



DATE: April 11, 2014
MEMORANDUM: Grande Prairie Wind, LLC NLEB Conservation Measure Commitments
AUDIENCE: U.S. Fish and Wildlife Service (Martha Carlisle)
Western Area Power Administration (Matt Marsh and Lou Hanebury)
Grande Prairie Wind, LLC (Ingrid Schwingler, Patrick Smith, and Jeremy Duehr
(Fredrikson & Byron))
Stantec Consulting (Terry VanDeWalle, Molly Gillespie)
Nebraska Game & Parks Commission (Michelle Koch)

Grande Prairie Wind, LLC (Grande Prairie), a subsidiary of Geronimo Wind Energy, LLC d/b/a Geronimo Energy, LLC, is proposing the construction of a commercial, utility-scale wind energy generation facility in Holt County, Nebraska. The Grande Prairie Wind Farm (Project) would include up to 266 wind turbines, with a combined generating capacity of up to 400 megawatts (MW) of renewable energy. Grande Prairie has applied to Western Area Power Administration (WAPA) to interconnect the proposed wind energy facility to WAPA's 345-kilovolt (kV) Fort Thompson to Grand Island transmission line. Western's decision to execute an interconnection agreement and to construct, own, and operate an interconnection facility (switchyard) financed by Grande Prairie for operational control of the interconnection is considered a major Federal action and subject to review under the National Environmental Policy Act (NEPA). Since Grande Prairie is undergoing NEPA review, Section 7 of the Endangered Species Act (ESA) is also enacted.

Parallel to the NEPA review, Grande Prairie is developing a Bird and Bat Conservation Strategy (BBCS) to avoid and reduce potential impacts to birds and bats at the Project. The BBCS will also document Grande Prairie's scientific analysis of the Project's potential impacts to bird and bat species and their habitats, and the systematic processes which will be used for evaluating these impacts. This BBCS will be in effect throughout the life of the Project as a working document. At this stage, the draft BBCS has been provided to U.S. Fish and Wildlife Service (USFWS), Nebraska Game and Parks Commission (NGPC), and Western Area Power Administration (WAPA) for their review and comment.

The Northern Long-Eared Bat (NLEB) Interim Conferencing and Planning Guidance¹ (Guidance) was issued by USFWS on January 6, 2014. The purpose of the Guidance is to address the immediate information needs for Section 7 conferences and conservation planning for the NLEB should it be listed in 2014. In addition, USFWS Nebraska Field Office issued a memorandum on March 26, 2014 that included guidance for avoiding impacts to NLEBs. WAPA intends to initiate conferencing for NLEB (informal versus formal conferencing will be determined prior to initiation of conferencing) on behalf of Grande Prairie.

Appendix D of the NLEB Interim Conferencing and Planning Guidance provides a list of recommended conservation measures for the NLEB. Conservation measures are considered any measures that

¹ <http://www.fws.gov/midwest/endangered/mammals/nlba/pdf/NLEBinterimGuidance6Jan2014.pdf>



contribute to the conservation of the NLEB and include, but are not limited to, avoidance measures, minimization measures, and mitigation measures.

This memorandum clearly states Grande Prairie’s position as it relates to the conservation measures. Because there are no known hibernacula (caves, abandoned mines) in Holt County or near the project area (NEES 2013; Stantec 2014), this memorandum addresses Conservation Measures for NLEB in known or potential summer habitat. Per the memo from USFWS Nebraska Field Office (2014), suitable summer habitat for NLEB consists of the variety of forested/wooded habitats where they roost, forage, and travel. This includes forested patches as well as linear features such as fencerows, riparian forests and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Isolated trees are considered suitable habitat when they exhibit the characteristics of a suitable roost tree and are less than 1000 feet from the next nearest suitable roost tree, woodlot, or wooded fencerow.

Table 1. Conservation Measures for NLEB in Known or Potential Summer Habitat and Grande Prairie’s Statement of Commitment

