



# Florida Upland Sand Resources For Beach Renourishments

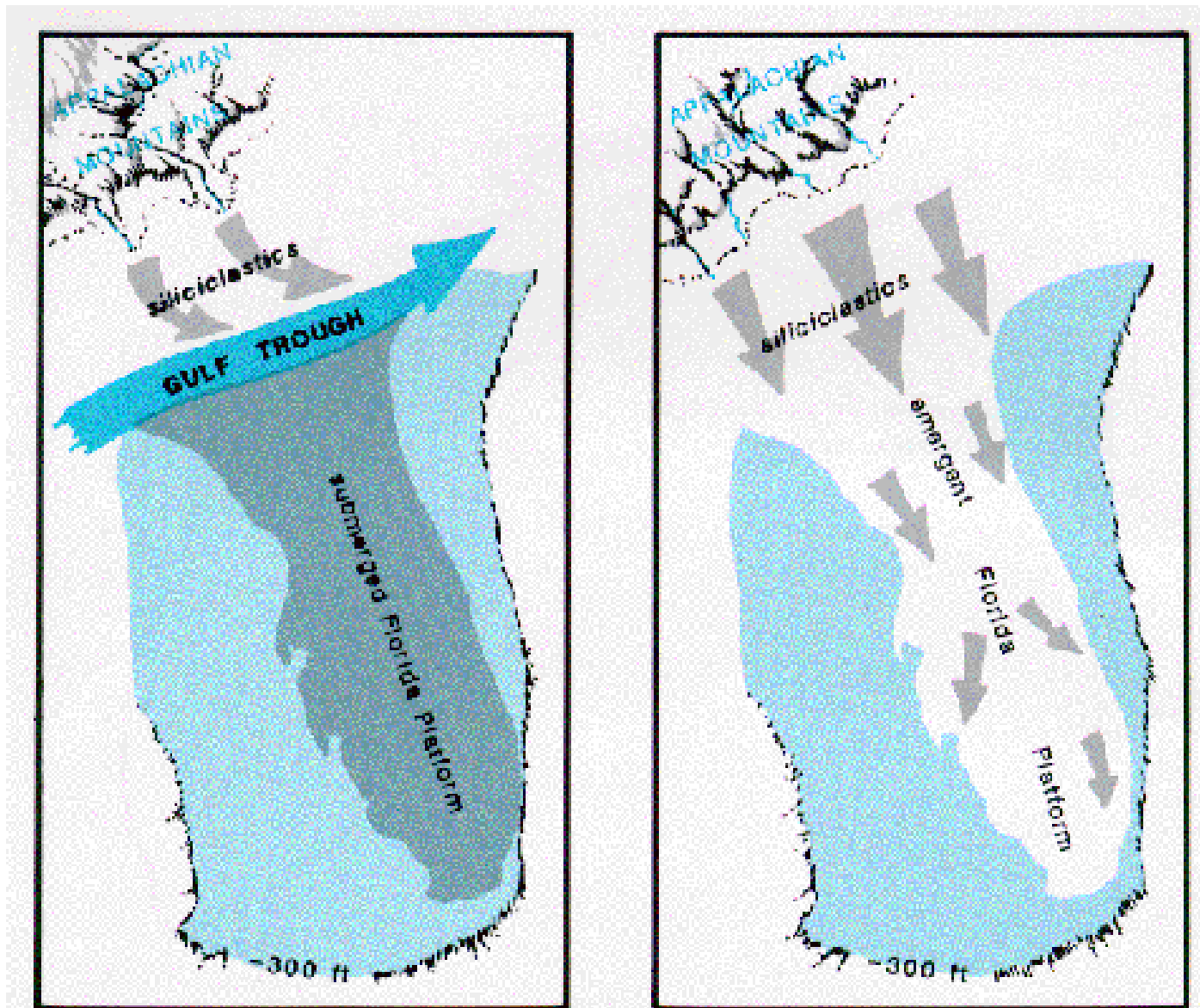
