FCC Antenna Structure Registration Program PEA Workshop

April 1, 2011

AGENDA

- PEA Overview
- Data Sources
- Assumptions
- Impact Analysis
- Impact Significance
- Alternatives Development

PEA OVERVIEW

- Scoping
- Meetings with USFWS and CEQ
- Preparation of Draft PEA
- Draft PEA Publication June 2011
- 30-day Public Comment Period

DATA SOURCES

- Data Quality considerations – objectivity, integrity, transparency, reproducibility
- Peer-Reviewed Information (= scientific literature)
  - Overview of Literature Review Conducted
  - Major Studies
- Studies undergoing peer review
  - Longcore et al. (2011) papers
  - Gehring et al. (2011)
- Studies/Reports

ASSUMPTIONS

- Number of Towers – similar number of towers under all Alternatives
- Tower Heights – similar tower heights under all Alternatives
- Tower Locations – similar tower locations under all Alternatives
- Guy Wires – similar number of towers with guy wires under all Alternatives
- Lighting – change in lighting on new towers dependent upon FAA circular change

FAA CIRCULAR STATUS

- Conspicuity study completed and under review
- FAA determining how to implement
- FCC coordinating with FAA
- Time table for implementation unknown

IMPACT ANALYSIS

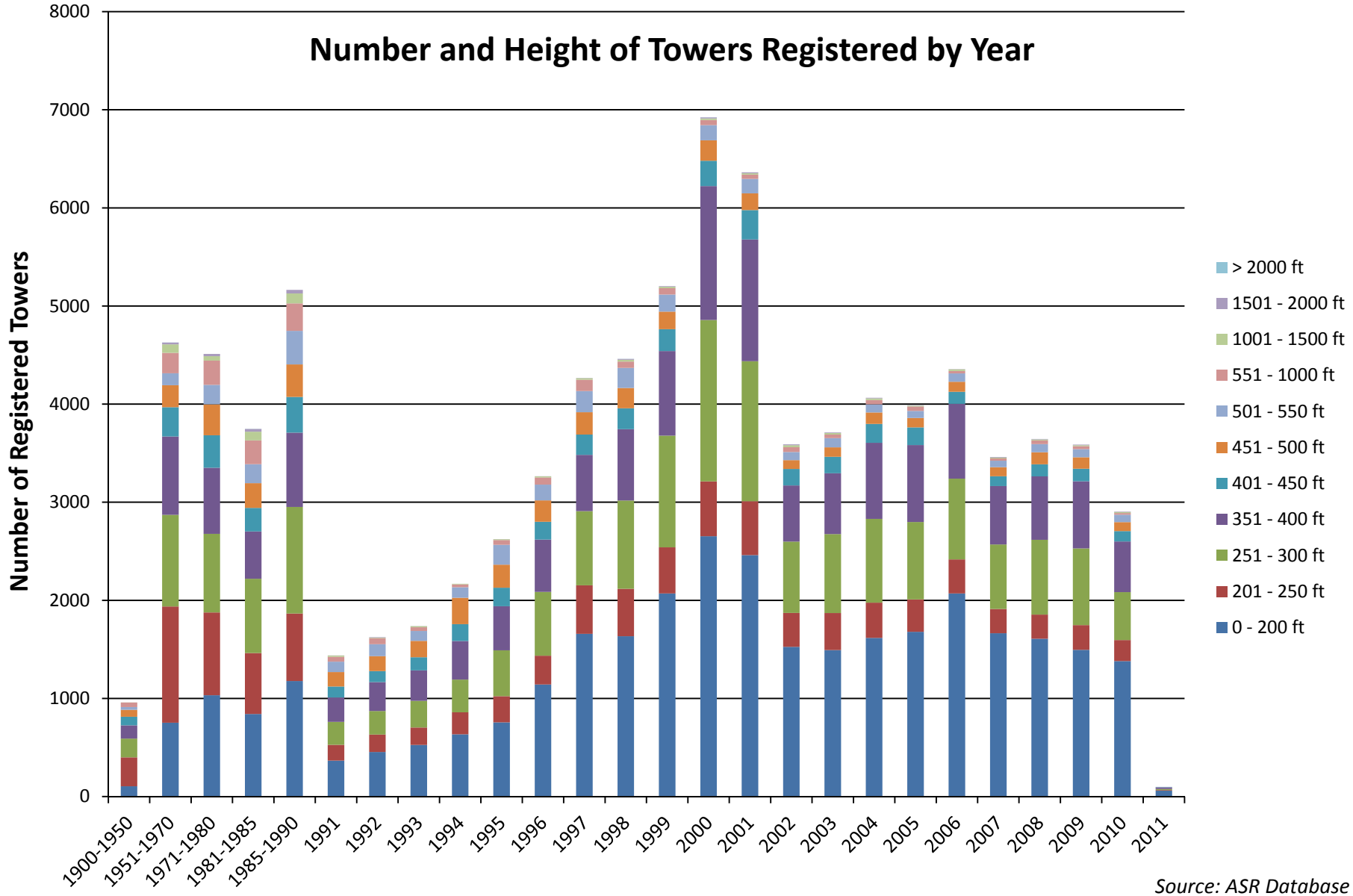
Current Conditions

- Current number of structures in ASR database
- Towers by height categories
- Geographical distribution of towers

Future Conditions

- Future Trends in Tower Construction
- Projected Future Bird Mortality

Cumulative Impacts



Source: ASR Database

TOWER HEIGHT DISTRIBUTION

Tower Height (feet)	% of Total 1900 - 2011	% of Total 2006 - 2011
0 - 200	35.5	45.8
201 - 250	11.0	7.3
251 - 300	20.0	19.6
351 - 400	17.1	17.8
401 - 450	5.1	3.2
451 - 500	4.6	2.9
501 - 550	3.6	2.2
551 - 1000	2.1	0.7
1001 - 1500	0.6	0.3
1501 - 2000	0.2	0.1
> 2000	<0.1	0.0

