

# Ballona Wetlands Ecological Reserve Restoration



# Wetlands Restoration Principles Steering Committee

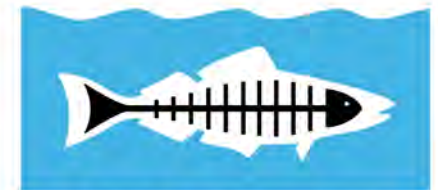


FRIENDS OF  
BALLONA  
WETLANDS



**Loyola Marymount  
University**

**Center for  
Urban Resilience**



**Heal the Bay**

**wetlandsrestoration.org**



# Outline and Goals

- Importance of Wetland Areas
- History of Ballona Wetlands Ecological Reserve
- Restoration Project Goals and Objectives
- Restoration Examples
- Questions and Answers



# Why Are Wetlands Important?

## Ecosystem

- Biodiversity support
- Water quality improvement
- Flood abatement & erosion control
- Carbon management & sequestration
- Oxygen production

## Economic

- Recreational benefits
- Cultural resources
- Renewable resources & commercial fishing
- Education opportunities

***Did you know?***  
***Wetlands are giant water filters!***  
***They can remove lead, zinc,***  
***sediment, bacteria, toxins,***  
***nutrients....***







# Wetland Loss Estimates

↓ 50% in the United States

↓ 90% in California

↓ 95% in Southern California

State of the States Wetlands Report, Stein et al. 2014, National Wetland Inventory

*Did you know?  
More than ⅓ of the US'  
threatened and  
endangered species live  
only in wetlands*





# Ballona Wetlands Ecological Reserve



# T I M E L I N E

1984

Friends of Ballona Wetlands sues to stop development

2003

Land acquired by CA Dept. of Fish and Wildlife

2004+

First of 20 public stakeholder meetings

2005

Designated Ecological Reserve

2006+

First of 7 Scientific Advisory Committee Meetings

2010+

Start of baseline data collection

2017

Draft EIR/EIS released

2019

Final EIR released

2020+

Certification, permitting, and project implementation



# The Ballona Wetlands have Suffered Many Impacts Over the Years



Oil derricks in  
Playa Del Rey, 1925  
*(credit: USC)*



Channelizing Ballona Creek  
1930s  
*(credit: MDR Historical Society)*



Dumping dredge material, 1960  
*(credit: MDR Historical Society)*



Celery patch, 1927  
*(credit: USC)*



Dredging machines, 1960  
*(credit: MDR Historical Society)*



Marina del Rey, 1969  
*(credit: MDR Historical Society)*

# Wetland Stressors

- **Modified Hydrology**
  - Dredging & fill dump
  - Levees, culverts & channelization
  - Paving & roads
- **Water Quality**
  - Polluted runoff
  - Trash
  - Heavy metals, bacteria and pathogens
- **Habitat Destruction**
  - Fragmentation
  - Invasive & introduced species
  - Noise and light pollution
- **And more...**

