



April 12<sup>th</sup>, 2019

**To: Wisconsin Public Service Commission**

**From: Wisconsin's Green Fire: Voices for Conservation**

**RE: Public comments on the draft Environmental Impact Statement (EIS) for Docket 5-CE-146, application for building the Cardinal-Hickory Creek (CHC) high voltage transmission line (hvtl)**

**I. INTRODUCTION:** Wisconsin's Green Fire: Voices for Conservation (WGF) is an independent nonpartisan organization. WGF supports the conservation legacy of Wisconsin by promoting science-based management of its natural resources. Members represent those who have extensive experience in natural resource management, environmental law and policy, scientific research, and education. Members have backgrounds in government, non-governmental organizations, universities and colleges, and the private sector. More information about WGF can be found at [www.wigreenfire.org](http://www.wigreenfire.org).

**1. WGF requests that the Wisconsin Public Service Commission (PSC) include these submitted comments on the Wisconsin draft Environmental Impact Statement (EIS) for the proposed CHC as part of the public record.**

**2. WGF requests that the PSC specifically address concerns WGF has raised in these WI draft EIS public comments.**

**II. ENVIRONMENTAL RULES, Federal and State EIS process for the proposed CHC:** The American Transmission Company (ATC), International Transmission Company, ITC Holdings, and Dairyland Power Cooperative, referred to as the Applicants, have proposed construction of the over 100 mile CHC 345 kV hvtl from Dubuque County, Iowa to Middleton, Wisconsin. The Applicants are seeking the PSC's approval of the project and the issuance of a Certificate of Public Convenience and Necessity (CPCN).

<https://psc.wi.gov/Pages/MajorCases/CardinalHickoryCreek.aspx>

The proposed CHC is subject to federal EIS review through the U.S. Department of Agriculture and Wisconsin review through the PSC. The PSC and the Wisconsin Department of Natural Resources (WDNR) have completed a draft EIS for the project.

<http://apps.psc.wi.gov/pages/viewdoc.htm?docid=360500>

An EIS is directed by the Wisconsin Environmental Policy Act (WEPA), s. 1.11 Wis. Stats., and the federal National Environmental Policy Act (NEPA). The fundamental elements of WEPA are, in part, quote: "To provide details of beneficial aspects of the project, both short term and long term; Irreversible or irretrievable commitments of resources that would be involved should it be implemented; Alternatives to the proposed action; initiate and utilize ecological information in planning."

**1. WGF requests that the PSC follow all portions of WEPA and NEPA regarding the proposed CHC.**

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**III. ROLE OF THE PSC:** The PSC has the authority to approve, deny, or modify any and all facilities proposed in the CPCN application. The PSC must determine that the project is in the public interest, considering: alternative sources of supply, alternative locations or routes, individual hardships, engineering factors, economic factors, safety, reliability, and environmental factors; the project must not have undue adverse impacts on environmental values such as, but not limited to: ecological balance, public health and welfare, historic sites, geological formations, aesthetics of land and water, and recreational use; and the project must not unreasonably interfere with the orderly land use and development plans of the area involved (Wis. Stat. § 196.491(3)(d)3, 4, 6).

**1. WGF requests that the PSC follow all aspects of Wis. Stats 196.491(3) as identified in the WI draft EIS Sections 1.2.1 and 1.2.2 p 5-6.**

**2. WGF requests that the PSC provide specific explanations in the final WI EIS on their determinations under Wis. Stats 196.491 (3) for the proposed CHC.**

**IV. Organization of CHC WI draft EIS and WGF pertinent comments:** Chapter 2 of the draft EIS, “General Description of Proposed Project”, Chapter 3, “Project Assessment of Need and System Solutions”, and Chapter 4, “Typical Environmental Considerations for Transmission Line Projects”, will be assessed in WGF public comments submitted here.

Chapter 10, “Summaries and Comparisons of Route Alternatives” contains comparisons of the overall impacts of the proposed CHC on the Driftless Area. Sections include identified and quantified impacts to agricultural lands, forested lands, grasslands, and wetlands; water resources; endangered resources; avian risks; and archaeological and historic resources. Chapter 10 includes summary tables for potential impacts to each selected resource by routing area. Data in these tables are based on the impact tables provided by the Applicants in their CPCN application. These data are included Appendix B (p 475). The WI draft EIS states “In general, the degree of impact of a proposed electric transmission line is determined by the quality or uniqueness of the existing environment along the selected route.” (p 474).

