

Environmental Compliance Workshop

NEPA, Migratory Birds and
Endangered Species

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* This presentation and its contents are for informational purposes only; the Commission's rules in part 47 of the Code of Federal Regulations and the Commission's previous reports and orders adopting those rules represent the binding rules and determinations of the Commission.



Overview

- Introductions
- FCC:
 - National Environmental Policy Act (NEPA) Checklist
 - Threatened and Endangered Species
 - Migratory Birds
- U.S. Fish and Wildlife Service (FWS)

General Categorical Exclusion– Wireless Facility Deployments

- Most proposed facilities are categorically excluded and, therefore, applicants are not required to prepare an environmental assessment (EA) for such facilities except as provided in the Commission's rules.
- Under section 1.1306(a), a proposed facility is categorically excluded if it does not trigger one of the factors identified in section 1.1307(a) (commonly referred to as the checklist), and it would not cause human exposure to Radio Frequency (RF) emissions that exceed the Commission's limits (47 CFR § 1.1307(b)).
- The Commission may determine that there are other factors that require the preparation of an EA pursuant to section 1.1307(c) or (d).
- If a person alleges that a particular action, otherwise categorically excluded, will have a significant environmental effect, the responsible Bureau may issue an order requiring an EA under section 1.1307(c).
- For projects that are otherwise categorically excluded, the Bureau may order an EA on its own motion if it determines that the proposal may have a significant environmental impact under section 1.1307(d).
 - For example, the note to section 1.1307(d) addresses antenna structures that are over 450 feet and trigger other factors that will require an EA.

NEPA Checklist

- To determine whether a particular facility is categorically excluded, the applicant must determine whether it triggers any of the circumstances identified in the checklist. <https://www.fcc.gov/wireless/bureau-divisions/competition-infrastructure-policy-division/tower-and-antenna-siting>
- Updated FCC NEPA/EA checklist: <https://us-fcc.box.com/s/f2rbaxbka6ni4e3ojwun4nms6lbk18kf>

Regardless of whether an EA is required for a project, grading soil, removing vegetation, clearing an area or otherwise beginning construction or building without following these requirements or before completion of the FCC's environmental process can constitute a violation of FCC rules and subject the party to potential enforcement action. Granting a license is NOT an authorization to build unless all environmental review requirements have been met, including: review, analysis, and completion of the NEPA Checklist to determine if the project qualifies for a CatEX; filing an EA (where required); receipt of the antenna structure registration number (ASR); and conclusion of the 30 day period for public notice period where required; and resolution of any requests for environmental review, where applicable.

Below is more information about the FCC NEPA process and compliance with related environmental statutes.

- [NEPA Checklist with EA Checklist \(Last Updated June 2022\)](#)
- [NEPA FAQs](#)
- [NEPAssist - a tool that facilitates the environmental review process](#)
- [NEPA Fact Sheet](#)
- [Form 601 Flow Chart](#)
- [Form 854 Flow Chart](#)
- [NEPA Process Overview](#)
- [Fact Sheet: Site Testing Involving Ground Disturbance](#)



NEPA Checklist (continued)

- (1) Facility will be located in an officially designated wilderness area.
- (2) Facility will be located in an officially designated wildlife preserve.
- (3) Facility may affect listed threatened or endangered species or designated critical habitats; or is likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (4) Facility may affect districts, sites, buildings, structures or objects significant in American history, architecture, archeology, engineering or culture, that are listed, or are eligible for listing, in the National Register of Historic Places.
- (5) Facility may affect Indian religious sites.
- (6) Facility will be located in a floodplain, if the facility will not be placed at least one foot above the base flood elevation of the floodplain.
- (7) Facility construction will involve significant change in surface features (e.g., wetland fill, deforestation, significant tree removal, or water diversion).
- (8) Facility (antenna tower and/or supporting structures) will be equipped with high intensity white lights which are to be located in residential neighborhoods, as defined by the applicable zoning law.
- (9) Facility would cause human exposure to levels of radiofrequency radiation in excess of Commission-adopted guidelines.
- (10) Facility will be over 450 feet above ground level (AGL).

NEPA CHECKLIST: Evaluating Potential Environmental Effects

Review this checklist to identify when section 1.1307 circumstances apply and to evaluate whether the proposed facility may have a significant environmental impact. The supporting documentation must be included in an EA, if required; it should be maintained by the applicant as proof of NEPA compliance if no EA is required. Contact Commission staff to determine EA requirements if a project is subject to an EA (or an Environmental Impact Statement) by another federal agency or will be located on Tribal or trust lands for which the Bureau of Indian Affairs (BIA) has assumed environmental review responsibility.

An Environmental Assessment (EA) must be filed when an applicant answers Yes to one or more of the following circumstances, and should include the specified supporting information:		
<p>(1) Facility will be located in an officially designated wilderness area. <i>Federally-designated wilderness areas may be administered by federal agencies (e.g., the U.S. Forest Service (USFS), Bureau of Land Management (BLM), National Park Service (NPS), or U.S. Fish and Wildlife Service (FWS)). Wilderness areas may also be designated by state or Tribal governments.</i></p> <p><input type="checkbox"/> If the facility is in a non-federal wilderness area or is in a Federal wilderness area but is not subject to review by another federal agency, an EA is required.</p> <p><input type="checkbox"/> If the facility is not in a wilderness area, include a statement to that effect. If the facility is on USFS, BLM, NPS, or FWS land, submit documentation showing that it is not within a designated wilderness area.</p>	<p>Yes ()</p>	<p>No ()</p>
<p>(2) Facility will be located in an officially designated wildlife preserve. <i>A wildlife preserve may be designated in a variety of ways. Federally designated wildlife preserves include national wildlife refuges as well as some national parks, monuments, and preserves. Many states also designate preserves, protected areas, or fish and wildlife areas managed by a state Department of Fish and Game or equivalent agency. Local and Tribal governments may also designate wildlife preserves.</i></p> <p><input type="checkbox"/> If the facility is in a non-federal wildlife preserve or is in a federal wildlife preserve but is not subject to review by another federal agency, an EA is required.</p> <p><input type="checkbox"/> If the proposed facility is not located in an officially designated wildlife preserve, include a statement to that effect and explain any measures taken to confirm that the site is not within a designated wildlife preserve. The applicant should cite specifically to the sections of the relevant databases, maps, references, or information from the relevant government agencies (e.g., Department of the Interior).</p>	<p>Yes ()</p>	<p>No ()</p>
<p>(3) Facility may affect listed threatened or endangered species or designated critical habitats; or is likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats. <i>Consult FWS resources to identify when this circumstance applies. Attach to the EA any relevant correspondence with FWS, Memoranda of Agreement/Understanding, Blanket Clearance Letters, Endangered Species Act (ESA) Section 4(d) rules, or other conditions and recommendations.</i></p> <p><input type="checkbox"/> If no listed⁽ⁱ⁾ or proposed⁽ⁱⁱ⁾ threatened or endangered species or designated or proposed critical habitats⁽ⁱⁱⁱ⁾ are present in the county or counties where the "action area"^(iv) is located, explain the basis for the applicant's determination that: (i) no listed or proposed threatened or endangered species or designated or proposed critical habitats are present within the county (or counties) of the project's action area and/or; (ii) that there would be no effect on listed or proposed threatened or endangered species or designated or proposed critical habitats within the county (or counties) of the project's action area. Provide the materials (with citations) that formed the basis for this determination (e.g., maps or lists from relevant databases). In most instances, use of FWS's Information for Planning and Conservation (IPaC) database^(v) will be sufficient to determine whether endangered or threatened species are present in the county or counties, although other databases sometimes contain more specific information that may be used in addition to IPaC. If IPaC data are not available for the project area, applicants should contact the appropriate local FWS Field Office.</p>	<p>Yes ()</p>	<p>No ()</p>

NEPA Checklist Documentation

- Complying with FCC's environmental regulations requires completing an analysis of the categories on the NEPA checklist and making a determination as to whether there may be a significant environmental effect.
- The checklist analysis must be completed prior to completing FCC applications, including Form 854 (for Antenna Structure Registration) and in all cases this analysis must be completed prior to construction.
- The applicant is required to retain documentation of its environmental review, including its checklist documentation, so that it can be produced upon request from the FCC. Documentation must be retained regardless of whether the applicant determines that an EA is needed.
- As a general matter, an applicant must complete its environmental review process prior to commencing construction. This means no grading soil, removing vegetation, clearing an area or otherwise beginning construction.
- If a request for further environmental review is submitted by a member of the public, construction cannot commence until after the Commission resolves the matter. Again, this means no grading soil, removing vegetation, clearing an area or otherwise beginning construction or building the facility prior to Commission action on the Request.

