

# Montecito Debris Flows A Beach Nourishment Opportunity

Beach Erosion Authority for Clean Oceans and Nourishment



# Sequence of Events

- Thomas Fire – December 2017
- Montecito Debris Flows – January 9, 2018
  - Perhaps 500,000 cy made it to the beach
  - About 70,000 cy deposited on public streets & flood control channels
  - About 400,000 cy deposited in local debris basins
  - Perhaps 1,000,000 cy deposited on private property
- Aftermath
  - Street & f/c channel sediment taken to Goleta & Carpinteria Beaches
  - Debris basin sediment taken to Buellton & Santa Paula landfills
  - Private property sediment remains in place

# What Does a Debris Flow Look Like?



# Montecito Debris Flows Stats

- 25 people killed
- Over 100 homes destroyed & more than 300 damaged
- Widespread damage to property & infrastructure
- About 2M cy of sediment released from foothills
- Sediment mostly composed of sand (80%) along with rocks, logs, etc.
- Sediment largely uncontaminated

# Impact to Beaches

- Sediment sorted rapidly by waves with finer material moving offshore & coarser material onshore
- Rocks & boulders deposited at creek mouths – logs & other floating debris scattered along coast
- Nearby beaches grew wider - new sand blended in well with existing
- Trucked sediment at Carpinteria & Goleta Beaches had similar effects
- Water quality impacts significant but short-term

