera*)	V	
58	W		15	Hedge Apple (*Maclura pomifera*)	V	
59	W		7.3	Hedge Apple (*Maclura pomifera*)	V	
60	W		7.8	Hackberry (*Celtis occidentalis*)	V	
61	W		7	Hackberry (*Celtis occidentalis*)	V	
62	W		8.3	Hackberry (*Celtis occidentalis*)	V	
63	W		11	Hackberry (*Celtis occidentalis*)	V	
64	W		7.4	Hackberry (*Celtis occidentalis*)	V	
65	W		6	Hackberry (*Celtis occidentalis*)	V	
66	W		6.5	Hackberry (*Celtis occidentalis*)	V	
67	W		10	Black Walnut (*Juglans nigra*)	V	
68	W		12.8	Black Walnut (*Juglans nigra*)	V	
69	W		12	American Elm (*Ulmus americana*)	V	
70	W		9.4	Red Mulberry (*Morus rubra*)	V	

[a] Size: MS=Multi-stem
Origin: V=Volunteer,
[b] L=Landscape

TABLE 1
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
71	W	MP 213.5 to 212.75 Stationing11270+00 to 11231+00		Hedge Apple (*Maclura pomifera*)	V	Possible tree survey site. Located along IL Route 4 between Green Ridge Rd and approximately 0.5 miles north of Nilwood. Average dbh is 10-13″
				Silver Maple (*Acer saccharinum*)	V	
				Cottonwood (*Populus deltoides*)	V	

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 2 (6 PAGES)

AUBURN TO SHIPMAN WETLAND TREE SURVEY

TABLE 2

Tree Survey Form

High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011

Tree Survey for Wetland and Wooded Area 11008+00 to11015+00 (Stationing Approximate)

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
1	E	11008+25	MS	Silver Maple (*Acer saccharinum*)	V	21" avg dbh
2	E	11008+50	21.8	Silver Maple (*Acer saccharinum*)	V	
3	E	11008+75	18	Silver Maple (*Acer saccharinum*)	V	
4	E	11009+25	MS	Silver Maple (*Acer saccharinum*)	V	14: avg dbh
5	E	11009+50	9	Silver Maple (*Acer saccharinum*)	V	
6	E	11009+75	18	Silver Maple (*Acer saccharinum*)	V	
7	E	11010+00	21	Silver Maple (*Acer saccharinum*)	V	
8	E	11010+00	16	Silver Maple (*Acer saccharinum*)	V	
9	E	11010+25	11	Hedge Apple (*Maclura pomifera*)	V	
10	E	11010+25	9	Hedge Apple (*Maclura pomifera*)	V	
11	E	11010+50	8.8	Silver Maple (*Acer saccharinum*)	V	
12	E	11010+50	12	Silver Maple (*Acer saccharinum*)	V	
13	E	11010+50	16.2	Silver Maple (*Acer saccharinum*)	V	
14	E	11010+50	17.2	Silver Maple (*Acer saccharinum*)	V	
15	E	11010+75	MS	Silver Maple (*Acer saccharinum*)	V	22" avg dbh
16	E	11010+75	6.3	Silver Maple (*Acer saccharinum*)	V	
17	E	11010+75	15.3	Silver Maple (*Acer saccharinum*)	V	
18	E	11010+75	6.2	Hedge Apple (*Maclura pomifera*)	V	
19	E	11010+75	24	Silver Maple (*Acer saccharinum*)	V	
20	E	11010+75	17.2	Silver Maple (*Acer saccharinum*)	V	
21	E	11011+00	11.2	Silver Maple (*Acer saccharinum*)	V	
22	E	11011+00	13.2	Silver Maple (*Acer saccharinum*)	V	
23	E	11011+00	12.2	Silver Maple (*Acer saccharinum*)	V	
24	E	11011+00	9.8	Hedge Apple (*Maclura pomifera*)	V	
25	E	11011+25	7.3	Silver Maple (*Acer saccharinum*)	V	

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 2
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011
Tree Survey for Wetland and Wooded Area 11008+00 to11015+00 (Stationing Approximate)

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
26	E	11011+25	10.4	Silver Maple (*Acer saccharinum*)	V	
27	E	11011+25	MS	Silver Maple (*Acer saccharinum*)	V	12.8″ & 9.8″ dbh
28	E	11011+50	MS	Hedge Apple (*Maclura pomifera*)	V	8.0″ & 12.0″ dbh
29	E	11011+50	8.2	Silver Maple (*Acer saccharinum*)	V	
30	E	11011+50	14	Silver Maple (*Acer saccharinum*)	V	
31	E	11011+50	13.6	Snag	V	Species not identified
32	E	11011+75	MS	Silver Maple (*Acer saccharinum*)	V	20.5″, 8.3″, 11.2″, 9.3″ dbh
33	E	11011+75	7.4	Silver Maple (*Acer saccharinum*)	V	
34	E	11011+75	13.2	Black Willow (*Salix nigra*)	V	
35	E	11011+75	MS	Silver Maple (*Acer saccharinum*)	V	10.0″, 14.0″ dbh
363	E	11012+00	20	Silver Maple (*Acer saccharinum*)	V	
37	E	11012+00	8	Snag	V	Species not identified
38	E	11012+00	14	Silver Maple (*Acer saccharinum*)	V	
39	E	11012+00	7.5	Silver Maple (*Acer saccharinum*)	V	
40	E	11012+00	7	Silver Maple (*Acer saccharinum*)	V	
41	E	11012+00	8.1	Silver Maple (*Acer saccharinum*)	V	
42	E	11012+25	10.2	Silver Maple (*Acer saccharinum*)	V	
43	E	11012+25	12.5	Silver Maple (*Acer saccharinum*)	V	
44	E	11012+25	MS	Silver Maple (*Acer saccharinum*)	V	7.5″, 6.0″, 18.5″, 18.5″ dbh
45	E	11012+50	12	Silver Maple (*Acer saccharinum*)	V	
46	E	11012+50	9	Silver Maple (*Acer saccharinum*)	V	
47	E	11012+50	16	Silver Maple (*Acer saccharinum*)	V	
48	E	11012+50	MS	Silver Maple (*Acer saccharinum*)	V	16.0″, 13.6″, 11.2″, 14.4″ dbh
49	E	11012+50	MS	Hedge Apple (*Maclura pomifera*)	V	8″ & 9″dbh
50	E	11012+75	MS	Silver Maple (*Acer saccharinum*)	V	6.5″ & 8.2″dbh

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 2
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011
Tree Survey for Wetland and Wooded Area 11008+00 to11015+00 (Stationing Approximate)

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
51	E	11012+75	7.2	Wild Black Cherry (Prunus Serotina)	V	Snag
52	E	11012+75	MS	Silver Maple (*Acer saccharinum*)	V	16.4", 15.0", 7.8" dbh
53	E	11012+75	9.3	American Elm (*Ulmus americana*)	V	
54	E	11013+00	12.5	Silver Maple (*Acer saccharinum*)	V	
55	E	11013+00	8.3	Silver Maple (*Acer saccharinum*)	V	
56	E	11013+00	MS	Silver Maple (*Acer saccharinum*)	V	12.4", 15.6" dbh
57	E	11013+00	12.8	Silver Maple (*Acer saccharinum*)	V	
58	E	11013+00	7.2	American Elm (*Ulmus americana*)	V	
59	E	11013+00	6.5	Silver Maple (*Acer saccharinum*)	V	
60	E	11013+25	6	Silver Maple (*Acer saccharinum*)	V	
61	E	11013+25	9.3	Red Mulberry (*Morus rubra*)	V	
62	E	11013+25	20	Silver Maple (*Acer saccharinum*)	V	
63	E	11013+25	10	Silver Maple (*Acer saccharinum*)	V	
64	E	11013+25	7.7	Silver Maple (*Acer saccharinum*)	V	
65	E	11013+25	20	Silver Maple (*Acer saccharinum*)	V	
66	E	11013+50	MS	Silver Maple (*Acer saccharinum*)	V	11.6", 9.0" dbh
67	E	11013+50	9	American Elm (*Ulmus americana*)	V	Snag
68	E	11013+50	13	American Elm (*Ulmus americana*)	V	
69	E	11013+50	MS	Silver Maple (*Acer saccharinum*)	V	12.8" average dbh
70	E	11013+50	10	Red Mulberry (*Morus rubra*)	V	
71	E	11013+75	14.5	Silver Maple (*Acer saccharinum*)	V	
72	E	11013+75	8.8	Silver Maple (*Acer saccharinum*)	V	
73	E	11013+75	15.8	Silver Maple (*Acer saccharinum*)	V	
74	E	11013+75	18.9	Silver Maple (*Acer saccharinum*)	V	
75	E	11013+75	15.8	Silver Maple (*Acer saccharinum*)	V	

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 2
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011
Tree Survey for Wetland and Wooded Area 11008+00 to11015+00 (Stationing Approximate)

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
76	E	11013+75	11.5	Silver Maple (*Acer saccharinum*)	V	
77	E	11013+75	7.6	Silver Maple (*Acer saccharinum*)	V	
78	E	11013+75	10.8	Silver Maple (*Acer saccharinum*)	V	
79	E	11014+00 to 11017+00	32.8	Cottonwood (*Populus deltoiodes*)	V	Start of forested wetland, south of open wetland
80	E		7.2	American Elm (*Ulmus americana*)	V	
81	E		7.7	American Elm (*Ulmus americana*)	V	
82	E		16.9	Silver Maple (*Acer saccharinum*)	V	
83	E		10.5	Silver Maple (*Acer saccharinum*)	V	
84	E		10.6	Silver Maple (*Acer saccharinum*)	V	
85	E		10.7	Silver Maple (*Acer saccharinum*)	V	
86	E		14	Silver Maple (*Acer saccharinum*)	V	
87	E		17.5	Silver Maple (*Acer saccharinum*)	V	
88	E		14.6	Silver Maple (*Acer saccharinum*)	V	
89	E		13.8	Snag	V	Species not identified
90	E		10	Hedge Apple (*Maclura pomifera*)	V	
91	E		MS	Silver Maple (*Acer saccharinum*)	V	28.3 average dbh
92	E		10	Silver Maple (*Acer saccharinum*)	V	
93	E		24.5	Silver Maple (*Acer saccharinum*)	V	
94	E		9.8	Silver Maple (*Acer saccharinum*)	V	
95	E		13.4	Silver Maple (*Acer saccharinum*)	V	
96	E		24.2	Silver Maple (*Acer saccharinum*)	V	
97	E		8.8	Hackberry (*Celtis occidentalis*)	V	
98	E		7.5	Hackberry (*Celtis occidentalis*)	V	
99	E		MS	Silver Maple (*Acer saccharinum*)	V	9.3", 9.8", 8.0" dbh
100	E		MS	Silver Maple (*Acer saccharinum*)	V	36.4 average dbh

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 2
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011
Tree Survey for Wetland and Wooded Area 11008+00 to11015+00 (Stationing Approximate)

