McLean County Wind Energy Center

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Presented by:

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Environmental Research in Illinois

- **Blackball Mine Indiana Bat Migration Study in LaSalle County in partnership with Illinois Department of Natural Resources (IDNR) and the United States Fish and Wildlife Service (USFWS)**
- **California Ridge Bat Deterrent Research in Vermillion County in partnership with the Department of Energy and the USFWS**
- **Bishop Hill Evidence of Absence Research in Henry County in partnership with the USFWS**
- **Eagle telemetry research in LaSalle County in partnership with USFWS**
- **Bat Migration Research in Kankakee County in partnership with USFWS**

Environmental Review

Environmental Guidelines

- **United States Fish and Wildlife Service Land-Based Wind Energy Guidelines**
  - **"Tiered" approach to assessing potential environmental impacts and incorporating results into site design, construction and operation.**
    - Tier 1: Preliminary Site Evaluation
    - Tier 2: Site Characterization
    - Tier 3: Field Studies
    - Tier 4: Post-Construction Monitoring
    - Tier 5: Research
- **United States Fish and Wildlife Service Eagle Conservation Plan Guidance**
  - **Tiered approach to assessing eagle use, follows similar "tiers"**

Agency Consultation

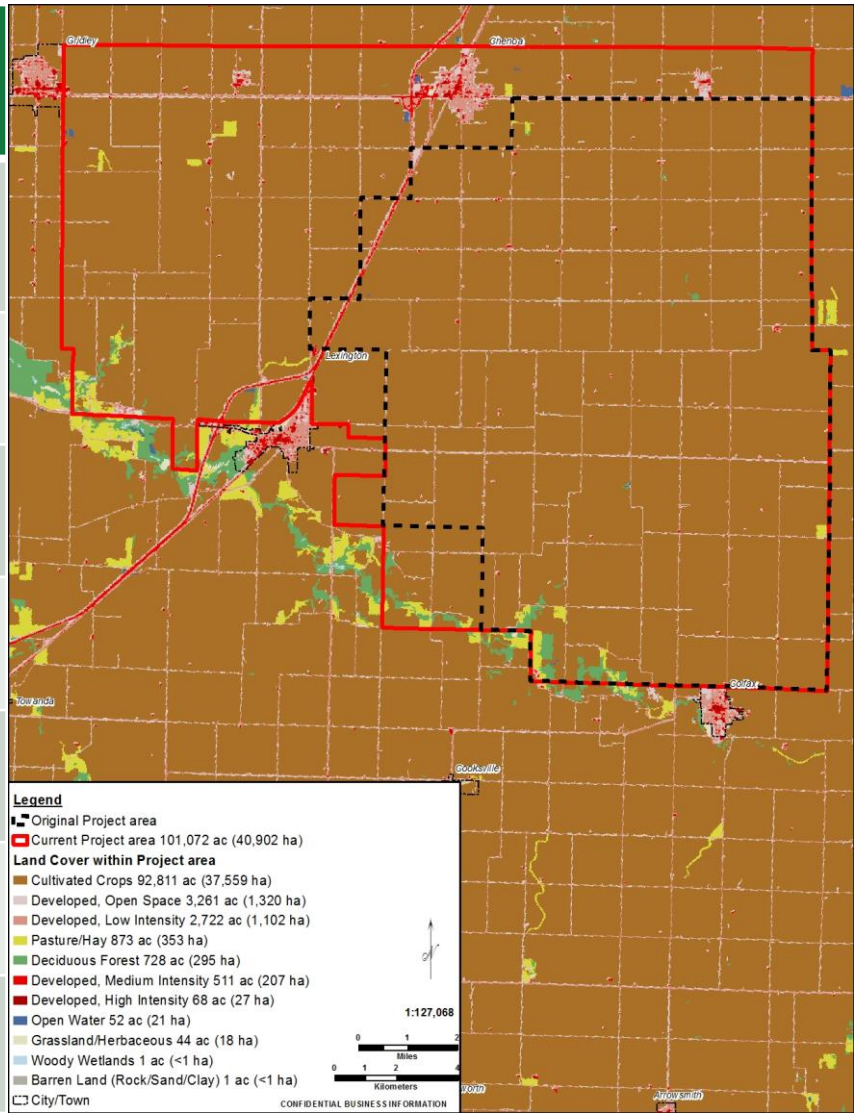
- **United States Fish and Wildlife Service**
- Three consultation meetings held in March 2016, February 2017, and October 2017
- Discussion of which surveys would be conducted, their methodologies, and results
- USFWS did not provide McLean Wind Energy Center LLC (MWEC) with recommendations, as it was satisfied with the scope and approach adopted by MWEC
- **Illinois Department of Natural Resources**
- Completed consultation for endangered species protection and natural areas preservation
- IDNR provided recommendations to the County; MWEC provided its responses to the County