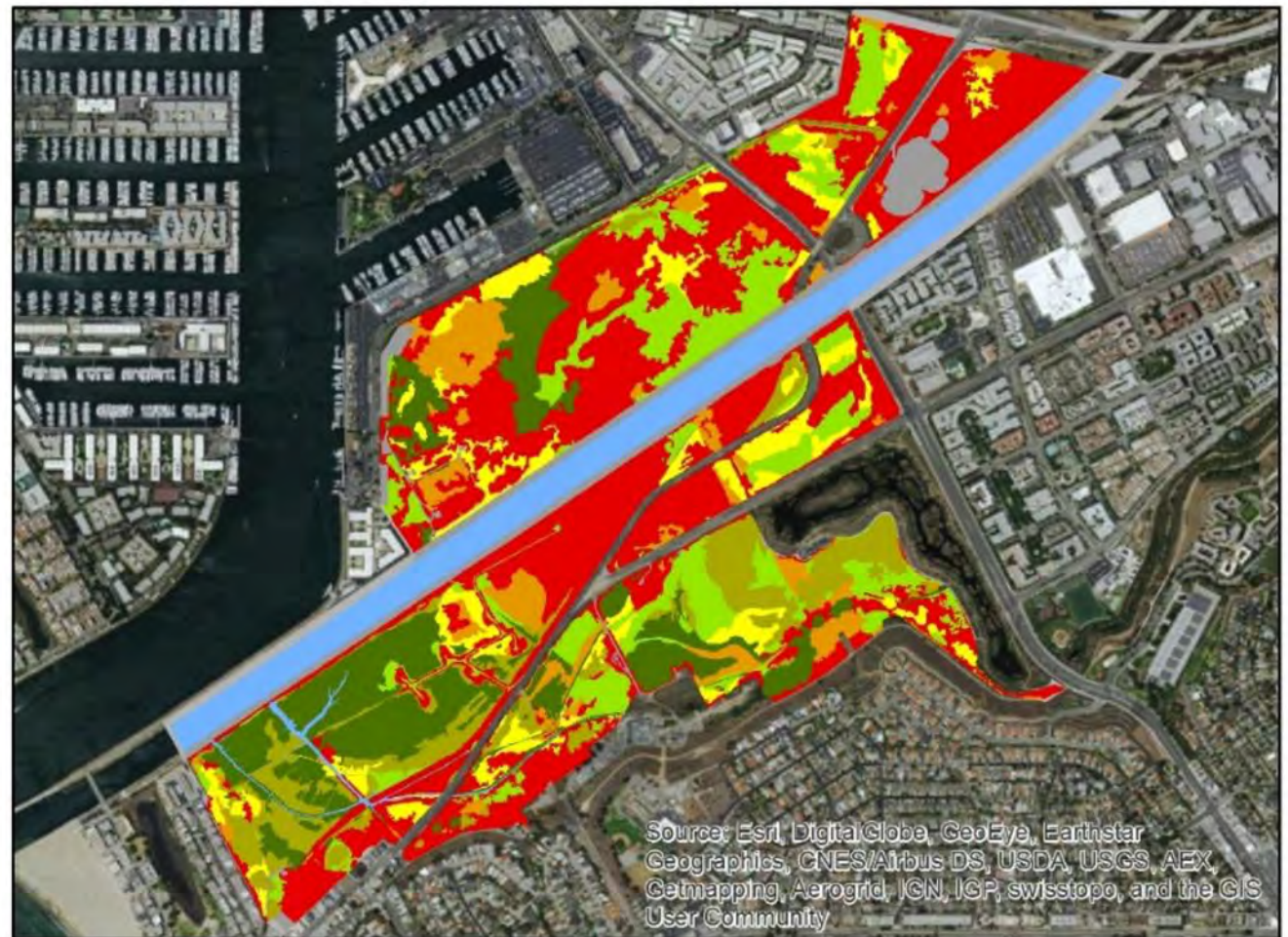
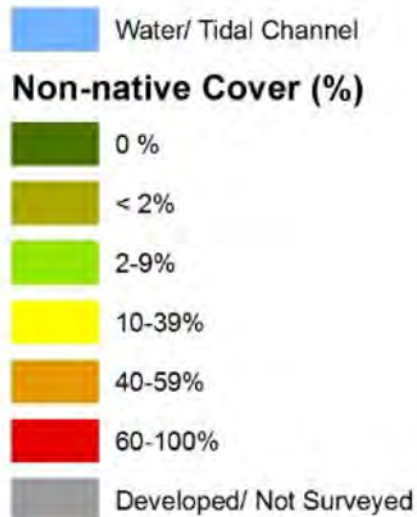




# Invasive, Non-native Vegetation Cover is Expanding

2013

## Legend





# Area A – The most degraded area in Ballona



**Area A - 2020**



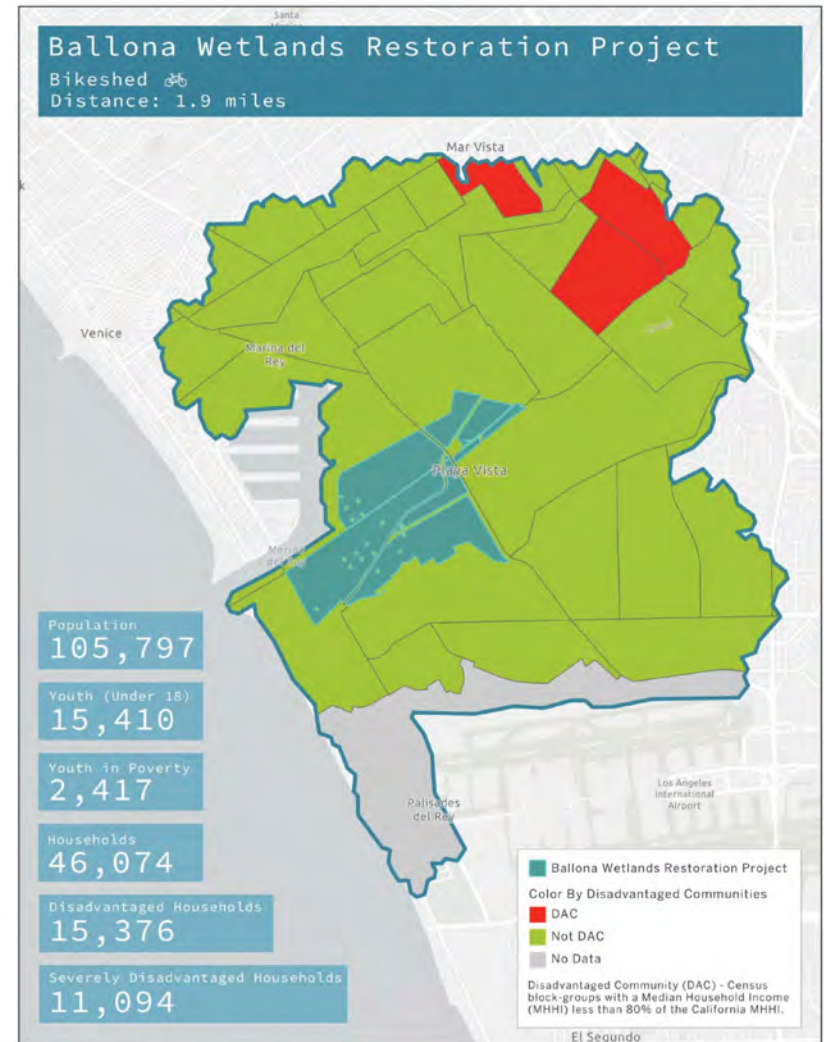
# Invasive, Non-native Vegetation Forms Monocultures – Excludes Natives