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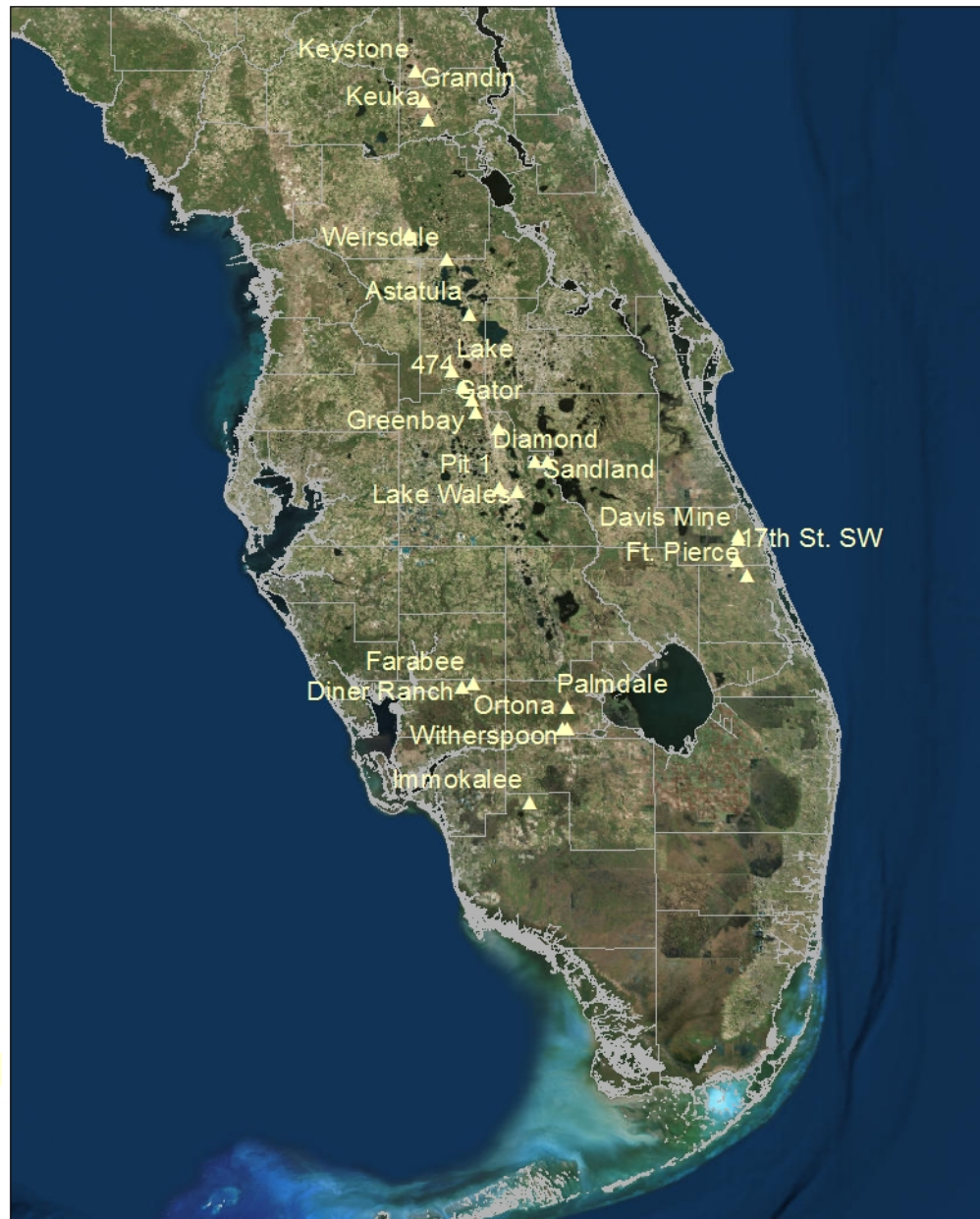