McLean Wind Energy Surveys

WEG Tier	Survey	Dates
Tiers 1-2	Site Characterization	Spring 2016
Tier 3	Raptor Nest Survey	March 2016, April 2017
Tier 3	Small Bird Use Survey	March 2016 – November 2016
Tier 3	Large Bird Use Survey	March 2016 – February 2018
Tier 3	Bat Acoustic Survey	April 2016 – October 2016

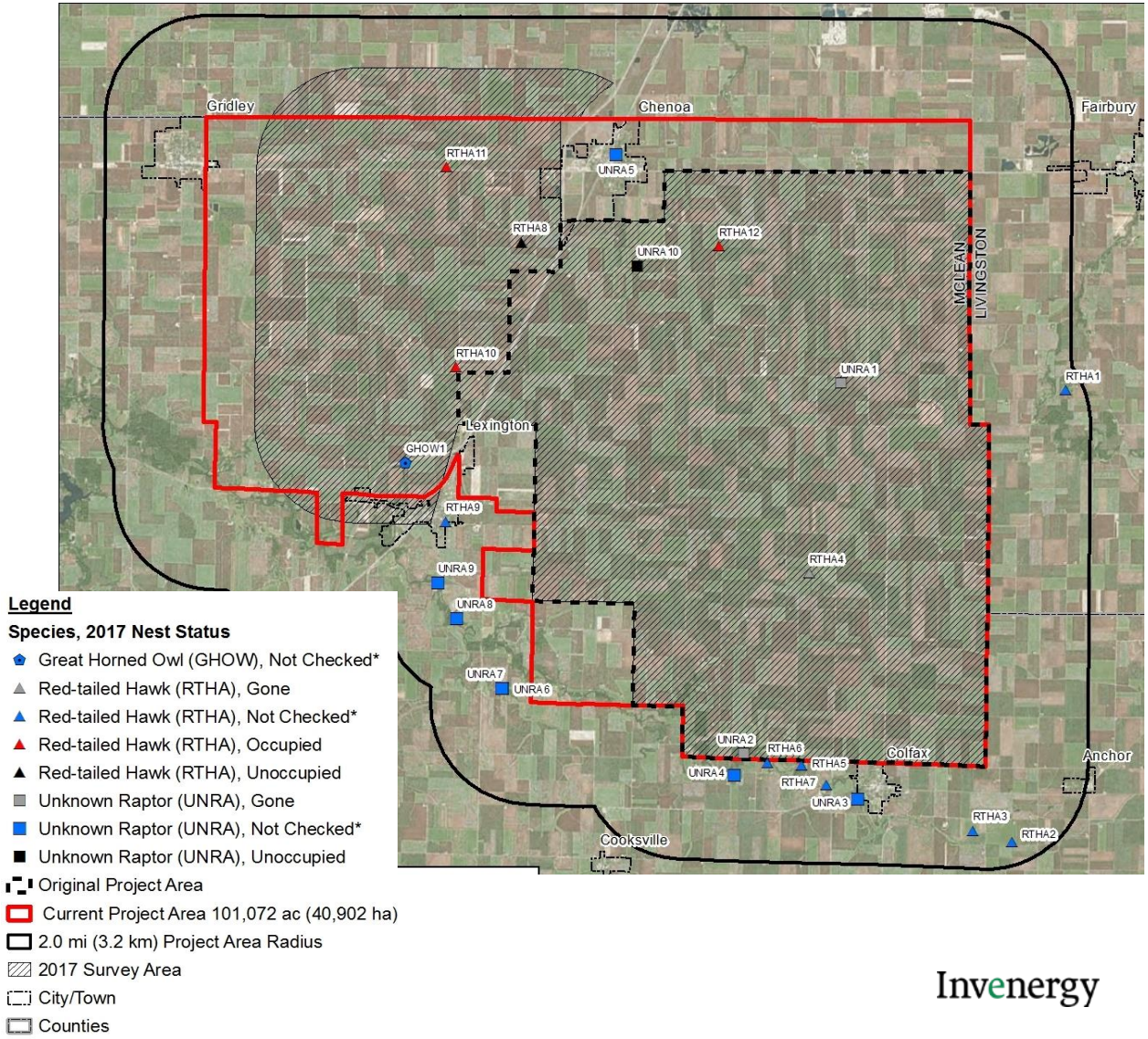
Site Characterization

Land Cover Type	Project Area	
	Acreage (Hectares)	% Composition
Cultivated Crops	92,811 (37,559)	92
Developed, Open Space	3,261 (1,320)	3
