

# South Orange County Regional Coastal Resilience Strategic Plan

March 21, 2022



# Grant Overview

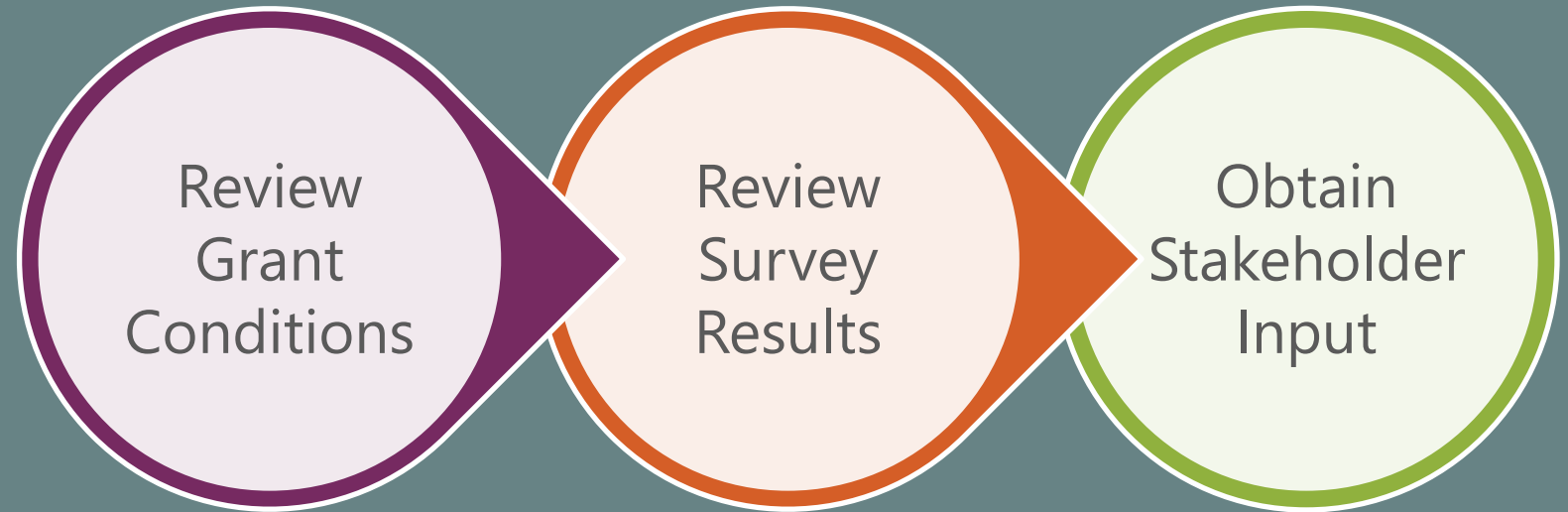
- **Goal:** Develop a regional, collaborative strategic plan to facilitate implementation of regional shoreline management activities to address chronically eroding shorelines in southern Orange County
- **Main objective:** Assess, prioritize, and advance resilience opportunities to reduce the risk to residents and to increase the viability of south Orange County beaches



# Scope of Work and Stakeholder Engagement Review

## In Progress

- Evaluate Existing Data
- Stakeholder Meetings



## Up Next

- Cost Estimates, Economic Analysis, Funding, and Prioritization
- Develop Draft Plan
- Final Plan and Draft Cooperative Agreements

