



# STREAM MITIGATION UNDER THE CLEAN WATER ACT

*June 2024*



# Who is RES?

RES is restoring a resilient earth for a modern world, project by project.



- Founded in 2007, inspired by notion that restoration can be a win/win for both humanity and the environment
- Nation's largest ecological restoration company, creating ecological uplift by doubling down on nature's own processes
- Pioneered how to make environmental mitigation markets work with a turnkey, total-stewardship business model
- Innovative ecological problem solvers dedicated to being long-term stewards of the earth

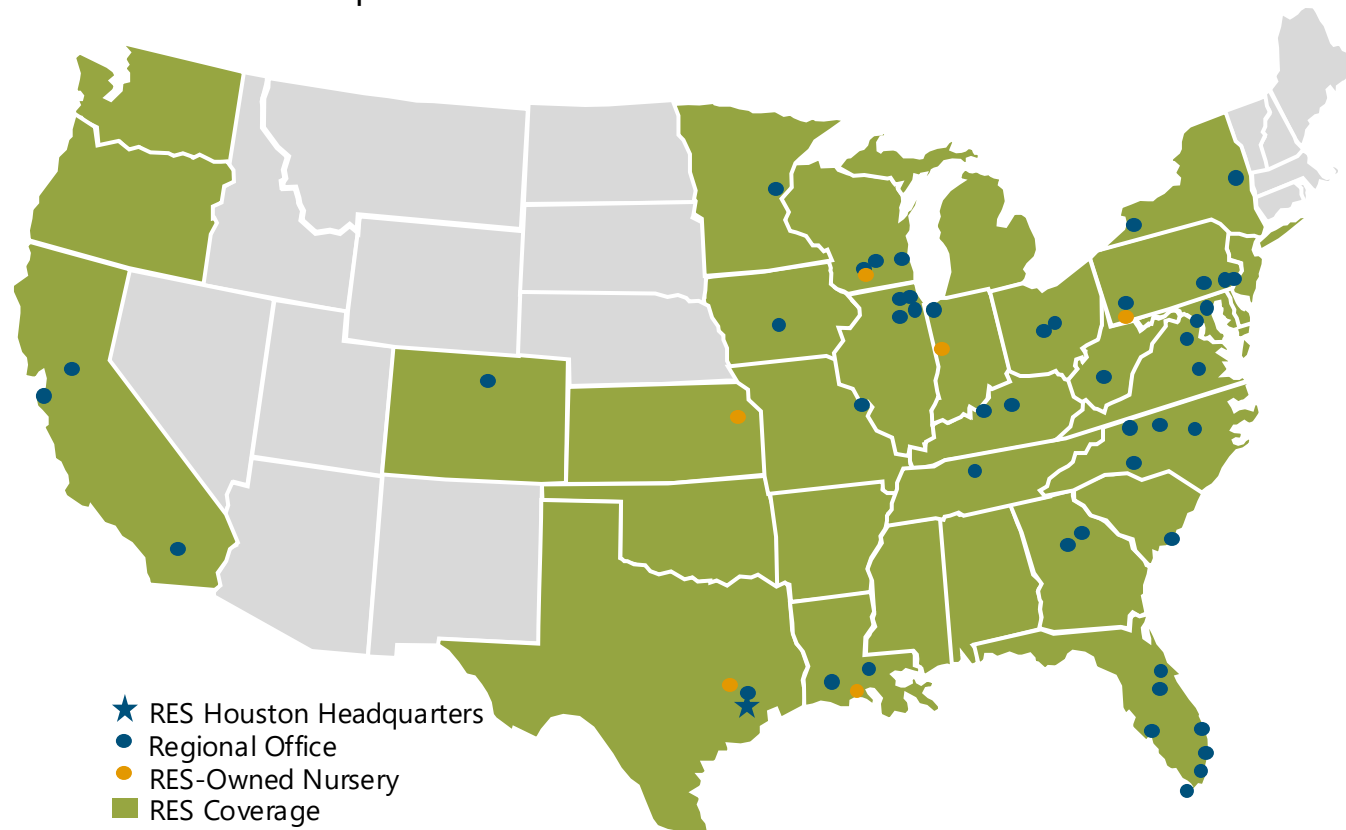


*The ecological uplift of a mitigation project helps offset unavoidable impacts of infrastructure projects like highway expansions.*

# RES Today

Understanding the needs of the resource, client, regulators, and stakeholders at the nation, regional, and local levels.