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
101	E	See Sheet 4 of 6 for Stationing	MS	Silver Maple (*Acer saccharinum*)	V	38" average dbh
102	E		MS	Hedge Apple (*Maclura pomifera*)	V	8.3 average dbh
103	E		MS	Hedge Apple (*Maclura pomifera*)	V	6.0", 7.5" dbh
104	E		MS	Hedge Apple (*Maclura pomifera*)	V	9.5" average dbh
105	E		12.8	River Birch (*Betula nigra*)	V	
106	E		9.4	River Birch (*Betula nigra*)	V	
107	E		MS	Silver Maple (*Acer saccharinum*)	V	7.3" average dbh
108	E		9.6	Silver Maple (*Acer saccharinum*)	V	
109	E		MS	Silver Maple (*Acer saccharinum*)	V	11.5", 10.3" dbh
110	E		10.8	Hedge Apple (*Maclura pomifera*)	V	
111	E		10.5	Silver Maple (*Acer saccharinum*)	V	
112	E		8.7	American Elm (*Ulmus americana*)	V	
113	E		7.2	Silver Maple (*Acer saccharinum*)	V	
114	E		30.3	Silver Maple (*Acer saccharinum*)	V	
115	E		8.7	Silver Maple (*Acer saccharinum*)	V	
116	E		14	Silver Maple (*Acer saccharinum*)	V	
117	E		10.3	River Birch (*Betula nigra*)	V	
118	E		7.3	River Birch (*Betula nigra*)	V	
119	E		18.5	River Birch (*Betula nigra*)	V	
120	E		17.6	Silver Maple (*Acer saccharinum*)	V	
121	E		8.8	Silver Maple (*Acer saccharinum*)	V	
122	E		15.2	Silver Maple (*Acer saccharinum*)	V	
123	E		12.2	Silver Maple (*Acer saccharinum*)	V	
124	E		7.5	Silver Maple (*Acer saccharinum*)	V	
125	E		12.7	Hedge Apple (*Maclura pomifera*)	V	

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 2
Tree Survey Form
High Speed Rail-Chicago to St. Louis (Auburn to Shipman Segment) September 2011
Tree Survey for Wetland and Wooded Area 11008+00 to11015+00 (Stationing Approximate)

Tree #	W or E Offset	UPRR Mile Post	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
126	E	See Sheet 4 for Stationing	MS	Silver Maple (*Acer saccharinum*)	V	15.3", 15.3", 10.8 ", 9.0" dbh
127	E		15.2	Silver Maple (*Acer saccharinum*)	V	
128	E		12.2	Silver Maple (*Acer saccharinum*)	V	
129	E		7.5	Silver Maple (*Acer saccharinum*)	V	
130	E		18.5	River Birch (*Betula nigra*)	V	
131	E		17.6	Silver Maple (*Acer saccharinum*)	V	
132	E		8.8	Silver Maple (*Acer saccharinum*)	V	
133	E		8.7	Silver Maple (*Acer saccharinum*)	V	
134	E		14	Silver Maple (*Acer saccharinum*)	V	
135	E		7.3	River Birch (*Betula nigra*)	V	
136	E		10.3	River Birch (*Betula nigra*)	V	
137	E		8.7	American Elm (*Ulmus americana*)	V	
138	E		7.2	Silver Maple (*Acer saccharinum*)	V	
139	E		30.3	Silver Maple (*Acer saccharinum*)	V	
140	E		10.5	Silver Maple (*Acer saccharinum*)	V	

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 3 (6 PAGES)
SHRUB AND VEGETATION, AUBURN TO SHIPMAN, ILLINOIS

TABLE 3
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
SHRUB AND HERBACEOUS VEGETATION

CORRESPONDING TREE NO.	W OR E OFFSET	STATION OR RR MP *	SHRUB LAYER VEGETATION	HERBACEOUS LAYER VEGETATION	COMMENTS
Trees 1-8	W	12450+00 to 12458+00	Silver Maple (*Acer saccharinum*)	Cup Plant (*Silphium perfoliatum*)	Area is the forested wetland north of Shipman, south of the large wooded area located at the south end of the Auburn to Shipman segment of the high speed rail project. Poison ivy is present in vine and shrub forms (reason for listing in both columns). Shrub layer is approximately 2.5-3 feet tall. Herbaceous layer is approximately 2 feet tall. "Tree" 8 consists of two sample points taken north and south of bridge (MP 236), both having same understory composition observed for Trees 1-7.
			Honeysuckle (*Lonicera maackii*)	Poison Ivy (*Rhus radicans*)	
			Poison Ivy (*Rhus radicans*)	Wild Rye (*Elymus virginicus*)	
				Tall Bellflower (*Campanulastrum americanum*)	
				Boneset (*Eupatorium perfoliatum*)	
				Beggar's Tick (*Bidens frondosa*)	
				Impatients Biflora (*Impatiens capensis*)	
				Virginia Creeper (*Parthenocissus quinquefolia*)	
				Impatients (*Impatiens capensis*)	
Wooded Area (Sample Point 1)	E	MP 235.5	Yellow Bud Hickory (*Carya cordiformis*)	Poison Ivy (*Rhus radicans*)	Location is at the southern limit of the Auburn to Shipman segment of the HSR Project, at approximate MP 235.50. This is a young patch of woods dominated by white oak. Understory consists of a young tree shrub layer, approximately 15 feet tall. The herbaceous layer is sparse, approximately 2 feet tall, consisting primarily of poison ivy with occasional boneset and bindweed.
			Black Walnut (*Juglans nigra*)	Boneset (*Eupatorium perfoliatum*)	
			Sassafras (*Sassarass albidum*)	Bindweed (*Convolvulus arvensis*)	
			White Oak (*Quercus alba*)		
			Green Ash (*Fraxinus subintegerrima*)		
			American Elm (*Ulmus americana*)		
			Box Elder (Acer negundo)		
			Honeysuckle (*Lonicera maackii*)		
Wooded Area (Sample Point 2)	E	MP 235.1	Yellow Bud Hickory (*Carya cordiformis*)	Snakeroot (*Eupatorium rugosum*)	Location is at the southern limit of the Auburn to Shipman segment of the HSR Project, at approximate MP 235.10. A young patch of woods dominated by white and black oak. Understory consists of a young tree shrub layer, approximately 15 feet tall. The herbaceous layer is sparse, an average of 2 feet
			Basswood (*Morus rubra*)	Poison Ivy (*Rhus radicans*)	
			Japanes Honeysuckle (*Lonicera japonica*)	Buckbrush (*Symphoricarpus spp.?*)	
			Wild Black Cherry (*Prunus serotina*)		
			Multiflora Rose (*Rosa multiflora*)		

* Station location is approximate

TABLE 3
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
SHRUB AND HERBACEOUS VEGETATION

CORRESPONDING TREE NO.	W OR E OFFSET	STATION OR RR MP *	SHRUB LAYER VEGETATION	HERBACEOUS LAYER VEGETATION	COMMENTS
Continued from sheet 1					tall, consisting primarily of poison ivy with occasional snakeroot and buck brush.
Prairie Area 1	E	MP 235.0		Prairie Dock (*Silphium terebinthinaceum*)	Area is located immediately north of Sample Point 2 from the wooded area located at the south end of the Auburn to Shipman segment of the HSR Project, at mile post 235.0. Prairie extends for approximately 0.3 miles at a width of 30 feet. Estimated grade for this prairie area is B. (INHS Roadside Report grades it as A to B)
				Ironweed (*Veronia altissima*)	
				Sunflower (*Helianthus spp.*)	
				Big Bluestem (*Andropogon gerardi*)	
				Lead Plant (*Amorpha canescens*)	
				Indian Grass (*Sorghastrum nutans*)	
				Giant Ragweed (*Ambrosia trifida*)	
				Pale Coneflower (*Echinacea pallida*)	
				Tall Fescue (*Festuca elatior*)	
Newby Rd Crossing	W	MP 231	Hazelnut (*Corylus americana*)	Giant Ragweed (*Ambrosia trifida*)	Approximate MP 231. Located immediately north of the Newby Rd crossing on the UP RR tracks. A highly disturbed area dominated by giant ragweed. Numerous silver maple saplings are present. Average height of shrub layer is 15 feet while herbaceous layer averages 4 feet.
			Silver Maple (*Acer saccharinum*)	Little Ragweed (*Ambrosia artemisiifolia*)	
			Blackberry (*Rubus allegheniensis*)	Pokeweed (*Phytolacca americana*)	
				Cup Plant (*Silphium perfoliatum*)	
				Sunflower (*Helianthus spp.*)	
				Goldenrod (*Solidago spp.*)	
Newby Rd near Beaver Dam State Park	W	MP 230.75	Silver Maple (*Acer saccharinum*)	Sunflower (*Helianthus spp.*)	Approximately MP 230.75. Located on the Southeast corner of Beaver Dam State Park and south-southeast of Shipman Rd. Highly disturbed area with Giant Ragweed as the dominant species. Numerous silver maple and black willow saplings form the shrub layer, approximately 15-20 feet tall. The herbaceous layer averages 3-4 feet.
			Black Willow (*Salix nigra*)	Cup Plant (*Silphium perfoliatum*)	
				Giant Ragweed (*Ambrosia trifida*)	
				Little Ragweed (*Ambrosia artemisiifolia*)	
				Goldenrod (*Solidago spp.*)	
				Common Hop (*Humulus lupulus L.*)	

* Station location is approximate

TABLE 3
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
SHRUB AND HERBACEOUS VEGETATION

CORRESPONDING TREE NO.	W OR E OFFSET	STATION OR RR MP *	SHRUB LAYER VEGETATION	HERBACEOUS LAYER VEGETATION	COMMENTS
Macoupin Station	E	229.9	Cottonwood (*Populus deltoides*)		Field east of Macoupin Station is overgrown in Cottonwoods.
Denby Prairie	E	226.74	Sumac (*Rhus typhina*)	Big Bluestem (*Andropogon gerardi*)	Denby Prairie is located at MP 226.74 and extends south for approximately 200 feet. Big Bluestem is the dominant species. The herbaceous layer and shrub layer average 4 feet. (INHS reports indicate Denby Prairie transitions into Carlinville Prairie Restoration and extends to the south side of Carlinville.)
				Goldenrod (*Solidago spp.*)	
				Prairie Dock (*Silphium terebinthinaceum*)	
				Prairie Sunflower (*Helianthus pauciflorus*)	
				Common Thistle (*Cirsium arvense*)	
				Gray-headed coneflower (*Ratibida pinnata*)	
Private Campground/ Sportsman's Club; Tree Area 43	W	MP 226.5 to 225.2	Black Walnut (*Juglans nigra*)	Impatients Biflora (*Impatiens capensis*)	The private club is located north of Malham's Orchard, south of Carlinville. The site is campgrounds with primitive cabins. The average height of the understory is 5 feet. The southeast corner of the property shows characteristics of primary succession. Evidence indicates it is an abandoned pasture. Remaining area wooded.
			Silver Maple (*Acer saccharinum*)	Poison Ivy (*Rhus radicans*)	
			Multiflora Rose (*Rosa multiflora*)		
			Blackberry (*Rubus allegheniensis*)		
			Japanese Honeysuckle (*Lonicera japonica*)		
Prairie Area on south side of Carlinville	E	11851+00 to 11825+00		Big Bluestem (*Andropogon gerardi*)	Location is between MP 225 and 224. (Part of larger prairie area consisting of Denby Prairie and Carlinville Prairie Restoration)
				Prairie Dock (*Silphium terebinthinaceum*)	
				Giant Ragweed (*Ambrosia trifida*)	
				Little Ragweed (*Ambrosia artemisiifolia*)	
				Goldenrod (*Solidago spp.*)	
Dirt Lane South of Bray Road Tree Area 44	W	MP 217.5	Honeysuckle (*Lonicera maackii*)	Giant Ragweed (*Ambrosia trifida*)	Area is S. of Bray Rd, approx. MP 217.5, Macoupin Co. South end is along dirt lane (old RR ROW) are young woods. These saplings and
			Green Ash (*Fraxinus subintegerrima*)	Goldenrod (*Solidago spp.*)	
			Hackberry (*Celtis occidentalis*)	Poison Ivy (*Rhus radicans*)	

