

REWI

Renewable Energy Wildlife Institute

Birds and Offshore Wind Energy in RI

Understanding the implications for seabirds offshore Rhode Island

Shilo K. Felton, Ph.D./ March 20, 2023

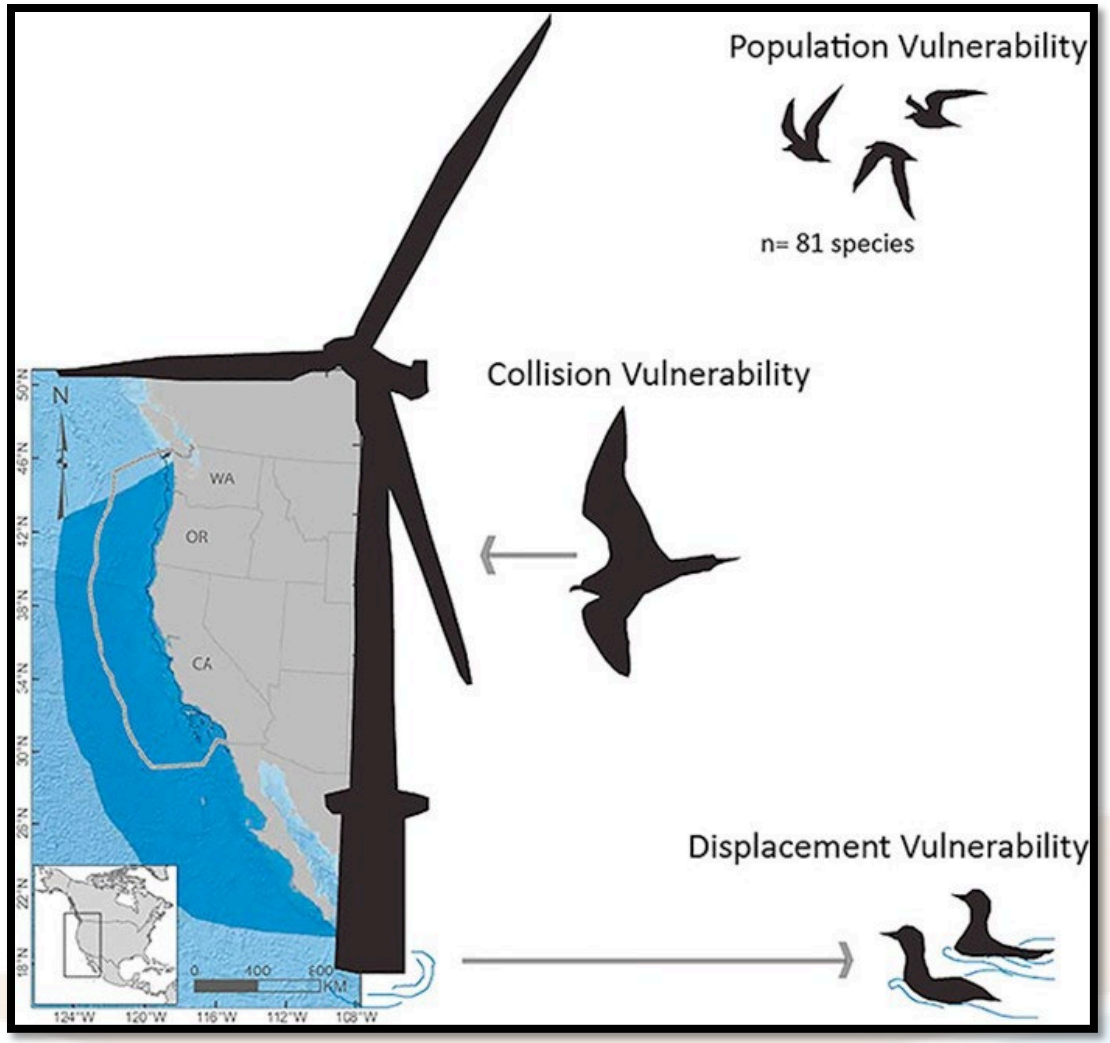
WWW.REWI.ORG

Mission

To facilitate timely and responsible development of wind and solar energy while protecting wildlife and wildlife habitat.

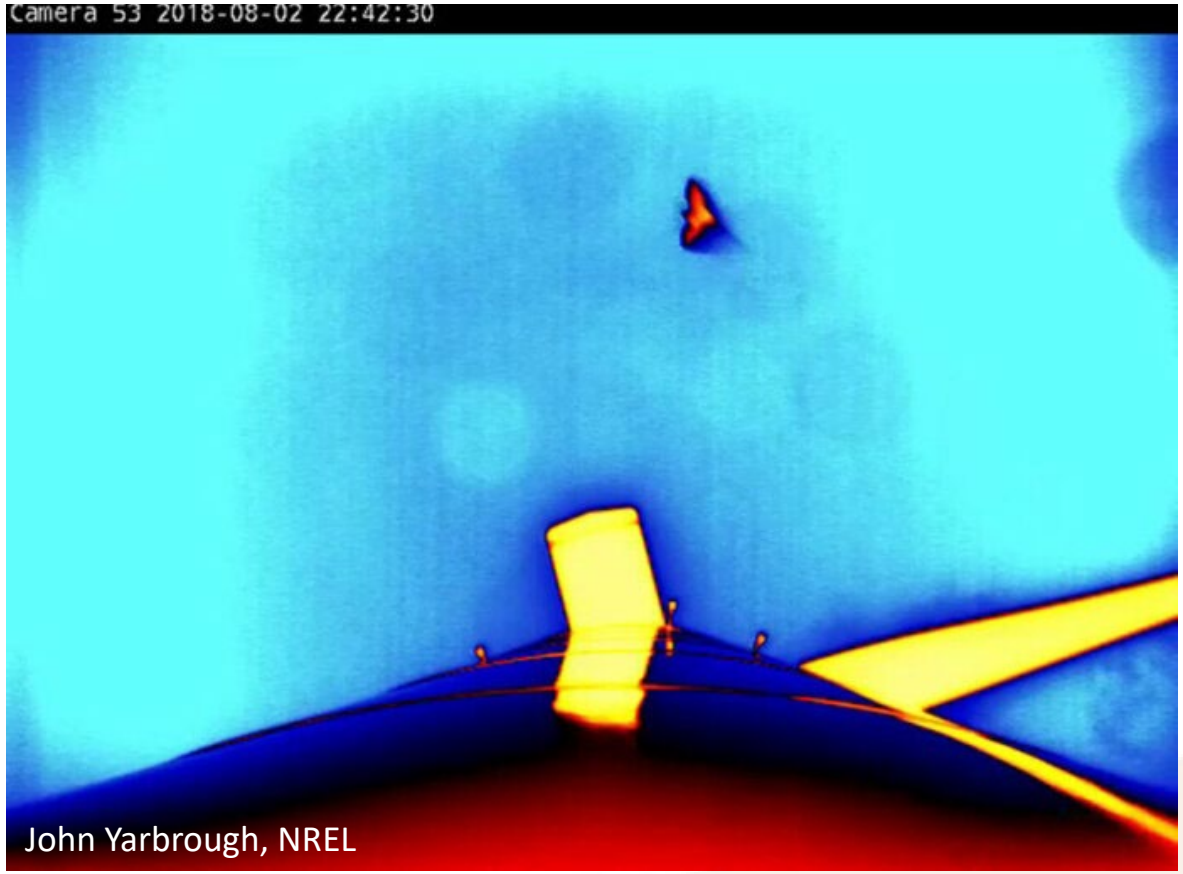
REWI is a groundbreaking independent nonprofit that works to solve renewable energy, wildlife, and related natural resource challenges through sound science and collaboration.

