

May 23, 2007

Marlene H. Dortch, Commission Secretary
Federal Communications Commission
445 12th Street, SW
Washington DC 20054

Re: REPLY COMMENTS--FCC Notice of Proposed Rulemaking In the Matter of Effects of Communications Towers on Migratory Birds, WT Docket No. 03-187; FCC 06-164

Dear Federal Communications Commission:

These Reply comments are submitted on behalf of American Bird Conservancy, Center for Sustainable Economy (Formerly Forest Conservation Council), National Audubon Society, The Humane Society of the United States, and Friends of the Earth in response to the industry filings in the FCC Notice of Proposed Rulemaking In the Matter of Effects of Communications Towers on Migratory Birds, WT Docket No. 03-187, FCC 06-164, as published in the Federal Register of November 22, 2006, Volume 71, Number 225, at pages 67510-67518. The Notice of Proposed Rulemaking (NPRM) seeks comment on whether the Commission should take measures to reduce the number of instances in which migratory birds collide with communications towers.

I. THE FCC SHOULD NOT DELAY ACTION TO PREVENT BIRD KILLS.

In the comments of the Infrastructure Coalition (CTIA, NAB, NATE, PCI, AC, and MST), these groups once again urge the FCC to take no regulatory action in preventing the killing of migratory birds. They assert: "For the foregoing reasons, the Commission should decline to adopt regulations. Instead, the Commission should foster ongoing negotiations between infrastructure groups and avian environmental groups; support the joint efforts of those groups in their request to the FAA to conduct a conspicuity study to examine whether red sidelights can be safety eliminated; and encourage continuing broad-based, peer-reviewed research into avian-tower issues." See Comments filed on April 23, 2007 by the Infrastructure Coalition on this NPRM.

The industry has been consistent for the last nine years in advocating that there be no regulatory changes by the FCC to improve its tower registration, approval, and licensing procedures to better protect migratory birds. The industry has consistently fought any changes by alleging the lack of research and data, and contesting the legal authority for the FCC to act. This is despite the growing body of research documenting the significance of avian mortality caused by communication towers and the published research documenting measures to prevent/minimize such mortality. The U.S. Fish and Wildlife Service, scientists, and conservationists all have submitted detailed documentation of the scientific basis and legal requirements for the FCC to act in this matter without in any way impeding the build out and operation of this nation's telecommunication services. Unfortunately the industry continues to contest even modest changes to prevent bird deaths.

The industry groups are correct to note that their "Coalition members recently engaged in a dialogue related to avian tower safety with avian environmental groups." This dialogue was at the request of American Bird Conservancy, National Audubon Society, Environmental Defense, and Defenders of Wildlife and those meetings are ongoing. The group is called Solving the Avian-Tower Interaction

Coalition (STATIC) and is chaired by Dr. Joelle Gehring. In fact, conservation groups have been meeting with industry groups, including the trade associations, their attorneys, government affairs representatives, and individual cellular providers since 1999. These individual meetings have been augmented by plenary meetings of the Communication Tower Working Group and at least one meeting of industry groups and conservationists facilitated by the FCC in 2001.

While we are and have been meeting with industry groups in examining areas of mutual cooperation and seeking the implementation of measures to prevent bird kills at towers, we strongly disagree with the contention of the industry groups that the FCC should not adopt regulations to prevent/minimize bird deaths caused by communication towers while such meetings are ongoing. While we joined with industry in requesting a delay in the filing deadlines in this NPRM, there has been sharp disagreement in these meetings over the need for more comprehensive regulation by the FCC on this issue and over the critical issue of lighting changes on some of the 100,000 plus existing lit towers.

We wish to make it abundantly clear: we fully support and urge the FCC to adopt the measures set forth herein and in our previous comments to prevent/minimize avian mortality at towers as soon as possible after the comment period expires on May 23, 2007. We vehemently disagree with the conclusion of the industry Infrastructure Coalition in their NPRM filing of April 23, 2007 that: "There is simply no substantial evidence currently in the record to support any change in FCC policy." We and others have submitted detailed documentation that there is substantial evidence currently in the record to not only support, but to require, changes in FCC policy on communication towers.

In their filings urging the Commission not to adopt any rule changes, the industry groups also urge the Commission to support the joint efforts of those groups in their request to the FAA to conduct a conspicuity study to examine whether red sidelights can be safely eliminated and to encourage continuing broad-based, peer-reviewed research into avian-tower issues. We wish to note that the industry call for more studies while continuing the present system for tower registration and approval by the FCC has not changed since our efforts began in 1998. Unlike their colleagues in the rapidly growing wind industry, the telecommunication industry corporations, their trade associations, and the tower erectors have steadfastly declined to conduct or provide needed access to their towers or any funding for the research they are calling for.

If any one factor can be blamed for the inability to definitively document how many birds are killed at towers annually, it is the failure of industry to monitor for avian mortality at communication towers and the failure of the FCC to require such monitoring. The wind industry scientifically monitors many of its sites, and carcasses found are adjusted upward for predator removal and searcher efficiency to derive more accurate numbers of bird fatalities. The telecommunication industry corporations, their trade associations, and the tower erectors have repeatedly rejected overtures by scientists and the U.S. FWS to help fund the research that they urge be conducted before the FCC acts. In fact, the National Fish and Wildlife Foundation (a congressionally created group) has on numerous occasions offered to match industry funding for such research on a one-to-one basis. Such offers were made publicly at a Communication Tower Working Group meeting as

long ago as five years, and to date the industry has declined to fund any such research.

As to the lighting conspicuity study mentioned by the industry groups as another reason to further delay FCC action on towers and birds, we note that the wind energy industry worked with the FAA and succeeded in raising \$100,000 for the commissioning of a study of wind turbine lighting to prevent avian fatalities. The study was conducted by the FAA. The study results documented that the use of L-864 red strobe-like lights on the nacelle of a wind turbine (with no other lighting) provided full night time conspicuity for pilot warning. The study also demonstrated that not all turbines in a project need be lit. For example, the Mountaineer wind energy project in West Virginia has L-864 strobe-like lighting on 12 of 44 turbines. The L-864 red strobe-like lighting is on the nacelle, meaning there are no lights on the turbine blade when it is extended over the nacelle. Wind turbines at apogee can exceed 400'.