* Station location is approximate

TABLE 3
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
SHRUB AND HERBACEOUS VEGETATION

CORRESPONDING TREE NO.	W OR E OFFSET	STATION OR RR MP *	SHRUB LAYER VEGETATION	HERBACEOUS LAYER VEGETATION	COMMENTS
Continued from sheet 3					young trees, along with buttonbush from the northern side of the site compose the shrub layer. Average height is 5 feet. The herbaceous layer is found along the track from Bray Rd to the wooded area, average height is 4 feet. The herbaceous layer consists of a wetland (320'x25')
South side of Nilwood on Henderson Rd Tree Area 45	W, E	N/A	Silver Maple (*Acer saccharinum*)	Common Teasel (*Dipsacus follonum*)	Location is on the south side of Nilwood, both sides of the track. Wetland on west side. East side typical of disturbed habitat. Herbaceous layer averages 3 feet. Shrub layer averages 5 feet.
			Cottonwood (*Populus deltoides*)	Big Bluestem (*Andropogon gerardi*)	
			Black Willow (*Salix nigra*)	Indian Grass (*Sorghastrum nutans*)	
			Honeysuckle (*Lonicera maackii*)	Fescues (*Festuca spp.*)	
			Red Mulberry (Morus rubra)	Giant Ragweed (*Ambrosia trifida*)	
			Blackberry (*Rubus allegheniensis*)	Smartweed (*Polygonium amphibium L.*)	
				Goldenrod (*Solidago spp.*)	
North side of Nilwood on old RR ROW Tree Area 46-70	W	11280+00 to 11278+00	Blackberry (*Rubus allegheniensis*)	Poison Ivy (*Rhus radicans*)	Area is immediately north of Nilwood off IL Route 4. A sample point was sampled from station 11280+00 to 11278+00 (south of advertisement billborards) for tree and understory composition. Roadside/RR ROW observations were made at station 11267+50 for prairie/edge habitat. Understory averages 5 feet tall while the herbaceous layer averages 3 feet.
			Gooseberry (*Ribes spp.*)	Giant Ragweed (*Ambrosia trifida*)	
			Honeysuckle (*Lonicera maackii*)	Goldenrod (*Solidago spp.*)	
			Silver Maple (*Acer saccharinum*)	Grapevine (*Vitis spp.*)	
			Wild Black Cherry (*Prunus serotina*)	Big Bluestem (*Andropogon gerardi*)	
			Hedge Apple (*Maclura pomifera*)	Fescues (*Festuca spp.*)	
			Black Walnut (*Juglans nigra*)		
			American Elm (*Ulmus americana*)		
			Red Mulberry (*Morus rubra*)		
			Sumac (*Rhus typhina*)		
Green Ridge Road	E, W	212.55	Silver Maple (*Acer saccharinum*)	Duckweed (*Lemna spp.*)	Located north of Green Ridge Road on east side, with duckweed being the dominant species. Shrub layer averages 5 feet and
			Red Mulberry (*Morus rubra*)	Smartweed (*Polygonium amphibium L.*)	
			Cottonwood (*Populus deltoides*)	Common Cattail (*Typha latifolia L.*)	

* Station location is approximate

TABLE 3
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
SHRUB AND HERBACEOUS VEGETATION

CORRESPONDING TREE NO.	W OR E OFFSET	STATION OR RR MP *	SHRUB LAYER VEGETATION	HERBACEOUS LAYER VEGETATION	COMMENTS
Continued from sheet4			Cedar (*Juniperus virginiana*)	Prairie Dock (*Silphium terebinthinaceum*)	herbaceous averages 3 feet. The west side contains prairie species (between RR and IDOT ROW). The shrub layer averages 5 feet in height and herbaceous averages 3 feet. The prairie is likely to have a low FQI and it has been mowed making species identification and counts difficult.
			Black Locust (*Robinia pseudoacacia*)	Goldenrod (*Solidago spp.*)	
				Boneset (*Eupatorium perfoliatum*)	
				Giant Ragweed (*Ambrosia trifida*)	
				Common Thistle (*Cirsium arvense*)	
				Gray-headed Coneflower (*Ratibida pinnata*)	
				Sunflower (*Helianthus spp.*)	
				Fescues (*Festuca spp.*)	
				Phragmites (*Phragmites australis*)	
				Grapevine (*Vitis spp.*)	
Cambridge Rd	W	211.79	Black Willow (*Salix nigra*)	Prairie Dock (*Silphium terebinthinaceum*)	Area has characteristics of a wetland. Soil appears to be a black loam. Wetland species are present. Prairie is the northern range of the prairie identified at Green Ridge Rd. Prairie is sporadic in its 0.7 mile length. The prairie had also been mowed in the northern section, making species identification and counts difficult.
				Little Bluestem (*Andropogon scoparius*)	
				Common Cattail (*Typha latifolia L.*)	
				Reed Canary Grass (*Phalaris arundinacea*)	
				Sedges (*Cyperaceae*)	
Wetland area, south of Crown 2 Mine Rd	E	MP 208 11007+00 to 11020+00	Silver Maple (*Acer saccharinum*)	Giant Ragweed (*Ambrosia trifida*)	The wetland is dominated by American lotus with silver maple, black willow, red mulberry and American elm at the margins. Bladderwort is growing on the soil surface in shaded areas at the south end of the wetland. The American lotus averages 3 feet in height. The shrub layer in the forested area averages 4-5 feet in height and herbaceous averages 2 feet. Forested area is possibly an old pasture.
			Wild Grape (*Vitis spp.*)	Switch Grass (*Panicum virgatum*)	
			American Elm (*Ulmus americana*)	Wild Geranium (*Geranium maculatum*)	
			Honeysuckle (*Lonicera maackii*)	Snakeroot (*Eupatorium rugosum*)	
			Cottonwood (*Populus deltoides*)	Poison Ivy (*Rhus radicans*)	
			Buckthorn (*Frangula alnus*)	Buckbrush (*Symphoricarpus spp.*)	
			Gooseberry (*Ribes spp.*)	Virginia Creeper (*Parthenocissus quinquefolia*)	

* Station location is approximate

TABLE 3
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
SHRUB AND HERBACEOUS VEGETATION

CORRESPONDING TREE NO.	W OR E OFFSET	STATION OR RR MP *	SHRUB LAYER VEGETATION	HERBACEOUS LAYER VEGETATION	COMMENTS
Continued from sheet 5			Multiflora Rose (*Rosa multiflora*)		
			Poison Ivy (*Rhus radicans*)		
			Gray Dogwood (*Cornus racemosa*)		
			Hackberry (*Celtis occidentalis*)		
Virden	E	10898+00	Red Mulberry (*Morus rubra*)	Grapevine (*Vitis spp.*)	Area is located on the north side of Virden. Area is mostly residential yards with vegetation located on yard/RR ROW property line. Average understory height is 3 feet.
			Honeysuckle (*Lonicera maackii*)	Giant Ragweed (*Ambrosia trifida*)	
				Poison Ivy (*Rhus radicans*)	

* Station location is approximate

TABLE 4 (6 PAGES)
HAWKEYE ROAD TREES & VEGETATION SURVEY

TABLE 4
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
HAWKEYE ROAD (Southeast of May Branch Creek-Sample Point 1)

Tree #	W or E Offset	Station or RR MP	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
1	E	234.45 to 231.05	14.8	Snag Box Elder (*Acer negundo*)	V	Herbaceous layer consists of horsetail (*Equisetum* spp), wild ginger (*Asarum* spp.), stinging nettle (*Urtica dioica*). Shrub layer is lacking in this area, however an occasional young box elder or slippery elm is found with average 3" dbh. Sample area dimensions were 100'x50', parallel to the UPRR ROW
2	E		11	Box Elder (*Acer negundo*)	V	
3	E		7.8	Box Elder (*Acer negundo*)	V	
4	E		10.3	Box Elder (*Acer negundo*)	V	
5	E		6	Box Elder (*Acer negundo*)	V	
6	E		7.6	Slippery Elm (*Ulmus rubra*)	V	
7	E		10	Slippery Elm (*Ulmus rubra*)	V	
8	E		7.3	Slippery Elm (*Ulmus rubra*)	V	
9	E		7.4	Slippery Elm (*Ulmus rubra*)	V	
10	E		7	Slippery Elm (*Ulmus rubra*)	V	
11	E		6	Slippery Elm (*Ulmus rubra*)	V	
12	E		9.1	Slippery Elm (*Ulmus rubra*)	V	
13	E		30.5	Cottonwood (*Populus deltoides*)	V	
14	E		18.2	Cottonwood (*Populus deltoides*)	V	
15	E		6.6	Cottonwood (*Populus deltoides*)	V	
16	E		38.8	Cottonwood (*Populus deltoides*)	V	
17	E		18.5	Cottonwood (*Populus deltoides*)	V	
18	E		16.1	Silver Maple (*Acer saccharinum*)	V	
19	E		N/A	Snag Silver Maple (*Acer saccharinum*)	V	

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 4
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
HAWKEYE ROAD (Southeast of May Branch Creek-Sample Point 2)

Tree #	W or E Offset	Station or RR MP	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
1	E	234.45 to 231.05	6.4	Slippery Elm (*Ulmus rubra*)	V	Herbaceous layer consists of wild ginger (*Asarum* spp.), stinging nettle (*Urtica dioica*). Shrub layer is present consisting of young box elder and slippery elm with average 3" dbh. Sample area dimensions were 100'x50', parallel to the UPRR ROW
2	E		7.2	Slippery Elm (*Ulmus rubra*)	V	
3	E		8.8	Slippery Elm (*Ulmus rubra*)	V	
4	E		7	Slippery Elm (*Ulmus rubra*)	V	
5	E		10.6	Slippery Elm (*Ulmus rubra*)	V	
6	E		11.4	Slippery Elm (*Ulmus rubra*)	V	
7	E		9.8	Box Elder (*Acer negundo*)	V	
8	E		6	Box Elder (*Acer negundo*)	V	
9	E		11.8	Box Elder (*Acer negundo*)	V	
10	E		11.8	Box Elder (*Acer negundo*)	V	
11	E		6	Box Elder (*Acer negundo*)	V	
12	E		10.4	Box Elder (*Acer negundo*)	V	
13	E		7.5	Box Elder (*Acer negundo*)	V	
14	E		8	Box Elder (*Acer negundo*)	V	
15	E		34	Cottonwood (*Populus deltoides*)	V	
16	E		16	Cottonwood (*Populus deltoides*)	V	
17	E		27.8	Cottonwood (*Populus deltoides*)	V	
18	E		31.5	Cottonwood (*Populus deltoides*)	V	

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 4
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
HAWKEYE ROAD (Southeast of May Branch Creek-Sample Point 3)