# Meeting Objectives

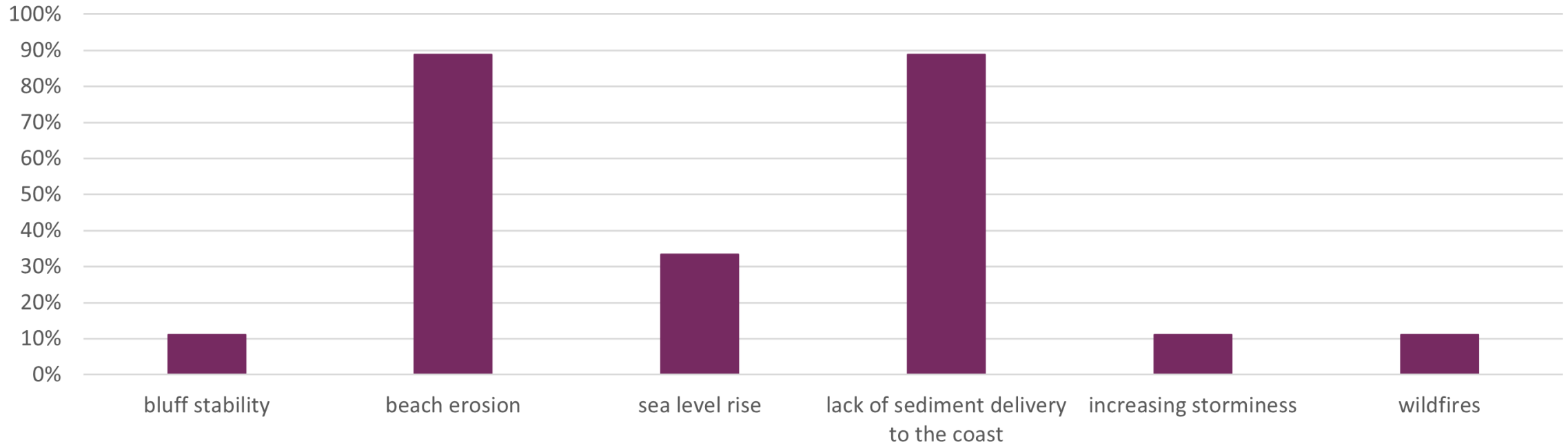


- Comply with grant conditions (e.g., Stakeholder engagement meeting)
- Overview of project development process
- Present results of stakeholder engagement surveys
- Solicit stakeholder input on erosion causes, problem area, governance, and additional stakeholders

# Survey Results Summary



# Current and Historical Threats

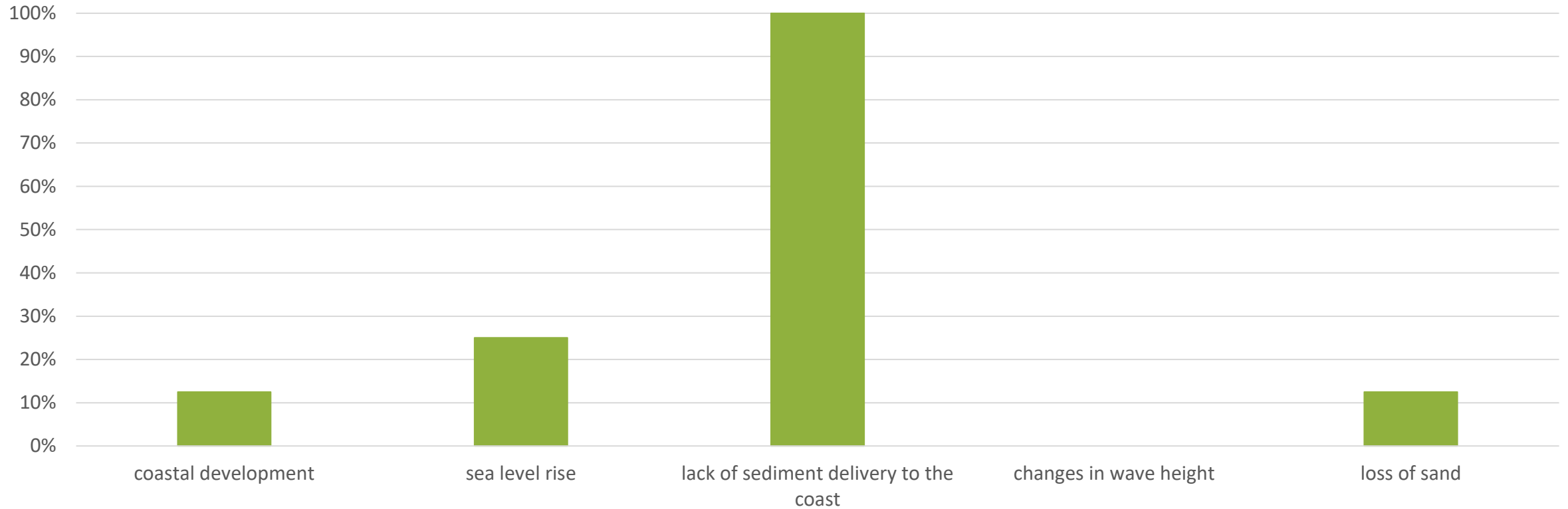


- Top threats identified by the stakeholders:
  - **Beach erosion** (88.9%)
  - **Lack of sediment delivery to the coast** (88.9%)