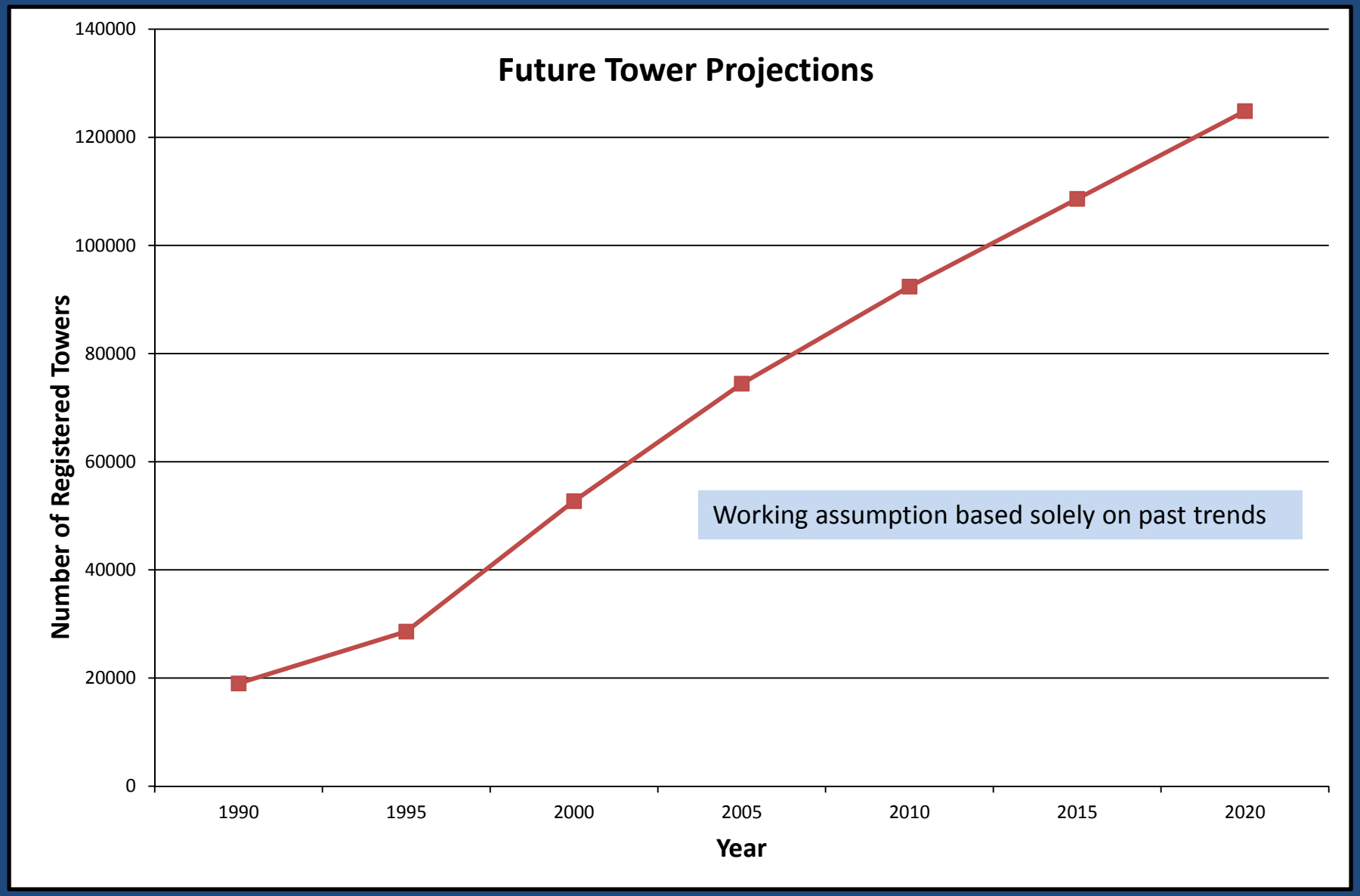
Source: ASR Database

GEOGRAPHICAL DISTRIBUTION

- Primarily in eastern two-thirds of the U.S.