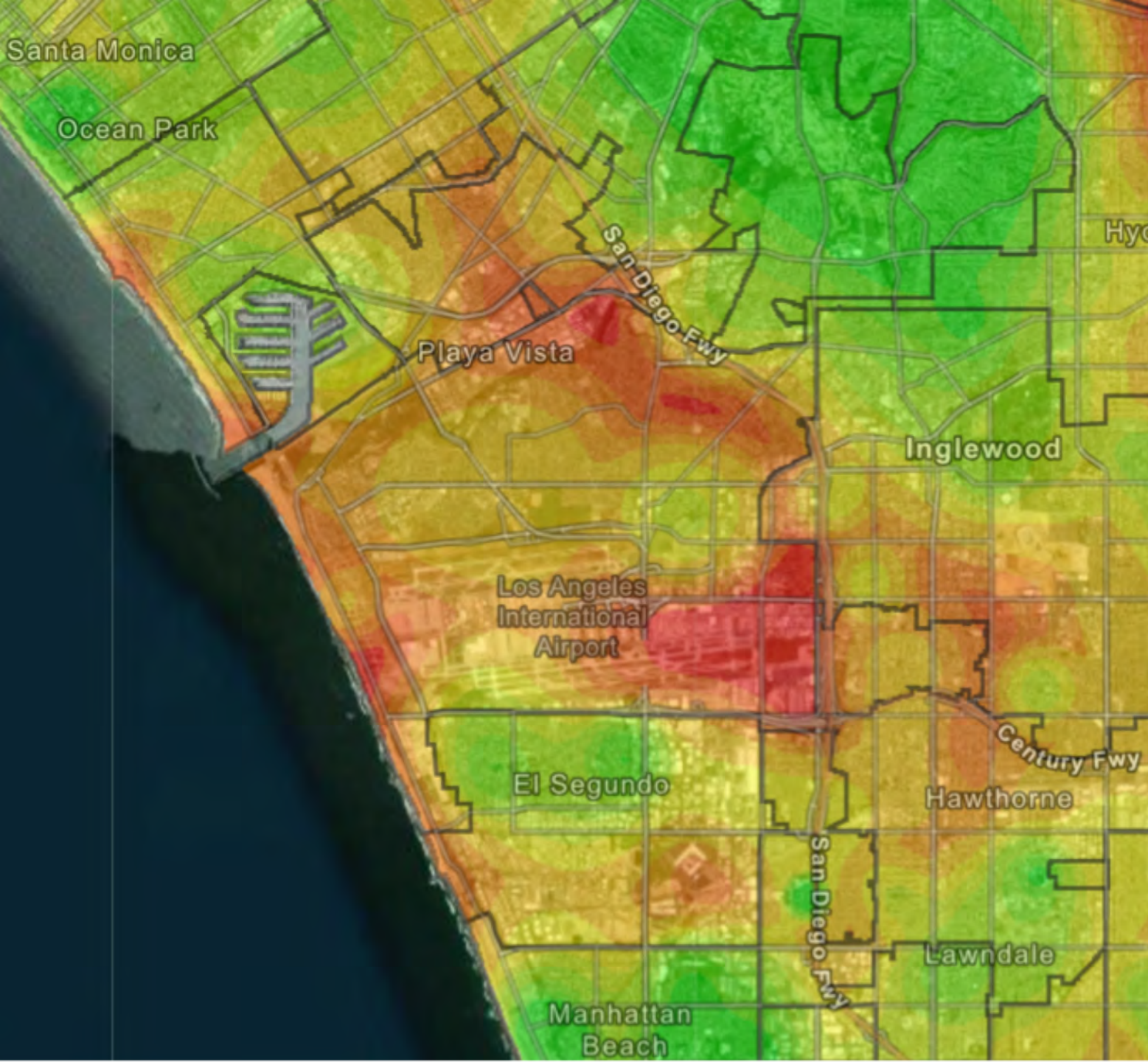


# Environmental & Social Justice

- A restored Ballona will be an asset for all Angelenos
- Current programs by FBW, TBF, and LA Audubon
- Expand educational programming and access
- Outdoor programming for youth
- Disadvantaged Households
  - 15,376 within 1.9 miles (typical driving distance)
  - 1,219 within 0.03 miles (typical walking distance)

