# SAND PLACEMENT |

$200,000-500,000/ acre | EE | O

## OVERVIEW

Placing sand on beach, or enhancing or making new dunes can widen and raise the beach to provide flood and erosion protection. However, it is likely the sand will disperse over time and require placing more sand. As sea level rises, the frequency of replacement increases. Dune restoration may also include establishing vegetation to hold the sand in place. Sand can be removed from sand deposits elsewhere and brought to the new location by trucking in loads and moving sand with bulldozers, or by spraying sand from an offshore ship.

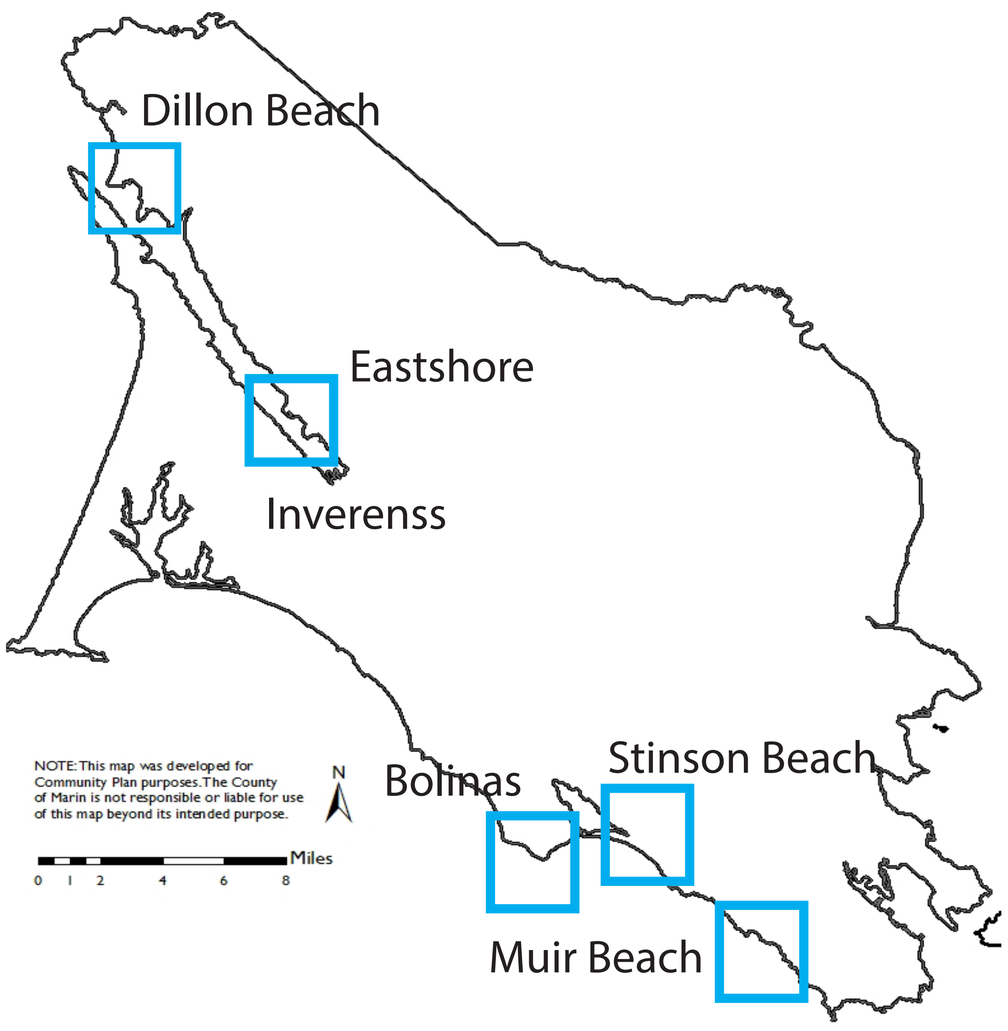
## PROS

- Viable short term solution for flood reduction in areas with low erosion rates
- Secures or provides recreational opportunities

## CONS

- Construction impact to people and beach ecology
- Potential environmental impact depending on sand source
- Sand supply is uncertain
- Long-term effectiveness may be limited depending on site and other factors
- Cost of continual sand placement

## Where could this strategy be located?




## OCEAN BEACH

- In 2012, Golden Gate National Recreation Area partnered with the SF Public Utilities Commission to truck 73,000 cubic yards of excess sand from the north to south end of Ocean Beach


Sand embankment construction for sacrificial erosion projection

## SAN DIEGO COUNTY

- The Regional Beach Sand Project placed 1.5 million cubic yards of sand on eight beaches from Imperial Beach to Oceanside


Beach nourishment through hydraulic dredge discharge on beach, spread with land-based construction impact.

## NETHERLANDS

- The "Zandmoter" (sand engine) - in 2011 28 million cubic yards of sand created an artificial beach, designed to spread north and south by waves to widen the coastline and prevent flooding.



## SURFER'S POINT, VENUTRA

- Stabilized 1,800 feet of beach and restored with native plants
- Included buried cobble for protection covered with dunes