

## FAQ for USFWS Involvement/Interest in Communication Tower Siting

Q: What is the USFWS stance regarding communication towers?

A: *Communication towers are conservatively estimated to kill 4-5 million birds per year. As an agency, our regulatory goal is to “avoid or minimize unpermitted take”—i.e., impacts—essentially to ensure that we do no harm to USFWS trust species. To help meet this goal the USFWS has developed guidelines for siting, development and decommissioning of communication towers. These guidelines were developed by Service personnel from research conducted in several eastern, Midwestern, and southern States. While the USFWS encourages developers to follow these guidelines implementation by the communications industry is voluntary.*

Q: Under what authority does USFWS get involved in siting communication towers?

A: *Service personnel may become involved in the review of proposed tower siting and/or in the evaluation of tower impacts on migratory birds through National Environmental Policy Act review; specifically, sections 1501.6, opportunity to be a cooperating agency, and 1503.4, duty to comment on federally-licensed activities for agencies with jurisdiction by law, in this case the Migratory Bird Treaty Act, or because of special expertise. In addition, the Service is required by the Endangered Species Act to assist other Federal agencies in ensuring that any action they authorize, implement, or fund will not jeopardize the continued existence of any federally endangered or threatened species.*

*MIGRATORY BIRD TREATY ACT (MBTA) – Communication towers have been documented to kill birds which violates the spirit and the intent of the Migratory Bird Treaty Act and the Code of Federal Regulations at Part 50 designed to implement the MBTA. Some of the species affected are also protected under the Endangered Species Act and Bald and Golden Eagle Act. The Migratory Bird Treaty Act (16 U.S.C. 703-712) 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 Act has no provision for allowing an unauthorized take, it must be recognized that some birds may be killed at structures such as communications towers even if all reasonable measures to avoid it are implemented. The Service's Division of Law Enforcement carries out its mission to protect migratory birds not only through investigations and enforcement, but also through fostering relationships with individuals and industries that proactively seek to eliminate their impacts on migratory birds. While it is not possible under the Act to absolve individuals or companies from liability if they follow these recommended guidelines, the Division of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals or companies who have made good faith efforts to avoid the take of migratory birds.*

*NATIONAL ENVIRONMENTAL POLICT ACT (NEPA) - NEPA requires that federal agencies consider the environmental impacts of their decisions. For “major Federal actions significantly affecting the quality of the human environment,” agencies must prepare environmental impact statements (EIS) in which the adverse effects and potential alternatives are analyzed.*

*ENDANGERED SPECIES ACT (ESA) - Section 7 of the Endangered Species Act requires federal agencies to ensure that any action they authorize, fund, or carry out is not likely to “jeopardize the continued existence of any endangered or threatened species.” If an action is likely to jeopardize a listed species, the federal agency must consult with the FWS.*

Q: Are bird strikes really an issue?

A: *Communication towers do kill birds. Again, estimates are that, conservatively, communication towers kill between 4-5 million birds annually with high end estimations at 50 million. Add in other human related mortality factors and the numbers become staggering.*

- ✓ Collisions with buildings, estimated at between 100 million and 1 billion annually.
- ✓ Power lines, estimated anywhere between hundreds of thousands to as high as 175 million
- ✓ Cars which are estimated to kill another 60 million or more each year
- ✓ Predation by feral cats which one Wisconsin study estimated at 39 million birds annually.
- ✓ Other mortality factors such as deaths by poisoning; pesticides are estimated to cause the direct mortality of 72 million birds annually.

Overall mortality as a result of interactions with communication towers, when considering nationwide populations of all bird species, may not be considered significant by some. However, mortality at communication towers is not evenly distributed among all species of birds. Some birds, for unknown reasons, are more likely to be killed as a result of interactions with communication towers. These species are, in order of susceptibility,

1. Ovenbird (12.14% of total reported killed, estimates\* of between 490,000 to 5 million annually)
  2. Red-eyed vireo (10.64% of reported total kill, estimates\* of between 427,000 to 4.2 million annually)
  3. Tennessee warbler (9.57% of reported total kill, estimates\* of 383,000 to 3.8 million annually)
  4. Common yellowthroat (5.63% of reported total kill, estimates\* of 255,000 to 2.25 million annually)
  5. Bay-breasted warbler (5.63% of reported total kill, estimates\* of 255,000 to 2.25 million annually)
  6. American redstart (4.5% of reported total kill, estimates\* of 182,000 to 1.8 million annually)
  7. Blackpoll warbler (3.4% of reported total kill, estimates\* of 136,000 to 1.4 million annually)
  8. Black-and-white warbler (3.3% of reported total kill, estimates\* of 132,000 to 1.3 million annually)
  9. Philadelphia vireo (2.3% of reported total kill, estimates\* of 93,000 to 934,000 annually)
  10. Swainson's thrush (2.1% of reported total kill, estimates\* of 85,000 to 854,000 annually)
- (\*Assuming communication tower related mortality of between 4 to 40 million annually)

