



# ecology and environment, inc.

**International Specialists in the Environment**

# Application of NRDA to Large Scale Restoration in Texas

---

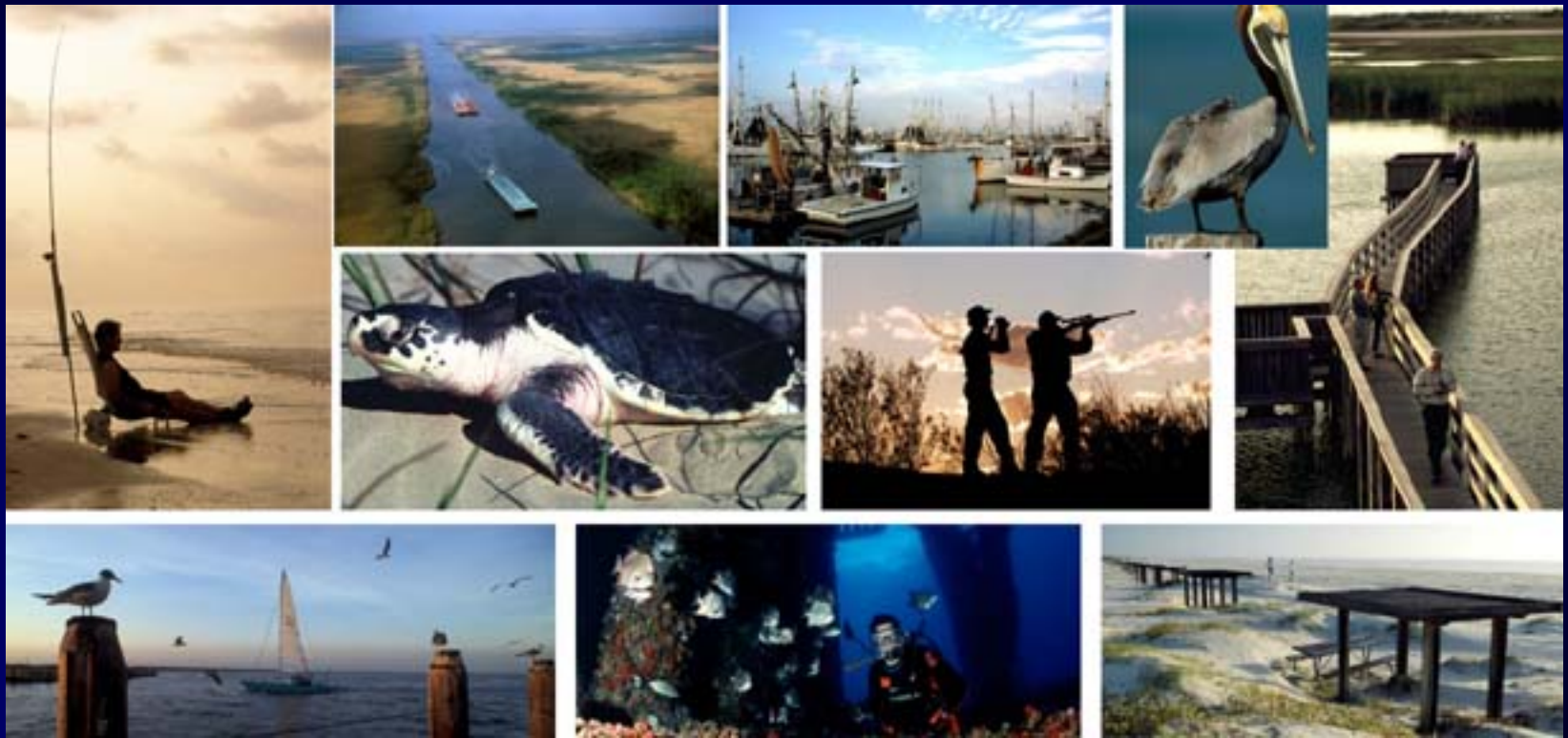


# What is NRDA?

---

- A legal process
- under state and federal laws
- to determine type and amount of restoration needed to compensate the public for harm to natural resources and their human uses
- that occurred as a result of an unauthorized release of hazardous substances or oil.

