



# NEPA, Migratory Birds and Endangered Species

FCC Environmental Compliance Workshop

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September 13, 2022

\* 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 and Federal Aviation Administration (FAA) Tower Lighting
- ▶ US Fish and Wildlife Service (USFWS):
  - ▶ “Solutions for the Tower Industry and Birds”

# NEPA Checklist

- Updated FCC NEPA/EA checklist
- <https://www.fcc.gov/wireless/bureau-divisions/competition-infrastructure-policy-division/tower-and-antenna-siting>
- <https://us-fcc.box.com/s/f2rbaxbka6ni4e30jwun4nms6lbk18kf>

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
- NEPAAssist - 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:		
<b>(1) Facility will be located in an officially designated wilderness area.</b> <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>	Yes ( )	No ( )
<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. <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.		
<b>(2) Facility will be located in an officially designated wildlife preserve.</b> <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>	Yes ( )	No ( )
<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. <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).		
<b>(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.</b> <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>	Yes ( )	No ( )
<input type="checkbox"/> If no listed <sup>(i)</sup> or proposed <sup>(ii)</sup> threatened or endangered species or designated or proposed critical habitats <sup>(iii)</sup> are present in the county or counties where the "action area" <sup>(iv)</sup> 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 <sup>(v)</sup> 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.		



# Overview

- NEPA Checklist
- Threatened and Endangered Species
- Migratory birds and FAA tower lighting



# Endangered Species Act



Source: [DickDaniels \(http://theworldbirds.org/\)](http://theworldbirds.org/), [CC BY-SA 3.0](#), via Wikimedia Commons



Source: [U.S. Fish and Wildlife Service Headquarters](#), [CC BY 2.0](#), 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 habitat are present at their proposed facility sites and assess what kind of impact to the species will be caused by the action.
- FCC Public Notices (PNs) provide guidance on procedures for ensuring that applicants protect the Northern Long-Eared Bat and American Burying Beetle.
  - Revised tower construction guidance for the protection of the Northern Long-eared Bat under the Endangered Species Act. (<https://docs.fcc.gov/public/attachments/DA-21-1501A1.pdf>)
  - Wireless facility construction guidance within the American Burying Beetle's range (<https://docs.fcc.gov/public/attachments/DA-21-1500A1.pdf>)

# 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 environmental assessment (EA) if any of these conditions exist.

# 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 the information described in the previous bullet in the ESA section of the EA to explain how it reached the “no effect” determination. 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 a proposed antenna structure **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:
  - Obtain a letter from FWS concurring with applicant's determination.
  - If measures are proposed to mitigate effects on species or habitats, the EA must outline those measures; evidence FWS concurrence (50 CFR § 402.13); and list any mitigation credits.
    - e.g., endangered Karner Blue Butterfly or the endangered Indiana Bat (Kentucky often requires mitigation credits for tree removal within Indiana bat habitat).

# May Affect, *Not Likely to* Adversely Affect Determination (continued)

- 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 (as required when a project is likely to adversely affect).

# May Affect, *Likely to Adversely Affect* Determination

- A Biological Opinion 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)

- If species/habitat are present and the proposed antenna structure **may affect, and is likely to adversely affect**, listed or proposed threatened/endangered species or listed or proposed designated critical habitats in the action area, 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. The FCC will 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.



# Summary:

## Threatened & Endangered Species

- **Protected species not present**
  - Requires relevant documentation (e.g., Information for Planning & Conservation (IPaC))
- **Protected species present, but not affected**
  - Requires determination made by qualified biologist (or FWS)
- **May Affect, Not likely to Adversely Affect protected species**
  - Requires an Informal Biological Assessment and the FWS concurrence letter
  - Include documentation in an EA, if prepared
  - EA must describe any conditions or mitigation commitments
- **Likely to Adversely Affect protected species**
  - Requires a Formal Biological Assessment
  - FCC initiates Formal Consultation with the FWS
  - FWS prepares a Biological Opinion
  - EA must include measures outlined in the Biological Opinion
  - FWS incidental take statement may be required

# FCC PN Guidance on Northern Long-Eared Bat and American Burying Beetle

## Endangered Species Act

Section 1.1307(a)(3) of the Commission's rules, 47 CFR §1.1307(a)(3), requires applicants, including licensees and tower owners, to consider the impact of proposed facilities on sensitive species and their habitats. Under the Endangered Species Act (ESA), 16 U.S.C. § 1531 *et seq.*, it is prohibited to "take" (i.e., to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) fish or wildlife species listed as endangered or threatened, with certain exceptions. The ESA also requires federal agencies to ensure that agency actions are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. Consistent with this obligation, applicants must determine before constructing and before submitting an EA if required whether any proposed facility 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.

The [U.S. Fish and Wildlife Service \(USFWS\)](#), which administers the ESA, provides an [online mapping tool](#) to determine which species and habitats may need to be considered for proposed facilities. A qualified biologist or the USFWS must determine the type of effect a proposed facility will have on protected resources.

All FCC licensees, applicants, tower companies, and their representatives have a blanket designation and are authorized to contact and work with the USFWS as non-federal representatives of the FCC for purposes of informal consultation with the USFWS. Applicants must submit a request for USFWS concurrence with the applicant's effects determination. If a qualified biologist or the USFWS determines that a proposed facility may have an adverse effect, the applicant must notify the FCC and file an environmental assessment. If a qualified biologist or the USFWS determines that the proposed facility "may affect, likely adversely affect" protected species or habitats, the applicant must prepare a biological assessment and submit it to the Commission, and the Commission will then request formal consultation with the USFWS. In significant portions of the United States, applicants must follow the USFWS process for considering effects to the [Northern Long-Eared Bat](#) and [American Burying Beetle](#). In some regions, USFWS offers Blanket Clearance to proposed facilities meeting certain criteria to streamline these processes.



- [USFWS Delegation Letter](#)
- [Online Endangered Species Act Review using IPaC](#)
- [Fact Sheet: Minimizing Habitat Fragmentation](#)
- [Fact Sheet: Minimizing Effects on Prairie Grouse and Sage Grouse](#)
- [Guidance on Northern Long-Eared Bat](#)
- [Guidance on the American Burying Beetle](#)