A recent study cited in our April 23rd filing, documents that because of the widespread use of these L-864 red strobe like lights, studies at 17 wind turbine projects indicated no more fatalities at lit vs. unlit turbines and that these lights, unlike red steady burning L-810 lights, did not attract large numbers of birds. See Kerlinger, P., J. Gehring, W.P. Erickson, and R. Curry. In Press. *Federal Aviation Administration obstruction lighting and night migrant fatalities at wind turbines in North America: A review of data from existing studies.*

For the reasons cited in our April 23, 2007 comments on this NPRM and in the other filings by scientists at Land Protection Partners and the U.S. FWS:

1. There exists not only the legal authority for the FCC to act, but the legal obligation to act;
2. The impact of communication towers on migratory birds and specific species is significant; and
3. There are measures clearly supported in science that the FCC can adopt to prevent/minimize such mortality.

II. THE FCC HAS A LEGAL OBLIGATION TO ACT ON TOWER KILLS.

In the filings by the Infrastructure Coalition and other industry members, allegations are made that the FCC is without legal authority to act on this matter. As we have previously stated and detailed (see Sections II and III. of our NPRM comments), and as has been clearly emphasized by the U.S. FWS in its comments on this NPRM and in its previous letters and comments to the FCC, the FCC has not just legal authority, but a legal obligation to adopt regulations to prevent avian fatalities at communication towers under its jurisdiction. We have previously advised the FCC that it does not have discretion to ignore requirements under NEPA, MBTA, and ESA. Thus the FCC's request for comments regarding its duty to perform such requirements is inappropriate.

The FCC has tentatively concluded "that the obligation under NEPA to identify and take into account the environmental effects of actions that we undertake or authorize may provide a basis for the Commission to make the requisite public interest determination under the Communications Act to support the promulgation of regulations specifically for the protection of migratory birds, provided that there is probative evidence that communications towers are adversely affecting migratory birds." The industry comments in the filing by the Infrastructure Coalition note that "Adopting new regulations under these circumstances is plainly contrary to law." It is obvious to us

and to the Federal agency (U.S. FWS) in charge of migratory birds and the enforcement of the MBTA and ESA that NEPA, ESA, and MBTA require the adoption of the measures recommended by the FWS and by us.

Rather than reiterate our detailed comments filed in this NPRM in answering the FCC legal inquiries, we will simply reference the comments in sections II. and III. previously filed and note the following in Reply:

NEPA. The industry premises its comments on the lack of legal authority for the FCC to act to impose regulations on bird kills at towers under National Environmental Policy Act (NEPA) because such tower siting not a “major” federal action and that there is not a “significant” environmental impact. NEPA and its supporting regulations are clear that NEPA applies if the federal action “will or may” have a significant effect on the human environment, and this includes cumulative effects. We and others have submitted detailed data and comments establishing that communication towers under FCC jurisdiction cause significant adverse effects to migratory birds within the meaning of NEPA and its implementing regulations, and that for some species the mortality is biologically significant. Please see our comments in Sections III. and IV. in our NPRM comments of April 23, 2007. We also comment in Reply to industry contentions on the significance and extent of avian mortality and its impact to avian species. See Section III. that follows.

We note that the Commission’s attorneys have argued that the FCC has authority to regulate towers specifically as they affect birds and that they have exercised its authority over tower construction in the past. In a court brief filed by FCC attorneys in August 2005 concerning the Mandamus Petition of American Bird Conservancy et al. v. FCC in the U.S. Court of Appeals for the District of Columbia Circuit, these attorneys cited the *In re Leelanau County* case noted above to the Court of Appeals, as well as *Caloosa Television Corp.* 3 FCC Rcd 3656, 3658 (1988), recon. denied, 4 FCC Rcd 4762 (1989), and other cases, to demonstrate to the Court that indeed the FCC has exercised its regulatory authority in considering the impact of proposed tower construction projects on migratory birds and the environment, and in certain circumstances, has required modifications to protect birds and the environment.

While these are rare cases, why does the FCC or industry have questions on NEPA duties and authority to act when this previously exercised authority and duty under NEPA has been exercised by the FCC and cited by their attorneys?

MBTA. Industry comments contest the authority of the FCC to act under the MBTA and contest the applicability of the MBTA to migratory birds killed at towers. “The MBTA is thus inapplicable to activities like tower siting and construction and thus cannot form the basis for FCC regulation in this area.” See Comments of the Infrastructure Group on the NPRM, April 23, 2007. These contentions are without merit. For a detailed discussion of the MBTA, case law under it, and the duties of the FCC under the MBTA see Section III. E. of our comments filed in this NPRM on April 23, 2007.

The U.S. FWS comment letter filed in this NPRM clearly advises the FCC of its duty to act to comply with the MBTA and unequivocally states that the FCC is obligated to act: “In addition to the

fact that these ‘takings’ are in violation of the MBTA and the spirit and intent of Executive Order 13186, they may also be impacting avifauna at a population level, especially for ‘species of conservation concern’ and State and Federally-listed 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.”

Thus, compliance with the MBTA is required and can be achieved by the FCC taking action to eliminate, or at least minimize the “take” of migratory birds at existing and new communication towers. This can be done by requiring communication towers to be appropriately sited, constructed, and operated through the tower registration process and through the use of the measures we have detailed in Section II of our comments filed in this NPRM and as detailed in the U.S. FWS NPRM comments and Tower Guidelines.

Clearly, the MBTA applies to the FCC and other federal agencies and also applies to incidental takes such as tower kills, not just to hunting or incidental or accidental takes of migratory birds. The FCC is located in the jurisdiction of the federal Court of Appeals for the District of Columbia Circuit. This federal court has ruled that the MBTA imposes an absolute prohibition on all “taking” of migratory birds, nests, and eggs, unless authorized by permit issued under regulations promulgated by the Secretary of the Department of Interior. 16 U.S.C. § 703. "Take" is defined as to "pursue, hunt, shoot, wound, kill, trap, capture, or collect." 50 C.F.R. § 10.12 (1997). This prohibition on take without a permit applies to federal agencies, including the FCC. *Humane Society v. Glickman*, 217 F.3d 882, 883 (D.C. Cir. 2000).