Birds, bats, and wind turbines



- Types of interactions
  - Collision
  - Displacement
  - Barrier effects
- Types of behaviors
  - Micro-avoidance
  - Meso-avoidance
  - Macro-avoidance
  - Attraction
- Risk factors
  - Flight behavior and altitude
  - Exposure
  - Population size

Birds, bats, and wind turbines



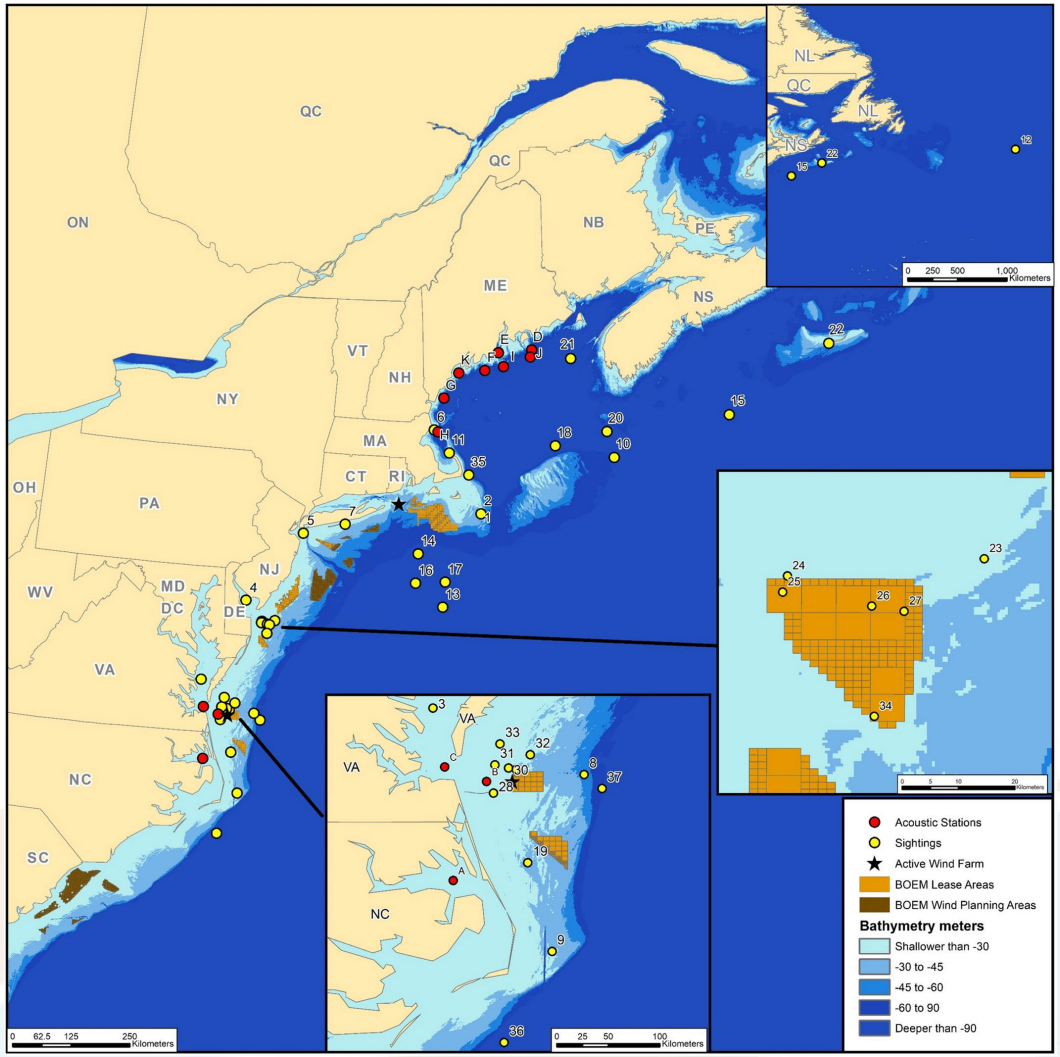
Bats and wind energy

- **Hoary bats, eastern red bats, and silver-haired bats==70% of bat fatalities**
- **Bat prevalence at a site is a poor predictor of collision risk during operation**
  - Bats may be attracted to turbines
  - Don't know why
- **Risk is highest**
  - At night
  - During autumn migration
  - At low wind speeds (under 5-10 meters per second)
- **Long-distance migrating bats have been documented offshore U.S. Atlantic**

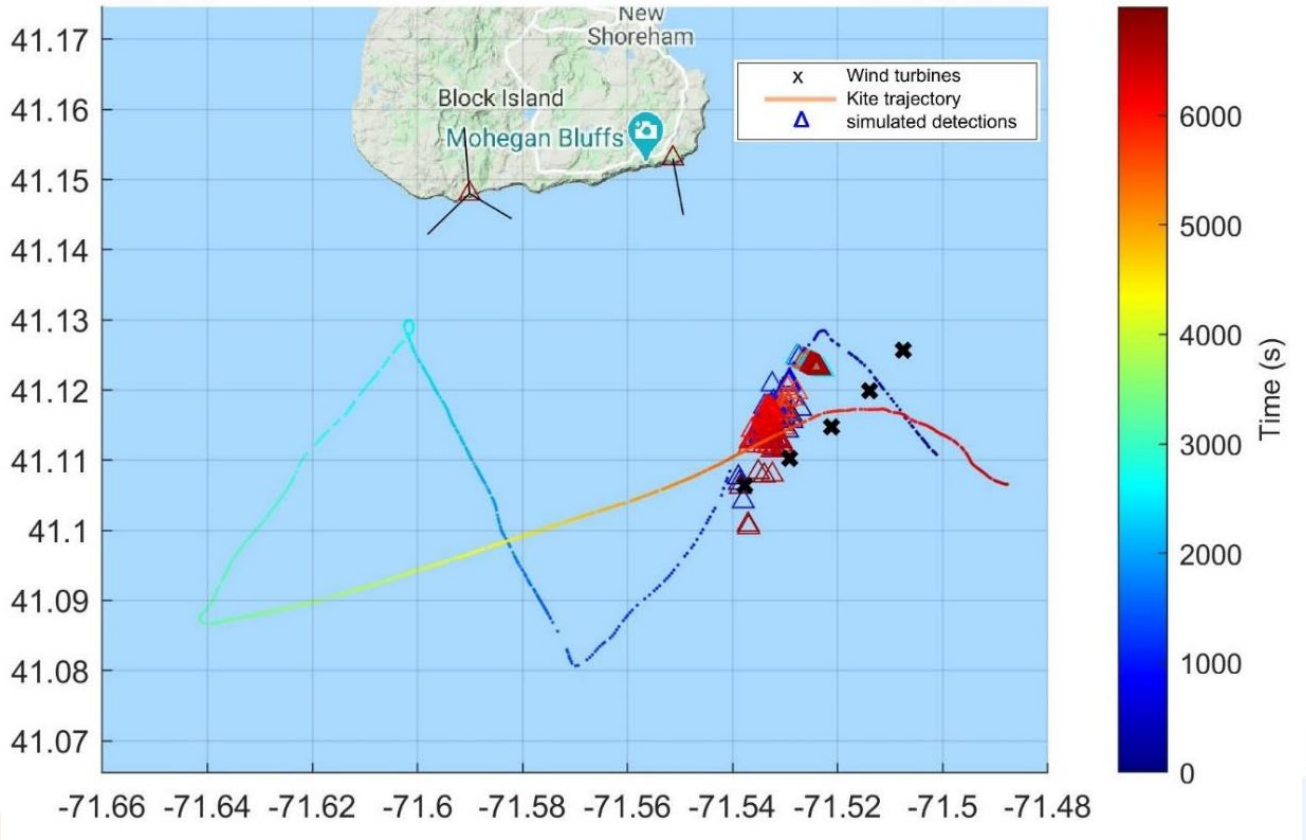
Birds, bats, and wind turbines

Oceanic records of North American bats and implications for offshore wind energy development in the United States