Endangered Species Act



Source: [DickDaniels \(http://theworldbirds.org/\)](http://theworldbirds.org/), [CC BY-SA 3.0](https://creativecommons.org/licenses/by-sa/3.0/), via Wikimedia Commons



Source: [U.S. Fish and Wildlife Service Headquarters](https://www.fws.gov/), [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/), via Wikimedia Commons

- The Endangered Species Act (ESA) provides a framework to protect and conserve endangered and threatened plant and animal species and their habitats.
- The ESA requires the FCC, in consultation with the U.S. Fish and Wildlife Service (FWS), to ensure that any action it authorizes is not likely to jeopardize the continued existence of any threatened or endangered species.
- The FWS maintains a list of threatened or endangered species.
- Applicants are required to determine if threatened and endangered species and/or critical habitats are present at their proposed facility sites and assess what kind of impact to the species will be caused by the action.

Threatened & Endangered Species

- Section 1.1307(a)(3) of the Commission's rules, 47 CFR §1.1307(a)(3), requires applicants, licensees, & tower owners to consider the impact of proposed facilities under the ESA, 16 U.S.C. § 1531 *et seq.*
- Applicants must initially ascertain whether proposed facilities may affect listed, threatened or endangered species or designated critical habitats, or are likely to jeopardize the continued existence of any proposed threatened or endangered species or designated critical habitats.
- Applicants are required to notify the FCC & file an EA if any of these conditions exist.

NEPA Checklist

<p>(3) Facility may affect listed threatened or endangered species or designated critical habitats; or is likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.</p> <p><i>Consult FWS resources to identify when this circumstance applies. Attach to the EA any relevant correspondence with FWS, Memoranda of Agreement/Understanding, Blanket Clearance Letters, Endangered Species Act (ESA) Section 4(d) rules, or other conditions and recommendations.</i></p>	<p>Yes ()</p>	<p>No ()</p>
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- If no listed^{vi} or proposed^{vii} threatened or endangered species or designated or proposed critical habitats^{viii} are present in the county or counties where the “action area”^{ix} is located, explain the basis for the applicant’s determination that: (i) no listed or proposed threatened or endangered species or designated or proposed critical habitats are present within the county (or counties) of the project’s action area and/or; (ii) that there would be no effect on listed or proposed threatened or endangered species or designated or proposed critical habitats within the county (or counties) of the project’s action area. Provide the materials (with citations) that formed the basis for this determination (*e.g.*, maps or lists from relevant databases). In most instances, use of FWS’s Information for Planning and Conservation (IPaC) database^x will be sufficient to determine whether endangered or threatened species are present in the county or counties, although other databases sometimes contain more specific information that may be used in addition to IPaC. If IPaC data are not available for the project area, applicants should contact the appropriate local FWS Field Office. Include any correspondence from FWS indicating that no endangered or threatened species are present.
- If listed or proposed threatened or endangered species or designated or proposed critical habitats are present in the county or counties where the “action area” is located and would not be affected by the proposed facilities, explain how the applicant determined that there would be no effect on listed or proposed threatened or endangered species or designated or proposed critical habitats within the county (or counties) of the project’s action area. Include any correspondence from FWS indicating that there would be no effect.
- If the applicant did not receive a letter from FWS indicating that there would be no effect, provide an informal biological assessment or a description of the protected species in the project area and an explanation of why the project will not adversely affect them, prepared by a biologist. Provide the name(s) and qualifications of the biologist(s) who prepared the biological assessment or description along with any FWS staff who may be familiar with its contents.^{xi} Provide the materials (with citations) that formed the basis for the biologist’s determination (*e.g.*, maps or lists from relevant databases; recommendations from state wildlife agencies or other experts). The applicant’s analysis of effects must use the best scientific and commercial data available.

Effect determinations under ESA

- No Effect (Protected species either not present or not affected)
- May Affect, Not Likely to Adversely Affect
- May Affect, Likely to Adversely Affect

No Effect Determination

- No Effect: Either no listed or proposed threatened or endangered species or designated or proposed critical habitats ***are present*** in the county or counties where the “action” is located, or species ***are present but would not be affected*** by the proposed antenna structure:
 - For projects that do not require an EA, the applicant should document in its records how it ascertained that there would be no effect and retain the materials that formed the basis for this determination (*e.g.*, maps or lists from relevant FWS databases). The FCC may request to review this information if an interested party or the FWS raises a concern.
 - For projects that require an EA for a different NEPA trigger, the applicant must provide an explanation of how it determined that there would be no effect and provide documentation (*e.g.*, maps or lists from relevant FWS databases). Supporting materials, including the qualifications of the person rendering the determination, should be included in the EA appendix.

May Affect, *Not Likely* to Adversely Affect Determination

- If project **may affect, but is not likely to adversely affect**, listed or proposed threatened or endangered species or designated or proposed critical habitats in the action area, applicant should obtain a letter of concurrence from FWS.
- Applicant obtains concurrence from FWS by submitting an informal Biological Assessment.
- An Informal Biological Assessment identifies projects that **may affect, not likely to adversely affect** listed or proposed threatened or endangered species or designated or proposed critical habitats:
 - The IPaC system provides an informal biological assessment when an applicant enters the necessary information.
 - The applicant can submit the informal biological assessment directly to the FWS to request concurrence without going through the FCC to initiate consultation.

May Affect, Not *Likely* to Adversely Affect Determination

(continued)

- Determining whether an EA is required must be decided on a case-by-case basis.
- In general, an EA is not required if FWS concurs with may affect, not likely to adversely effect determination and does not impose any conditions.
- Conversely, an applicant should file an EA if FWS assigns conditions to its concurrence that the project is not likely to adversely affect a protected species or habitat.

May Affect, *Likely* to Adversely Affect Determination

- A Biological Opinion from FWS is required for projects that **may affect, likely to adversely affect** listed or proposed threatened or endangered species or designated or proposed critical habitats in the action area:
 - A Biological Opinion is the document that states the opinion of FWS as to whether the Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.
 - Biological Opinions provide measures to minimize the “take” of listed species (i.e., harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capturing, or collecting). They also specify the extent of take allowed, as well as the reasonable and prudent measures to minimize impacts from the Federal action, and the terms and conditions with which the Federal agency must comply.

