



Environmental Opportunities and Challenges with Siting New Transmission Lines



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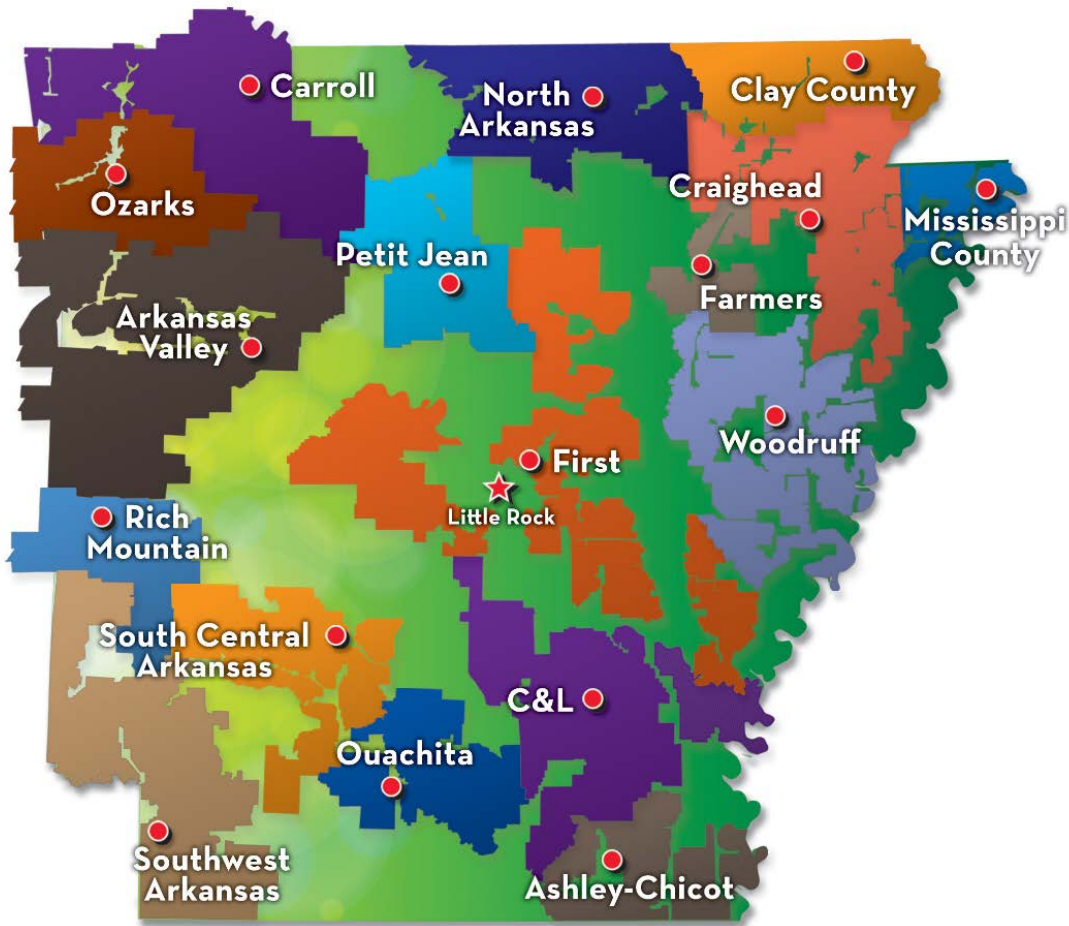
AECC

- Arkansas Electric Cooperative Corporation (AECC) is a not-for-profit generation and transmission electric cooperative
- Founded in 1949 to provide wholesale electricity to Arkansas' distribution cooperatives.



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AECC

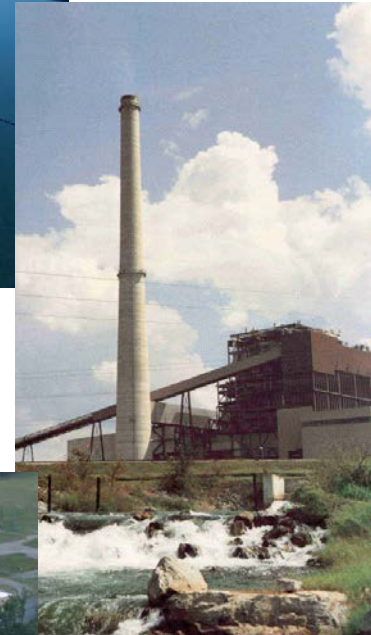


- 17 member cooperatives
- 500,000+ members
- 1.2 million people
- Covers about 62% of state