Solick and Newman 2021

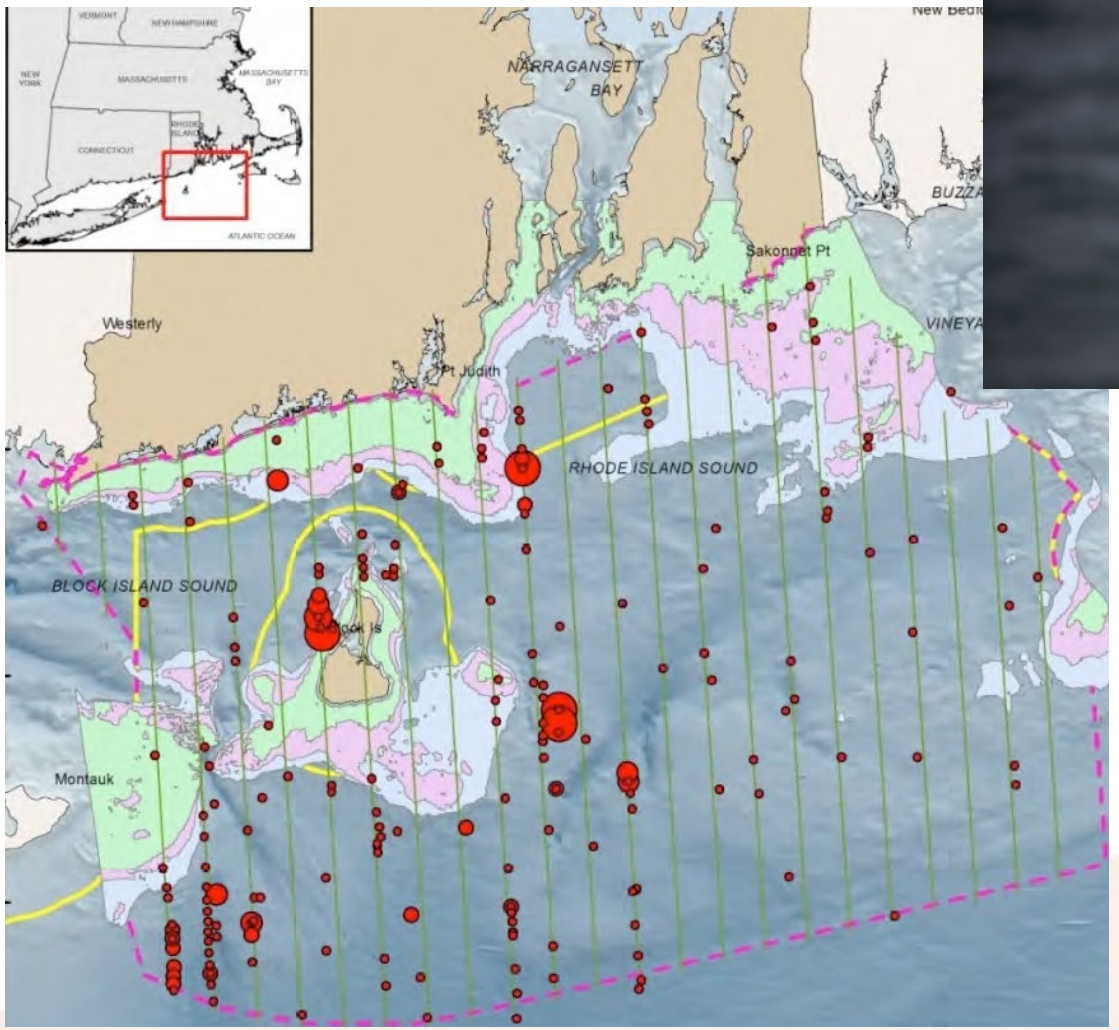


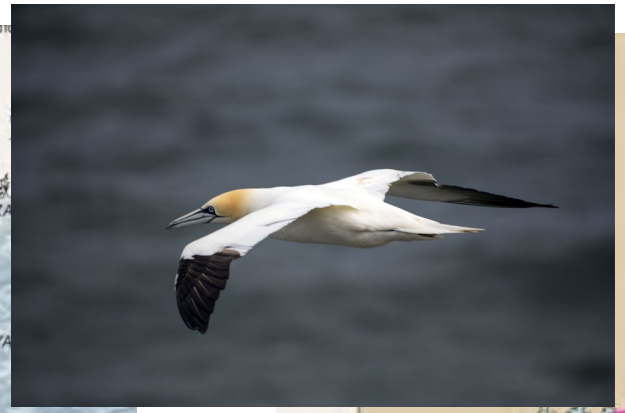
Birds, bats, and wind turbines



Paton PWC, Cooper-Mullin, C., Kouhi, S. Loring PH, Moore J, Miller J, Potty G. 2021. Assessing movements of birds using digital VHF transmitters: A validation study. Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2021-009. 222 p.

Seabirds and RI Offshore Wind





Paton, Peter, Kristopher Winiarski, Carol Trocki, and Scott McWilliams. "Interim Technical Report for the Rhode Island Ocean Special Area Management Plan 2010." *Technical Report*, 2010, 304.

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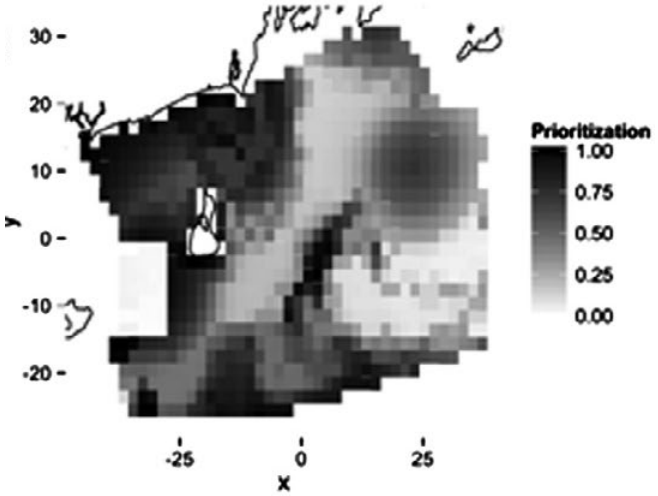

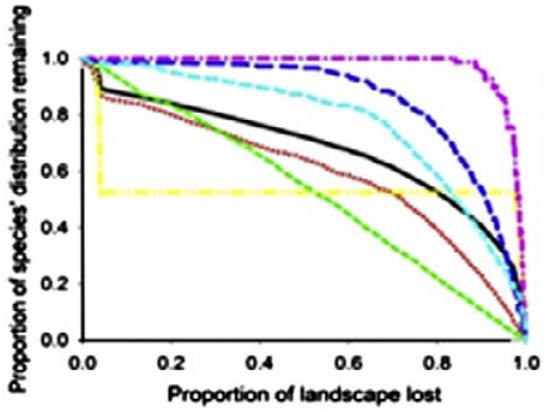

Biological Conservation 169 (2014) 79–88

Contents lists available at ScienceDirect

Biological Conservation

journal homepage: www.elsevier.com/locate/biocon

A spatial conservation prioritization approach for protecting marine birds given proposed offshore wind energy development

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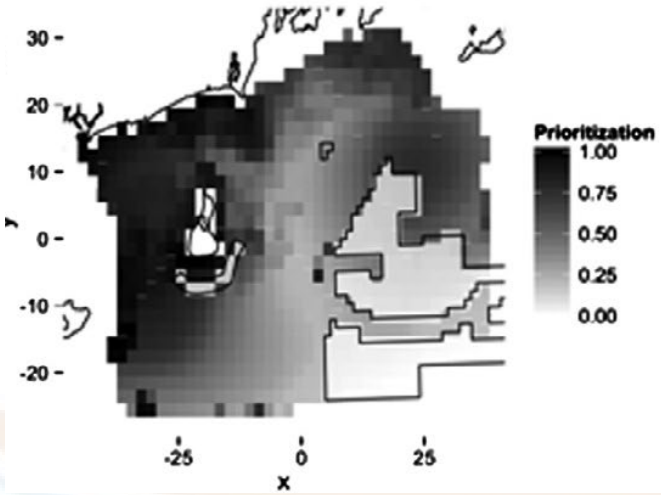
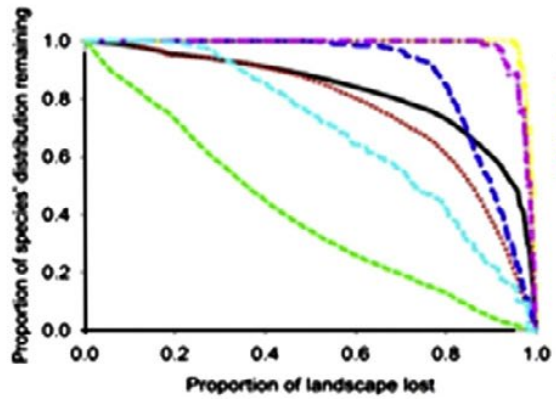
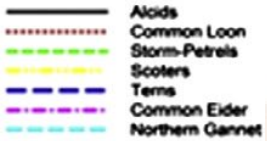
Department of Natural Resources Science, University of Rhode Island, 1 Greenhouse Road, Kingston, RI 02881, United States