Another federal court decision within the U.S. Court of Appeals for the District of Columbia Circuit reinforces the conclusion that the MBTA applies to federal agencies and to all takes of migratory birds, whether intentional or not. In *Center for Biological Diversity v. Pirie*, 191 F. Supp. 2d 161 (2002), the U.S. District Court for the District of Columbia stated plainly that the language of the MBTA, “applies with equal force to federal agencies.” In the *Pirie* case, the court ruled the MBTA applied to the U.S. Navy where the Navy was unintentionally taking migratory birds while otherwise lawfully using a bombing range on one of the Farallon de Medinilla Islands in the Central Pacific Ocean. *Center for Biological Diversity v. Pirie*, 191 F. Supp. 2d 161 (2002). The court noted that §2 of the MBTA (addressing unlawful acts) is worded generally, and that relief other than criminal penalties was available in the form of injunctive relief.

It is important to note that the *Center for Biological Diversity v. Pirie* case was not a criminal prosecution, but rather an action brought by a conservation NGO under the federal Administrative Procedure Act (APA), 5 U.S.C. §706. Judicial review under the APA is limited to the question of whether a federal agency acted arbitrarily, capriciously, or otherwise not in accordance with the law. 5 U.S.C. § 706. Courts apply this standard in suits for violations of the MBTA, and this occurred in *Center for Biological Diversity v. Pirie*. The FCC is subject to the APA, and in granting applications for towers and registering them without requiring migratory bird avoidance measures, the FCC acts arbitrarily, capriciously, and otherwise not in accordance with the law. 5 U.S.C. §706.

There are no exemptions in the MBTA for the FCC nor does any other statute exempt the FCC from the MBTA. The courts with jurisdiction over the FCC have clearly ruled that the MBTA applies to federal agencies and the Director of the U.S. FWS has issued directives implementing the court decisions. It should be clear that the actions by the FCC in approving and registering communication towers are “otherwise not in accordance with the law” and thus violate the APA as migratory birds are “taken” at these towers without permits and this clearly constitutes a violation of the MBTA. Thus, as the U.S. FWS has so advised, the FCC is required to act by the MBTA.

ESA. Industry comments state that the ESA gives the FCC no authority or duty to act beyond what the FCC has already done. We disagree and have set forth the reasons why in detail in Section III. D. of our comments filed in this NPRM.

In the U.S. FWS comments on this NPRM, FWS Acting Deputy Director Kenneth Stansell states: “In summary, the Service feels that immediate action needs to be taken to reverse these tower collision impacts on migratory birds....We recommend that FCC implement the Service’s 2000 voluntary communication tower guidelines into rulemaking. The FCC would be responsible for informing license permit applicants of the guidelines, overseeing implementation of the guidelines, and would not depend on applicants independently contacting the Service for recommendations. Adopting the guidelines into rulemaking would expedite the consultation process, eliminate the need for the Service to review every communication tower project other than through a Site Evaluation Form, and would establish a basis for programmatic consultation. **Accordingly, as with the MBTA, the FCC’s authorization of towers that result in the death of listed species are illegal ‘takes’ under section 9 the ESA.** See, e.g., *Strahan v. Coxe*, 127 F.3d 155, 163 (1st Cir. 1997).” (Emphasis provided).

Despite the contentions by industry filers, the FCC’s antenna structure approval and registration program violates the agency’s obligations under the Endangered Species Act, 16 U.S.C. § 1531 *et seq.*, where FCC permitted communications towers have caused, and may continue to cause, the “take” of birds listed under the ESA. For example, ESA-listed Endangered Red-cockaded Woodpeckers were killed at one tower. Bird fatalities at towers in Alaska also may be linked to the killing of Spectacled and Steller’s Eiders, both listed as threatened under ESA. See the U.S. FWS comments on this FCC NPRM dated February 2, 2007. In Hawaii, the U.S. FWS on March 5, 2007 confirmed that seven already constructed communication towers in Hawaii were likely to affect two ESA-listed seabirds, Newell’s Shearwater and the Hawaiian (Dark-rumped) Petrel and that consultation by the FCC was required under Section 7 of the ESA. We attached this FWS letter in our previous comments. The FCC has yet to begin formal consultation.

The FCC needs to resolve the illegal take or potential take of ESA-listed birds by formal ESA Section 7 consultation with the U.S. FWS on a nationwide basis to arrive at avoidance and mitigation measures to be adopted by the FCC as suggested by the U.S. FWS Tower Siting Guidelines, and as recommended in Section II of our comments in this NPRM, and needs to conform with NEPA and ESA requirements through the process of evaluating towers noted in the U.S. FWS comments on this NPRM filed on February 2, 2007 and in our comments.

III. EXTENT OF TOWER BIRD MORTALITY IS SIGNIFICANT.

Industry commentators on this NPRM argue that there is no probative evidence of a sufficient environmental effect on migratory birds to warrant Commission action. These commentators argue that, “there is no such evidence in the docket and the currently available data do not demonstrate causation between tower construction and alteration and declines in avian populations. The ‘evidence’ itself is remarkably scant and further comprehensive study is necessary prior to any regulatory intervention. At present, however, there remains a striking absence of broad-based, peer-reviewed evidence as to whether avian-tower collisions *significantly* affect the human environment. Indeed, although the reasons are unclear, it is widely agreed that avian-tower mortality rates are *declining* while the number of towers is increasing.” See comments of the Infrastructure Coalition in this NPRM dated April 23, 2007.

First, as we point out in Section IV. below, the statement that “avian-tower mortality rates are *declining* while the number of towers is increasing” is inaccurate and distorts existing data. There are no studies that find total mortality from all towers has decreased and no scientist has even suggested this in print. Any statements by industry that there is a decline in TOTAL bird mortality from all towers as shown by long-term studies or that ALL long-term studies show a decline is absolutely incorrect and there is no scientific support for this statement.