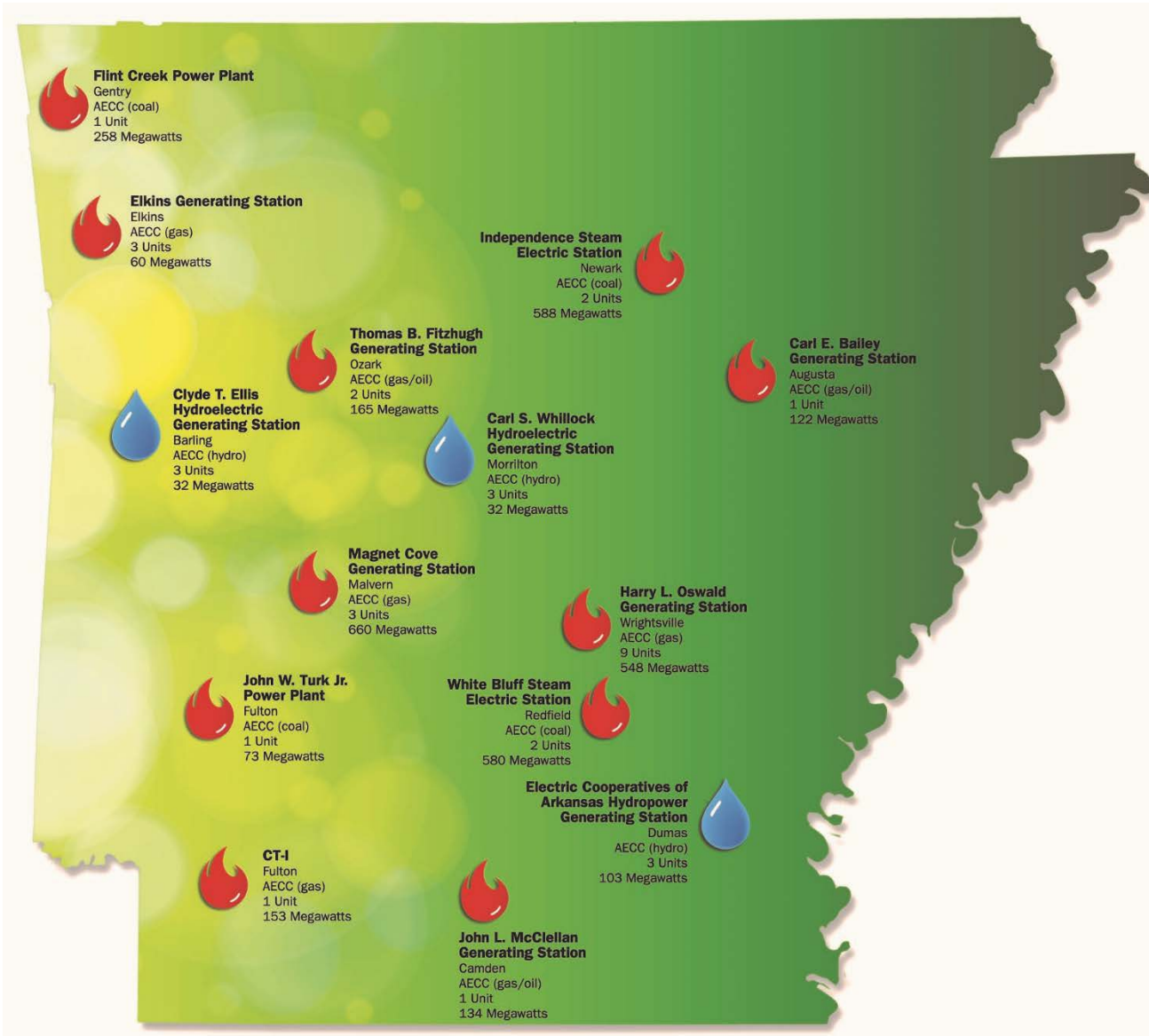


Generation

- AECC owns and operates
 - Seven natural gas plants (three with fuel oil backup)
 - Three hydroelectric plants on the Arkansas River
- AECC co-owns (but does not operate)
 - Six coal units
- AECC has multiple power purchase agreements with wind, solar, hydro, etc.
- Market purchased power.



