



Evaluation of Long Term Project Alternatives; Boca Raton FL

National Conference on Beach Preservation Technology

February 8, 2012





Boca's Beach Program

- **Model Coastal Program**
- **Forward Thinking Coastal Land Acquisition**
- **First Federally Reimbursable Project (N. Boca)**
- **Proactive Inlet Management (City Owned Dredge)**
- **Renowned Turtle Program**

Main Program Elements

- 3 Beach Projects
- 1 Inlet
- Nearshore Hardbottom Features

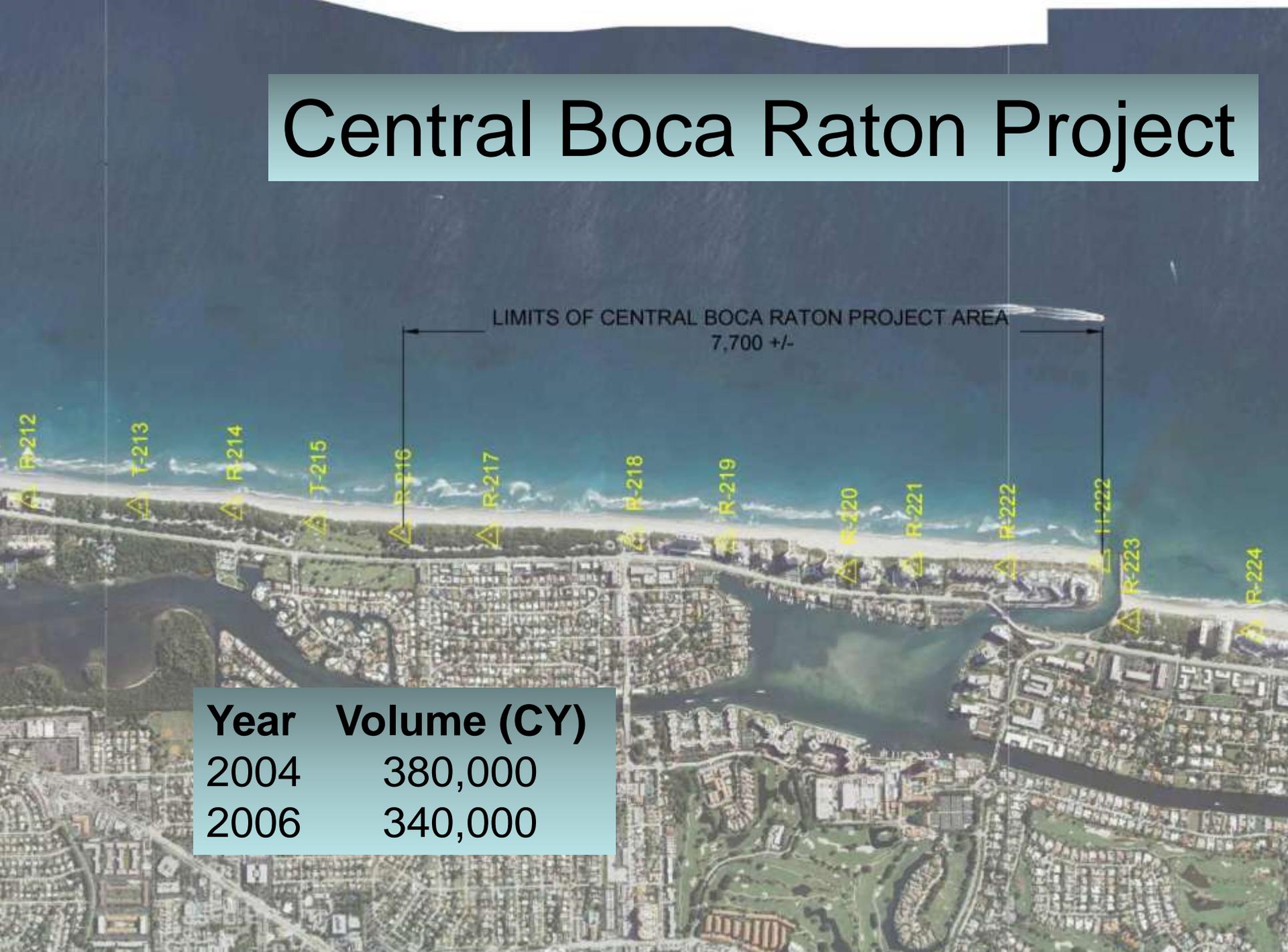


North Boca Raton Project

LIMITS OF NORTH BOCA RATON PROJECT AREA
7,500 +/-

Year	Volume (CY)
1988	1.1 million
1998	680,000
2010	782,000

Central Boca Raton Project



LIMITS OF CENTRAL BOCA RATON PROJECT AREA
7,700 +/-

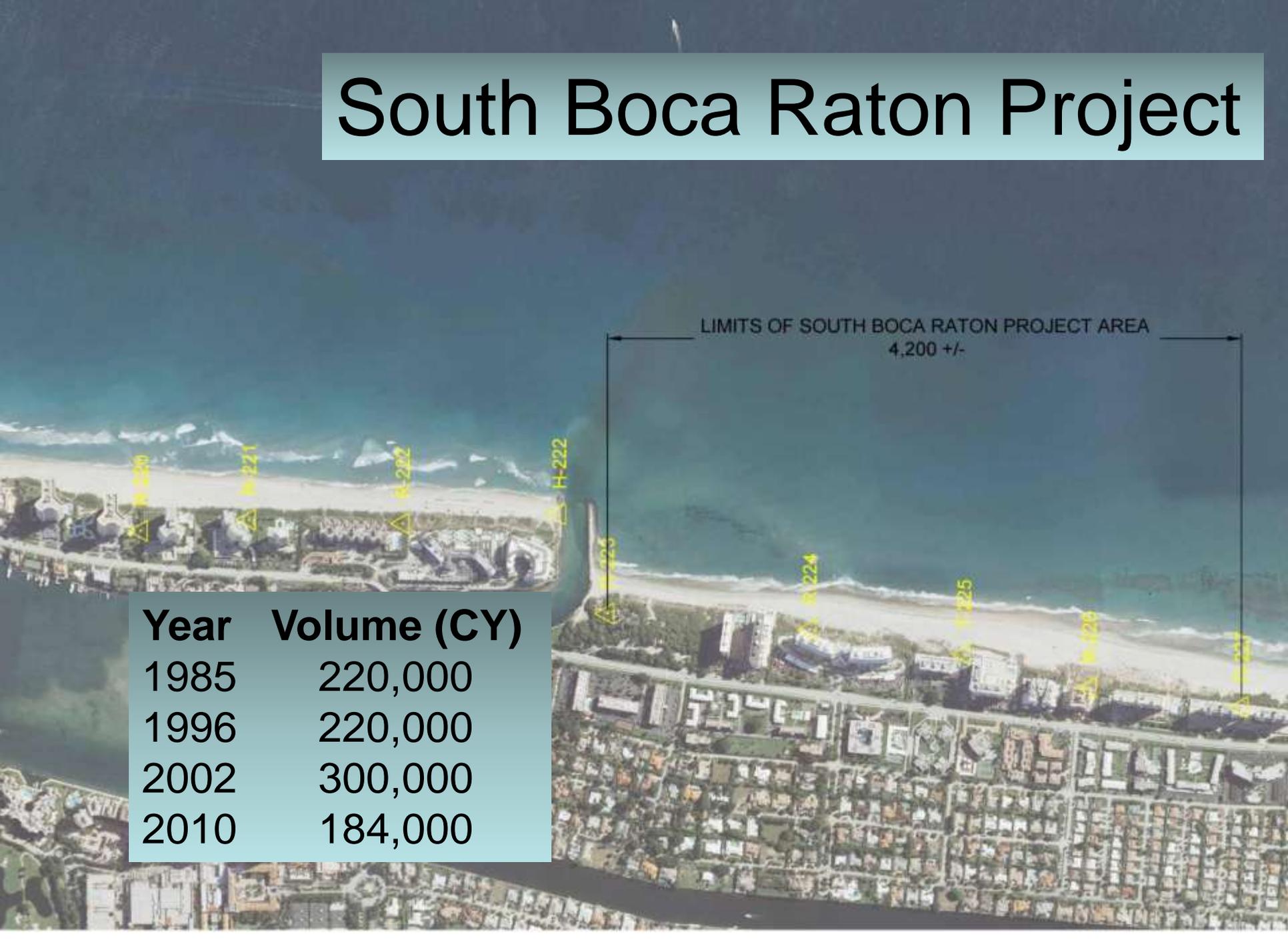
Year	Volume (CY)
2004	380,000
2006	340,000

Boca Raton Inlet

Inlet Bypassing:
~83,000 CY/Yr



South Boca Raton Project



Year	Volume (CY)
1985	220,000
1996	220,000
2002	300,000
2010	184,000



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- A line of yellow Caterpillar bulldozers is parked on a sandy construction site. The bulldozers are arranged in a row, receding into the distance. The word 'CATERPILLAR' is visible on the front of the bulldozers. The background shows a clear sky and a pile of sand.
- Total Placed: 4.2 Million Cy
 - ~160,000 Cy/Yr
 - Total Bypassed: ~ 2 Million Cy