Tree #	W or E Offset	Station or RR MP	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
1	E	234.45 to 231.05	<6"	Box Elder (*Acer negundo*)	V	This is a scrub shrub community in the "upland" area primarily consisting of box elder, silver maple, and black walnut. There are approximately 35 black walnuts in the area. The "upland" herbaceous layer consists of poison ivy (*Toxicodendron radicans*) , fine leaf fescue (*Festuca* spp.), and goldenrod (*Solidago*spp). Closer to the UPRR ROW the area transitions into a forested wetland area containing slippery elm, sycamore, and cottonwood trees. Trees were not measured due to inundation of the location due to heavy spring rainfall. There is greater shrub density compared to sample points 1 & 2, consisting of the same species as found in the tree population silver maples also present. There are 35-40 shrub stems per sampling location.
2	E		<6"	Silver Maple (*Acer saccharinum*)	V	
3	E		<6"	Black Walnut (*Juglans nigra*)	V	
4	E		>6"	Slippery Elm (*Ulmus rubra*)	V	
5	E		>6"	Sycamore (*Platanus occidentalis*)	V	
6	E		>6"	Cottonwood (*Populus deltoides*)	V	
7	E				V	
8	E				V	
9	E				V	
10	E				V	
11	E				V	
12	E				V	
13	E				V	
14	E				V	
15	E				V	
16	E				V	
17	E				V	
18	E				V	

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 4
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
HAWKEYE ROAD (Southwest of May Branch Creek-Sample Point 4)

Tree #	W or E Offset	Station or RR MP	Size (in)[a]	Common Name & Genus or Species	Origin	Comments
1	W	234.45 to 231.05	12.2	Green Ash (*Fraxinus subintegerrima*)	V	Herbaceous layer consists of May apple (*Podophyllum peltatum*), catbriar (*Smilax* spp.), stinging nettle (*Urtica dioica*), Queen Anne's lace (*Daucus carota*), sticktites (*Bidens* spp.), spiderwort (*Traescantia* spp), flea bane (*Erigeron*spp.), plantaine (*Plantago lanceolata)*, poison ivy (*Toxicodendron radicans*), poor man's pepper (*Lepidium virginicum*), ragweed spp (*Ambrosia* spp), and sunflower spp (*Helianthus* spp.). Bladdernut is the most common shrub. Other shrubs are listed in the table with trees (Table 5 of 6). The area is located west of the tracks and consists primarily of a shelf area with mixed lowland and highlands. It extends from May Branch Creek to Hawkeye Road with a width of approximately 75 feet.
2	W		8.5	Buckeye (*Aesculus glabra*)	V	
3	W		6	Buckeye (*Aesculus glabra*)	V	
4	W		8.6	Buckeye (*Aesculus glabra*)	V	
5	W		15.4	Sycamore (*Platanus occidentalis*)	V	
6	W		13.8	Sycamore (*Platanus occidentalis*)	V	
7	W		14M.S.	Sycamore (*Platanus occidentalis*)	V	
8	W		11.2	Sycamore (*Platanus occidentalis*)	V	
9	W		14.9	Sycamore (*Platanus occidentalis*)	V	
10	W		24.5	Cottonwood (*Populus deltoides*)	V	
11	W		9.2	American Elm (*Ulmus americana*)	V	
12	W		10.6	American Elm (*Ulmus americana*)	V	
13	W		10.1	American Elm (*Ulmus americana*)	V	
14	W		8.4	American Elm (*Ulmus americana*)	V	
15	W		8.5	American Elm (*Ulmus americana*)	V	
16	W		9.4	American Elm (*Ulmus americana*)	V	
17	W		9.2	American Elm (*Ulmus americana*)	V	
18	W		10.2	American Elm (*Ulmus americana*)	V	
19	W		9	American Elm (*Ulmus americana*)	V	
20	W		8.2	Slippery Elm Snag (*Ulmus rubra*)		
21	W		8.7	Slippery Elm Snag (*Ulmus rubra*)		
23	W		6	Slippery Elm Snag (*Ulmus rubra*)		
24	W		7.2	White Oak (*Quercus alba*)		
25	W		9.3	Hackberry (*Celtis occidentalis*)		
26	W		13.5	Slippery Elm (*Ulmus rubra*)		

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 4
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2- AUBURN TO SHIPMAN
HAWKEYE ROAD (Southwest of May Branch Creek-Sample Point 4)

Tree #	W or E Offset	Station or RR MP	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
27	W	234.45 to 231.05	6.7	Slippery Elm (*Ulmus rubra*)	V	Shrubs are highlighted below, to the left in common name and genus or species column..
28	W		6	Slippery Elm (*Ulmus rubra*)	V	
29	W		12	Snag Elm (*Ulmus* spp.)	V	
30	W		10.8	Black Walnut (*Juglans nigra*)	V	
31	W		12	Hackberry (*Celtis occidentalis*)	V	
	W				V	
	W		<6"	1 Redbud (*Cercis canadensis*)	V	
	W		<6"	5 American Elm (*Ulmus americana*)	V	
	W		<6"	3 Multiflora Rose (*Rosa multiflora*)	V	
	W		<6"	12 Box Elder (*Acer negundo*)	V	
	W		<6"	2 White Mulberry (*Morus alba*)	V	
	W		<6"	11 Slippery Elm (*Ulmus rubra*)	V	
	W		<6"	8 Honey Suckle (*Lonicera* spp.)	V	
	W		<6"	1 White Oak (*Quercus alba*)	V	
	W		<6"	1 Sycamore (*Platanus occidentalis*)	V	
	W		<6"	2 Buckeye (*Aesculus glabra*)	V	
	W		<6"	2 Gray Dogwood (*Cornus racemosa*)	V	
	W		<6"	Numerous bladder nut (*Staphylea trifolia*)	V	

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 4
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
HAWKEYE ROAD (Southwest of May Branch Creek-Sample Point 5)

Tree #	W or E Offset	Station or RR MP	Size (in)[a]	Common Name & Genus or Species	Origin[b]	Comments
1	W	234.45 to 231.05	12.3	American Elm (*Ulmus americana*)	V	Shrub layer consists of yellow bud hickory, buckeye, bladdernut, white ash (*Fraxinus americana*), sassafras (*Sassafras albidum*). Bladdernut is the most common shrub found on the slope. Closer to the tracks, young white oak and yellow bud hickory are more common. There are approximately 22 shrub stems per 20' sampling radius. Within the 20' radius are 5 yellow bud hickories, 3 white oaks, 1 hackberry, and 1 American elm. Shrubs and saplings average 2-3"dbh in the sampling area. Herbaceous layer consists of Virginia creeper (*Parthenocissus quinquefolia*) and May apple (*Podophyllum peltatum*).
2	W		13.1	Shingle Oak (*Quercus imbricaria*)	V	
3	W		27.6	White Oak (*Quercus alba*)	V	
4	W		13.2	White Oak (*Quercus alba*)	V	
5	W		10	Black Cherry (*Prunus serotina*)	V	
6	W		6.8	Yellow Bud Hickory (*Carya cordiformis*)	V	
7	W		8.2	Shagbark Hickory (*Carya ovata*)	V	
8	W		6.1	Black Oak (*Quercus velutina*)	V	
9	W				V	
10	W				V	
11	W				V	
12	W				V	
13	W				V	
14	W				V	
15	W				V	
16	W				V	
17	W				V	
18	W				V	
19	W				V	

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5 (12 PAGES)
LAKE RINAKER TREES & VEGETATION SURVEY

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
11930+00 to 11929+00	*Juglans nigra*	Black Walnut	10.0	Spiderwort (*Tradescantia spp.*)	White Mulberry (*Morus alba*)	Areas consist of a wet ditch and exhibits signs of primary ecological succession. Evidence indicates past livestock enclosure. Applies to 11930+00 to 11929+00 and 11929+00 to 11928+00
	Juglans nigra	Black Walnut	9.8	Grape Vine (*Vitis spp.*)	Silver Maple (*Acer saccharinum*)	
				Fescue (*Festuca spp.*)	Green Ash (*Fraxinus subintegerrima*)	
				Bluegrass (*Poa spp.*)	Black Walnut (*Juglans nigra)*	
					Honeysuckle (*Lonicera spp.*)	
					Blackberry (*Rubus*)	
11929+00 to 11928+00	*Taxodium distichum*	Bald Cypress	6.9	Spiderwort (*Tradescantia spp.*)	White Mulberry (*Morus alba*)	
	Carya ovata	Shagbark Hickory	32.0	Grape Vine (*Vitis spp.*)	Silver Maple (*Acer saccharinum*)	
				Fescue (*Festuca spp.*)	Green Ash (*Fraxinus subintegerrima*)	
				Bluegrass (*Poa spp.*)	Black Walnut (*Juglans nigra*)	
					Honeysuckle (*Lonicera spp.*)	
					Blackberry (*Rubus spp.*)	
11925+00 to 11924+00	*Carya ovata*	Shagbark Hickory	11.5	May Apple (*Podophyllum peltatum*)	Honeysuckle (*Lonicera spp.*)	Lonicera is the dominant shrub. Dominant herbs include may apple and poison ivy. Impatients are an occasional species
	Ulmus americana	American Elm	16.0	Poison Ivy (*Toxicodendron radicans*)		
	Celtis occidentalis	Hackberry	10.2	Impatients (*Impatiens spp.*)		
	Quercus alba	White Oak	12.8			
	Carya ovata	Shagbark Hickory	9.0			
	Carya ovata	Shagbark Hickory	13.8			
	Carya ovata	Shagbark Hickory	18.2			
	Carya ovata	Shagbark Hickory	15.3			
11924+00 to 11923+00	*Ulmus americana*	American Elm	7.3	May Apple (*Podophyllum peltatum*)	Shagbark Hickory (*Carya ovata*)	18 shrubs per 10 square feet with Lonicera being dominant. An occasional shagbark hickory is included
	Ulmus americana	American Elm	11.2	Poison Ivy (*Toxicodendron radicans*)	Honeysuckle (*Lonicera spp.*)	
	Carya ovata	Shagbark Hickory	6.5			
	Ulmus americana	American Elm	7.8			
	Carya ovata	Shagbark Hickory	16.3			

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
Cont'd from previous	*Quercus alba*	White Oak	22.0			
	Ulmus americana	American Elm	6.0			
11923+00 to 11922+00	*Ulmus americana*	American Elm	6.7	Poison Ivy (*Toxicodendron radicans*)	Honeysuckle (*Lonicera spp.*)	Lonicera is the dominant shrub with occasional large poison ivy plant. Small poison ivy is dominant herbaceous plant
	Quercus alba	White Oak (2 stem)	16.5			
	Ulmus americana	American Elm	6.9			
	Carya ovata	Shagbark Hickory	11.3			
	Ulmus americana	American Elm	8.5			
	Quercus alba	White Oak	9.8			
	Carya ovata	Shagbark Hickory	15.3			
11922+00 to 11921+00	*Ulmus americana*	American Elm	7.8	Poison Ivy (*Toxicodendron radicans*)	Honeysuckle (*Lonicera spp.*)	Small tree species and hazelnut are codominant with Lonicera. Canopy more open than areas to the south.
	Quercus alba	White Oak	13.9	Grape Vine (*Vitis spp.*)	Hazelnut (*Corylus americana*)	
	Carya ovata	Shagbark Hickory	12.9	May Apple (*Podophyllum peltatum*)	White Mulberry (*Morus alba*)	
	Quercus alba	White Oak	11.2		Sassafras (*Sassafras albidum*)	
	Ulmus americana	American Elm	15.6			
	Quercus alba	White Oak	7.2			
	Ulmus americana	American Elm	14.2			
	Quercus imbricaria	Shingle Oak	10.1			
	Juglans nigra	Black Walnut	10.5			
	Ulmus americana	American Elm	6.0			
	Quercus alba	White Oak	7.3			
	Quercus alba	White Oak	15.8			
	Juglans nigra	Black Walnut	12.8			
	Quercus alba	White Oak	27.5			
	Carya ovata	Shagbark Hickory	17.8			
	Carya ovata	Shagbark Hickory	22.1			