Generation

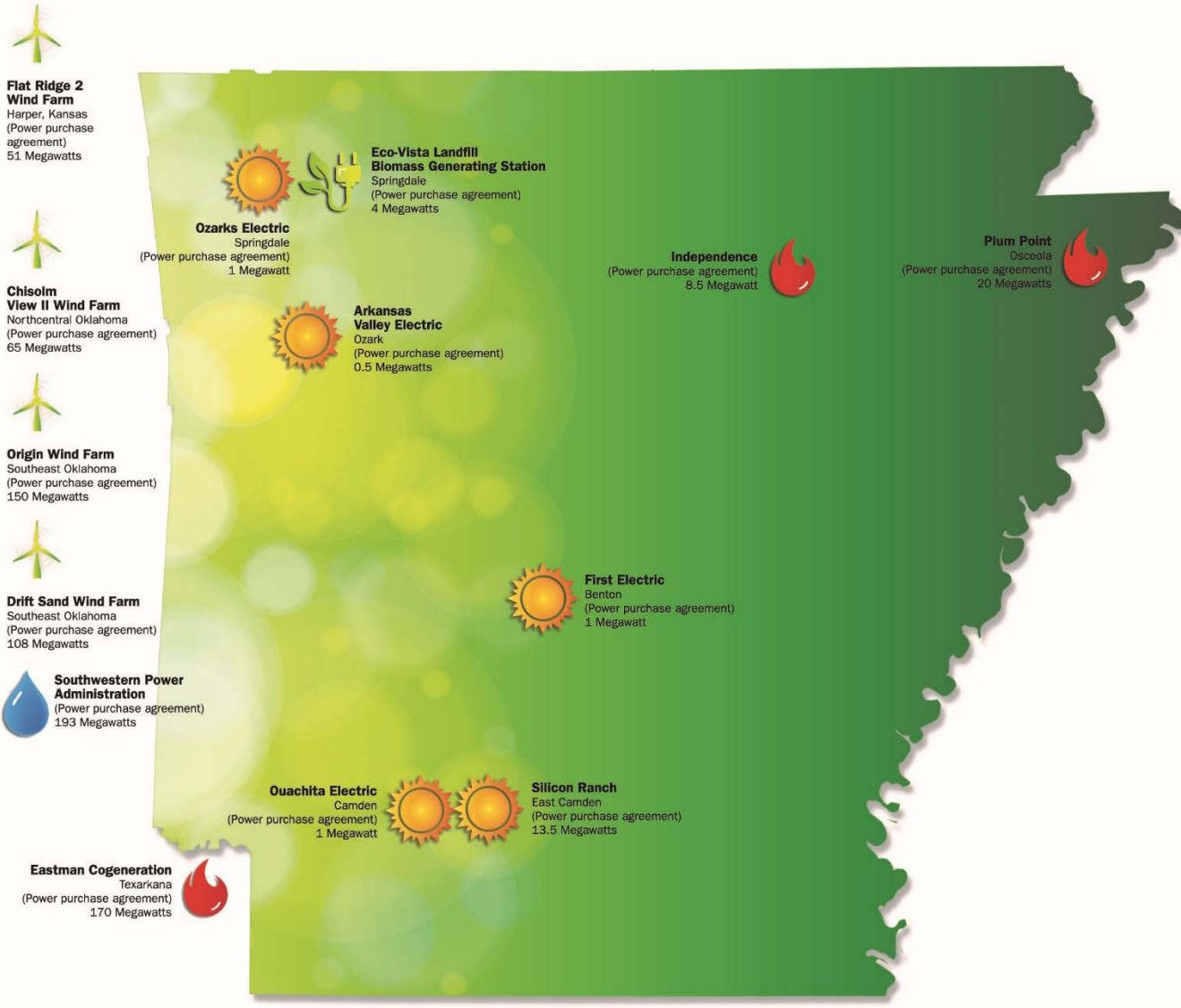


- Owned/Co-owned generation



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Generation



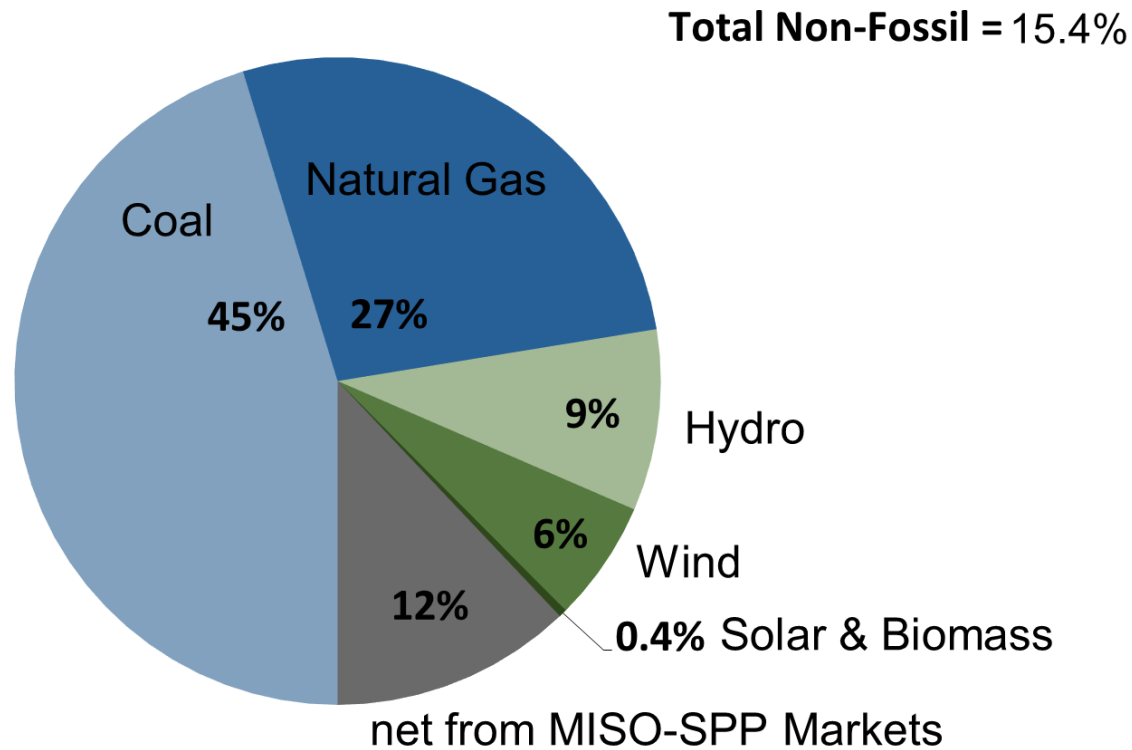
- Power purchase agreements (2017)



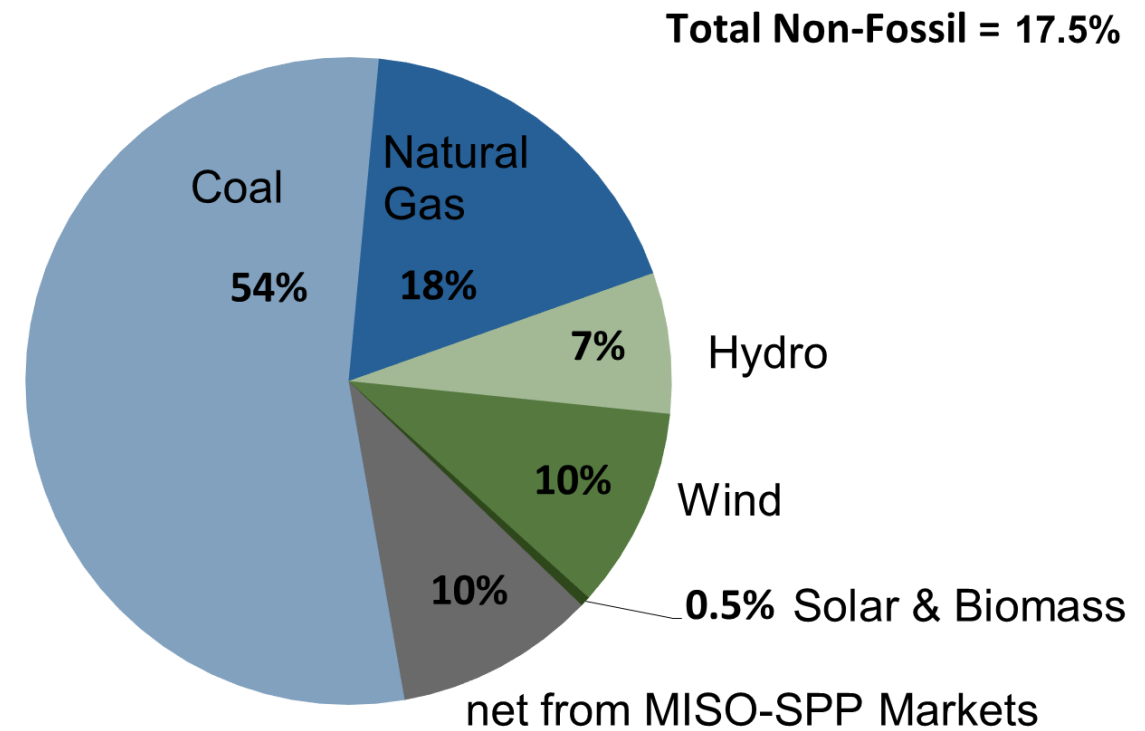
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AECC Energy Supply in 2016 & 2017

Sources of AECC Energy in 2016



Sources of AECC Energy in 2017



Recent Growth of AECC's Non-Fossil Energy Sources

(Percentages of total Member energy needs)

	2012	2016	2017
	<u>Actual</u>	<u>Actual</u>	<u>Tentative</u>
Hydroelectric	7%	9%	7%
Wind	--	6%	10%
<u>Solar & Biomass</u>	<u>--</u>	<u>0.4%</u>	<u>0.5%</u>
Total	7%	15.4%	17.5%



Transmission



- AECC currently owns/operates about 350 miles of transmission lines (and growing).
- AECC began a series of planned new transmission projects in 2013.