- In-state teams with locally experienced, industry-leading talent
- Backed by national experts across the ecological disciplines
- Over 900 dedicated staff in 40 operational hubs



## Recognition

Fastest Growing

Project Merit Awards



2010-2020



Environmental  
Business Journal  
Six-time Winner

## Milestones

- Founded 2007
- KKR investment, 2016
- Awarded largest PRM mitigation contract in U.S. history, 2018
- Onex/KKR investment, 2022
- Restoration contractor, Klamath River restoration following 2024 dam removal

## Acquisitions

- Sandra Walters Consultants; E Sciences, 2022
- LECON; Applied Ecological Services, 2021
- Blueway; Redwing Ecological Services; Carolina Environmental Contracting, 2020
- Apache Environmental, 2018
- Angler Environmental, 2016
- EBX, 2014



# RES Kentucky

- Office Locations
  - Louisville
  - Frankfort
- Staff
  - Ecologists
  - Engineers
  - Land Representatives
  - GIS / CAD
  - Administrative
- Primary Services
  - Clean Water Act Permitting
  - Endangered Species Consultation
  - **MITIGATION PROVIDER**



# RES Kentucky Services



## Who We Serve

Oil & Gas  
Residential Development  
Commercial Development  
Power & Utilities  
Roads (KYTC)  
Municipal Public Works  
Renewable Energy

## Environmental Mitigation

Wetlands | Streams | Species

## Stormwater Management & Water Quality

Stream Restoration | Green BMPs | Nutrient Reduction

## Climate Adaptation & Flood Resilience

Watershed | Urban | Corporate Sustainability

## Key Outcomes

Predictable Costs  
Fixed-Price Contracts  
Cost Savings  
Streamlined Permits  
Measurable, Verifiable Metrics  
Transfer of Regulatory Burden  
Self-Sustaining Ecosystems

# PERMITTING & MITIGATION



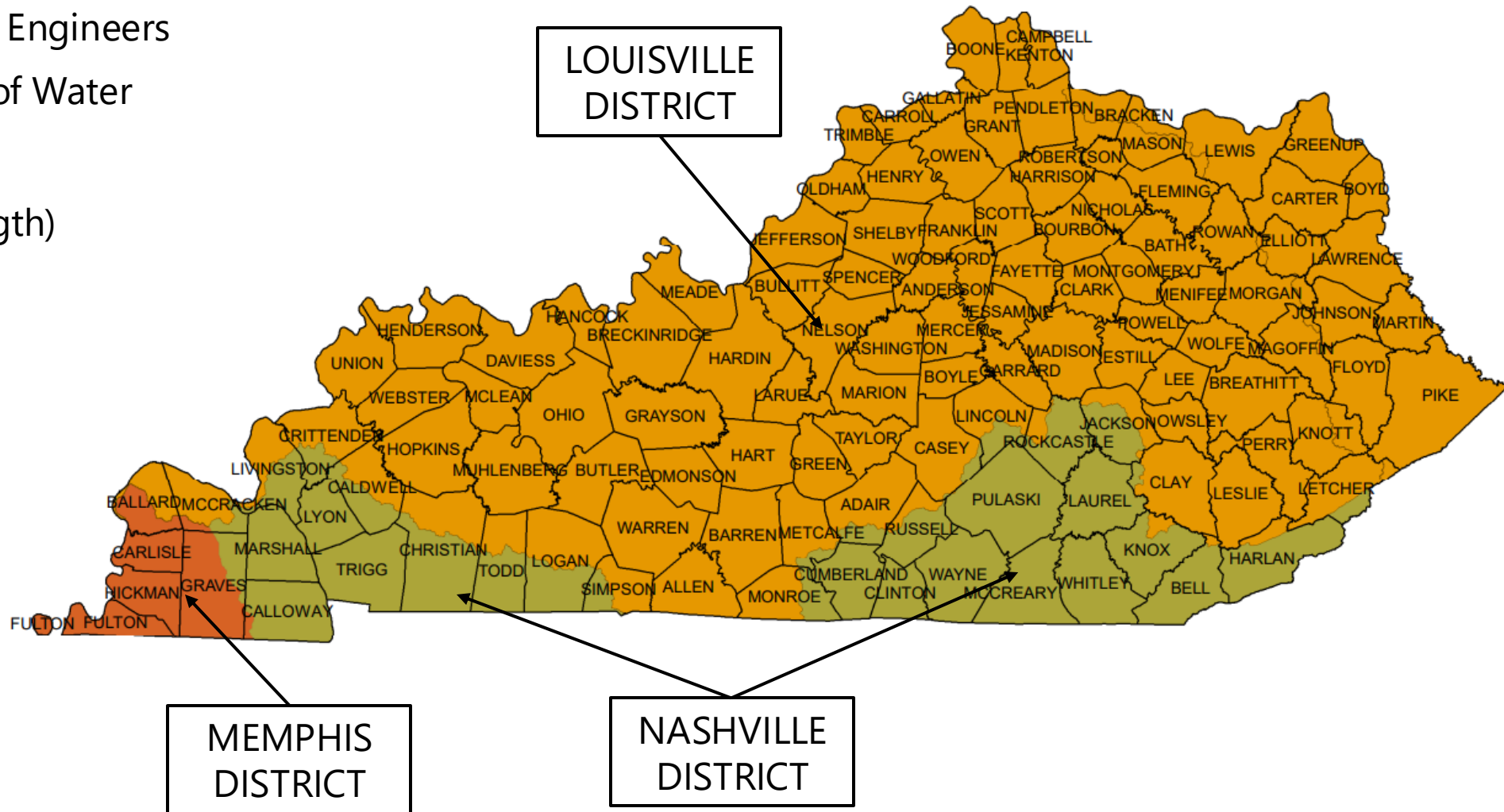
# Permitting

- Jurisdictional Waters of U.S.
  - Wetlands
  - Rivers and Streams
  - Lakes and Ponds
- Requires a “Delineation”