\* Percentages are based on n=9



# Causes of Current and Historical Threats

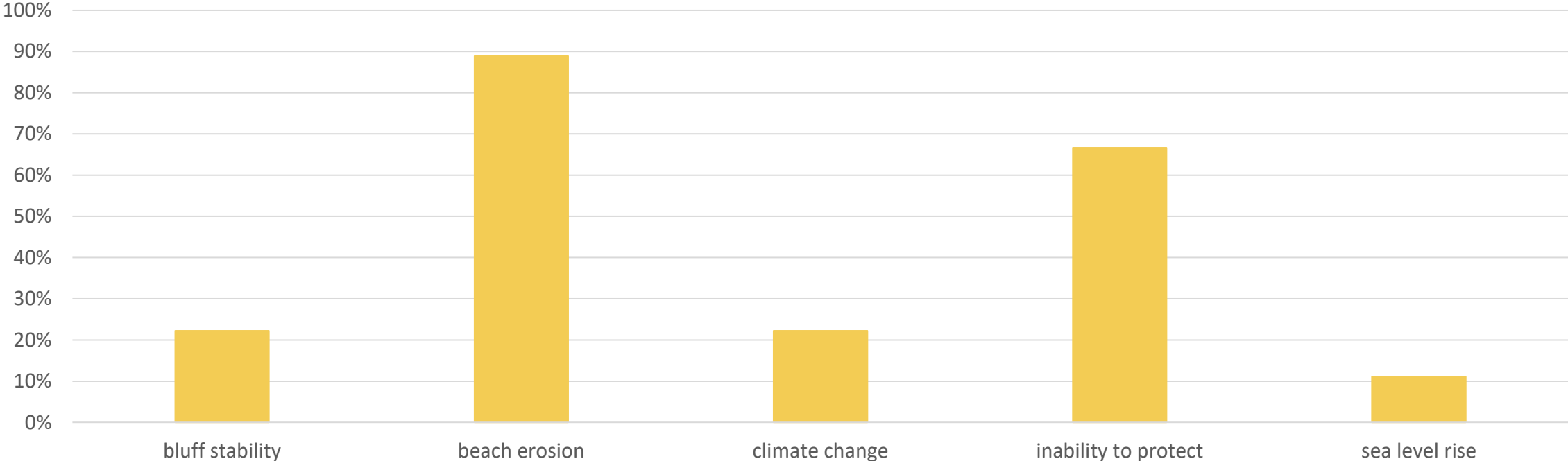


- Top cause identified by the stakeholders:
  - **Reduction of sediment delivery to the coast** (100% of stakeholders)

\* Percentages are based on n=9



# Future Threats



- Top threats identified by the stakeholders:
  - **Beach erosion** (88.9%\* of stakeholders)
  - **Inability to protect** (66.7%\* of stakeholders)