# 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/>

## IPaC Information for Planning and Consultation

1 Find location

2 Define area

3 Confirm

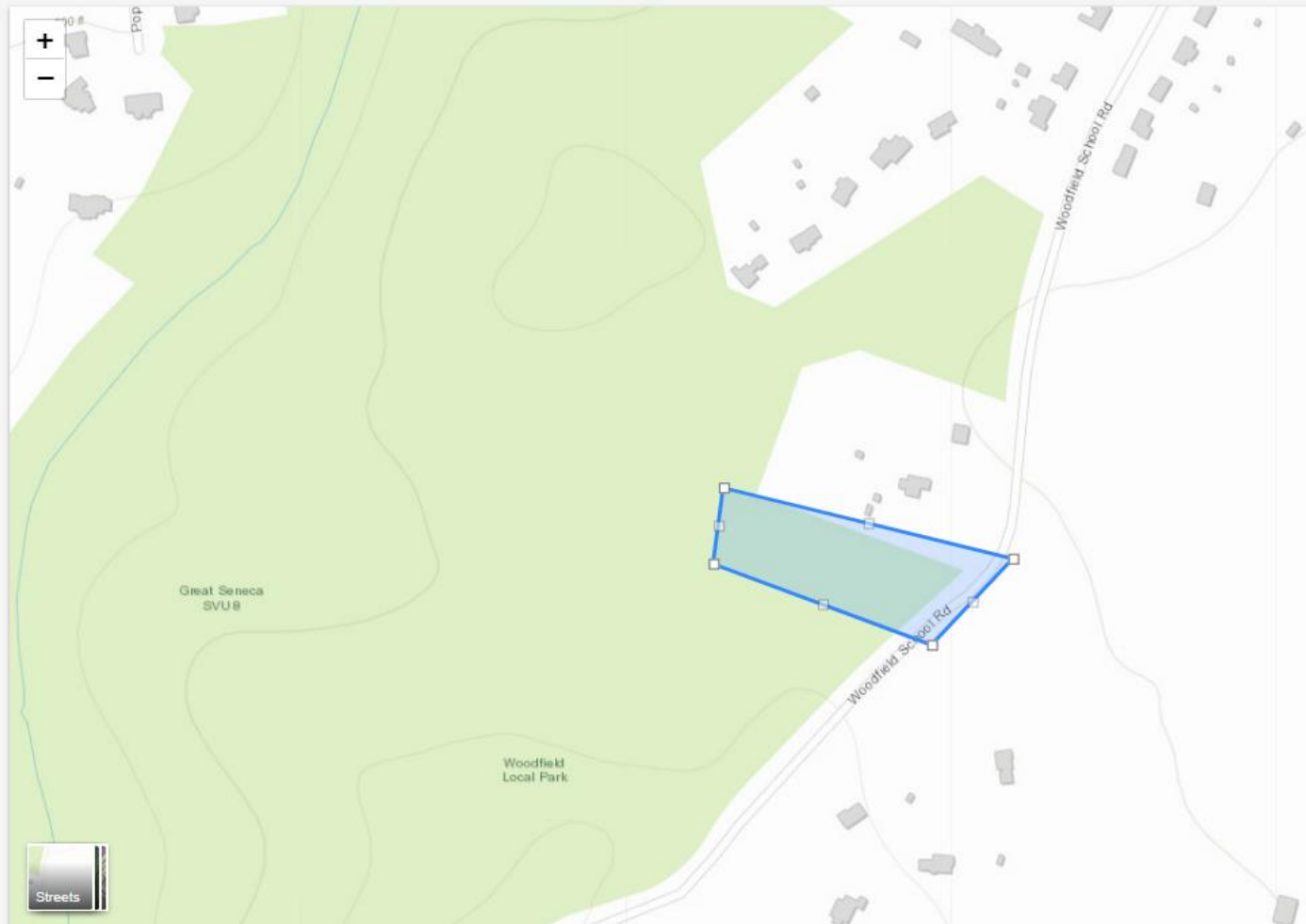
Verify the area where project activities will occur

**Modify** the shape by clicking and dragging the vertices or clicking on a solid vertex to remove it

AREA: 3.16 acres

**CONTINUE**

START OVER



Layers

ADD



## Resources

ENDANGERED SPECIES 2

MIGRATORY BIRDS 9

COASTAL BARRIERS

FACILITIES

WETLANDS !

PRINT RESOURCE LIST

### What's next?

Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.

DEFINE PROJECT

## Endangered species

Listed species and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

Additional information on endangered species data is provided [below](#).

The following species are potentially affected by activities in this location:

THUMBNAILS LIST

## Mammals



Northern Long-eared Bat  
*Myotis septentrionalis*  
Wherever found

## Insects



Monarch Butterfly  
*Danaus plexippus*  
Wherever found

## Critical habitats



# Explore location

LOCAL OFFICE: CHESAPEAKE BAY ESFO

## Resources

ENDANGERED SPECIES 2

MIGRATORY BIRDS 9

COASTAL BARRIERS

FACILITIES

WETLANDS 1

PRINT RESOURCE LIST

### What's next?

Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.

DEFINE PROJECT

## Northern Long-eared Bat

Myotis septentrionalis



This species only needs to be considered if the following condition applies:

- Projects with a federal nexus that have tree clearing = to or > 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key

### STATUS

Threatened: A species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.

### DESCRIPTION

The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. As its name suggests, this bat is distinguished by its long ears, particularly as compared to other bats in its genus, Myotis, which are actually bats noted for their small ears (Myotis means mouse-eared).

The northern long-eared bat is found across much of the eastern and north central United States and all Canadian provinces from the Atlantic coast west to the southern Northwest Territories and eastern British Columbia. The species' range includes 37 states.

White-nose syndrome, a fungal disease known to affect bats, is currently the predominant threat to this bat, especially throughout the Northeast where the species has declined by up to 99 percent from pre-white-nose syndrome levels at many hibernation sites. Although the disease has not yet spread throughout the northern long-eared bat's entire range (white-nose syndrome is currently found in at least 25 of 37 states where the northern long-eared bat occurs), it continues to spread. Experts expect that where it spreads, it will have the same impact as seen in the Northeast.

### CRITICAL HABITAT

No critical habitat has been designated for this species.

For more information, visit the [ECOS species profile](#)

LOCATION  
Montgomery County,  
Maryland  
CHANGE LOCATION

Services Program of the U.S. Fish and Atmospheric

are not shown on this list.

with the endangered species

to the nearest location?

# Explore location

LOCAL OFFICE CHESAPEAKE BAY ESFO -



LOCATION  
Montgomery County,  
Maryland  
CHANGE LOCATION

## Resources

ENDANGERED SPECIES 2

MIGRATORY BIRDS 9

COASTAL BARRIERS

FACILITIES

WETLANDS !

PRINT RESOURCE LIST

### What's next?

Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.

DEFINE PROJECT

## Endangered species

Listed species and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

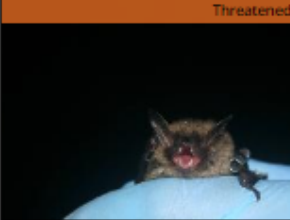
Additional information on endangered species data is provided [below](#).

The following species are potentially affected by activities in this location:

THUMBNAILS LIST

## Mammals


Threatened



Northern Long-eared Bat  
*Myotis septentrionalis*  
Wherever found

## Insects

Candidate



Monarch Butterfly  
*Danaus plexippus*  
Wherever found

# Test Tower for Demo purposes

 Montgomery County, Maryland[PROJECT HOME](#)[REGULATORY REVIEW](#)LOCAL OFFICE [CHESAPEAKE BAY ESFO](#) ▾

## Test Tower for Demo purposes

Using this site as demo on how to use IPaC.



