Conservation Plan
Meredosia Plant Ash Pond Closure

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ABBREVIATIONS AND ACRONYMS

CCR	Coal Combustion Residuals
CY	Cubic Yards
EPA	US Environmental Protection Agency
ESA	Endangered Species Act of 1973
HDPE	high density polyethylene
ICF	Illinois Chorus Frog
IDNR	Illinois Department of Natural Resources
ITA	Incidental Take Authorization
MW	Megawatt
RFB	Regal Fritillary Butterfly
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

This Conservation Plan has been prepared in accordance with the requirements outlined in Title 17, Chapter I(c), Section 1080 of the Illinois Administrative Code (Incidental Taking of Endangered or Threatened Species). Section 1080 allows the Illinois Department of Natural Resources (IDNR) to authorize the incidental take of species listed as endangered or threatened by the State of Illinois following the preparation of an approved Conservation Plan. This Conservation Plan is written in support of Ameren Corporation's (Ameren) application for incidental take authorization (ITA) from IDNR for the Illinois chorus frog (*Pseudacris streckeri illinoensis*) (ICF) and the regal fritillary butterfly (*Speyeria idalia*) (RFB). Species concurrently listed as federally threatened and endangered under the Endangered Species Act of 1973 (ESA, as amended) will be consulted upon with the U.S. Fish and Wildlife Service (USFWS) as per Section 7 of ESA. This Conservation Plan for ash pond closure at the Meredosia Plant includes a description of the proposed project, biological data on the Illinois endangered or threatened species that may be affected by the proposed project, anticipated effects upon these species, mitigation measures that will be implemented to minimize adverse effects, a description of project alternatives, an assessment of take, and an implementing agreement.

2.0 CONSERVATION PLAN

2.1 Project Purpose and Need

The purpose of this project is to provide a cost effective closure of the remaining ash ponds at the Meredosia Plant in accordance with the Illinois Pollution Control Board's (IPCB) Rule IAC Title 35.G.I.j.840.A and the US Environmental Protection Agency's (EPA) rule regarding coal ash ponds. In April 2015, EPA established national criteria and schedules for the safe disposal of coal combustion residuals (CCRs), commonly known as coal ash, from coal-fired power plants (80 Federal Register 21302). However, since the Meredosia Plant ceased power production in 2011, the ponds at the plant are exempt from EPA's rule. The closure of these ponds would also provide for future land use of the plant site.

Closure of the ash ponds could result in the taking of listed species as a result of vehicle traffic during construction and maintenance activities. Therefore, the purpose of the Conservation Plan is to assist Ameren in complying with the IEPA's requirement to close the ash ponds at the Meredosia Plant. This Conservation Plan will address the components of the planned activities and any potential impacts to listed species.

2.2 Project Location and Description

The Meredosia Plant (Figure 2-1) was originally constructed as a 58 megawatt (MW) capacity coal-fired generation plant with an in-service date of 1948. Additional coal-fired capacity was added in 1949 (58 MW) and 1960 (239 MW). The plant is located on the left descending bank of the Illinois River at 800 South Washington Street in Meredosia, Illinois (Morgan County). In 1968, Ameren commissioned the Fly Ash Pond with a designed storage capacity of 650 acre feet. In 1972, the Bottom Ash Pond was commissioned with a capacity of 139 acre feet. Due to increasing costs associated with stricter air pollution regulations, the aging Meredosia Plant was decommissioned at the end of 2011. The total project area would be approximately 35.7 acres, all of which is located within the Meredosia Plant, which is owned by Ameren.

The proposed action includes the closure of the Bottom Ash Pond and Fly Ash Pond at the Meredosia Plant. An estimated 300,000 cubic yards (cy) of material will be removed from the Bottom Ash Pond, including the southern berm and the top three feet of the northern berm, and will be placed in the larger Fly Ash Pond. Various utility components, including steam line piping, electrical conduits, light poles, culverts, fencing, and the outfall structure associated with the Bottom Ash Pond will be removed for reuse elsewhere or transported to an approved off-site commercial disposal facility. All of these components are located either within the ash pond or the berms that are already being disturbed or removed.

After removal of the ash, the Bottom Ash Pond will be backfilled with approximately 160,000 cy of clean soil and will be graded and restored with an appropriate seed mix to stabilize the soil and

prevent erosion. Additional clean backfill material will also be used to raise the northern berm an additional three feet to support a truck turnaround.

The remaining material from the Coal Pile Storage area (approximately 38,000 cy) will be placed in the Fly Ash Pond. Afterwards, the area will be restored with an appropriate seed mix to stabilize the soil and prevent erosion.

After material from the Bottom Ash Pond and Coal Storage area is placed into the Fly Ash Pond, it will be graded and covered with a synthetic high density polyethylene (HDPE) liner and cover soil. The ash in the Eastern Waste Area adjacent to the Fly Ash Pond would also be removed and filled with clean soil.

Temporary work areas will be required for equipment laydown and staging. These will be located within the Meredosia Plant on previously disturbed lands between the Bottom Ash and Fly Ash ponds.

The clean material used to fill the Bottom Ash Pond will be obtained from a location outside of the known ICF and RFB habitat areas and their buffers (Figure 2-2). Additionally, this material would be transported to the project area using existing transportation networks, therefore no new roads would be built.

2.3 Listed Species

The terrestrial and aquatic habitats in the study area support plant and wildlife species that are listed as either threatened or endangered pursuant to the ESA of 1973 (as amended) and the Illinois Endangered Species Act (520 ILCS 10/7). Listed species that could potentially occur in the project area were identified through consultation with IDNR for this and other projects in the vicinity (Illinois Rivers Transmission Projects and FutureGen), review of IDNR species lists, and literature review. A request for consultation with IDNR on was submitted for this project through the EcoCAT program and is included in this Conservation Plan in Appendix A.

2.3.1 Plants

Based on distribution within Morgan County, seven listed plant species have the potential to occur within the project area. Pale false foxglove (*Agalinis skinneriana*), blue hearts (*Buchnera americana*), bunchflower (*Melanthium virginicum*), and Hall's bulrush (*Schoenoplectus hallii*) are state-listed as threatened by IDNR whereas pink milkwort (*Polygala incarnata*) and Bent or Ozark milk vetch (*Astragalus distortus*) are listed as state-endangered by IDNR. State-listed plant species may only be taken with the written consent of the landowner. Due to habitat preferences and the existing site conditions, Ameren does not anticipate take of these species in association with construction of the proposed project. The federal ESA is applicable only to those listed plants located on federal property, which does not include the Meredosia Plant. IDNR is not a landowner within the project area and thus an ITA is not requested for any of the plant species listed herein.

The decurrent false aster (*Boltonia decurrens*) is federally-listed as threatened by the USFWS and state-listed as threatened by IDNR. This species is known to occur in various locations within the floodplain of the Illinois River in Brown, Cass, Fulton, Morgan, Pike, and Schuyler Counties. A major cause of its decline is the conversion of floodplains to agriculture. Although the Meredosia Plant is located within the Illinois River floodplain, the project area does not include favorable habitat for the species and therefore, impacts are not anticipated from the closure of the ash ponds. Additionally, a survey was performed in 2014 for the Illinois Rivers Transmission Project and no *B. decurrens* were found within the floodplain near the Meredosia Plant (AMEC 2014) (Appendix B). Should this species be encountered during construction, Ameren will consult with the USFWS and IDNR regarding further action.

2.3.2 Wildlife

The Indiana bat (*Myotis sodalis*) is listed as endangered by both the USFWS and the IDNR. The northern long-eared bat (*Myotis septentrionalis*) was listed as threatened in 2015 by the USFWS. While there is no forested habitat within the project area, both bat species could utilize trees in neighboring forested areas during the summer roosting season. Since the proposed action does not include the removal of any trees, impacts to these bat species are not anticipated.

Bald eagles (*Haliaeetus leucocephalus*) are federally protected by the Bald and Golden Eagle Protection Act (16 USC 668) and the Migratory Bird Treaty Act (16 USC 703). Due to its location near the banks of the Illinois River, the proposed project was evaluated on two separate occasions with consideration of potential bald eagle nesting and roosting areas. A bald eagle nesting survey was conducted at the Meredosia Energy Center in spring/summer of 2013 in conjunction with the proposed FutureGen Project (FutureGen Alliance, 2014). Additionally, a survey was conducted in September 2015 along the Illinois River immediately west of the project area for a portion of the Illinois Rivers Transmission Project. No eagles or nests were found during either field reconnaissance.

2.4 Incidental Take Authorization (ITA) Request

In consideration of the project location and design as well as anticipated impacts based on feedback from IDNR for the Illinois River Transmission Projects, it was determined that there is the potential for take of two species, the regal fritillary butterfly (RFB) and Illinois chorus frog (ICF), which are covered by this Conservation Plan (Chapter 4.0, Table 4-1).

2.4.1 Regal Fritillary Butterfly (*Speyeria idalia)*

The RFB is a state-listed threatened species and member of the brush-footed butterflies. Typical habitat for this species includes tall-grass and mixed-grass prairie remnants. The larvae of Lepidoptera, including the RFB, are very specific in their feeding requirements. The food source for all larvae within the genus *Speyeria* are violets (*Viola* spp.). In the spring, the larvae feed on the foliage of violets. In early June, adult males emerge and are followed by adult females two

weeks later. Adult RFBs feed on a variety of nectar plants including milkweed, thistle, coneflowers, goldenrods, and ironweeds. By early September, females begin depositing over 1,000 eggs on various plants, including violets. The caterpillars emerge and enter winter dormancy without eating.

The RFB has been observed at the Meredosia Energy Center and at other sites in the floodplains east of the Illinois River in Cass and Morgan Counties (LaGesse 2012). IDNR has not received any reports of the RFB west of the Illinois River (IDNR 2014).

2.4.2 Illinois Chorus Frog (*Pseudacris (streckeri) illinoensis*)

The ICF is a state-listed threatened species and inhabits sand prairies and agricultural fields with sandy substrates. The species hibernates in burrows, and emerges in the spring to breed in flooded fields, ditches, and vernal pools, before returning to underground burrows. The distribution of the ICF includes west-central and southwestern Illinois. It is known to occur in the vicinity of the Meredosia Energy Center and in floodplains and hill prairies in Cass, Morgan, and Scott counties. There are no records of ICF west of the Illinois River. Primary threats include loss of sand prairie habitats, draining and clearing of bottomlands, and use of herbicides and pesticides (INHS 2006*a*).

A survey in the vicinity of the Meredosia Energy Center conducted in April 2014 identified ICF breeding in shallow pools and ditches east of the plant (data sheets are included in Appendix B). A survey in March 2012, however, did not identify any ICF at the Meredosia Energy Center (LaGesse 2012). Based on conversations with IDNR, ICF do not appear to be inhabiting or breeding in any of the affected ash ponds at the Meredosia Plant.

2.5 Project Effects

This section describes the activities associated with the proposed project and the anticipated adverse effects to listed species that would result from these activities.