**1. WGF notes there are varying impacts to every identified resource in the CHC draft EIS regardless of the route chosen. There is no discussion in the draft EIS as to how these impacts can be avoided.**

**2. WGF asks that the PSC search for, include, utilize, and analyze independent data not provided by the Applicants when considering the proposed CHC.**

**3. WGF requests that the PSC evaluate each of the potential impacts that have been identified in the draft EIS, and thoroughly consider each potential impact from the proposed CHC in the final EIS.**

**4. WGF asks that the PSC evaluate if the proposed CHC is in the public interest based on these potential impacts, as directed by Wis. Stat. § 196.491(3)(d)3, 4, 6).**

**V. NEED for the proposed CHC: There are no Need Assessment and Non-Transmission Alternatives (NTAs) analyses provided by the PSC in the WI draft EIS Chapter 3 for the proposed CHC.** The PSC states “PSC staff’s analysis of project need is on-going and will be covered in greater detail in the final EIS. The need for the proposed CHC is and will continue to be a subject of scrutiny throughout the PSC’s review process including during the public and technical hearings.” (draft EIS Executive Summary p XXV).

The purpose of an EIS is to identify potential environmental impacts, including cost, need, and other economic impacts. An EIS examines whether a project is in the public interest, and examines potential impacts to the land, flora, fauna, and water resources. It also evaluates if there are viable alternatives (WEPA/NEPA Code of Federal Regulations s.1506.1). Chapter 3 of the WI draft EIS for the proposed CHC, “Project Assessment of Need and System Solutions”, contains 2 pages of PSC’s “Analysis of the Proposed Project, Cost, Reliability, Market impacts, Additional Modeling”, followed by 8 pages of the Applicants’ evaluation of NTAs (draft EIS Sections 3.4.1 through 3.4.3, 3.8 p 77-87).

**1. WGF asks: how can the public review and adequately comment on the “need” and NTAs for the proposed CHC in a timely manner without the PSC providing the “need analysis” for the proposed project?**

**2. WGF requests that the PSC examine the “need” for the CHC using relevant cost/benefit analysis and studies that clearly lay out this need rather than relying on generalities as stated in the CHC application (<https://psc.wi.gov/Pages/MajorCases/CardinalHickoryCreek.aspx> ).**

**3. WGF requests that the PSC consider and incorporate non-transmission alternatives including Distributed Energy Resources Systems (DERS, such as renewable generation and storage, microgrids, others), and assess whether the trends toward accelerating investments in DERS are more cost effective than investments in utility scale transmission projects.**

**4. WGF requests that the PSC compare CO2 emission impacts, comprehensive energy savings, comprehensive demand savings, costs from avoided or added natural gas generation, and savings from avoided distribution/transmission infrastructure for the Applicants’ non-transmission alternative and the high voltage transmission project over 40 years.** The proposed CHC is likely to be technologically obsolete in a relatively short time period, and the Applicants should use a 10 year payback period to evaluate the cost/effectiveness of the proposed project rather than a 40 year time period as stated in the application. Technological changes including load management and reducing the demand for transmitted electrical energy have increased energy efficiency. The PSC should assess whether taking the projected \$600 million investment for the proposed CHC (draft EIS Section 10.5 Proposed Project Cost p 491) and using that investment for improved electricity use efficiency and extension of DERS would better meet public needs, including the reduction of CO2 emissions.

**VI. NATURAL ECOSYSTEM COMMUNITIES affected by proposed CHC routes:** All of the proposed CHC routes would traverse through southwest Wisconsin's Driftless Area unique ecoregions and sensitive scenic landscapes, affecting the ecologic, recreational, cultural, archaeological, agricultural, tourism, and economic resources (draft EIS Section 2.5.1 Figure 2-1 Driftless Area). All of the proposed CHC routes would fragment and impact rare ecosystem communities of the Driftless Area (Wisconsin Department of Natural Resources Natural Heritage Inventory working list. <https://dnr.wi.gov/topic/nhi/wlist.html>).