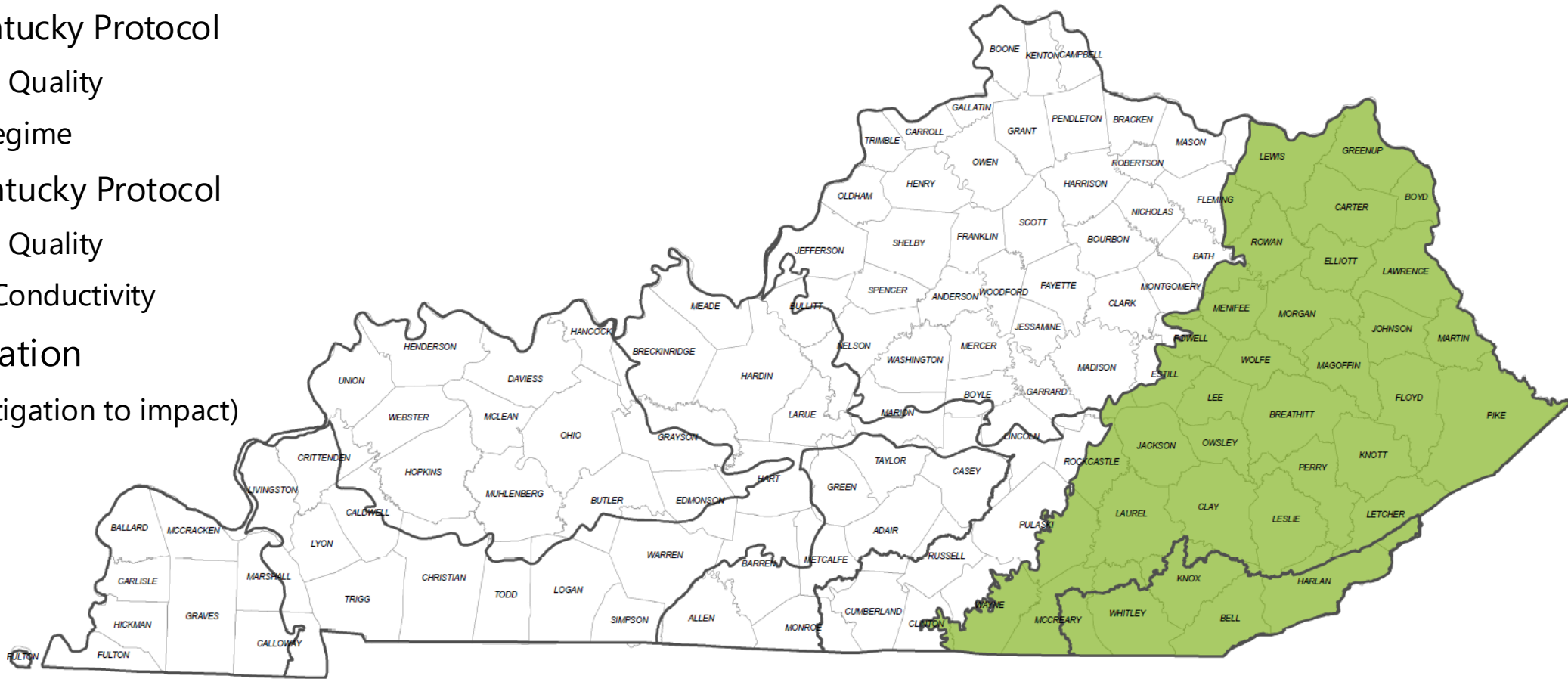
# Permitting

- Regulatory Agencies
  - U.S. Army Corps of Engineers
  - Kentucky Division of Water
- Permitting Factors
  - Size (acreage / length)
  - Type / Quality
  - Activity
- Permit Types
  - Nationwide Permit
  - Individual Permit
- Mitigation
  - 0.03 acre of stream
  - 0.1 acre of wetland



# Mitigation

- Stream Mitigation Calculation
  - Based on location
  - Central Kentucky Protocol
    - Habitat Quality
    - Flow Regime
  - Eastern Kentucky Protocol
    - Habitat Quality
    - Water Conductivity
- Wetland Mitigation
  - 2:1 (mitigation to impact)