2.5.1 Description of Project Activities

Closure of the ash ponds is anticipated to occur between July 2016 and December 2017, once all of the applicable permits and authorizations have been received. The following describes the general sequence of construction activities for the projects.

2.5.1.1 Ash Removal

At the Bottom Ash Pond, an estimated 300,000 cy of material would be removed, including ash from the pond, the southern berm, and the top three feet of the northern berm, and be placed into the Fly Ash Pond. Some of the material from the Coal Pile Storage area (an estimated 38,000 cy) and all of the material from the Eastern Waste Area will also be placed in the Fly Ash Pond.

Based on prior projects, the transfer of ash within the different project areas may be completed utilizing standard construction equipment such as bulldozers, excavators, and tandem double-axel dump trucks.

2.5.1.2 Placement of Fill Material and Cover Systems

After removal of the ash, the Bottom Ash Pond will be backfilled to above the groundwater table and is expected to periodically flood and retain water. The remaining material in the Coal Pile Storage area will be contoured and restored with the planting of an appropriate seed mix to stabilize the soil and prevent erosion.

After the material from the pile areas are placed into the Fly Ash Pond, it will be graded and capped with ClosureTurf, which is a subtitle D compliant synthetic capping system that includes an HDPE component with surface water drainage, turf, and sand infill.

The clean material used to fill the Bottom Ash Pond will be obtained from a location outside of the known ICF habitat as shown in Figure 2-2. It will be transported to the Meredosia Plant in trucks over existing transportation corridors, therefore no additional offsite ground disturbance within ICF or RFB habitat areas is required.

2.5.1.3 Construction of Access Roads

To minimize disturbance, transportation of materials, personnel, and equipment within the Meredosia Plant will utilize existing roads. These roads are in good condition and would not require the addition of any gravel or culverts to support the construction activities.

The clean fill material used in the Bottom Ash Pond and Eastern Waste Area and the cap material for the Fly Ash Pond would have to be transported from an off-site location. The trucks would travel on already-existing transportation corridors leading up to the plant and within the plant limits.

2.5.1.4 Temporary Work Space

Temporary work areas for equipment laydown and staging will be developed on vacant lands within the Meredosia Plant property limits between the Bottom Ash and Fly Ash ponds. While no soil excavation is expected to occur for these areas, additional material such as gravel or timber mats may be required to create an adequate staging area for the equipment.

2.5.1.5 Other Site Activities

In addition to the removal of ash material, closure of the ash ponds will also include removal of the supporting infrastructure located within the ponds and/or their berms. Steam line piping, electrical conduits, light poles, culverts, fencing, and the outfall structure associated with the ash

ponds will be removed for reuse elsewhere or transported to an approved off-site commercial disposal facility. No additional ground disturbance outside of the ponds and berms will be required for this activity.

2.5.1.6 Restoration

Restoration within the footprint of the Bottom Ash Pond, Coal Pile Storage Area, and Eastern Waste Area will include site grading as indicated in Figure 2-3 and planting with an appropriate seed mix to stabilize the soil and prevent erosion. Additional best management practices such as straw mulch and silt fence will be implemented to maintain proper sediment and erosion control measures on the restored construction site.

2.5.2 Project Effects on Listed Species

Closure of the ash ponds could result in the taking of listed species as a result of (1) ground disturbance and vegetative clearing, and (2) construction equipment and vehicle traffic during construction and maintenance activities.

Ground disturbance (grading) and vegetative clearing could result in the direct mortality of species with limited mobility that occur within work areas, access roads, and borrow site. These activities could also affect those wildlife species that occupy underground burrows or dens. Finally, reptiles, amphibians, and small mammals could be trapped in excavations (i.e., trenches or holes). These potential hazards would only occur during the construction phase.

Traffic associated with construction equipment and worker vehicles could result in mortality (crushing) of species that have limited mobility or utilize underground burrows/dens. Reptiles and amphibians often utilize roads and burrows, and would be most susceptible to such mortality. Additionally, construction equipment and worker vehicles could result in the loss of eggs or young for ground-nesting bird species. These potential hazards would only be present throughout the construction phase.

2.6 Measures to Reduce Impacts to Listed Species

A number of mitigation measures will be incorporated into the project to minimize impacts on listed species. The implementation of these measures will help to reduce adverse effects upon sensitive habitats and biological resources, and will minimize the potential for taking of state-listed species. The following describes the generic mitigation measures and species-specific mitigation measures that will be implemented for RFB and ICF as part of the project.

2.6.1 Mitigation Measures

In lieu of on-site mitigation, Ameren proposes to provide mitigation funding to an IDNR-approved entity to enhance ICF/RFB habitat in the Illinois River floodplain. General measures used to minimize project-related impacts include:

1. Construction personnel will be educated on the sensitive biological resources in the area, the identification of listed species, where the RFB and ICF might be found, avoidance areas, travel restrictions for equipment and vehicles, how to report sightings of listed species, how to report incidents that could involve take, and the importance of avoiding taking of listed species.
2. Crane mats will be used in the work areas, where necessary, to minimize rutting and soil compaction.
3. Select sensitive areas disturbed by construction will be restored with an appropriate seed mixture. Re-seeding will help to restore vegetative cover, reduce the potential for erosion, and create habitat for a number of plant and wildlife species.
4. Periodic mowing of the restored areas would help to control the growth of woody species. Mowing would occur in the late summer, fall or early winter to avoid the ICF breeding season.
5. Outside the designated project area, construction equipment and vehicle traffic will be limited to existing public roads or designated access roads. This will help to minimize potential adverse effects to sensitive habitats and listed species.

2.6.2 Illinois Chorus Frog

- Borrow material will be generated from sources outside of the known ICF habitat areas, depicted in Figure 2-2, to completely avoid impacts associated with excavation and transport of clean borrow material (i.e., west of the Illinois River where ICF are not known to occur).
- Temporary exclusion fencing will be placed along active haul/travel routes within 900 meters of known occupied habitat to prevent ICF from entering the active construction areas during the breeding season (February – May). Inspections of the fencing will be conducted on a regular basis to maintain an adequate functional barrier. Where appropriate and feasible, best management practices will also be implemented, such as crane mats and/or low ground pressure tires on heavy equipment, to spread the weight of equipment and minimize the potential for soil compaction and subsequent crushing of burrowing ICF.
- Inspect open excavations on a daily basis, within areas of potentially suitable habitat, and remove any frogs that may be in the excavations to avoid injury to these individuals.

2.6.3 Regal Fritillary Butterfly

- Borrow material will be generated from sources outside of the known RFB habitat areas, depicted in Figure 2-2, to completely avoid impacts associated with excavation in potentially suitable RFB forage habitat.

2.6.4 Monitoring

Upon completion of construction, all disturbed areas will be restored to include the following (as necessary):

- grading to final restoration contours;
- hauling away piping, debris and excess materials to an approved location; and
- seeding disturbed areas to stabilize the site.

Restoration activities will help to establish vegetated areas as potential habitat for a number of plant and wildlife species.

Annual breeding-season monitoring in the vicinity of the plant is already being conducted by Ameren as part of the Illinois Rivers Project ITA. Under the agreement for that project, monitoring during the breeding season is being conducted during construction and for three years following construction (2017-2019). Since monitoring efforts will already be performed in the vicinity of the Meredosia Plant, Ameren would use the data collected from the Illinois Rivers Project monitoring efforts to document any post-construction impacts on ICF near the plant.

2.6.5 Adaptive Management

The purpose of the project, as stated in Section 2.1, is to close the coal ash ponds in compliance with IEPA's requirements. The objective of this plan is to meet Ameren's stated purpose with the objective of minimizing take of the RFB and ICF.

Adaptive management is a systematic but flexible approach for improving resource management by learning from management outcomes. It is the idea of learning from experience and modifying subsequent management decisions in light of that experience.

Learning will be acquired from monitoring which will be used to evaluate the effectiveness of best management practices, restoration measures, and on-going proliferation of ICF populations and RFB habitat.

Best management practices to be implemented in an effort to minimize take of ICF and RFB are listed above. Adaptive management is based on monitoring and will include the following:

- Weekly monitoring will include inspection of temporary exclusion fencing, when used during the ICF breeding season, along active haul routes to maintain integrity of the

protective barrier. If the barrier is fallen or not in contact with the soil, construction crews will repair the barrier as needed. Observation of ICF will be documented and dead ICF, if observed, will be photographed, located by GPS, and reported to IDNR within a week.

- Should periodic monitoring identify congregating areas for the RFB, photographs will be taken and the location(s) will be recorded with GPS. This information will be shared with IDNR and construction meetings will be held to identify appropriate work around measures.
- Preconstruction vegetation surveys will be conducted within potential RFB habitat areas to identify baseline habitat conditions including the identification of larval and adult food sources.
- A progress report will be submitted to IDNR following construction to include construction a description of the project activities completed, best management practices employed, a discussion of species take during the report period, and mitigation/restoration activities implemented.

2.6.6 Conservation Plan Funding

Ameren Corporation (Ameren) is the parent of Medina Valley Cogen, LLC. As a large utility, Ameren has adequate financial backing to support and implement all mitigation activities described in this Conservation Plan. The costs of mitigation activities will be incorporated into the overall project budget. Therefore, no specific financial instruments such as bonds, certificates of insurance, or escrow accounts will be required to implement all aspects of the Conservation Plan.

3.0 PROJECT ALTERNATIVES

3.1 No Action Alternative

The No Action alternative would result in the ash ponds at the Meredosia Plant to continue in their current state, which would have no effect on sensitive habitats or state listed species. However, the No Action alternative would result in Ameren's failure to comply with the IEPA's requirement to close the ash ponds.

3.2 Alternatives Considered

Factors considered during project planning included volume of CCR material, volume of clean borrow material required, schedule, site stability, risk to human health and safety, cost, and potential impacts to wetlands, streams, and biological resources (including species listed as threatened or endangered by the State of Illinois).

One alternative considered for the proposed ash pond closure included hauling all CCR to an approved offsite disposal facility. This alternative would prove difficult in finding a suitable nearby authorized disposal facility, would result in thousands of trucks transporting CCR waste on public highways, and would result in a prohibitively higher project cost.

Another alternative considered capping both ash ponds in place. This alternative would require larger volumes of clean fill for both ash ponds, the development of a larger offsite borrow area, more borrow trucks on public roadways, and greater project impacts on species as a result of additional excavation and more haul trucks.

The preferred alternative of moving coal and bottom ash to the Fly Ash Pond followed by capping the Fly Ash Pond requires less clean borrow material. Within this alternative, Ameren considered the option of conducting construction activities outside of the ICF breeding season and the RFB flight season to avoid impacts to the species. However, the time constraints imposed by these limitations would severely limit the ability for Ameren to complete the project in a timely manner, therefore this option is not viable.

4.0 ASSESSMENT OF TAKE

Although the proposed actions and proposed mitigation measures will minimize impacts to sensitive habitats and threatened and endangered species, construction activities could result in the taking of some individuals. While every effort will be made to minimize take, construction activities may result in the mortality and/or disturbance of individuals that occur in work areas or on access roads. This is particularly true for species with limited mobility or those that use underground burrows (e.g., ICF).

