Agenda

• Introduction to RES
• Species mitigation
  • History
  • Process
  • Experience
• Case examples
  • Bats
  • Heelsplitter mussels
• Lessons and take-aways
RES Solution Lines

Who We Serve
- Roads & Tollways
- Municipal Public Works
- Oil & Gas
- Renewable Energy
- Power & Utilities
- Manufacturing & Heavy Industry
- Commercial Development

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

- Wetland & Stream Mitigation
- Species Habitat Mitigation
- Stormwater Management & Nutrient Reduction
- Corporate Sustainability Initiatives
- Public Works & Coastal Resiliency
Species Mitigation

• Established species banking “industry” in California, Florida, Missouri, South Carolina, Pennsylvania and a few other states

• Gaining momentum nationally:
  • 1973 Endangered Species Act
  • 2015 Presidential Memorandum
  • 2016 Revised Mitigation Policy
  • July 2018 –FWS Mitigation and DOI ESA Compensatory Mitigation Policies Rescinded
    – Elimination of “net gain” goal

• Three mitigation tools
  • Mitigation Banks
  • In-Lieu Fee Programs
  • Permittee-Responsible Mitigation (PRM)

• Each USFWS office will have their own perspective
Species Protection

- Each species has its own;
  - Geographic range
  - Reasons for being listed
  - Actions which cause it harm
  - Offset requirements

- Each species is governed by the oversight of the local USFWS field office
  - Species range often covers multiple USFWS field office jurisdictions
  - Each USFWS office will have their own preferences regarding;
    - Level of enforcement
    - Opinion on jurisdiction
    - Willingness to require mitigation
    - Definition of what acceptable mitigation looks like
Mitigation Approval Processes

Mitigation Bank

Mitigation Banking Instrument / Mitigation Site Plan (18-24 months)
- Site Selection
- Mitigation Approach
- Crediting & Release Schedule
- Financial assurances
- Legal protective instruments
- Adaptive Management
- Long-term Maintenance and Monitoring
- Reporting timeline and structures
- Long –term easement holders

Permittee Responsible Mitigation (PRM)

Joint Permit Process (6-9 months)
- Mitigation Approach
- Construction Review
- Sequencing & Alternatives Analysis
- Credit Calculations
- Using Guidelines for Preparing Compensatory Mitigation Plan, (aka “SOP”)
Species Experience and Expertise

**Bats** (ex. Indiana, Northern Long-eared, Little Brown)
- Worked with USFWS to develop offset methodologies in PA and WV
- Delivering solutions in PA, WV, OH and IN today
- Enabled time critical clearance letter from USFWS for Pipeline Client

**Birds** (ex. Golden-Cheeked Warbler)
- Worked with USFWS and other agencies to develop 1,250-acre habitat bank covering 13 counties named Festina Lente in Bandera, TX

**Aquatic** (ex. Carolina Heelsplitter)
- Designed and implemented 800-acre solution with the stakeholder group made up of local government, NGOs, and USFWS
- Expanding project to include 500 additional acres

**Amphibians** (ex. Cheat Mountain Salamander)
- Developed 115-acre enhancement and conservation project for rare high elevation wetlands adjoining Monongahela National Forest
Forest Bats of Concern

Indiana bat (*Myotis sodalis*)
- Federally endangered

Northern long-eared bat (*Myotis septentrionalis*)
- Federally threatened
Case Study: Bat Habitat PRM - PA

- Received expedited regulatory approval (one month)
- Preserved more than 70 acres of previously unprotected high and medium quality forest within the range of a known Indiana bat maternity colony in southwestern Pennsylvania
- Invasive species performance standard (less than five percent coverage)
- 10-year monitoring period
- Long-term stewardship endowment established to fund long-term management
Case Study: Wolf Run PRM - WV

• Permittee-responsible solution for a proposed pipeline within critical bat habitat
• Received regulatory approval within one month
• Preserved 124 acres of previously unprotected high quality Indiana bat habitat and 231 high quality potential roost trees
• Mist net/radio tracking monitoring required
Pioneer Trail Wind Farm: IL Species Mitigation for 150 MW Wind Farm

• 43-year ITP resulting in impact of take of 242 female Indiana bats, 125 female Northern long-eared bats

• Per the HCP, 206 acres of suitable summer maternity habitat was needed to fulfill mitigation obligations.