LOCATION Montgomery County, Maryland

CREATED July 8, 2022

1 MEMBER

1 DOCUMENT

## Resources

This project potentially impacts 11 resources managed or regulated by the U.S. Fish and Wildlife Service.

- 2 endangered species
- 9 migratory birds
- Wetland information is not available at this time

[SEE RESOURCES](#)

## What's next?

### ESA REVIEW

Review this project's effects on listed species pursuant to the Endangered Species Act (ESA), as part of the overall regulatory review.

[START REVIEW](#)

### SPECIES LIST

Requesting an official species list is now part of IPaC's ESA Review.

[REQUEST SPECIES LIST](#)

## Local office

Chesapeake Bay Ecological Services  
Field Office **LEAD**

(410) 573-4599

(410) 266-9127

177 Admiral Cochrane Drive  
Annapolis, MD 21401-7307

# Test Tower for Demo purposes Montgomery County, Maryland

PROJECT HOME

REGULATORY REVIEW

LOCAL OFFICE CHESAPEAKE

## Regulatory review

The IPaC regulatory review process helps you to evaluate the potential impacts of your project on resources managed by the U.S. Fish and Wildlife Service. It walks you through the regulations that cover each protected resource and offers suggestions and assistance in designing your project.



### Endangered species

Endangered species are protected under the Endangered Species Act <sup>1</sup>.

[2 endangered species](#) are known to occur or may be affected by activities in this location.

[START ESA REVIEW](#)



### Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act <sup>2</sup> and the Bald and Golden Eagle Protection Act <sup>3</sup>.

[9 migratory birds](#) of conservation concern are expected to occur or may be affected by activities in this location.



Contact the local U.S. Fish and Wildlife Service field office

There is currently no regulatory review process in IPaC for migratory birds. Please contact the local U.S. Fish and Wildlife Service field office to evaluate effects and authorize take.

# Test Tower for Demo purposes

Montgomery County, Maryland

## Endangered Species Act Review

[EXIT REVIEW](#)

### Step-by-step consultation process

The Endangered Species Act (ESA) Review in IPaC is a streamlined, step-by-step consultation process. The steps below prepare you for consultation with the U.S. Fish and Wildlife Service or provide official documentation if consultation is not necessary.

- 1 Request an official species list**

An official species list must be requested for projects conducted, permitted, funded, or licensed by a Federal agency. Projects unaffiliated with a Federal agency may skip this step.
- 2 Evaluate determination keys**

Determination Keys are up-front analyses from the U.S. Fish and Wildlife Service that streamline the consultation process for common project types. Each determination key starts with a qualification interview to see if the key is appropriate for your project.
- 3 Evaluate effects to remaining species through the Consultation Package Builder**

When you have listed species  in your project area that have not been addressed by a determination key, IPaC's project analysis tool is used to further analyze your project. The process assists you in making effect determinations and results in a document (i.e., Biological Assessment or other environmental review document) that can be submitted to the U.S. Fish and Wildlife Service for consultation.
- 4 Finalize your consultation package**

Print your project documents to PDF.

For more information about the consultation process, see an [overview of Section 7](#).

[CONTINUE](#)



# Overview

- NEPA Checklist
- Threatened and Endangered Species
- Migratory birds and FAA tower lighting



# Detected Bird Mortality

- Most frequently detected:
  - Songbirds
  - Vireos
  - Warblers
  - Thrushes
  - Sparrows
  - Shorebirds
  - Waterfowl



Source: [dfaulder, CC BY 2.0](#), via Wikimedia Commons



Source: [Andy Reago & Chrissy McClarren, CC BY 2.0](#), via Wikimedia Commons



Source: [DickDaniel](#) (<http://theworldbirds.org/>), [CC BY-SA 4.0](#), via Wikimedia Commons

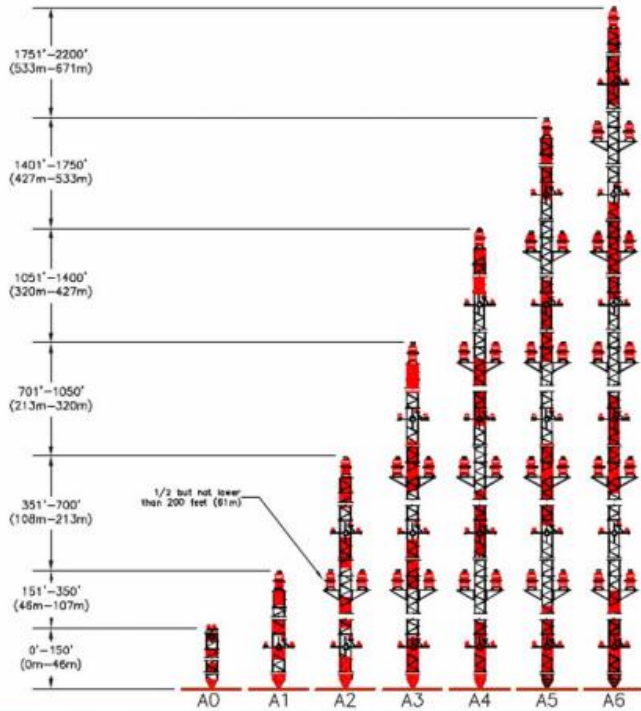
# FAA released revised Advisory Circular for Obstruction Marking and Lighting in November 2020 (AC 70/7460-1M).