# Upland Sand Sources for Beach Renourishment





» Source: Lane, E. 1994 *Florida's geological history and geological resources* Florida's Geological Society





- Location
- Capacity
- Sand Quality
  - Color
  - Grain Size
  - Composition
- Processing Capabilities





- Northern Florida
- Thorough processing procedure and able to remix to specifications
- Slightly more yellow than south Florida mines
- Expects to be mining 30+years
- Located on a rail line



- Central Florida
- Capacity of 30+ years
- Split using hydro-cyclones then sorted through a triple plume classifier
- Fines and coarse are remixed to meet specifications



- Located in SW Florida
- Onsite geotechnical laboratory
- Capacity of 30+ years
- Recently used for beach projects







Gravity Classifier



Dewatering Screws



Lab

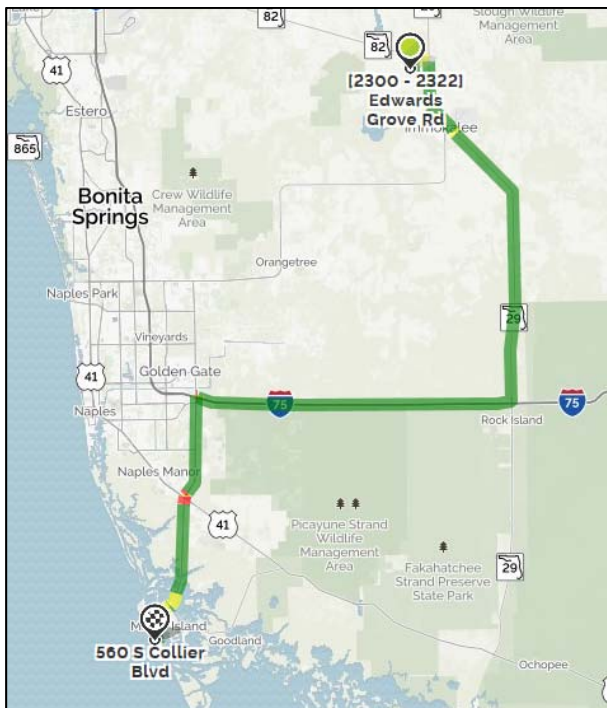


Sediment Testing



***Stewart's Immokalee Sand Mine***

- Location

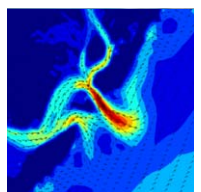
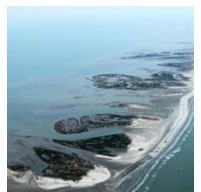




- Sand Specifications:
  - Grain Size
  - Sorting
  - Color
  - Fines %



- Proof of mine's capability to produce beach compatible material
  - Physical sample
  - Compatibility analysis
  - Description of sand processing
- Work restrictions around panther habitat areas
- Separate upland sediment QA/QC plan
  - Coordinated with FDEP to reduce the # of samples