NLEB Conservation Measure	Grande Prairie’s Statement of Commitment
<ul style="list-style-type: none"> • Determine where NLEB occur in the summer. <ul style="list-style-type: none"> • Coordinate with partners to gather and evaluate NLEB location information. <ul style="list-style-type: none"> ▪ Review both positive and negative data (e.g., acoustic transect surveys). ▪ For wind facilities, review project pre-construction surveys and post-construction fatality reports for detection of NLEB. • We recommend that large landholders (e.g., U.S. Forest Service, Department of Defense, National Wildlife Refuges, state natural resource agencies) perform baseline bat surveys. 	<ul style="list-style-type: none"> • Grande Prairie is making a good faith effort to determine where NLEB occur in the summer. North East Ecological Services (NEES) conducted bat acoustic surveys during Spring, Summer, and Fall 2012 to assess general bat activity levels at Grand Prairie (NEES 2013). In 2014, Western EcoSystems Technology, Inc. (WEST) conducted species identification analysis of bat echolocation calls recorded at the project in 2012 and determined there were zero NLEB calls (WEST 2014). In 2014, Stantec Consulting Services Inc. prepared a desktop habitat screening analysis and Grande Prairie will field verify the habitat identified by Stantec’s desktop assessment (woodlands, wooded riparian corridors, wetlands and open water) (Stantec 2014). Grande Prairie will conduct post-construction fatality monitoring and will document the presence of any NLEB found.
<ul style="list-style-type: none"> • Take actions to protect NLEB and 	<ul style="list-style-type: none"> • Grande Prairie is preparing a Bird and Bat Conservation



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<p>their habitat within known NLEB homeranges.</p>	<p>Strategy in coordination with USFWS, NGPC, and WAPA.</p>
<ul style="list-style-type: none"> • Avoid killing or injuring NLEB during tree clearing activities. <ul style="list-style-type: none"> ○ Do not clear maternity colony summer habitat during the summer maternity season to avoid direct effects to females (pregnant, lactating, and post-lactating) and juveniles (non-volant and volant). 	<ul style="list-style-type: none"> • Grande Prairie will avoid killing or injuring NLEB during tree clearing activities. <ul style="list-style-type: none"> ○ Clearing of trees would be restricted to winter clearing whenever practicable, and to the extent practicable, no trees or man-made structures would be removed during Project construction during the NLEB breeding season (1 April to 30 September; USFWS 2014). If removal of trees or man-made structures must occur between 1 April and 30 September, a biologist will be consulted to ensure that no NLEBs are roosting in that area, and tree clearing will occur during daytime hours to avoid impacts to foraging bats.
<p><i>Minimize other direct effects to NLEB:</i></p>	
<ul style="list-style-type: none"> • Avoid clearing of summer habitat during the time of year when females are pregnant or the pups are non-volant (consult the FWS office for these times). 	<ul style="list-style-type: none"> • Grande Prairie will avoid clearing of summer habitat during the time of year when females are pregnant or the pups are non-volant. <ul style="list-style-type: none"> • Clearing of trees would be restricted to winter clearing whenever practicable, and to the extent practicable, no trees or man-made structures would be removed during Project construction during the NLEB breeding season (1 April to 30 September; USFWS 2014). If removal of trees or man-made structures must occur between 1 April and 30 September, a biologist will be consulted to ensure that no NLEBs are roosting in that area, and tree clearing will occur during daytime hours to avoid impacts to foraging bats.
<ul style="list-style-type: none"> • Minimize use of pesticides (e.g., rodenticides, sticky traps) in and around structures with roosting bats. 	<ul style="list-style-type: none"> • If structures owned or leased by Grande Prairie are identified as having roosting bats, Grande Prairie will minimize use of pesticides (e.g., rodenticides, sticky traps) in and around structures with roosting bats.
<ul style="list-style-type: none"> • During prescribed burns, where the proposed perimeter fire line is constructed by hand, construct it at least two tree-lengths away from any known NLEB habitat, or potential roost trees that have been identified. If such trees are adjacent to a fixed part of the fire line such as the road, a trail, or the river, they 	<ul style="list-style-type: none"> • Grande Prairie does not anticipate prescribed burns during construction or operation, but if the need does arise, it will construct the fire line at least two tree-lengths away from any known NLEB habitat or potential roost trees.