Source: <https://www.fcc.gov/guides/towers-and-birds>

## RED OBSTRUCTION LIGHTING STANDARDS (FAA Style A)

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





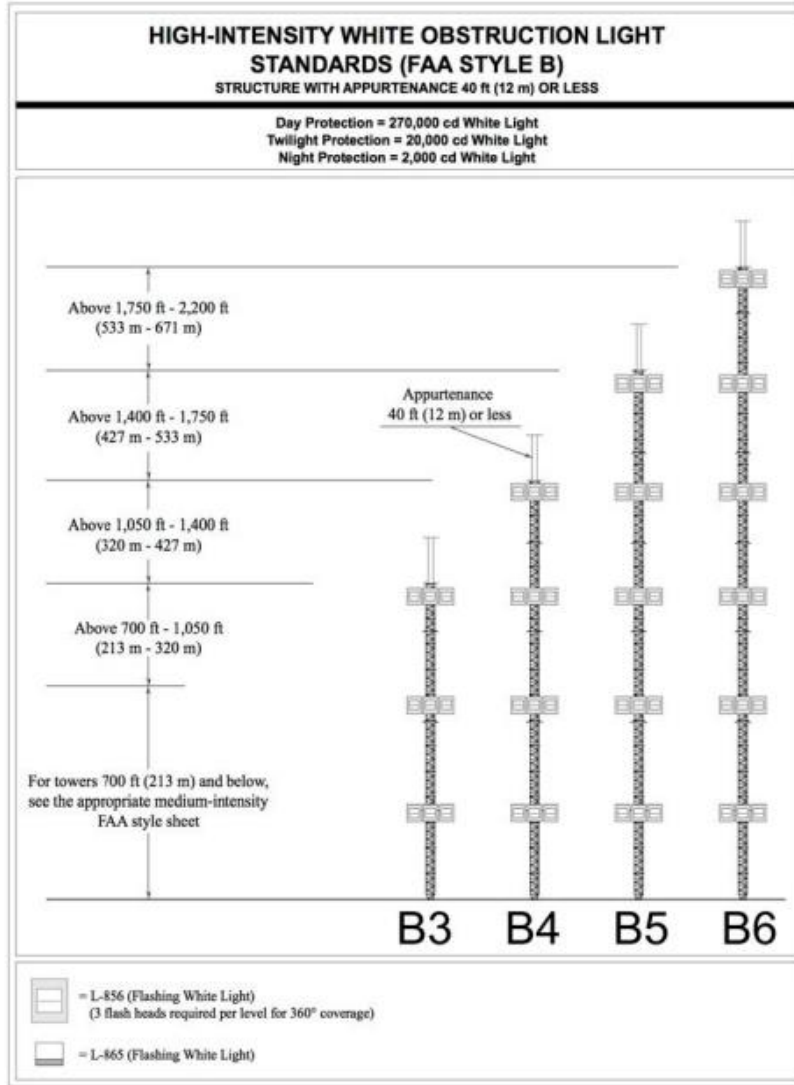
-  – L-864 Flashing Beacon
-  – L-810 Obstruction Light

FIG 13

**Prior to December 2015:  
L-864 flashing red  
L-810 non-flashing red**



**L-865 flashing white  
NO non-flashing**

Figure A-13. High-Intensity White Obstruction Light Standards (FAA Style B)—With Appurtenance 40 Feet or Less



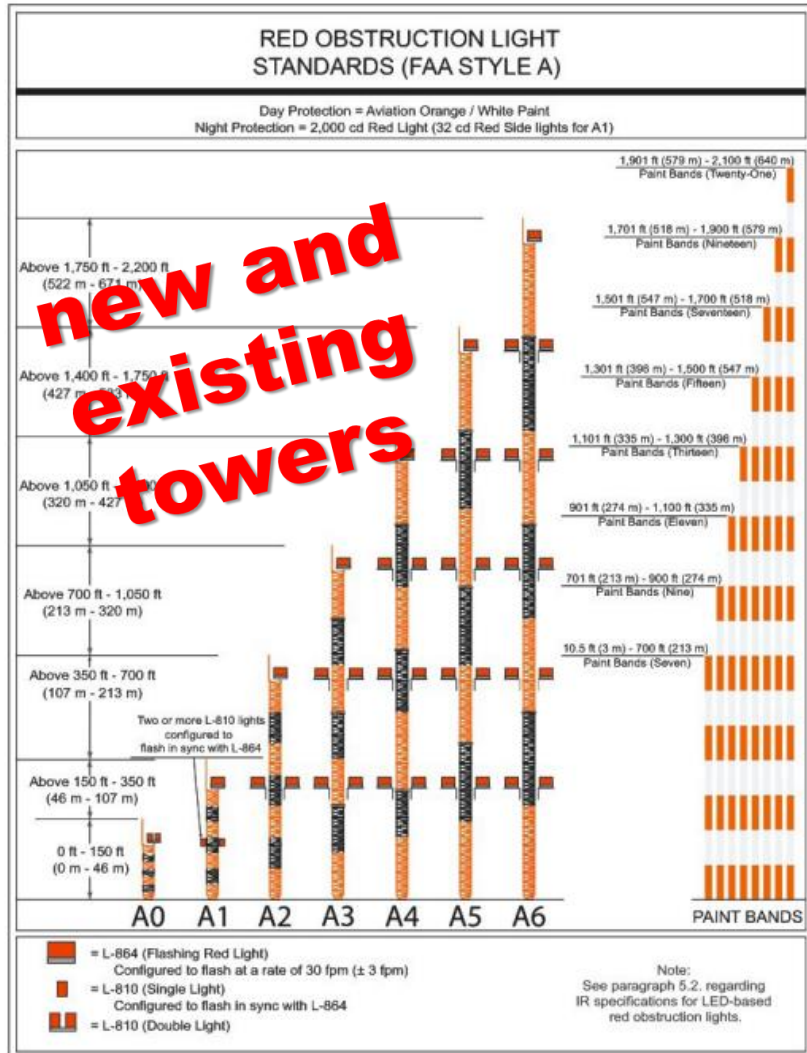


Figure A-6. Red Obstruction Light Standards (FAA Style A)

- **FAA lighting standards:**
  - extinguish non-flashing lights on towers >350 ft. AGL
  - reprogram non-flashing to flash on towers 150-350 ft. AGL
  
- **Standards are applied to new construction and encouraged for existing towers.**



# Lighting Deviation Process

To extinguish or eliminate L-810 tower lights/side-markers on existing registered towers:

- File a Marking and Lighting study electronically with the FAA requesting the elimination or omission of steady-burning lights (L-810) or requesting that steady-burning lights flash with Form 7460-1, Notice of Proposed Construction or Alteration. Designate structure type: “Deviation from Red Obstruction Light Standards.”

# Lighting Deviation Process

- Once FAA has approved request and assigned FAA Study Number, file FCC Form 854 in ASR. Select “MD - Modification” and choose appropriate FAA Lighting Style. FCC typically approves application within 24 hours.
- Once lighting changes have been granted by FCC, L-810 steady-burning side lights can be extinguished on towers taller than 350 ft. AGL and reprogrammed to flash in concert with L-864 lights on towers 150-350 ft. AGL.
  - Typically does not require tower climbing. Per the FAA requirements, flashing red lights should flash at 30 FPM (+/- 3 FPM).