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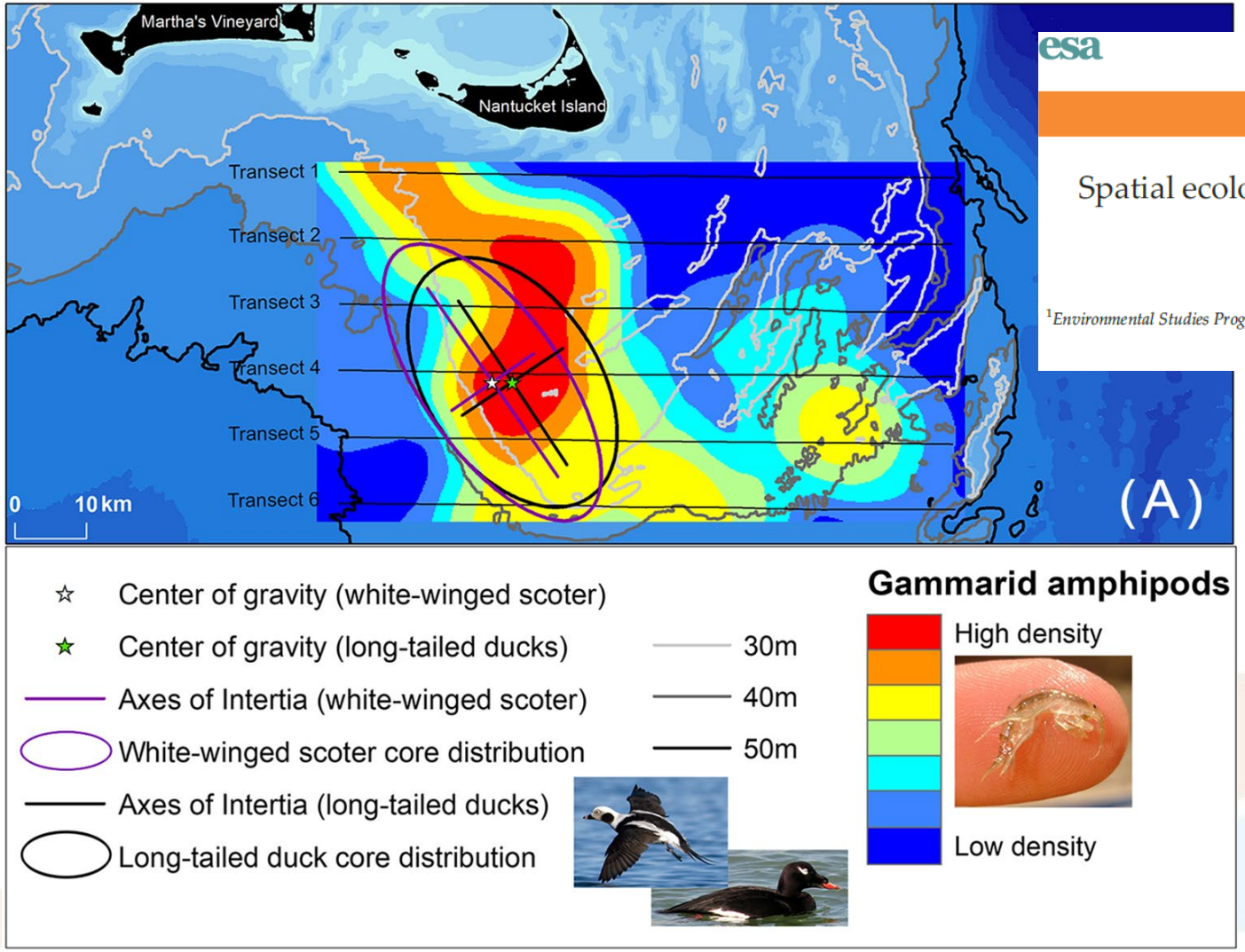

esa

ECOSPHERE

MACROSYSTEMS ECOLOGY

Spatial ecology of long-tailed ducks and white-winged scoters wintering on Nantucket Shoals

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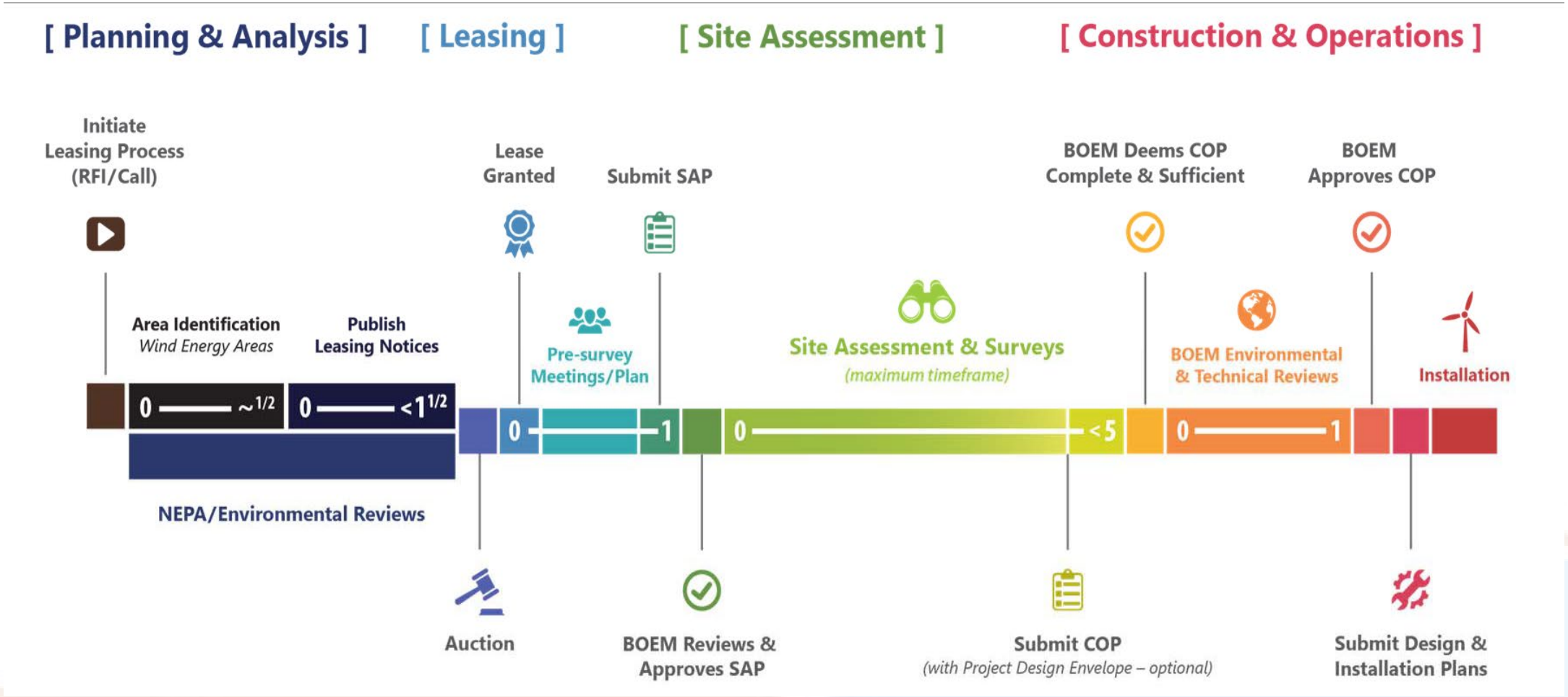
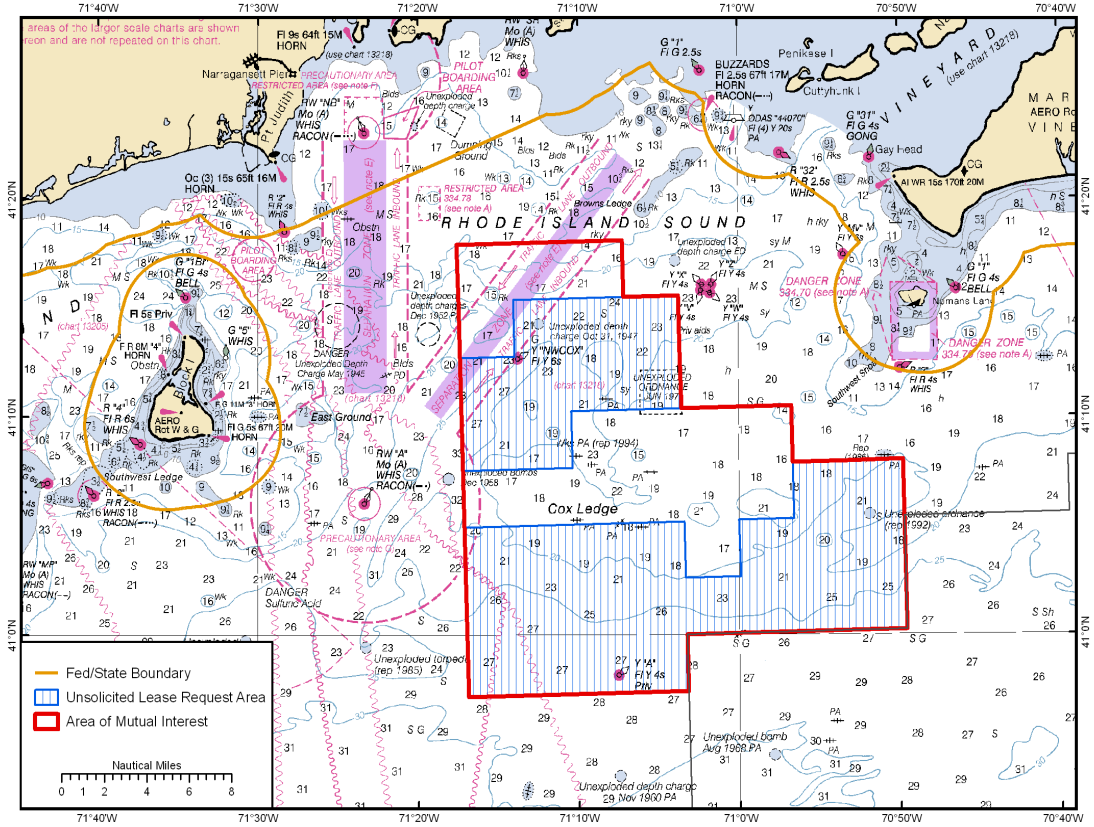
[3]*The Graduate Center, CUNY, New York, New York 10016 USA*