- Greatest concentrations in Southeast, Midwest, and Great Lakes regions

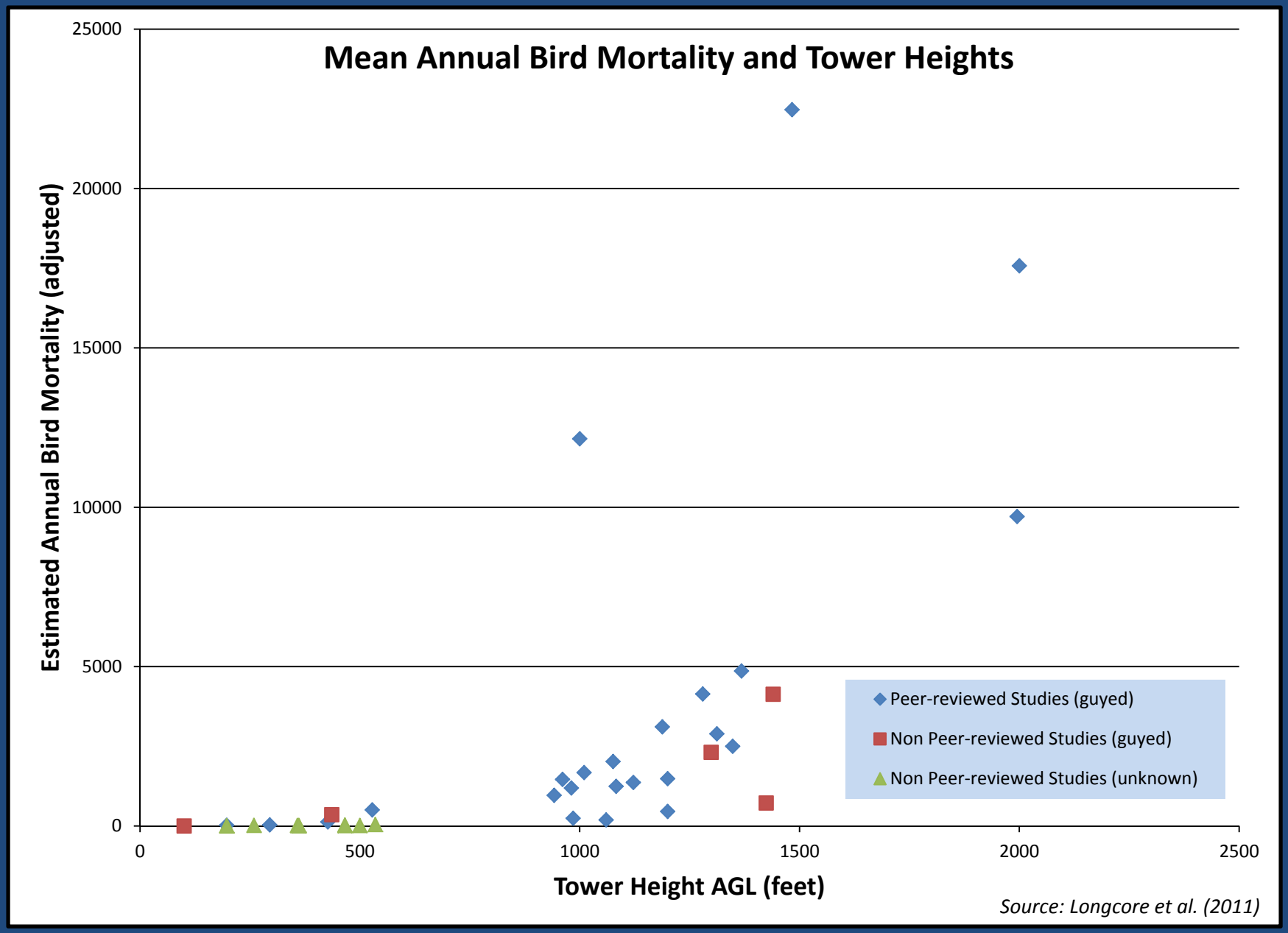
Source: ASR Database

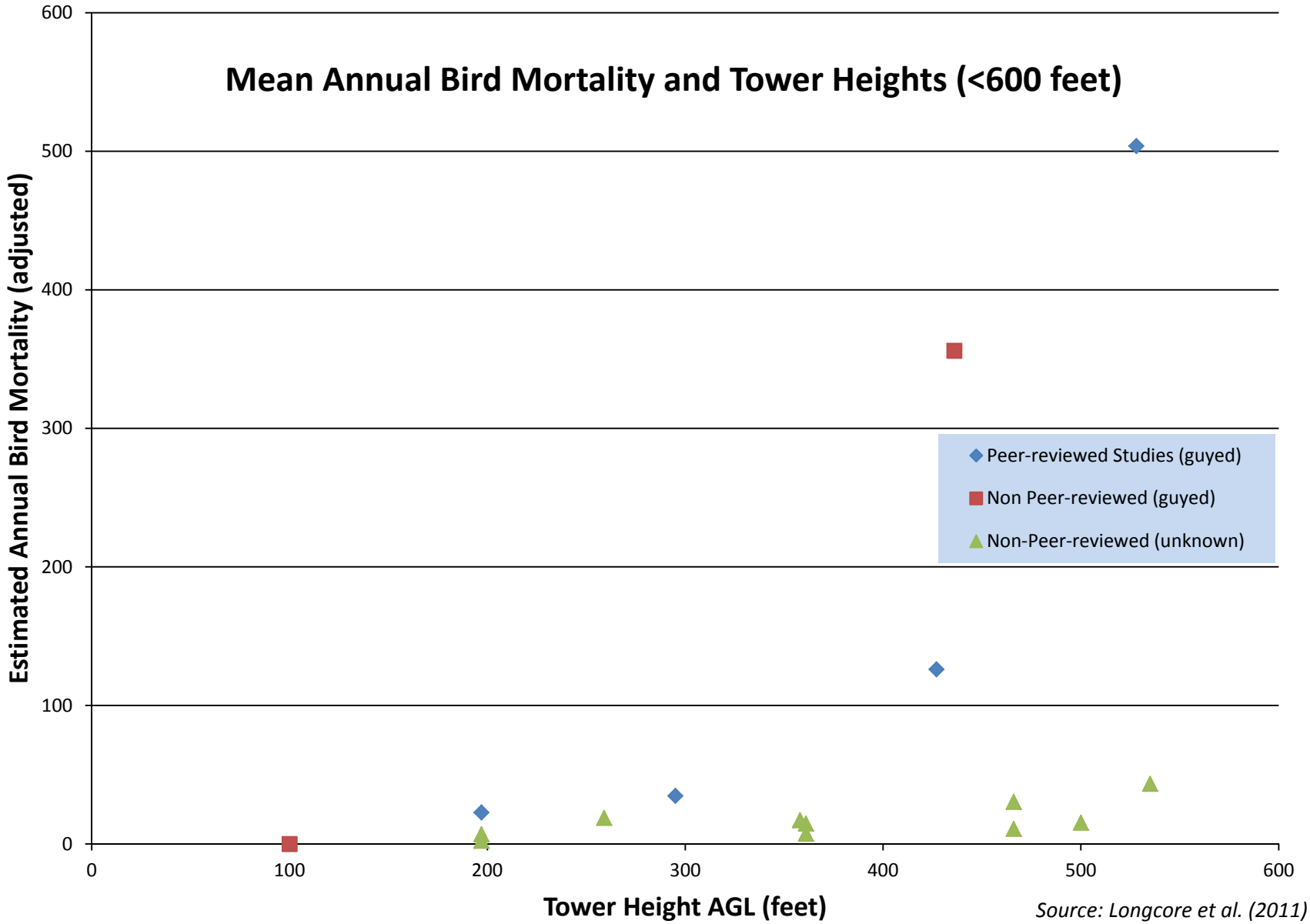