# Mitigation

- Types

- Mitigation Banks

- Private
    - Up-front

- In-Lieu Fee

- Administered by KY Fish and Wildlife
    - Performed After Impacts

- Permittee-Responsible

- Performed by Permit Holder
    - 5-10 Year Commitment

- Constraints

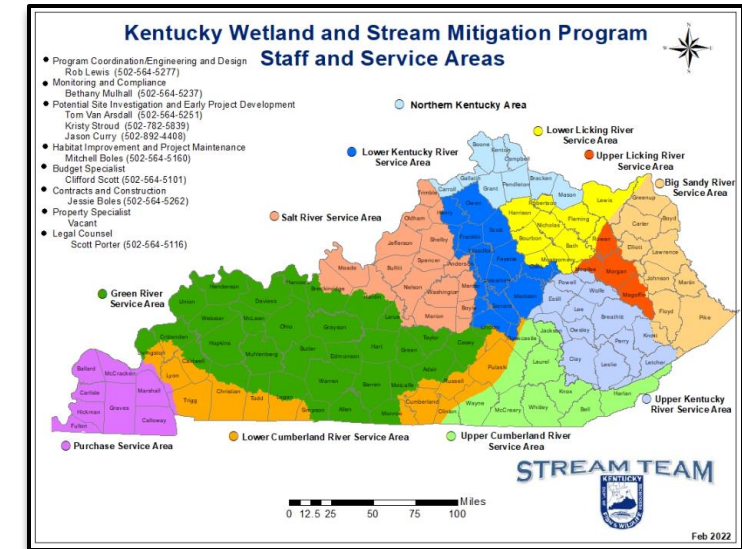
- Regulatory Hierarchy
    - Time
    - Land

## Stream Fee Schedule

Service Area	Credit Method	Cost per Credit Effective 08/01/2022
Big Sandy	EIU	No Credits Available
Lower Cumberland	AMU	\$528
Upper Cumberland	EIU	\$1,183
Green River	AMU	\$549
Jackson Purchase	AMU	\$522
Lower Kentucky	AMU	\$395
Upper Kentucky	EIU	\$930
Lower Licking	AMU	\$490
Upper Licking	EIU	\$1,072
Salt	AMU	\$518
Northern Kentucky	AMU	\$522

## Wetland Fee Schedule

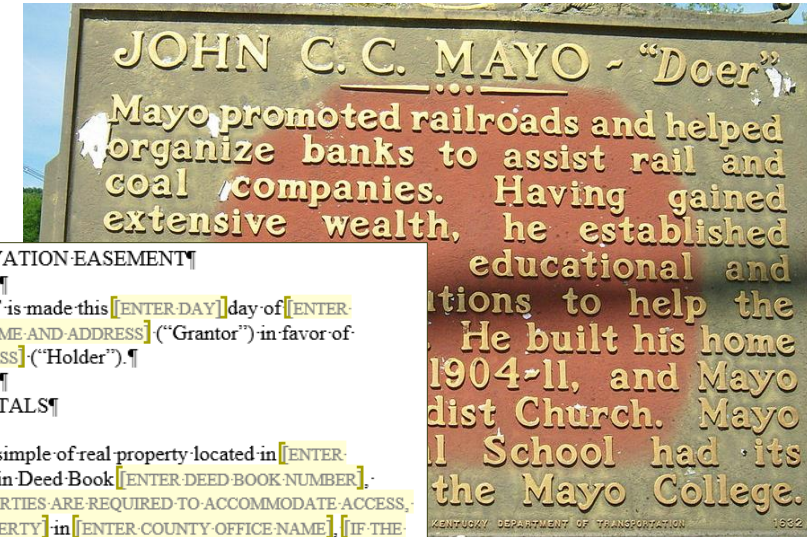
Service Area	Credit Method	Cost per Credit Effective 08/01/2022
All	AMU	\$78,000.00



# MITIGATION & OWNERSHIP



# Ownership Constraints



## Kentucky

- Title Search Requirements
    - Title work back to 1875
  - Long-Term Protection
    - Conservation Easement
    - Declaration of Restrictive Covenants
  - Protection Requirements
    - "Owner in **fee simple** of the real property"
    - No oil or gas development "on, from, under, within, or across"
    - Recorded in perpetuity
- ## Nearby States
- Remoteness opinion

DEED OF CONSERVATION EASEMENT

THIS CONSERVATION EASEMENT is made this [ENTER DAY] day of [ENTER MONTH], [ENTER YEAR], by [ENTER GRANTOR NAME AND ADDRESS] ("Grantor") in favor of [ENTER HOLDER'S FULL LEGAL NAME AND ADDRESS] ("Holder").