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
11921+00 to 11920+00	*Juglans nigra*	Black Walnut	12.3	Poison Ivy (*Toxicodendron radicans*)	Hazelnut (*Corylus americana*)	Spans both sides of the private campground road. Canopy more open on east side of road.
	Quercus alba	White Oak	7.0	Virginia Creeper (*Parthenocissus quinquefolia*)	Honeysuckle (*Lonicera spp.*)	
	Ulmus americana	American Elm	9.0	May Apple (*Podophyllum peltatum*)	Sassafras (*Sassafras albidum*)	
	Quercus alba	White Oak	11.9			
	Carya ovata	Shagbark Hickory	6.2			
	Sassafras albidum	Sassafras	7.3			
	Quercus alba	White Oak	15.3			
	Sassafras albidum	Sassafras	8.0			
	Carya ovata	Shagbark Hickory	11.0			
	Carya ovata	Shagbark Hickory	10.3			
	Juglans nigra	Black Walnut	10.2			
	Quercus palustris	Pin Oak	17.5			
	Ulmus americana	American Elm	7.2			
	Quercus palustris	Pin Oak	16.4			
	Quercus palustris	Pin Oak	17.1			
	Ulmus americana	American Elm	7.0			
	Ulmus americana	American Elm	6.3			
	Morus alba	White Mulberry	7.6			
	Ulmus americana	American Elm	7.0			
	Ulmus rubra	Slippery Elm	9.7			
	Carya ovata	Shagbark Hickory	15.0			
	Carya cordiformis	Yellow Bud Hickory	17.3			
	Carya ovata	Shagbark Hickory	14.3			
	Quercus palustris	Pin Oak	21.6			
	Carya cordiformis	Yellow Bud Hickory	10.8			

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
cont'd from previous	*Carya cordiformis*	Yellow Bud Hickory	13.2			
	Ulmus americana	American Elm	13.0			
11920+00 to 11919+00	*Quercus alba*	White Oak	6.0	Catbrier (*Smilax rotundifolia L.*)	Poison Ivy (*Toxicodendron radicans*)	Spans both sides of the private campground road.
	Quercus alba	White Oak	7.1	Poison Ivy (*Toxicodendron radicans*)	Honeysuckle (*Lonicera spp.*)	
	Ulmus rubra	Slippery Elm	6.2	May Apple (*Podophyllum peltatum*)	Hickories (*Carya spp.*)	
	Juglans nigra	Black Walnut	11.0		Hazelnut (*Corylus americana*)	
	Quercus imbricaria	Shingle Oak	11.0			
	Ulmus americana	American Elm	6.0			
	Quercus alba	White Oak	12.1			
	Quercus alba	White Oak	11.2			
	Prunus serotina	Wild Black Cherry	6.0			
	Quercus alba	White Oak	8.1			
	Quercus alba	White Oak	18.3			
	Quercus alba	White Oak	15.3			
	Quercus alba	White Oak	21.4			
11919+00 to 11918+00	*Quercus alba*	White Oak	12.3	Poison Ivy (*Toxicodendron radicans*)	Poison Ivy (*Toxicodendron radicans*)	Spans both sides of the private campground road.
	Prunus serotina	Wild Black Cherry	7.2	May Apple (*Podophyllum peltatum*)	Honeysuckle (*Lonicera spp.*)	
	Carya ovata	Shagbark Hickory	13.5			
	Quercus alba	White Oak	8.0			
	Maclura pomifera	Hedge Apple	6.8			
	Quercus alba	White Oak	14.6			
	not identified	Snag	7.0			
	Quercus alba	White Oak	14.0			
	Quercus alba	White Oak	7.3			
	Quercus alba	White Oak	9.9			

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
cont'd from previous	*Ulmus americana*	American Elm	7.1			
	Ulmus americana	American Elm	6.1			
	Quercus alba	White Oak	20.0			
11918+00 to 11917+00	*Quercus imbricaria*	Shingle Oak	7.0	Poison Ivy (*Toxicodendron radicans*)	Honeysuckle (*Lonicera spp.*)	Poison Ivy is one of many dominant herb/shrub species. However, it is not the most dominant herbaceous/shrub present like at past stationing. Lower elevation near finger of lake. Area spans both sides of the private campground road
	Quercus alba	White Oak (2 stem)	13.1	Japanese Honeysuckle *Lonicera japonica*	White Mulberry (*Morus alba*)	
	Quercus alba	White Oak	9.1	Winter Creeper (*Euonymus fortunei*)	Gooseberry (*Ribes missouriense*)	
	Quercus alba	White Oak	16.8	Lambs Ear (*Verbascum thapsus*)		
	Ulmus americana	American Elm	12.0			
	Ulmus americana	American Elm	15.0			
	Quercus alba	White Oak	22.0			
	not identified	Snag	6.2			
	Populus deltoides	Cottonwood	19.8			
	Ulmus americana	American Elm	10.3			
	Populus deltoides	Cottonwood	24.8			
	Ulmus americana	American Elm	6.1			
	Carya cordiformis	Yellow Bud Hickory	9.8			
	Carya ovata	Shagbark Hickory	25.0			
	not identified	Snag	8.0			
11917+00 to 11916+00	*Quercus alba*	White Oak	10.5	Virginia Creeper(*Parthenocissus quinquefolia*)	American elm (*Ulmus Americana*)	Area spans both sides of the private campground road. Moving upslope from drainage and lake finger.
	Quercus alba	White Oak	15.8	Grape Vine (*Vitis spp.*)	Honeysuckle (*Lonicera spp.*)	
	Quercus alba	White Oak	7.0		Hickories (*Carya spp.*)	
	Juglans nigra	Black Walnut	16.2			
	Quercus alba	White Oak	16.3			
	Carya ovata	Shagbark Hickory	18.9			

[a] Size: MS=Multi-stem

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TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
cont'd from previous	*Quercus alba*	White Oak	11.8			
	Carya ovata	Shagbark Hickory	13.1			
	Ulmus rubra	Slippery Elm	7.7			
	Quercus alba	White Oak	11.8			
	Quercus alba	White Oak	12.2			
	Carya ovata	Shagbark Hickory	14.8			
	Taxodium distichum	Bald Cypress	16.8			
	Quercus alba	White Oak	20.9			
	Quercus alba	White Oak	13.6			
	Quercus alba	White Oak	14.4			
	Quercus alba	White Oak	12.3			
	Quercus alba	White Oak	8			
11916+00 to 11915+00	*Quercus alba*	White Oak	11.3	Poison Ivy (*Toxicodendron radicans*)	Honeysuckle (*Lonicera spp.*)	Oak snag present is potential bat habitat, consisting of exfoliating bark and hollow cavities. Area spans both sides of private campground road
	Quercus alba	White Oak	8	Virginia Creeper(*Parthenocissus quinquefolia*)	Hickories (*Carya spp.*)	
	Prunus serotina	Wild Black Cherry	8.2		White Oak (*Quercus alba*)	
	Quercus palustris	Pin Oak	12			
	Quercus palustris	Pin Oak	12			
	Carya cordiformis	Yellow Bud Hickory	16.8			
	Quercus spp.	Snag	25.2			
	Carya ovata	Shagbark Hickory	12.5			
	Carya ovata	Shagbark Hickory	12.7			
	Quercus alba	White Oak	17.7			
	Ulmus rubra	Slippery Elm	7			
	Quercus alba	White Oak	17			

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
11915+00 to 11914+00	*Quercus imbricaria*	Shingle Oak	8.7	Poison Ivy (*Toxicodendron radicans*)	White Oak (*Quercus alba*)	Area spans both sides of the private campground road. The shrub layer is composed of younger tree species but herbaceous composition remains dominated by poison ivy and Virginia creeper with may apple and bell flower.
	Quercus alba	White Oak	10.8	Virginia Creeper (*Parthenocissus quinquefolia*)	Hazelnut (*Corylus americana*)	
	Quercus imbricaria	Shingle Oak	9.8	May Apple (*Podophyllum peltatum*)	Hickories (*Carya spp.*)	
	Quercus alba	White Oak	16	Bell Flower (*Campanulastrum americanum*)	Poison Ivy (*Toxicodendron radicans*)	
	Quercus alba	White Oak	18.1			
	Quercus imbricaria	Shingle Oak	10			
	Ulmus americana	American Elm	12.8			
	Quercus alba	White Oak	6.8			
	Quercus imbricaria	Shingle Oak	8			
	Quercus imbricaria	Shingle Oak	6			
	Quercus alba	White Oak	10.2			
	Quercus alba	White Oak	18.6			
	Quercus alba	White Oak	7			
	Diospyros virginiana	Persimmon	6.2			
	Diospyros virginiana	Persimmon	6.8			
	Quercus alba	White Oak	12			
	Ulmus americana	American Elm	6			
	Carya ovata	Shagbark Hickory	16.4			
	Prunus serotina	Wild Black Cherry	6.3			
	Carya ovata	Shagbark Hickory	15.9			
	Quercus alba	White Oak	14.2			
	Quercus alba	White Oak	8.9			
	Quercus alba	White Oak	6.2			

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
11914+00 to 11913+00	*Quercus alba*	White Oak	8	Virginia creeper (*Parthenocissus quinquefolia*)	Hazelnut (*Corylus americana*)	Area located east of private campground road.
	Quercus alba	White Oak (2 stem)	25.5	Poison Ivy (*Toxicodendron radicans*)	Sumac (*Rhus typhina*)	
	Quercus alba	White Oak	6.3			
	Quercus imbricaria	Shingle Oak	9.5			
	Cornus racemosa	Gray Dogwood	9.3			
	Quercus alba	White Oak	15.4			
	Carya ovata	Shagbark Hickory	10.3			
	Juglans nigra	Black Walnut	10			
	Ulmus americana	American Elm	7			
	Quercus alba	White Oak	21			
	Quercus alba	White Oak	14			
	Prunus serotina	Wild Black Cherry	6.4			
	Quercus alba	White Oak	11.7			
	Quercus alba	White Oak	8.1			
	Quercus alba	White Oak	6.4			
	Carya ovata	Shagbark Hickory	12			
	Ulmus rubra	Slippery Elm	6.8			
	Carya ovata	Shagbark Hickory	7.3			
	Ulmus americana	American Elm	7.5			
	Ulmus americana	American Elm	6.9			
	Quercus alba	White Oak	15.7			
	Quercus alba	White Oak	21.6			
11913+00 to 11912+00	*Quercus alba*	White Oak	29	Poison Ivy (*Toxicodendron radicans*)	Poison Ivy (*Toxicodendron radicans*)	Area is typical for Rinaker Lake area. Appears to be drier than southern areas of the site.
	Ulmus americana	American Elm	8.7	Virginia Creeper (*Parthenocissus quinquefolia*)	Hickories (*Carya spp.*)	
	Ulmus americana	American Elm	7.5	Jack-in-the-Pulpit (*Arisaema triphyllum*)	Blackberry (Rubus spp.)	

