

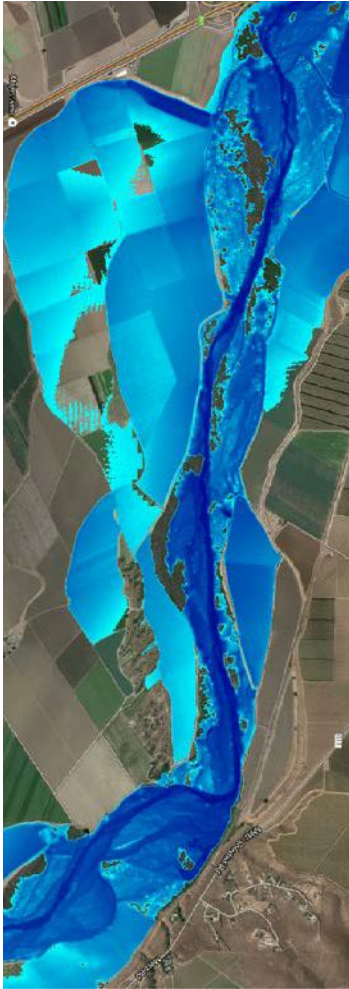
A science-based, multi-benefit approach to collaboration **The Salinas River Stream Maintenance Program**

July 29, 2016

Project Partners:

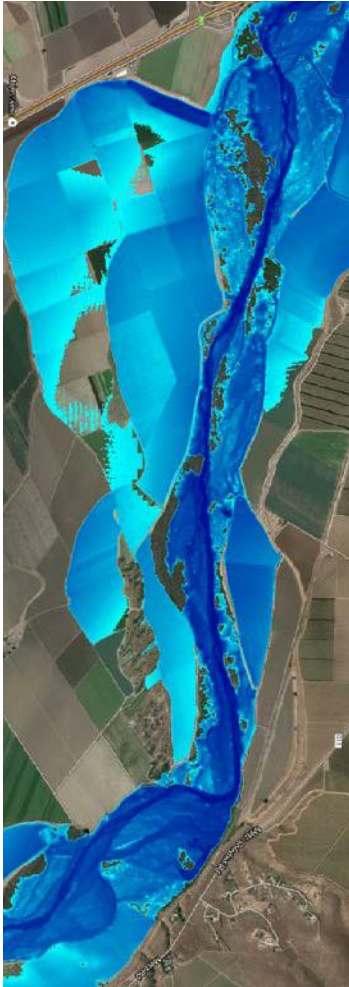
Shaunna Juarez (MCWRA) Abby Hart (TNC), Abby Taylor Silva (Grower-Shipper Association), and Paul Robins (RCD of Monterey County)





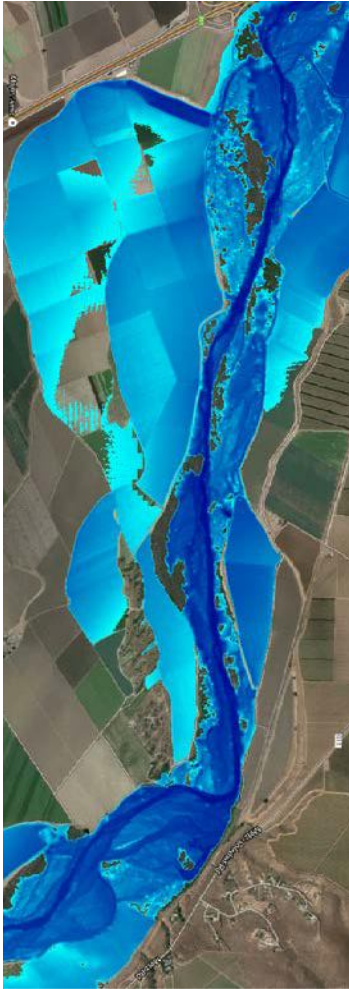
Project Team

- 2015 MOU formalizing relationships to develop the Program
 - The Nature Conservancy: technical input related to biology, hydrology and design
 - Grower-Shipper Association: grower/community engagement, funding and RMU operations
 - Resource Conservation District of Monterey County: biological monitoring & reporting
 - Monterey County Water Resources Agency: permitting, coordination & oversight
- Stakeholders' support, with various objectives
- Recipient of Coastal Conservancy grant