RECITALS

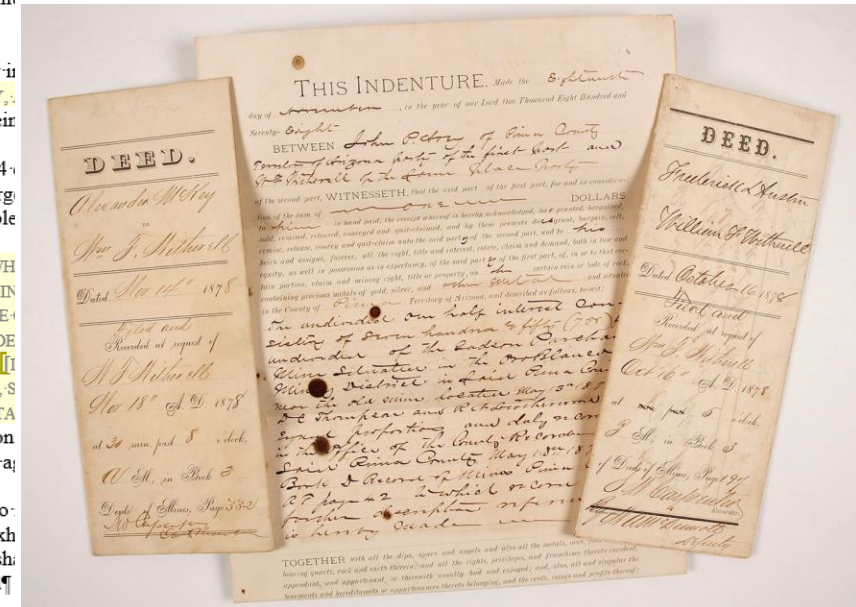
WHEREAS, Grantor is the owner in fee simple of real property located in [ENTER COUNTY NAME] County, Kentucky, as described in Deed Book [ENTER DEED BOOK NUMBER], Page [ENTER PAGE NUMBER], [IF MULTIPLE PROPERTIES ARE REQUIRED TO ACCOMMODATE ACCESS, INCLUDE ADDITIONAL LANGUAGE FOR EACH PROPERTY] in [ENTER COUNTY OFFICE NAME], [IF THE ACCESS PROPERTY SPANS MULTIPLE COUNTIES, INCLUDE THE PRIOR INFORMATION FOR EACH PROPERTY BY COUNTY] and as more particularly described in the legal description [s] attached hereto in Exhibit A and shown on the [REFERENCE A PLATTED SURVEY, APPROVED DRAWING, AND/OR SITE PLAN] attached hereto as Exhibit B, both of which are incorporated herein by reference ("Access Property");

WHEREAS, Grantor is the owner in [ENTER REFERENCE TO A PLATTED SURVEY, s] hereto as Exhibit C and incorporated herein

WHEREAS, Sections 401 and 404 mitigation when impacts from the discharge waters of the United States are unavoidable

WHEREAS, Holder is a [STATE WHO BODY EMPOWERED TO HOLD AN INTEREST IN THE UNITED STATES, OR (B) A CHARITABLE CHARITABLE TRUST, AND STATE THE HOLDER PURPOSES AND/OR POWERS OF WHICH INCLUDE [I RETAINING OR PROTECTING THE NATURAL, S PROTECTING NATURAL RESOURCES; MAINTA that is authorized to hold this Conservation and the laws of the United States and has a

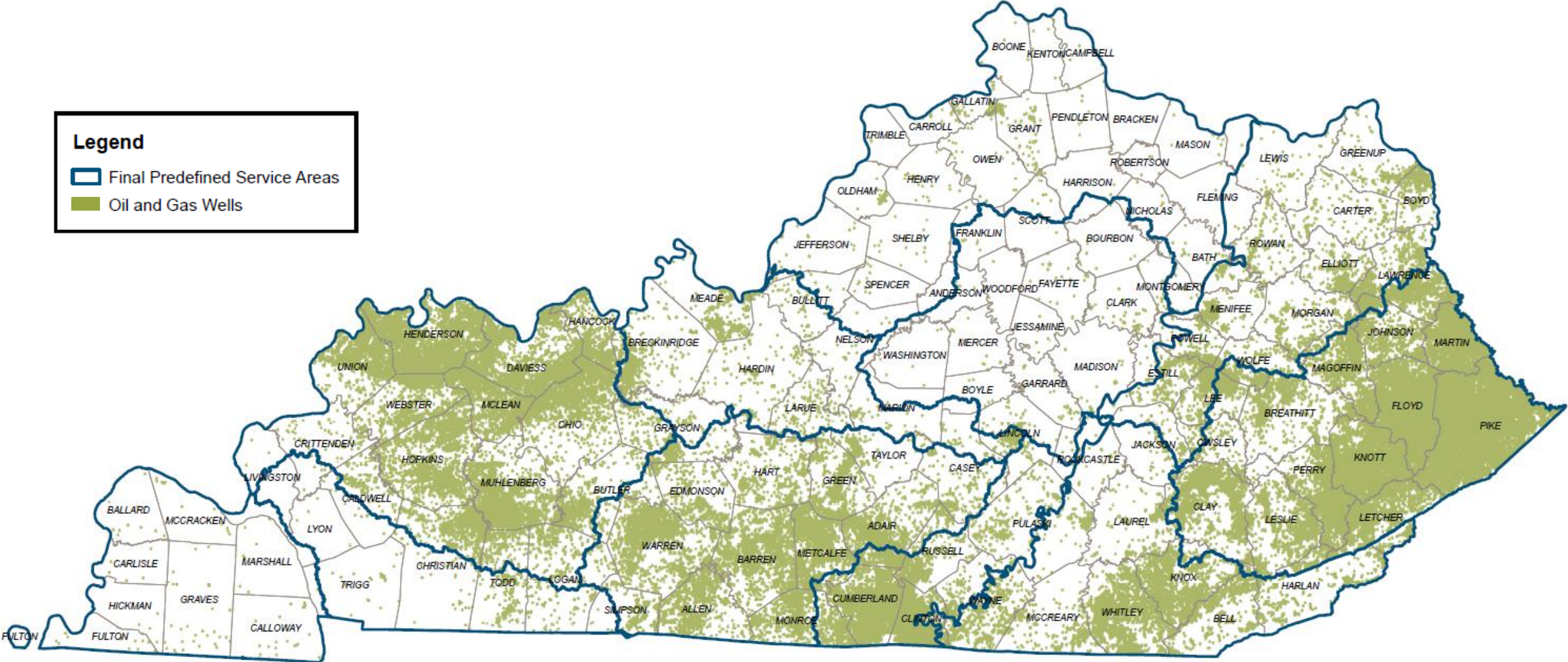
WHEREAS, Grantor has agreed to ("Mitigation Plan"), attached hereto as Exhibit by reference, a copy of which shall be filed with the Grantor, and the Holder; and