BOEM Offshore Wind Process

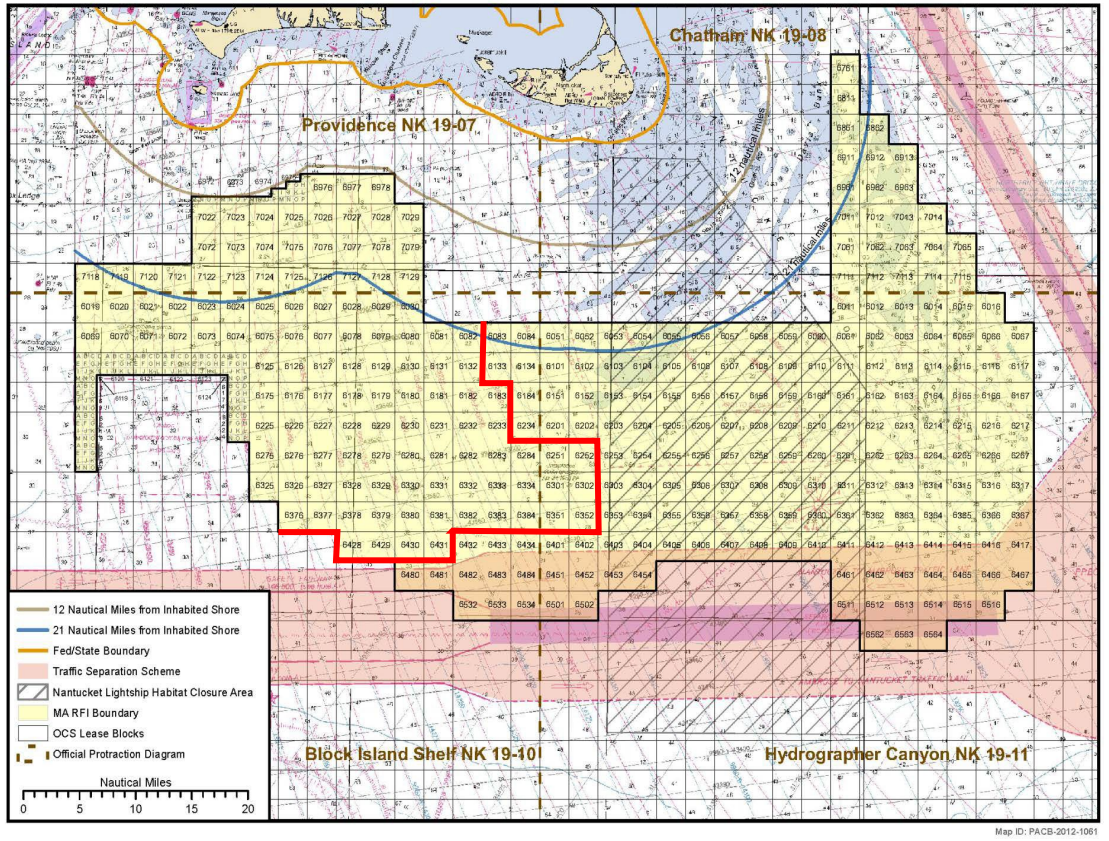


REWI | BOEM Offshore Wind Process

AMI - Unsolicited Lease Request Area



Massachusetts Request for Interest (RFI) Area



REWI | BOEM Offshore Wind Process

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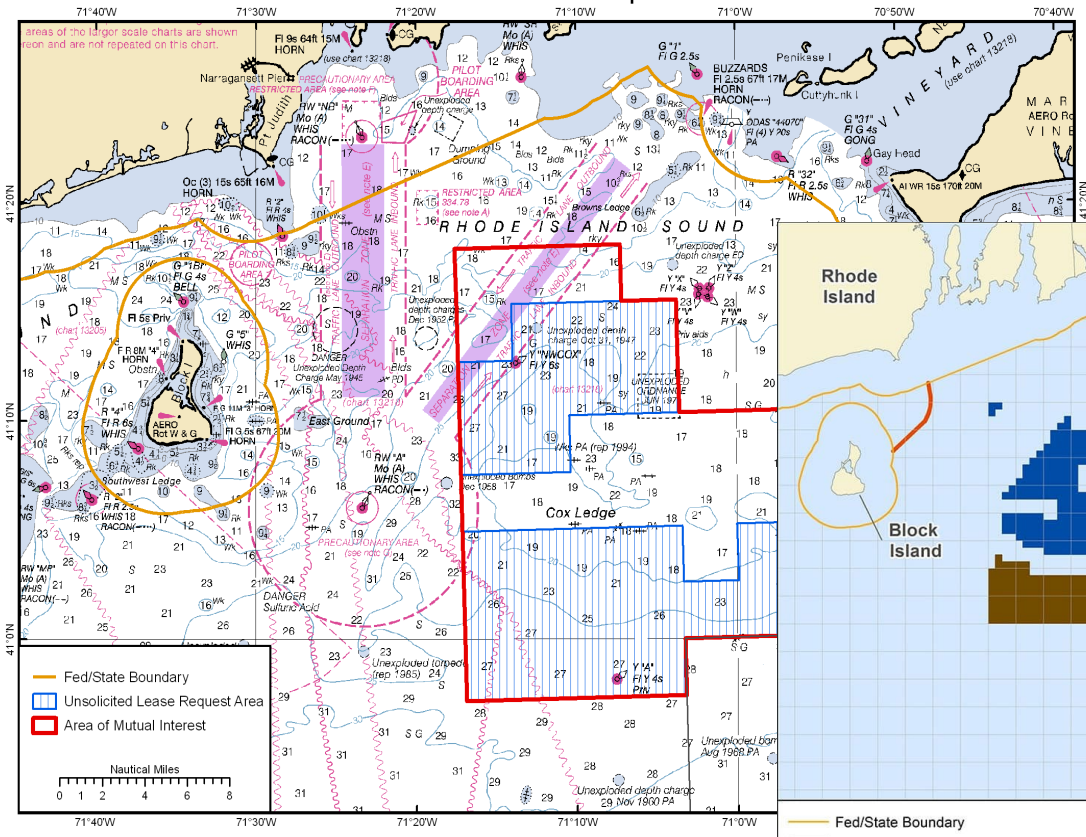

