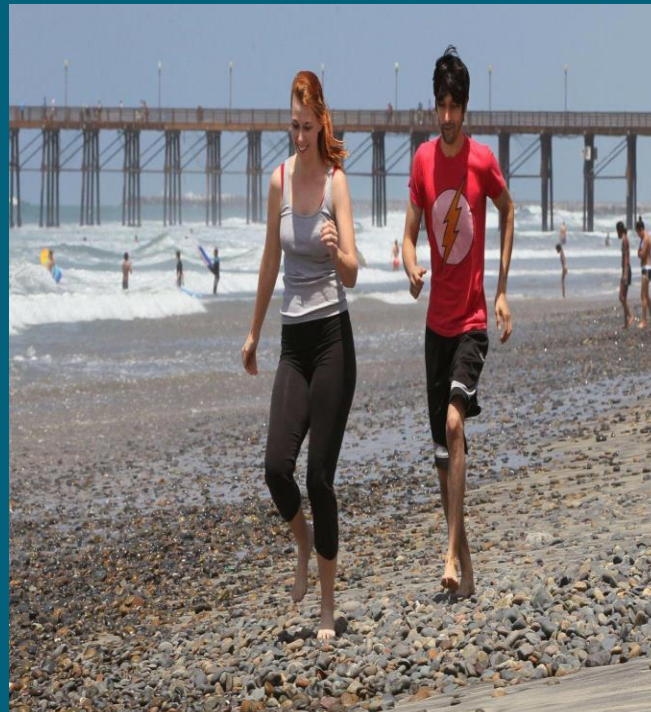


Where's the Sand?



Where Is the Sand?

- Large jetty on North side of harbor mouth restricts sand transport north and south along the coastline
- Developed coastline restricts bluff erosion
- Dams and lack of rain restrict transport of sediment to beach



Harbor Dredging

- Maintenance dredging performed annually prior to Memorial Day Weekend
- Dredging done to ensure safe navigation for boaters
- Project paid by Corps of Engineers and Navy
- Approximately 250,000 cubic yards of sand dredged and placed on Oceanside beaches each year



Harbor Dredging

- City working on an agreement to contribute funds to the project for additional sand to be placed on the beach when available



Shoreline Feasibility Study

The objectives of the study are to:

1. Estimate the impacts of erosion on the shoreline caused after construction of Camp Pendleton Harbor
2. Consider practices to ultimately restore sand to City beaches.



Shoreline Feasibility Study

- Study currently on hold due to lack of Federal funding
- Cost and time frame to complete study once funded is \$1.82M and 31 months
- Once completed, funding needs to be identified for design and construction



Shoreline Management Options

1. Beach Nourishment (Dredging)
 2. Sediment/Sand Retention (Jetty, Groin, Artificial Reef)
 3. Sand Bypass of Harbor Jetty
 4. Managed Retreat (Allow Bluff Erosion)
- Options 1, 2, & 3 are very expensive
 - Option 2 (Permanent Structures) typically not supported by California Coastal Commission

Going Forward

- Request SANDAG to perform another regional beach nourishment project similar to 2001 and 2012 projects
- Ask Corps to finish Shoreline Feasibility Study and request funding for construction
- Sand Compatibility Opportunistic Use Permit (SCOUP) – Look for potential sources of beach quality sand made available from development projects to deposit on local beaches