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
cont'd from previous	*Quercus alba*	White Oak	21			
	Quercus alba	White Oak	7.9			
	Juglans nigra	Black Walnut	11.8			
	Quercus alba	White Oak	21.3			
	Ulmus rubra	Slippery Elm	7.7			
	Quercus alba	White Oak	10.1			
	Quercus alba	White Oak	14.5			
	not identified	Snag	N/A			
11912+00 to 11911+00	*Quercus alba*	White Oak	8.6	May Apple (*Podophyllum peltatum*)	Blackberry (*Rubus spp.*)	Area appears to be more recently disturbed than areas to the south.
	Carya ovata	Shagbark Hickory	10.7		Sassafras (*Sassafras albidum*)	
	Prunus serotina	Black Cherry	13.5			
	Quercus velutina	Black Oak	21.8			
	Diospyros virginiana	Persimmon	6.7			
	Juglans nigra	Black Walnut	9.5			
11911+00 to 11910+00	*Quercus alba*	White Oak	17.2	Poison Ivy (*Toxicodendron radicans*)	Honeysuckle (*Lonicera spp.*)	Area similar to previous stationing.
	Quercus imbricaria	Shingle Oak	11.3	Virginia Creeper *Parthenoc(issus quinquefolia*)	Hickories (*Carya spp.*)	
	Quercus alba	White Oak	10.5		White Ash (*Fraxinus americana*)	
	Ulmus rubra	Slippery Elm	7.6			
	Quercus alba	White Oak	22.3			
	Quercus alba	White Oak	8.8			
	Quercus alba	White Oak	19.4			
	Quercus alba	White Oak	16.1			
	Quercus alba	White Oak	7.2			
	Carya ovata	Shagbark Hickory	8.7			
	Quercus alba	White Oak	14.5			

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
cont'd from previous	*Quercus alba*	White Oak	11.8			
	Quercus alba	White Oak	23			
	Carya ovata	Shagbark Hickory	14.4			
	Quercus alba	White Oak	16.5			
	Quercus alba	White Oak	16.8			
11910+00 to 11909+00	*Quercus alba*	White Oak	28.5	Virginia Creeper (*Parthenocissus quinquefolia*)	White Oak (*Quercus alba*)	Upland, dry characteristics
	Carya alba	Shagbark Hickory	10.2	Poison Ivy (*Toxicodendron radicans*)	Hickories (*Carya spp.*)	
	Quercus alba	White Oak	27			
11909+00 to 11908+00	*Ulmus americana*	American Elm	8.5	Virginia Creeper (*Parthenocissus quinquefolia*)	White Ash (*Fraxinus americana*)	Dense shrub layer. Herbaceous is limited to sparse Virginia creeper and poison ivy.
	Prunus serotina	Black Cherry	8.7	Poison Ivy (*Toxicodendron radicans*)	White Oak (*Quercus alb*a)	
	Quercus alba	White Oak	16.8		Blackberries (*Rubus spp.*)	
	Carya ovata	Shagbark Hickory	11.8			
	Carya ovata	Shagbark Hickory	10.2			
	Quercus alba	White Oak	12.8			
	Quercus alba	White Oak	10.8			
	Quercus alba	White Oak	10.8			
	Quercus alba	White Oak	7.6			
	Morus alba	White Mulberry	9.8			
11908+00 to 11907+00	*Quercus imbricaria*	Shingle Oak	10.5	Poison Ivy (*Toxicodendron radicans*)	Hazelnut (*Corylus americana*)	Upland with characteristics of disturbance
	Robinia pseudoacacia	Black Locust	11.8	Virginia Creeper (*Parthenocissus quinquefolia*)	Honeysuckle (*Lonicera spp.*)	
	Quercus alba	White Oak	14.2	Carbriar (*Smilax rotundifolia L.*)	Poison Ivy (*Toxicodendron radicans*)	
	Quercus velutina	Black Oak	15		Red Oak (*Quercus rubra*)	
	Quercus velutina	Black Oak	15		White Ash (*Fraxinus americana*)	
	Quercus imbricaria	Shingle Oak	6.8		Blackberry (*Rubus spp.*)	
	Quercus imbricaria	Shingle Oak	16.5			

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
cont'd from previous	*Quercus imbricaria*	Shingle Oak	14.8			
	Quercus alba	White Oak	11.5			
	Quercus imbricaria	Black Oak	14.4			
11907+00 to 11906+00	*Quercus alba*	White Oak	8.4	Virginia Creeper (*Parthenocissus quinquefolia*)	Gooseberry (*Ribes missouriense*)	Upland vegetation with characteristics of past disturbance
	Quercus imbricaria	Shingle Oak	15.4	Poison Ivy (*Toxicodendron radicans*)	Honeysuckle (*Lonicera spp.*)	
	Carya ovata	Shagbark Hickory	17.2		White Oak (*Quercus alba*)	
	Quercus imbricaria	Shingle Oak	13.5		Hickories (*Carya spp.*)	
	Quercus velutina	Black Oak	12.8		Sassafras (*Sassafras albidum*)	
	not identified	Snag	10			
	not identified	Snag	15.0			
	Quercus imbricaria	Shingle Oak	12.9			
	Quercus imbricaria	Shingle Oak	12.7			
	Quercus imbricaria	Shingle Oak	10.5			
	Robinia pseudoacacia	Black Locust	14.7			
	Robinia pseudoacacia	Black Locust	13.5			
	Quercus imbricaria	Shingle Oak	10.8			
11906+00 to 11905+00	*Robinia pseudoacacia*	Black Locust	6.8	Virginia Creeper (*Parthenocissus quinquefolia*)	White Ash (*Fraxinus americana*)	Upland, previously disturbed
	Quercus imbricaria	Shingle Oak	15.1		Sassafras (*Sassafras albidum*)	
	Quercus velutina	Black Oak	24.0			
	not identified	Snag	11.0			
	not identified	Snag	11.0			
	Carya ovata	Shagbark Hickory	6.5			

[a] Size: MS=Multi-stem
[b] Origin: V=Volunteer, L=Landscape

TABLE 5
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 - AUBURN TO SHIPMAN
LAKE RINAKER PRIVATE CAMPGROUND

Stationing	Tree Name		Tree DBH (inches)	Herbaceous Vegetation	Shrub Vegetation	Other Comments
	Scientific	Common				
11905+00 to 11904+00	*Sassafras albidum*	Sassafras	6.0	Japanese Honeysuckle (*Lonicera japonica*)	Honeysuckle (*Lonicera spp.*)	Previously disturbed area
	Sassafras albidum	Sassafras	6.5			
	Sassafras albidum	Sassafras	6.5			
	Sassafras albidum	Sassafras	6.5			
	Quercus imbricaria	Shingle Oak	9.8			
11904+00 to 11903+00	*Carya tomentosa*	Mockernut Hickory	11.0	Poison Ivy (*Toxicodendron radicans*)	Young Hickories (*Carya spp.*)	Previously disturbed area
	Carya tomentosa	Shagbark Hickory	14.2	Jack-in-the-Pulpit (*Arisaema triphyllum*)		
	Carya tomentosa	Mockernut Hickory	9.8			
	Quercus alba	White Oak	13.8			
	Carya tomentosa	Mockernut Hickory	8.6			
	Carya tomentosa	Mockernut Hickory	9.5			
	Carya tomentosa	Mockernut Hickory	12.8			
	Carya tomentosa	Mockernut Hickory	12.0			
	Carya tomentosa	Mockernut Hickory	11.0			
11903+00 to 11902+00	*Carya ovata*	Shagbark Hickory	9.5	Virginia Creeper (*Parthenocissus quinquefolia*)	White Ash (*Fraxinus americana*)	Previously disturbed area. Average of 20 shrubs per 10'x10'
	Carya ovata	Shagbark Hickory	9.3	Ragweed (*Ambrosia spp.*)	Hickories (*Carya spp.*)	
	Carya ovata	Shagbark Hickory	9.8	Poison Ivy (*Toxicodendron radicans*)	Blackberry (*Rubus spp.*)	
	Carya ovata	Shagbark Hickory	7.2	Spiderwort (*Tradescantia spp.*)		

[a] Size: MS=Multi-stem

[b] Origin: V=Volunteer, L=Landscape

TABLE 6

PRAIRIE REMNANTS

TABLE 6
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 SOUTH - AUBURN TO SHIPMAN
PRAIRIE REMNANTS

Prairie	Mile Posts	Geographic Location	Dimensions	Grade	Dominant Species	INHS Survey*
1	234-236	South of Plainview	19,536' x 82.02' (Prairie remnant continues into northern limits of Tier 1)	A-B (High forb diversity)	Big Bluestem (*Andropogon gerardii*) Little Bluestem (*schizachyrium scoparium*) Giant Ragweed (*Ambrosia artemisiifolia*) Goldenrod (*Solidago spp.*) Prairie Dock (*Silphium terebinthinaceum*) Ironweed (*Vernonia fasciculata*) Prairie Sunflower (*Helianthus pauciflorus*) Pale Purple Coneflower (*Echinacea pallida*) Fescue (*Festuca spp*) Lead Plant (*Amorpha canescens*) Indian Grass (*Sorghastrum nutans*)	Yes (N#27)
2	224-227	South of Carlinville to Denby Prairie Nature Preserve	16,368' x (49.2 -262.5)	A-B (High forb diversity. Greatest diversity at south end where Denby Prairie is located. Less diverse near Carlinville)	Prairie Dock (*Silphium terebinthinaceum*) Bull Thistle (*Cirsium vulgare*) Prairie Sunflower (*Helianthus pauciflorus*) Indian Grass (*Sorghastrum nutans*) Goldenrod (*Solidago spp.*) Gray-headed Coneflower (*Ratibida pinnata*) Prairie Sunflower (*Helianthus pauciflorus*) Big Bluestem (*Andropogon gerardii*)	Yes (N#28)
3	215.55-218.65	North and South of Standard City Rd	3.1 mile linear prairie	C+	Complete species list included in Native Prairie Report Appendix (March 1999)	No
4	213.66-211.91	Between Nilwood and Girard	1.5 mile linear prairie (Identified by INHS)	D	Prairie had been mowed making plant identification and quantification difficult. Little Bluestem (*Schizachyrium scoparium*) Prairie Dock (*Silphium terebinthinaceum*) Boneset (*Eupatorium perfoliatum*) Giant Ragweed (*Ambrosia artemisiifolia*) Bull Thistle (*Cirsium vulgare*) Gray-headed Coneflower (*Ratibida pinnata*) Sunflower (*Helianthus spp.*) Fescue (*Festuca spp*) Big Bluestem (*Andropogon gerardii*) Staghorn Sumac (*Rhus typhina*) Goldenrod (*Solidago spp.*)	Yes (N#29)
5	208.47	Utility Substation at Crown Mine 2 Rd	225' x25'	Not assessed	Big Bluestem (*Andropogon gerardii*) Foxtail (*Alopecurus spp.*) Fescue (*Festuca spp*)	No

* Inventory of Roadside Prairies, IDOT District 8. INHS Center for Biodiversity, Technical Report (2) 2004. William C. Handel, Technical Scientist. Prepared for IDOT.