Further, comments by the Infrastructure Group cite a study by American Tower Corporation examining bird (and bat) mortality at six unguyed, unlit towers in Arizona under 200' AGL. No dead birds were found. While the industry calls most other studies anecdotal evidence, the citation to this Arizona study provides more evidence of the need for the FCC actions urged by the U.S. FWS, Dr. Gehring and Dr. Kerlinger, the Longcore et al. scientists, other commentators, and by us in our comments on this NPRM. The U.S. FWS Guidelines from September 2000 suggest that towers be kept under 200' AGL and unlit and unguyed to avoid avian fatalities. The American Tower Corporation study of the six unguyed, unlit towers in Arizona less than 200' AGL feet are further evidence of the efficacy of these Guidelines and what has been suggested in the comments we cite: keeping towers below 200' AGL, unlit, and unguyed will prevent most all avian mortality. We again suggest that after a tower applicant is required to exhaust collocation efforts, this be the basis for tower siting rules. Then, if the towers must be more than 200' AGL, that they remain unguyed (unless the applicant clearly documents why they cannot be) and be lit only with white strobes or red strobes or red blinking lights, but not with the L-810 red steady burning lights. This is at the heart of how the FCC can act to prevent avian mortality while still allowing the build-out of communication services, and the Arizona study further documents the scientific merit of the U.S. FWS Guidelines and the measures that we, FWS, and the scientists mentioned above support. AT&T Mobility joined the Infrastructure Group on this issue and filed separate comments that, while citing the U.S. Fish and Wildlife Service arguments that the “peer-reviewed scientific literature documents many examples of substantial tower kills,” argue that “Indeed, anecdotal evidence from recently-filed comments in this proceeding suggests that communications towers are not a significant cause of avian mortality. Given the paucity of peer reviewed scientific study, no rule changes are justified.”

In their filings in this NPRM, the U.S. FWS, the scientists with Land Protection Partners, and we

have all provided clear and substantial evidence documenting that communication towers adversely affect migratory birds and that this clearly meets the NEPA standard for “significance” as delineated in the statute, regulations, and case law governing the Act. We and others further document that tower mortality is biologically significant for a number of species of migratory birds.

Despite contentions by industry over the lack of peer-reviewed data, the U.S. FWS and others have documented the significant nature of these bird kills at towers. In their comments on this FCC NPRM dated February 2, 2007 and signed by Acting Deputy Director Kenneth Stansell, the FWS states: “The U.S. peer-reviewed scientific literature documents many examples of substantial tower kills. For example, since 1948 when Aronoff (1949) described a large bird kill at a radio tower near Baltimore, Maryland, the scientific literature has been replete with references to large bird kills and results of long-term tower mortality monitoring studies.”

The U.S. FWS reply comments submitted by Dr. Albert Manville to the FCC on the Avatar Report and dated March 9, 2005 state “The population impacts to migratory songbirds (and other avifauna) and impacts to their population status are frightening and biologically significant.”

Longcore et al. in their Land Protection Partners Analysis (2007) filed in this NPRM, document this mortality, and estimate that at least 4.3 million birds annually are killed at towers, and this may be much higher. The authors state that “Mortality of greater than 0.5% of total population annually for 20 species of conservation concern should be considered a biologically significant impact, because it represents additional mortality for species already in decline.” They end by noting that: “Such mortality is also likely to affect population trajectories because these species are already in decline. We therefore conclude the mortality of birds at towers is ‘biologically significant’ ... We conclude that the magnitude of mortality of individual species of birds at communications towers constitutes a significant impact, both alone and as a cumulative impact in conjunction with other impacts, within the understanding of NEPA.” The authors of this new analysis, joined by other scientists, plan to publish the avian mortality documentation and it may be cited as Longcore, T. C. Rich, S.A. Gauthreaux Jr., B. MacDonald, and L. M. Sullivan. (in preparation) *Is mortality of birds at communication towers biologically significant?*

As detailed in Section III (C) 1) in our comments, the Longcore et al. analysis is very conservative as they base avian mortality on a total number of towers of 102,706 registered in the FCC Antenna Structure Registration Data System. Data from *Fryer’s Site Guide* as of 2002 documents 170,087 towers in the U.S., and according to Mr. Fryer, the number could be as high as 235,000. This data was submitted as part of our comments on this NPRM. Comments filed by the Infrastructure Coalition in this NPRM note that cell sites alone have grown from approximately 1,000 in 1986 to more than 195,000 today.

In the Dr. Gehring and Dr. Kerlinger Michigan study Reports filed in this NPRM, the researchers documented mortality at more than one-half of the 24 towers that were randomly selected to be studied in the Michigan tower study, which again documents that when examined, most guyed communication towers that exceed 200', especially if lit with L-810 red steady burning lights, kill birds.

As further examples of the peer reviewed, published documentation of avian mortality and the species affected at individual towers, we again cite two of the many studies we have cited in our previous comments on this NPRM:

1) a 38-year study of a single 1,000-foot television tower in west central Wisconsin that documented 121,560 birds killed representing 123 species. *A Study of Bird Mortality at a West Central Wisconsin TV Tower from 1957-1995*, by Dr. Charles Kemper, *The Passenger Pigeon*, Vol. 58, No. 3, Pp. 219-235 (1996); and

2) a 29-year study at a Florida television tower documented the killing of more than 44,000 birds of 186 species. *Characteristics of Avian Mortality at a North Florida Television Tower: A 29-year Study*, Robert L. Crawford and R. Todd Engstrom, *Journal of Field Ornithology*: Vol. 72, No. 3, pp.380-388, (2001).

The fatalities reported in these two studies are not upwardly adjusted for predator removal or searcher efficiency, so the numbers of birds killed were higher than reported. These studies and many of the other studies cited in our previous comments are not anecdotal, and confirm what all other such studies document: the species of birds killed at towers are not evenly and randomly distributed. Most all birds killed at towers-- 90% to 94% in these studies--are neotropical, migratory birds, and nearly all of these species are night migrants. A significant proportion of bird kills occur in the fall migration and the next greatest mortality occurs during the spring migration, with many fewer birds killed at other times of the year.

In the Infrastructure Coalition's comments on this NPRM, the commentors allege that "tower siting/construction cannot, in context, be said to have a significant impact on migratory birds. Under this prong of the CEQ regulations, the Commission must consider other causes of avian mortality, such as buildings, transmission lines, and vehicles, in determining whether avian deaths attributable to towers have a significant effect on the human environment. As noted above, the avian mortality attributable to all communications towers is approximately *0.42 percent* of all human-caused mortality, *e.g.*, window collisions, vehicle collisions, transmission lines, wind turbines, pesticides and oil pollution, hunting and domestic cat predation. Therefore, communications towers are one of the *smallest* of all mortality factors. Under this metric alone, the role of towers in avian mortality can hardly be deemed sufficiently significant in the context of other known mortality factors."