# What are natural resources?

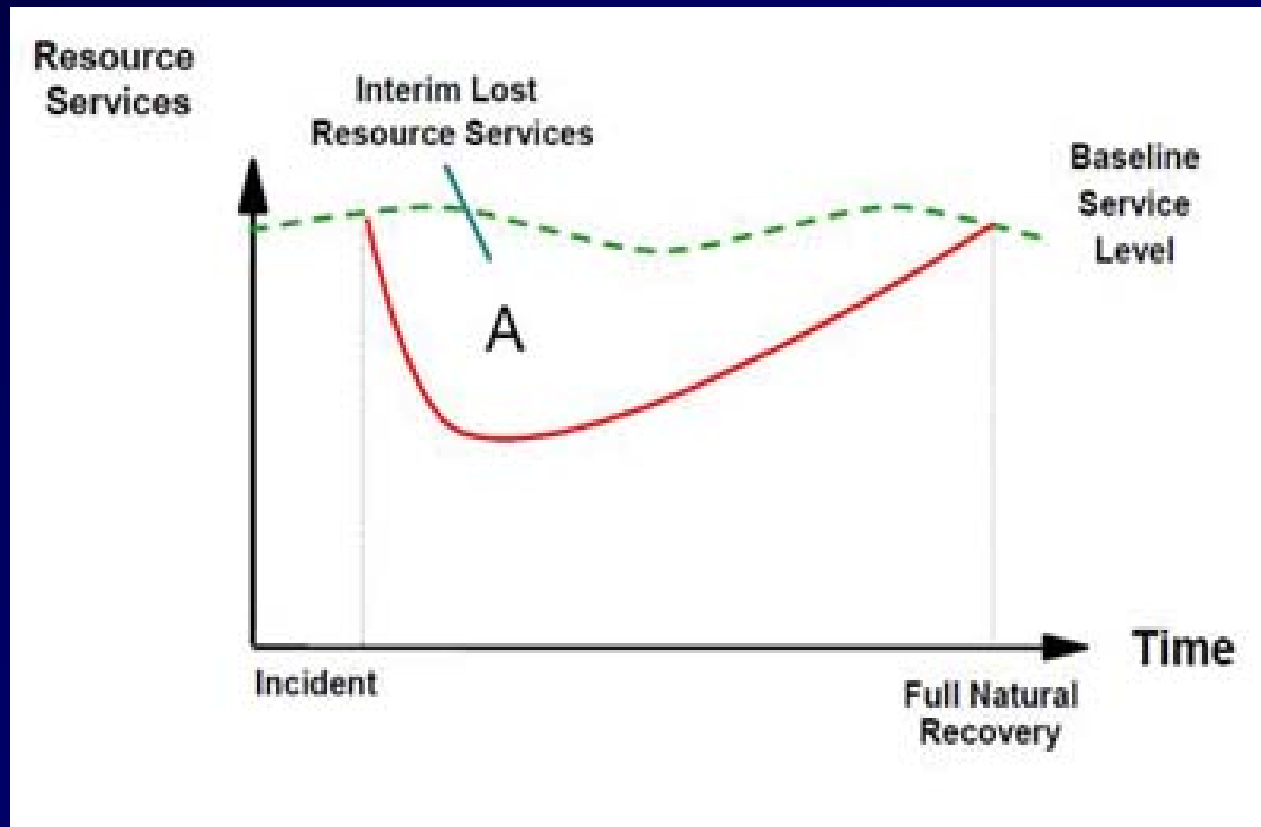


# NRDA application in Texas

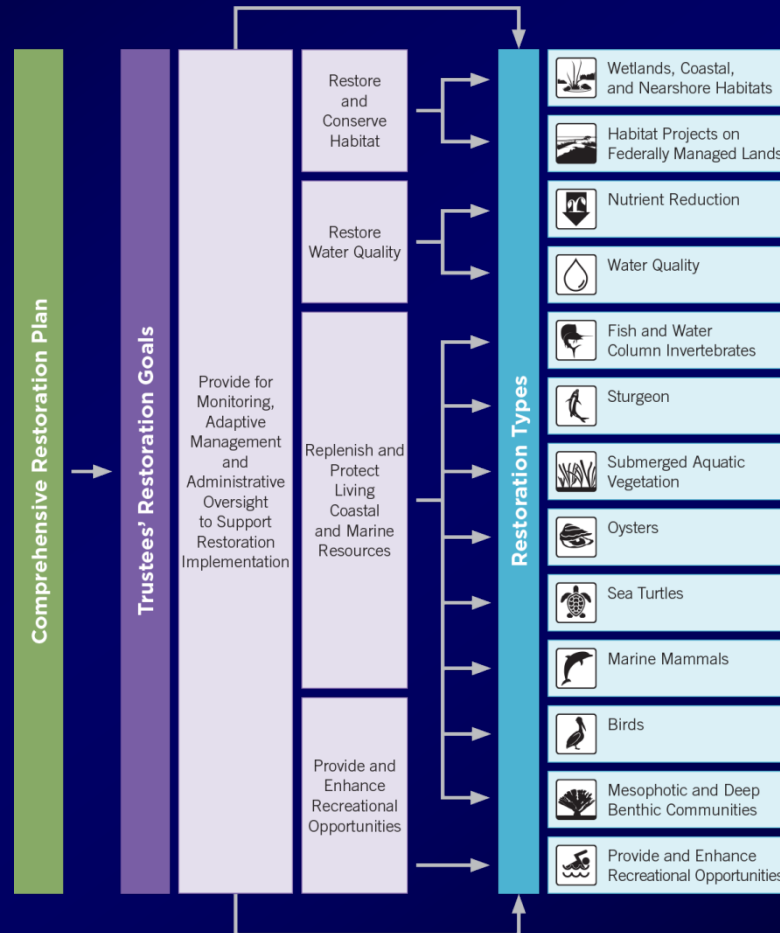
---

- **Clean Water Act/Federal Water Pollution and Control Act**
- **Oil Pollution Acts-**
  - Federal Oil Pollution Act of 1990
  - Oil Spill Prevention and Response Act of 1991
  - National Oil and Hazardous Substances Pollution Contingency Plan
- **Comprehensive Environmental Response Compensation, and Liability Act (CERCLA)**
- **Superfund Amendments and Reauthorization Act**
- **Texas Water Code/ Texas Administrative Code: Title 31 Part 1 Chapter 20**
- **Texas Oil Spill Prevention and Response Act**
- **Texas state trustees**
  - Texas Commission on Environmental Quality (TCEQ)
  - Texas General Land Office (GLO)
  - Texas Parks and Wildlife Department (TPWD).
- **federal trustees**
  - National Oceanic and Atmospheric Administration (NOAA)
  - United States Fish and Wildlife Service (FWS)
  - National Park Service (NPS).

# Collaborative Process with MOA



# What happens after a spill?



# Restoration hierarchy

---

- Clean up does not equal restoration
  - Emergency restoration
  - Primary restoration
  - Compensatory restoration