Consider these factors with the ongoing degradation of wildlife habitats in the U.S. and documented declines of a wide range of bird species. Habitat loss and degradation has been identified as an important factor in the decline of many species worldwide and at many scales. Development is considered the most lasting form of habitat loss, since the presence of pavement and buildings hinders the return to natural conditions. Development can result in habitat fragmentation where remaining patches of habitat not only support less wildlife, but also may isolate populations vulnerable to a lack of genetic diversity and in an increased "edge" effect, which may increase the effect of predators and nest parasitism. Wisconsin, along with other Midwest states, is forecast to have continued housing growth in rural areas through 2030.

In its Wildlife Action Plan, the Wisconsin DNR identified habitat loss and fragmentation as a major issue faced by land managers. Of the approximately 9.5 million acres of prairie and oak savanna that Wisconsin hosted 150 years ago, only one-half of 1 percent (less than 10,000 acres) of the prairies and less than one-tenth of 1 percent (less than 1,000 acres) of the savanna remains. Farming, urban sprawl, fire suppression, and other developments continue to threaten the few acres of prairie and savanna that remain. The northern forests, much like the southern forests and prairies, have been altered through logging, farming, fire prevention, and urbanization.

Q: How often do bird strikes happen?

A: The earliest known report of a bird-tower kill in the United States took place in September 1948 at a 137-m (450-ft) radio tower in Baltimore, Maryland. More locally a recent intensive study was conducted around Madison documenting and analyzing mortality events at 11 communication towers. The study involved daily mortality searches for a six week period during both spring and fall migration in 2007 and 2008. The study found that bird mortality increased with tower height with significant mortality occurring at towers >200 meters compared to shorter height classes. In total the study collected 1,064 carcasses representing 64 species. The study documented seven "mass mortality events" most likely a result of tower height, favorable winds for south-headed migrants in combination with inclement weather conditions. The study

*also identified tower location and guy wire array as potential major factors related to “mass mortality events” which are in need of further research.*

*Species data from this research are mirrored in a record of bird collisions with a communication tower in Eau Claire over a 38 year period from 1957-1995. Over that time period the author documented 9,496 records of 121,560 birds from 123 species, all long distance migrants. Incidentally this account holds the record for a single-night tower strike when 12,000 birds were recovered.*

Q. What causes birds to die at communication towers?

A. *Collisions represent a primary source of mortality. Major contributors are believed to be...*

*Tower height - Seventy-five percent of Neotropical songbirds migrate at an altitude between 500 and 6,000 feet however, as noted below, factors such as weather can force migrating birds lower and attracting them to lights from communication towers.*

*Lighting – Light, especially red incandescent lights, appears to be a key attractant for night-migrating songbirds, especially on nights with poor visibility, low cloud ceilings, heavy fog, or various forms of precipitation associated with either passing or stationary cold fronts. All bird species thus far examined have been shown to have a narrowly tuned receptor in the red region of the electromagnetic spectrum. Although research in this area is lacking, birds may be attracted to red lights or become disoriented by having red lights disrupt their magnetic compasses. Color (i.e., white, white with ultraviolet, and specific colors such as red) and flash duration (i.e., strobed, slow flash, or steady) are two aspects of lighting that can change its attraction for birds.*

*Weather –During certain weather conditions when a low cloud ceiling or foggy conditions exist, light from the tower refracts off water molecules in the air creating a large illuminated "halo" around the tower. This illuminated area or halo can attract passing birds. Once encompassed by the light, they are reluctant to leave and may become disoriented. It is not completely understood why birds experience this visual confusion but it is an established biological fact that it does occur.*

*Structure type (guyed vs. un-guyed) - The greater the number of guys the more risk of bird strikes. The belief is that, on nights of inclement and overcast weather when songbirds are active in broad-front migrations, lights seem to draw birds into the towers. Once attracted to the lights, they fly around the tower in a "tornado" of birds, striking the guy wires directly in the path of flight, the tower, themselves, or the ground, and often die.*

*And, of course seasonality plays an important role in regards to migrating songbirds.*

Q: What is all this fuss over a few birds?