# Migratory Birds

- Recommend down-shielded, motion-detector lighting on buildings, if lighting required
- Towers over 450 ft. (137 m) AGL
  - Prepare an EA including section specifically addressing potential migratory bird impacts and efforts to reduce those impacts (e.g., building lights, bird flight diverters)
  - Seek migratory bird comment from FWS



Source: [DickDaniels \(http://theworldbirds.org/\)](http://theworldbirds.org/), CC BY-SA, via Wikimedia Commons

For more information contact:

[Deborah.Spring@FCC.gov](mailto:Deborah.Spring@FCC.gov)

# Solutions for the Tower Industry and 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

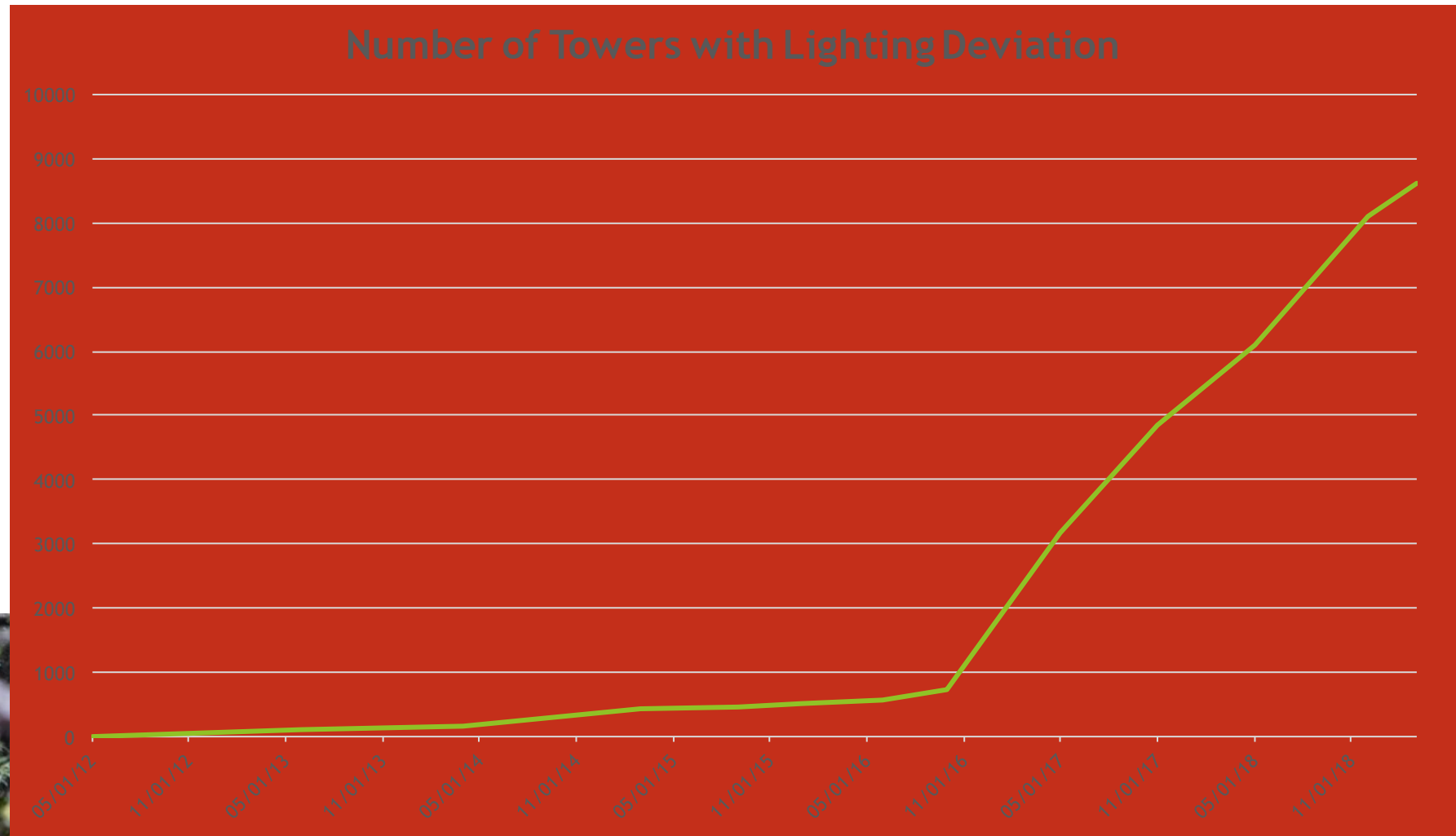
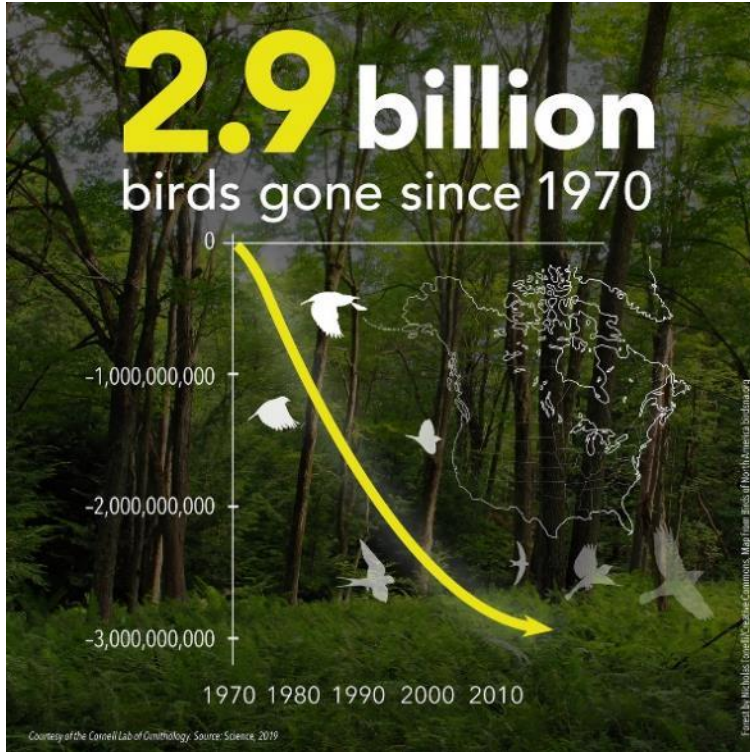