TABEL 7

THREATENED AND ENDNAGERED SPECIES

TABLE 7
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 SOUTH - AUBURN TO SHIPMAN
THREATENED AND ENDANGERED SPECIES* **

STATE OR FEDERAL LIST**	SPECIES		COUNTY	HABITAT	THREATENED OR ENDANGERED	PRESENT IN UPRR SURVEY AREA
	SCIENTIFIC NAME	COMMON NAME				
Federal	*Platanthaera leuccophaea*	Eastern Prairie Fringed Orchid	Macoupin Sangamon	Mesic prairie to wetlands such as sedge meadows and edge of marshes. Full sun. Grass habitat with little woody encroachment.	Threatened	Not found in surveyed areas
Federal	*Myotis sodalis*	Indiana Bat	Macoupin Sangamon	Caves, mines (hibernacula), small stream corridors with well-developed riparian woods, upland forest (foraging)	Endangered	Potential habitat located in Macoupin County
State	*Liatris scariosa var. nieuwlandii*	Blazing Star	Macoupin	Prairies, savannas, woodland edges. Well drained soils. Tolerates minimal disturbance.	Threatened	Not found in surveyed areas
State	*Melanthium virginicum*	Bunchflower	Macoupin	Wet, mesic prairies	Threatened	Not found in surveyed areas
State	*Astragalus crassicarpus* var. *trichocalyx*	Large Ground Plum	Macoupin	Dry rocky prairies, gravel prairies, gravel prairies glades, open woods, and bluff tops	Endangered	Not found in surveyed areas
State	*Tomanthera auriculata*	Ear-Leaved Foxglove	Macoupin	Dry to moist prairies in open uplands and woods	Threatened	Not found in surveyed areas
State	*Spermophilus franklinii*	Franklin's Ground Squirrel	Macoupin	Tall grass in disturbed areas, shrubland, and woodland edges	Threatened	Potential habitat but no evidence of squirrel activity

* Listed species on the USFWS Illinois Counties List with habitat types not included within the survey area were omitted
** Federally listed species are also State listed species

TABLE 8
STREAM CROSSINGS (5 PAGES)

TABLE 8
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 SOUTH - AUBURN TO SHIPMAN
WATER QUALITY AT STREAM CROSSINGS

Stream No.	Stream Name	Mile Post	Geographic Location	County	Major Watershed	Water Conditions	Vegetation	General Description
1	Intermittent stream, unnamed tributary of Sugar Creek	?	South of Auburn Cemetery *Divernon Quadrangle*	Sangamon	Sangamon River	Dry in fall. Flowing water in spring	Vegetation same both sides. Hackberry & Green Ash 8-10dbh. Shrubs: hackberry, green ash, box elder, poison ivy. Pasture beyond riparian edge.	Sediment & gravel. 20′ wide. Entrenched 10-15′.2-4′ water. Clear. Rock, cobble, sand, sed bottom. No fish. Little to no nutrient enrichment
2	Sugar Creek	?	North of Thayer *Virden North Quadrangle*	Sangamon	Sangamon River	Water present in fall and spring	Vegetation same on both sides. Silver maple, sycamore, hackberry, green ash 10″dbh. 28″dbh silver maple snag W side. Shrub: box elder, honeysuckle. Herbaceous: reed canary grass, poison ivy, VA creeper, catbriar, snakeroot, wild onion, stinging nettle. 60% canopy cover	Entrenched 15-20′.35-40′ wide. Est. depth 4-6′.Heavy sediment load. Sediment channel. No fish (tackle on banks)

3	Intermittent stream, unnamed tributary of Sugar Creek	?	South of Thayer *Virden North Quadrangle*	Sangamon	Sangamon River	Dry in fall, water present in spring	Vegetation identical on both sides. Trees: Willow, black cherry, hackberry, slippery elm 8″dbh. Shrubs: young trees, honeysuckle, blackberry. Herbaceous: reed canary grass, large bed straw, poison ivy, Queen Anne's lace, ragweed. 5-10%canopy cover	Entrenched 5-8′. Slight slope. 5′ width. 4-6″ water depth. Clear. Gravel, sand, sediment channel. No fish. Minor nutrient enrichment
4	Intermittent stream, unnamed tributary of Brush Creek	?	Virden *Virden North Quadrangle*	Macoupin	Sangamon River	Dry in fall, water in spring	South side trees: hackberry, shingle oak, 15.3dbh. North side trees: black cherry, slippery elm, 12″dbh silver maple snag 16″dbh. Shrub layer same both sides: silver maple, honeysuckle. Herbaceous: reed canary grass. 5% canopy cover	Entrenched 15′ steep slopes.15′ width. 4-6″ deep water. Cobble, gravel, sand, sediment bottom. No fish. Nutrient enriched.
5A	Intermittent stream, unnamed tributary of Otter Creek	?	South of Virden *Virden South Quadrangle*	Macoupin	Macoupin Creek	Dry in fall, water in spring	Trees: black willow, black cherry, hackberry, osage orange 14.67 dbh. Shrub: elderberry, poison ivy. Herbaceous: reed canary grass, wild parsnip, fescue. 15% canopy cover	Entrenched 10′ steep slopes. 15′ width.6-8″ clear water. Sediment lined channel. No fish. Nutrient enrichment.

5B	Intermittent stream, unnamed tributary of Otter Creek	?	South of Virden *Virden South Quadrangle*	Macoupin	Macoupin Creek	Dry in fall, water in spring	Tree: Silver maple and osage orange. Herbaceous: Queen Anne's lace, milkweed, smartweed, American lotus.	Wetland area surveyed south Crown 2 Mine Road. High sediment. 2-4 deep water.
5C/5D	Intermittent stream, unnamed tributary of Otter Creek	?	South of Virden *Virden South Quadrangle*	Macoupin	Macoupin Creek	Not observed in fall, water in spring	Trees lacking. Herbaceous: reed canary grass, giant ragweed, Queen Anne's lace. Vegetation is same at both stream crossings	Actually 2 crossings. Streams entrenched 10′ moderate to steep slopes. 18′ (North stream) and 15′ (S stream) stream widths. 12-16″ water depth, clear, sediment lined channel. No fish. Nutrient enrichment.
5E	Intermittent stream, unnamed tributary of Otter Creek	?	In Girard *Virden South Quadrangle*	Macoupin	Macoupin Creek	Dry in fall, water in spring	Trees lacking. Shrub layer honeysuckle. Herbaceous reed canary grass	Entrenched 10′ steep slopes. 10′ width.8″ water depth. Clear. Sediment lined channel. No fish. Nutrient enrichment.
6	Anderson Branch of Macoupin Creek and unnamed	?	South of Nilwood *Carlinville East Quadrangle*	Macoupin	Macoupin Creek	Dry in fall, water in spring	Vegetation same both sides. Trees: black cherry, white mulberry, 7″dbh.	Entrenched 10-15′ steep slopes. 8′ width. 1′ deep,

	tributary						Shrub: poison ivy, blackberry. Herbaceous poison ivy, spiderwort. 20% canopy cover Unnamed Tributary Vegetation identical on both sides. Trees: silver maple and slippery elm 9.5″dbh. Shrub: blackberry, honeysuckle. Herbaceous: poison ivy, spiderwort. 20% canopy cover	clear water. Rock, cobble, sand, sediment bottom. No fish.. Unnamed Tributary Entrenched 20′ steep slopes. 21′ width. 18″ deep clear water. Sediment and rip rap bottom. No fish.
7	Intermittent stream, unnamed tributary of Briar Creek	?	South of Carlinville *Carlinville West Quadrangle*	Macoupin	Macoupin Creek	Dry in fall, water in spring	Trees lacking. Shrub: honeysuckle. Herbaceous: smart weed, milkweed, Queen Anne's lace. Located b/t UPRR and county highway.	Entrenched 5′ steep slopes. 8′ wide. Water 1′ and clear. Rock and sediment bottom. No fish.
8	Hurricane Creek	?	East of Beaver Dam State Park *Plainview Quadrangle*	Macoupin	Macoupin Creek	Water	Trees: silver maple 15″ dbh. Shrub: honeysuckle and blackberry. Herbaceous: poison ivy and fescue.	Entrenched 10′ steep slope. 30′ wide.3-5′ deep water (est.).Heavy silt load. Assumed sediment lined channel. No fish.

9	Macoupin Creek	?	South of Beaver Dam State Park *Plainview Quadrangle*	Macoupin	Macoupin Creek	Water	Trees: silver maple and hackberry, 22'dbh. Shrub: honeysuckle and blackberry. Herbaceous: poison ivy and fescue.	Entrenched 15-20' with steep slopes. 45' width. 3-6' depth (estimated). Heavy silt load. Assumed channel sediment lined. No fish.
10	May Branch of Macoupin Creek	?	South of Beaver Dam State Park and West of Newby Road *Plainview Quadrangle*	Macoupin	Macoupin Creek	Not observed in fall. Flowing water in spring	Trees: buckeye and cottonwood, 17.5"dbh. Open canopy, no snags immediately adjacent to UPRR. Shrub: bladdernut, green ash, elms. Herbaceous: poison ivy and spiderwort	Entrenched 15', moderate slopes.45' width. Water depth 2"-2', clear. Sand and gravel channel w/ occasional shale and igneous rock. Braided stream characteristics. No fish

TABLE 9

WETLANDS (2 PAGES)

TABLE 9
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT
TIER 2 SOUTH - AUBURN TO SHIPMAN
WETLANDS

Wetland	UPRR Mile Posts	Geographic Location	Review Type	Category	Acres	Dominant Species
1	208.50 - 209	North of Girard where the BNSFRR and UPRR separate	Field Observed, NWI maps, previous HSR environmental studies	Palustrine, unconsolidated bottom, intermittently exposed, diked/impounded	9.55	American Lotus (*Nelumbo lutea*)
						Silver Maple (*Acer saccharinum*)
						Black Willow (*Salix nigra*)
						Hedge Apple (*Maclura pomifera*)
2	211.03	West South Street on the south side of Girard	Field Observed, NWI maps	Palustrine, unconsolidated bottom, intermittently exposed, diked/impounded	0.54	Silver Maple (*Acer saccharinum*)
						Black Willow (*Salix nigra*)
3	211.85	South of Cambridge Rd and UPRR ROW crossing, both sides of abandoned RR bed	Field Observed	Palustrine Emergent	0.23	Cattail (*Typha latifolia*)
						Sedges (*Juncus spp.*)
						Black Willow (*Salix nigra*)
						Reed Canary Grass (*Phalaris arundinacea*)
4	212.7	North of Greenridge Road	Field Observed, NWI maps	Palustrine, unconsolidated bottom, intermittently exposed, excavated.	1.37	Duckweed (*Lemna spp.*)
						Silver Maple (*Acer saccharinum*)
						Honeysuckle (*Lonicera spp.*)
						Phragmites (*Phragmites australis*)
						Red Cedar (*Juniperus virginiana*)
						Black Locust (*Robinia pseudoacacia*)
5	214.76	South side of Nilwood	Field Observed and NWI maps	Palustrine, emergent, seasonally flooded	2.23	Black Willow (*Salix nigra*)
						Smartweed (*Polygonum spp.*)
						Cottonwood (*Populus deltoides*)

						Mulberry (*Morus spp.*)
						Honeysuckle (*Lonicera spp.*)
6	212.55-218.05	Bray and Allen Road Area	Field Observed, NWI maps, previous HSR environmental studies	Palustrine, forested, broad-leaved deciduous, temporary flooded	1.22	Smartweed (*Polygonum spp.*)
						Cattail (*Typha latifolia*)
						Foxtail (*Alopecurus spp.*)
						Johnson grass (*Sorghum halepense*)
						Buttonbush (*Cephalanthus occidentalis L.*)
						Honeysuckle (*Lonicera spp.*)
						Staghorn Sumac (*Rhus typhina*)
						Cottonwood (*Populus deltoides*)
7	???	Northeast of Macoupin Station	NWI Map	Palustrine, forested, broad-leaved deciduous, temporary flooded and seasonally flooded	3.58	Identified during NWI review. No field verification. Not observed due to accessibility. Assumed to be accurate.
8	???	Macoupin Creek	Field Observed and NWI maps	Palustrine, forested, broad-leaved deciduous, temporary flooded	36.26	Silver Maple (*Acer saccharinum*)
						Sunflower (*Helianthus spp.*)
						Cup Plant (*Silphium perfoliatum*)
						Common Hops (*Humulus lupulus*)
						Black Willow (*Salix nigra*)
9, 10, 11	???	West of Newby Road (North of Plainview)	NWI Map, Field Observed Wetland 9	Palustrine, forested, broad-leaved deciduous, temporary flooded	17.35, 6.03, 2.81	Identified during NWI review. Field verification. Observed in May 2012. 10 and 11 were not field verified, assumed to be accurate.