The anticipated number of takings will not reduce the (1) likelihood of the survival of the endangered or threatened species in the wild within the State of Illinois, (2) the biotic community of which the species is a part, or (3) the habitat essential to the species existence in Illinois. There are other locations both in the immediate vicinity and throughout Illinois where the RFB and ICF occur. The project area does not include any ecologically-sensitive areas that may be used by state-listed species. Implementation of the mitigation measures identified above will reduce the potential for takings of listed species throughout the construction and operation phases of the project.

Table 4-1. Estimated Take of Threatened and Endangered Species

Common Name	Scientific Name	Estimated Permanent Habitat Loss[1]	Estimated Temporary Habitat Disturbed	Estimated Take[2] (# of Individuals)
Illinois chorus frog	*Pseudacris (streckeri) illinoensis*	0 ac	0 ac	1 – 10
Regal fritillary butterfly	*Speyeria idalia*	0 ac	0 ac	1 – 20

[1] Based on conversations with IDNR, the ICF is not inhabiting or breeding within either of the ash ponds at the Meredosia Plant. In addition, recent surveys have observed ICF breeding east of the plant but not within the plant boundaries. Furthermore, larval and adult RFB food sources are not known to occur within the ash ponds, coal pile, laydown area, or on-site existing haul roads. Therefore, neither permanent habitat loss nor temporary habitat disturbance is anticipated to occur as a result of project implementation.
[2] Take is based on an estimated number of ICF and RFB accidentally killed by haul trucks during transport of clean fill on public roadways.

4.1 Illinois Chorus Frog

Take assessment for the ICF is based on habitat locations where this species was previously known to occur as depicted in Figure 2-2. Based on correspondence with IDNR (2014) regarding documented movements of the species from burrowing sites to breeding sites, the historic locations in Figure 2-2 were buffered or expanded by 900 meters around each occurrence location. The area where take could occur, therefore, is quantified as the area of potentially suitable habitat lost and disturbed within these expanded historic locations. While the potential habitat area for the ICF extends into the project area, the ash ponds do not provide suitable habitat. Therefore, take is not expected to occur within these areas. Furthermore, because

borrow material will be sourced from areas outside of known ICF areas, there would be no habitat disturbance.

The range of potential take for this species is 1-10 individuals as depicted in Table 4-1. Take is difficult to assess because this fossorial species is active above ground only during the breeding season when weather conditions are favorable. In some years, populations of this species may go undetected if climatic conditions are poor. As such, it is difficult to determine population presence or size in a given area from year to year. As stated above, temporary exclusion fencing will be placed onsite along active haul/travel routes within these habitat areas (identified in Figure 4-1) to prevent ICF from entering active construction zones during the breeding season (February – May). Furthermore, best management practices such as crane mats and/or low ground pressure tires will be used on heavy equipment, as needed and appropriate, to spread the weight of equipment and minimize the potential for soil compaction during construction within the potentially suitable ICF habitat areas.

Based on conversations with IDNR, the ICF is not inhabiting or breeding within either of the ash ponds at the Meredosia Plant. In addition, recent surveys have observed ICF breeding east of the plant but not within the plant boundaries. As such, neither permanent habitat loss nor temporary habitat disturbance is anticipated to occur as a result of project implementation. The assessment of take is based on an estimated number of ICF accidentally killed by haul trucks during transport of clean fill on public roadways.

Post construction monitoring will be used as an on-going tool to assess the status of this species in the vicinity of the Meredosia Plant.

4.2 Regal Fritillary Butterfly

An initial field reconnaissance of the project area did not reveal any locations containing potential RFB adult food sources. Typically, these areas are located in remnant native grassland communities that could include the appropriate forb species. During field surveys for the Illinois Rivers Transmission Projects, a potentially suitable food location was found approximately one mile northeast of the Meredosia Plant (Figure 4-1). This site is an old field with a diversity of suitable adult nectar food sources including bee balm (*Monarda* sp.), common milkweed (*Asclepias syriaca*), and others. Within the Meredosia Plant, previous surveys identified patches of violets in varying densities, which could serve as a larval food source (LaGesse 2012).

The range of potential take for this species is 1-20 individuals as depicted in Table 4-1. A 2012 survey for adult RFB in the vicinity of the Meredosia Plant identified a total of just 57 individuals (FutureGen Alliance, 2014), however only three of those were found within the plant boundaries. Higher take numbers within the project area are not expected due to the local population size and the limited amount of habitat disturbed and lost by the project. However, adults could be impacted by traffic generated from the transport of borrow material on existing public roadways.

5.0 IMPLEMENTING AGREEMENT

Ameren agrees to implement this Conservation Plan upon approval by IDNR and issuance of the requested ITA. Ameren will be solely responsible for meeting the terms and conditions of the ITA and will allocate sufficient personnel and resources to ensure effective implementation of the Conservation Plan. Ameren will be responsible for planning, contract execution and construction supervision for the entire project.

5.1 Responsibilities and Schedules

Kenneth W. Lynn of Ameren will serve as the Conservation Plan Coordinator and will be responsible for the implementation of the best management practices, mitigation measures and restoration activities as described in this Conservation Plan. In addition, K. Lynn will be the IDNR liaison and will inform IDNR of adaptive management measures, such as changes in access road or structure locations, if such modifications result in necessary changes to the Conservation Plan. Contact information for the Conservation Plan Coordinator is as follows:

Kenneth W. Lynn
Consulting Environmental Scientist
Ameren Services
1901 Choteau Avenue, MC602
St. Louis, Missouri 63103
klynn@ameren.com
314-554-2978

Construction activities are expected to begin at this site in July 2016 and be completed by December 2017.

5.2 Certification

I hereby certify that all participants listed in Section 5.1 have the legal authority to carry out their respective obligations and responsibilities under the Conservation Plan.

Steven C. Whitworth
Sr. Director, Environmental Policy and Analysis
Ameren Services

5/2/2016
Date

5.3 Compliance with Federal, State, and Local Regulations

The project will comply with all pertinent Federal, State, and local regulations. The list of agencies and associated regulations is presented in Table 5-1.

Table 5-1. Compliance with Federal, State, and Local Regulations

Statute or Requirement	Agency	Compliance[1]	Comment
Archaeological and Historic Preservation Act	IHPA	Full compliance	NA. Previously disturbed site.
Clean Water Act, Section 404	USACE	Full compliance	NA. No fill in waters of the US.
Clean Water Act, Section 401	IEPA	Full compliance	NA. No fill in waters of the US.
Clean Water Act, Section 408	USACE	Full compliance	NA.
Clean Water Act, Section 402	IEPA	Full compliance	Will be acquired prior to construction.
Endangered Species Act	USFWS	Full compliance	NA. No federal listed species.
National Historic Preservation Act	IHPA	Full compliance	NA. Previously disturbed site.
River and Harbors Act	USACE	Full compliance	NA. No fill in Section 10 waters.
Floodplain Development Permit	County	Full compliance	NA

[1] Full compliance is anticipated for project authorization and is required prior to commencement of construction activities.

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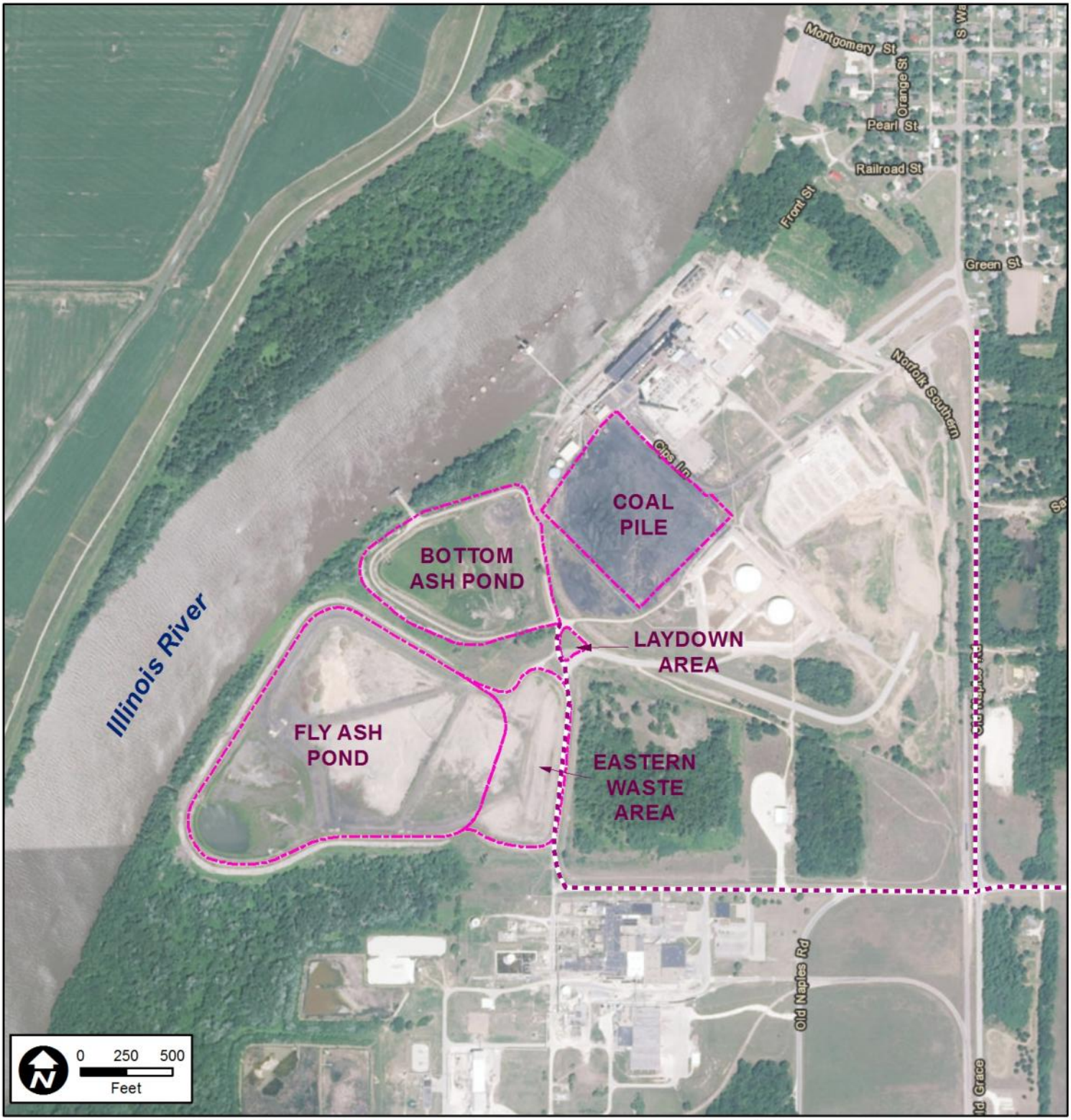
Figures