Industry commentors over the years have repeatedly made these assertions in this Docket. We totally disagree that such comparisons are relevant to the duties of the FCC regarding avian mortality at towers or to tower impacts to migratory birds. In the NPRM comments filed by Dr. Longcore, Dr. Gauthreaux, and Ms. Rich for LPP, the scientists/authors note that. "A comparison of the contribution of different mortality sources to overall bird mortality is neither useful nor relevant. Such comparisons do not provide any information necessary to determine whether mortality is biologically significant (i.e., negatively affect population trajectory of populations of concern)."

The killing of migratory birds at towers is under the jurisdiction of the FCC and this killing requires the FCC to act under NEPA, the MBTA, and under the ESA. That birds are also killed by other means is not relevant to this inquiry or to the obligations of the FCC. The scientists/authors of the

Land Protection Partners analysis that was submitted with our NOI/Avatar comments of February 14, 2005, conclude that “expressing tower kill mortality as a percentage of total human-induced mortality therefore does not make sense.”

Finally, the comments of the Infrastructure Coalition cite Woodlot for the proposition that the biological significance of avian mortality should be related to the likelihood of effects to populations, not effects to individual birds. We agree. But we disagree with their conclusion that “Currently, available data are not sufficient to allow an accurate assessment of the numbers of individual birds killed at towers on a species-by-species basis, and are not sufficient to extrapolate to population-level effects.”

The Longcore et al. filing in this NPRM documents that migratory warbler species (Parulidae) comprise 13 of the top 20 species for total mortality and 14 of the top 20 for proportion of the species killed annually. Neotropical night migrating migratory birds are disproportionately killed at towers, comprising 90%-94% of the birds killed in long-term studies. See the Kemper Wisconsin study and Crawford et al. Florida study cited above. The Longcore et al. analyses documents 34 species for which annual tower kill is greater than 0.5% of population size. Of these 34 species, 20 are U.S. FWS Birds of Conservation Concern. The 0.5% is an arbitrary cut-off and lower mortality rates may affect population trajectories of species that are already impacted by other factors, hence their Birds of Conservation Concern listing. Mortality of this magnitude certainly significantly affects the quality of the human environment under NEPA, and such high mortality likely affects population trajectories.

Species from other groups show surprisingly high mortality as a proportion of population size. For example, Pied-billed Grebes are the fifth most affected species by percentage of population size with an estimated 3.68% of total population killed per year. This estimate reflects mortality of Pied-billed Grebes at towers in eight Bird Conservation Regions.

Dr. Longcore, Dr. Gauthreaux, and Ms. Rich scientifically document how tower kill is “biologically significant” for many species of birds, many of which are FWS Birds of Conservation Concern. They compare mortality estimates with estimates of total population size and this data documents that mortality at towers could conceivably reach 4% to 5% of total population size per year of some species. Mortality of this magnitude is extraordinarily significant on a species basis and for individual populations.

Note that the U.S. FWS reply comments submitted by Dr. Albert Manville to the FCC on the Avatar Report and dated March 9, 2005 endorsed the previous analysis by Land Protection Partners on the significance of avian mortality at towers: "In our opinion, the LPP comments provide a detailed and scientifically-sound analysis of current avian-communication tower interactions....The population impacts to migratory songbirds (and other avifauna) and impacts to their population status are frightening and biologically significant."

Clearly, there is documentation of the significant adverse effects on certain migratory bird species, particularly U.S. FWS Birds of Conservation Concern. There is clearly probative evidence linking

communications towers to significant avian mortality sufficient to merit regulatory intervention.

IV. EVIDENCE OF TOWER KILL DECLINES CONFINED TO A FEW TOWERS.

In filings by the Infrastructure Coalition on this NPRM, there are allegations that FCC action is not warranted because “Ironically, at a time when the agency is considering new regulatory obligations, *avian-tower mortality rates are universally understood to be declining* in the face of increased tower construction. These reductions have occurred at a time when the number of cell sites has grown from approximately 1,000 in 1986 to more than 195,000 today.”

This statement is inaccurate and distorts existing data. We acknowledge that some long-term records at individual towers show decreasing avian mortality, but there are no studies actually suggesting that total mortality from all towers has decreased. Any statements by industry that there is a decline in TOTAL bird mortality from all towers as shown by long-term studies or that ALL long-term studies show a decline is absolutely incorrect.

These are declines at specific towers and no one has shown that these declines are statistically significant. In citing the work of Gauthreaux and Belser on tower lighting, these researchers were referring to three studies only (Kemper 1996, Nehring 1998, Morris et al. 2003), not all studies, to show declines at specific towers over the long term. The Gauthreaux and Belser observation cannot be compared to the number of tower sites because they were only looking at three studies, not all mortality at all towers. Please see the original quote from their work and one can readily ascertain they were referring to only three towers.

The explanation for this trend at some individual towers is unknown, but some scientists have speculated that it could be due to declines in migratory bird populations that are subject to tower kills, particularly night migrating neotropical songbirds that are disproportionately affected by tower kills. The towers themselves may have contributed to the population declines over long periods of time. Simply put, there may be fewer birds killed over time at some towers because there are fewer birds to be killed.

Other speculation is that some towers could be affected by a washing out of the attractive effect of the tower lights by encroaching urbanization as there are many long term records of towers that started out in rural areas but are now in the middle of suburbia, if not cities. Changing weather conditions also are speculated as a cause at some towers.

But it is absolutely certain that there is no documentation of any decline in overall annual total avian mortality from all towers and no scientist has suggested this in any publication. Such sporadic declines at individual towers are not universal and bird kills at towers are still occurring. This mortality is conservatively estimated to be at least 4.3 million birds per year. As the Infrastructure Group notes, cell sites have grown from approximately 1,000 in 1986 to more than 195,000 today. And these sites are still growing along with broadcast towers. So even if some older towers are experiencing declines in avian mortality, the gross total of kills could be increasing.