May Affect, *Likely* to Adversely Affect Determination (continued)

- To obtain a Biological Opinion from FWS, the applicant is required to:
 - Prepare a formal biological assessment (outlined in 50 CFR § 402.01 *et seq.*).
 - Provide the formal biological assessment to the FCC so that the FCC can initiate formal consultation with the FWS.
 - The FWS will provide a Biological Opinion to the FCC, which may include: Best Management Practices (BMPs); an Incidental Take Statement; and/or other mitigation requirements.
 - The applicant then prepares and files an EA describing the formal consultation with FWS, its results and requirements.

Threatened & Endangered Species

- IPaC
 - FWS tool
 - Provides species lists and critical habitat designations specific to an applicant's proposed project
 - Available online at: <https://ipac.ecosphere.fws.gov/>

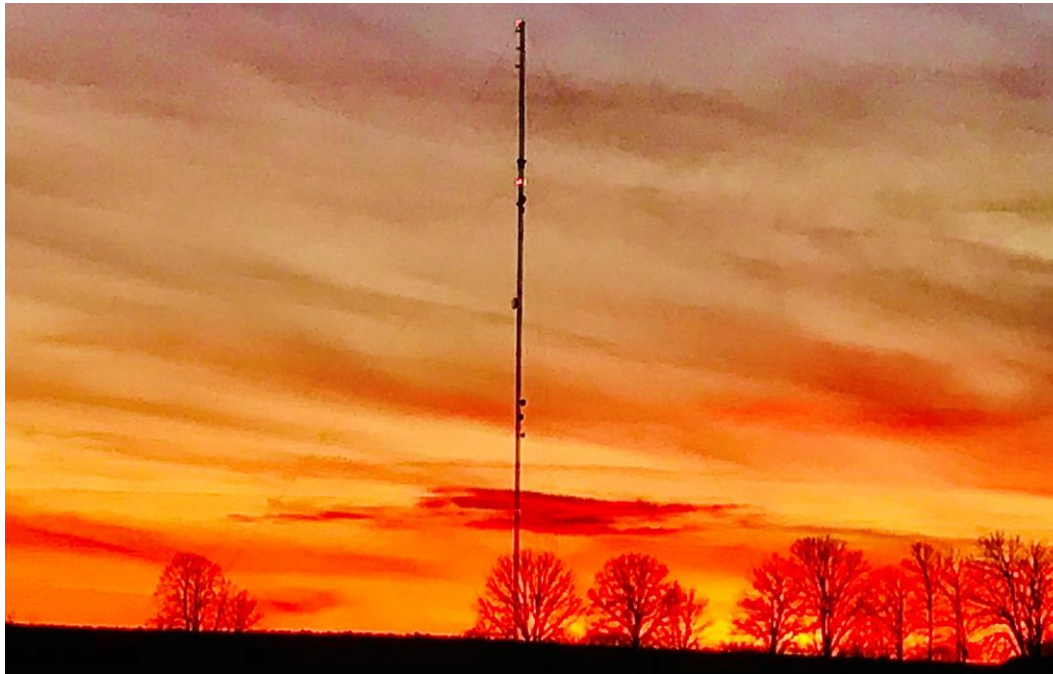
Migratory Birds and Towers

- In response to concerns about the impact of towers on migratory birds the Commission adopted rules in 2011 requiring that a proposed facility that will be over 450 feet in height above ground level requires an EA if it involves:
 - New tower construction; or
 - Modification or replacement of an existing tower constituting a substantial increase in size; or
 - Addition of lighting or adoption of a less preferred lighting style as defined in section 17.4(c)(1)(iii). See 47 CFR §1.1307, Note to paragraph d.

Migratory Birds and Towers

- An EA may be required if proposed tower may otherwise significantly affect migratory birds even if the proposed tower would be less than 450 feet
- To make this determination, applicants are required to completed the detailed Checklist analysis of the proposed tower's impact on migratory birds.

Solutions for the Tower Industry and Birds



U.S. Fish and Wildlife Service
Migratory Bird Program
Conserving America's Birds

Tower obstruction light changes

- Significant increase in the number of towers lit with only flashing lights at night
- Saving money while reducing the need for maintenance and climbs
- Process is typically fast and easy
- Win-win! Clear benefit to tower owners



Light change progress

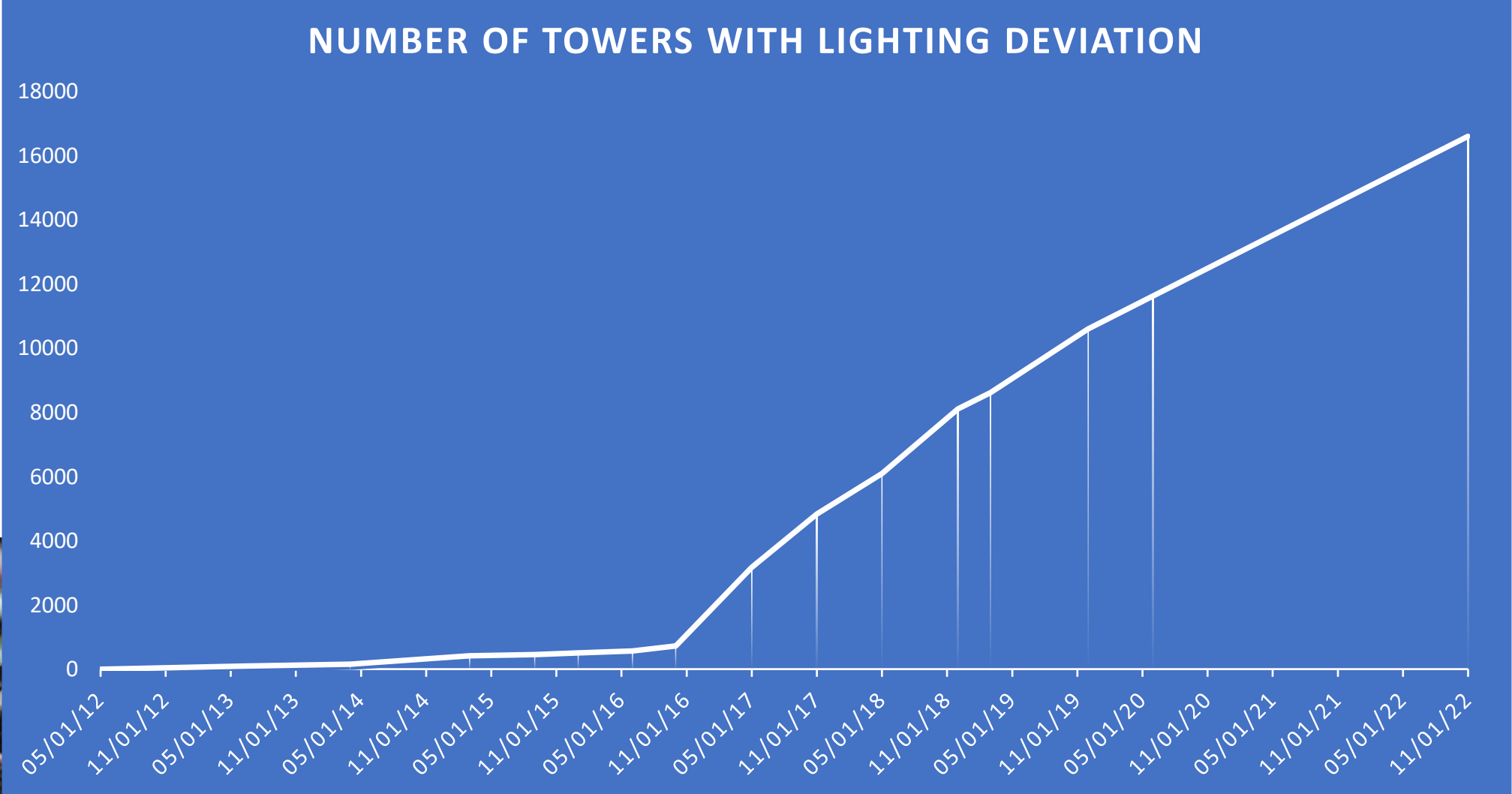
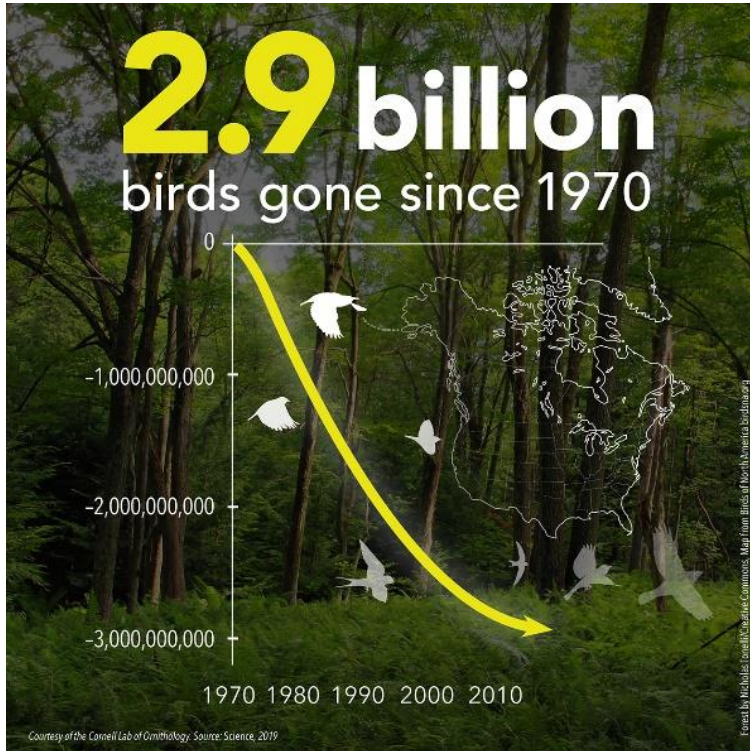