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Transmission

- Generation Terms:

- CAIR/CSAPR
- MATS
- Regional Haze/BART
- NESHAP/MACT
- NSPS
- Title V
- PSD/NSR/BACT
- BART

- Transmission Terms:

- SWPPP
- STAA
- SPCC Plan
- 404 Permit
- Cultural Resources
- IPaC
- Endangered Species



Transmission Projects

- USDA/RUS Loans = NEPA Review
- The RUS environmental review of a proposed project must be complete before RUS loans are approved
 - Environmental Report
 - Environmental Assessment
 - Environmental Impact Statement



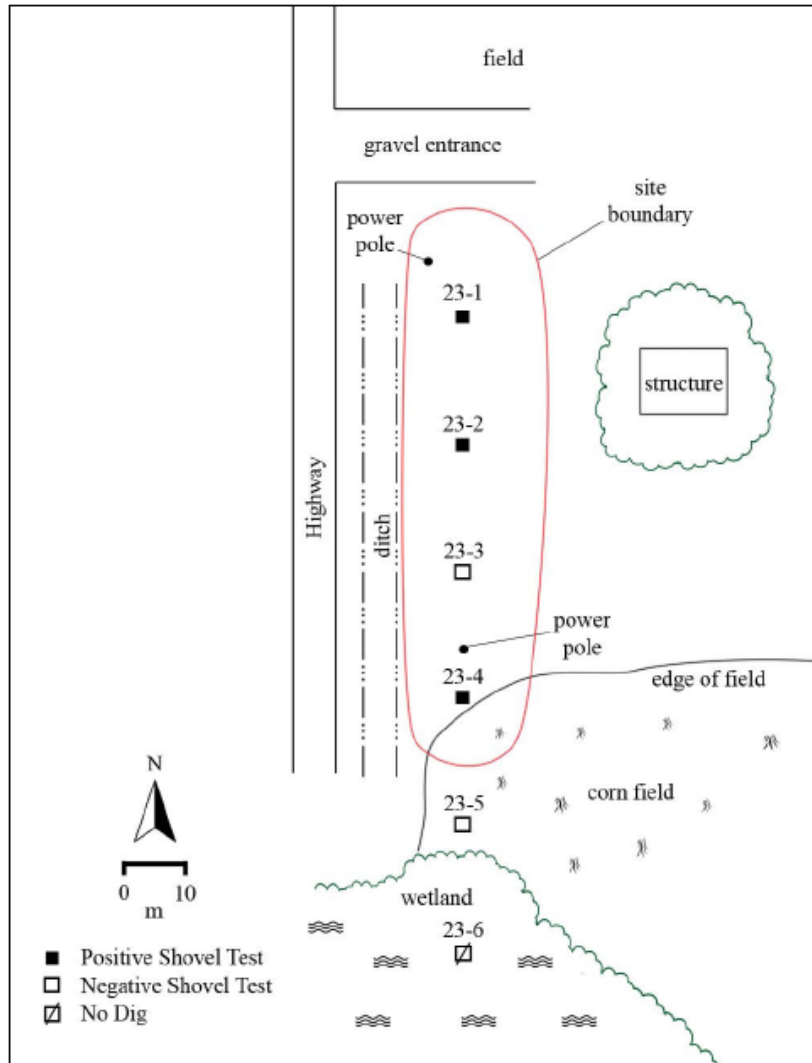
Transmission Projects

- Consultants/contractors are hired to perform environmental surveys and reports
 - Wetland delineation
 - Cultural resources
 - Others
 - Endangered species, etc.



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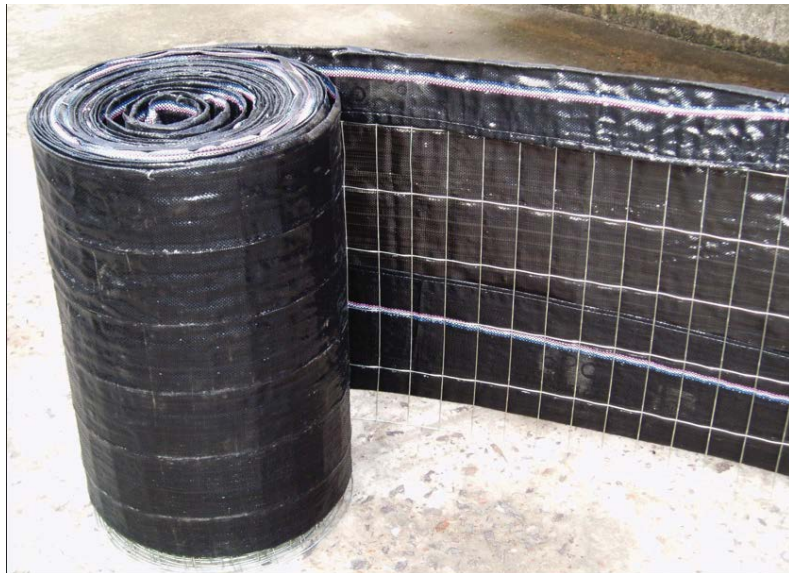
Transmission Projects



- Findings of surveys used to get environmental approvals and permits
 - 404 permit (if needed)
 - Approval from State and Tribal Historic Preservation Officers



Transmission Projects



- Other reviews/permits
 - NRCS
 - Determination of loss of prime farmland or farmland of statewide importance
 - ADEQ
 - If a large construction project, NOI and SWPPP submittal for coverage under general SW permit for construction activities
 - Short-term Activity Authorizations (if needed)



Endangered Species

- USFWS/AGFC and endangered species
 - IPaC Report (Information for Planning and Consultation)
 - List of ES believed to exist in area of project
 - Any critical habitats of ES that the project may impact

U.S. Fish & Wildlife Service
IPaC Information for Planning and Consultation
Powered by ECOS - the Environmental Conservation Online System

LOG IN

IPaC is a project planning tool which streamlines the USFWS environmental review process

[GET STARTED](#) [LOG IN](#)

[Need an updated species list?](#)

Integrate the environmental review process into your project design

Quickly and easily identify USFWS managed resources and suggested conservation measures for your project.