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Legend

- Potential Haul Road
- Ash Impoundment, Laydown Area, and Coal Pile

Figure 2-1: Proposed Project Location

Ameren

Job No.	PROP14
Drawn By:	BSM
Reviewed By:	SPS
Date:	2/1/2016

amec foster wheeler

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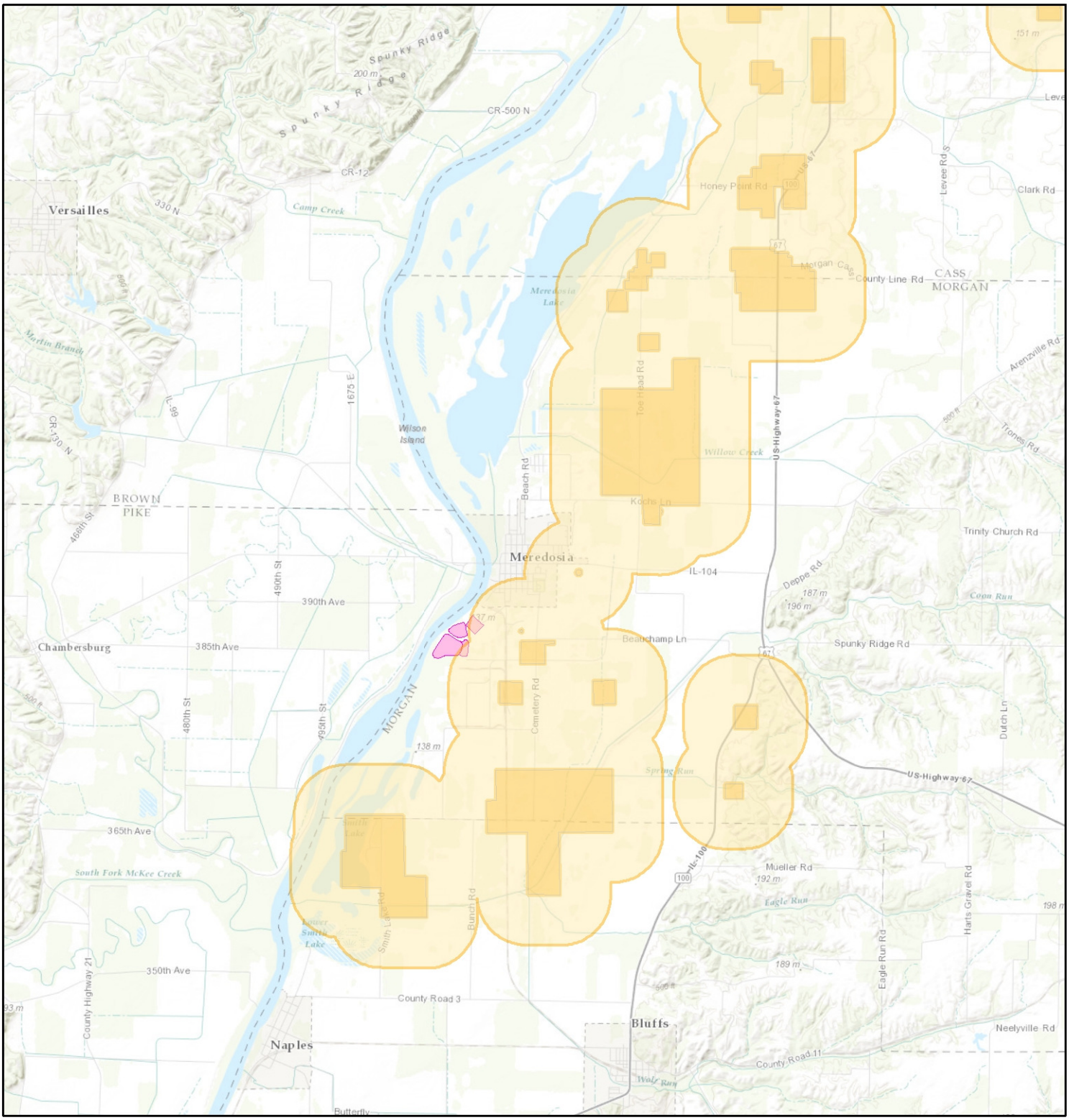

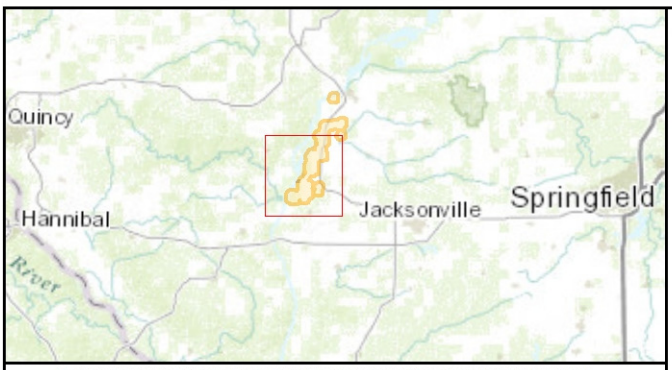

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Legend

- Meredosia Ash Impoundment/ Coal Pile
- Known Chorus Frog Location
- Known Chorus Frog Location (900 meter buffer)

0 1 2
Miles

Figure 2-2: Previously Identified Illinois Chorus Frog Locations with Buffer

Ameren

Job No.	325216021
Drawn By:	BSM
Reviewed By:	SPS
Date:	1/20/2016

amec foster wheeler

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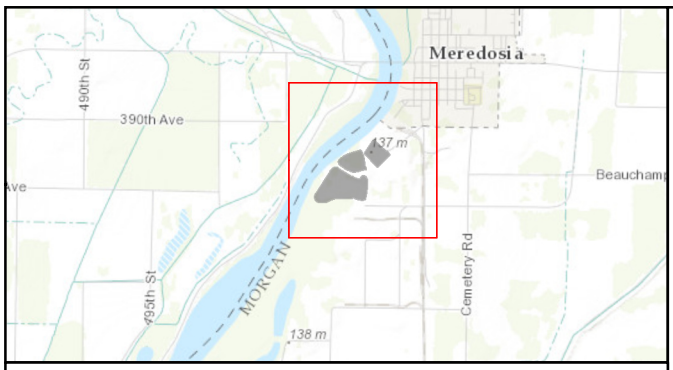

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Legend

- Contour/Elevation Line
- Potential Haul Road
- Ash Impoundment, Laydown Area, and Coal Pile

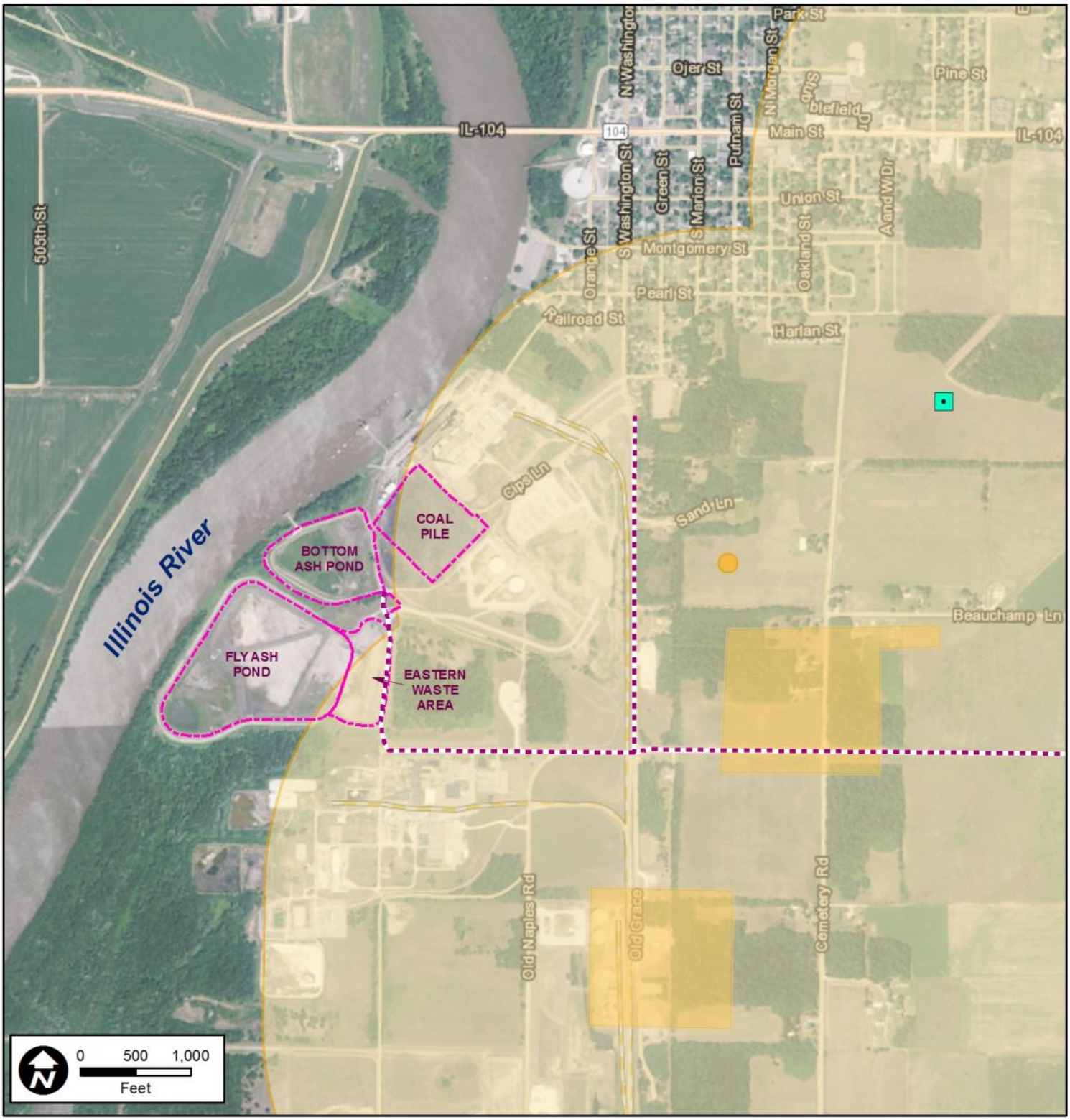
Figure 2-3: Final Grading Plans for Ash Ponds

Ameren

Job No.	PROP14
Drawn By:	BSM
Reviewed By:	SPS
Date:	4/14/2016

amec foster wheeler

Path: K:\1_GIS\325216021_Ameren_Meredosia_Ash_Ponds\a_MXD\1604\Fig_2-3_Restoration_160414.mxd



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Legend

- Potential Haul Road
- Ash Impoundment/Coal Pile
- Potential Regal Butterfly Habitat
- Known Chorus Frog Location
- Known Chorus Frog Location (900 meter buffer)

Figure 4-1: Potentially Suitable Habitat Illinois Chorus Frog and Regal Fritillary Butterfly in Vicinity of Project Area

Ameren

Job No.	PROP14
Drawn By:	BSM
Reviewed By:	SPS
Date:	2/1/2016

amec foster wheeler

Path: K:\1_GIS\325216021_Ameren_Meredosia_Ash_Ponds\a_MXD\16011\Fig_4-1_ICF_RFB_160120.mxd

Appendix A

IDNR Correspondence

Illinois Department of
Natural Resources
One Natural Resources Way Springfield, Illinois 62702-1271
www.dnr.illinois.gov

Bruce Rauner, Governor
Wayne A. Rosenthal, Director

April 07, 2016

Stephanie Miller
Amec Foster Wheeler
15933 Clayton Rd
Suite 215
St Louis, MO 63011

RE: Meredosia Ash Ponds
Project Number(s): 1606751
County: Morgan

Dear Ms. Miller:

This letter concerns the Endangered Species Consultation for the project noted above, located in Morgan County, Township 16 North, Range 16 North, Sections 21 & 28. This project was submitted for consultation in accordance with the Illinois Endangered Species Protection Act [520 ILCS 10/11], the Illinois Natural Areas Preservation Act [525 ILCS 30/17], and Title 17 Illinois Administrative Code Part 1075.