Construction, maintenance, and management of utility lines, corridors and substations will result in the following short and long term activities and impacts on these natural communities: Construction of substations and utility lines – wetland filling and disturbance, logging, brushing, mowing, soil compaction, invasive species (IS) introduction, non-native species planting, excessive sediment inputs to streams during construction, decrease in stream stability with continuous stream crossings by heavy machinery. Maintenance – brushing, IS introduction. Management – limitation of prescribed burning, IS control and other restoration activities, and open corridors which can increase deer, predators, nest parasitism, and IS introduction (draft EIS Sections 4.5.1 to 4.5.14, and 4.6.1 to 4.6.8, and Table 4-9 p 199).

Significant investments have been made in terms of funding and time by many government agencies and groups over the years for conservation of Driftless Area lands and water resources. These groups include U.S. Department of Agriculture's Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Farm Service Agency and Farm Bill programs, Wisconsin DNR, The Nature Conservancy, The Prairie Enthusiasts, Pheasants Forever, Driftless Area Land Conservancy, Trout Unlimited, and others.

**1. WGF requests that the final WI EIS economic evaluation include the value of conserved lands and the public and private investments to accomplish land and water conservation in the proposed CHC project area. This economic evaluation should include present market value of the lands. WGF requests that the PSC include these economic conservation investments in the final WI EIS.**

**2. WGF requests that the PSC address in the final WI EIS the potential adverse impacts to all natural community areas within the proposed CHC corridor.**

**VII. PUBLIC TRUST LANDS AND WATERS affected by the proposed CHC:** Routing and siting of the proposed CHC is discussed in the WI draft EIS in Chapter 2 Sections 2.1.3 through 2.1.6, and Chapters 6 through 9. The four proposed routes are the Mississippi River, Western, Eastern, and Dane County. Chapters 6 through 9 contain the PSC's environmental analysis and description of each main routing area, with information of potential impacts to each area's natural and community resources. **Specific critical details pertinent to each routing area will be discussed in WGF public comments submitted here.**

According to the U.S. Department of Agriculture, "the Driftless Area's diversity of habitat provides critical habitat for dozens of species of concern in the Wisconsin State Wildlife Action Plans (<https://dnr.wi.gov/topic/wildlifehabitat/actionplan.html>), and has been cited as one of North America's most important resources." (U.S. Department of Agriculture, Regional Conservation Partnership Program, Investing in Wisconsin-2016, "Driftless Area-Habitat for the Wild and Rare"). Concerns for the impacts the proposed CHC could have on the Driftless Area were a common theme in the over 600 public scoping comments received by the PSC on the proposed CHC (draft EIS Section 1.2.4.3 Summary of Public Comments Table 1-3 p 10).

- 1. WGF requests that potential impacts to the Driftless Area's natural, cultural, recreational and economic resources be fully considered by the PSC.**
- 2. WGF asks that the final WI EIS thoroughly evaluate potential adverse impacts on the public trust lands and waters expected to occur, including impacts to habitats and wildlife, degraded but not filled wetlands, areas invaded by non-native species, irreversible losses to rare communities, loss of wetland flood mitigation and loss of restoration potential.**

**VII. A. Public trust lands** on the proposed CHC routes include federal and state, and multiple county lands (draft EIS Section 2.5. Natural Resource Communities, Southwestern Wisconsin and the Driftless Area p. 51-62 and Chapters 6, 7, 8, 9).

Federal: Upper Mississippi River National Wildlife and Fish Refuge and Ice Age National Scenic Trail.

State: Belmont Mound, Blue Mound, and Governor Dodge State Parks; Military Ridge and Pecatonica State Trails; Blackhawk Lake Recreation Area; Military Ridge Prairie Heritage Area; Southwest Wisconsin Grassland and Stream Conservation Area; Conservation and Natural Areas Belmont Prairie, Thompson Memorial Prairie, Erbe Grassland Preserve, Pleasant Valley Conservancy, Ridgeway Pine Relict, Wyoming Oak Woodlands/Savanna, Ihm Driftless Area, Thomas Driftless Area.

County: multiple public trust lands in the WI counties of Dane, Grant, Iowa, and Lafayette.

Many of these lands contain areas where natural communities are managed, including Conservation Reserve Properties.

