Lower Carmel River Flood Control and Restoration: Opportunities and Challenges for Multi-Benefit Projects
2019 AEP Conference
March 24, 2019

Moderator: Sarah Hardgrave
Panel Members: Melanie Beretti | Rachel Saunders | Erin Harwayne | Josh Harwayne
Carmel Lagoon
Project Team

• Monterey County Resource Management Agency
• Denise Duffy and Associates
• Whitson Engineers
• Balance Hydrologics Inc
• Moffatt & Nichol Engineers
US Coast Survey
1876
Carmel Area Wastewater District
Est. 1930’s

SR-1
Est. 1930’s

Carmel River State Beach
Est. 1953

CEQA and California Coastal Commission
Est. 1970’s

Monterey County Floodplain Regulations
(MCC 16.16)
Est. 1980’s

4th Addition Neighborhood
Est. 1950’s

Carmel River School
Est. 1950’s

Carmel Area Wastewater District
Est. 1930’s

Carmel River Lagoon and Wetland Natural Preserve
Est. 1995

Carmel River Lagoon and Wetland Natural Preserve
Est. 1995
• **1970’s to 2011** - Emergency sandbar breaching by Water Resources Agency, County and State Parks

• **1992** – USACE & NOAA sandbar mgmt. not emergency action

• **2005 - 2007** – Collaboration and baseline studies

• **2010 - 2013** – NOAA Draft Jeopardy Opinion lead to identifying the EPB/SRPS w/ ISMP

• **2013** – MOU County, USACE & NOAA Fisheries for long-term solution
Multi-Stakeholder Involvement

Collaborators
- California State Parks
- Monterey Peninsula Water Mgmt District

Key Stakeholders
- 4th Addition & Lagoon-adjacent properties
- Carmel Area Wastewater District
- Carmel Unified School District
- California State Parks
- Scenic Bluff Residents (CSA-1)
- Carmel River Conservancy
- Carmel River Steelhead Association
- Monterey Bay National Marine Sanctuary

Regulatory Agencies
- NOAA Fisheries
- US Army Corps of Engineers
- Regional Water Quality Control Board
- CA Dept. of Fish and Wildlife
- US Fish and Wildlife Service
- California Coastal Commission

Funders
- Monterey County
- Grants (Feasibility Study)
  - Wildlife Conservation Board
  - Dept. of Water Resources (IRWMP)
  - County Service Area 1
Sandbar Management
Carmel River Floodplain Restoration and Environmental Enhancement Project (CRFREE)

Big Sur Land Trust & County of Monterey

2019 AEP Conference

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Rachel Saunders
Big Sur Land Trust
Director of Conservation

Melanie Beretti
Monterey County Resource Management Agency
Property Admin/Special Programs Manager
Big Sur Land Trust

Mission: To inspire love of the land across generations, conservation of our unique Monterey County landscapes, and access to outdoor experiences for all.

Our Vision: We see a future where natural landscapes, working lands, urban open spaces and healthy communities are cared for by people who share a love for nature and a deep appreciation for the richness of their diverse cultures.

Carmel River Floodplain Restoration and Environmental Enhancement (FREE) Project

Project Team

Project Co-Sponsors:
- Monterey County RMA
- Big Sur Land Trust

Design Team:
- Whitson Engineers
- Balance Hydrologics
- H. T. Harvey & Associates
- Cornerstone Structural Engineering Group
- Kleinfelder
- Avila & Associates
- Associated Right-of-Way Services, Inc.
- Conservation Collaborative

Environmental & Permitting Team:
- DD&A
Carmel River FREE Project
Objectives and Components

- **Flood Control** - Reduce flood risks to Hwy 1 and developed areas north of the Carmel River
- **Longitudinal Connectivity** - Construct Hwy 1 causeway to reconnect Lagoon and upstream floodplain
- **Lateral Connectivity** - Notch levees to reconnect river and floodplain; grade floodplain to create channels to convey flood flows
- **Habitat Enhancements** - Maximize riparian and wetland habitat restoration
- **Retain Agricultural Legacy** - Maintain surplus soil on-site and develop 23-acre agricultural preserve
Using Nature-Based Solution for Flood Control

Existing 100-year Results: Depth

Design 100-year Results: Depth
Carmel River FREE Project Participants & Stakeholders

Project Sponsors:
• Monterey County RMA
• Big Sur Land Trust

Partners:
• California State Parks
• Monterey Peninsula Regional Park District
• Caltrans

Key Stakeholders:
• County Service Area 50 & nearby landowners
• Monterey Peninsula Water Management District
• Monterey County Water Resources Agency
• Carmel River Steelhead Association
• Carmel River Watershed Conservancy

Funding Agencies:
• State Coastal Conservancy
• CA Dept. of Water Resources
• Wildlife Conservation Board
• U.S. Fish and Wildlife Service
• U.S. Environmental Protection Agency

Potential Future Funders:
• CA Department of Fish and Wildlife
• Federal Emergency Management Agency
90s floods

1995 - Bridge Washout
1997 - First Levee Opening
Extensive property damages

Feasibility

1999 - 2001 Early Studies
2007 - 2010 Feasibility and Alternatives
Conceptual Design

Partnerships

2010 - Present
Caltrans/County Coop Agreement
Local Agency MOU
Multiple Grant Funders

Design & Permitting

2014 - Present
Env. Review:
* County CEQA
* USFWS & Caltrans NEPA
2019 - 2020
Final Design & Permits

Implementation

2020 - 2022
CRFREE construction planned

Complex projects take time!

+ other partners

Project cost: ~$32M
Questions?

Rachel Saunders  
Big Sur Land Trust  
831-625-5523  
rsaunders@bigsurlandtrust.org

Melanie Beretti  
Monterey County Resource Management Agency  
831-755-5285  
BerettiM@co.monterey.ca.us