The project involves closure of inactive ash ponds at Meredosia Plant in Meredosia, IL.

The Department has completed its review of the project and determined that, with the exceptions below, the resources identified by EcoCAT in the vicinity are unlikely to be affected.

The state-threatened **Illinois Chorus Frog** *(Pseudacris illinoensis)* and **Regal Fritillary** *(Speyeria idalia)* are known to occur within the proposed project area. The project activities are likely to result in a take of the species, which is a violation of the Illinois Endangered Species Protection Act. "Take" means, in reference to animals and animal products, to harm, hunt, shoot, pursue, lure, wound, kill, destroy, harass, gig, spear, ensnare, trap, capture, collect, or to attempt to engage in such a conduct. The Department recommends that the applicant should apply for Incidental Take Authorization (ITA) for these species in accordance with 17 Ill Adm. Code Part 1080. Be advised, the ITA process can take up to four months to complete. Communication concerning the ITA application should be directed to Jenny Skufca, Office of Resource Conservation, 217-557-8243 or Jenny.Skufca@illinois.gov.

Please note, that in accordance with the Illinois Endangered Species Protection Act [520 ILCS 10/11] the parcel where the fill material for the ash ponds will be obtained should be submitted through the Endangered Species Consultation as well.

Consultation under 17 Ill. Adm. Code Part 1075 is completed. In accordance with 17 Ill. Adm. Code 1075.40(h), please notify the Department of your decision regarding these recommendations.

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Sincerely,
Natalia Jones
Impact Assessment Section
217-785-5500
natalia.jones@illinois.gov

cc: Jenny Skufca, Office of Resource Conservation, Illinois Department of Natural Resources

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Applicant: Amec Foster Wheeler
Contact: Stephanie Miller
Address: 15933 Clayton Rd
Suite 215
St Louis, MO 63011

IDNR Project Number: 1606751
Date: 01/29/2016

Project: Meredosia Ash Ponds
Address: 800 South Washington St, Meredosia

Description: Closure of inactive ash ponds at Meredosia Plant

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

George Smith Bed INAI Site
Meredosia Refuge INAI Site
National Starch Bed INAI Site
Woods Lake Bed INAI Site
Bent Milk Vetch *(Astragalus distortus)*
Ebonyshell *(Fusconaia ebena)*
Illinois Chorus Frog *(Pseudacris illinoensis)*
Regal Fritillary *(Speyeria idalia)*

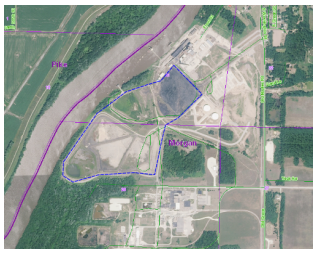
An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: Morgan

Township, Range, Section:
16N, 13W, 21
16N, 13W, 28



IL Department of Natural Resources Contact
Nathan Grider
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
IL Department of Natural Resources
Jenny Skufca
One Natural Resources Way
Springfield, Illinois 62702

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

Appendix B

Biological Surveys Conducted within Project Area

TECHNICAL MEMORANDUM

DATE:	**September 3, 2014**
FROM:	**Irene Weber**
PROJECT	**Meredosia-Herleman Transmission Project**
SUBJECT:	**Assessment of Potential Occurrence of *Boltonia decurrens***
TO:	**Kenny Lynn- Ameren** **Bill Elzinga - AMEC** **AMEC Project File Number: 325213698**

Title: Survey for Occurrence of *Boltonia decurrens* within the Proposed Meredosia-Herleman Transmission Project

Purpose

The purpose of this memorandum is to document results of a field survey performed by AMEC personnel (Irene Weber and Stephanie Miller) on August 22, 2014 in support of the proposed Meredosia-Herleman Transmission Project. The purpose of the field effort was to investigate the potential occurrence of the decurrent false aster (*Boltonia decurrens)*, which is listed as threatened by USFWS under the US Endangered Species Act and within the state of Illinois by the Illinois Department of Natural Resources. Methodology developed for this survey was supplied in a previous memorandum dated June 13, 2014.

Methodology

Areas for *B. decurrens* surveys were determined based on the known life history of the species as determined by literature review and communication with known experts (Mettker-Cherry, P. A. et al, 2006; Smith et al, 1995; Smith, M, 2014). This plant only occurs in the Illinois River floodplain and relies on flooding to eliminate competitors and to disperse seed. Key characteristics of the life history and phenology of this species include the following:

- *B. decurrens* over winters as a basal rosette or germinates in the spring. Plants bolt in July and flower in August/September. *B. decurrens* will be easiest to identify from July-September due to the increased visibility of its characteristic leaves.
- Locations of *B. decurrens* can occur anywhere in the floodplain where there is sufficient disturbance including flooded areas, roadways, and the edges of agricultural fields.

- Population locations shift from year to year. Presence or absence of *B. decurrens* at a specific location one year is not a good indicator of its presence or absence in the future.
- *B. decurrens* is not found in forested areas.
- Populations of *B. decurrens* in the vicinity of Meredosia are the oldest recorded in the Illinois floodplain, dating back to 1984.
- *B. decurrens* grow in frequently disturbed, sandy alluvial soils with little litter cover.
- Wetland types supporting *B. decurrens* include:
    - Palustrine emergent, forested and scrub-shrub wetlands and complexes with varying hydroperiods
    - Shorelines of Palustrine unconsolidated bottom wetlands (impoundments, excavated water bodies, etc.) of varying hydroperiods (Mettker-Cherry et al, 2006)

Candidate survey areas were determined based on a review of USFWS National Wetlands Inventory mapping. All wetlands and streams within the Illinois River floodplain matching known *B. decurrens* habitat that intersected proposed transmission corridors were marked as potential *B. decurrens* habitat. Surveys were performed by walking the potential habitat areas on-foot and conducting a visual survey for blooming or bolting *B. decurrens*.

Results

Potential habitat for *B. decurrens* was identified in six parcels (47.7 acres) within the proposed transmission line ROW (Figure 1). In late August of 2014, all open, uncultivated areas within the ROW in the identified parcels were searched by a team of two biologists for *B. decurrens*. There were no *B. decurrens* found either in or near the proposed transmission line ROW.

References

Mettker-Cherry, P. A., Smith, M, Keevin, T. M. 2006. Habitat characterization and geospatial metapopulation dynamics of threatened floodplain species *Boltonia decurrens* using Arc GIS. Wetlands, Vol. 26, No.2, pp. 336-348

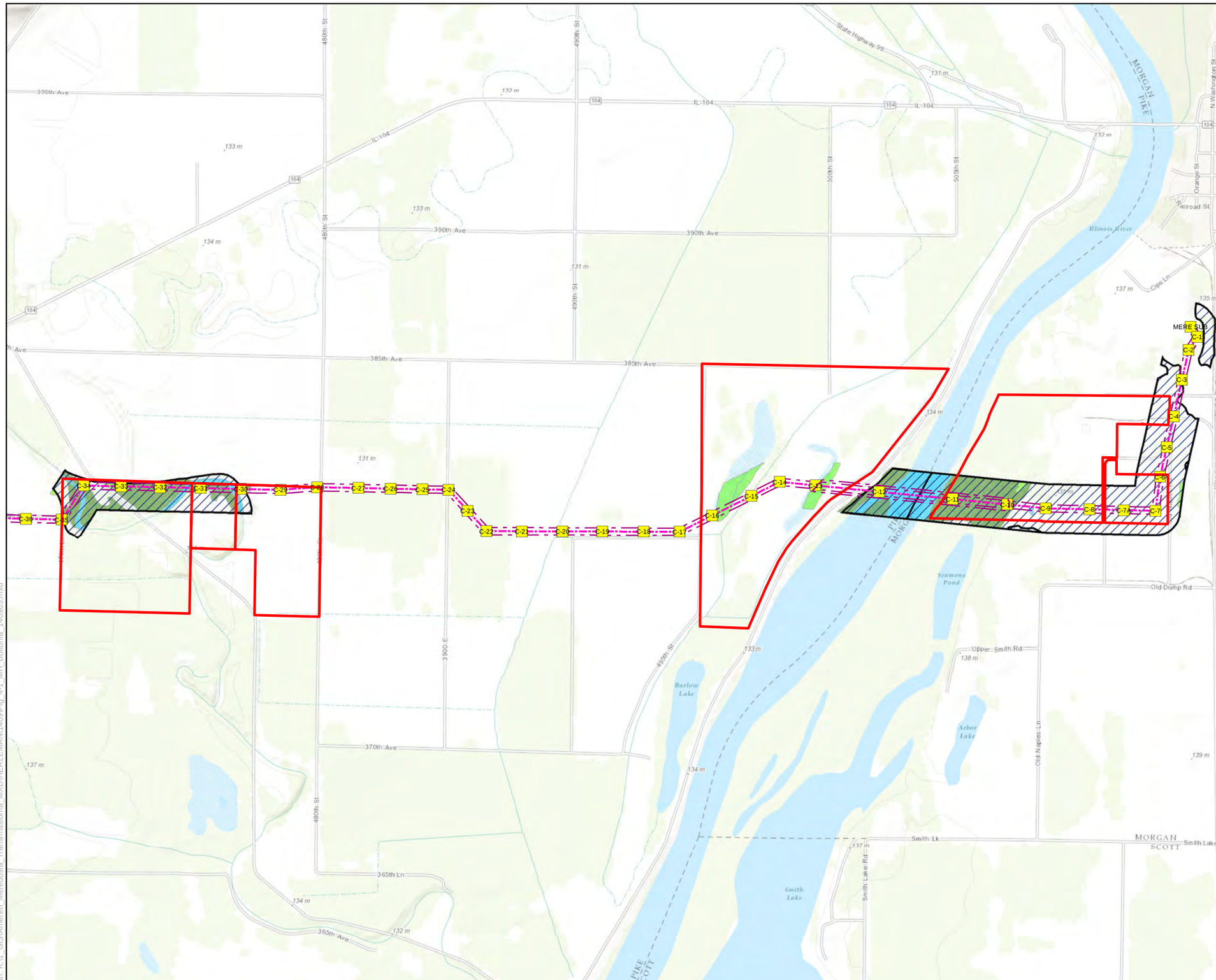
Smith, M., Brandt, T., Stone, J. 1995. Effect of soil texture and micro topography on germination and seedling growth in *Boltonia decurrens* (Asteraceae), a threatened floodplain species. Wetlands, Vol 15, No. 4, pp. 292-396

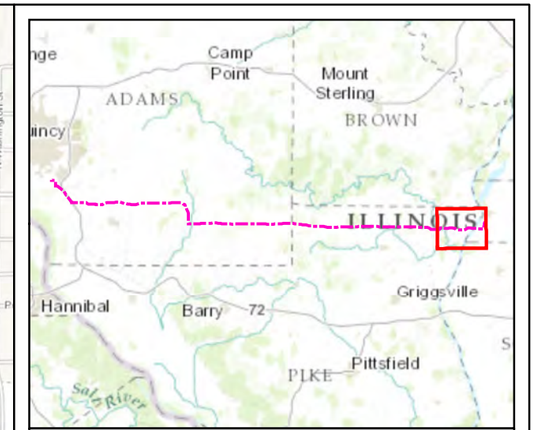
U.S. Fish and Wildlife Service, 2014. National Wetlands Inventory. Available online at: http://www.fws.gov/wetlands/. Date accessed: May 7, 2014.