Future Tower Projections
Number of Registered Towers
140000
120000
100000
80000
60000
40000
20000
0
1990
1995
2000
2005
2010
2015
2020
Year
Working assumption based solely on past trends

FUTURE TOWER PROJECTIONS

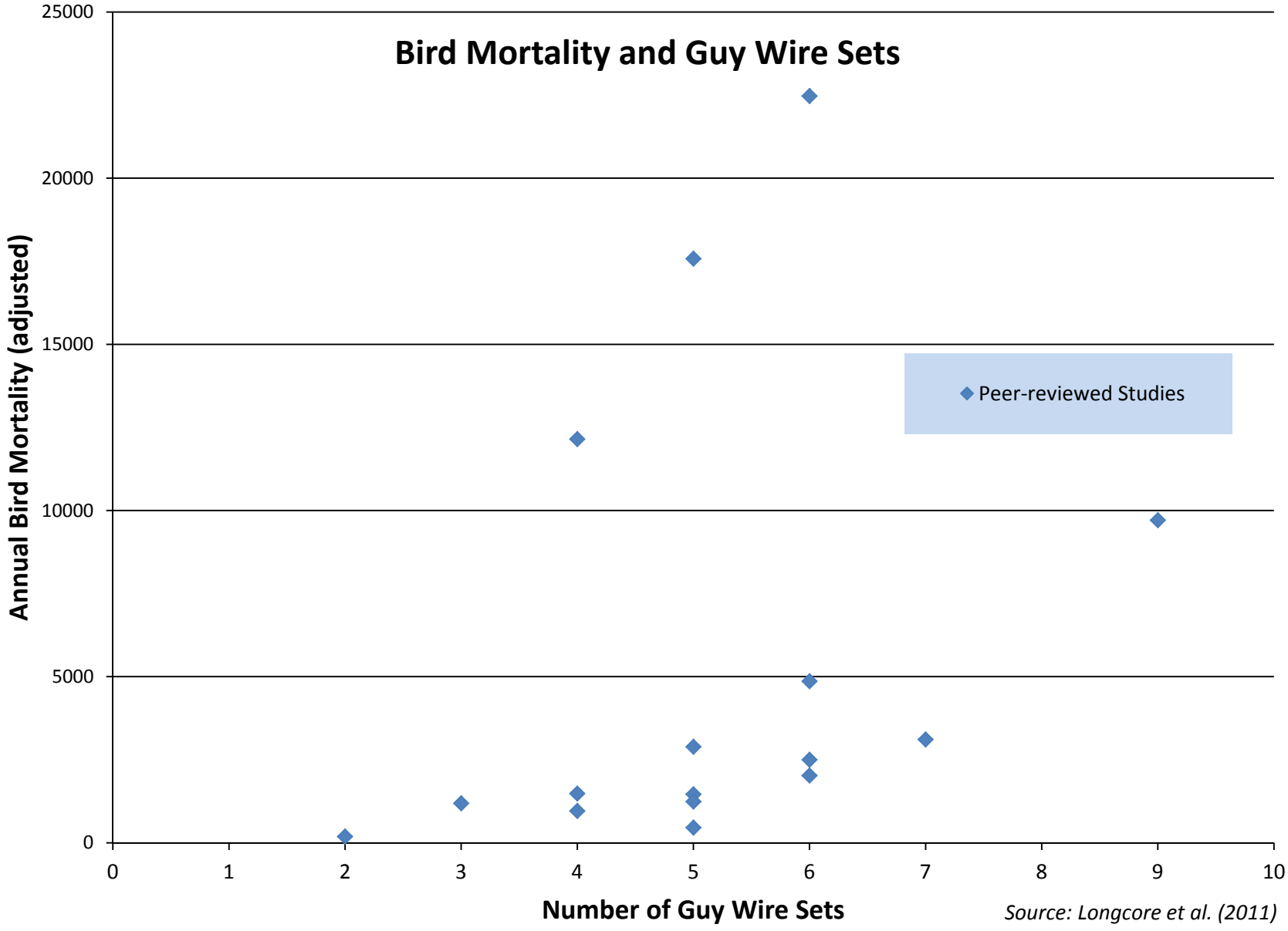
- Reflects projection of 2009–2010 average number of towers