- 1. WGF asks that the final WI EIS thoroughly examine both temporary construction impacts and permanent impacts to these federal, state, and county public trust lands.**
- 2. WGF requests that where natural communities are managed and CRP lands are present, the final WI EIS evaluate and address potential adverse impacts to these managed lands.**

**VII. B. Public trust waters** that would be crossed on the proposed routes include 10 waters classified by the Wisconsin DNR as an Outstanding Resource Water (ORW) or an Exceptional Resource Water (ERW), and 16 class I or II trout streams (draft EIS Section 2.5.4, Table 2.15 p. 56, Table 2.16 p. 56-58). These waters include: Mississippi River, Grant and Platte Rivers, Jack Oak and Cassville Sloughs, headwaters of the Sugar and Pecatonica watersheds, Black Earth Creek and Trout Creek Fishery and Wildlife Areas, Conley Smith Creek, Elvers Creek, and Love Creek (draft EIS Section 2.5.4 Water Resources, p. 55-58 and Chapters 6, 7, 8, 9).

Wetlands are relatively scarce in the Driftless Area. For that reason, the significance of wetland functional values is higher. Wetland functional values include floristic integrity; human use values which includes natural scenic beauty, endangered and threatened species, cultural and other uses; wildlife and aquatic life habitat; floodplain and water quality functions; shoreline anchoring; and groundwater processes.

- 1. WGF asks that the final WI EIS thoroughly evaluate potential adverse impacts on public trust waters, including any possible impacts to springs and seeps, coldwater and coolwater streams and other surface waters.**
- 2. WGF requests that the PSC address potential impacts to trout streams and introduction of invasive species, major concerns that should be addressed, in the final WI EIS.**
- 3. WGF requests that all wetlands potentially impacted be identified, surveyed and assessed, with direct, indirect, and cumulative impacts addressed in the final WI EIS.**
- 4. WGF requests that wetland functional values should be assessed, as well as the potential impacts to those functional values. A thorough assessment will evaluate direct, secondary and cumulative impacts.**

**VII. C. Upper Mississippi River National Wildlife and Fish Refuge:** The Refuge has been designated as a Wetland of International Importance (The Ramsar List) and a Globally Important Bird Area. The Refuge provides critical habitat for migratory birds, with over 150 species, including golden and bald eagles, passing through each spring. Songbirds, waterfowl, raptors, and other birds use the Refuge for breeding habitat. 15 colonial nesting rookeries in the Refuge are used by great-blue herons and great egrets. During fall, hundreds of thousands of waterfowl migrate along the Mississippi River. In winter, unfrozen pockets of water provide hunting grounds for large numbers of eagles. In addition to the ecological importance and function of the Refuge, it is also an important recreational use area for hunting, fishing, canoeing, kayaking, boating, wildlife viewing, and camping (draft EIS Section 2.5.5 Upper Mississippi River National Wildlife and Fish Refuge, p. 58 and Chapter 6).

The US Fish and Wildlife Service (USFWS) would need to issue a Special Use Permit for construction on the Refuge. USFWS also has authority and trust responsibility under the Endangered Species Act (ESA), the Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act. USFWS would need to grant an easement across its lands for the proposed CHC. The issuance of a Right Of Way (ROW) easement would require an application to the USACE Real Estate branch that demonstrates the project has no viable alternative except to use public lands and has a demonstrated need. The proposed CHC would be reviewed to determine if it is consistent with Mississippi River Project purposes, consistent with the Mississippi River Project Master Plan, and meets applicable laws and/or guidance.

The Avian Risk Review provided by the Applicants identified high-risk collision areas totaling almost 3 miles in the Refuge. The proposed route segments that intersect the Refuge pose an increased risk of collision relative to other segments (draft EIS Table 6-4 Areas of increased avian risk within the Mississippi River Routing Area, adapted from the Avian Risk Review for the Cardinal-Hickory Creek Project p 234, and Figure 6 Appendix A, and Figure 3, Appendix F).