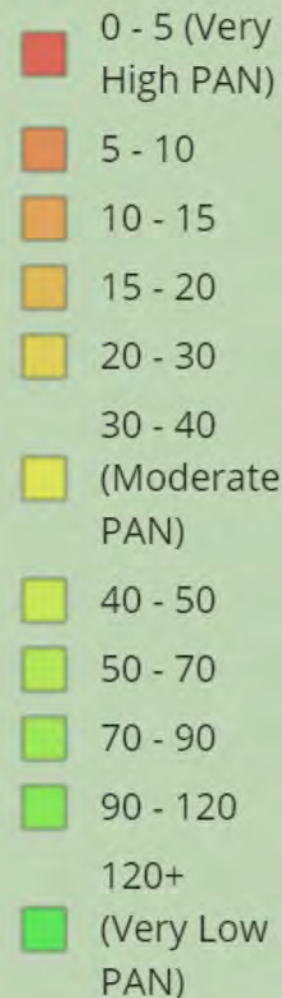






Park Acre Need  
(PAN) - Need  
Based on  
Available Park  
Acres

Available Park  
Acres



# Benefits of Green Space

- **INCREASE** in property value

- Reduced heat island effect
- Sound barrier for urban noise
- Better views



- **IMPROVED** health

- Less stress
- More exercise
- More community connections



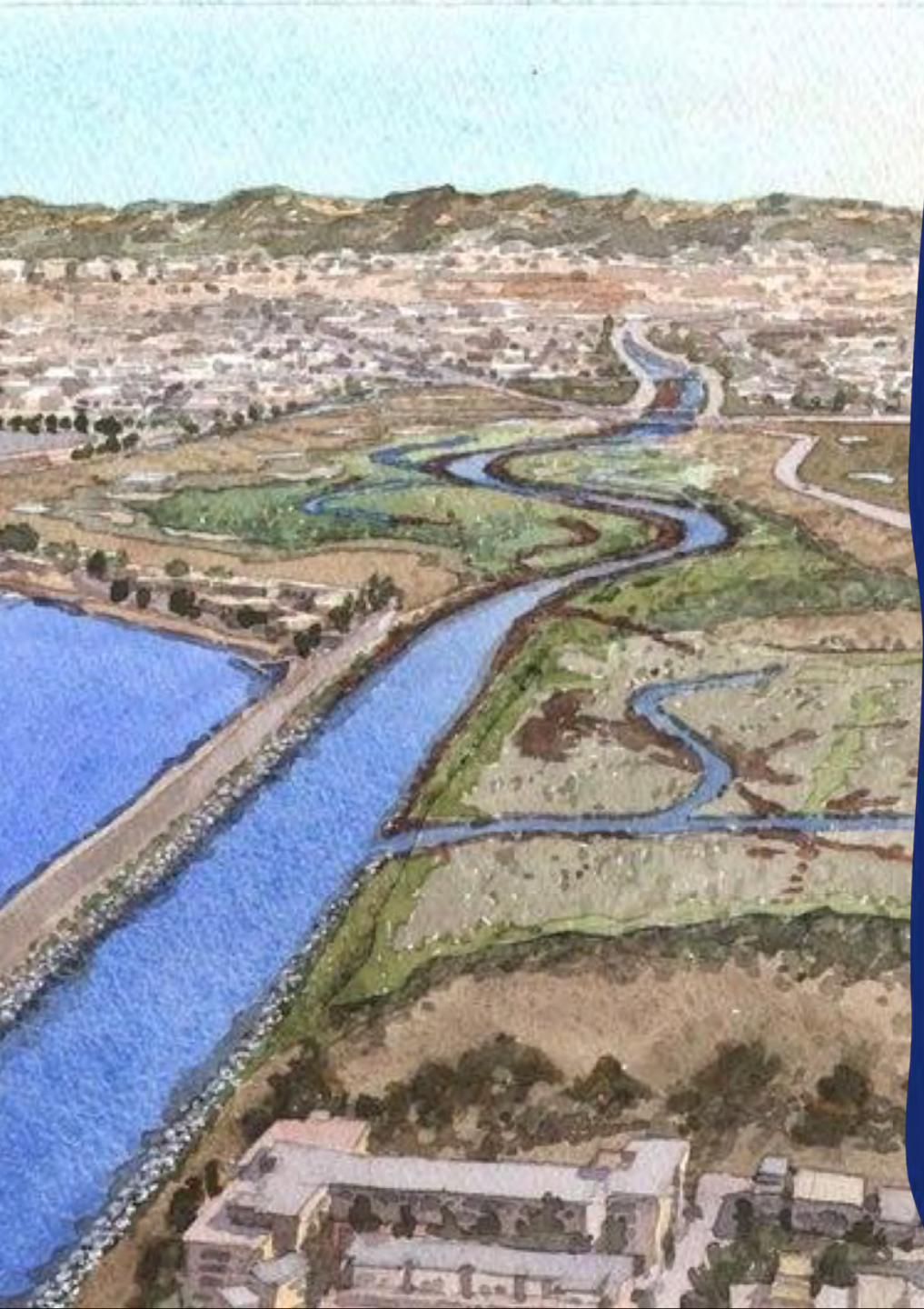


# Restoration Project Goals and Objectives

- **Goal 1: Ecosystem Restoration**
  - Restore, enhance and create estuarine habitat
  - Support a range of habitats
- **Goal 2: Socioeconomic Value**
  - Aesthetic and cultural use
  - Research and educational use
  - Increase public access and recreation