Marion Smith, PhD. Personal Communication. 6/06/2014

Figure 1

***Boltonia decurrens* Assessment Survey Map**





Area of Detail

Legend

- Transmission Tower
- Proposed Transmission Line
- Proposed Transmission ROW
- Additional area of 50' Clearing
- *Boltonia decurrens* Parcels Surveyed
- 100 Year Floodzone

NWI Wetland

- Open Water
- Emergent
- Forested

0 4,000
Feet

Figure 1.
Boltonia decurrens Assessment Survey Map

Ameren

Job No.	325213698
Drawn By:	BSM
Reviewed By:	SPS
Date:	9/3/2014

amec

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Path: K:\1_GIS\Ameren_Meredosia_Transmissionla_MXD\HERLEMAN\1409\Fig_4-1_MH_Boltonia_140903.mxd

Anuran Survey Data Sheet

amec

Location: Proposed Meredosia Landown Area Meredosia, IL	Project:
Date: 4/2/2014	Personnel: S. Stumne

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
3 – Fog or smoke
4 – Drizzle or light rain (not affecting hearing ability)
5 – Snow
6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale

0 – Calm – (<1 mph) smoke rises vertically
1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
(2) – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

	SPS	SPS	SPS	11/30/2015	
Site Name/No.	~~1A~~ 8	~~1B~~ 7	~~1C~~ 6		
Time	7:19pm	7:30pm	7:40pm		
Temperature (F)	51	51	50		
Wind Code	2	2	2		
Sky Code	4	4	4		

Species	Calling Index				
Pseudacris crucifer	1	0	0		
Pseudacris triseriata	0	0	1		
Pseudacris illinoensis	0	0	0		

Frogs heard calling were on the east side of road, not on A-ILRP_MI_MO_016

Anuran Survey Data Sheet

amec

Location: Meredosia, IL	Project:
Date: 4/3	Personnel: S. Stumne

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
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4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

11/30/2015

Site Name/No.	SPS ~~1A~~ 8	SPS ~~1B~~ 7	SPS ~~1C~~ 6	2	SPS ~~3~~ 9
Time	6:00pm	6:10pm	6:16	6:31	6:44
Temperature (F)	59	59	59	58	54
Wind Code	3	3	3	2	2
Sky Code	2	2	2	2	4

Species	Calling Index				
Pseudacris crucifer	0	0	0	0	0
Pseudacris triseriata	0	* 2	* 1	0	1
Pseudacris illinoensis	0	0	0	0	0

* Calling from ditch and Ag. field East of Yeck Rd (not A_ILRP_MI_MO_016)

Anuran Survey Data Sheet

amec

Location: Meredosia, IL	Project: IL Rivers ATX
Date: 4/3/2014	Personnel: S. Stumne

Call Index
- 0 – None, no calls.
- 1 – Individuals – individuals can be counted; there is spacing between calls
- 2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
- 3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code
- 0 – Few clouds
- 1 – Partly cloudy – scattered or variable sky
- 2 – Cloudy – cloudy or overcast
- 3 – Fog or smoke
- 4 – Drizzle or light rain (not affecting hearing ability)
- 5 – Snow
- 6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale
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- 4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
- 5 – Fresh Breeze – (>19 mph) small trees begin to sway

Site Name/No.	SPS ~~1A~~ 8	SPS ~~1B~~ 7	SPS ~~1C~~ 6	2	SPS ~~3~~ 9
Time	7:00 pm	7:05 pm	7:10 pm	7:15 pm	7:32 pm
Temperature (F)	54	53	53	53	55
Wind Code	1	1	2	2	2
Sky Code	4	4	4	4	4

11/30/2015

Species	Calling Index				
Pseudacris crucifer	0	0	0	0	0
Pseudacris triseriata	*1	*1	*1	2	2
Pseudacris illinoensis	0	0	0	3	0

* Calling from ditch/field E of Yeck Road

Anuran Survey Data Sheet

amec

Location: Meredosia, IL	Project:
Date: 4/3/2014	Personnel: S. Stumne

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
3 – Fog or smoke
4 – Drizzle or light rain (not affecting hearing ability)
5 – Snow
6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale

0 – Calm – (<1 mph) smoke rises vertically
1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

Site Name/No.	SPS ~~1A~~ 8	SPS ~~1B~~ 7	SPS ~~1C~~ 6	2	SPS 11/30/2015 ~~3~~ 9
Time	7:48pm	7:56pm	8:00pm	8:05pm	
Temperature (F)	56°F	56	56	57	
Wind Code	1	1	2	2	
Sky Code	4	4	4	4	

Species	Calling Index				
Pseudacris crucifer	0	0	0	0	
Pseudacris triseriata	2	2	1	3	
Pseudacris illinoensis	0	0	0	2-3	

Anuran Survey Data Sheet

amec

Location: Meredosia, IL	Project:
Date: 4/3/2014	Personnel: S. Strunne

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
3 – Fog or smoke
4 – Drizzle or light rain (not affecting hearing ability)
5 – Snow
6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale

0 – Calm – (<1 mph) smoke rises vertically
1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

Site Name/No.	SPS ~~1A~~ 8	SPS ~~1B~~ 7	SPS ~~1C~~ 6	South of ~~C-1~~ 5	SPS 11/30/2015
Time	8:15 pm	8:25 pm	8:35 pm	8:35 pm	
Temperature (F)	56	56	57	57	
Wind Code	2	2	2	2	
Sky Code	2	2	2	2	

Species	Calling Index				
Pseudacris triseriata	*1	*2	*2	2	
Pseudacris illinoiensis	0	0	0	2	

Anuran Survey Data Sheet

amec

Location: Morgan Co, IL	Project: IL Rivers
Date: 3/16/2015	Personnel: S. Stumne

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
3 – Fog or smoke
4 – Drizzle or light rain (not affecting hearing ability)
5 – Snow
6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale

0 – Calm – (<1 mph) smoke rises vertically
1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

SPS 11/30/2015

Site Name/No.	~~001~~ 1	~~002~~ 2	~~003~~ 3	~~004~~ 4	~~005~~ 5
Time	8:17 pm	8:35 pm	8:46 pm	8:48 pm	9:01 pm
Temperature (F)	62	43	63	63	64
Wind Code	1	1	1	1	1
Sky Code	0	0	0	0	0

Species	Calling Index				
ICF (Pseudacris illinoensis)	2	0	0	0	0
WCF (Pseudacris triseriata)	1	0	2	2	3

Anuran Survey Data Sheet

amec

Location: Morgan Co, IL	**Project:** IL Rivers
Date: 3/16/2015	**Personnel:** S. Stumme

Call Index
- 0 – None, no calls.
- 1 – Individuals – individuals can be counted; there is spacing between calls
- 2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
- 3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code
- 0 – Few clouds
- 1 – Partly cloudy – scattered or variable sky
- 2 – Cloudy – cloudy or overcast
- 3 – Fog or smoke
- 4 – Drizzle or light rain (not affecting hearing ability)
- 5 – Snow
- 6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale
- 0 – Calm – (<1 mph) smoke rises vertically
- 1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
- 2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
- 3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
- 4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
- 5 – Fresh Breeze – (>19 mph) small trees begin to sway

SPS 11/30/2015

Site Name/No.	~~006~~ 10	~~007~~ 11	~~008~~ 12	~~009~~ 13	
Time	9:20pm	9:27pm	9:45	9:55	
Temperature (F)	61°F	41°F	41°F	41°F	
Wind Code	1	1	1	1	
Sky Code	0	0	0	0	

Species	Calling Index				
ICF (Pseudacris illinoiensis)	2	2	0	0	
WCF (Pseudacris triseriata)	3	2-3	0	0	

Anuran Survey Data Sheet

amec

Location: Cass / Morgan Co, IL	Project: Ameren IL Rivers
Date: 04/01/2015	Personnel: S. Stumne

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
3 – Fog or smoke
4 – Drizzle or light rain (not affecting hearing ability)
5 – Snow
6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale

0 – Calm – (<1 mph) smoke rises vertically
1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

Site Name/No.	Ag. drainage ~~009~~ 13	~~008~~ 12	~~007~~ 11	~~006~~ 10	~~005~~ 5
Time	8:00 pm	8:20 pm	8:38 pm	8:45	8:53
Temperature (F)	67	66	65	65	65
Wind Code	2	2	3	3	4
Sky Code	2	2	2	2	

SPS 11/30/2015

Species	Calling Index				
Pseudacris triseriata	1	0	0	1	2
Rana sphenocephala	1	0	0	0	0
Pseudacris illinoensis	0	0	0	0	0

Anuran Survey Data Sheet

amec

Location: Morgan Co, IL	Project: IL Rivers
Date: 04/01/2015	Personnel: S. Stumne

Call Index
- 0 – None, no calls.
- 1 – Individuals – individuals can be counted; there is spacing between calls
- 2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
- 3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code
- 0 – Few clouds
- 1 – Partly cloudy – scattered or variable sky
- 2 – Cloudy – cloudy or overcast
- 3 – Fog or smoke
- 4 – Drizzle or light rain (not affecting hearing ability)
- 5 – Snow
- 6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale
- 0 – Calm – (<1 mph) smoke rises vertically
- 1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
- 2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
- 3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
- 4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
- 5 – Fresh Breeze – (>19 mph) small trees begin to sway

SPS 11/30/2015

Site Name/No.	4 ~~004~~	3 ~~003~~	~~002~~ 2	~~001~~ 1	
Time	9:00pm	9:05pm	9:15	9:23	
Temperature (F)	64	64	66	65	
Wind Code	4	4	3-4	3-4	
Sky Code	2	2	2	2	