Photo: R. Sheeran

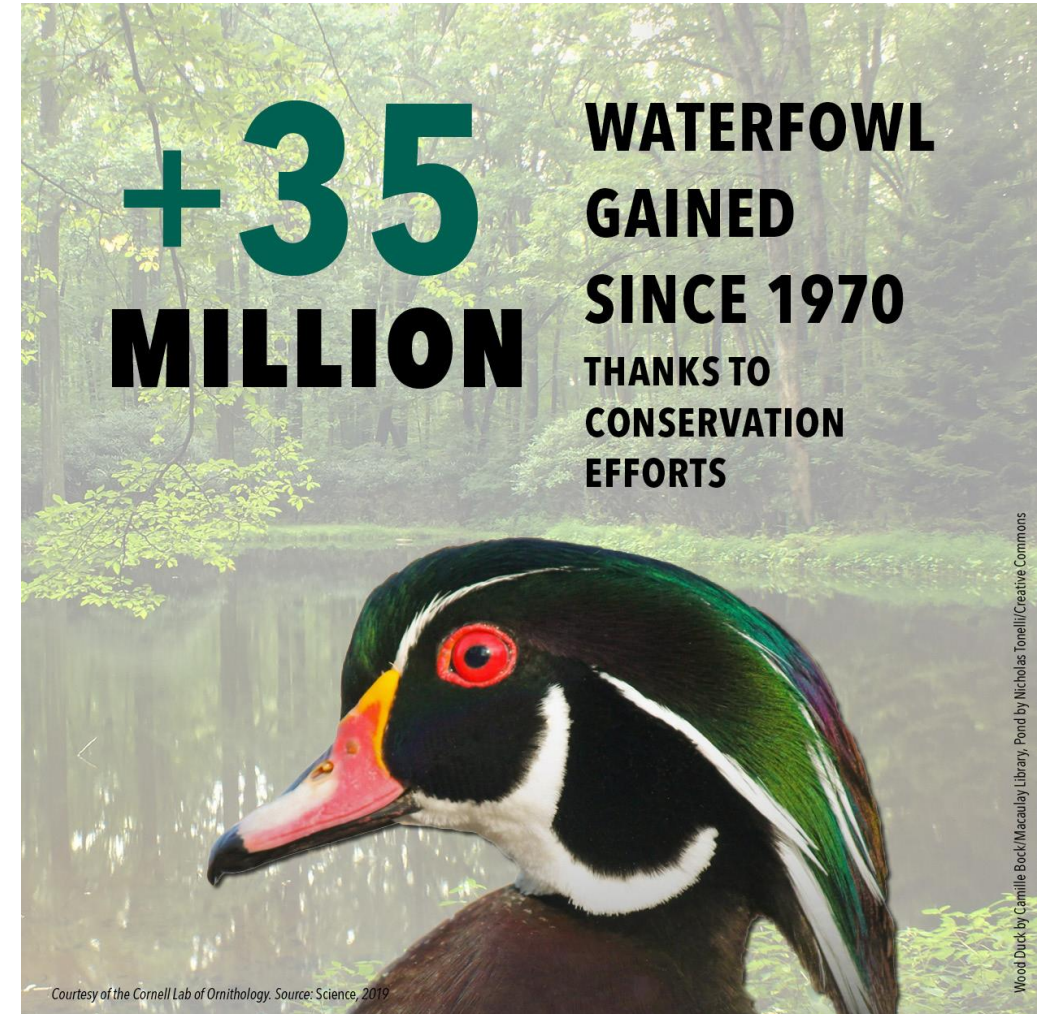
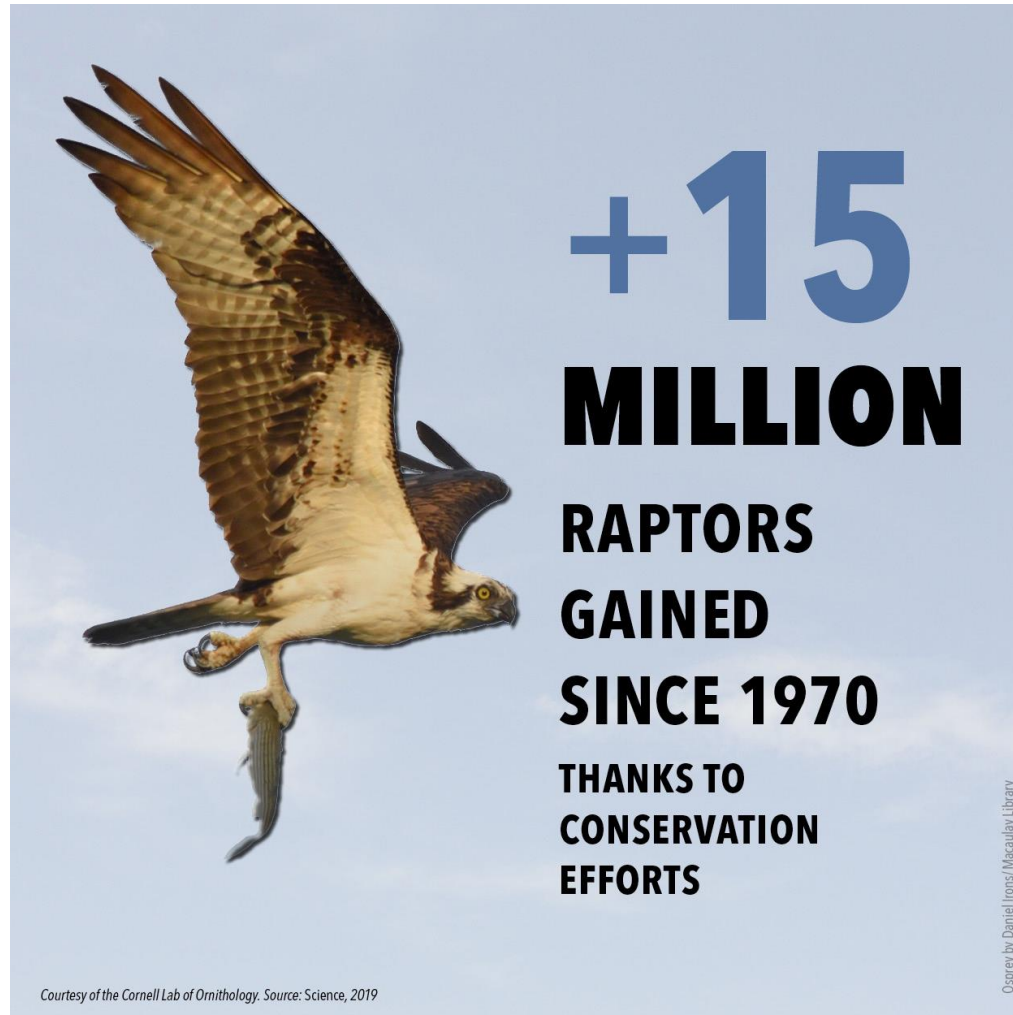
Recovering Three Billion Birds