# Restoration Project

**Alternative 1:**  
Naturalized Creek

**Alternative 2:**  
Partial Naturalized Creek

**Alternative 3:**  
Oxbow

**Alternative 4:**  
No Project



# Restoration Project: Alternative 1



Increased public access

Most wetlands created and enhanced

Most resilient to sea level rise

Highest level of restoration

Phase 1: 5 years  
Phase 2: 3 years



# What Alternative 1 Will Do

## Restore Native Habitats

- Remove invasive plants
- Add native plants
- Increase habitat for native species to forage and breed
- Improve habitat for sensitive wetland species
- Improve biodiversity

South Coast  
Marsh Vole



Wandering Skipper



Ridgway's Rail



Belding's Savannah  
Sparrow



# What Alternative 1 Will Do



## Reconnect Natural Hydrology

- Reconnect creek to its floodplain
- Increase tidal flushing
- Create nurseries for fish
- Allow for freshwater influence during heavy rains



# What Alternative 1 Will Do

## Use Heavy Machinery

- To remove fill and channelization
- Phased process
- Overseen by biologists to protect wildlife
- Successfully used in other restoration projects
  - Malibu Lagoon
  - Bolsa Chica
  - Madrona Marsh



Biologist monitoring heavy machinery

### *Did you know?*

*To remove all the fill dumped on Ballona without machinery it would take 100 volunteers working every day for 30 YEARS!*



# What Alternative 1 Will Do



## Increase Public Access

- Create walking trails, boardwalks, bike paths, educational signage
- Trailheads with parking and wheelchair accessibility
- Restroom facilities and trash cans
- Increased education and volunteer opportunities
- Increased patrols and maintenance by CDFW