V. SCIENCE ESTABLISHES PREVENTIVE MEASURES FCC SHOULD ADOPT.

The comments of industry groups on this NPRM, including those of the Infrastructure Coalition and AT&T Mobility, allege there is insufficient evidence to decide what action to take. They allege that the benefits of white strobe lights or other lighting changes have yet to be proven in broad-based, peer-reviewed studies and the impact of tower height and guy wires have not been shown in such studies. Quoting from the Infrastructure Coalition comments: “Indeed, even Dr. Gehring, the author of the Michigan Study, has called for further research. Importantly, Dr. Gehring noted that ‘[t]here were no statistical differences in the fatality rates among towers lit only with red strobes vs. white strobes. vs. red incandescent flashing beacons’....Under these circumstances, the adoption of regulations, including those based on the tentative conclusion to prefer white strobe lights to other lighting configurations, would be arbitrary.”

The FCC NPRM also cites the Michigan research by Dr. Joelle Gehring and premises several inquiries based on previous research publications on this research. Since the NPRM was published and apparently since the industry comments were written, Dr. Gehring and Dr. Kerlinger have combined and finalized their research into two parts, one on tower height and guy wires, the other on lighting. See Gehring, Joelle and Kerlinger, Paul, *Avian collisions at communication towers: I. The role of tower height and guy wires*, Prepared for: State of Michigan (March 2007); and Gehring, Joelle and Kerlinger, Paul, *Avian collisions at communication towers: II. The role of Federal Aviation Administration obstruction lighting systems*, Prepared for: State of Michigan (March 2007).

This broad-based, meticulously designed and executed research was peer-reviewed by State of Michigan scientists and was conducted during five migratory seasons (spring and fall) from September 2003 to September 2005. Twenty-four towers were studied in all, 21 Michigan State Police communication towers that were 380'-480' AGL, and three private towers that exceeded 1,000'. Further, two statisticians examined and approved of the findings.

The Michigan research (Report II) authors note that “Our results demonstrate that avian fatalities can be reduced dramatically at guyed communication towers, perhaps by 50-70%, by removing steady burning L-810 lights....Our study is the first to compare collision rates at communication towers equipped with different types of FAA obstruction lighting. The results also provide the first scientifically validated and economically feasible means of reducing fatalities of night migrating birds at communication towers....By simply removing the L-810 lights from communication towers, it is possible that more than one to two plus million bird collisions with communication towers might be averted each year....The elimination of steady burning, red L-810 lights, leaving only flashing L-864 lights would also be beneficial for tower owners. Although fatalities would not be completely eliminated, the numbers of fatalities would undoubtedly be reduced greatly. The economic incentive for removing L-810 lights is substantial. Electric consumption, and therefore electric costs, as well as tower maintenance costs (changing of bulbs –labor and bulb cost) would be greatly reduced. The elimination of these same lights would also benefit the Federal Communication Commission (FCC) and the Federal Aviation Administration (FAA). Because the FCC is tasked with licensing towers under the National Environmental Policy Act (NEPA), they should welcome a means of reducing fatalities thereby increasing federal compliance with the Migratory Bird Treaty Act (MBTA). A similar situation exists for the FAA. By recommending L-810 steady burning red lights, the FAA advisory circular basically makes it difficult for tower owners and operators, not to

mention the FCC, to comply with the MBTA. Removal of the L-810 lights from towers should be encouraged by both the FCC and FAA.”

Despite industry arguments that there has not been definitive research on lighting and birds, the Michigan research is clear in its findings. Allegations that eliminating the red steady burning L-810 lights would impede the provision of communication services are equally without merit.

Dr. Gehring and Dr. Kerlinger in their Michigan research Report I verify that guy wired towers killed 16X more birds than unguyed towers of the same height and lighting. The authors note that “According to these data bird fatalities may be prevented by 69% -100% by constructing unguyed towers instead of guyed towers. Gehring, Joelle and Kerlinger, Paul, *Avian collisions at communication towers: I. The role of tower height and guy wires*, Prepared for: State of Michigan (March 2007). Despite industry arguments that there has not been definitive research on guy wires and birds, the Michigan research is clear in its findings. Allegations that trying to keep guy wires off of new tower structures impedes the provision of communication services is equally without merit.

Dr. Gehring and Dr. Kerlinger also conclude in Report I that “Minimizing tower height is also an important consideration in reducing avian fatalities at communication towers. Our results also support the prediction that many more avian collisions occur at taller towers. Data indicate that 68%-86% fewer fatalities were registered at guyed towers 116-146 m AGL than at towers > 305 m AGL. Similarly, a long-term study at a communication tower in Florida detected a dramatic decrease in bird fatalities after the tower height was decreased from 308 m to 91 m AGL (Kerlinger 2000)....Tall guyed towers were responsible for about 70 times as many birds fatalities as the 116-146 m unguyed towers and nearly 5 times as many as guyed towers 116-146 m. These data provide managers and regulators with the first quantitative data for establishing best practices to minimize collision fatalities of migrating and other birds at federally licensed communication towers.”

The authors in Report I also note that “Given the increasing number of communication towers in the U.S. and a growing interest in addressing the bird collision issue, this study is of particular importance (Shire et al. 2000, Erickson et al. 2001, FCC 2003, 2005, 2006). Our results show that bird fatalities may be reduced by 69% to nearly 100% by constructing unguyed towers instead of guyed towers, and 54%-86% by constructing guyed towers 116-146 m AGL instead of guyed towers >305 m AGL.”

Coupled with the lighting changes recommended by the Michigan researchers, tower kills could be eliminated or nearly eliminated, and certainly could be brought down by at least 80%-90% without in any way impeding the provision of communication services and the build-out of infrastructure. The suggestions in the industry comments that adopting new rules to comply with NEPA, MBTA, and ESA and prevent avian mortality might somehow interfere with the Telecommunications Act and the FCC’s goal of fulfilling the nation’s communication needs and would significantly raise the costs are without merit.

Both of these recently published research reports have been submitted to the FCC as part of this NPRM.