- Subject to change based on ongoing analysis


Mean Annual Bird Mortality and Tower Heights
Estimated Annual Bird Mortality (adjusted)
25000
20000
15000
10000
5000
0
0
500
1000
1500
2000
2500
Tower Height AGL (feet)
Peer-reviewed Studies (guyed)
Non Peer-reviewed Studies (guyed)
Non Peer-reviewed Studies (unknown)
Source: Longcore et al. (2011)



Source: Longcore et al. (2011)



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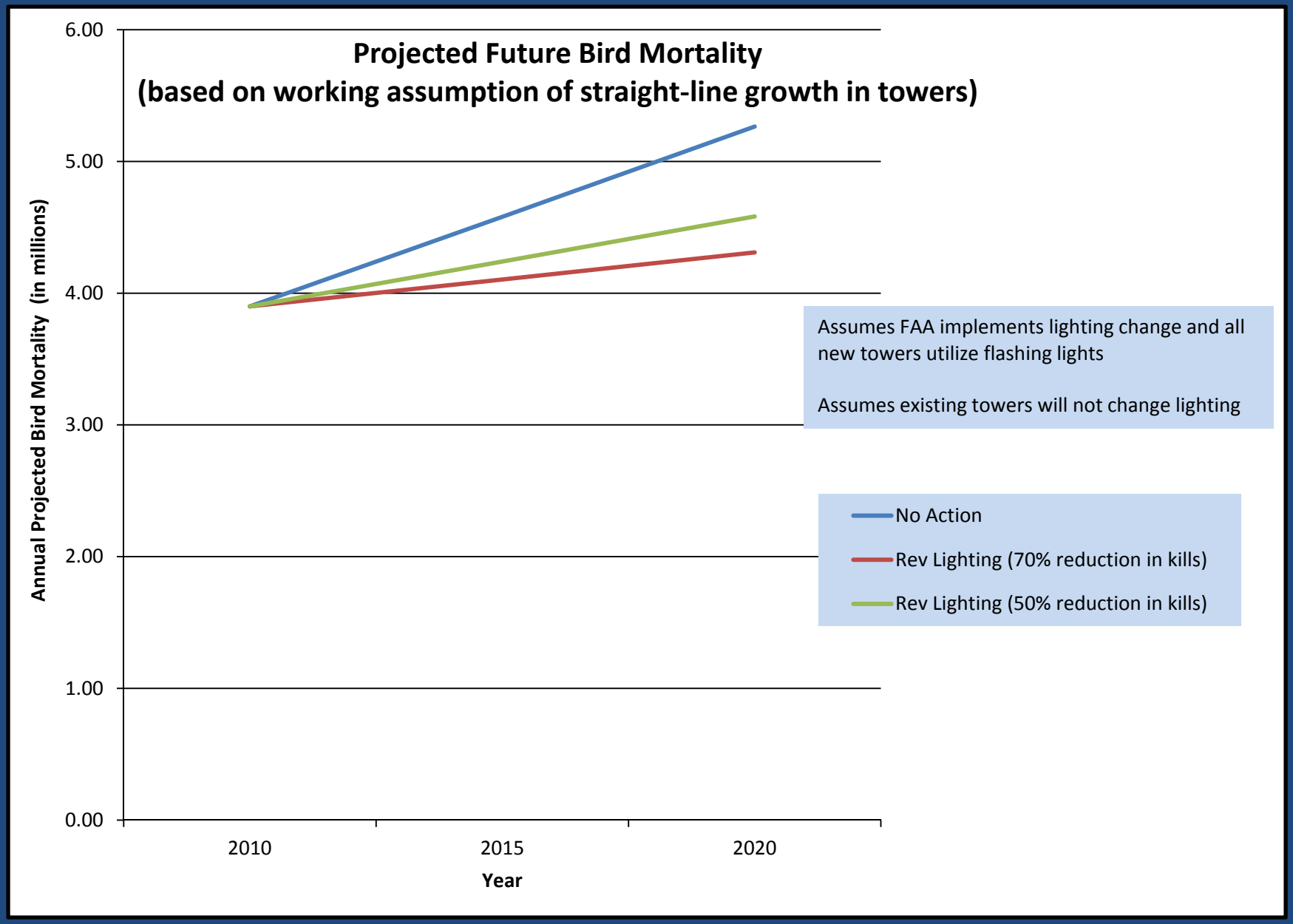
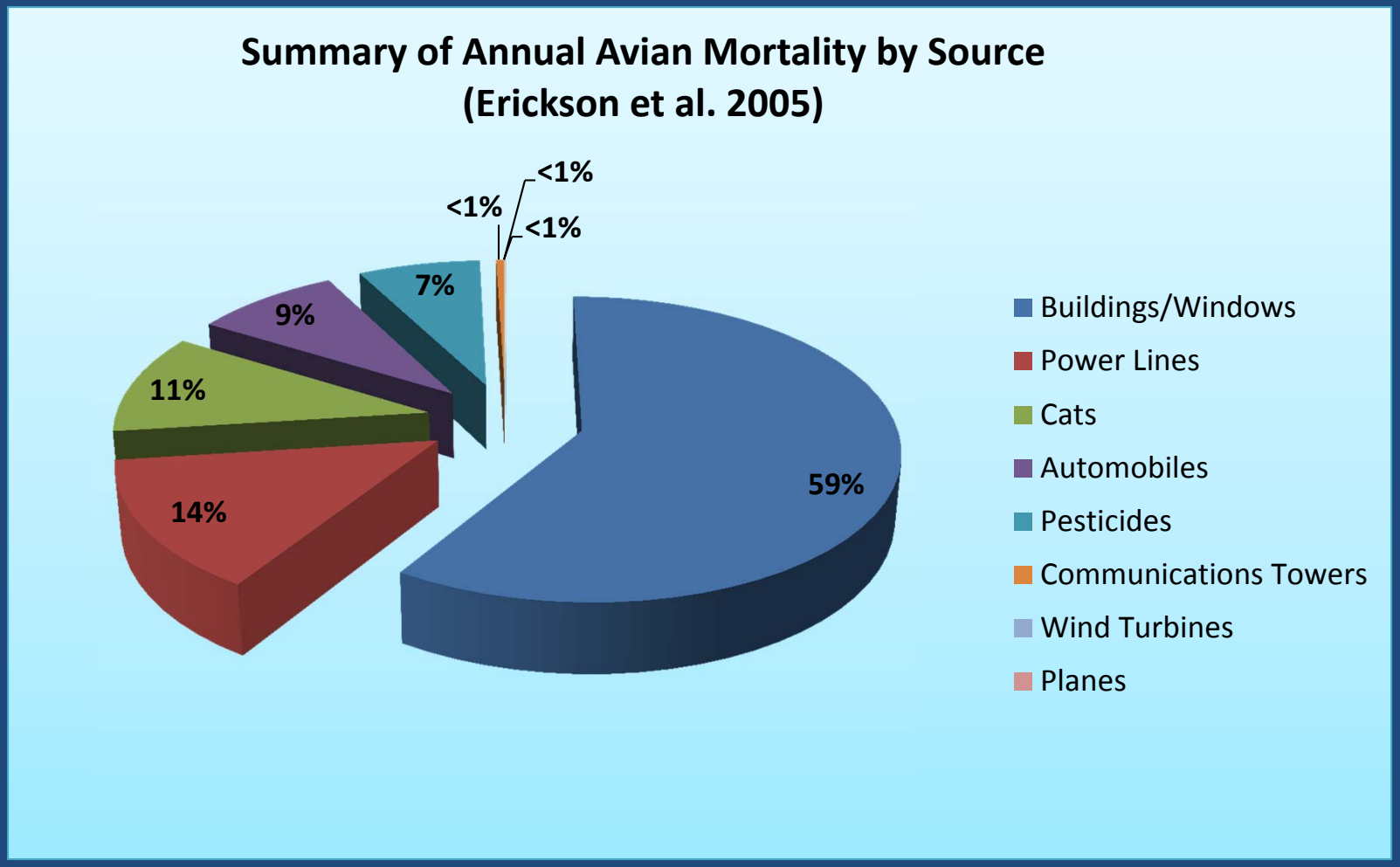