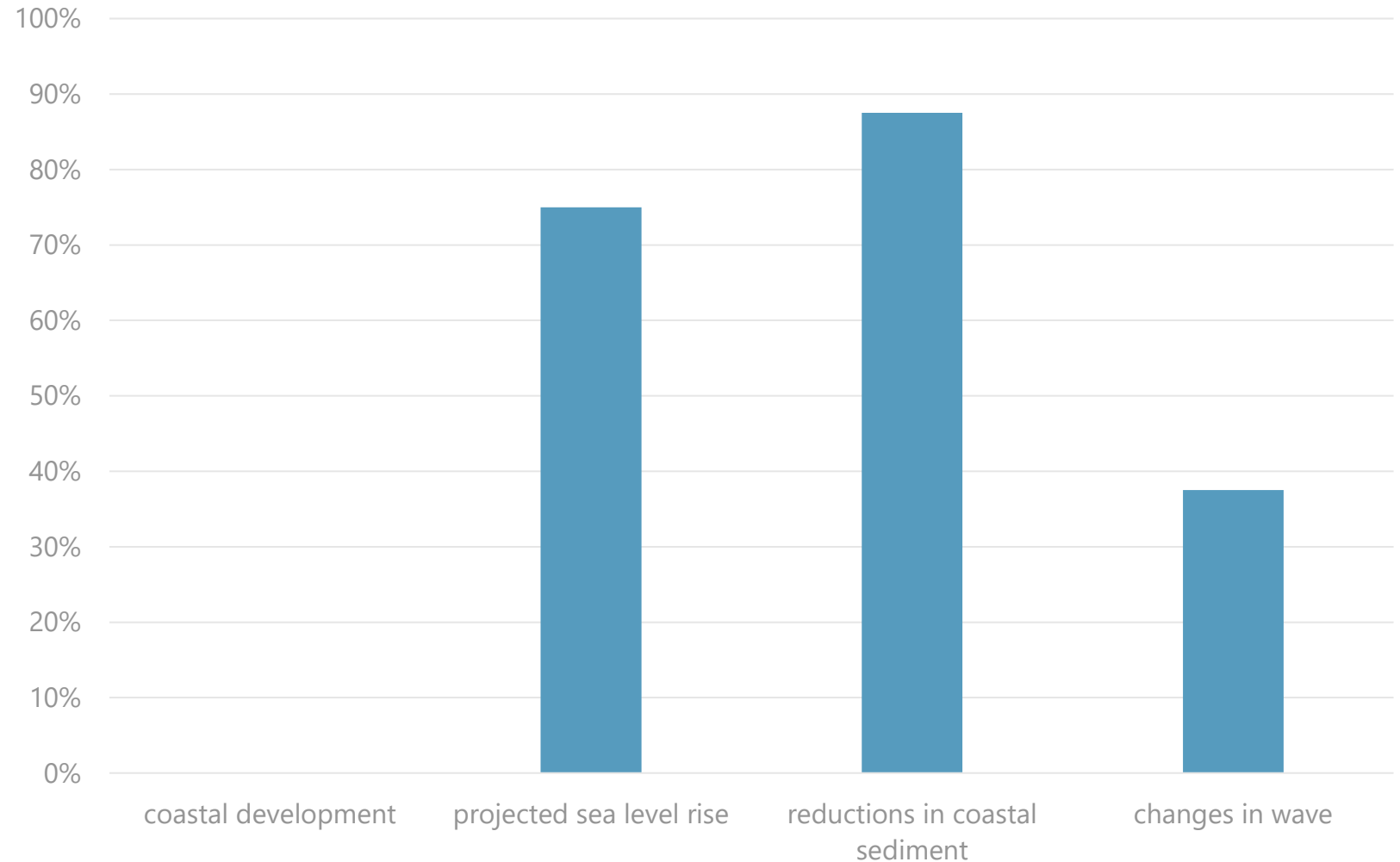
\* Percentages are based on n=9





# Causes of Future Threats

- Top threats identified by the stakeholders:
  - **Projected sea level rise** (77.8%\* of stakeholders)
  - **Reductions in coastal sediment** (88.9%\* of stakeholders)