Species	Calling Index				
	~~004~~	003	002	001 ~~GPS~~	
Pseudacris triseriata	3	3	2	0	
Rana sphenocephala	0	1	1	0	
Pseudacris illinoensis	0	0	0	0	

Anuran Survey Data Sheet

amec

Location: Morgan Co IL	Project: IL Rivers
Date: 04/08/15	Personnel: I. Weber

Call Index
- 0 – None, no calls.
- 1 – Individuals – individuals can be counted; there is spacing between calls
- 2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
- 3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code
- 0 – Few clouds
- 1 – Partly cloudy – scattered or variable sky
- 2 – Cloudy – cloudy or overcast
- 3 – Fog or smoke
- 4 – Drizzle or light rain (not affecting hearing ability)
- 5 – Snow
- 6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale
- 0 – Calm – (<1 mph) smoke rises vertically
- 1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
- 2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
- 3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
- 4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
- 5 – Fresh Breeze – (>19 mph) small trees begin to sway

Site Name/No.	~~001~~ 1	~~002~~ 2	~~003~~ 3	~~004~~ 4	~~005~~ 5
Time	7:54	8:10	8:20	8:26	8:35
Temperature (F)	73	73	73	73	73
Wind Code	2	2	2	2	2
Sky Code	4	4	4	4	4

SPS 11/30/2015

Species	Calling Index				
Pseudacris triseriata Western Chorus frog	3	0	3	2	3
Bufo americanus American toad	1	2	2	3	3
Pseudacris ~~streckeri~~ illinoensis Illinois Chorus frog	0	0	0	0	1
Rana sp. Leopard frog?	0	1	~~0~~ 1 IN	1	~~1~~ 1
Pseudacris crucifer Peeper	0	0	0	0	1

Anuran Survey Data Sheet

amec

Location: Morgan Co IL/CASS Co IL	Project: IL Rivers
Date: 4/08/15	Personnel: I. Weber

Call Index
- 0 – None, no calls.
- 1 – Individuals – individuals can be counted; there is spacing between calls
- 2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
- 3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code
- 0 – Few clouds
- 1 – Partly cloudy – scattered or variable sky
- 2 – Cloudy – cloudy or overcast
- 3 – Fog or smoke
- 4 – Drizzle or light rain (not affecting hearing ability)
- 5 – Snow
- 6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale
- 0 – Calm – (<1 mph) smoke rises vertically
- 1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
- 2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
- 3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
- 4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
- 5 – Fresh Breeze – (>19 mph) small trees begin to sway

SPS 11/30/2015

Site Name/No.	~~006~~ 10	~~007~~ 11	~~008~~ 12	~~009~~ 13	
Time	8:53	9:00	9:19	945	
Temperature (F)	72	72	73	72	
Wind Code	3	3	1	1	
Sky Code	4	4	2	2	

Species	Calling Index				
Pseudacris triseriata Western Chorus Frog	3	1	0	1	
Bufo americanus American Toad	0	1	1	0	
Pseudacris illinoiensis Illinois Chorus Frog	0	0	0	0	
Rana sp Leopard frog Plains	0	0	1	1	
Pseudacris crucifer Peeper	0	0	0	0	
Leopard frog Northern	0	0	0	1 Iw	

Anuran Survey Data Sheet

amec

Location: Cass co / Morgan Co	Project: IL Rivers
Date: 4/16/2015	Personnel: I. Weber

Call Index
- 0 – None, no calls.
- 1 – Individuals – individuals can be counted; there is spacing between calls
- 2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
- 3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code
- 0 – Few clouds
- 1 – Partly cloudy – scattered or variable sky
- 2 – Cloudy – cloudy or overcast
- 3 – Fog or smoke
- 4 – Drizzle or light rain (not affecting hearing ability)
- 5 – Snow
- 6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale
- 0 – Calm – (<1 mph) smoke rises vertically
- 1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
- 2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
- 3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
- 4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
- 5 – Fresh Breeze – (>19 mph) small trees begin to sway

Site Name/No.	~~009~~ 13	~~008~~ 12	~~007~~ 11	~~006~~ 10	~~005~~ 5
Time	8:14	8:35	9:00	9:08	9:15
Temperature (F)	70	~~68~~ 70	70	70	70
Wind Code	0	0	0	0	0
Sky Code	2	2	2	2	2

SPS 11/30/2015

Species	Calling Index				
Leopard Frog	1	2	Ø	Ø	Ø
American Toad	1	3	Ø	Ø	2
Western Chorus	Ø	Ø	1	Ø	1

Anuran Survey Data Sheet

amec

Location: Morgan County	Project: IL Rivers
Date: 4/16/2015	Personnel: I. Weber

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
3 – Fog or smoke
4 – Drizzle or light rain (not affecting hearing ability)
5 – Snow
6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale

0 – Calm – (<1 mph) smoke rises vertically
1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

SPS 11/30/2015

Site Name/No.	~~004~~ 4	~~003~~ 3	~~002~~ 2	~~001~~ 1	
Time	9:22	9:30	9:43	9:52	
Temperature (F)	70	70	68	68	
Wind Code	0	0	0	0	
Sky Code	2	2	2	2	

Species	Calling Index				
Leopard Frog	0	1	0	1	
American toad	2	2	2	2	
Western Chorus Frog	1	0	0	0	
Gray tree frog	0	0	1	0	

Anuran Survey Data Sheet

amec

Location: Morgan County	Project: IL Rivers project
Date: 4/29/15	Personnel: F. Weber

Call Index
- 0 – None, no calls.
- 1 – Individuals – individuals can be counted; there is spacing between calls
- 2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
- 3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code
- 0 – Few clouds
- 1 – Partly cloudy – scattered or variable sky
- 2 – Cloudy – cloudy or overcast
- 3 – Fog or smoke
- 4 – Drizzle or light rain (not affecting hearing ability)
- 5 – Snow
- 6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale
- 0 – Calm – (<1 mph) smoke rises vertically
- 1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
- 2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
- 3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
- 4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
- 5 – Fresh Breeze – (>19 mph) small trees begin to sway

Site Name/No.	~~001~~ 1	~~002~~ 2	~~003~~ 3	~~004~~ 4	~~005~~ 5
Time	8:22	8:31	848	8:53	9:00
Temperature (F)	66	66	68	66	66
Wind Code	0	0	1	0	0
Sky Code	2	2	2	2	2

SPS 11/30/2015

Species	Calling Index				
Spring Peeper	NO 0	1	1	1	1
American toad	0	0	0	1	0
Western Chorus Frog	CALLS 0	0	0	0	1
Fowlers Toad	0	1	0	0	0

Anuran Survey Data Sheet

amec

Location: Morgan/Cass Co	Project: IL Rivers
Date: 4/29/15	Personnel: I. Weber

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
3 – Fog or smoke
4 – Drizzle or light rain (not affecting hearing ability)
5 – Snow
6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale

0 – Calm – (<1 mph) smoke rises vertically
1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

SPS 11/30/2015

Site Name/No.	~~006~~ 10	~~007~~ 11	~~008~~ 12	~~009~~ 13	
Time	9:08	9:15	9:27	9:52	
Temperature (F)	66	65	63	63	
Wind Code	1	1	0	0	
Sky Code	2	2	2	2	

Species	Calling Index				
Spring Peeper	0	0	1	0	
American Toad	1	1	1	1	
Leopard frog	0	1	1	1	
Fowlers toad?	0	0	1	0	

Anuran Survey Data Sheet

amec

Location: CASS/MORGAN CO	Project: IL RIVERS PROJECT
Date: 5/4/15	Personnel: J. WEBER

Call Index
- 0 – None, no calls.
- 1 – Individuals – individuals can be counted; there is spacing between calls
- 2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
- 3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code
- 0 – Few clouds
- 1 – Partly cloudy – scattered or variable sky
- 2 – Cloudy – cloudy or overcast
- 3 – Fog or smoke
- 4 – Drizzle or light rain (not affecting hearing ability)
- 5 – Snow
- 6 – Showers – showers affecting hearing ability – do not conduct survey

Wind Speed: Beaufort Scale
- 0 – Calm – (<1 mph) smoke rises vertically
- 1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
- 2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
- 3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
- 4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
- 5 – Fresh Breeze – (>19 mph) small trees begin to sway

Site Name/No.	~~009~~ 13	~~008~~ 12	~~007~~ 11	~~006~~ 10	~~005~~ 5
Time	8:30	8:53	9:12	9:19	9:26
Temperature (F)	77	77	77	77	77
Wind Code	0	0	1	1	1
Sky Code	2	2	2	2	2

SPS 11/30/2015

Species	Calling Index				
Leopard Frog	1	1	0	0	1
American toad	1	0	0	1	0
Fowlers Toad	0	3	2	2	2
Crickets Frog	0	2	0	0	0

Anuran Survey Data Sheet

amec

Location: Morgan Co	Project: IL RIVERS
Date: 5/4/15	Personnel: I. Weber

Call Index

0 – None, no calls.
1 – Individuals – individuals can be counted; there is spacing between calls
2 – Overlapping – calls of individuals can be distinguished but there is some overlapping.
3 – Continuous Chorus – full chorus, calls are constant, continuous and overlapping

Sky Code

0 – Few clouds
1 – Partly cloudy – scattered or variable sky
2 – Cloudy – cloudy or overcast
3 – Fog or smoke
4 – Drizzle or light rain (not affecting hearing ability)
5 – Snow
6 – Showers – showers affecting hearing ability – do not conduct survey