- Explore species and habitat**
See if any listed species , critical habitat, migratory birds or other natural resources may be impacted by your project.
Using the map tool, explore other resources in your location, such as wetlands, wildlife refuges, GAP land cover, and other important biological resources.
- Conduct a regulatory review**
Log in and define a project to get an official species list and evaluate potential impacts on resources managed by the U.S. Fish and Wildlife Service.
Follow IPaC's Endangered Species Review process—a streamlined, step-by-step consultation process available in select areas for certain project types, agencies, and species.
- Perform an impact analysis**
For projects or species not covered by the step-by-step consultation process, get a list of potential impacts from your specified project activities to use when making effect determinations.
Receive conservation measures recommended by U.S. Fish and Wildlife Service biologists to avoid, minimize, or mitigate effects to listed species.

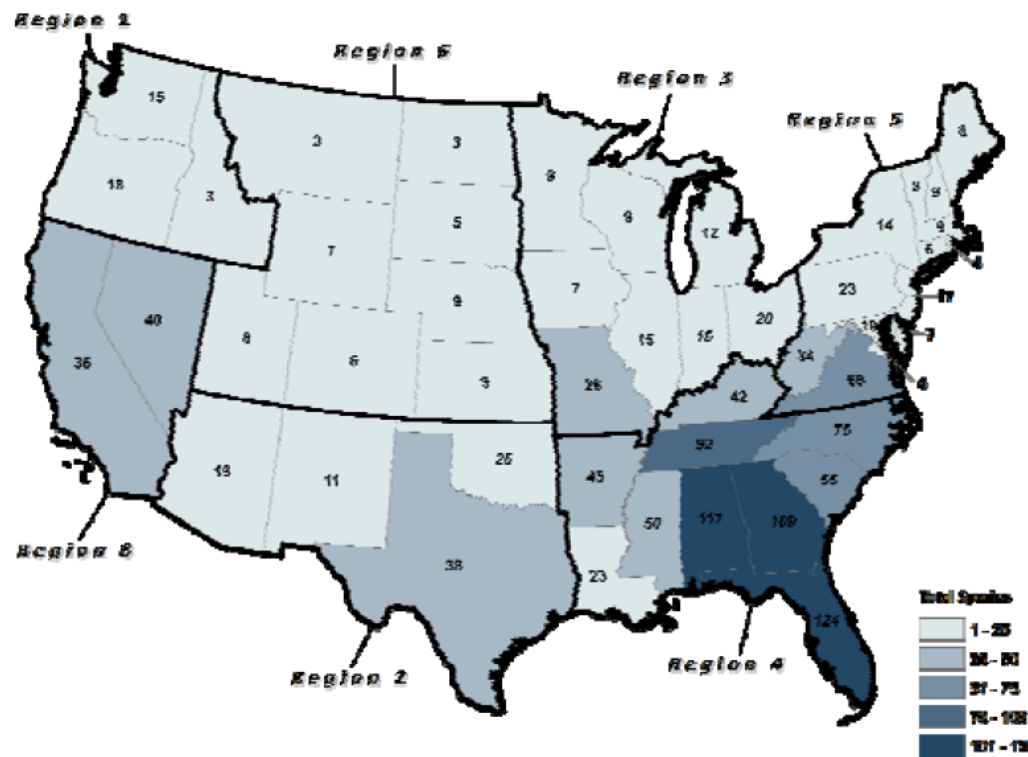


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Petitioned Species

Petitioned Species Density by State

- Map shows number of petitioned species in each state, and US FWS regional boundaries
- 532 total petitioned species (contiguous U.S.)
- 371 in Region 4



In 2014, AR contained 45 petitioned species



Endangered Species



- General language from IPaC report for projects in Arkansas
 - “If your species list includes any mussels, Northern Long-eared Bat, Indiana Bat, Yellowcheek Darter, Red-cockaded Woodpecker, or American Burying Beetle, your project may require a presence/absence survey prior to commencing project activities.”



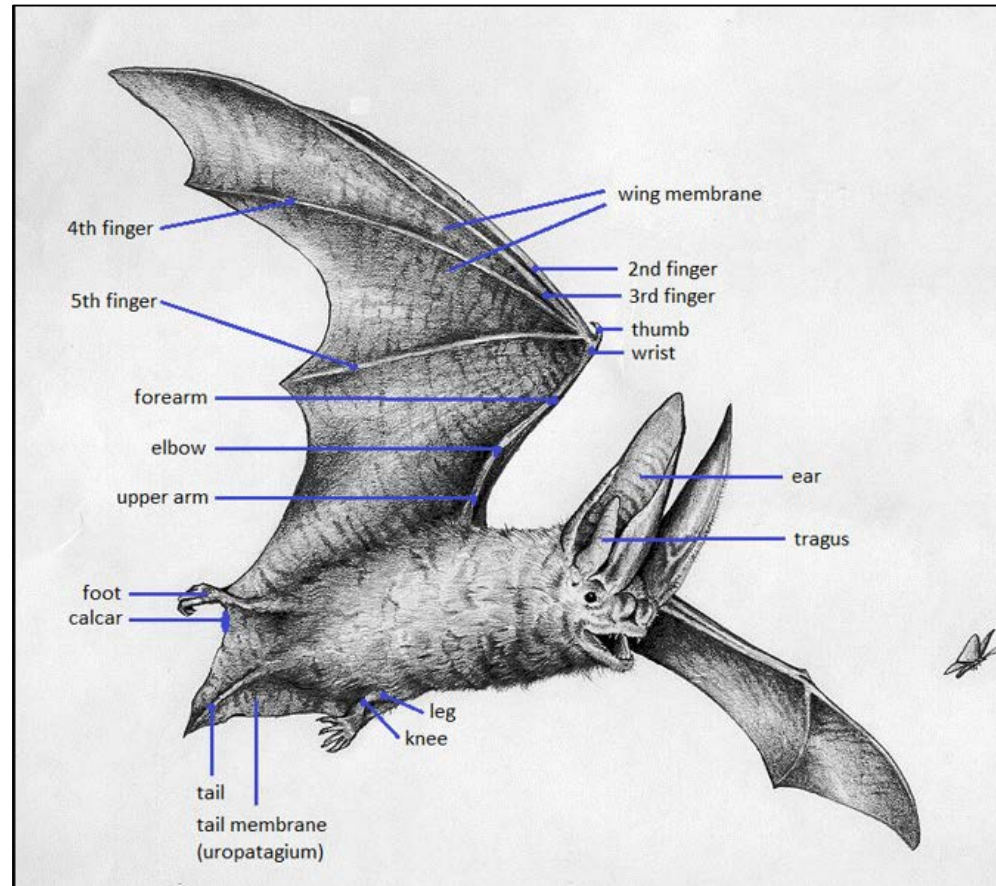
Endangered Species

- Listed bats in Arkansas
 - Indiana Bat
 - Northern Long-eared Bat
 - Ozark Big-eared Bat
 - Grey Bat
- Candidate bats in Arkansas
 - Tri-colored Bat



Listed Bats in Arkansas

- Disclaimer: I'm not a bat biologist.