• RES assembled three parcels within the Middle Fork Vermillion River Corridor (Vermillion County) through coordination with FWS and DNR
  • Direct connection to riparian floodplain
  • High priority conservation area for both species given capture and roost tree data
  • Both preservation and restoration component that supports farming in the region – preserving wooded acreage along creeks, restoring edges of wooded areas into ag fields
  • Bat presence validated through acoustics supported by historical capture data within watershed
  • BrandenBark artificial roost tree installation on restoration component
  • Creation of bat food source habitat using CRP pollinator seed mix
Pennsylvania Statewide Bat Conservation Bank

• First Endangered Species Mitigation Bank in the Northeast Region

• Conditionally approved in 2017

• Final Approval received from the U.S. Fish & Wildlife Service Northeast Regional Solicitor in 2018

• Product of 3+ years of collaboration with the U.S. Fish & Wildlife Service State College field office and Regional Solicitor

• 438 acres of high quality Indiana bat (Myotis sodalis) habitat used by two of the last known maternity colonies in Pennsylvania in a critically threatened area of the State

• In addition to Indiana bats, acoustic surveys indicate likely presence of 8 additional bat species, including Northern long-eared (Myotis septentrionalis) and Tri-colored (Perimyotis subflavus) bats
Bat Stats

• One (1) USFWS approved bat bank in Pennsylvania
• Three (3) PRM sites in West Virginia
  • Over 225 acres
• Five (5) PRM sites in Indiana
  • Over 2,000 acres
• Three (3) PRM sites in Illinois
  • Over 550 acres
Carolina Heelsplitter Conservation Bank

Carolina heelsplitter (*Lasmigona decorata*)

Lancaster County, South Carolina
December 2009
811 acres

*The bank includes streams where the heelsplitter is currently present.*

- 389 acres of Riparian Buffers
- Preservation and management of riparian buffer areas and uplands to enhance in-stream water quality
- 834.8 credits
- Multi-state bank with service area covering both North Carolina and South Carolina; county/local land-use ordinances are credit drivers; upland activities are controlled to protect aquatic areas
Lessons and Take-Aways

- Incorporate mitigation planning early in project process
  - Consult mitigation provider
  - Positive relationship with regulators
  - Reduces cost by speeding project timelines
    - Land acquisition
- Plan mitigation around entire project
  - Regulators often want to see overall impacts
  - Cost benefits of scaling
    - Reduced permit administration costs
    - Reduced land search costs
- Look for risk and liability transfer with the mitigation provider
  - Long term stewardship and monitoring requirements
Questions?

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Free Webinar - April 16th | 2-3 PM EST
Register at awea.org/events
Baltimore  Baton Rouge  Bay Area  Charleston  Charlottesville  Chicago  Columbus
Fairfax  Houston  Lafayette  Nashville  Oak Hill  Odenton  Philadelphia
Pittsburgh  Raleigh  Richmond  Sacramento  Warrenton

THRIVING TOGETHER
Northern long-eared bat 4(d) Rule

- FWS acknowledged that habitat was not a driving factor in population decline
- 4(d) rule narrows “take” timeframe
  - June-July vs March-October

<table>
<thead>
<tr>
<th>Location</th>
<th>Ruling</th>
<th>4(d) Exceptions</th>
<th>Notes</th>
<th>Add'l Notes</th>
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<tbody>
<tr>
<td><strong>RANGE-WIDE</strong></td>
<td>Prohibits All</td>
<td>When necessary to protect human health</td>
<td>Purposive Take - sole purpose of the action is to conduct some form of take.</td>
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<td></td>
<td>Purposeful Take</td>
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<td>Take - to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any endangered species.</td>
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<td>Removal from human</td>
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<td><strong>OUTSIDE THE WING-ZONE</strong></td>
<td>Allows for All</td>
<td>Incidental Take - “any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, and otherwise activity”</td>
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<td>4(d) rule does not prohibit Incidental Take resulting from otherwise lawful activities in areas not yet affected by WNS</td>
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<td>Incidental Take</td>
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<td><strong>INSIDE THE WING-ZONE</strong></td>
<td>Allows for Majority of</td>
<td>Known Winter Hibernacula - “locations where one or more NLEBs have been detected during hibernation or detected at the entrance during fall swelling or spring emergence”</td>
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<td>Prohibits incidental</td>
<td>This buffer is protected year-around</td>
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<td>Take from tree removal</td>
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<td>Prohibits incidental</td>
<td>Occupied Maternity Tree (Roots) - “Trees (roots) that have had female NLEB or juvenile bats tracked to them or the presence of female or IV bats is known as the result of other methods”</td>
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<td>Take as result of tree</td>
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