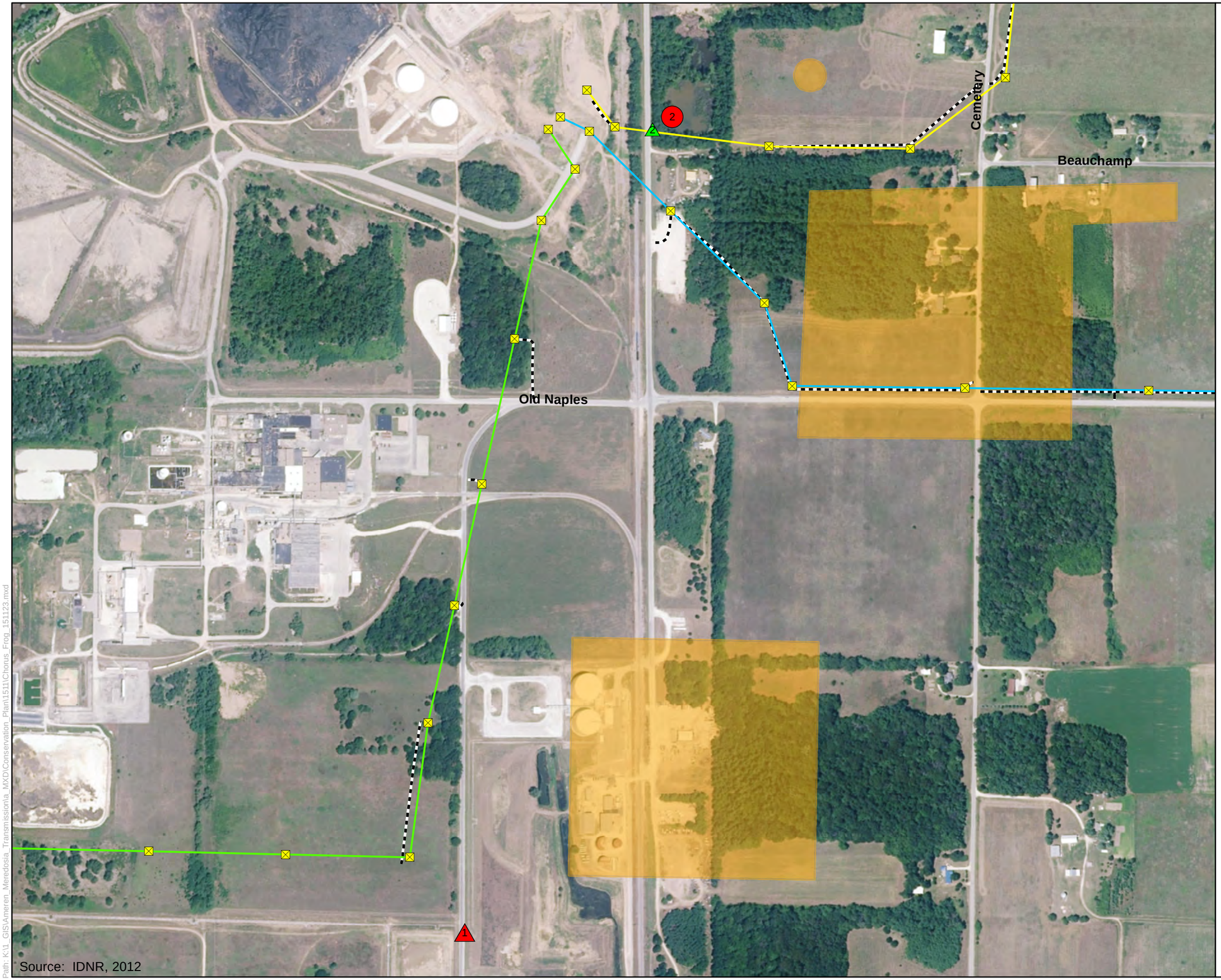
Wind Speed: Beaufort Scale

0 – Calm – (<1 mph) smoke rises vertically
1 – Light Air – (1-3 mph) smoke drifts, weather vane inactive
2 – Light Breeze – (4-7 mph) leaves rustle, can feel wind on face
3 – Gentle Breeze – (8-12 mph) leaves and twigs move around, small flag extends
4 – Moderate Breeze – (13-18 mph) moves thin branches, raises loose papers
5 – Fresh Breeze – (>19 mph) small trees begin to sway

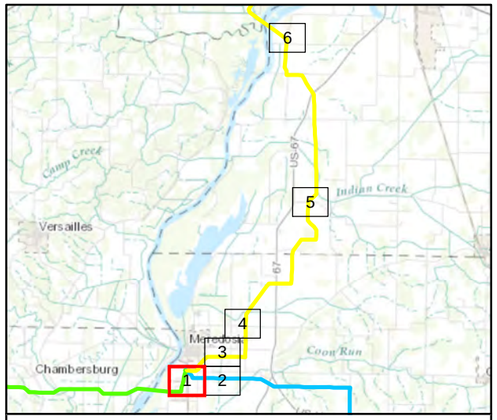
SPS 11/30/2015

Site Name/No.	~~004~~ 4	~~003~~ 3	~~002~~ 2	~~001~~ 1	
Time	9:31	9:36	9:43	9:50	
Temperature (F)	76	72	72	72	
Wind Code	1	1	1	1	
Sky Code	2	2	2	2	

Species	Calling Index				
Western Cows Frog	1	0	0	0	
Leopard Frog	1	1	0	0	
Fowlers toads	3	3	3	2	
Gray Tree Frog	0	0	3	0	
American Toad	0	0	0	1	



Source: IDNR, 2012



Area of Detail

Legend

- Proposed Transmission Tower
- Proposed Austin Transmission Line
- Proposed Herleman Transmission Line
- Proposed Ipava Transmission Line
- Access Road
- Known Chorus Frog Location

Illinois Chorus Frog Survey

2014 Survey

- Continuous Chorus

2015 Survey

- None, no calls
- Overlapping

0 500 1,000
Feet

Figure 1.
ICF Survey Locations
Sheet 1 of 6

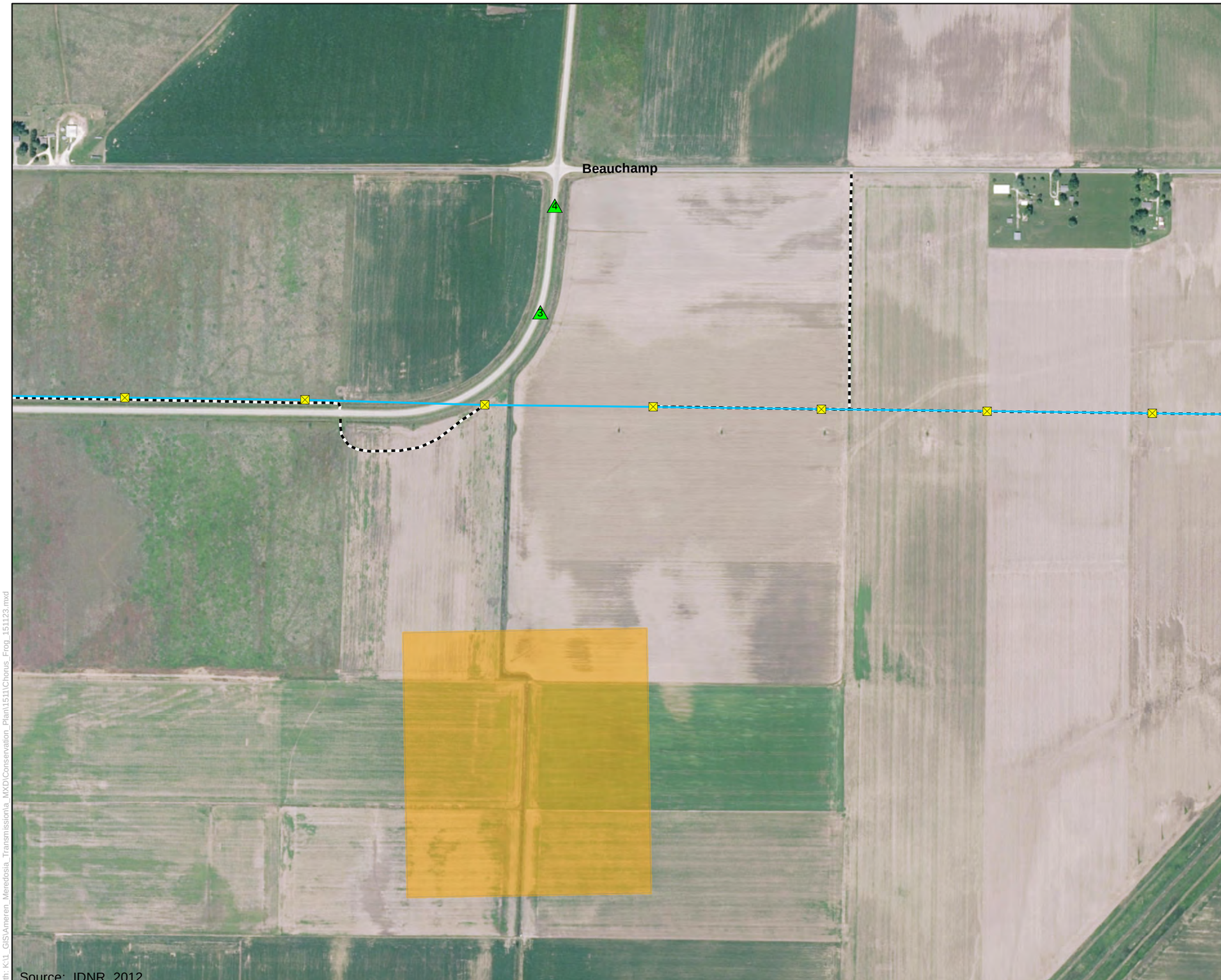
Ameren

amec foster wheeler

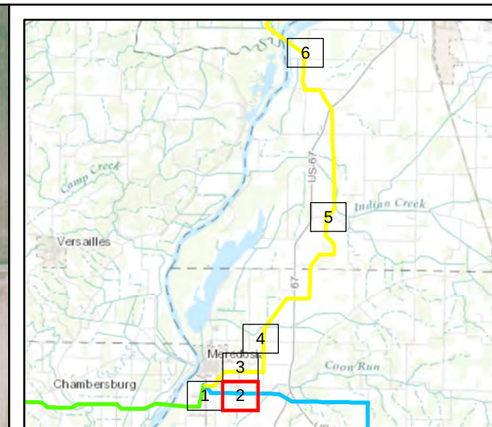
Job No.	325213698	Drawn By:	BSM
Date:	11/23/2015	Reviewed By:	SPS

The map shown here has been created with all due and reasonable care and is strictly for use with this AMEC Foster Wheeler Project. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. AMEC Foster Wheeler assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Path: K:\1_GIS\Ameren_Meredosia_Transmissionla_MXD\Conservation_Plan\1511\Chorus_Frog_151123.mxd



Source: IDNR, 2012



Area of Detail

Legend

- Proposed Transmission Tower
- Proposed Austin Transmission Line
- Access Road
- Known Chorus Frog Location

Illinois Chorus Frog Survey

2015 Survey

- None, no calls

0 500 1,000
Feet

Figure 1.
ICF Survey Locations
Sheet 2 of 6

Ameren

amec foster wheeler

Job No.	325213698	Drawn By:	BSM
Date:	11/23/2015	Reviewed By:	SPS

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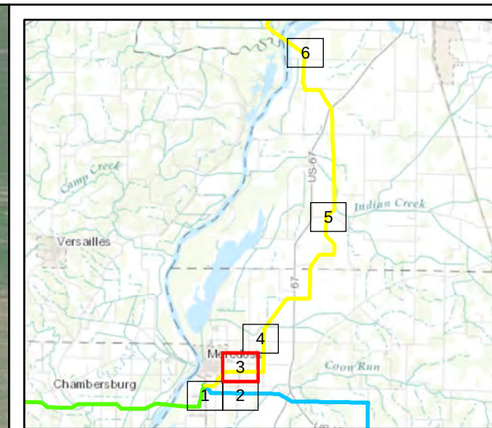
Source: IDNR, 2012



Area of Detail

Legend

- Proposed Transmission Tower
- Proposed Ipava Transmission Line
- Access Road
- Known Chorus Frog Location

Illinois Chorus Frog Survey

2014 Survey

- None, no calls
- Overlapping

2015 Survey

- Individuals

0 500 1,000
Feet

Figure 1.
ICF Survey Locations
Sheet 3 of 6

Ameren

amec foster wheeler

Job No.	325213698	Drawn By:	BSM
Date:	11/23/2015	Reviewed By:	SPS

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