Roosting



- Shagbark hickory and other trees with exfoliating bark, cracks, crevices, and/or hollows



White-Nose Syndrome (WNS)

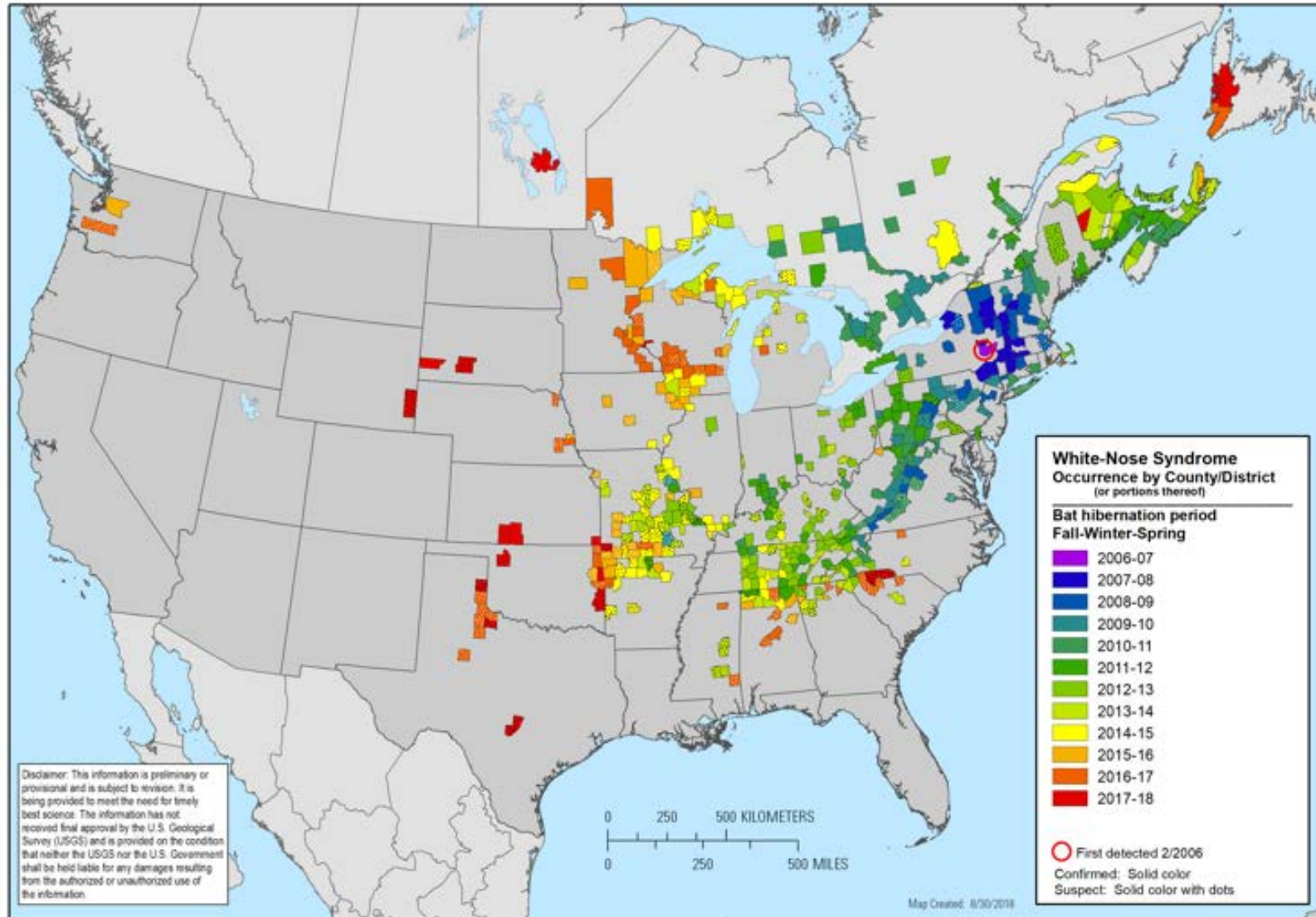


- First detected in New York in 2006
- Spread rapidly from northeast US to midwest and southeast



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WNS



Citation: White-nose syndrome occurrence map - by year (2018). Data Last Updated: 8/30/2018. Available at: <https://www.whitenosesyndrome.org/resources/map>.

- Confirmed in Washington state in 2015
- No longer confined to eastern U.S.



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Indiana Bat

- Listed as endangered in 1967
- Weigh $\frac{1}{4}$ of an ounce (~3 pennies)
- Hibernates in winter; roosts in summer



Northern Long-Eared Bat

- Spends winter hibernating in caves and mines (hibernacula)
- Roosts in summer – primarily in cavities or crevices of trees
- Listed as threatened on April 2, 2015



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What is a 4(d) Rule?