Developed, Low Intensity	2,722 (1,102)	3
Pasture/Hay	873 (353)	0.9
Deciduous Forest	728 (295)	0.7
Developed, Medium Intensity	511 (207)	0.5



Raptor Nest Survey

- Raptor nests to 2 mi; eagle nests to 10 mi (spring 2016)
- Cross-hatch area re-surveyed spring 2017
- 24 nests found in both years; 10 w/in current project boundary, only 3 of which were active
- Bald eagle nest found 4 miles from current project boundary



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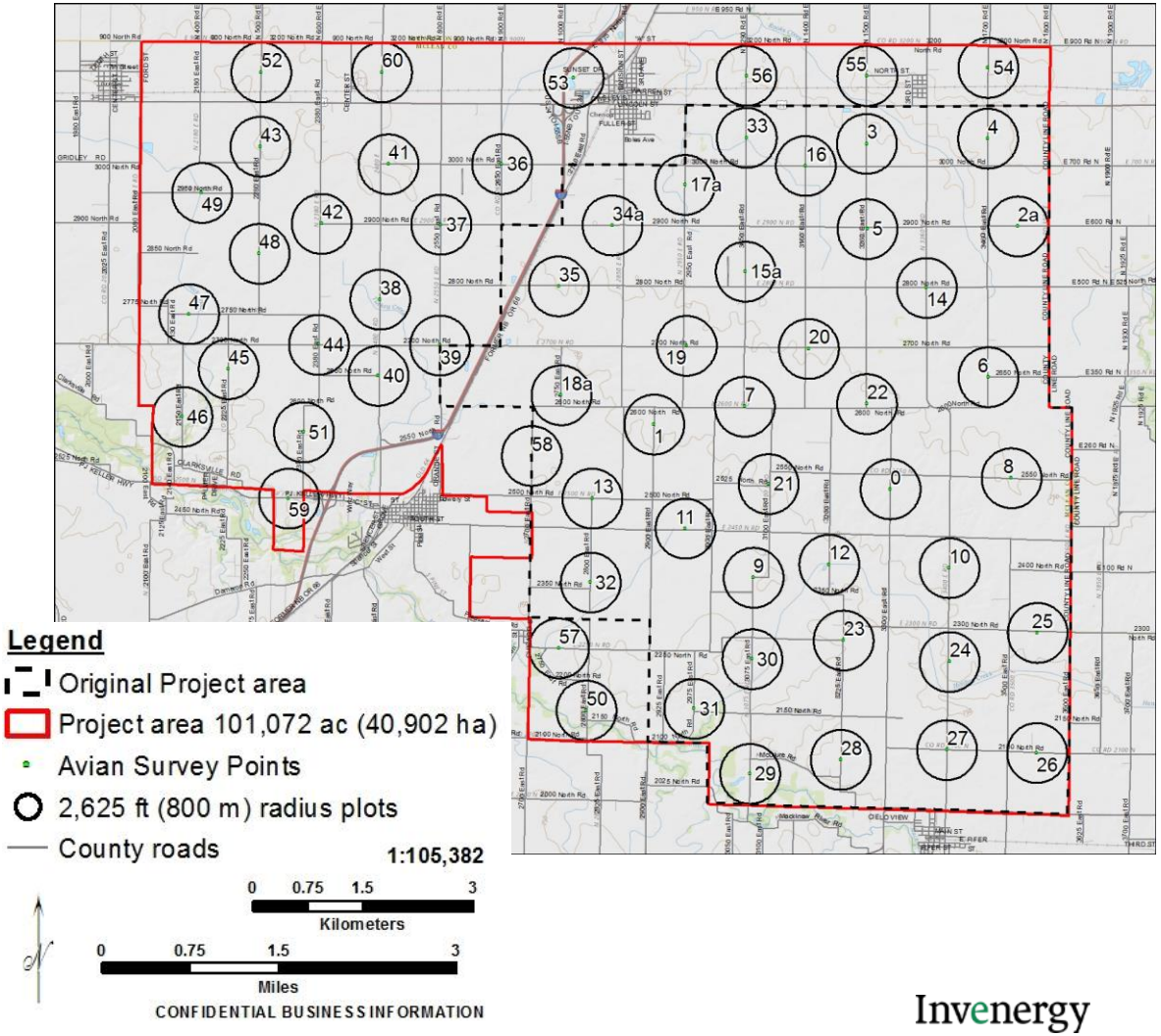
Bird Survey Methods