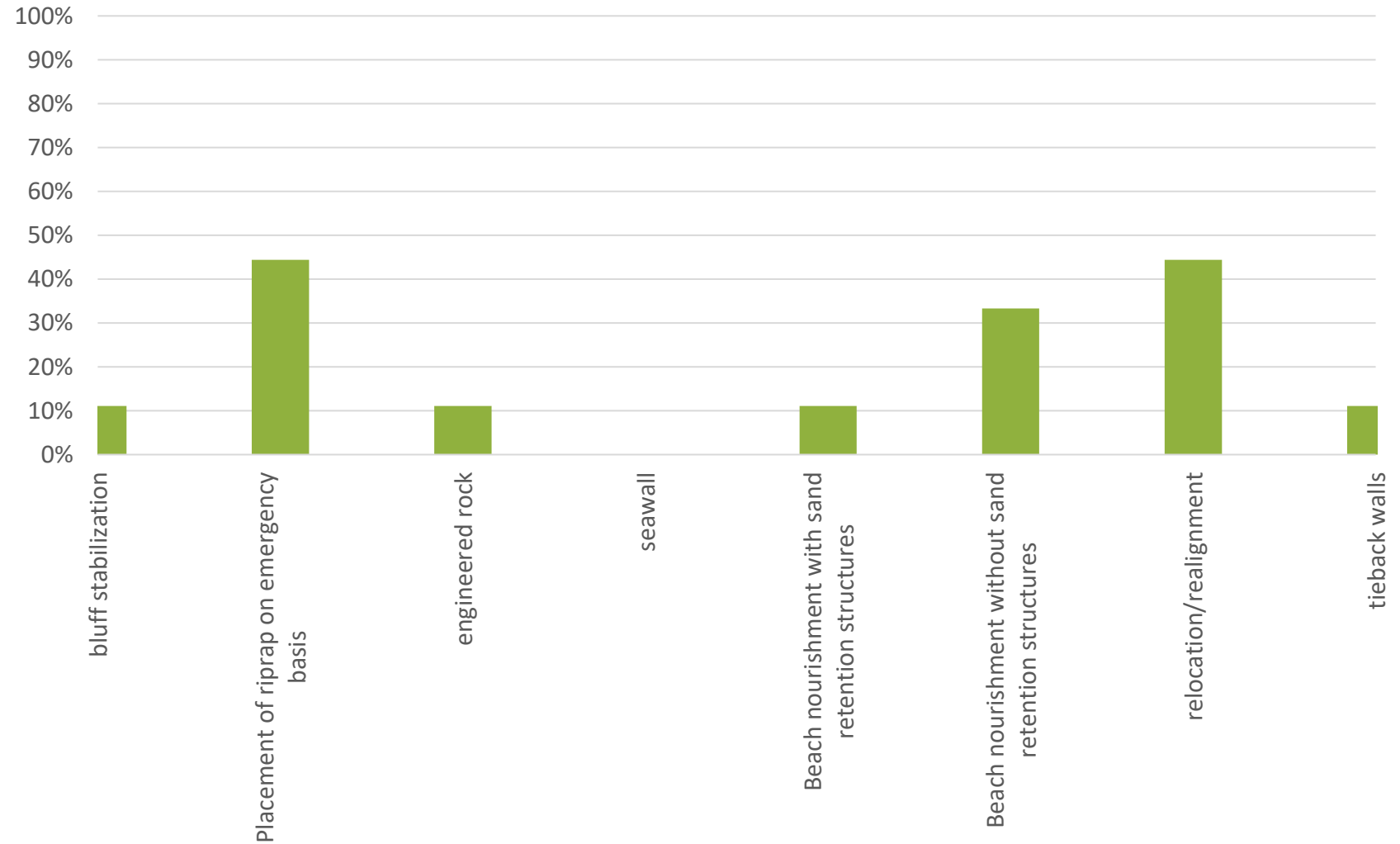


\* Percentages are based on n=9



# Remedial Measures

- Top measures identified to address these threats:
  - **Placement of riprap** (44.4% of stakeholders)
  - **Relocation and realignment** (44.4%\* of stakeholders)

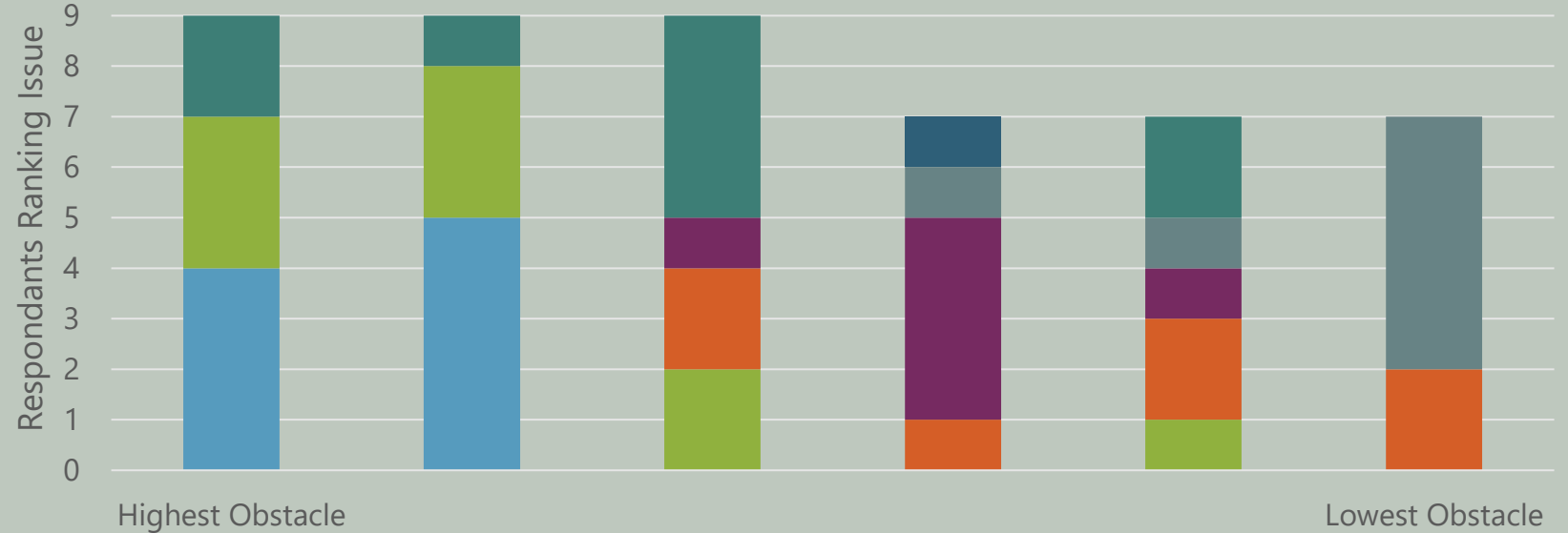


\* Percentages are based on n=9



# Obstacles Most Cited by Stakeholders

- Top obstacles to implementing sea level rise adaptation measures:
  1. **Ability to obtain permits**
  2. **Ability to obtain funding**
  3. **Lack of leadership/coordination/political will**