Long-Term Program Goals

- **Continue Program Successes**
- **Reduce Project Costs**
- **Optimize Project Performance**
- **Maximize the Effectiveness of Limited Sand Resources**
- **Streamline Regulatory Review and Approvals**
- **Adaptive Management**



Program Optimization

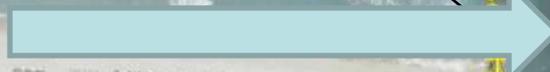
- **Extend Renourishment Intervals**
- **Combine Mobilization Costs**
- **Effectively Schedule Construction Phases**
- **Combine North and Central Projects?**
- **Consider North as a Feeder for Central?**
- **Does Timing Improve Performance?**
- **Can Variable Placement Improve Performance?**



Inlet Management

- **Maintain Draft/Safe Navigation**
- **Meet Bypass Requirements**
- **Feed South Boca Project**
- **Regulate/Minimize Inlet Shoaling**

Weir



Dredge



R-222

R-222

R-323



2010 South Boca Construction





Ancillary Issues

- Long-Term Turtle Nesting Success
- Upland Lighting (Turtle Disorientation)
- Nearshore Hardbottom Resource Management
- Dune Vegetation Management



Dune Vegetation



Conclusion

- **Even Model Programs Need to Evolve**
- **Cost Containment is Critical to Long-Term Project Success**
- **Need to Maximize Finite Sand Resources**
- **Program Requires Continuous Improvement and Adaptation to Changing Conditions**

Thank You



**Special Thanks to the City of Boca Raton and
Jen Bistyga, EI; Coastal Program Administrator**