- Final ESA Section 4(d) Rule published for the Northern Long-Eared Bat (NLEB) on January 14, 2016
- Section 4(d) allows USFWS to establish special regulations for threatened (not endangered) species

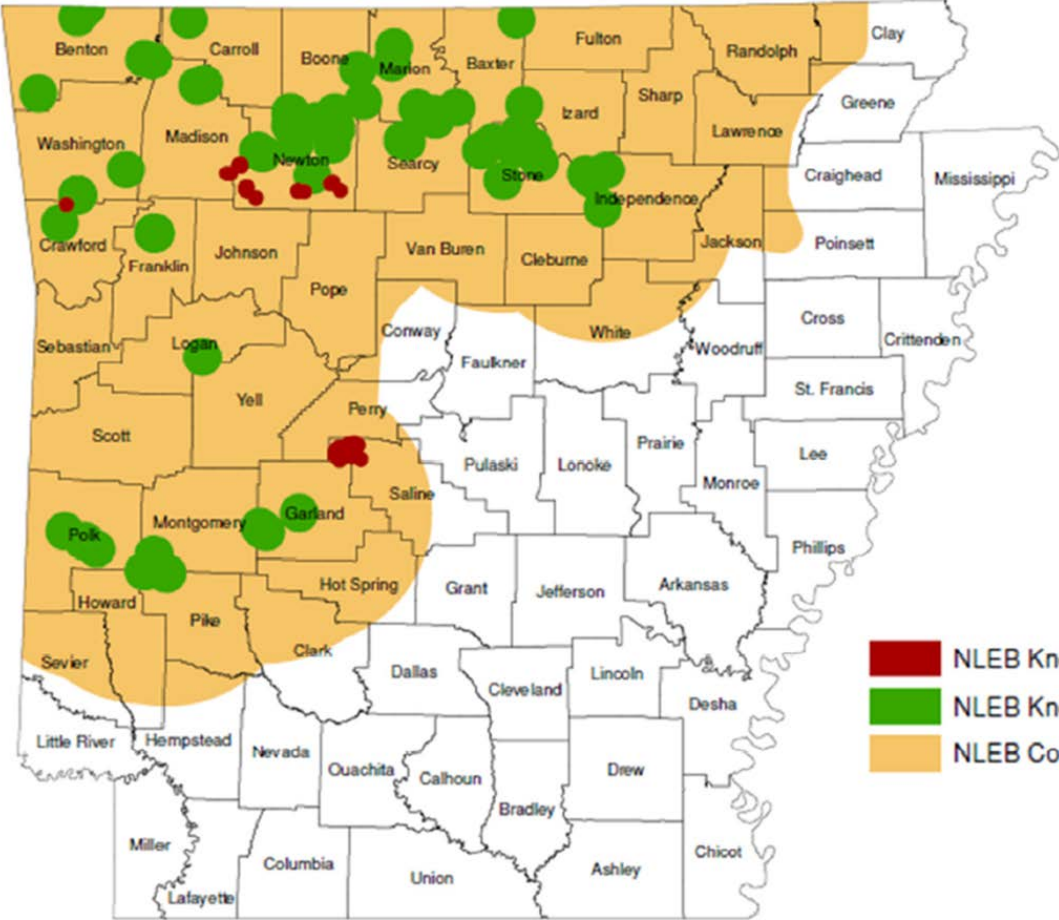


Consultation Areas

Indiana Bat Range

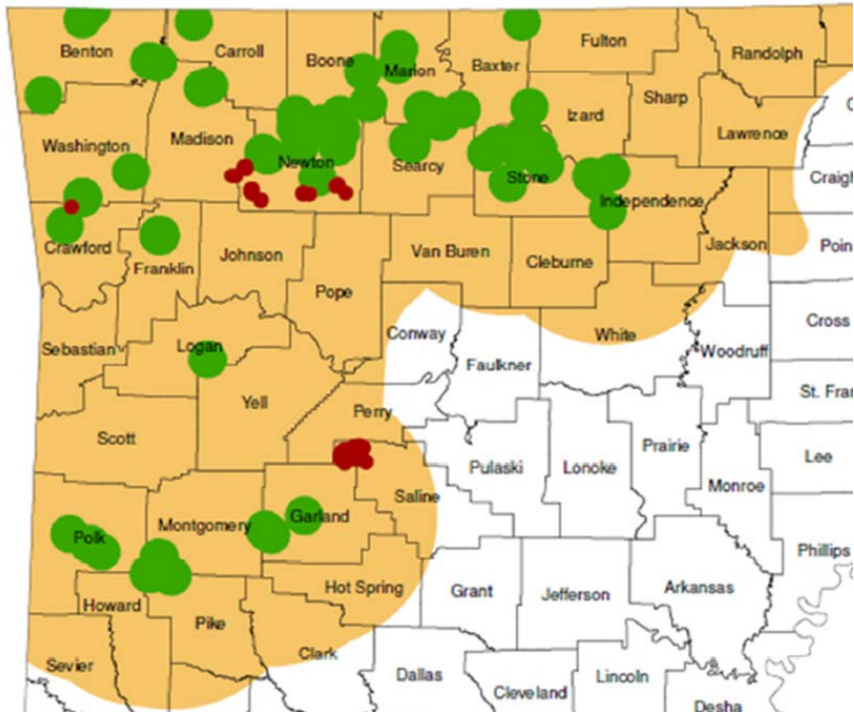
If project is in yellow area, you are likely to have to perform survey for Indiana Bats before clearing begins

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Discussion with USFWS Field Office



- How do I know where known NLEB hibernacula and maternity roost trees are located?
 - That info is not public; however, if you are close to a green or red dot then contact USFWS
 - Data can be purchased from the Arkansas Natural Heritage Commission
 - Two weeks



Bat Surveys

- In Arkansas, can only be performed May 15 through August 15 under current guidance
 - Can be a huge impact to project schedule
- If listed bats are present, then clearing ROW may be delayed until November 15
- A negative survey – no listed bats found – is good for five years