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<p>will have fire line constructed around the bases, so long as their remaining in place does not jeopardize firefighter safety.</p>	
<ul style="list-style-type: none"> Whenever practicable, conduct prescribed burns outside of the summer maternity season. Burns conducted during the summer maternity season should be low/moderate intensity to minimize direct impacts to NLEB. 	<ul style="list-style-type: none"> Grande Prairie does not anticipate prescribed burns during construction or operation, but if the need does arise, it will conduct prescribed burns outside of the summer maternity season whenever practicable. Grande Prairie will also adhere to low/moderate intensity for summer burns, should summer burns be necessary.
<ul style="list-style-type: none"> Fire-effects monitoring should be used before, during, and after the burns to ensure that burning conditions and effects are within the desired ranges. 	<ul style="list-style-type: none"> Grande Prairie does not anticipate prescribed burns during construction or operation, but if the need does arise, fire-effects monitoring will be used before, during, and after the burns to ensure that burning conditions and effects are within the desired ranges.
<ul style="list-style-type: none"> Use tanks to store waste fluids to ensure no loss of bats by entrapment in waste pits. 	<ul style="list-style-type: none"> Grande Prairie will use covered tanks to store waste fluids. <ul style="list-style-type: none"> All applicable hazardous material laws and regulations existing or hereafter enacted or promulgated regarding these chemicals will be complied with and a Spill Prevention, Control, and Countermeasure Plan (SPCC) will be implemented. The only hazardous chemicals anticipated to be on-site are the chemicals contained in diesel fuel, gasoline, coolant (ethylene glycol), and lubricants in machinery. Hazardous chemicals contained in diesel fuel, gasoline, coolant (ethylene glycol), and lubricants will not be stored in or near any stream, nor will any vehicle refueling or routine maintenance occur in or near streams. When work is conducted in and adjacent to streams, fuels and coolants will be contained in the fuel tanks and radiators of vehicles or other equipment.
<ul style="list-style-type: none"> Avoid conducting construction activities after sunset in known or suitable summer habitat to avoid harassment of foraging NLEBs. 	<ul style="list-style-type: none"> Foraging bats are not expected to be at risk of mortality from construction because nighttime construction activities would be minimal and areas of likely foraging activity (open water, riparian corridors, and fencerows/shelterbelts) would be avoided. However, Grande Prairie will avoid conducting construction activities after sunset in areas within 1,000 feet of suitable summer habitat, as field verified by WEST, Inc.



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<i>Avoid/minimize altering clean drinking water and foraging areas.</i>	
<ul style="list-style-type: none"> Minimize use of herbicides and pesticides. If necessary, spot treatment is preferred over aerial application. 	<ul style="list-style-type: none"> Grande Prairie will minimize use of pesticides. If pesticides are necessary, Grande Prairie will consider spot treatment over aerial application.
<ul style="list-style-type: none"> Minimize use of chemicals (e.g., colorants) in/around storm water detention basins. 	<ul style="list-style-type: none"> Grande Prairie will minimize use of chemicals in/around storm water detention basins. <ul style="list-style-type: none"> All applicable hazardous material laws and regulations existing or hereafter enacted or promulgated regarding these chemicals will be complied with and an SPCC Plan will be implemented. The only hazardous chemicals anticipated to be on-site are the chemicals contained in diesel fuel, gasoline, coolant (ethylene glycol), and lubricants in machinery. Hazardous chemicals contained in diesel fuel, gasoline, coolant (ethylene glycol), and lubricants will not be stored in or near any stream, nor will any vehicle refueling or routine maintenance occur in or near streams. When work is conducted in and adjacent to streams, fuels and coolants will be contained in the fuel tanks and radiators of vehicles or other equipment. Construction activities will be performed using standard construction best management practices so as to minimize the potential for accidental spills of solid material, contaminants, debris, and other pollutants. Excavated material or other construction materials will not be stockpiled or deposited near or on stream banks. No burning or burying of waste materials will occur at the Project site. The contractor will be responsible for the removal of all waste materials from the construction area. All contaminated soil and construction debris will be disposed of in approved landfills in accordance with appropriate environmental regulations.
<ul style="list-style-type: none"> Minimize potential lighting impacts (e.g., reduce the number of lights, use motion sensors, use shields/full cut-off lens, angle lights downward and away from forest). 	<ul style="list-style-type: none"> Grande Prairie will minimize potential lighting impacts. <ul style="list-style-type: none"> Lighting on permanent met towers will be minimized. Lighting on turbines will be minimized to that which is required by the Federal Aviation Administration. To avoid attracting or disorienting birds flying near