- **Small Bird Use**
  - Mar-Nov 2016
  - 36 plots, 100 m radius, 8 min, 14x
  - **67.2 hrs of observation**
- **Large Bird Use**
  - Mar 2016-Feb 2018
  - 36-61 plots
  - 800 m radius, 60 min, 12x, monthly
  - **903 hrs of observation**



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Bird Survey Results

Small Bird Use (Mar – Nov 2016):

- 46 species
- Most-common species: European starling
- Species of concern:
  - No federal listed species
  - One state endangered species - Wilson's phalarope (5 miles east of nearest participating parcel, one observation, July 2016)

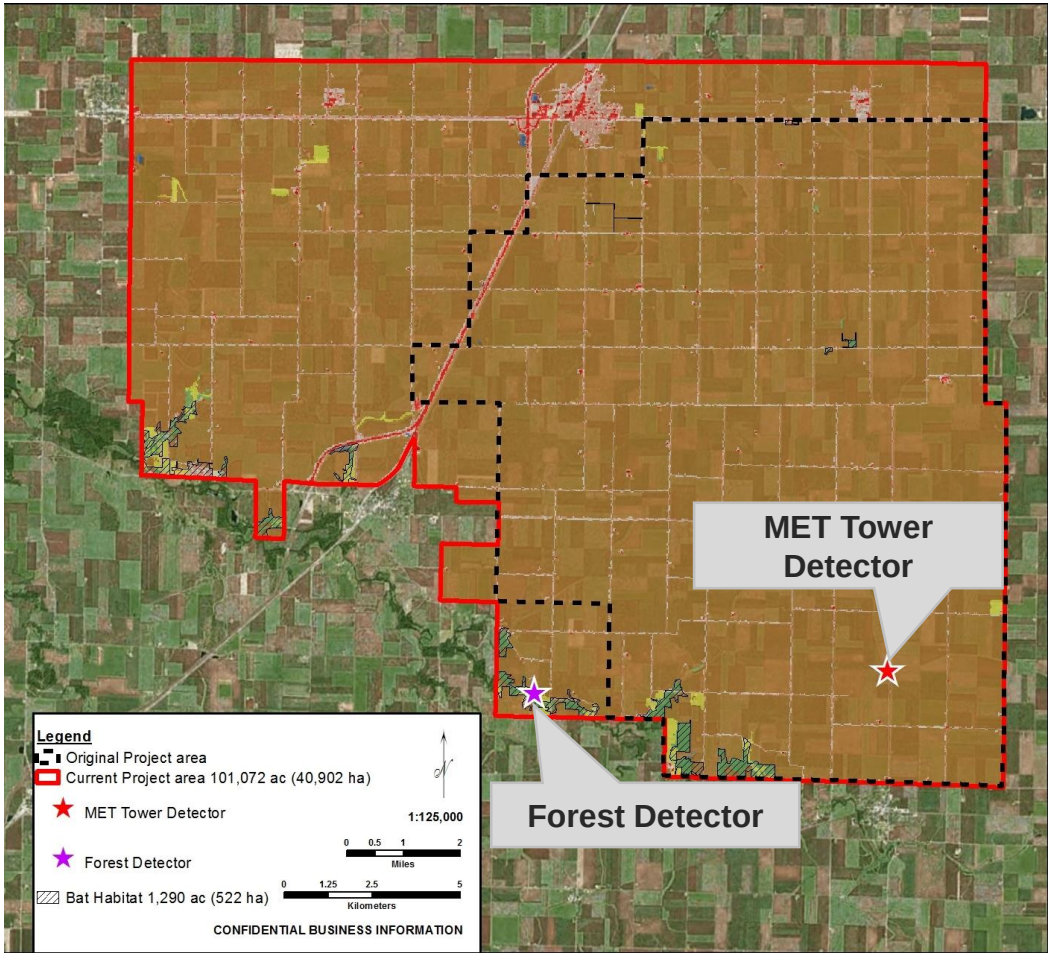
Bird Survey Results

Large Bird Use (Mar 2016 – Nov 2017):

- Year 1 (Mar 2016 – Feb 2017) 41 large bird species
- Year 2 (Mar 2017 – Nov 2017) 35 large bird species
- Most-common species (Year 1; 74.8% of obs.):
  - Killdeer
  - Canada goose
  - Mourning dove
- Species of concern through November 2017:
  - 14 federally protected bald eagles observed
  - 3 state-listed species: upland sandpiper (32 obs.), northern harrier (62 obs.), short-eared owl (1 obs.)

