

Table 1. Site sensitivity for birds.

Bird usage sensitivity	Criteria	Pre-construction Monitoring Minimum Recommendations	Post-construction Monitoring Minimum Recommendations
Very High	* major migratory corridor; presence of known populations of lekking galliform species ( <i>Tympanuchus cupido attwateri</i> , <i>T. pallidicinctus</i> )	* avoid if possible ** consult with relevant state and federal agencies to develop plans for avoidance and/or mitigation; minimum three years studies of usage	* minimum three years studies of usage
	* breeding and/or wintering habitat for state or federally-listed T&E species	* consult with relevant state and federal agencies to develop plans for avoidance and/or mitigation; minimum three years studies of usage by T&E species	* minimum three years studies of usage by T&E species
	* in or adjacent to area of known high concentrations of bird usage (such as recognized important bird areas or other designated wilderness areas, aggregations of colonial-nesting waterbirds)	* minimum three years pre-construction surveys to determine specific areas and flight paths of high use - avoid these areas; if not avoidable, then avoid site	* minimum three years post-construction mortality surveys; minimum two years BACI design usage surveys to determine displacement impact
High	* known migratory flyway for raptors, waterfowl, shorebirds, etc.	* minimum two years surveys encompassing three spring and three fall months	* minimum three years post-construction mortality surveys during migratory periods
	* area of potential occupation by lekking species	* minimum two years pre-construction surveys focusing on spring months and consultation/coordination with appropriate state wildlife professional	* minimum two years post-construction mortality surveys
	* potential migratory path for state or federal listed threatened/endangered species	* minimum two years focused surveys during migratory periods in appropriate habitats	* minimum two years post-construction mortality surveys during migratory periods in appropriate habitats
	* area of high concentrations of breeding/foraging raptors	* minimum two years raptor nesting surveys and site usage surveys - alter site layout to minimize potential risk	* minimum two years post-construction mortality surveys during all periods when raptors present
	* rare and/or declining habitat for suite of imperiled species	* focused surveys of presence and usage of particular habitat; avoidance/mitigation of vulnerable species habitat	* minimum two years post-construction mortality surveys
Medium	* area of periodic importance as a migratory stopover (such as flooded agriculture, songbird fallout sites, etc.)	* minimum two years with surveys focused around periods of potential high usage	* minimum two years post-construction mortality surveys focused around periods of potential high usage
Low	* area of no known migratory movements of significance or high bird concentrations	* minimum one year bird usage surveys to gather information on bird assemblages by season	* minimum one year post-construction mortality surveys

Table 2. Site sensitivity for bats.

Sensitivity	Criteria	Pre-construction Monitoring Minimum Recommendations	Post-construction Monitoring Minimum Recommendations
<b>Very High</b>	<ul style="list-style-type: none"> <li>* Site is ≤ 50 km from known maternity colonies in the Texas Hill Country (see attached map), or 1 km from a known significant hibernacula or significant maternity roost in caves, abandoned mines, or karst topography in other regions.</li> </ul>	<ul style="list-style-type: none"> <li>* Avoid if possible .</li> <li>* Minimum 2 years of pre-construction data from April through October will be required to inform site plan and help determine high risk period(s).</li> </ul>	<ul style="list-style-type: none"> <li>* Post-construction monitoring during the core season when bats are active (i.e., April – October) for at minimum the first 2 years of wind turbine operation.</li> <li>* Post-construction monitoring may be reduced (e.g., reduced to July 1<sup>st</sup> – October 30<sup>th</sup>, if limited mortality is evident) or continued beyond 2 years (e.g., if substantial mortality is observed) based on the outcome of the monitoring, and in consultation with the TPWD.</li> </ul>
<b>High</b>	<ul style="list-style-type: none"> <li>* Site is ≤ 10 km from a known significant hibernacula, significant maternity roost or swarming/feeding site.</li> <li>* Site is ≤ 1 km from a shoreline of a major waterbody (e.g., areas that could potentially act as migration corridors or channelling features).</li> <li>* Site is ≤ 1 km from riparian habitat or other wetland features that serve as drinking and feeding sites, or from potential hibernacula habitat features (e.g. caves, abandoned mines, karst topography)</li> <li>* Site is located in forested habitat.</li> </ul>	<ul style="list-style-type: none"> <li>* Minimum 1 year of pre-construction data from April through October will be required to inform site plan and help determine high risk period(s).</li> </ul>	<ul style="list-style-type: none"> <li>* Post-construction monitoring during the core season when bats are active (i.e., April – October) for the first 2 years of wind turbine operation.</li> <li>* Post-construction monitoring may be reduced (e.g., reduced to July 1st – October 30th, if limited mortality is evident) or continued beyond 2 years (e.g., if substantial mortality is observed) based on the outcome of the monitoring, and in consultation with the TPWD.</li> </ul>
<b>Medium</b>	<ul style="list-style-type: none"> <li>* Site is ≤ 50 km from a known significant hibernacula, significant maternity roost, or swarming/feeding site.</li> <li>* Site is ≤ 5 km from riparian habitat or other wetland features that serve as drinking and feeding sites, or from potential hibernacula habitat features (e.g. caves, abandoned mines, karst topography)</li> <li>* Site is ≤ 5 km from a shoreline of major waterbodies</li> <li>* Site is located on landscape level linear habitat features (e.g., escarpments, ridges).**</li> <li>* Site is ≤ 5 km from forested habitat.</li> </ul>	<ul style="list-style-type: none"> <li>* Minimum one year of pre-construction data from April through October will be required to inform site plan and help determine high risk period(s). IF data are available from similar existing sites, pre-construction monitoring may not be required.</li> </ul>	<ul style="list-style-type: none"> <li>* Post-construction monitoring during the core season when bats are active (i.e., April – October) for minimum the first year of wind turbine operation. IF existing data from nearby or similar facilities indicate low spring/early summer fatalities, then monitoring may be adjusted to July through October.</li> <li>* Post-construction monitoring may be continued beyond 1 year (e.g., if substantial mortality is observed) based on the outcome of the monitoring, and in consultation with the TPWD.</li> </ul>
<b>Low</b>	<ul style="list-style-type: none"> <li>* Site does not contain any of the criteria listed above and/or has no recognized bat conservation features.</li> </ul>	<ul style="list-style-type: none"> <li>* One year preconstruction survey July –October to develop relationships between pre-construction usage and post-construction mortality.</li> </ul>	<ul style="list-style-type: none"> <li>* One year of post-construction monitoring from April through October. If existing data from nearby or similar facilities indicate low spring/early summer fatalities, then monitoring may be adjusted to July through October.</li> <li>* Post-construction monitoring may be continued beyond 1 year (e.g., if substantial mortality is observed) based on the outcome of the monitoring, and in consultation with the TPWD.</li> </ul>

**These site sensitivity tables are not part of the Recommendations for Wind Energy Development. These tables are provided by Texas Parks and Wildlife Department to assist in assessing the level of sensitivity (use) of the site for birds and bats, and recommended pre and post construction survey times, depending on the potential level of use by these species. These tables may or may not be supported by individual wind industry developers.**

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