- Lack of resource coordinations and slow governmental processes
- Lack of leadership/coordination/political will
- Lack of understanding of coastal processes
- Availability of technical information
- Lack of understanding regarding remedial measures performance
- Ability to obtain funding
- Ability to obtain permits

\*Percentages are based on n=9

\*\*City of Dana Point and Capo Bay District only ranked top 3 obstacles



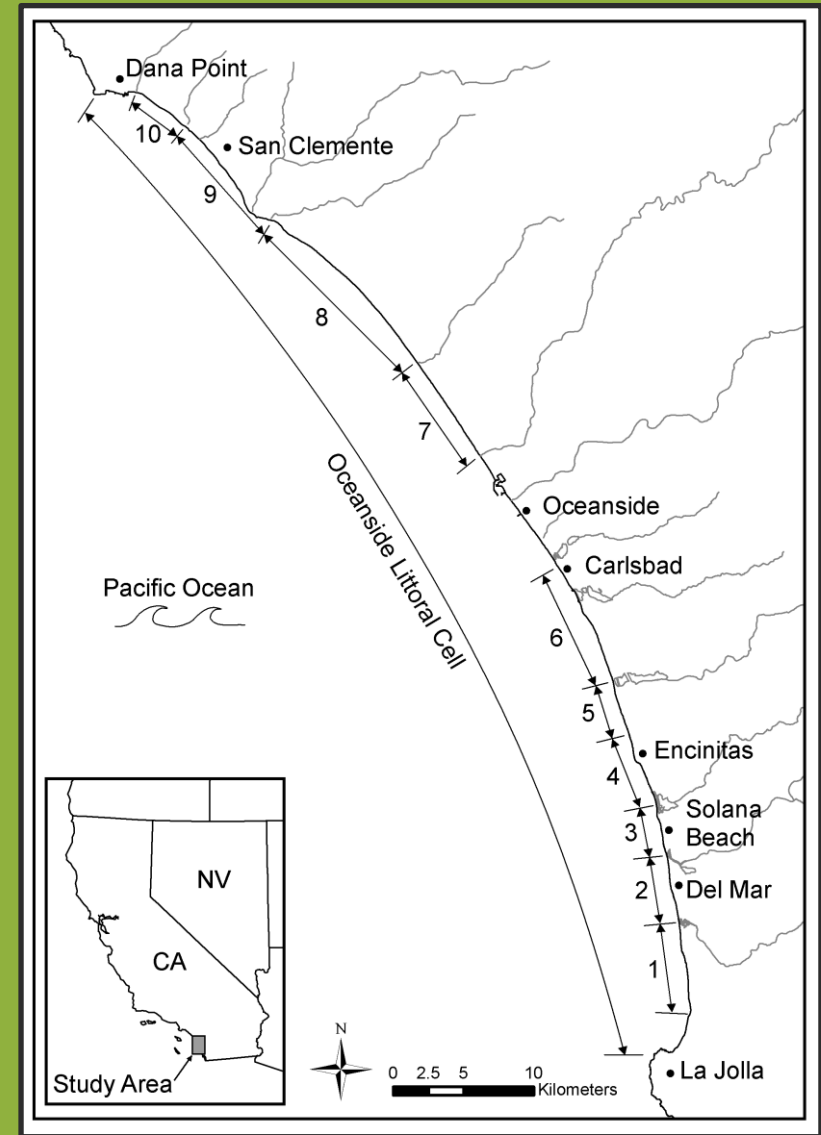
# Survey Responses with Zero Selections

- **No respondents** identified:
  - **Changes in wave height, frequency, and direction** as a top cause of current/historical threats to property or assets
  - **Coastal development** as a top cause of future threats to property or assets
  - **Seawall** as a remedial measure to address the threats to property or asset