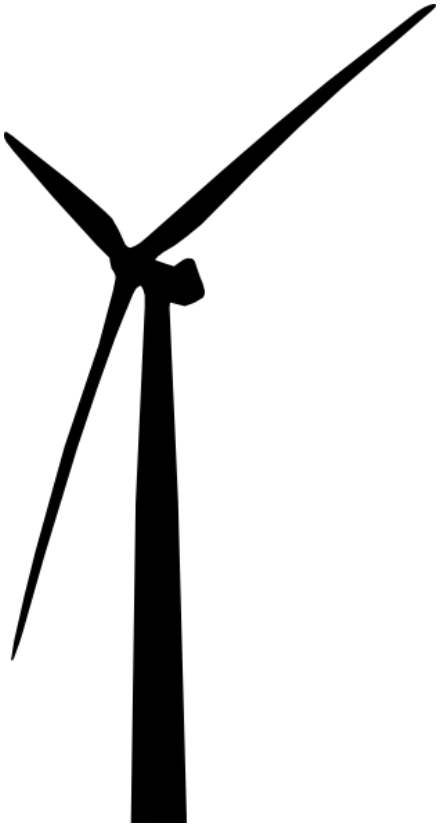
Bat Acoustic Surveys

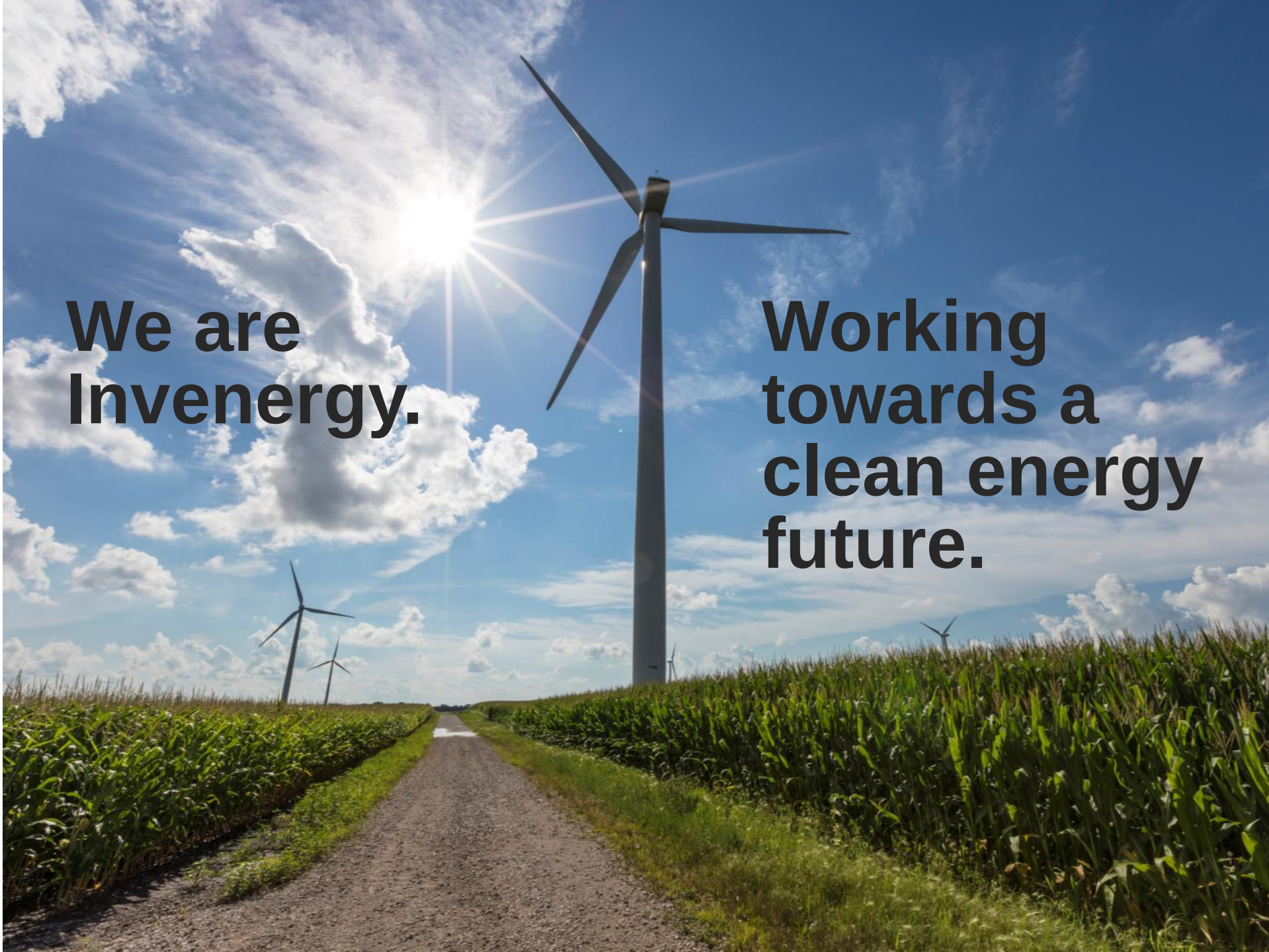
- Apr 14 – Oct 31, 2016
- 2 Detectors, 1 in forest, 1 on MET tower
- Bat activity peaks
  - Fall at MET tower
  - Summer at forest detector
- 24,547 passes recorded, 12 were identified as *Myotis;* 95% of passes recorded at forest detector



Habitat Setbacks

- 1,000 ft. setback from summer bat habitat
- 1,000 ft. setback from active raptor nests

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