**1. WGF requests that the PSC address the significance of these necessary federal permits and their impacts in the final WI EIS.**

**2. WGF asks that the final WI EIS examine both temporary construction impacts and permanent impacts to the Upper Mississippi River National Wildlife and Fish Refuge.**

**3. WGF requests that the PSC consult available pertinent research, studies, and other resources and provide an independent assessment of the bird impacts from the addition of at least 8 high tension wires crossing the 1.6 mile span of the Upper Mississippi River National Wildlife and Fish Refuge near Cassville, Wisconsin.**

**VII. D. Southwest Wisconsin Grassland and Stream Conservation Area:** SWGSCA is a partnership between local, state, federal, non-profit organizations, landowners, and individual citizens all working together to sustain functional grasslands, savannas, and stream habitats. SWGSCA is one of the best grassland conservation opportunities in the Upper Midwest (South West Wisconsin Grassland and Stream Conservation Area. Wisconsin Department of Natural Resources. Webpage <https://dnr.wi.gov/topic/Lands/grasslands/swgrassland.html> , <http://swgsca.org/>

Within the SWGSCA is the Military Ridge Prairie Heritage Area (MRPHA), an area identified by the Nature Conservancy as critical for the protection of Midwest prairie remnants and area-sensitive species, including endangered and threatened grassland birds. Creating and maintaining habitat for grassland birds is imperative to their survival, and the Bird Conservation Area within the SWGSCA was created to maintain sustainable breeding populations of grassland birds. (The Nature Conservancy: The Places We Protect.

<http://nature.org/ourinitiatives/regions/northamerica/unitedstates/wisconsin/placesweprotect/priority-area-military-ridge-prairie-heritage-area.xml> and South West Wisconsin Grassland and Stream Conservation Area. Bird Conservation Area, description and map. Wisconsin Department of Natural Resources. <https://dnr.wi.gov/topic/Lands/grasslands/swgrassland.html> ). SWGSCA lies in the heart of the proposed CHC and would be affected due to habitat reduction, degradation, or fragmentation (draft EIS Sections 2.5.3, 4.5.1 to 4.5.14, and 4.6.1 to 4.6.8, and Chapters 7, 8).

**1. WGF requests that the final WI EIS consider all possible cumulative impacts from the proposed CHC on the functional ecological parameters of the Driftless Area, especially the entire SWGSCA which contains the Military Ridge Prairie Heritage Area and Bird Conservation Area.**

**VII. E. Important Bird Areas:** The Important Bird Areas (IBAs) program is part of an international effort to identify and conserve areas critical to birds and biodiversity in general. IBAs are administered by the National Audubon Society and implemented by the Wisconsin Bird Conservation Initiative (WBCI). IBAs provide essential habitat, particularly for species of conservation concern. IBAs are collectively owned and managed by many public and private entities, and are important on global, continental, regional, national, and state levels (National Audubon Society. Important Bird Areas in the U.S. National Audubon Society, 2013). The proposed CHC routes come into direct contact with, or within 1/2 mile of five different IBAs (draft EIS Sections 2.5.6.1 to 2.5.6.5 p 58-61, and Table 2-17 Important Bird Areas located near the project area from west to east p 59, and Figure 6 Appendix A, and Chapters 6, 7, 8). The Mississippi River Routing Area contains the most densely packed avian collision risk areas of the entire CHC project area. The elevated risk to birds in this area is attributed at least in part to the abundance of



preferred habitat provided by the presence of 2 IBAs (Wyalusing to Dewey IBA and Upper Mississippi River NWR IBA), the Refuge, and the Mississippi River (draft EIS Section 6.1.3.2 p 233).

**1. WGF requests that the PSC thoroughly address potential impacts to birds in the proposed CHC corridor IBAs in the final WI EIS. Specifically, all IBAs where federal and state listed species can occur need to be evaluated in the final WI EIS for potential adverse impacts.**

**2. WGF requests that the PSC consult available pertinent research, studies, and other resources and provide an independent estimate of the bird impacts from the proposed CHC prior to construction.**

**VIII. PUBLIC TRUST WILDLIFE SPECIES affected by proposed CHC routes:** There are numerous endangered, threatened, and special concern wildlife species who inhabit the biodiverse lands of the proposed CHC (Wisconsin Department of Natural Resources Natural Heritage Inventory working list. <https://dnr.wi.gov/topic/nhi/wlist.html> ; Wisconsin Wildlife Action Plan: Habitats. Wisconsin of Natural Resources. [https://dnr.wi.gov/files/pdf/pubs/nh/nh0983\\_4\\_0-3.pdf](https://dnr.wi.gov/files/pdf/pubs/nh/nh0983_4_0-3.pdf)).