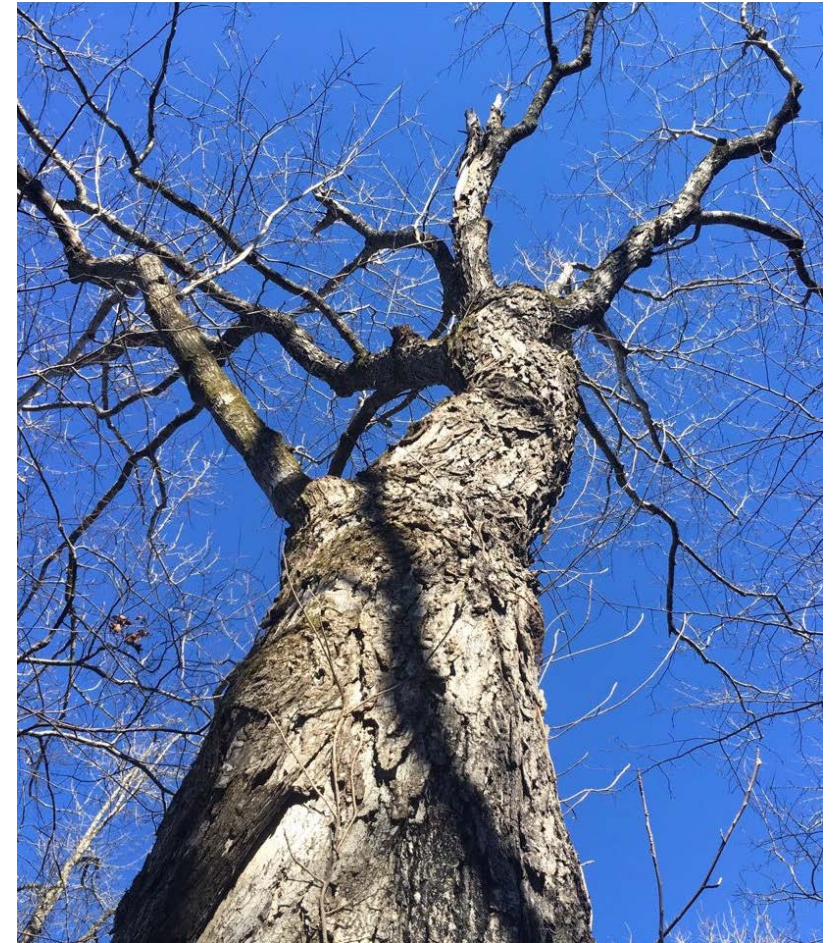
Current AECC Project

- Project in both bat consultation areas
- AECC anticipated being required to perform a bat survey during the summer of 2018
- AECC had a bat habitat assessment performed in January 2018 as an attempt to lower the number of survey sites



Current AECC Project

- The assessment determined that the habitat is not that great for bats.
- Only 152 potential roost trees identified over an 18-mile route.
- USFWS agreed that AECC could fell the PRTs during the offseason of November 15 – March 15.



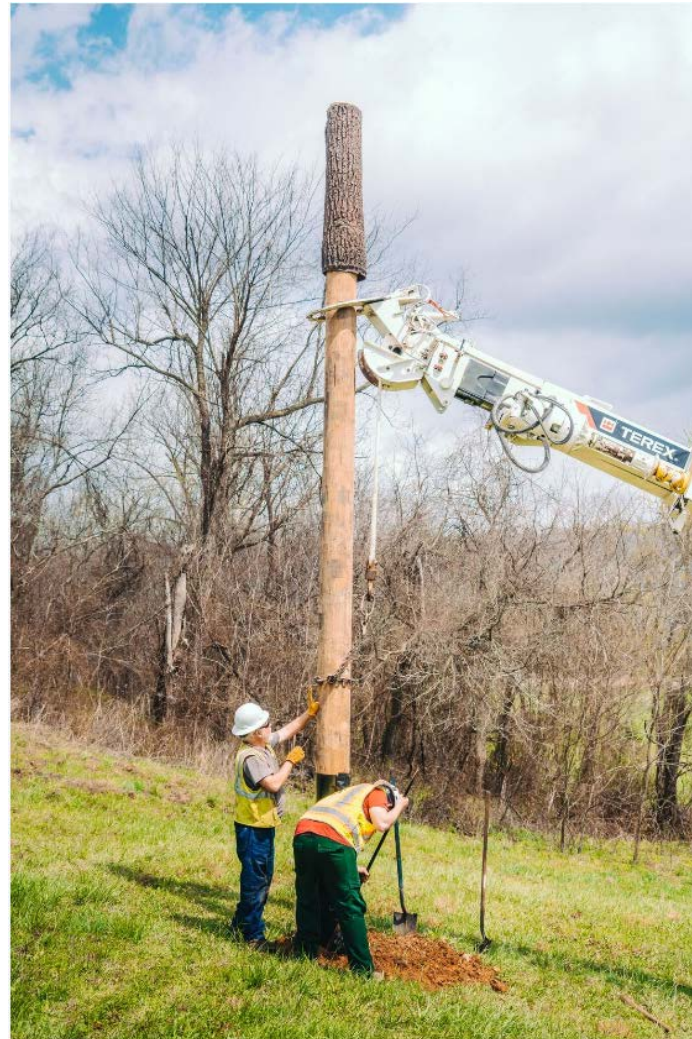
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Artificial Bat Habitat

- Installed three poles at each of four predetermined locations within the consultation area
- Worked with USFWS, The Nature Conservancy, ANHC, and AGFC.
 - The latter three manage three of the four sites
- Kings River Reserve (TNC)
- Slippery Hollow (ANHC)
- Dave Donaldson Black River WMA (AGFC)
- Near Blackwell (private property)



Artificial Bat Habitat



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Artificial Bat Habitat

- USFWS has an arrangement with a UCA graduate student to monitor the four sites for two years



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Artificial Bat Habitat



- By mid-May, the grad student informed the group that she had confirmed bat presence at one of the sites



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Artificial Bat Habitat



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COOPERATIVE DEVELOPMENT

Bats Gain New Summer Roosts in Converted Utility Poles

Arkansas co-ops support program to mitigate impact of new transmission lines

Published
July 5, 2018

Author
Cathy Cash

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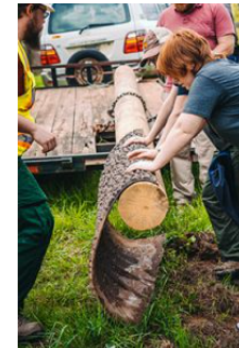


AECC helps conserve bat habitats

BY ARKANSAS LIVING MAGAZINE STAFF ON JUNE 2, 2018

AECC helps conserve bat habitats

Arkansas Electric Cooperative Corporation (AECC), a wholesale electricity supplier for Arkansas' 17 electric distribution co-ops, recently installed 12 artificial bat habitats at four sites in north Arkansas.



The artificial habitats consist of 20-foot wooden poles fitted with BrandenBark, an artificial tree bark, and bat guano catchers, said Stephen Cain, manager of environmental compliance for AECC.

The areas are: Kings River Preserve near Berryville, Slippery Hollow Natural Area near Dodd City; Dave Donaldson Black River Wildlife Management Area near Pocahontas, and private property near Blackwell. AECC worked with the Arkansas Game and Fish Commission, the Arkansas Natural Heritage Commission, The Nature Conservancy and the United States Fish and Wildlife Service on the projects.

AECC funded the BrandenBark sets for nine structures, pole delivery



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Questions?



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