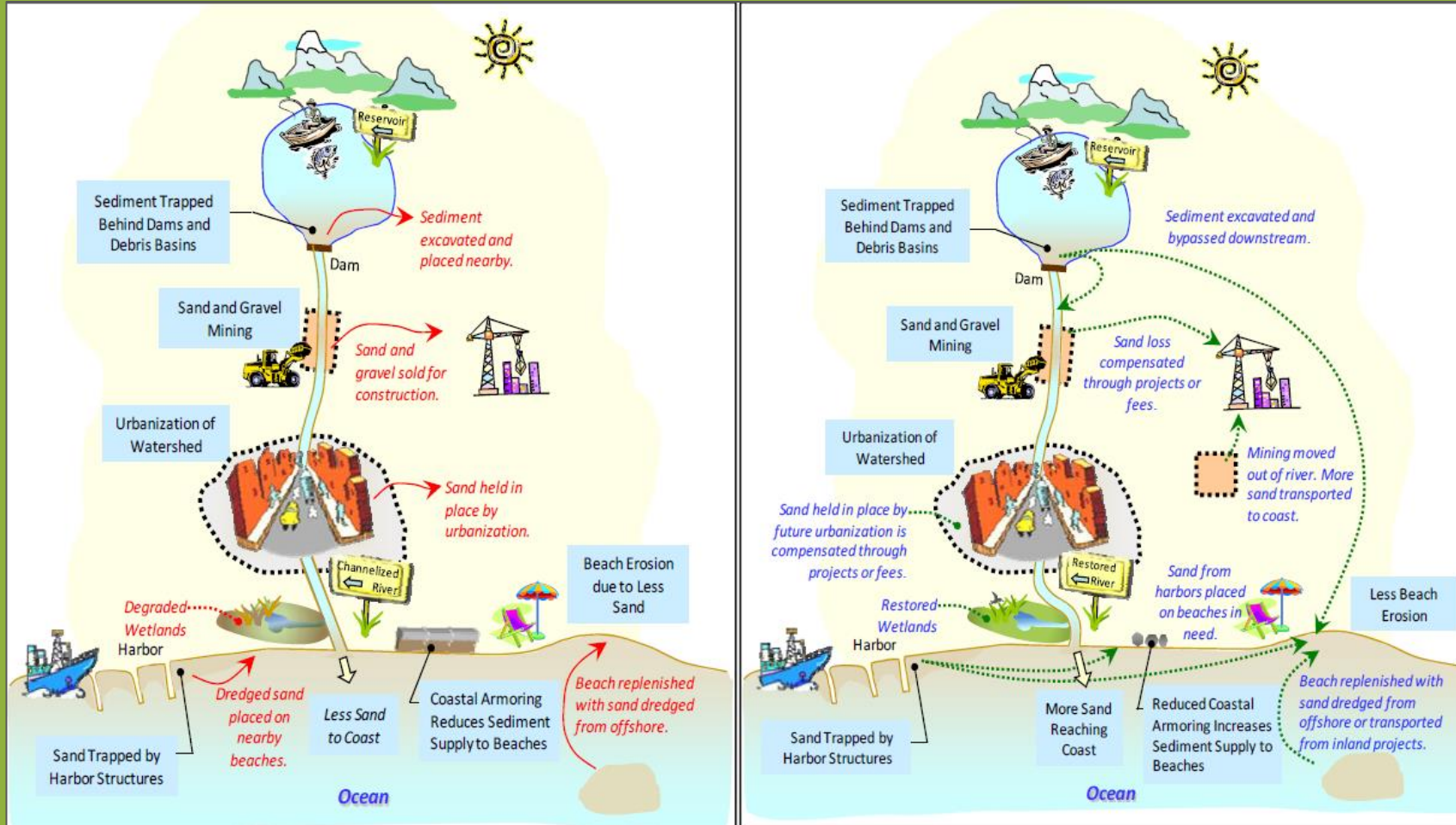


# Causes of Erosion

- Natural Factors
- Human Factors



# Sediment Management



# Coastal Area Delineations and Problem Areas



**LEGEND:**

- State
- County
- City
- Private
- Metrolink



# Regional Beach Erosion



- Beach erosion across entire littoral cell
  - Excludes Dana Point Harbor
- Waves reach:
  - Metrolink track
  - Residential development
- System-wide beach narrowing
- Requires system-wide approach to address





# Doheny State Beach

- Beach Erosion
  - Loss of beach width
  - Loss of sand increasing exposed cobble
- Damage
  - Parking lots
  - Bike path
  - Palm trees
- Focused protective rock revetment