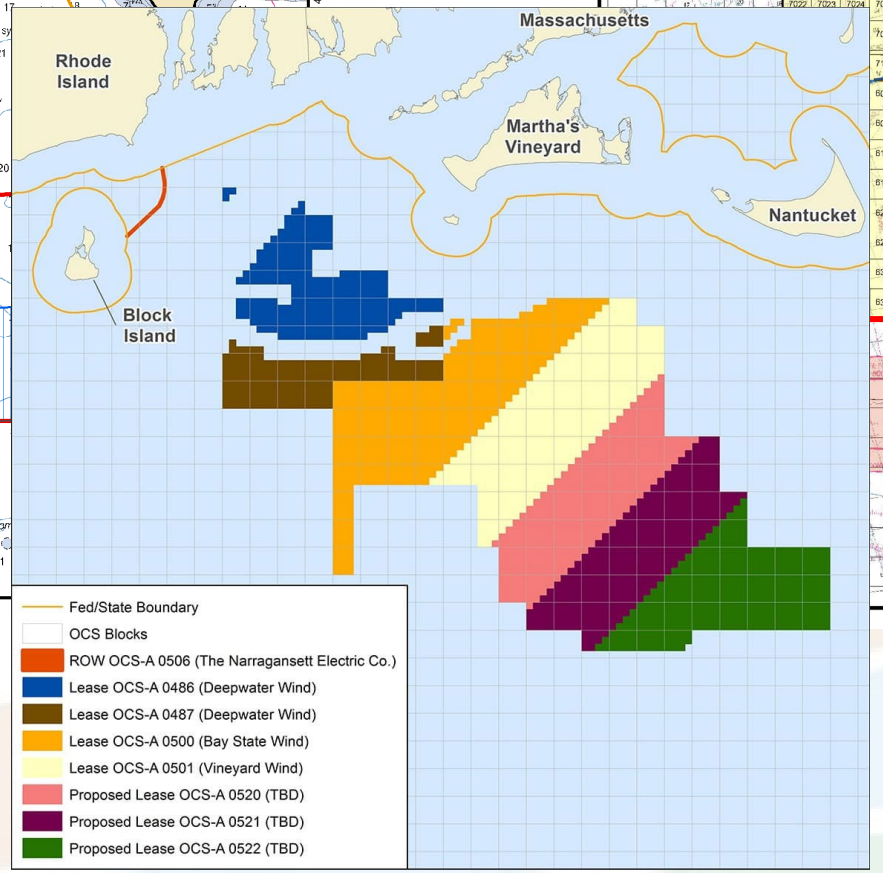

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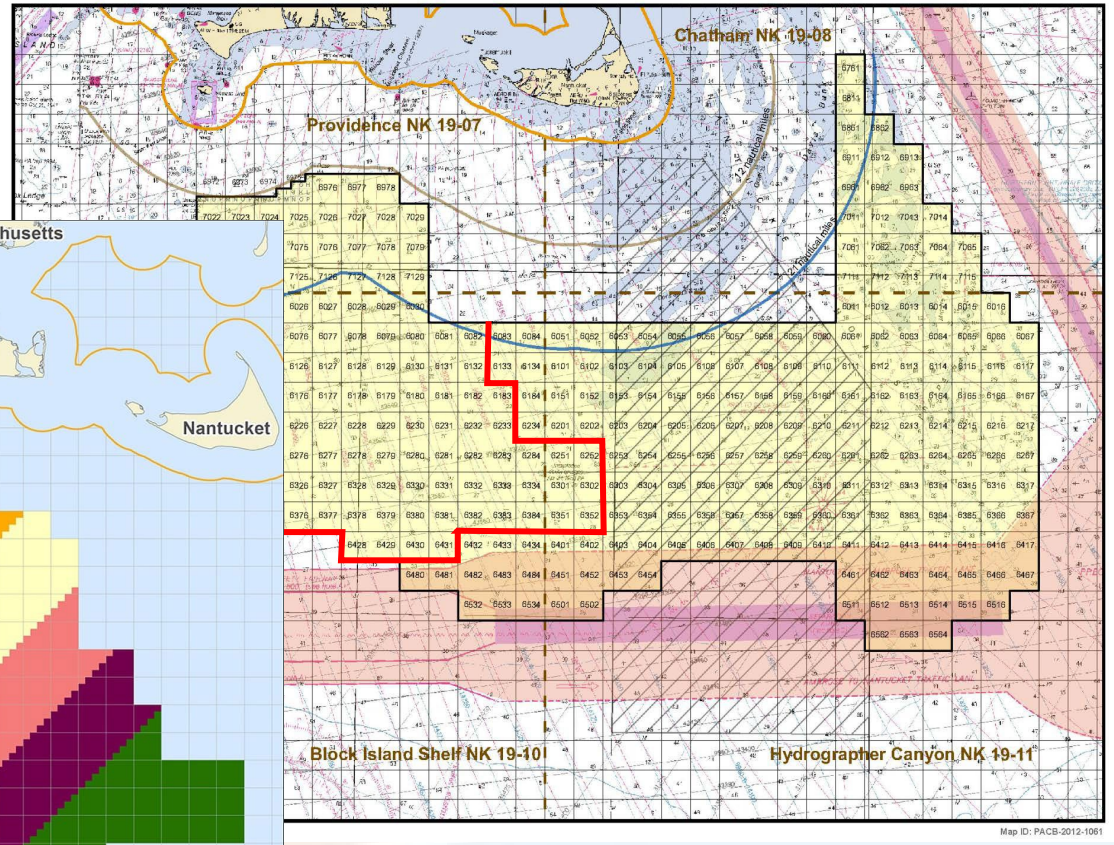
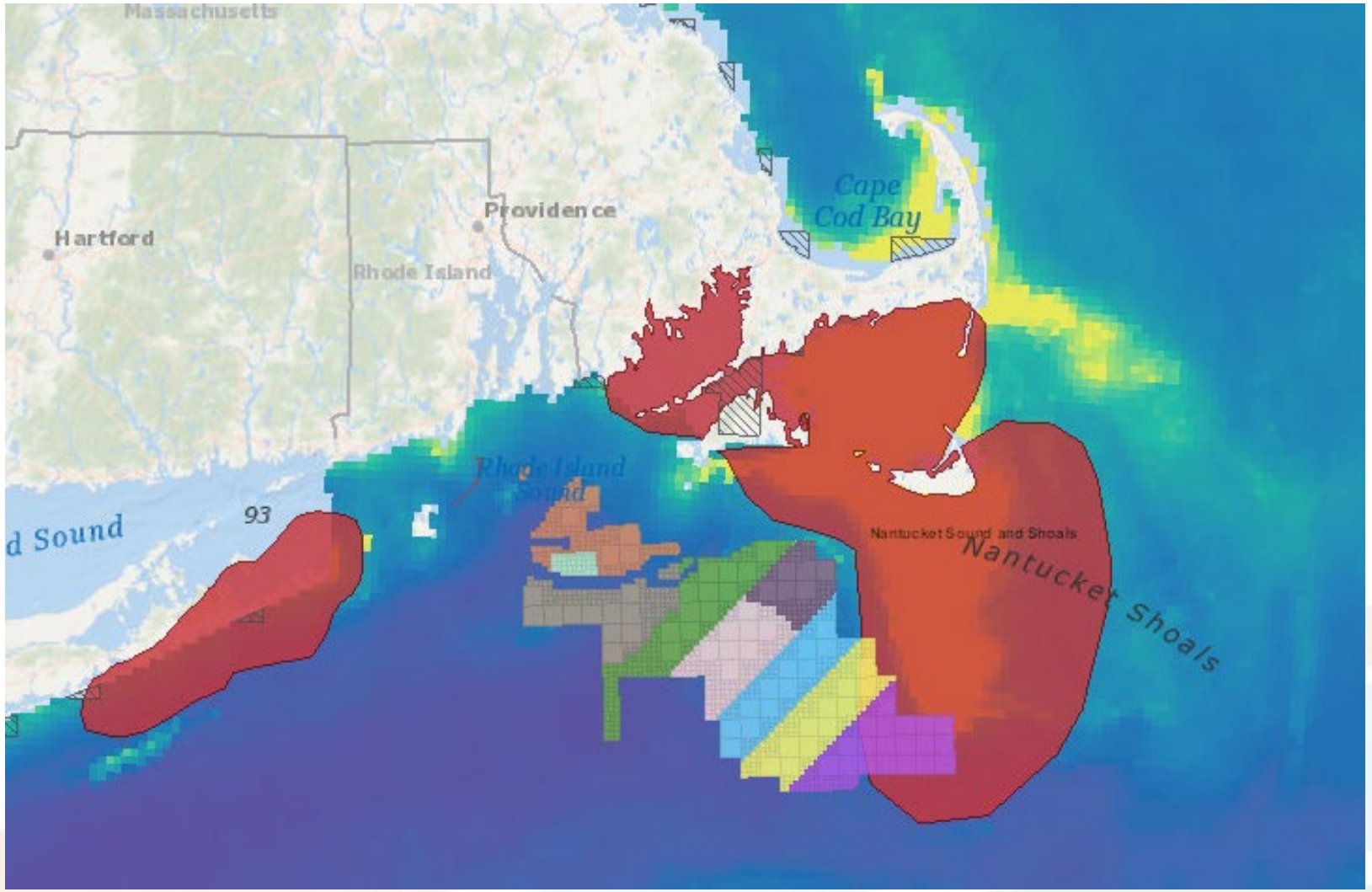
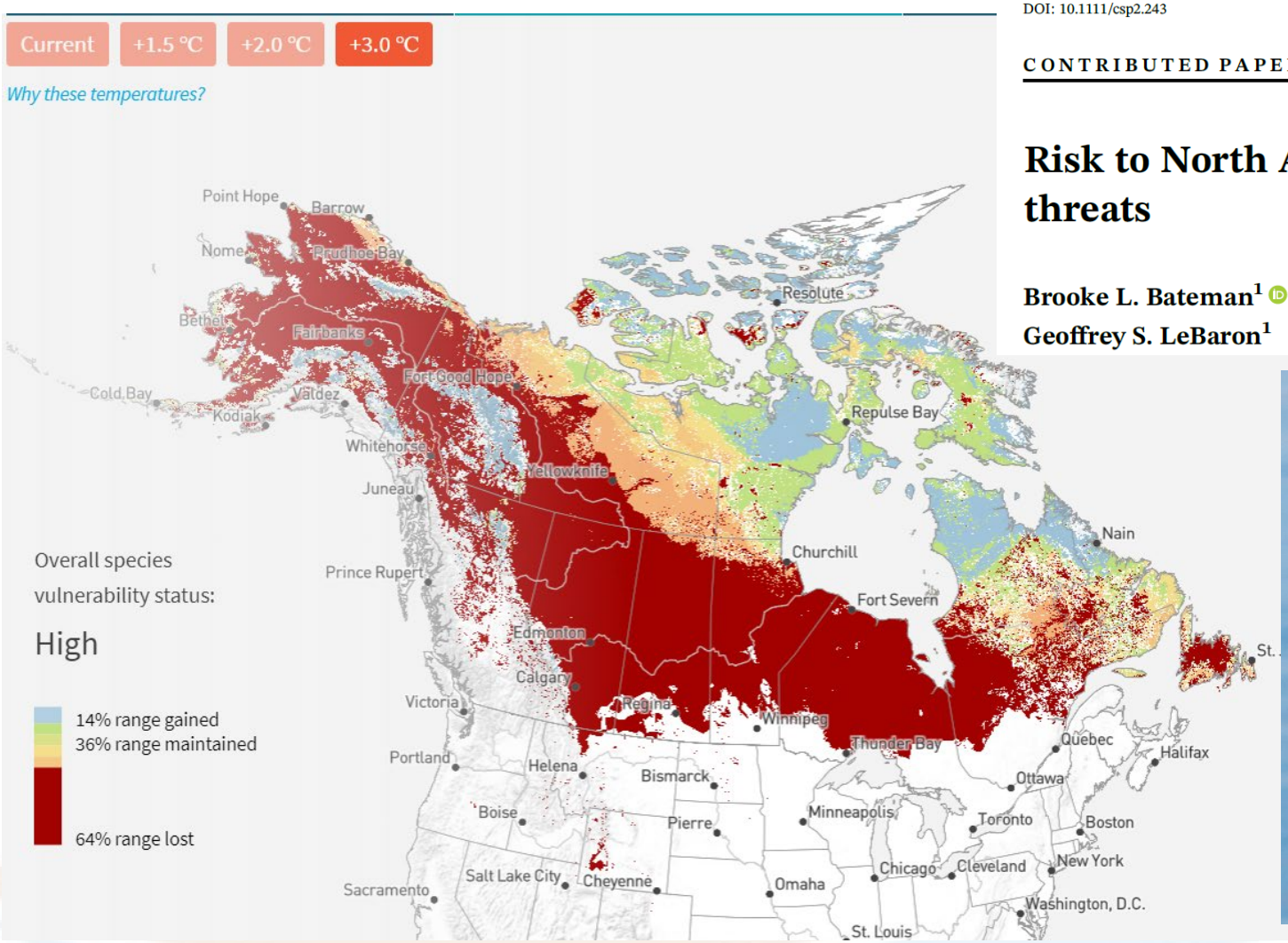