# Ownership Constraints

**Legend**

- Final Predefined Service Areas
- Oil and Gas Wells



# MITIGATION CASE STUDY

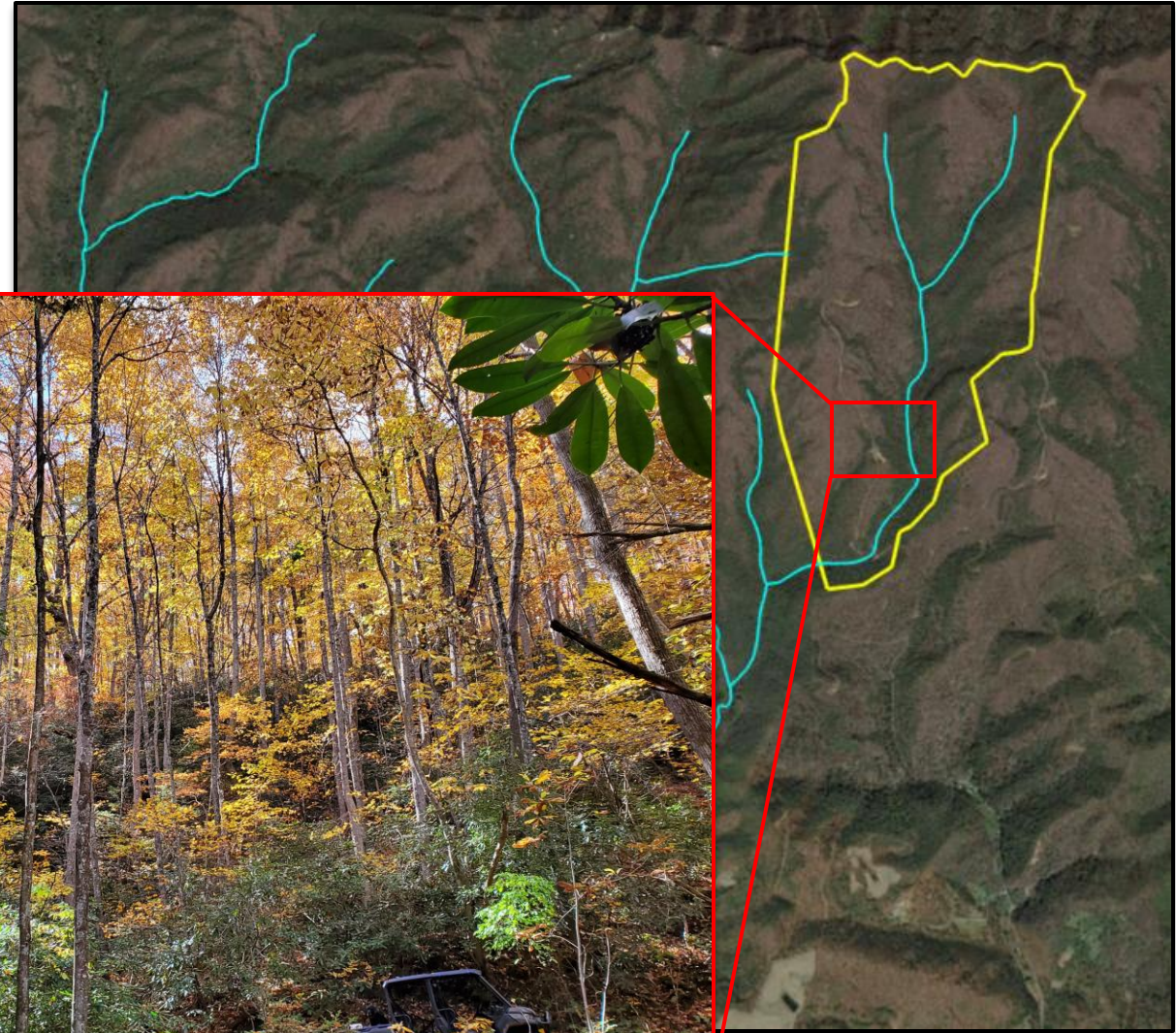
Eastern Kentucky



# Case Study

## Eastern Kentucky

- Mitigation Considerations
  - Ecological Components
    - Presence of Special Use Waters
    - Presence of Endangered Species
    - Healthy forest
  - Location in Watershed
    - Control of entire watershed
  - Water Conductivity (Eastern KY)
    - Ideal < 150  $\mu\text{S}$
    - No Mitigation > 500  $\mu\text{S}$
  - Previous Disturbance (Limited)
    - Logging road crossings
    - Well road crossing



# Case Study

## Eastern Kentucky

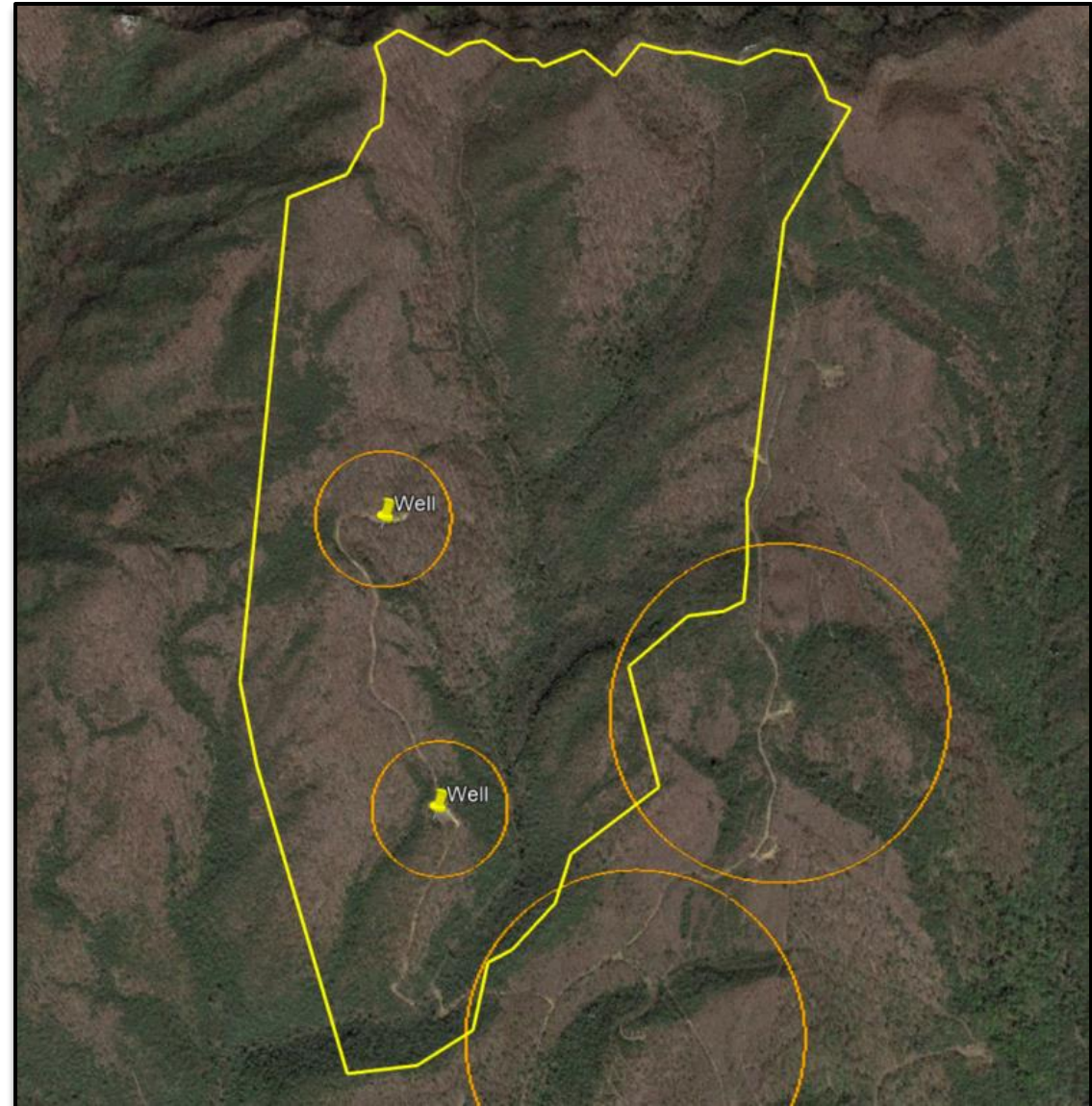