Eight wildlife species federally listed as threatened or endangered that may occur in the CHC include whooping crane, northern long-eared bat, rusty patched bumble bee, Hine's emerald dragonfly, Iowa Pleistocene snail, Higgin's eye pearly mussel, sheepsnose mussel, and spectacle case mussel. It was determined that 117 special status species have been: 1) previously documented, 2) are likely present, or 3) are not known to occur, but for which suitable habitat is present within the CHC resource evaluation area (Table 3.4-1. Special Status Species Considered Potentially Present within C-HC Project Resource Evaluation Area as Determined through Coordination with USFWS, IDNR, and WDNR pp 214-217 [https://www.rd.usda.gov/files/CHC\\_DEIS\\_Vol\\_I\\_Web\\_508\\_111918.pdf](https://www.rd.usda.gov/files/CHC_DEIS_Vol_I_Web_508_111918.pdf) ).

**Wildlife Species by Category affected by the proposed CHC include, but are not limited to** (draft EIS Chapters 2, 6, 7, 8, 9): Pollinators and other insects: 11 bumblebee species including the federally endangered rusty-patched bumble bee; state endangered regal fritillary butterfly, Ottoo skipper, and Silphium borer moth; state endangered *Attenuipyga vanduzeei* leafhopper, red-tailed prairie leafhopper; and state threatened Issid planthopper.

Fish: Four state endangered species including bluntnose and crystal darters, goldeye, and pallid shiner; 6 state threatened species recorded within 2 miles of the proposed CHC including black buffalo, blue sucker, Ozark minnow, paddlefish, river redhorse, and shoal chub.

Other aquatic species: Three state endangered mussel species including butterfly, Higgin's-eye, and yellow and slough sandshell; and five state threatened mussel species recorded within two miles of the proposed CHC including ellipse, fawnsfoot, monkeyface, rock pocketbook, and wartyback.

Amphibians: state endangered Blanchard's cricket frog, and species of special concern pickerel frog.

Reptiles: state endangered box turtle, species of special concern with protected status Blanding's turtle, and all the following species of special concern snakes: timber rattlesnake, North American blue-racer, black ratsnake, bull (gopher) snake, and plains garter snake.

Mammals: state endangered northern long-eared bat, state threatened eastern pipistrelle, big brown and little brown bats, and species of special concern Franklin's ground squirrel, prairie and woodland voles. The American badger is a Wisconsin non-game protected species and an iconic mammal of the Driftless Area, which may experience population effects due to habitat disruption and degradation.

Birds depend on lands in the proposed CHC routes during winter, migration, and nesting seasons. The proposed CHC would affect important bird nesting habitat (draft EIS Sections 2.5.6.1 to 2.5.6.5 p 58-61, and Table 2-17 Important Bird Areas located near the project area from west to east p 59, and Figure 6 Appendix A).

Confirmed bird nesting species: state endangered loggerhead shrike; state threatened red-shouldered hawk, Henslow's sparrow, Acadian flycatcher, cerulean warbler, and hooded warbler; species of special concern grasshopper, lark, and vesper sparrows, bobolink, dickcissel, eastern meadowlark, upland sandpiper, northern bobwhite, eastern whip-poorwill, common nighthawk, Bell's vireo, red-headed woodpecker, willow flycatcher, brown thrasher, sedge wren, wood thrush, yellow-billed cuckoo, black-billed cuckoo, Louisiana waterthrush, and blue-winged, Kentucky, prothonotary, worm-eating, and yellow-throated warblers. Federally protected bald eagles had over 40 confirmed nests in 2018 along the proposed CHC routes (Wisconsin Breeding Bird Atlas II. Season 4 preliminary results and trends. <https://ebird.org/atlaswi/news/season-4-preliminary-results-and-stats> ).

Whooping cranes in Wisconsin are part of the Nonessential Experimental Population (Whooping Crane Eastern Partnership [WCEP] 2018, Federal Register USFWS 2001). Whooping cranes have been confirmed in 2018 in northeast Iowa, western Wisconsin, and central Wisconsin using wetland stopover habitat (WCEP 2018).

