Beach Nourishment
&
Nearshore Hardbottom

Florida Chamber Environmental Permitting Summer School
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HALF OF FLORIDA’S SANDY BEACHES ARE CRITICALLY ERODED.
Less than half of last year’s nourishment projects were in close proximity to hard bottom resources.

- 68 beach nourishment projects statewide (active & inactive)
- 41 projects have, at some point, HB monitoring requirements (excl. ports)
WHY DO WE PROTECT NEARSHORE HARD BOTTOM RESOURCES?

- Habitat
  - Shelter or feeding to >1000 species algae, verts, inverts

- Fisheries

- Tourism/Recreation – boating, fishing, diving

- Wave energy dissipation
JCP PROJECTS UNDER CONSTRUCTION OR SCHEDULED FOR CONSTRUCTION – JUNE 2015
FLORIDA’S TRUCK HAUL BEACH PROJECTS ARE BECOMING MORE NUMEROUS (DATA FROM LAST 3 FY)
MORE TRUCK HAUL PROJECTS SINCE 2005
- STILL LESS SAND PLACED THAN WITH OFFSHORE SAND SOURCES
WHY CHOOSE UPLAND MINED SAND?

- Alternate to sand from offshore borrow areas
  - Scarcity of offshore sand (SE FL)
  - More sand quality control from mines vs offshore
  - Easier to treat hot spot erosion with upland sand
  - Fewer permitting concerns with upland sand
    - borrow area surveys, offshore resources, pipeline corridors
  - Reduce secondary impacts to HB - Broward
  - Shift coastal mgmt. strategy to smaller, more frequent projects
  - Beware of externalities with mined sand – traffic, noise, etc.
UPCOMING BROWARD SEGMENT II NOURISHMENT & RESTORATION PROJECT

- DEP File 0314535-001-JCP
  - 15-yr permit issued Jan 2014
  - Nourish 4 municipalities, 5 mi.
  - Truck Haul/rail 663,430 cy fill
- Upland sand
  - E.R Jahna Ortona, Stewart Imomokalee, Vulcan Witherspoon & Cemex Davenport
- Direct impacts to 4.9 acres of hard bottom
- Mitigate 6.8 acres artificial reef within 10-ac. footprint
- Monitor for unanticipated & secondary impacts to hard bottom
- Permit includes hard bottom, turtle, seabird, shorebird conditions
WHERE IS THE PROJECT IN RELATION TO HARD BOTTOM RESOURCES?
EQUILIBRATED FILL PROFILE EXPECTED TO IMPACT OR BE NEAR RESOURCES.
APPLYING ARTIFICIAL REEF PLACEMENT CRITERIA.

- Offshore ETOF, similar water depth, not shallower than 8'
- 50' buffer from hard bottom
- Thin sediment layer over substrate
HB BIOLOGICAL MONITORING FOR UNANTICIPATED FILL IMPACTS.

- 5 summer surveys – pre, post, Yrs 2/3/5
- HB edge mapping, 150 m transects (57), aerial imagery, Acropora stations (8)
- 2 post-con monitoring events for short-term sediment dynamics (STORMS)
- Report on trends in bio community & burial/sedimentation
Transplant coral from project sites

3 summer surveys – Yrs 2/3/5

Video survey, quadrat sampling along 30 m transects (28)

Success – similar benthic community & colonization as impact area
Questions?

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