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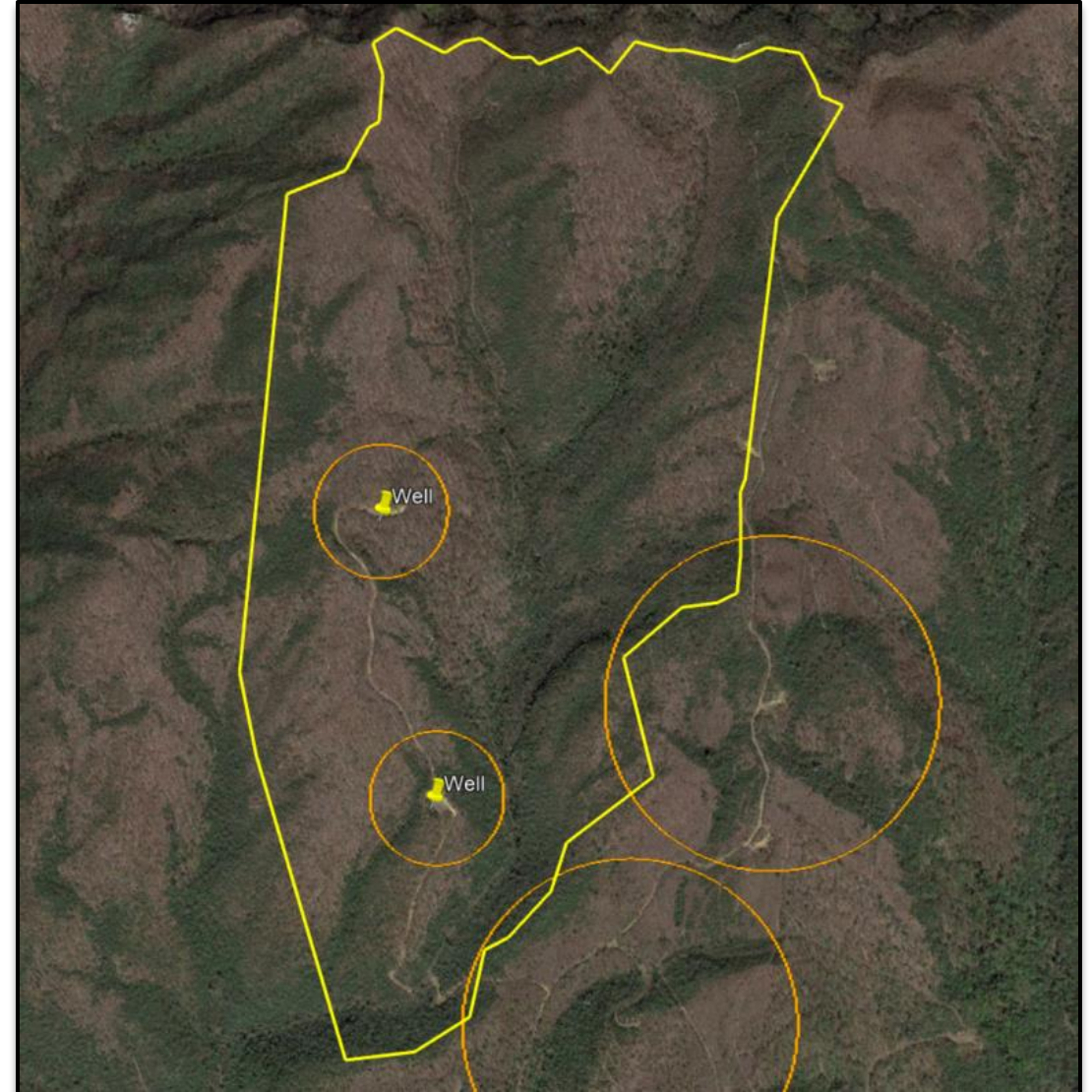
- Ownership
  - Fee Simple
    - Miraculous
- Oil / Gas Lease
  - Shallow and deep rights
  - Two active on-site wells
    - Low production
    - Near end-of-life
  - Two off-site wells
    - Low production
    - Near end-of-life
  - Off-site well unitization areas



# Case Study

## Eastern Kentucky

- Oil / Gas Lease Resolution
  - Coordinate with Corps of Engineers
    - Initial meeting: April 2023
    - Respond to questions: June 2023
    - Respond to more questions: September 2023
      - Leases, Pooling Agreements, etc.
    - Respond to more questions: October 2023
      - Mineral Title Opinion
    - Agreement to move forward: February 2024
  - Next Project Steps
    - Agreement to purchase lease
    - Close / Plug wells
    - Terminate leases
    - **START MITIGATION WORK**



# MOVING FORWARD



# Moving Forward

- Status Quo
  - *Most likely scenario*
  - Continued frustration
  - Limited ability to provide mitigation
- Regulatory Easing
  - Kentucky Ecological Restoration Association
  - Use of properties with severances
  - Conflict between ownership and mitigation
- Collaborative Work
  - Avoidance of high production areas
  - Use of low production areas
  - Work collaboratively to close wells?



# QUESTIONS???

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