# Fernald Point – April 2017



# Fernald Point – January 2018



# Fernald Point – February 2018



# Loon Point – April 2017



# Loon Point – January 2018



# Loon Point – March 2018



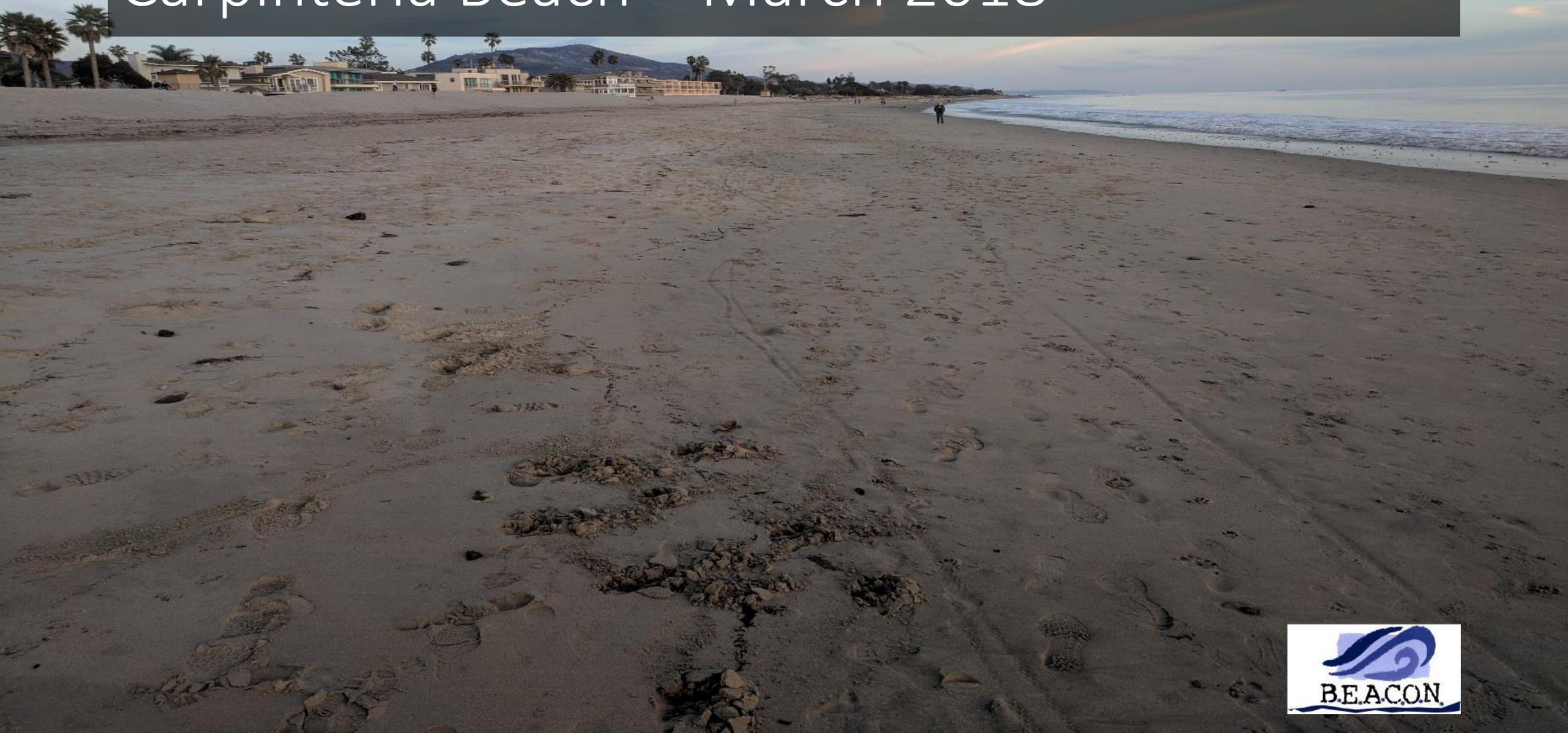
# Carpinteria Beach – April 2017



# Carpinteria Beach – January 2018



# Carpinteria Beach – March 2018









# Goleta Beach – June 2017



# Goleta Beach – January 2018



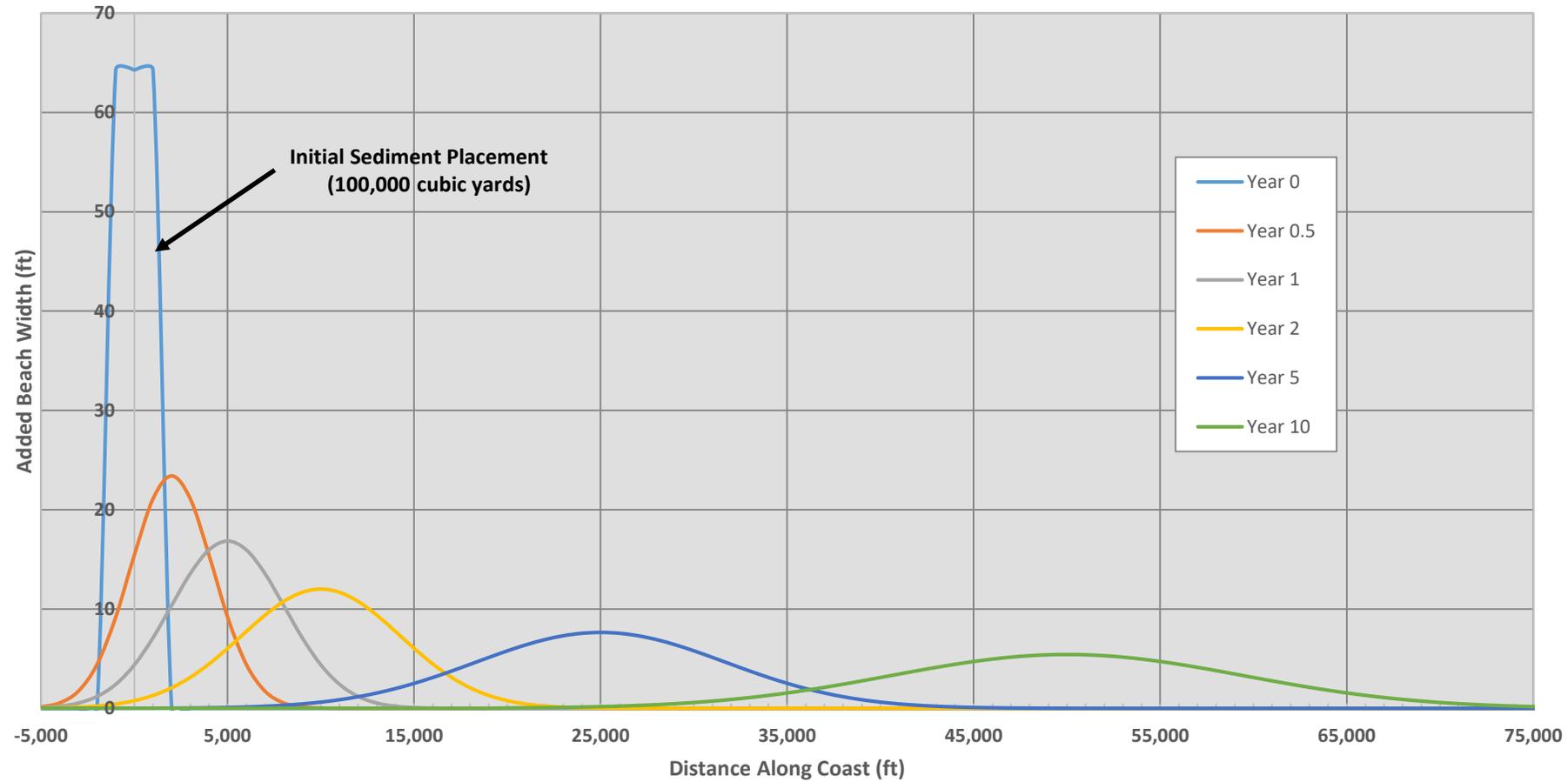
# Goleta Beach – February 2018



# Goleta Beach – March 2018



# Predicted Shoreline Response



# Unique Opportunity for Beach Nourishment

- Large volume of sediment available on private property
- Significant benefit if sediment taken to beaches
- Sediment must be sorted & stored for placement in Winter/Spring
- Comprehensive SCCBEP-type program needed to:
  - Establish sorting/storage areas
  - Identify beach receiver sites
  - Establish testing, placement & monitoring protocols
  - Secure environmental permits
  - Identify/develop funding mechanism