# NRDA Restoration Projects in Texas

- 150 superfund sites
- 41 settlements
- 55 completed restoration projects
- \$32 million projects planned/implemented
- \$25.8 million funding available, not including BP oil spill funds
- 43 cases pending
- Partnering leverages additional funds



# Accomplishments

- **Offshore artificial reefs:**
  - **Galveston**
    - New 160-ac concrete pyramid deployments
    - 80-ac sunken ship deployment
  - **Freeport**
    - Concrete deployment within 160 ac George Vancouver (Liberty Ship) Artificial Reef
  - **Matagorda**
    - New reef concrete deployment



# Accomplishments

- **Oyster Reefs:**
  - 11 acres constructed
  - Others in Matagorda Bay, Lavaca Bay, Corpus Christi Bay
- **Recreational/Human Use Projects :**
  - 3 boat ramps
  - 3 fishing piers
  - beach pavilions and shade structures
  - Wildlife viewing platforms



# Accomplishments

- **Estuarine Wetlands:**
  - 735 acres constructed
  - 2165 acres enhanced
  - 322 acres acquired



# Accomplishments

---

- **Freshwater Wetlands:**
  - 197 acres constructed
  - 1505 acres enhanced
  - 908 acres acquired
- **Riparian and Bottomland Forests:**
  - 55 acres constructed
  - 1740 acres protected