Photo: R. Sheera

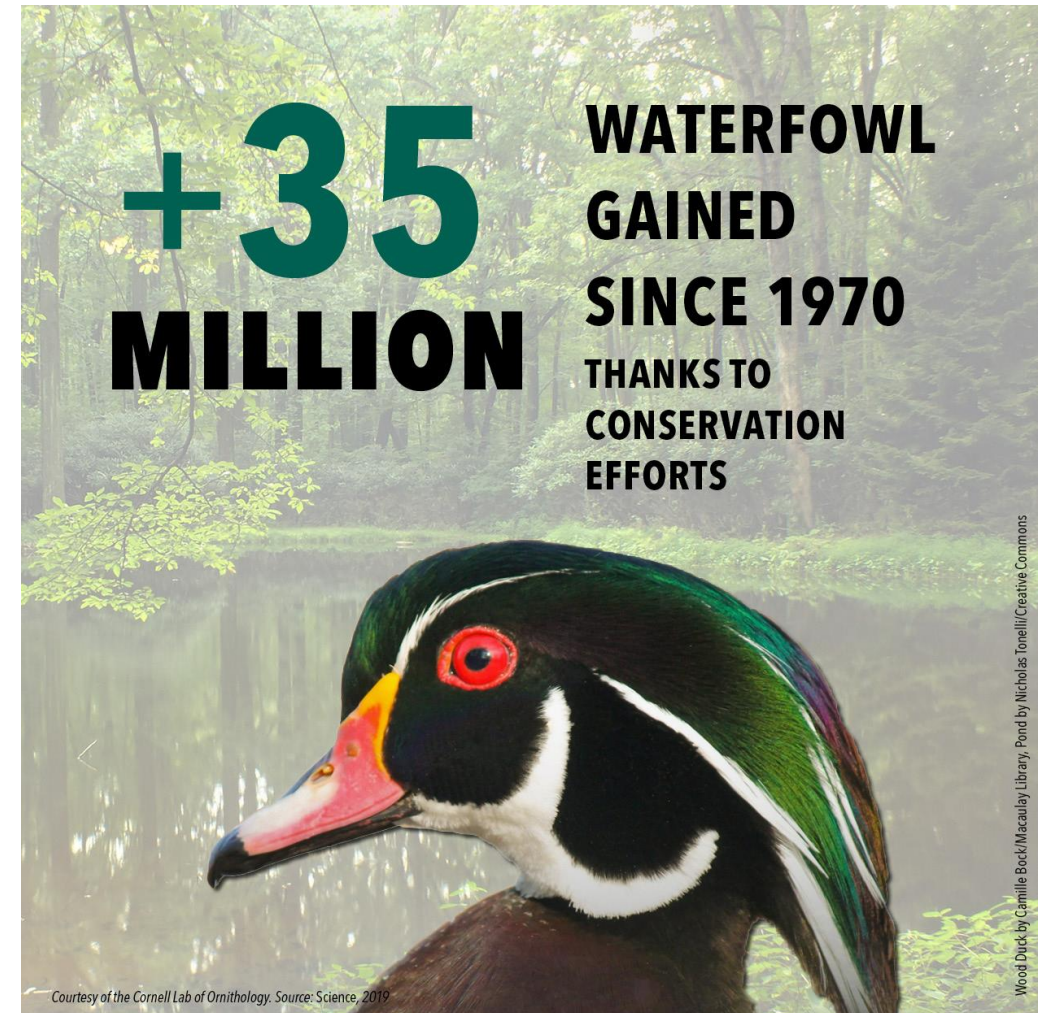
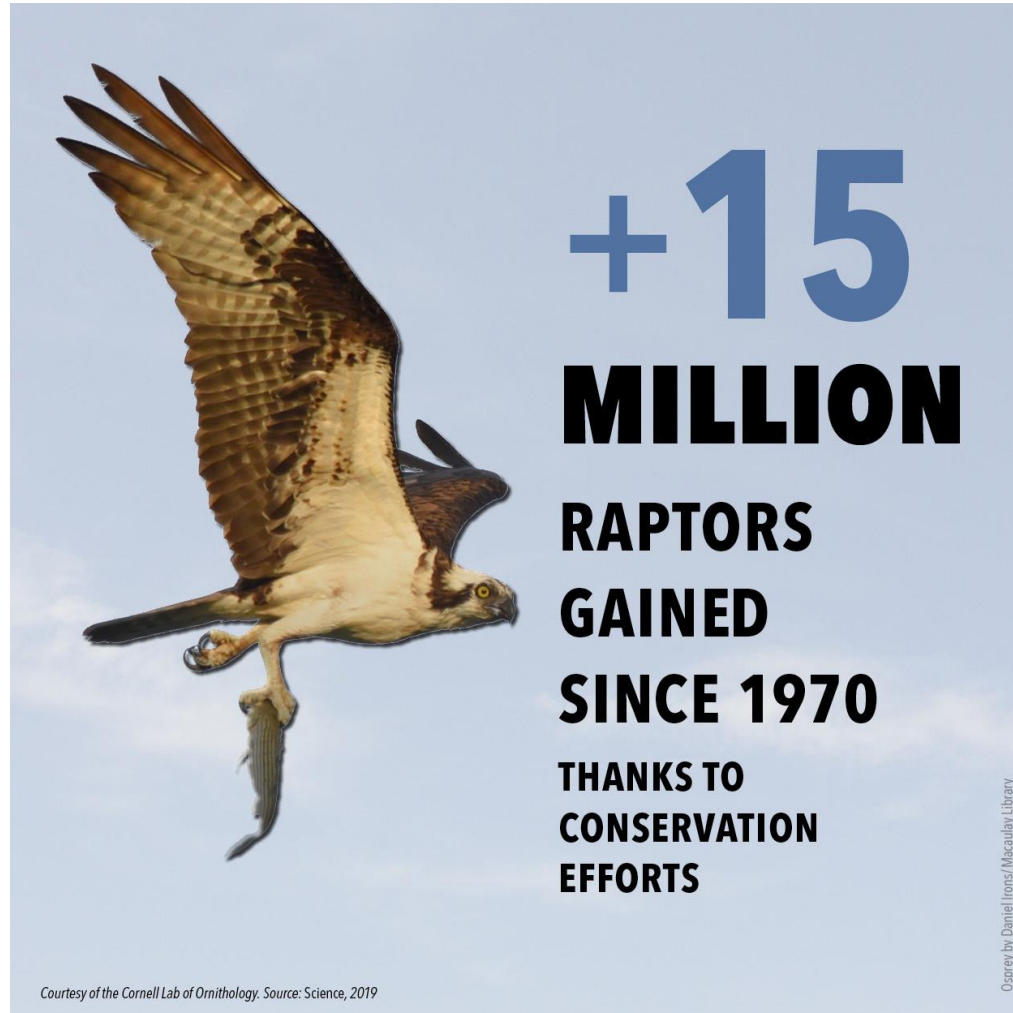
# Recovering Three Billion Birds



Rosenberg et al. Science 2019



# Reasons for Optimism



Rosenberg et al. Science 2019

A tall, slender metal tower stands against a dramatic sky at sunset. The sky is filled with large, billowing clouds that are illuminated from below, creating a vibrant orange and yellow glow. The tower is silhouetted against the sky, and a person wearing a blue shirt and a cap is visible at its base, looking towards the horizon. The overall scene is a mix of natural beauty and industrial structure.