Rosenberg et al. Science 2019

Migratory Bird Program - Conserving America's Birds

Reasons for Optimism



Rosenberg et al. Science 2019

Migratory Bird Program - Conserving America's Birds



6.8 million birds/year in the U.S. and Canada

Longcore et al. (2012)

Variables related to bird collisions

- Weather
- Location in the landscape
- Tower support systems
- Tower heights
- Tower lighting systems



Photo: R. Sheeran

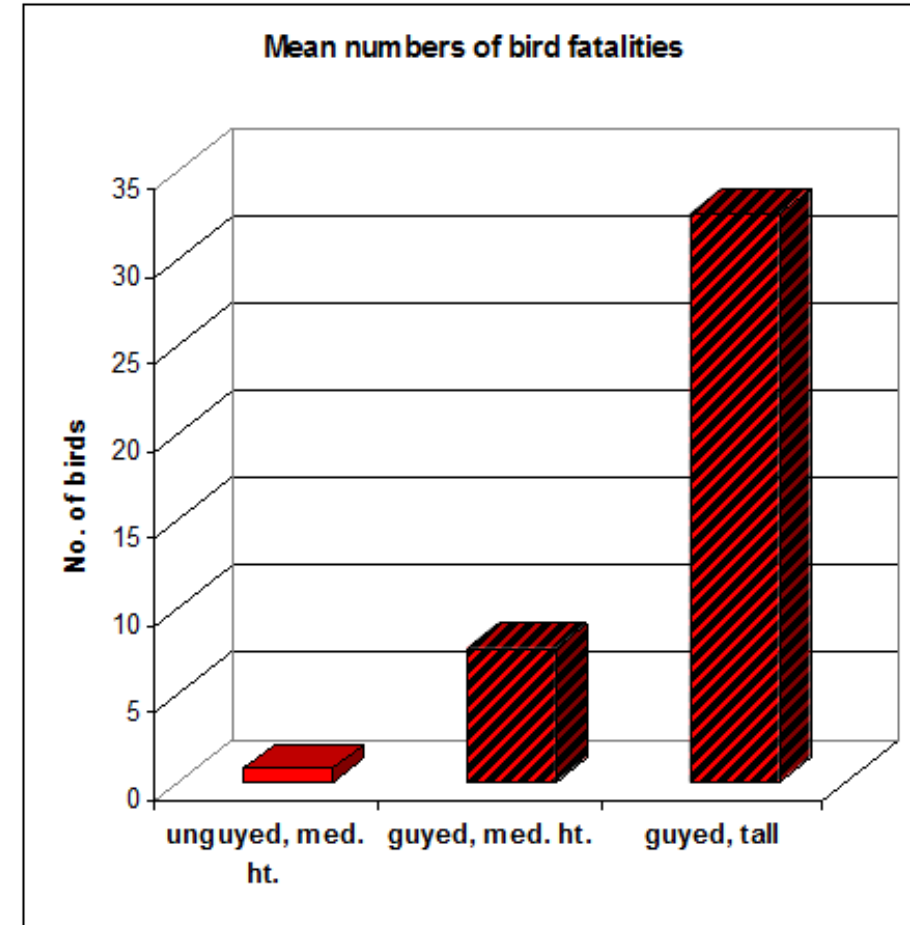


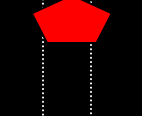
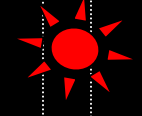
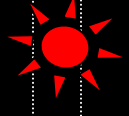
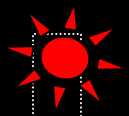
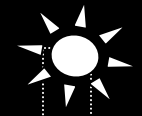
More bird collisions:

- Tall towers
- Guyed towers
- Steady-burning lights

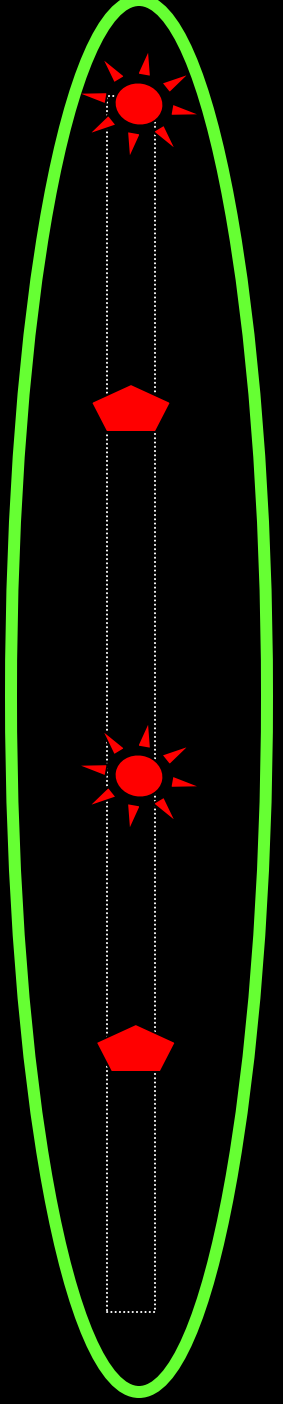
Fewer bird collisions:

- short towers
- self-supported/unguyed towers
- Lit with only flashing lights



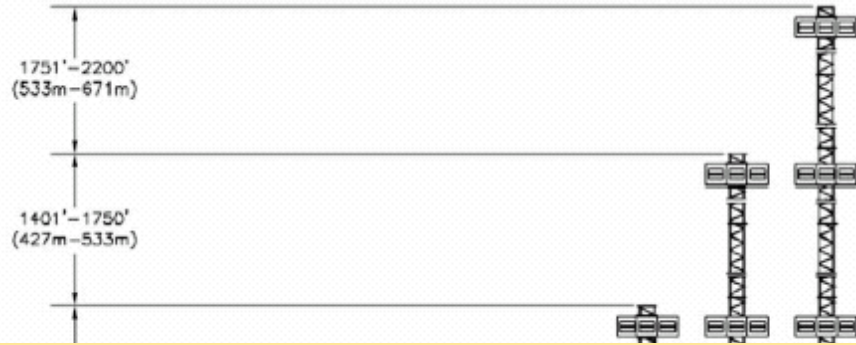


**50-70% reduction in fatalities via
elimination of non-flashing lights**

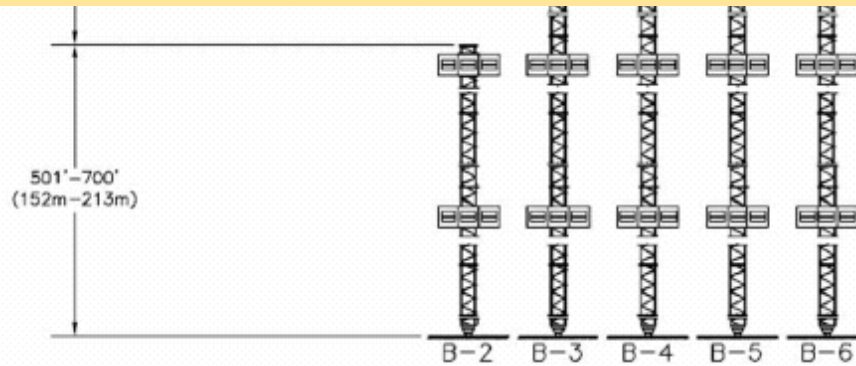


HIGH INTENSITY OBSTRUCTION LIGHTING STANDARDS (FAA Style B)

Day Protection = 200,000cd White Strobe
 Twilight Protection = 20,000cd White Strobe
 Night Protection = 2,000cd White Strobe



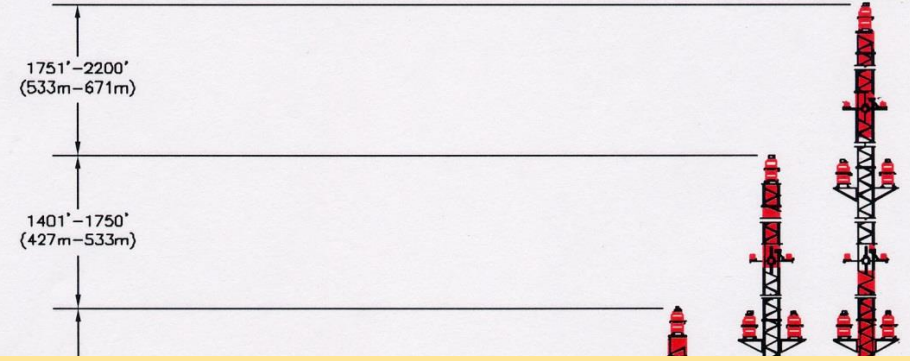
L-865 flashing white and only flashing



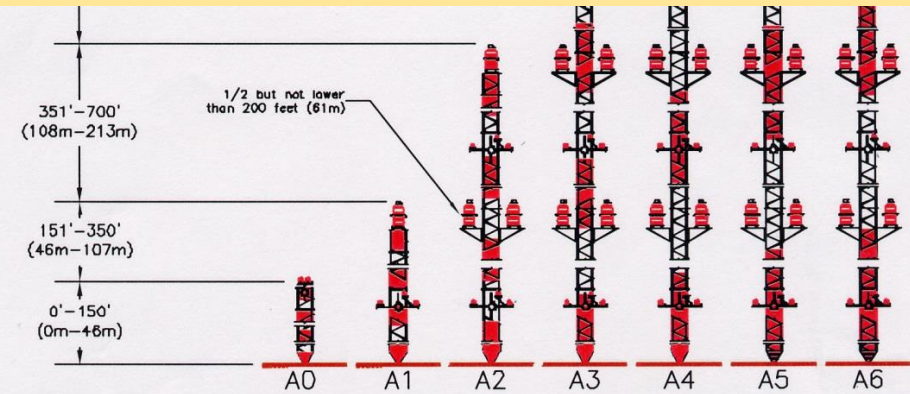
- L-856 High Intensity Strobe
 (3 Flashheads required per level for 360° coverage)

RED OBSTRUCTION LIGHTING STANDARDS (FAA Style A)

Day Protection = Aviation Orange/White Paint
 Night Protection = 2,000cd Red Beacon and sidelights



**L-864 flashing red
 L-810 non-flashing red**



- L-864 Flashing Beacon
 - L-810 Obstruction Light

FIG 15



U.S. Department
of Transportation
Federal Aviation
Administration

Advisory Circular

Subject: Obstruction Marking and Lighting

Date: 12/04/15

AC No: 70/7460-1L

Initiated By: AJV-15

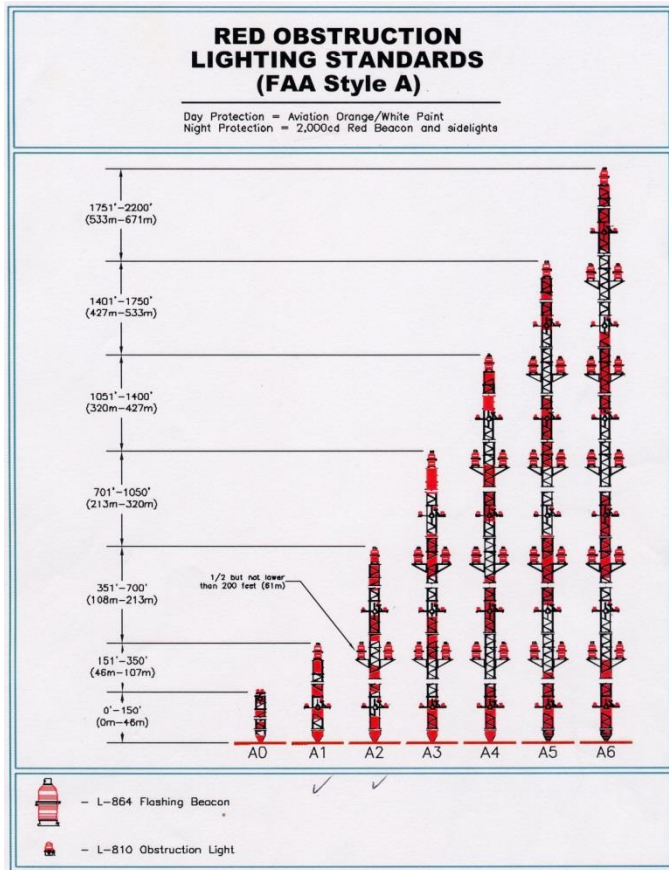


Transport
Canada

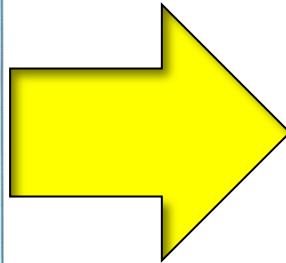
Canada

and the Federal Aviation Administration (FAA) will study them to determine their effect on the navigable airspace. This will ensure that all usable airspace at and above 500 feet AGL is addressed during an aeronautical study and that this airspace is protected from obstructions that may create a hazard to air navigation.