A: *Birding is big business in America according to the 2006 survey of Fishing, Hunting, and Wildlife-Associated Recreation*

*This report presented information on the participation and expenditure patterns of the estimated 48 million birders in 2006. Trip-related and equipment-related expenditures associated with birding generated over \$82 billion in total industry output, 671,000 jobs, and \$11 billion in local, state, and federal tax revenue. This impact was distributed across local, state, and national economies.*

*In the 2006 report Wisconsin ranks 18<sup>th</sup> in terms of percentage of the population considered birders and in 2001 Wisconsin ranked 3<sup>rd</sup>. An independent report commissioned by the DNR in 2006 found that the total economic effect of watchable wildlife in Wisconsin was 1.2 billion creating more than 16,000 full or part-time jobs.*

*From a utilitarian standpoint, birds pollinate flowers and remove insect pests from many important commercial food crop and forest species, making possible a multi-billion-dollar industry extremely dependent upon birds for its success. One pair of Warblers, for example, will remove the defoliating caterpillars from more than 1 million leaves within the 2-3 week period that they are feeding their nestlings. In the Pacific Northwest, 24 species of neotropical songbirds feed on the western spruce budworm and the Douglas fir tussock moth, two of the most destructive defoliating insects found in the region. Birds remove countless weed seeds – including exotic species -- that compete for food crop and forest production. Birds also distribute seeds of important forest tree and shrub species whose survival would not exist without bird seed dispersal. The global reduction of pollinators -- including birds -- raises alarm. Fully two-thirds of our flowering plants are pollinated by birds, insects, and bats, producing a global economic benefit estimated at \$117 billion per year.*

*Beyond utilitarian economics though, and some would say more importantly, seeing and hearing birds provides a connection to nature for many people. Birds offer a deep association with the land and a sense that the natural world is working as it should. People gauge the seasons by the arrival and departure birds and bird songs tie people to the land on which they live, even those that may not identify themselves as birders. Often people are drawn into the world of ecology by the desire to simply understand the life history a back yard bird such as a robin or yellow warbler, further enforcing their relationship with the natural world. Finally, species most often included in mortality events around communication towers such as warblers, thrushes, sparrows face untold hardships migrating from Wisconsin to their wintering areas and back again. For many people the idea that this epic journey would end in a collision with a communication tower is seen an unacceptable waste.*

*Examples: Incidentally these are a few of the species most commonly involved in mortality events around communication towers.*

*Ovenbird – Breeds in mature deciduous and mixed deciduous and coniferous forests in the U.S. migrating to its wintering areas in Central America and Islands of the Caribbean.*

*Black and white warbler - breeds in mature and second-growth deciduous and mixed forests in the U.S. and, like the ovenbird, winters in Central America and Islands of the Caribbean.*

*Red-eyed Vireo – Breeds in deciduous and mixed deciduous forests the U.S. migrate through Central America and across the Gulf of Mexico to its wintering areas in Eastern South America.*

*Tennessee warbler - Breeds in northern forests and winters in southern portions of Central America and northern South America. This bird specializes in eating spruce bud-worms and major forest pest.*

- Q. What are Waterfowl Production Areas? What are their purposes and goals?
- A. *Waterfowl Production areas (WPAs) are part of the National Wildlife Refuge System administered by the U.S. Fish and Wildlife Service which is within the Department of Interior. The purposes for the District are based upon its land acquisition authorities. Lands are acquired for WPAs fall under the authority of the Migratory Bird Hunting and Conservation Stamp Act, and since 1958, under Public Law 85-585 as "Waterfowl Production Areas." The purpose of lands acquired under the Migratory Bird Hunting Conservation Stamp Act is "...as Waterfowl Production Areas" subject to "...all the provisions of such act (the Migratory Bird Conservation Act of 1929, 16 U.S.C. 715d) ...except the inviolate sanctuary provisions...," and "...for any other management purpose, for migratory birds."*

*Revised goals for the National Wildlife Refuge System were adopted on July 26, 2006, and incorporated into Part 601, Chapter 1, of the Fish and Wildlife Service Manual (601 FW 1). The goals are:*

- 1) Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered.*
- 2) Develop and maintain a network of habitats for migratory birds, anadromous and inter-jurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges.*
- 3) Conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts.*
- 4) Provide and enhance opportunities to participate in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).*
- 5) Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.*

Q. What types of activities occur on Waterfowl Production Areas?

A. *Several legislative mandates within the National Wildlife Refuge System Improvement Act of 1997 guide the purposes and contributions to the overall mission of the National Wildlife Refuge System.*

- 1) Wildlife has first priority in the management of refuges.*
- 2) Wildlife-dependent recreation activities, namely hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation are priority public uses of refuges. We will facilitate these activities when they do not interfere with our ability to fulfill the refuges' purpose or the mission of the Refuge System.*
- 3) Other uses of the Refuge will only be allowed when determined appropriate and compatible with Refuge purposes and mission of the Refuge System.*

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