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

Longcore et al. (2012)



# Variables related to bird collisions

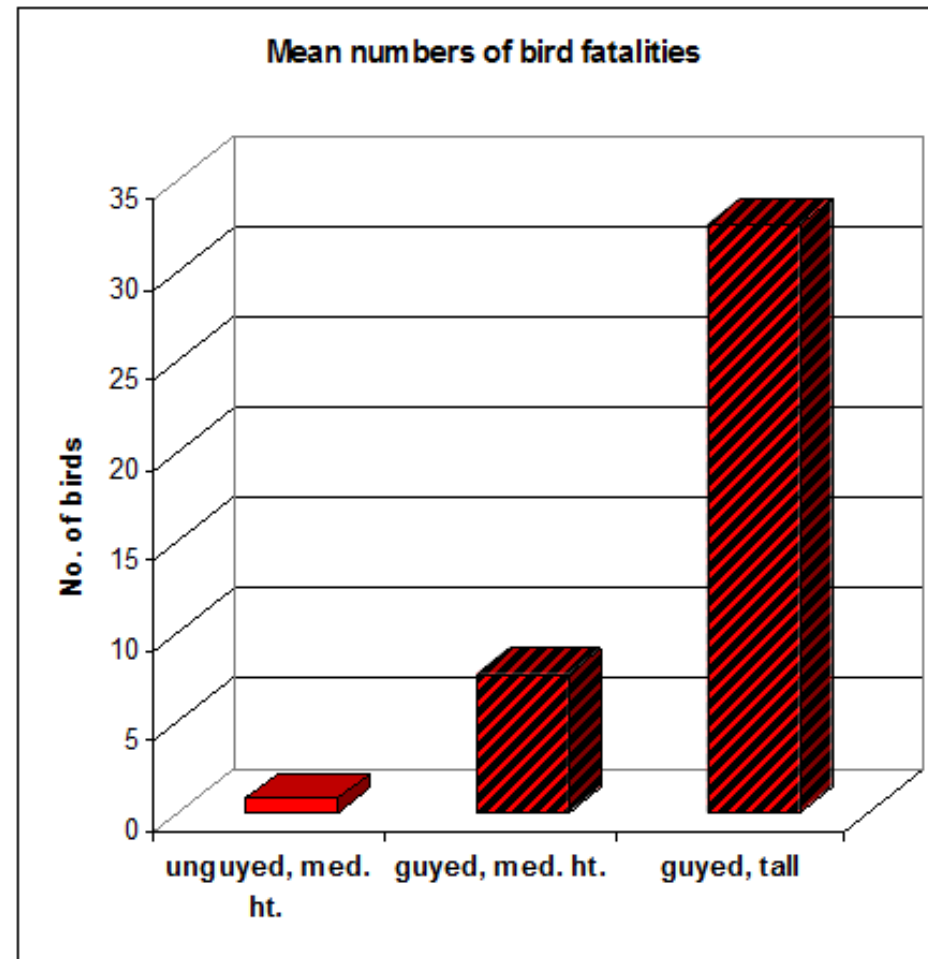
- ▶ Weather
- ▶ Location in the landscape
- ▶ Tower support systems
- ▶ Tower heights
- ▶ Tower lighting systems



Photo: R. Sheeran



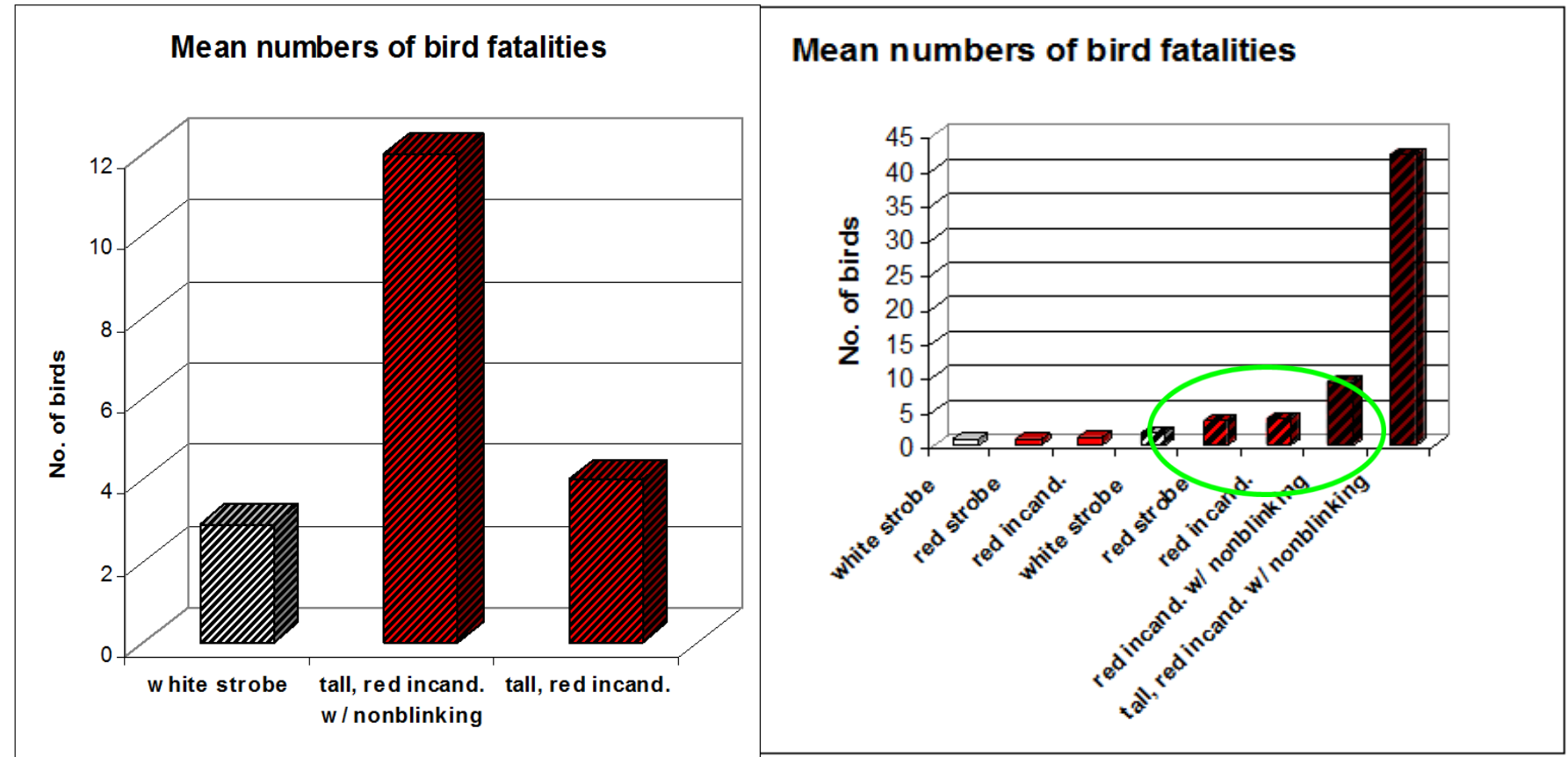
**Taller towers and towers with guy wires are involved in more bird fatalities than shorter towers and self-supported towers**