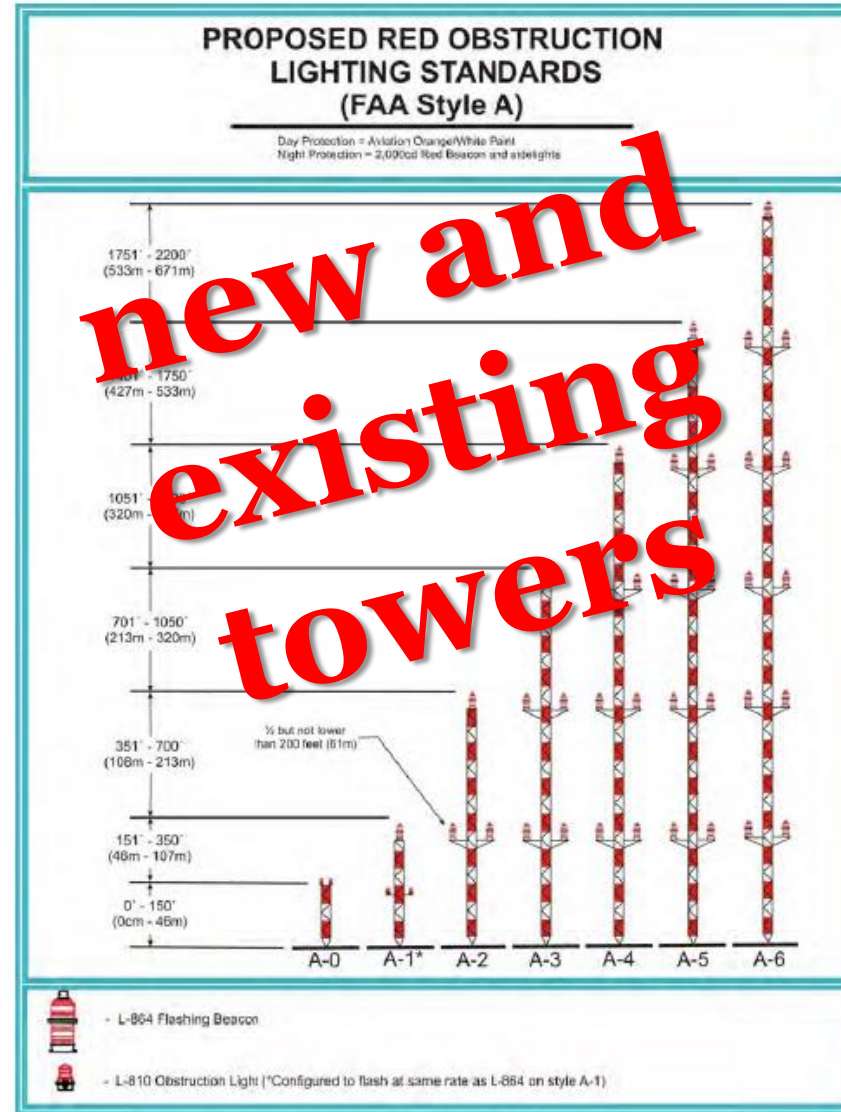
2. Standards for voluntary marking of meteorological evaluation towers (METs), less than 200 feet above ground level (AGL), has been added to provide recommendations towards increasing conspicuity of these structures, particularly



New FAA lighting standards extinguish non-flashing lights on towers >350 ft. AGL and reprograms them to flash on towers 150-350 ft. AGL



APPENDIX C—PROPOSED FEDERAL AVIATION ADMINISTRATION OBSTRUCTION LIGHTING STYLES



new and existing towers

Figure C-1. Proposed Federal Aviation Administration Style A Lighting Configuration

- New Visitors - Finding Broadcast Radio and Television Information on the FCC Website
- Noncommercial Nature of Educational Broadcasting
- Radio History Documents
- Religious Broadcasting
- Silent AM and FM Broadcast Station Lists
- Special Temporary Authority / Emergency Antennas
- Tower Owners: Save Birds! Save Money! through red obstruction light modifications**
- Translators and Boosters
- TV Query
- Unattended Operation of Radio and Television Broadcast Stations
- Why AM Radio Stations Make Changes at Night
- Why Do FM Frequencies End in

reprogramming L-810 lights to flash typically requires use of LED lighting systems.

FAA and FCC Procedures

Follow these steps to obtain FAA and FCC approval before making lighting changes:

1. File a Marking and Lighting study electronically with the FAA at [Obstruction Evaluation / Airport Airspace Analysis \(OE/AAA\)](#), requesting the elimination or omission of steady-burning lights (L-810) or requesting that steady-burning lights flash, via **Form 7460-1, Notice of Proposed Construction or Alteration**. Designate structure type: "Deviation from Red Obstruction Light Standards". The FAA will assign a FAA Study Number to the request.
2. Once approved by the FAA, file **FCC Form 854** with the FCC for the current FCC Antenna Structure Registration Number (ASRN), via the [Antenna Registration System \(ASR\)](#) . Please select "MD - Modification" and choose the appropriate FAA Lighting Style. The FCC will typically approve the application and modify the registration within 24 hours.
 - If the FAA grants a lighting deviation referencing an advisory circular other than 70/7460-1L, select "3. Other" and describe the lighting in the field provided. If the FAA issues a new Study referencing 70/7460-1L, select the lighting style that corresponds to the lighting in the FAA Study.
3. When the lighting change for a tower has been granted by the FCC via ASR, the steady-burning, side-marker, L-810 tower lights can be extinguished on towers greater than 350 feet AGL, or reprogrammed to flash in concert with L-864 lights on towers 150 to 350 feet AGL. This is typically accomplished in the tower transmission building and does not ordinarily require climbing the tower.
 - Per the FAA requirements, flashing red lights should continue to flash at the rate of 30 FPM (+/- 3 flashes per minute).

Site Security Lighting



Lighting changes

Towers >350 ft. AGL

- No tower climbing required
- No additional cost or fees to extinguish lights
- Financial savings due to decreased energy costs, decreased maintenance costs, decreased construction costs
- 70% reduction in bird fatalities

Towers 150-350 ft. AGL

- Currently LEDs are the best option for reprogramming non-flashing lights to flashing lights
- 70% reduction in bird fatalities