- 1. WGF requests that the PSC specifically address potential impacts to these federal and state listed wildlife species within the proposed CHC corridor.**
- 2. WGF requests that all potential areas where these federal and state listed species can occur be thoroughly evaluated by the PSC for potential adverse impacts and addressed in the final EIS.**
- 3. WGF requests that the PSC consult available pertinent research, studies, and other resources to provide an accurate assessment of whooping crane use of the proposed CHC corridor.**

**IX. AVIAN AND BAT POPULATION impacts from the proposed CHC:** Mortality events would occur to all wildlife species along the proposed CHC routes. Bird mortality from the proposed CHC would occur, as the CHC would be constructed through areas of known high bird use (draft EIS 4.6.8.1 p 205). Bird collisions with electric lines can have significant ecological impacts. In addition to state and federal protection afforded to rare bird species (draft EIS Section 4.6.1.1), all migratory birds in North America are federally protected under the Migratory Bird Treaty Act of 1918, as amended, due to their important role in global-scale ecology (draft EIS Section 4.6.1.2, 6.1.3.2, 7.1.3.2, 8.1.3.2, and 9.1.3.2). The Avian PowerLine Interaction Committee (APLIC) has developed several guidance documents that contain conservation measures for reducing impacts to bird and bat populations (Avian PowerLine Interaction Committee. Webpage <https://www.aplic.org/> ).

**1. WGF requests that the WI final EIS address the potential effect of the proposed CHC on bat populations within the proposed corridor especially in light of recent deleterious impacts to cave-dwelling bats from the fungal disease White Nose Syndrome (WNS; Pseudogymnoascus destructans).**

To date, WNS is conservatively estimated to have killed more than 7 million hibernating bats in 25 U.S. states and six Canadian provinces. Bat population declines of >80 % in the northeastern U.S. have recently been reported (Reynolds, H.T. et al. 2015. Modeling the environmental growth of Pseudogymnoascus destructans and its impact on the white-nose syndrome epidemic. J Wildl Disease Vol. 51, No. 2, pp. 318-331.). WNS is present in Wisconsin cave dwelling bats, and a bat hibernation cave approximately 0.3 miles from the proposed CHC route is monitored by the WI DNR for WNS (White Nose Syndrome. Wisconsin Department of Natural Resources. (<https://dnr.wi.gov/news/Weekly/Article/?id=4254> ). All efforts to protect bats and reverse population declines are critically important. Any efforts to reduce or eliminate additional compensatory and/or additive mortality should be employed. The proposed CHC routes would likely increase bat mortality.

In addition to direct impacts, birds, bats, and other species are impacted by the indirect effects of transmission and distribution lines. The proposed CHC would likely increase these indirect mortality effects for all species. These indirect effects include the introduction of barriers to movement, habitat fragmentation, site avoidance or abandonment, disturbance, loss of population vigor, behavioral modification, creation of suboptimal or marginal habitats, loss of refugia, and intraspecific and interspecific competition for resources. Most of these indirect effects are difficult to quantify, difficult to separate from other impacts, and for the most part have not been quantitatively tested, critically reviewed, and published in refereed journals (Manville, A.M. II. 2013. Anthropogenic-related bird mortality focusing on steps to address human caused problems. Invited, peer-reviewed white paper for Anthropogenic Panel 5th International Partners in Flight Conf. August 27, Snowbird, UT. Div Mig Bird Mgt, USFWS, pp 1–16. and Manville, A.M. 2016. Chapter 20: Impacts to Birds and Bats Due to Collisions and Electrocutions from Some Tall Structures in the United States: Wires, Towers, Turbines, and Solar

Arrays—State of the Art in Addressing the Problems. [http://www.electronicsilentspring.com/wp-content/uploads/2016/01/chp\\_10.1007\\_978-3-319-22246-2\\_20.pdf](http://www.electronicsilentspring.com/wp-content/uploads/2016/01/chp_10.1007_978-3-319-22246-2_20.pdf) ).