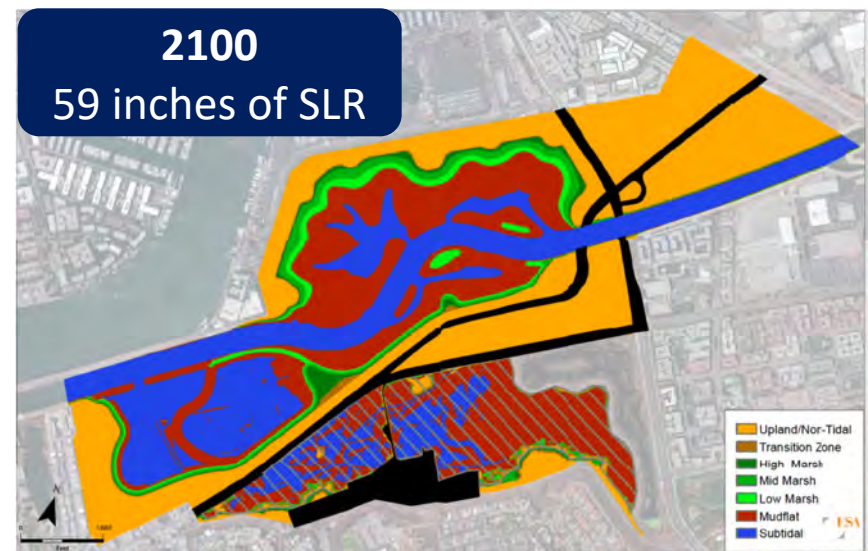
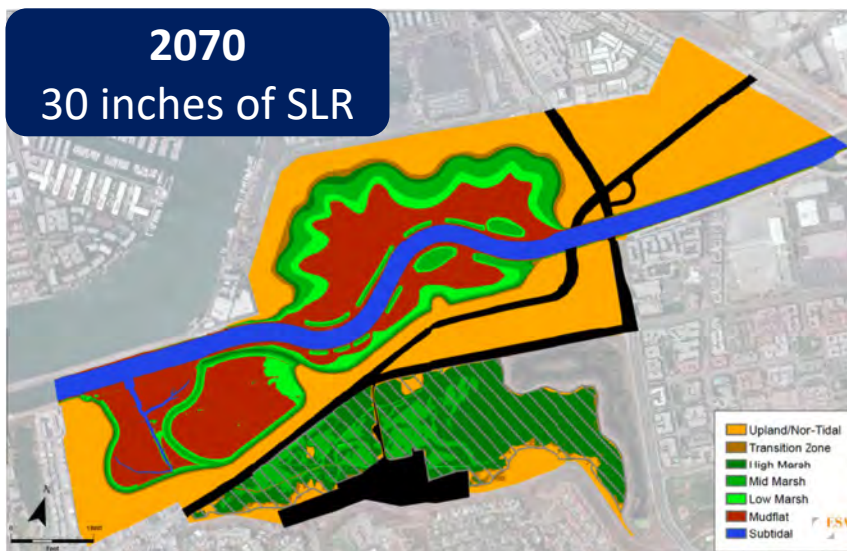
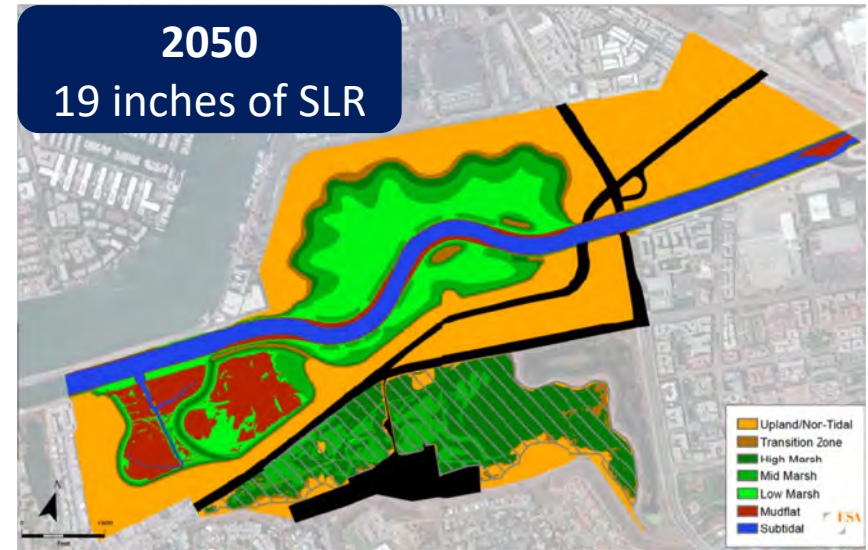
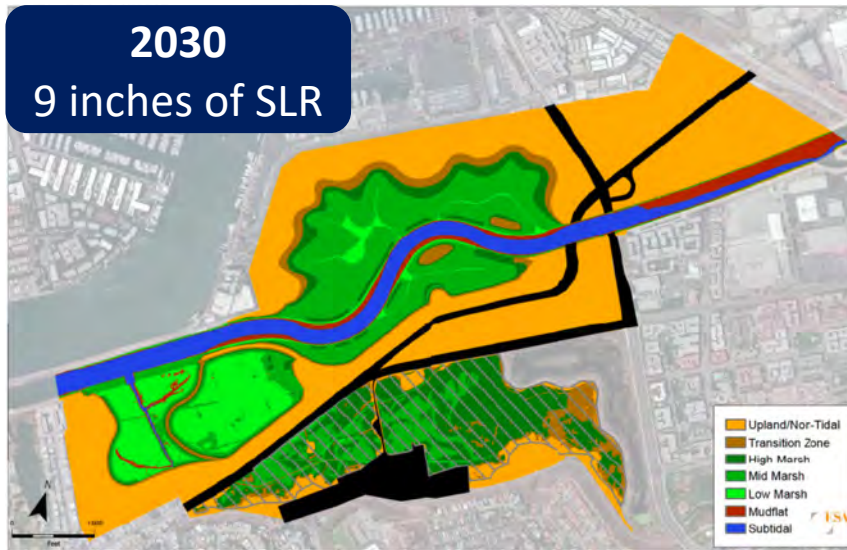
# What Alternative 1 Will Do

## Remove SoCalGas Infrastructure

- Action alternatives include abandonment of all 16 wells plus removal of access roads and infrastructure
- Maximizes wetland habitat acreage and connectivity
- Process started Sept. 2020
- Up to six monitoring wells may be re-drilled to maintain monitoring regulatory requirements
- Managed by the California Public Utilities Commission and California Geologic Energy Management Division

