



Rights-of-Way as Habitat Working Group
Mitigating for Species and Resource Impacts:
Traditional Options and New Approaches

October 2017

Building a stronger economy and a better environment

*RES creates solutions to support
economic development and long-term
environmental sustainability.*

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By the numbers



Focusing on client's needs with a dedication to providing complete fixed price turnkey solutions

1,850+

federal and state permits received using RES-supplied solutions

240+

tons of water quality nutrient reductions

180+

miles of streams restored and conserved

100%

performance-based turnkey solutions

0

site failures, violations, or non-compliance issues

Industry leader



Proven turnkey ecological restoration experience
with a dedication to high standards

11,000,000

restorative trees planted

78.9%

tree survival rate

45,540

acres of restored and protected lands

6,100

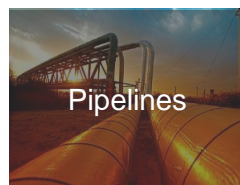
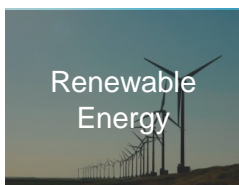
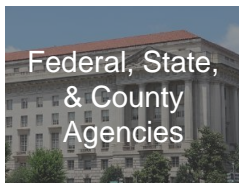
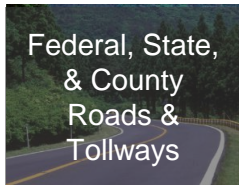
acres of endangered species habitat preserved

225

mitigation sites, completed or in-process

Drivers for a Conservation Investment

- Associated with new build permits (species, wetlands, streams)
- Future liability avoidance (rights-of-way)
- Asset projection (stream bank stabilization)
- Socially Responsible Initiatives outside of regulatory context (performance-based restoration)



Drivers for a Conservation Investment: Regulatory

Regulatory Obligation

- ESA Section 7 or 10
- CWA Section 404/401
- Others (State/Federal/Local)
- Mechanics
 - Permit-specific project
 - Large scale
 - Interests of outside stakeholders important
 - Liability transfer through reputable third party turnkey contract
 - Mitigation Banks
 - Smaller transactions
 - Clear liability transfer
 - Consistent Requirements

Business Dynamics of Banking

- Capital investment decision
- 10-20 year window
- 90% of decision is based on demand
- Subject to regulatory variability over time



Drivers for a Conservation Investment: Future Liability

Concern about future liability

- Voluntary conservation measures for future credits (DO #218)
 - No regulatory assurances
 - No guaranteed market
- Conservation measures for protection under a CCAA
 - Regulatory assurances
 - No market risk

Consistent Requirements

- Baseline documentation
- Defined practices and Methodologies
- Right to perform the work
- Monitoring
- Financial assurances
- Additionality

Asset protection

- Water quality
- Streams
- Facilities



Corporate Sustainability

- A company's **“license to operate” extends well beyond the bottom line**
 - Enables creation of long-term value for a broad range of stakeholders through varying reporting metrics and performance standards
- Expectations of a good corporate citizen
 - Improving environmental performance
 - Engaging local communities
 - Achieving sustainability goals
 - Maximizing disclosure requirement

RES provides a tailored solutions through **industry-leading best practices** while **solely focusing on the company's initiatives.**



Sustainability solutions

Bringing Lasting Benefits to the Environment and Local Communities



RES Ecological Restoration solutions achieve Environmental Resilience goals by delivering performance-based project solutions that enable environmental and socio-economic sustainability

Community Benefits

- Hurricane Protection
- Storm Surge Protection
- Flood Protection

Long Term Social and Environmental Value

- Biodiversity Net Gains
- Positive Response to Climate Change

Local Participation

- Environmental Awareness
- Resilience Education



Marsh
Terrace
Creation



Bald Cypress
Swamp
Restoration



Optimizing the Investment

Any restoration or conservation project has the potential to support and **advance a company's Social License to Operate**

- Performance-based restoration versus just funding grants
- Expanding on permit-based restoration work

- Consolidation of efforts across multiple permits and companies

- Bundling the needs of multiple clients into larger project footprints
- Can also be done programmatically (i.e. RES efforts with wind farms)

- Stacking ecological services for better sites

- Wetlands restoration that enhances endangered species
- Integrated Vegetated Management
- Bat projects that are integrated with stream restoration
- All about site planning and selection



Keys to success

Client's initiative is central...

- Successful sustainability programs have a clearly defined set of outcomes for a target audience
 - Consumers
 - Industry / peers
 - Workforce
 - Local community
 - Investors
 - Policy-makers / community leaders



Proven solution provider is critical

- RES provides performance-based solutions while maximizing public benefits through...
 - Vertical integration
 - Operating model
 - Risk management
 - Fixed price with performance metrics
 - Community involvement
 - Local / company volunteers
 - NGO engagement
 - Customized marketing / messaging
 - Data sharing
 - Open-source data for colleges / researchers
 - Long-term stewardship





Building a stronger economy and a better environment

Baltimore Baton Rouge Charleston Chicago Columbus
Fairfax Houston Lafayette Oak Hill Odenton
Pittsburgh Raleigh Richmond Sea Girt Warrenton

Marsh terrace construction

Scope: Design, permit, construct, plant, and monitor for 5 years post-construction

- 25 acres
- 11,871 linear feet of Marsh Terraces
- 5,000 Restorative cypress trees
- 35,000 Marsh grass plugs

Community Outreach Aspect: Protection of citizens in Chauvin, Montegut, Bourg, Houma by external protection and stabilization of levee system. Opportunity for nearby schools and communities to be educated on the need for resiliency projects in the area.

Five years of Monitoring to ensure stabilization and establishment of marsh and cypress species within the project area. Replanting will occur within project area to ensure success

Reportable and Measurable: Annual Monitoring Reports and Aerial Mapping with Drone Flights Pre & Post to demonstrate project success

Site Disposition Options:

Donation of site to State of Louisiana LDWF: PAC WMA
Donation of site to USFWS: Rockefeller WMA
Donation of site to City of Chauvin or City of Houma
Long term stewardship by U.S. Land Conservancy

Wetlands Restoration:

Economic Value of \$380,496 per year
(48-acre project area includes accretionary area between terraces)

CO₂ Sequestration:

165 tons per year

Water Quality Nutrient Elimination:

Phosphorus: Up to 85.44 pounds removed per year
Nitrogen: Up to 34,260 pounds removed per year

Many fishermen and duck hunters in coastal Louisiana have discovered ample game near terracing projects. Here's why:

1

Along terrace edges, fish and crustaceans find food and nursery habitat and attract the larger fish that feed on them.

2

Marsh grasses on terrace slopes provide nesting cover for waterfowl, while woody vegetation atop terraces offers resting perches for migratory birds.

3

Ducks feed on the submerged aquatic vegetation that often grows along terrace edges.