**1. WGF requests that the PSC incorporate the above concerns pertaining to wildlife species in the final WI EIS on the proposed CHC.**

**2. WGF requests that the final WI EIS include a robust evaluation of habitat fragmentation and its effects on avian and bat mortality.**

**3. WGF requests that the final WI EIS acknowledge and address indirect wildlife mortality from the proposed CHC during and after construction, using data from comparable projects and noting data deficiencies for species that have not been adequately addressed.**

#### **X. AESTHETICS, TOURISM and OUTDOOR RECREATIONAL OPPORTUNITIES affected by the proposed**

**CHC:** The PSC received many public scoping comments strongly expressing that the proposed CHC would negatively affect aesthetics of the Driftless Area. The comments specifically mentioned the relationship of aesthetics to property value, tourism, and the rural or scenic character of the Driftless Area (draft EIS Section 1.2.4.3 p 12 and Table 1-6: Comments received based on the areas of concerns identified in each comment). The PSC states “In addition to the unique ecology of the Driftless Area, its social and economic significance may be considered unquantifiable to those who live and visit the area. Many have recognized the Driftless Area as a unique resource worthy of ecological, cultural, and economic importance; and thus, this area is the focus of several governmental, non-profit, and private partnerships and organizations that are solely focused on conserving, restoring, and enjoying this unique area in Wisconsin. Concerns for the impacts the proposed CHC project could and would have on the Driftless Area are a common theme found in many submitted public scoping comments.” (draft EIS Section 1.2.4.3 p 51).

The PSC received a significant number of public comments that all proposed routes of the CHC would negatively impact tourism. Comments were received from municipalities, not-for-profit organizations, and private landowners (draft EIS 4.5.9.2 p 169, and Table 4-7 Tourism in the project area). Tourism is an important part of the Driftless Area’s regional economy. Tourism supports robust local businesses comprised of hundreds of outdoor recreation based small businesses whose economic livelihoods would be affected along any of the proposed CHC routes (The Driftless Explorer, A Free Travel Guide to the Area [https://issuu.com/newspublishinginc./docs/driftless\\_explorer\\_for\\_website\\_lowe](https://issuu.com/newspublishinginc./docs/driftless_explorer_for_website_lowe) ). The Driftless Area’s tourism thrives on clean air, clear water and natural ecosystems. Many people participate in extensive outdoor recreational opportunities including hiking, biking, birding, skiing, hunting, trout fishing, camping, car touring, and other pursuits. The 40 mile Military Ridge State Trail is part of the Aldo Leopold Legacy Trail System, and is used by more than 200,000 people per year.



(<https://dnr.wi.gov/topic/Lands/Grasslands/documents/swgscatour.pdf> , Southwest Driftless Trout Team. Wisconsin Department of Natural Resources <https://dnr.wi.gov/topic/fishing/streambank/SWDriftlessTrout.html>).

**1. WGF maintains that the Driftless Area's ecological, social and economic significance is quantifiable, and requests that the PSC analyze and quantify the economic costs the proposed CHC would have on tourism and recreation along all of the proposed routes.**

**XI. Conclusion:** The proposed Cardinal-Hickory Creek high voltage transmission line would affect the lands, waters, species, tourism, outdoor recreation, and economics of the Driftless Area. As per Wis. Stat. § 196.491(3)(d)3, 4, 6, the project must not have undue adverse impacts on environmental values such as, but not limited to: ecological balance, public health and welfare, historic sites, geological formations, aesthetics of land and water, and recreational use; and the project must not unreasonably interfere with the orderly land use and development plans of the area involved.

**1. Wisconsin's Green Fire: Voices for Conservation asks that the PSC thoroughly consider the affects the proposed CHC will have on the specific, as well as the general, biodiversity of the Driftless Area.**

**2. WGF believes that Wisconsin law unequivocally requires that the PSC fully investigate all aspects of the proposed CHC project, including those considerations we have identified here and especially including evaluation of non-transmission alternatives, prior to making a decision to approve, deny, or modify the proposed CHC CPCN application. Not only will those steps be consistent with state law, we believe they will best serve the needs of Wisconsin citizens into the future.**

Thank you for the opportunity to provide these comments on the draft EIS. If you have questions about these comments, please contact Kerry Beheler at [Kerry.beheler@gmail.com](mailto:Kerry.beheler@gmail.com)