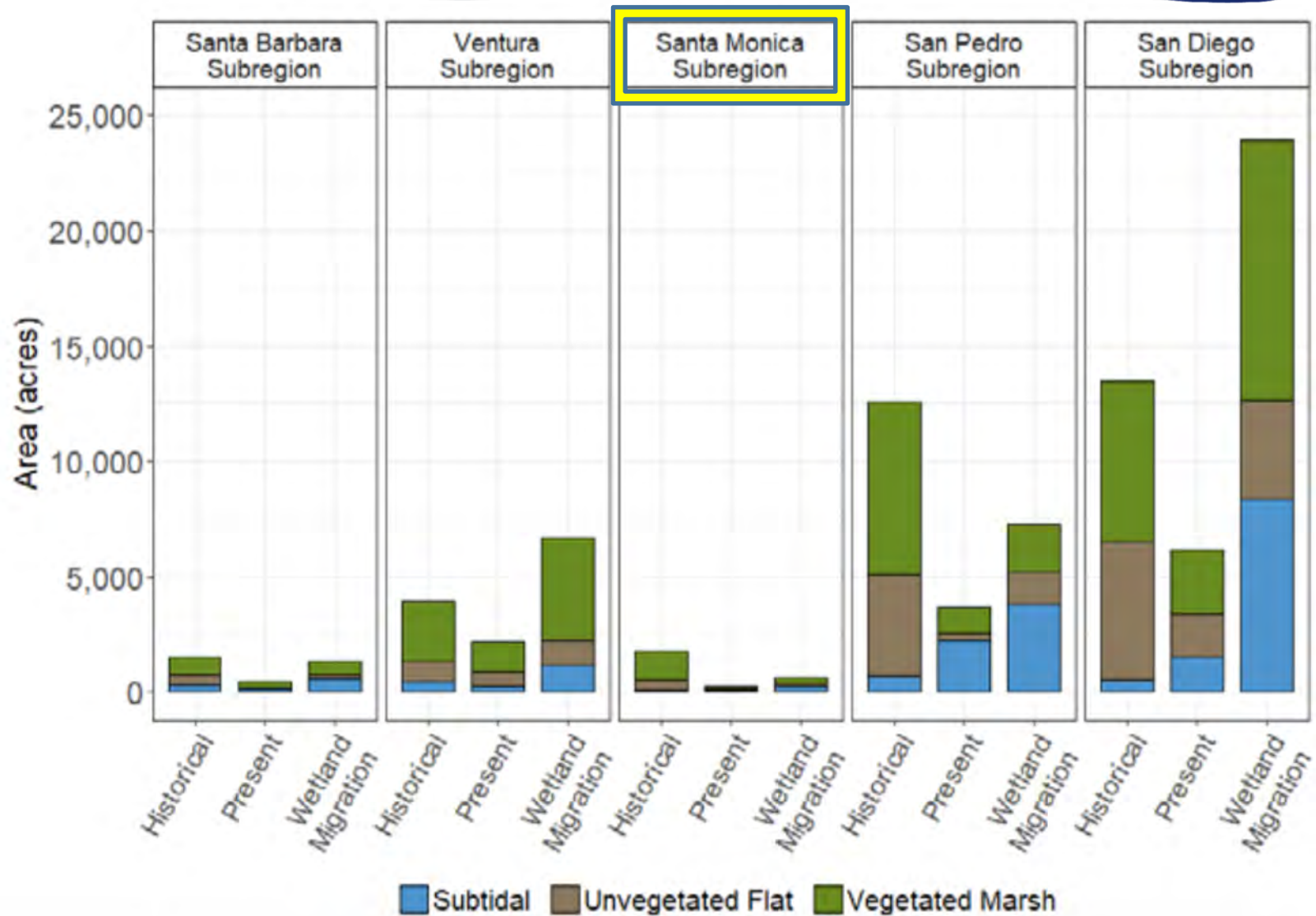


# Alt 1 will Adapt to Sea-Level Rise



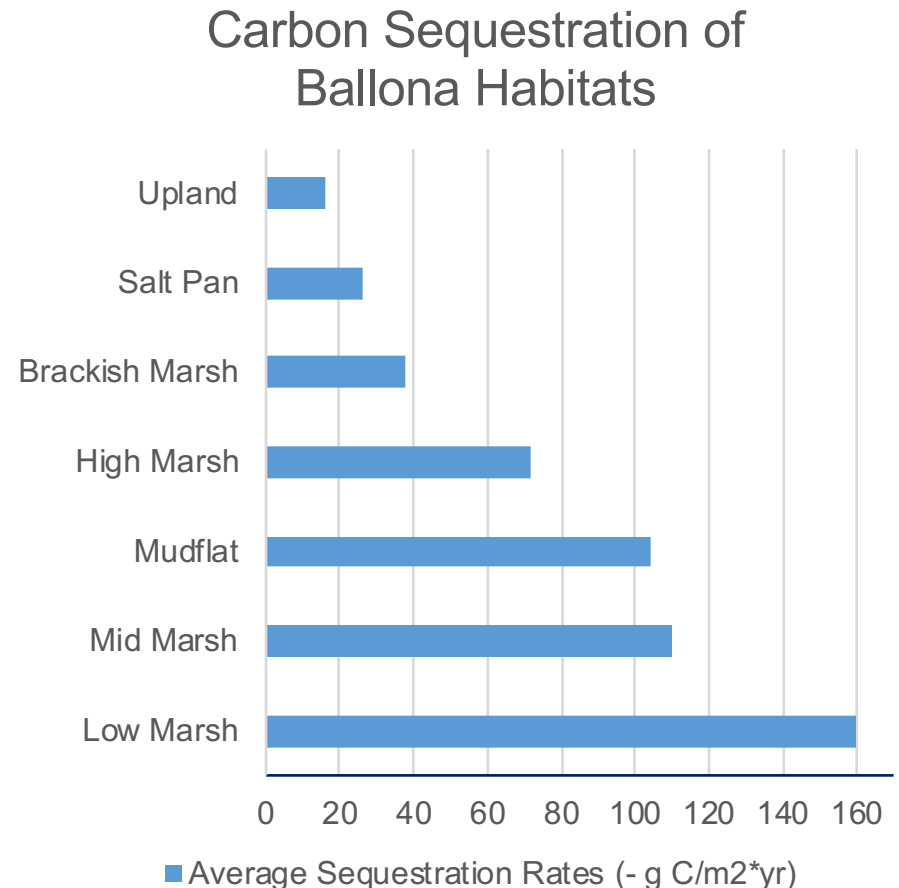


# Restoration is Critical to the Region



# Wetlands Sequester Carbon

- Ballona Wetlands (Bear 2017) study found minimum of 270% increase in carbon sequestration post-restoration
- Greenhouse gas emissions from earth moving activities found to be less than significant
- Wetlands sequester MUCH more carbon than upland
- Salt marshes produce less methane than freshwater marshes





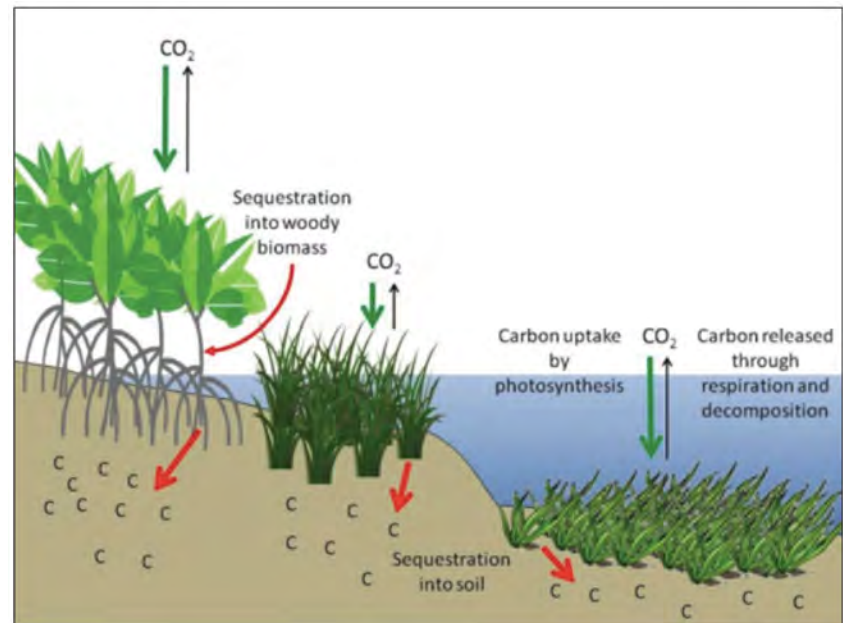
# Restoring Wetlands Fights Climate Change

## Climate Reality Project

- Coastal habitat restoration alone could mitigate the emissions from 5 million cars
- Reconnecting marshes to their respective bodies of water could eliminate a third of global methane emissions
- Salt marshes isolated from tidal influence are inundated with freshwater, which releases more methane

## Ramsar International Convention on Wetlands

- Restored coastal marshes begin absorbing carbon almost immediately, at rates equivalent to natural sites



# Temporary Impacts

- **Dust**
  - Reduced with water
- **Noise**
  - Minimum distances
  - Smaller machinery near homes
  - Limited hours
  - Sound barriers
- **Traffic**
  - Bridge over Lincoln
  - Avoids small streets
  - Main entrances on west side
- **Impact Significance**
  - Determined to be less than significant after mitigation in the EIR