BOEM Offshore Wind Process



REWI | Birds, bats, and climate change



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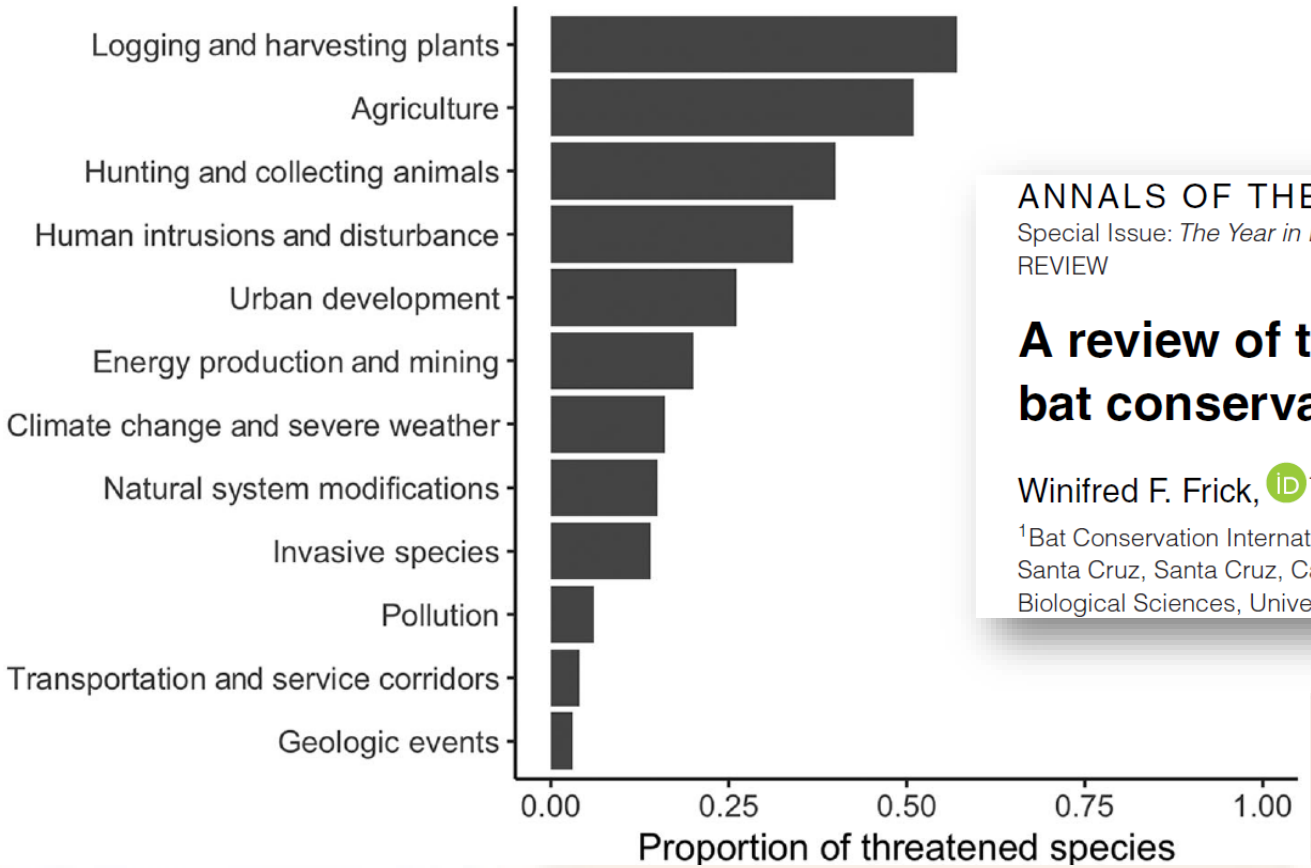
CONTRIBUTED PAPER