Photo: R. Sheeran

Light change progress

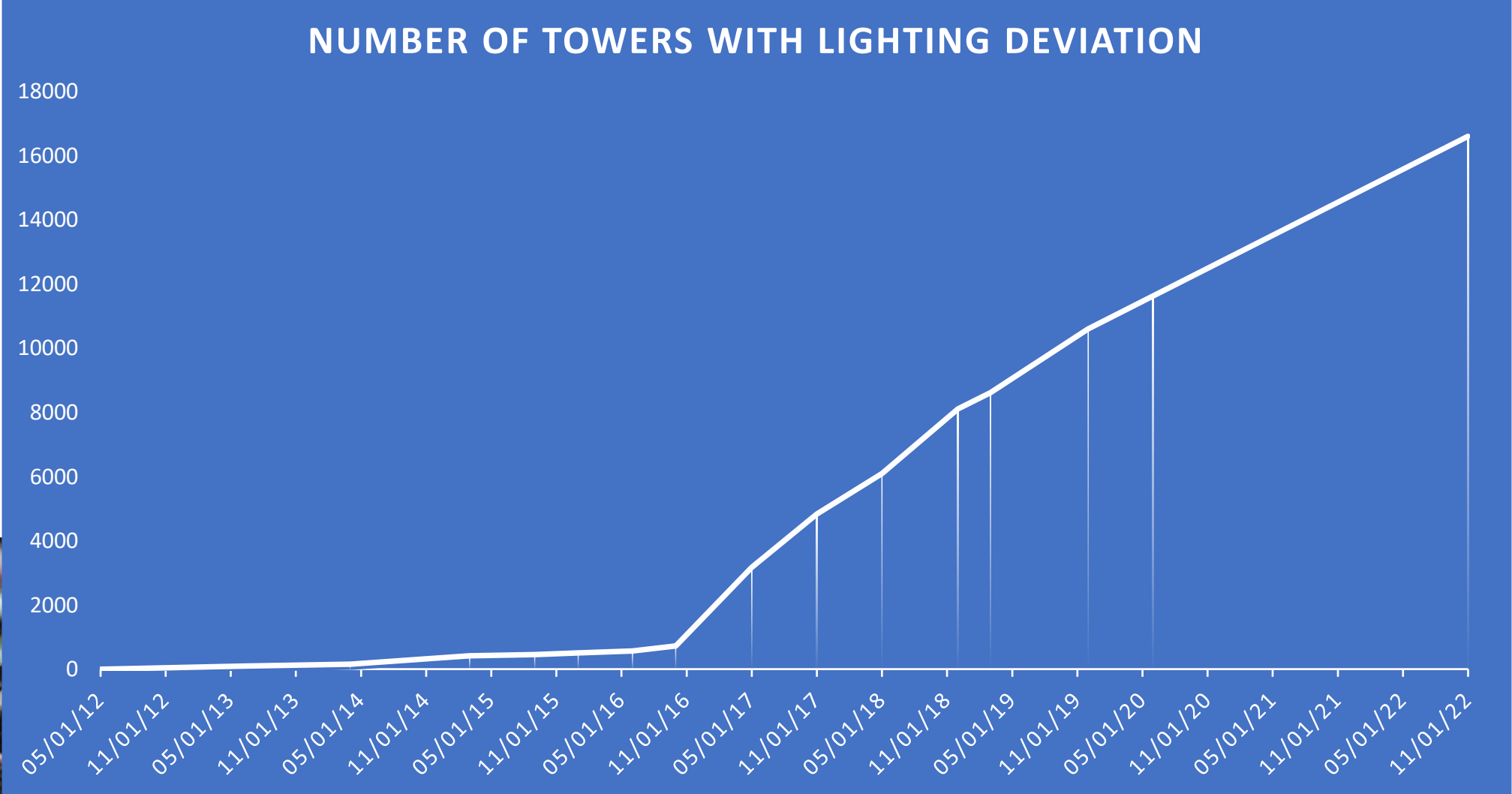
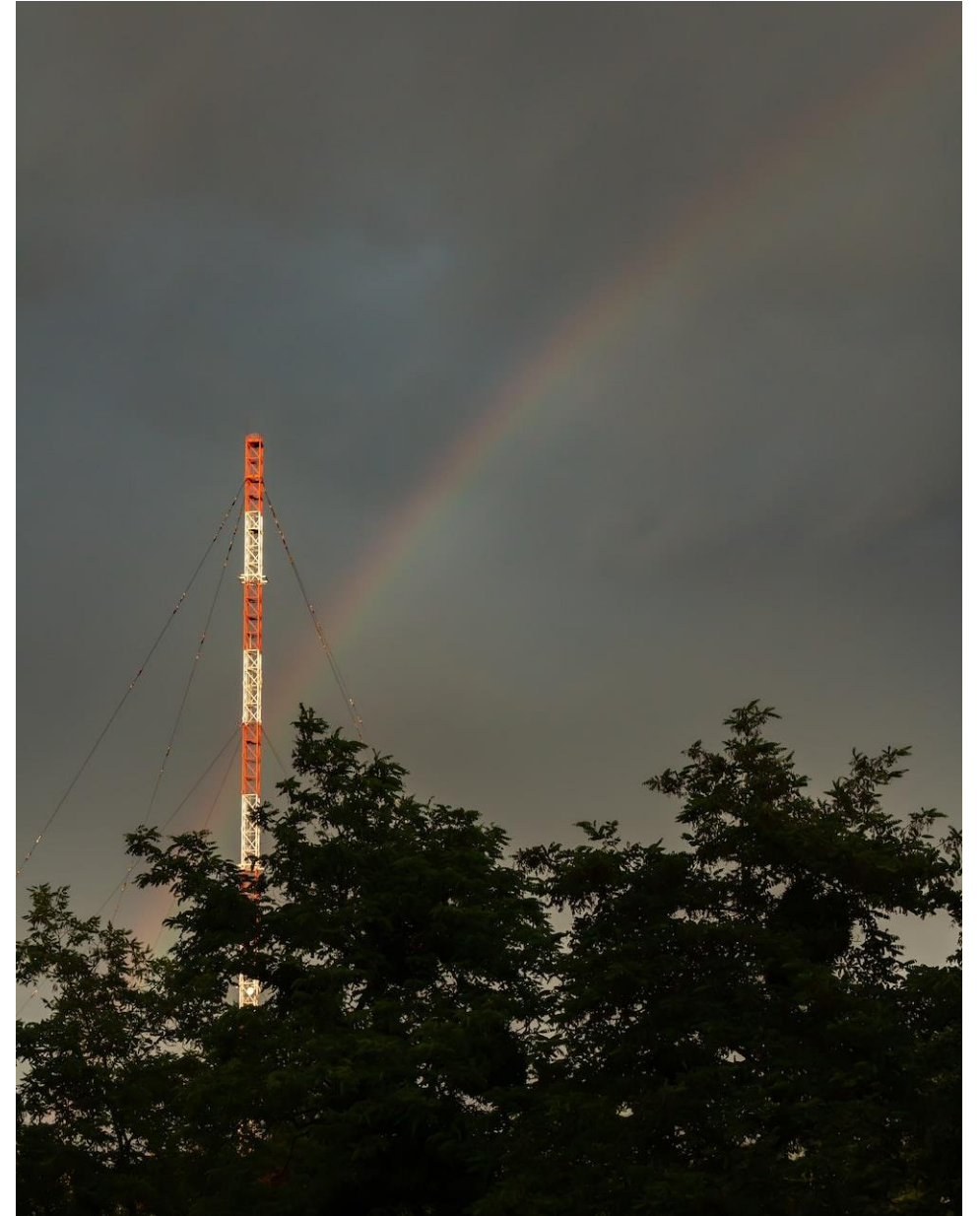


Photo: R. Sheeran

How do we finish the light changes?



New tower facilities

- Consider for all new projects:
 - Contact USFWS Field Office
 - Co-locate equipment on existing tower structures
 - Use existing "antenna farms"
 - Select degraded areas
 - Avoid wetlands, other known bird concentration areas
 - Avoid ridgelines, coastal areas
 - Avoid vegetation removal/maintenance during bird nesting (IPaC, AKN) or conduct nest clearance surveys ≤ 5 days before clearing
 - Avoid protected species, key habitats, and prairie/sage grouse leks
 - Buffer eagle and hawk nests by 0.5 – 1 mile
 - Prevent introduction of invasive species
 - Use motion sensor security lighting (new/existing)



New tower facilities

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 - Select degraded areas
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 - Select degraded areas
 - Avoid wetlands, other known bird concentration areas
 - Avoid ridgelines, coastal areas
 - Avoid vegetation removal/maintenance during bird nesting (IPaC, AKN) or conduct nest clearance surveys ≤ 5 days before clearing
 - Avoid protected species, key habitats, and prairie/sage grouse leks
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 - Prevent introduction of invasive species
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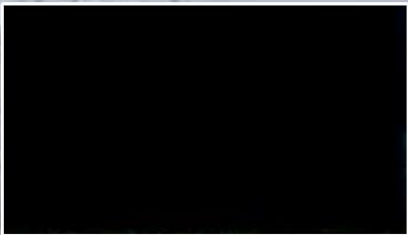


Win-win for Communication Towers



Watch later

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0:00

Communication towers are



0:03 / 4:55



YouTube



Thank you

<https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation>

https://www.fcc.gov/sites/default/files/Light_Changes_Information_Update_Jan_2017.pdf

Please contact Joelle Gehring or Eric L. Kershner with questions:
Division of Migratory Bird Conservation Guidance, Permits, and Regulations
U.S. Fish and Wildlife Service

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U.S. Fish and Wildlife Service
Migratory Bird Program
Conserving America's Birds