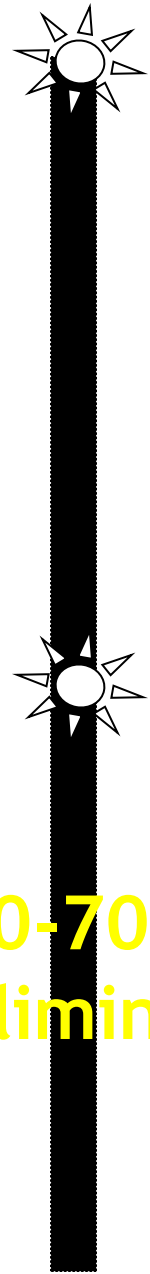




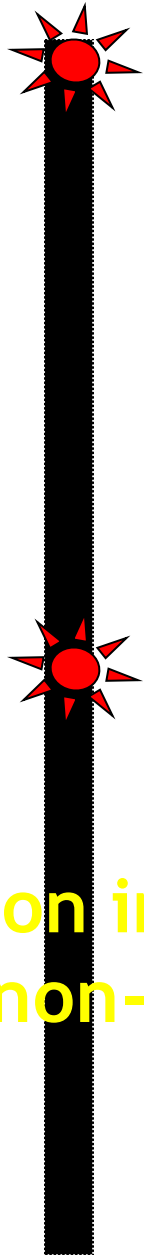


# Towers with non-flashing lights involved in more bird fatalities than towers lit with only flashing lights at night





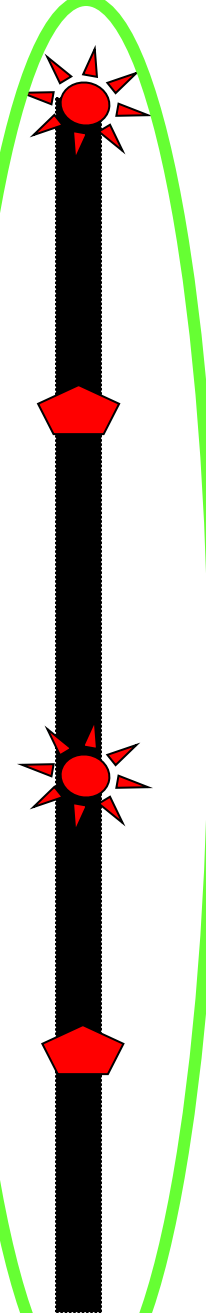
L-865



L-864



L-864



L-864 and L-810

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



U.S. Department  
of Transportation  
Federal Aviation  
Administration

# Advisory Circular

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Subject: Obstruction Marking and Lighting

Date: 12/04/15

AC No: 70/7460-1L

Initiated By: AJV-15

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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

# 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

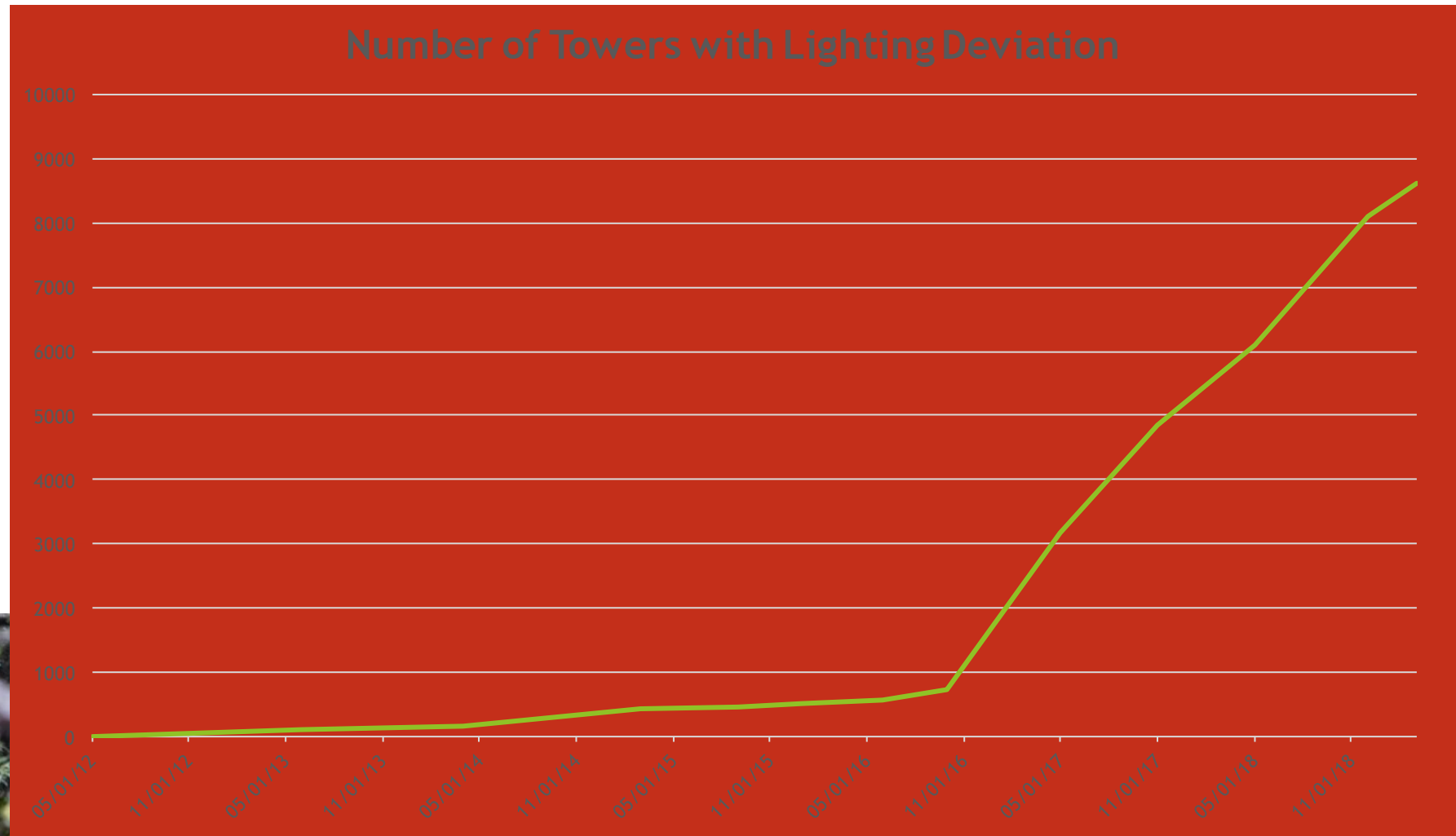


Photo: R. Sheera

# 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  $\leq 5$  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)





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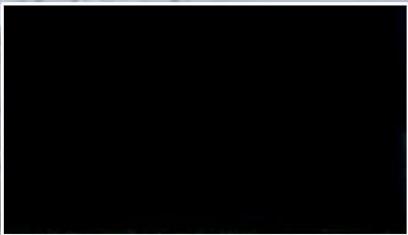


# Win-win for Communication Towers



Watch later

Share



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](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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989-400-0718



QUESTIONS?

[fccenvironmentalworkshop@fcc.gov](mailto:fccenvironmentalworkshop@fcc.gov)

**BREAK**

**Presentations will Resume  
@ 3:30pm EST**