- Quality Control/Quality Assurance





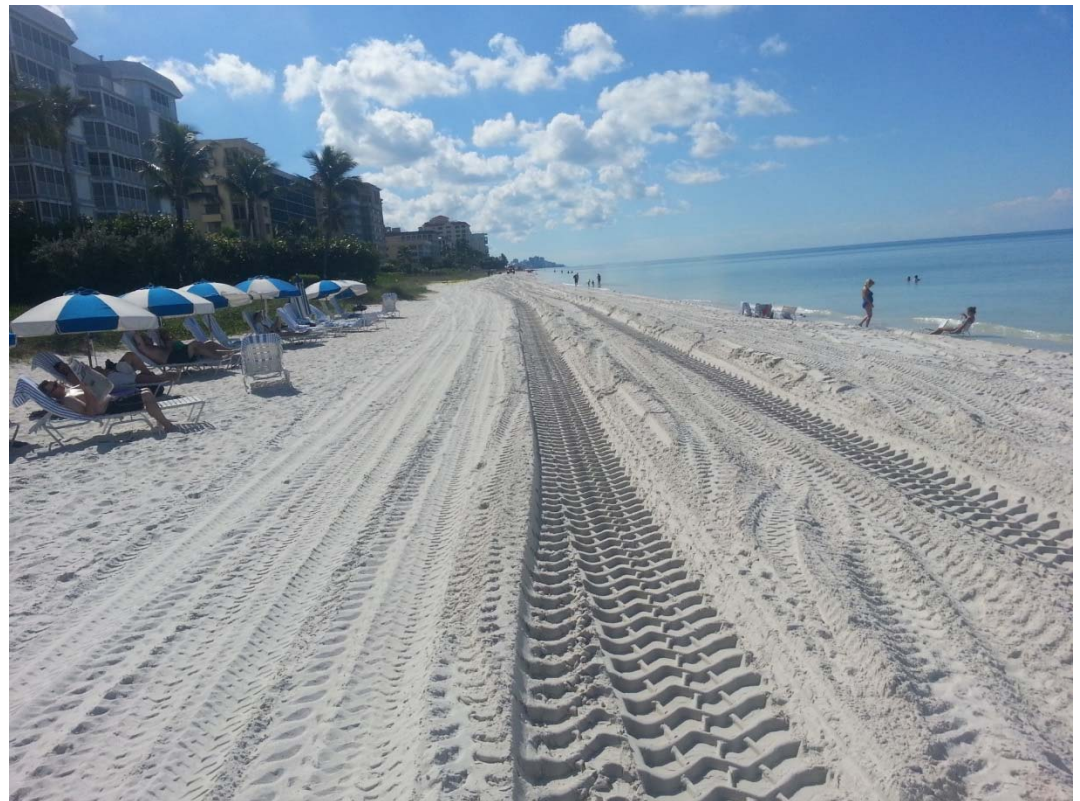
## Offshore vs. Upland Sand Source

- Project size?
- Project location?
- What resources are available?
- Desired sand specifications?
- Availability of dredges?
- Availability of trucks?
- Accessibility?
- Disruptive?
- Price?



## Benefits to Upland Construction Methods

- Sediment quality control
- Construct multiple reaches at once
- Schedule control
- No pipeline on the beach
- Lower mobilization costs
- Impact to local economy





## Challenges to Upland Construction Methods

- Permit turbidity monitoring requirements not written for this construction method
- Need access points (conveyors not much)
- Truck routes
- Traffic
- Road Damage

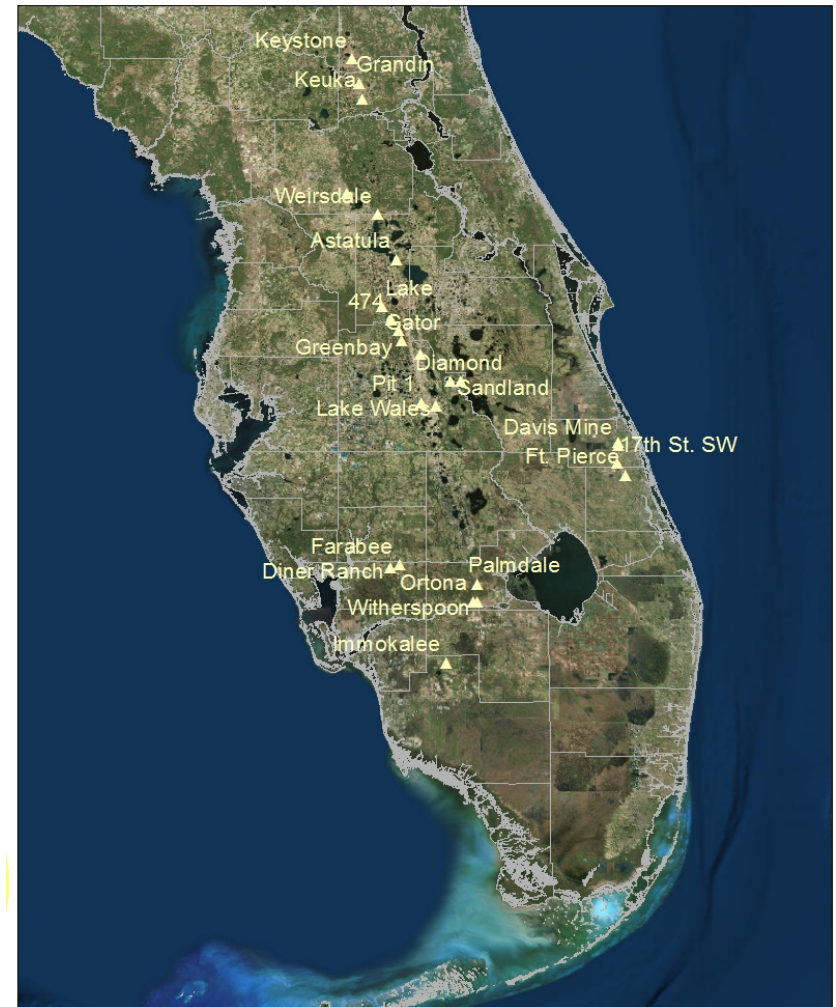




- More lead time
  - Management of deposit
  - Efficient stockpiling
  - Dewatering
- Uniform beach sand specification would allow pre-production of beach sand



- There are beach compatible upland sand sources suitable for beach renourishment projects that may serve to complement offshore resources.
  - Feasibility analysis to select mines
  - Permit
  - Project flexibility
  - Longer lead times will reduce cost





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