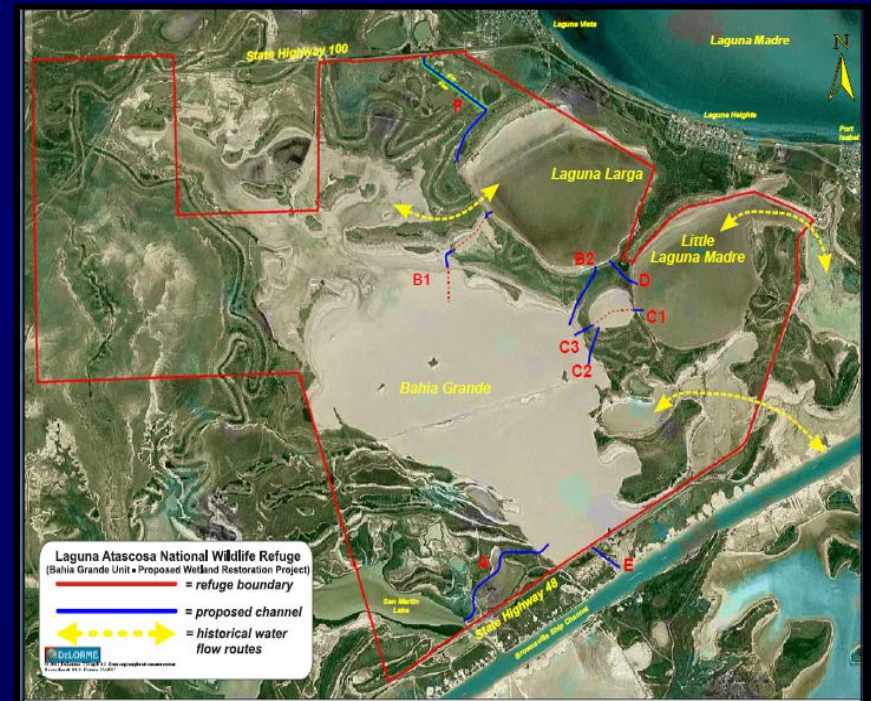
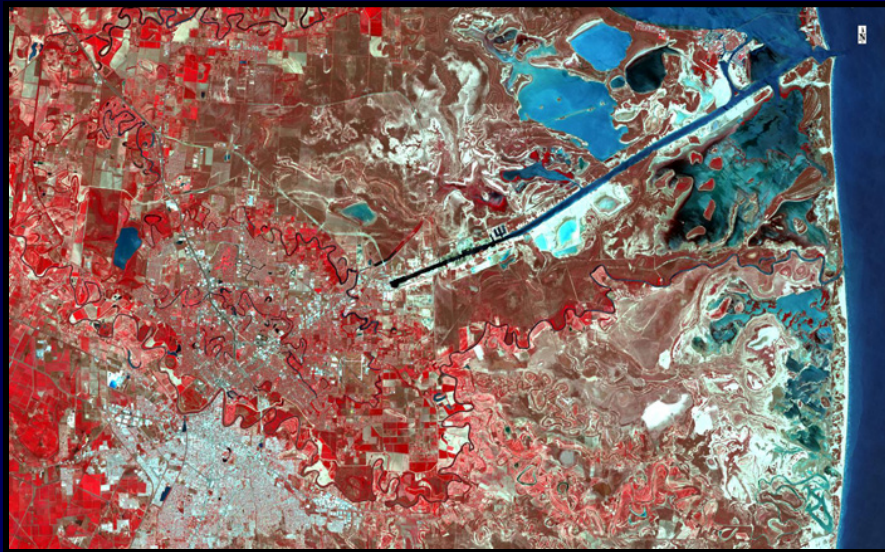
# Accomplishments

---

- **Prairie Habitat:**
  - 415 acres restored
  - 277 acres acquired
  - 17,000 acres Powderhorn Ranch

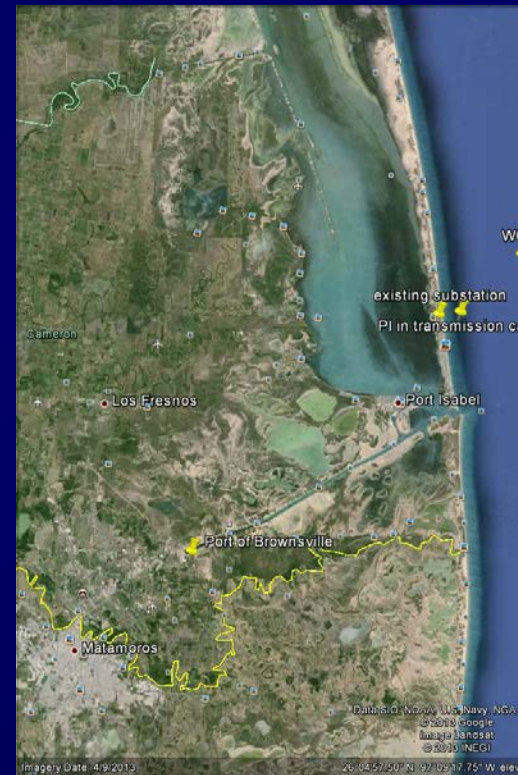


# Accomplishments – Bahia Grande Restoration Project



# Proposed – Bahia Grande Coastal Corridor Project

---





# NRDA Application in Texas



- MOA
- Restoration hierarchy



# Key Message



# Contact Information

---



- **Georganna Collins, Project Manager**
- **Registered Landscape Architect and**
- **Chief Restoration Specialist**
- **2 Riverway Suite. 625 Houston TX 77056**
- **Phone: 713-344-3000 • Cell: 713-208-3217**
- **[gcollins@ene.com](mailto:gcollins@ene.com) • [www.ene.com](http://www.ene.com)**