• Regional Sediment Management Approach
• Effects from Hurricane Ivan
• Emergency Restoration Action
Northern Gulf of Mexico
Regional Sediment Management Program

375-miles of Shoreline
Federal Projects
State Parks
Military Installations

Gulf Islands National Seashore
Panama City Beach
Local Projects

Mobile District
Coastal projects play major role in shoreline variability
Composed of several elements
Requires holistic management approach
Manage sediment as a regional resource
Informed management decisions
Regional Sediment Management

Goal:
Maximize beneficial use of sediments;
Minimize environmental impacts;
Optimize expenditures

Objectives:
• Implement RSM practices in concert with environment
• Improve economic performance by linking projects
• Develop new engineering techniques to optimize/conserve sediment
• ID/overcome bureaucratic obstacles
• Establish partnerships
Perdido Pass

- Corps is responsible for maintaining navigation channel
  - channel 12 feet deep by 150 feet wide
  - impoundment basin
- Two jetties extending into the Gulf of Mexico spaced 600 feet apart at the seaward end.
  - six (6) feet mean low water (MLW)
  - low weir section to permit passage of littoral drift material
• **Benefits**
  - Effective use of modeling tools
  - More effective sand by-passing
  - Flexibility in disposal placement
  - Partnership with local government
  - Environmental
Hurricane Ivan
September 2004

- Strong Cat. 3
- 130 mph winds
- 14-foot surge +
- Large waves
- Extensive Erosion
- Gulf State Park, Florida Point Unit, east side of Perdido Pass
- Natural beach system
- Wide beaches
- Developed dune fields - 15-foot crest elevations above mean sea level.
- Abundantly vegetated with sea oats and other native plants
- Habitat for several Federally protected species
  - Perdido Key beach mouse
  - Piping plovers
  - Least terns
  - Nesting sea turtles
• Hundreds of thousands of cubic yards of sand lost from beaches and dunes
  − Eroded into Pass
  − Overwashed into back-bay
  − Transported seaward
• 5 to 10 feet of elevation lost
• Much of the critical habitat destroyed
• Leveled dune fields
• Extensive shoreline recession
Post Storm
Emergency Action

- Emergency funding to restore navigation channel and sand impoundment basin
- Not enough disposal capacity
  - Permitting and environmental compliance issues
- Existing beach restoration project
- Minimal restoration to channel
Cooperative, multi-agency effort to quickly develop and implement a restoration plan!

- **U.S. Fish and Wildlife Service**
  - Critical habitats
  - Coordination for threatened and endangered species
  - Restoration and creation of lost habitats

- **Alabama Dept. of Conservation and Natural Resources**
  - Use of state lands

- **Alabama Dept. of Environmental Management**
  - Water Quality Certification / Coastal Zone Consistency

- **Gulf State Parks**
  - Environmental coordination

- **City of Orange Beach**
  - Easements and right of ways

- **USACE**
  - Planning
  - Engineering
  - Operations
Pre-storm survey
Restoration Measures

- Restore base elevation on the east side of the Pass
  - Tie in to the remaining dune line at about the +10-foot elevation
  - Extend berm seaward sloping gradually to the water
  - Establish original position of shoreline
  - Gradual slope to prevent the formation of escarpments and maintain a beach that allows access for nesting sea turtles.

- Construction of dunes to mimic natural dune fields
  - Promote dune growth and formation
  - Dune stabilization measures
    - planting natural dune vegetation
    - placement of dune fencing

- Extend berm and dunes east within limits of State Park
  - Dependent upon volume of available material
• Pipeline dredge used to move material
• Dozer used to spread and shape
• Dredging began early February
• Dredging complete late March
• 560 thousand cubic yards restored
May 2004
- 90 least tern nests
- 16 black skimmer nests
- 1 documented sea turtle nest
- Natural vegetation returning
- Protection measures taken
Perdido Pass
Florida Point Restoration
Conclusions

• Benefits
  – Navigation
  – Recreation
  – Leveraging of funds
  – Beneficial Use
  – Environmental
    • Beach mouse critical habitat
    • Bird nesting
    • Sea turtles
    • Dunes
  – Partnerships
  – Quick Action

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