Conservation Science and Practice
A Journal of the Society for Conservation Biology
Open Access
WILEY

Risk to North American birds from climate change-related threats

Brooke L. Bateman[1] | Lotem Taylor[1] | Chad Wilsey[1] | Joanna Wu[1] | Geoffrey S. LeBaron[1] | Gary Langham[2]

Birds, bats, and climate change



ANNALS OF THE NEW YORK ACADEMY OF SCIENCES
Special Issue: *The Year in Ecology and Conservation Biology*
REVIEW

A review of the major threats and challenges to global bat conservation

Winifred F. Frick, [1,2] Tigga Kingston, [3] and Jon Flanders [1,4]

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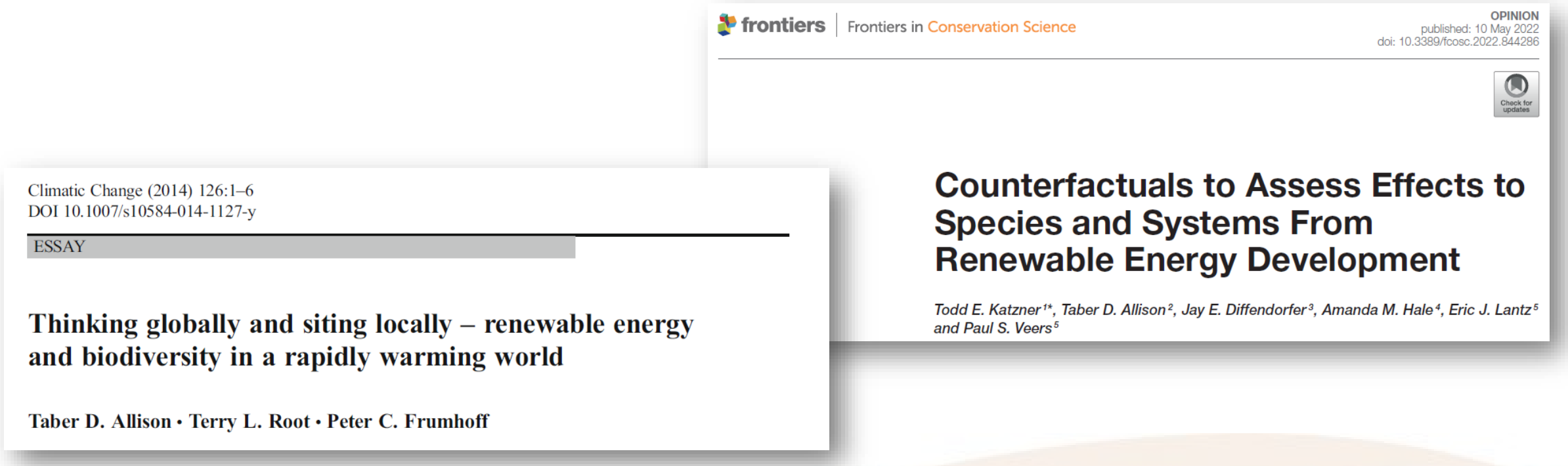
Birds, bats, and climate change



frontiers | Frontiers in Conservation Science

OPINION
published: 10 May 2022
doi: 10.3389/fcosc.2022.844286

Check for updates

Counterfactuals to Assess Effects to Species and Systems From Renewable Energy Development

Todd E. Katzner[1], Taber D. Allison[2], Jay E. Diffendorfer[3], Amanda M. Hale[4], Eric J. Lantz[5] and Paul S. Veers[5]*

Climatic Change (2014) 126:1–6
DOI 10.1007/s10584-014-1127-y

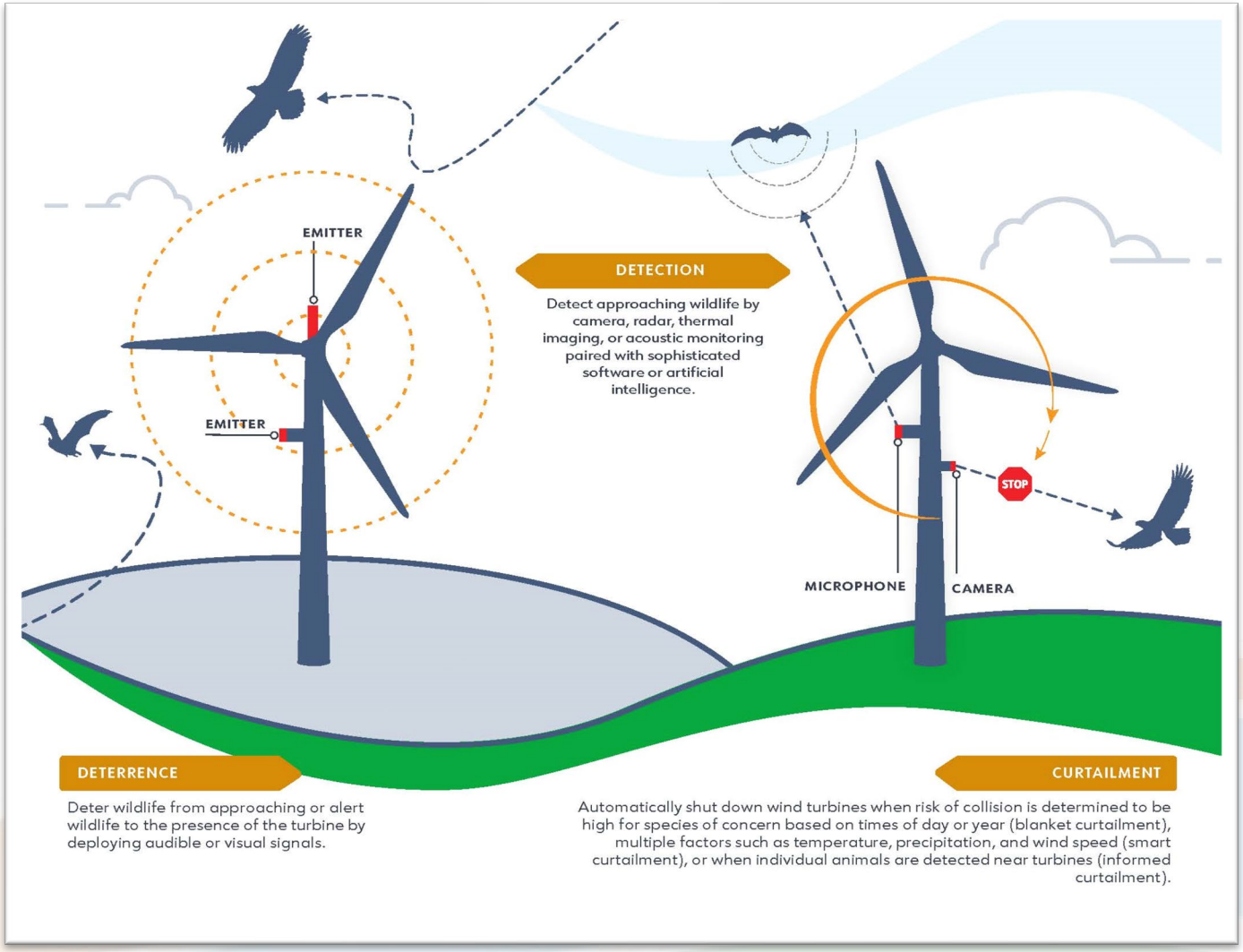
ESSAY

Thinking globally and siting locally – renewable energy and biodiversity in a rapidly warming world

Taber D. Allison · Terry L. Root · Peter C. Frumhoff

Minimizing impacts to birds and bats

rewi.org/guide



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