# Area A – Restoration Changes



**Post Restoration**

# Area B East – Restoration Changes



**Post Restoration**



# Area B South – Restoration Changes



**Post Restoration**

# Area C North – Restoration Changes



**Post Restoration**



# Restoration Works!

## Ballona Freshwater Marsh and Riparian Corridor

- 26 acre permanently flooded freshwater marsh
- 25 acre stream corridor along LMU bluffs
- Former lima bean field
- Built with heavy machinery
- Low berm used as walking trail
- 260 avian species documented since 2003
- Storm water treatment and wildlife habitat

2020



# Other Successful Projects



Malibu Lagoon



San Pablo Bay



San Elijo Lagoon



South Bay Salt Pond



# San Dieguito Lagoon





# Long-Term Benefits

- Improved biodiversity and native plant cover
- Increased public access and CDFW patrols
- Increased climate change resilience
- Improved scenic beauty
- Habitat for endangered and sensitive species



# What You Can Do:

- **Sign on to WRP**  
Have your organization join us!  
-> [WetlandsRestoration.org](http://WetlandsRestoration.org)
- **Sign our letter of support**  
[www.ballonafriends.org/support](http://www.ballonafriends.org/support)
- **Contact your Reps**  
Call or email all your elected officials (local, county, & state) and tell them you want the wetlands restored!
- **Donate or Volunteer**  
Support the environmental orgs fighting for restoration or join us at a restoration event.
- **Spread the Word – Stop Misinformation**  
Share info with friends and family!