As concluded by Dr. Gehring and Dr. Kerlinger in Report II: “Changing lights on existing and new communication towers provides a feasible means to dramatically reduce collision fatalities at communication towers (two other methods include tower height reduction and guy wire elimination on new towers). One advantage of our findings is that lighting can be changed at minimal cost on existing towers and such changes on new or existing towers greatly reduces the cost of operating towers. Removing L-810 lights from towers is one of the most effective means of achieving a significant reduction in avian fatalities at existing communication towers.” See, again, Gehring, Joelle and Kerlinger, Paul, *Avian collisions at communication towers: II. The role of Federal Aviation Administration obstruction lighting systems*, Prepared for: State of Michigan (March 2007).

We fail to see any ambiguity in Dr. Gehring’s and Dr. Kerlinger’s conclusions, nor is there any hesitancy in recommending that the FCC adopt measures to eliminate steady burning, red L-810 lights on communication towers to prevent up to 70% of avian mortality in a cost-effective way while meeting the FCC’s obligations under NEPA and the MBTA. The conclusion by the Infrastructure Coalition and other industry groups that somehow the Michigan research is not probative, does not reach firm conclusions, and would need more research to have merit is baseless.

The industry contends that the cost of changing lighting systems would be cost prohibitive. See, for example, the comments by the Infrastructure Coalition. As noted in the published conclusions from the Dr. Gehring and Dr. Kerlinger Michigan research, existing towers need not be re-lamped with white strobes, but rather the steady burning, red L-810 lights would simply be turned off and the existing blinking red lights would remain. This was done in the Michigan research on a number of towers to test the lighting hypotheses. Turning off the steady burning, red L-810 lights would mean the towers’ lighting systems would be similar to the systems employed on wind turbines for night time conspicuity and at other towers. Contrary to some statements, this is not an FAA prohibited practice.

As noted above from Dr. Gehring and Dr. Kerlinger’s Report II, “One advantage of our findings is that lighting can be changed at minimal cost on existing towers and such changes on new or existing towers greatly reduces the cost of operating towers. Removing L-810 lights from towers is one of the most effective means of achieving a significant reduction in avian fatalities at existing communication towers....The economic incentive for removing L-810 lights is substantial. Electric consumption, and therefore electric costs, as well as tower maintenance costs (changing of bulbs – labor and bulb cost) would be greatly reduced.” Instead of being costly, such changes to protect birds would save the industry money. In Section II., Item 16) in our NPRM comments filed on April 23, 2007 we suggest that the FCC require a phase in for the switch to white strobes (L-865) or red strobes or red blinking lights (L-864) on existing towers employing steady burning red lights (L-810). This should occur when steady burning red lights (L-810) on existing antenna structures burn out and need to be replaced. This recommendation for lighting changes on existing towers also is recommended by the U.S. FWS. See Items 1) through 4) below from the U.S. FWS comments of February 2, 2007 on this NPRM.

Dr. Joelle Gehring was considered an expert and balanced facilitator by industry, and was suggested

by industry and agreed upon by conservation groups to serve as Chair of the STATIC Group described by the Infrastructure Coalition in their NPRM comments as trying to examine areas of mutual cooperation on the tower kill issue. This group consists of the CTIA, PCIA, NAB, NATE, and others, along with American Bird Conservancy, National Audubon Society, Defenders of Wildlife, and Environmental Defense. Dr. Paul Kerlinger is an ornithologist, an expert on bird migration, and has served and continues to serve as a consultant to the telecommunication industry and the wind industry on towers and birds.

Dr. Paul Kerlinger is a principal with Curry & Kerlinger, LLC, a consulting firm specializing in wind power and communication tower issues, including those related to birds. Curry & Kerlinger pioneered Phase I Avian Risk Assessments, the first step in determining the potential for bird problems at a particular site. It is an efficient and cost effective way to eliminate surprises later in the wind power development process. Clients have included the U.S. Fish and Wildlife Service, New Jersey Division of Fish, Game and Wildlife, wind industry corporations, and telecommunication companies, including cellular providers.

Dr. Kerlinger serves as a member of the Communication Tower Working Group and sits on the CTWG Research Subcommittee. Under contract with the U.S. FWS, he reviewed the recent literature on avian tower collisions. That report is available on the U.S. FWS website. Curry & Kerlinger are now working with several corporations to reduce bird fatalities at communication tower sites. Dr. Kerlinger was director of New Jersey Audubon's Cape May Bird Observatory and is a nationally known avian expert. He has done groundbreaking research on bird migration and behavior as well as on the bird-tower issue. He first used radar to track bird migration more than 25 years ago and he was one of the first to study environmental economics.

Curry & Kerlinger, LLC educate industry, environmental organizations, and regulatory agencies as to issues and risk factors at communication towers and sites. Dr. Kerlinger arranges for the design and conduct of field research (pre and post construction), assists with permitting processes, and provides expert testimony for industry. The information on Dr. Kerlinger is taken from the Curry & Kerlinger, LLC web site at: <http://www.currykerlinger.com>.

The comments by industry arguing for no new rules by the FCC completely dismiss the comments in support of the same changes filed by the U.S. Fish and Wildlife Service in this NPRM. In the FCC NOI at page 14, the FCC notes that it is not expert in migratory birds, rather the U.S. FWS is the lead Federal agency for managing and conserving migratory birds. The FCC further acknowledges that the FWS undertakes a number of bird surveys with the Regional FWS offices. The FWS comments dated February 2, 2007 and signed by Acting Deputy Director Kenneth Stansell, state: "The scientific evidence also supports the conclusion that lights that flash or blink appear to be more important in minimally attracting birds than is the color of the blinking light (currently only white and red lights are allowed by the FAA as pilot warning colors on communication towers). To minimize the financial burden on tower owners and operators currently managing existing towers while minimizing impacts to migratory birds, the Service recommends that:

- 1) Once tower broadcast licenses expire and must be re-issued, tower lighting systems must be

retrofitted preferably with minimum intensity, maximum off-phased white strobe lighting as a first option; followed by minimum intensity, maximum off-phased red strobe lighting; and finally with minimum intensity maximum off-phased red blinking incandescent lighting. Pending FAA approval, all L-810 steady burning lights should also be removed as part of the retrofit.

2) All new towers must be fitted in decreasing order of priority with white strobes, red strobes, or blinking incandescent lighting as previously recommended. No L-810 side lights should be used.