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	<p>or within the Project area, both Project substations would be outfitted with downward facing shields on all lights. The lights would be equipped with light sensors set to come on at night for security purposes. All operators and technicians on-site would be required to turn off internal lights in turbines at night when lights are not required for safety or compliance purposes.</p> <ul style="list-style-type: none"> ○ For those areas outside of 1,000 feet of suitable summer NLEB habitat, plans for any temporary safety lighting associated with night-time construction or maintenance activities during spring and fall migration will be developed in consultation with NGPC and USFWS.
<ul style="list-style-type: none"> • Contaminants, including but not limited to oils and solvents, should be strictly controlled so the quality, quantity, and timing of prey resources are not affected. 	<ul style="list-style-type: none"> • Grande Prairie will strictly control the use and storage of contaminants. <ul style="list-style-type: none"> • All applicable hazardous material laws and regulations existing or hereafter enacted or promulgated regarding these chemicals will be complied with and an SPCC Plan will be implemented. The only hazardous chemicals anticipated to be on-site are the chemicals contained in diesel fuel, gasoline, coolant (ethylene glycol), and lubricants in machinery. Hazardous chemicals contained in diesel fuel, gasoline, coolant (ethylene glycol), and lubricants will not be stored in or near any stream, nor will any vehicle refueling or routine maintenance occur in or near streams. When work is conducted in and adjacent to streams, fuels and coolants will be contained in the fuel tanks and radiators of vehicles or other equipment.
<ul style="list-style-type: none"> • Implement sediment and erosion control measures, ensure restoration of pre-existing topographic contours after any ground disturbance, and restore native vegetation (where practicable). 	<ul style="list-style-type: none"> • Grande Prairie will implement sediment and erosion control measures, ensure restoration of pre-existing topographic contours after any ground disturbance, and restore native vegetation (where practicable) <ul style="list-style-type: none"> ○ A storm water pollution prevention plan will be prepared to ensure that erosion is minimized during storm events and will be kept on-site at all construction sites, as well as in the construction contractors' offices. ○ During construction and operation of the Project, industry-standard best management practices will



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	<p>be implemented to protect topsoil and adjacent resources and to minimize soil erosion.</p> <ul style="list-style-type: none"> ○ Backfill the holes with the soil that was excavated and regrade the foundation areas to as close as reasonably practicable to the original ground contours. ○ Remove and restore to preconstruction conditions access roads owned by the wind plant operator, other than those roads that the landowners wish to retain. Regrade areas as close as reasonably practicable to the original ground contours. ○ Roads, portions of roads, crane paths, and staging areas not required for operation and maintenance will be restored to the original contour and made impassable to vehicular traffic. Areas to be reclaimed will be contoured, graded, and seeded as needed to promote successful revegetation, provide for proper drainage, and prevent erosion. ○ All surface-disturbed areas will be restored to the approximate original contour and reclaimed in accordance with easement agreements.
<ul style="list-style-type: none"> ● Site equipment servicing and maintenance areas at least 300 feet away from waterbodies (e.g., wetlands, streams). Follow available standards on spill prevention, containment, and control. 	<ul style="list-style-type: none"> ● Grande Prairie will strictly control the use and storage of contaminants. <ul style="list-style-type: none"> ● All applicable hazardous material laws and regulations existing or hereafter enacted or promulgated regarding these chemicals will be complied with and an SPCC Plan will be implemented. The only hazardous chemicals anticipated to be on-site are the chemicals contained in diesel fuel, gasoline, coolant (ethylene glycol), and lubricants in machinery. Hazardous chemicals contained in diesel fuel, gasoline, coolant (ethylene glycol), and lubricants will not be stored in or near any stream, nor will any vehicle refueling or routine maintenance occur in or near streams. When work is conducted in and adjacent to streams, fuels and coolants will be contained in the fuel tanks and radiators of vehicles or other equipment.
<ul style="list-style-type: none"> ● Avoid filling, channelizing, or degrading streams, wetlands, and other watering areas. 	<ul style="list-style-type: none"> ● Grande Prairie will avoid, to the extent practicable, filling, channelizing, or degrading streams, wetlands and other watering areas. ● Wetland delineations were completed in 2012 and



