Adaptive Management Practices for Conserving Migratory Birds

The Fish and Wildlife Service is the principal Federal agency charged with protecting and enhancing populations and habitat of migratory bird species. The Migratory Bird Treaty Act (MBTA, 16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755, as amended) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the MBTA has no provision for authorizing incidental take, the Service recognizes that some birds may be killed even if all reasonable measures to avoid take are implemented. Unless the take is authorized, it is not possible to absolve individuals, companies or agencies from liability (even if they implement avian mortality avoidance or similar conservation measures). However, the Office of Law Enforcement focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law.

In addition to protection under the MBTA, bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (Eagle Act, 54 Stat. 250, as amended; 16 U.S.C. 668-668d), which prohibits killing; selling; or otherwise harming eagles, their nests, or their eggs. The Eagle Act also includes provisions not found in the MBTA, including the protection of unoccupied nests and a definition of take that prohibits disturbing eagles. The Service recommends that applicants carefully evaluate their proposed project in light of the *National Bald Eagle Management Guidelines* to determine whether or not eagles might be disturbed as a direct or indirect result of the project. These guidelines as well as additional eagle information are available at http://www.fws.gov/northeast/ecologicalservices/eagle.html. To assist you in making a decision regarding impacts to bald eagles in Pennsylvania, a screening form and map of known bald eagle nests in 2013 can be found at http://www.fws.gov/northeast/pafo/bald_eagle.html

The siting and construction of new towers creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. The primary factors that affect the magnitude of the risk to birds posed by a particular tower are the height of the structure above the surrounding landscape; whether the structure is lighted, and if so, the type of lighting employed; the use of guy wires; the location of the tower; and the weather patterns in the area of the tower site. Communication towers are estimated to kill 4-5 million birds per year. Most massive bird kills occur as the birds become attracted to and confused by clouds that are illuminated by tall lighted structures. To minimize such losses, *and to the extent not already addressed in your project design*, we recommend the following measures be implemented to protect migratory birds from collisions with towers:

1. Any company/licensee proposing to site a new communications tower is strongly encouraged to co-locate the communications equipment on an existing communication tower or related structure (*e.g.*, church steeple, billboard mount, monopole, or building mount). Depending on tower load factors, from 6-10 providers may co-locate on an existing tower.

2. If co-location is not feasible, providers are strongly encouraged to construct towers less than 200 feet above ground level, using construction techniques which do not require guy

wires (*e.g.*, use a monopole). Such towers should be unlighted. If at all possible, new towers should be located within existing "antenna farms," preferably in areas not used by migratory birds or listed species. Avoid siting towers in or near (within 3-5 miles) of wetlands, other known bird concentration areas (*e.g.*, Important Bird Areas, refuges), or in critical habitat of threatened or endangered species known to be affected by towers. Review local meteorological conditions, and avoid siting towers in areas with an especially high incidence of fog, mist, and low ceilings.

3. If taller (>200 feet above ground level) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the Federal Aviation Administration should be used. Wherever possible, non-flashing lights should not be used. (See Gehring J., P. Kerlinger, A.M. Manville II. 2009. Communication towers, lights, and birds: successful methods of reducing the frequency of avian collisions. *Ecological Applications*: Vol. 19, No. 2, pp. 505-514).

4. Towers which must use guy wires for support should have daytime visual markers on the wires to minimize collisions by these diurnally moving species, especially if constructed in known raptor or waterbird concentration areas. (See Avian Power Line Interaction Committee. 2006. Suggested practices for avian protection on power lines: the state of the art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C. and Sacramento, CA.)

5. Towers should be constructed so as to limit or minimize habitat loss within the tower "footprint." Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above-ground obstacles to birds in flight. However, a larger tower footprint is preferable to the use of guy wires in construction.

6. Where disturbance is necessary, clear natural or semi-natural habitats (*e.g.*, forests, woodlots, reverting fields, shrubby areas) and perform maintenance activities (*e.g.*, mowing) between <u>September 1 and March 31</u>, which is outside the nesting season for most native bird species. Without undertaking specific analysis of breeding species and their respective nesting seasons on the project site, implementation of this seasonal restriction will avoid take of most breeding birds, their nests, and their young (*i.e.*, eggs, hatchlings, fledglings).

7. New towers should be designed structurally and electrically to accommodate the applicant's antennas and comparable antennas for at least two additional users (minimum of three users required for each tower structure), in order to reduce the number of towers needed in the future, unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

8. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.

9. If a tower is constructed, and if requested, Service personnel should be allowed access to the site after construction is complete to conduct both large (*e.g.*, crane, swan, and goose) and small dead-bird searches, to place net catchments below the towers, and to place

radar, Global Positioning System, infrared, thermal imagery, or acoustical monitoring equipment as necessary to assess and verify bird migrations and habitat use.

10. Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.

Additional information on this subject can be obtained by visiting the Service's migratory bird website at http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm.

If you have any questions regarding these measures, please contact Jennifer Siani of the Pennsylvania Field Office located in State College, PA at 814-234-4090 ext 225 or Jennifer_Siani@fws.gov