3) When L-810 lights burn out, they should each be replaced in decreasing order of priority with white strobe, red strobe, or red blinking incandescent lighting as previously recommended.

4) From the time this rulemaking is finalized and published as regulation, we recommend that all towers be retrofitted within no longer than 5 years of that date (preferably a shorter duration) in decreasing order of priority with white strobe, red strobe, or red blinking incandescent lighting as previously recommended. No L-810 side lights should be used.”

The U.S. FWS comments on this NPRM also clearly advise the FCC that they support the guy wire and height conclusions of the Michigan researchers and other mitigation measures such as collocation, which should be made mandatory by the FCC. Note again, we are not suggesting that all antennas be collocated, but efforts should be exhausted to collocate as we note in our previous comments.

In the comments by Acting Deputy Director Kenneth Stansell, the U.S. FWS concludes “In summary, the Service feels that immediate action needs to be taken to reverse these tower collision impacts on migratory birds....We recommend that FCC implement the Service’s 2000 voluntary communication tower guidelines into rulemaking. The FCC would be responsible for informing license permit applicants of the guidelines, overseeing implementation of the guidelines, and would not depend on applicants independently contacting the Service for recommendations.”

The changes in lighting, guy wires, and tower height are also supported by the scientific analysis conducted by Dr. Longcore, Dr. Gauthreaux, and Ms. Rich in the Land Protection Partners filing in this NPRM. For example: “Researchers hypothesize that the key factor in the reduction of mortality at white strobe lights is the break in flashes and not the nature of the flash itself. Gauthreaux, S.A., Jr., and C. Belser. 2006. *Effects of artificial night lighting on migrating birds*. In C. Rich and T. Longcore (eds.), *Ecological Consequences of Artificial Night Lighting*. Island Press, Washington, D.C. A decision to require red strobe/flashing lights with a complete dark phase and synchronized flashing would be supported by the existing scientific literature.” Their work on tower lighting and height has been submitted for publication as Longcore, T., C. Rich, and S.A. Gauthreaux Jr. (in review) *Design and siting of communication towers and rate of avian mortality: a review and meta-analysis*.

We will not further reiterate our comments made on April 23, 2007 in this NPRM that more than adequately establish the sound science supporting the adoption of rules by the FCC for measures to prevent/minimize avian mortality at communication towers, but will again emphasize that these measures will in no way impede the provision of telecommunication services. Please see our detailed comments for rule changes to prevent mortality at Section II. and V. of our comments on

this NPRM.

We note that Citicasters Licenses, L.P., an indirect subsidiary of Clear Channel Communications, undertook a two year study of the impacts a 500' guyed communication tower in Larimer County, Colorado had on migratory and resident bird species. As noted in their comments for the NPRM, this study included weekly surveys at the tower site and a reference site during all seasons; the use of remote control cameras to monitor bird kills; a scavenger removal study; and a surveyor bias study that was the first in that state and one of only 20 conducted west of the Mississippi. The study was done to fulfill a permitting condition imposed by Larimer County due to concerns regarding potential effects of the tower to resident and migratory birds.

We commend Citicasters Licenses, L.P for the rigorous methodology by which they conducted their two year study. Noting that this particular tower caused a total of eleven bird mortalities (of which, nine were migrants) during the two year monitoring period, we agree with Citicasters that, "In reviewing certain aspects of reported tower kills and associated monitoring studies, noting the absence of mortalities may be as important as noting the presence of large numbers of bird mortalities, i.e., understanding the height, configuration, lighting regime and habitats of towers without mortalities also is important." As we have asserted before, we believe the FCC, through their rulemaking on this subject, should require communications towers owners and operators to scientifically assess avian mortality at each existing tower that is more than 500' AGL during at least one spring and fall migration season if the tower is guyed, and if the tower still employs red steady burning aviation safety lighting for night time conspicuity. If the tower owner/operator agrees to switch the L-810 steady burning red lights to L-865 or L-864 lights, then the monitoring requirement can be waived.

In addition, American Bird Conservancy agrees with Citicasters' finding based on their study that, "... modifying the night lighting to white strobes could reduce the potential risk of future bird mortalities, particularly during inclement weather." The research and findings submitted in this section and elsewhere on these reply comments clearly document that tower lighting is a major causative factor in bird mortality and that towers with steady burning red (L-810) lights cause most avian mortality, including nearly all mass mortality events. The FCC, in their rulemaking, should make medium intensity white strobe lights or where not possible, red strobe or blinking lights the requirement for nighttime conspicuity for new towers. Existing towers should turn-off existing L-810 lights and use the red blinking lights or convert to red or white strobe lights as recommended herein by the Michigan research Reports of Dr. Gehring and Dr. Kerlinger, by the U.S. FWS, by the scientists at Land Protection Partners, and by us in Sections II. and V. of our April 23 comments on this NPRM.

VI. CONCLUSION.

In conclusion, we believe that there are no valid arguments presented in the filings in this NPRM that dictate other than that the FCC should adopt the measures detailed in Items 1) through 18) in Section II of our comments on this NPRM submitted on April 23, 2007, as augmented by the comments of the U.S. FWS submitted on February 2, 2007 by Acting Deputy Director Ken Stansell. Further, the comments are supported by the more than 40 national and regional groups submitting

comments on this NPRM urging the FCC to end the years of delay and adopt rules that require measures to prevent bird deaths at all existing and new communications towers. These groups include the largest ornithological scientific groups in the nation, including the American Ornithologists Union and Wilson Ornithological Society, as well as bird conservation and state ornithological groups from all over the United States.

In addition, our call for action is supported in the comments of the more than 2,500 individual U.S. citizens urging action by the FCC to better protect birds at communication towers.

We believe that our comments, together with those of the U.S. FWS, Land Protection Partners, and the final reports submitted in this NPRM by Dr. Gehring and Dr. Kerlinger on their Michigan research, and by others have clearly established more than the probative evidence required for tower impacts to migratory birds and individual populations and the efficacy of measures to prevent/minimize avian mortality at towers. These measures can be implemented without impeding communication services.

We urge the FCC to act shortly after May 23, 2007 to adopt a final rule to fulfill statutory obligations under NEPA, MBTA, and ESA to protect migratory birds.

Respectfully Submitted,

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