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	<p>additional surveys will be conducted in 2014. No impacts to jurisdictional wetlands and waterways are anticipated. Once the field surveys have been completed, a summary of impacts will be submitted to the U.S. Army Corps of Engineers, and the required authorizations/permits will be obtained, if necessary.</p>
<p><i>Maintain summer maternity habitat.</i></p>	
<ul style="list-style-type: none"> • Retain and avoid impacting potential roost trees, which includes live or dead trees and snags ≥ 3 inches dbh that have exfoliating bark, cracks, crevices, or cavities. Do not remove trees surrounding potential roosts to maintain the microclimate. 	<ul style="list-style-type: none"> • Grande Prairie will retain and avoid potential roost trees and will not remove trees surrounding potential roosts to maintain the microclimate <ul style="list-style-type: none"> ○ To the extent practicable, no trees or man-made structures would be removed by Grande Prairie during Project construction between 1 April and 30 September, which will avoid the maternity season for NLEBs in Nebraska (USFWS 2014). Thus, construction is not expected to cause mortality of roosting bats since any activity which will impact potentially suitable roosting habitat will not occur while bats are present. If trees or man-made structures must be removed between 1 April and 30 September, a biologist will be consulted to confirm that there are no NLEBs that would be displaced.
<ul style="list-style-type: none"> • Where practicable and not a safety hazard, leave dead or dying trees standing. 	<ul style="list-style-type: none"> • Grande Prairie will leave dead or dying trees standing wherever practicable.
<ul style="list-style-type: none"> • Avoid reducing the suitability of forest patches with known NLEB use. 	<ul style="list-style-type: none"> • Grande Prairie will maintain the integrity of forest patches with known NLEB use.
<ul style="list-style-type: none"> • Maintain or improve forest patches and forested connections (e.g., hedgerows, riparian corridors) between patches. 	<ul style="list-style-type: none"> • Grande Prairie will maintain existing forested connections whenever practicable.
<ul style="list-style-type: none"> • Clearly demarcate trees to be protected vs. cut to help ensure that contractors do not accidentally remove more trees than anticipated. 	<ul style="list-style-type: none"> • Grande Prairie will work with the contractor to clearly demarcate trees to be protected vs. cut to ensure no unnecessary trees are removed by mistake.
<ul style="list-style-type: none"> • Avoid/minimize tree clearing that fragments large forested areas or tree lined corridors. For example, 	<ul style="list-style-type: none"> • Grande Prairie will avoid/minimize tree clearing that fragments large forested areas or tree line corridors. <ul style="list-style-type: none"> ○ To the extent practicable, no trees or man-made



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<p>route linear features along the edge of a woodlot instead of through the middle of it; use horizontal directional drilling for pipeline crossings of wooded stream corridors and upland tree lines.</p>	<p>structures would be removed during Project construction between 1 April and 30 September, which will avoid the maternity season for NLEBs in Nebraska (USFWS 2014). Thus, construction is not expected to cause mortality of roosting bats since any activity which will impact potentially suitable roosting habitat will not occur while bats are present. If trees or man-made structures must be removed between 1 April and 30 September, a biologist will be consulted to confirm that there are no NLEBs that would be displaced.</p>
<ul style="list-style-type: none"> • Conduct humane exclusion of NLEB in structures. 	<ul style="list-style-type: none"> • If NLEB is discovered in structures slated for removal, Grande Prairie will conduct humane exclusion of NLEB and will consult with USFWS prior to doing so.
<ul style="list-style-type: none"> • Minimize use of pesticides (e.g., rodenticides, sticky traps) in and around structures with roosting bats. 	<ul style="list-style-type: none"> • If structures owned or leased by Grande Prairie are identified as having roosting bats, Grande Prairie will minimize use of pesticides (e.g., rodenticides, sticky traps) in and around structures with roosting bats.
<ul style="list-style-type: none"> • If bats (of any species) are using structures (e.g., barns or other out-buildings) as roosts, and these structures are proposed for removal, removal should be performed outside of the summer maternity season, unless there are human health or safety concerns associated with the structure. Consult a nuisance wildlife specialist for humane exclusion techniques. 	<ul style="list-style-type: none"> • Clearing of trees would be restricted to winter clearing to the extent practicable, and to the extent practicable, no trees or man-made structures would be removed during construction during the NLEB breeding season (1 April to 30 September; USFWS 2014). If removal of trees or man-made structures must occur between 1 April and 30 September, a biologist will be consulted to ensure that no NLEBs are roosting in that area, and tree clearing will occur during daytime hours to avoid impacts to foraging bats. • If other species of bats besides NLEB are utilizing the trees or man-made structures slated for removal, Grande Prairie will consult a nuisance wildlife specialist for human exclusion techniques.
<ul style="list-style-type: none"> • Prior to the initiation of any construction activities on bridges, including the removal of any bridge structures, we recommend the underside of each bridge be carefully examined for the presence of bats. If any bats are found roosting in the bridge, contact your state FWS office. 	<ul style="list-style-type: none"> • Grande Prairie will carefully examine the underside of each bridge for the presence of bats prior to construction or reconstruction of that bridge by Grande Prairie. If bats are found, the USFWS will be contacted.





REFERENCES:

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WEST, Inc. 2014. Technical Memorandum: Summary of Bat Species Identification of Echolocation Calls. 28 March 2014. 7 pp.

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