APPENDICES

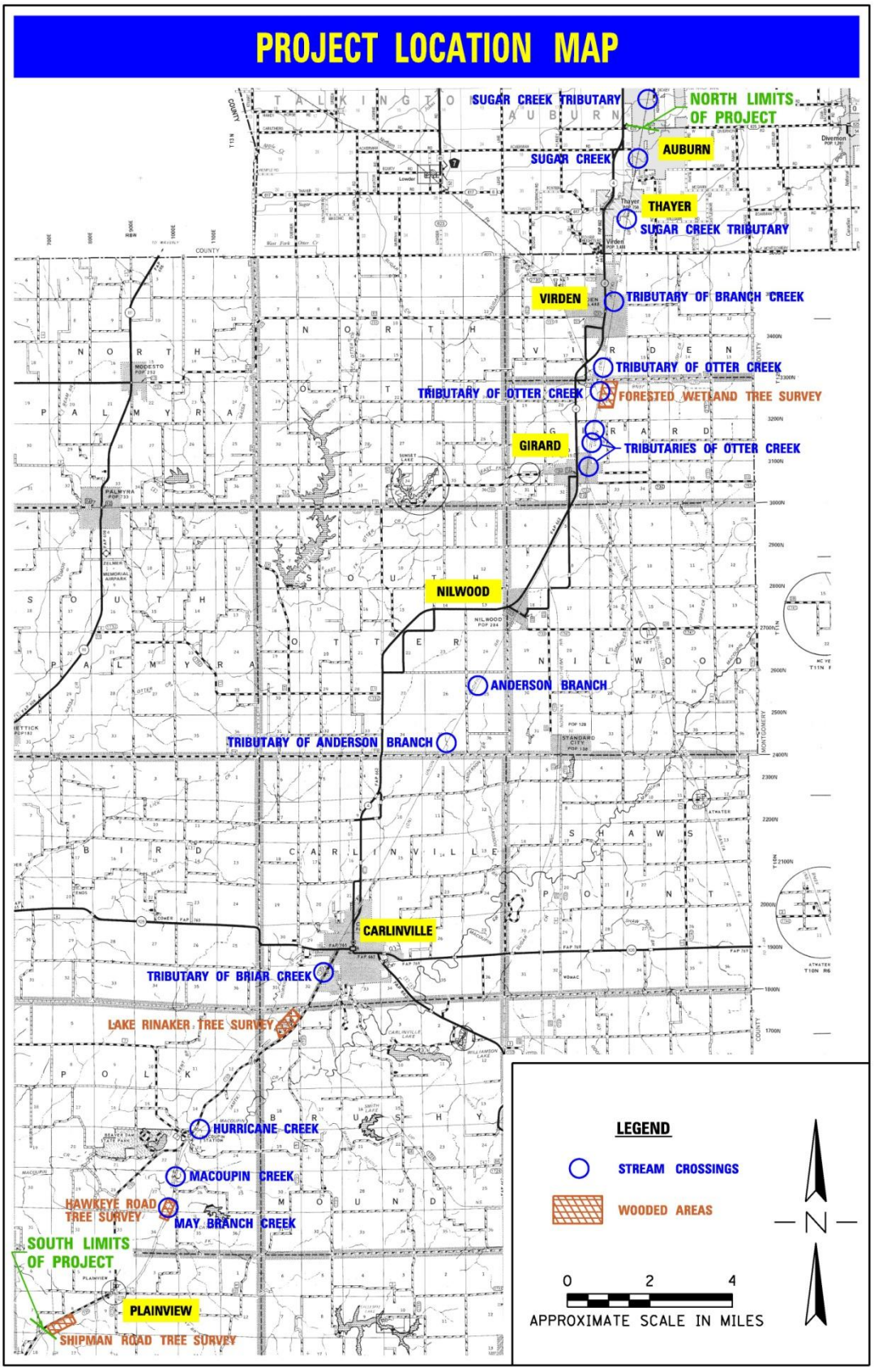
CHICAGO TO ST. LOUIS HIGH SPEED RAIL PROJECT

TIER 2 – AUBURN TO SHIPMAN, ILLINOIS

REPORT FOR FALL FIELD STUDIES

APPENDIX A

PROJECT LOCATION MAP


PROJECT LOCATION MAP
SUGAR CREEK TRIBUTARY
NORTH LIMITS OF PROJECT
AUBURN
SUGAR CREEK
THAYER
SUGAR CREEK TRIBUTARY
VIRDEN
TRIBUTARY OF BRANCH CREEK
TRIBUTARY OF OTTER CREEK
TRIBUTARY OF OTTER CREEK
FORESTED WETLAND TREE SURVEY
GIRARD
TRIBUTARIES OF OTTER CREEK
NILWOOD
ANDERSON BRANCH
TRIBUTARY OF ANDERSON BRANCH
CARLINVILLE
TRIBUTARY OF BRIAR CREEK
LAKE RINAKER TREE SURVEY
HURRICANE CREEK
MACOUPIN CREEK
HAWKEYE ROAD TREE SURVEY
MAY BRANCH CREEK
SOUTH LIMITS OF PROJECT
PLAINVIEW
SHIPMAN ROAD TREE SURVEY
LEGEND
STREAM CROSSINGS
WOODED AREAS
N
0 2 4
APPROXIMATE SCALE IN MILES

APPENDIX B

REFERENCES

REFERENCES

1. Shipman to Godfrey, IL. Springfield Subdivision; Mile Post 230.00 to Mile Post 253.00; High Speed Rail; 30 % Preliminary Plans.

2. Final Environmental Impact Statement and Record of Decision, Chicago to St. Louis, High Speed Rail Project, 2004.

3. Native Vegetation Report, High Speed Rail, Chicago to St. Louis, 1999.

4. Threatened and Endangered Species Report, High Speed Rail Project, Chicago to St. Louis, 1999.

5. Wetlands Report, High Speed Rail Project, Chicago to St. Louis, 1999.

6. Illinois Department of Transportation, Roadside Railroad Prairie Studies Reports, Districts 6 and District 8, 2003.

7. US Fish and Wildlife Service, Illinois County Distribution List of Federal Threatened and Endangered Species.

8. US Fish and Wildlife Service, National Wetland Inventory Maps.

9. Illinois Department of Natural Resources, Natural Heritage Database, ECOCAT.

10. United States Department of Agriculture, National Resources Conservation Service, Soil Survey of Macoupin County, Illinois.

11. United States Department of Agriculture, National Resources Conservation Service, Soil Survey of Madison County, Illinois.

12. Cowardin, et.al, 1979; Classification of Wetlands and Deep-water Habitats of the United States.

13. US Fish and Wildlife Service, National List of Plant Species that Occur in Wetlands, Illinois, 1988.

APPENDIX C

COVER TYPE MAP

SEE SEPARATE ATTACHMENT (LARGE FILE)

APPENDIX D

IDNR EcoCAT Response from Steve Hamer

Illinois Department of
Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

Pat Quinn, Governor
Marc Miller, Acting Director

November 8, 2011

Quigg Engineering
2000 South Main St.
Suite A
Jacksonville, IL 62650

RE: Union Pacific Railroad
High Speed Rail
Chicago to St. Louis
Auburn to Shipman
IDNR #'s: 1205117,1205120
1205121, 1205122, 1205123,
1205125

Dear Mr. Rawe :

This letter is in response to the above referenced projects that was screened through the Illinois Department of Natural Resources (IDNR) Eco-CAT review tool and the IDNR Resource Database. Based on the results of further review, several projects have potential for impacts to resources that occur in the project area.

Identifying Potential Impacts for Track Upgrades and Construction of Sidings:

Carlinville Railroad Prairie INAI Site: This site has state listed plant species (Ear-leafed Foxglove) occurring and the Franklin's Ground Squirrel per the database.

Denby Prairie Nature Preserve and INAI Sites: This site is identified as a high quality Dry-mesic Prairie. Plant surveys should be done for the INAI site. **There will be no impacts, direct or indirect, to the Nature Preserve.** This should be identified early in the planning process.

Reiher Barrens INAI Site: This site has several state listed plant species including the Bunchflower, Blazing Star and Large Ground Plum.

In addition to the above there are many Prairie Remnants that occur along this approximately 40 mile corridor that would have potential for listed plant species within their boundary.

The Illinois Department of Natural Resources recommends that the Illinois Natural History Survey be tasked to do several seasonal surveys to capture all plants for the above listed sites and species identified, including potential habitat. All survey reports and maps identifying the areas surveyed should be coordinated with this office for further review and comment. The

boundaries for INAI sites and plant surveys should also be identified with the assistance of the IDNR Natural Heritage Biologist, Mark Phipps. Mark may be contacted at 217-462-1181, Ext. 13. Consultation remains open on this project.

The following parts of the project scope were terminated by the Eco-cat tool because there were no resources identified in the project area. #'s 1205124, 12051256, 1205127, 1205128, 120529, 1205131, 1205132, 1205135, and 1205136.

If you have any questions on the above, please contact me at 217-785-4862.

Sincerely,

Steve Hamer

Steve Hamer
Transportation Review Program
Division of Environment and Ecosystems
Illinois Department of Natural Resources
Springfield, IL. 62702-1271

Tom Brooks; IDOT/BDE—Environmental Unit
Mark Phipps; IDNR/Natural Heritage Biologist District 19
Steven A. Ott; Parsons Brinckerhoff, 500 Griswold Street, Suite 2900, Detroit, MI 48226
file

APPENDIX E

Water Quality Photographs

North unnamed tributary of Sugar Creek. View is to the south on the east side of the UPRR ROW

Sugar Creek. View to southwest from east side of UPRR bridge.

South unnamed tributary of Sugar Creek. View to west from east side of UPRR ROW.

Tributary of Brush Creek. View to west from east side of UPRR ROW in Virden, IL.

Tributary of Otter Creek. View to east from west side of UPRR ROW south of Virden, IL (north of Substation Road).

Tributary of Otter Creek. View to west from east side of UPRR ROW south of Virden, IL (south of Substation Road).

Tributary of Otter Creek. View to southwest from east side of UPRR ROW south of Virden, IL (south of Substation Road).

Tributary of Otter Creek. East view from west side of UPRR ROW in Girard, IL.

Anderson Creek. West view from abandoned RR ROW located on west side of UPRR ROW. West view showing headwaters of Anderson Creek. Location is south of Allen Road.

Unnamed tributary of Anderson Creek. West view from UPRR ROW. Location is north of Standard City Road.

Unnamed tributary of Brier Creek. West view from Shipman Road ROW. Location is south side of Carlinville, IL.

Hurricane Creek. East view from Shipman Road bridge over Hurricane Creek. Location is south of Carlinville, IL.

Macoupin Creek. East view from Lake Catatoga Road bridge over Macoupin Creek. Location is southwest of Beaver Dam State Park.

May Branch of Macoupin Creek. East view from west side of UPRR bridge. Location is north of Hawkeye Road.