Projected Future Bird Mortality
(based on working assumption of straight-line growth in towers)
Annual Projected Bird Mortality (in millions)
6.00
5.00
4.00
3.00
2.00
1.00
0.00
2010
2015
2020
Year
Assumes FAA implements lighting change and all new towers utilize flashing lights
Assumes existing towers will not change lighting
No Action
Rev Lighting (70% reduction in kills)
Rev Lighting (50% reduction in kills)

CUMULATIVE IMPACT ANALYSIS

Communications towers contribute incrementally to overall bird mortality



CUMULATIVE IMPACT ANALYSIS

- Past, present, and reasonably foreseeable projects/actions
- Species-specific impacts
- Other impacts to birds – e.g., climate change

IMPACT ANALYSIS

High Level Conclusions

- Birds are killed by collisions with communications towers
- All other factors being equal, taller towers result in higher bird mortality than shorter towers
- All other factors being equal, towers with guy wires result in higher bird mortality than unguyed towers
- All other factors being equal, steady-burning lights on towers result in higher bird mortality than flashing lights
- Towers contribute incrementally to overall bird mortality

ALTERNATIVES

- No Action – Program operates under Interim Procedures outlined in the MOU
- Proposed Action – Revisions to Program
  - Option A - EA (or EIS) required for all tower applications
  - Option B - EA (or EIS) required for some proposed towers. Factors may include:
    - Height
    - Location in an environmentally sensitive area *
    - Use of guy wires
    - Use of steady burning lights

* *Environmentally sensitive area = threatened & endangered species critical habitat, coastal zone, wetland, riparian zone, floodplain, ridgeline*

ALTERNATIVES CONSIDERED AND DISMISSED

- Prohibit all new tower construction
- Prohibit towers that exceed a certain height
- Prohibit towers from certain locations
- Prohibit guy wires

SIGNIFICANCE OF IMPACTS

- NEPA significance based on context and intensity
- The No-Action condition is the basis for comparing impacts from Alternatives
- Both adverse and beneficial impacts considered