# Capistrano Beach

- Beach erosion
- Infrastructure Damage
  - Boardwalk
  - Ball Court
  - Restroom
  - Parking Lot
  - Coastal Trail
  - Seawall



# Capistrano Bay District

- Beach erosion
- Impacts to residential structures
- North extent access provided through Capistrano Beach
  - reliance on County maintaining Capistrano Beach
- Individual home protective structures vary



# Shorecliffs Beach Club

- Impacts to structure
- Impaired Access



# Capistrano Shores

- Beach erosion
- Impacts to residential structures



# San Clemente Beaches

- Beach erosion up to railroad  
revetment or seawall
- Access tunnels eroded during high  
tides
- Metrolink shut-downs due to waves
  - Temporary protection by rock placement
  - Need to relocate or restore sediment
- Parking lot flooding at the San  
Clemente State Beach
- Pier exposed to high surf



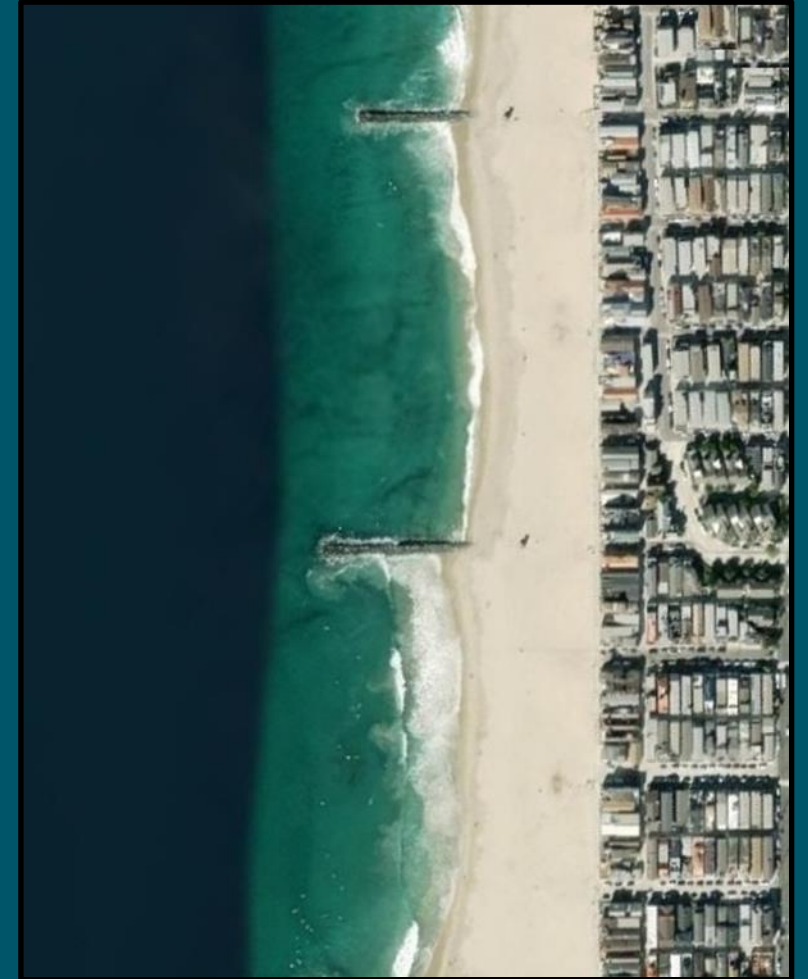
# Cyprus Shores and Cotton Point



- Recent movement of the bluff has caused infrastructure damage
  - HOA parking lot
  - Roads
  - Utilities
- Residential property damage
  - Cracking in floors and ceilings
- Cracking and slope failure
  - Result of coastal erosion along tail of the bluff
  - Lack of sand on beach below believed to be the primary cause

# Potential Solutions and Funding

- Beach nourishment without retention structures
- Beach nourishment with retention structures
- Offshore multipurpose reef
- Funding Sources
  - Federal
  - State
  - Local
  - Private





# Governance Models

- Joint Powers Authority
  - SANDAG
  - BEACON
- GHAD
  - Broad Beach
- Cooperative Agreement
  - Dare County (North Carolina)
- Government Agency Led
  - South Orange County Watershed Management Area



# Stakeholder Engagement Process

- Stakeholder group roles and responsibilities
- Big picture stakeholder engagement schedule



# Next Steps and Discussion