History of the SMP

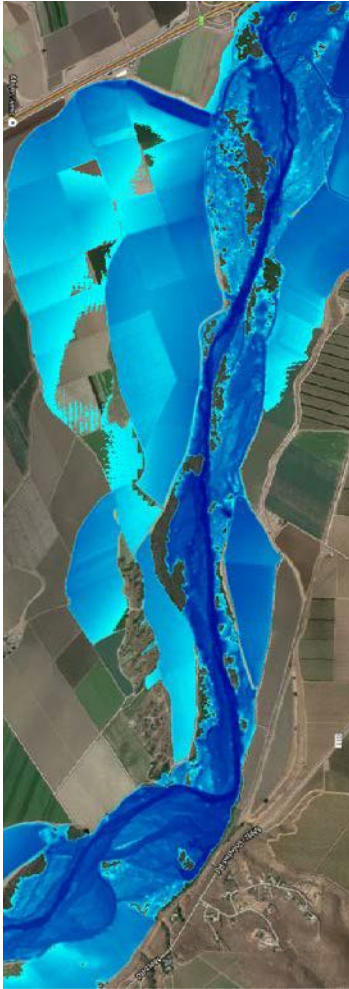
- **1997-2008** – Management for flood risk reduction in response to 1995 flood. Administered by MCWRA which held the 404 and 401 permits. Landowners obtained their own 1600 permits and performed maintenance activities.
- **2008** – Potential impacts to threatened species and the river system halt the SMP
- **2008-2013** – Stakeholders at odds over management approaches
- **2014-2015** – Demonstration Project implemented in Chualar and Gonzales



Demonstrating a new approach to stream maintenance

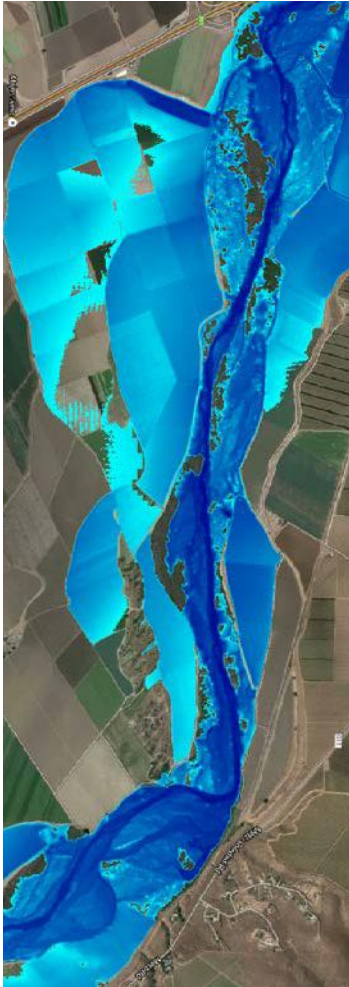
- TNC began having conversations with landowners in 2013, together with GSA, Salinas River Channel Coalition, RCD, MCWRA, landowners, and others
- Start back at the drawing board
 - Build the relationships
 - Develop the science
 - Jointly design a new approach that would provide multiple benefits





Multi-benefit approach Goals & Objectives

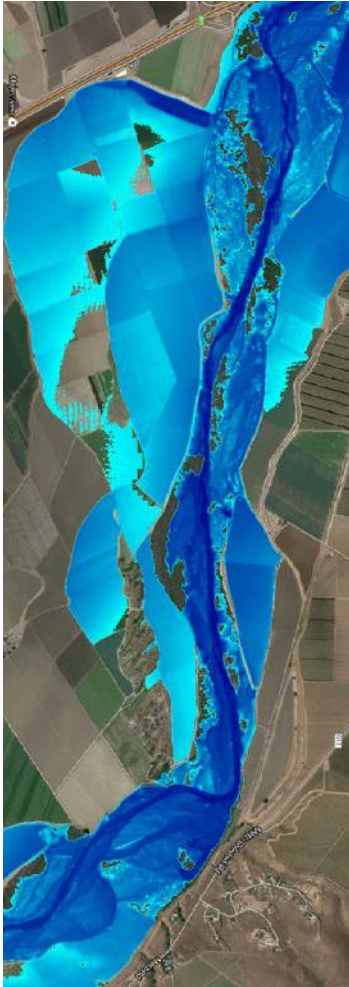
- Improve flood protection and channel capacity to minimize the potential for flood damages to adjacent lands and infrastructure
- Implement activities in a timely, cost-effective and environmentally-sensitive and/or beneficial manner
- Develop an adaptable and sustainable program that can respond to changing environmental, maintenance, and regulatory conditions
- Incorporate resource protection and mitigation measures
- Reduce flood frequency, extent, or other risks in order to maintain agricultural viability and protect prime agricultural land that is important to the economy and food supply of Monterey County and the nation



Meeting the Goals & Objectives

- Conduct site visits and meet regularly with project stakeholders
- Establish a process with various technical experts and local knowledge at the table to develop the design
- Engage resource agencies early in the process and bring everyone together to reach consensus of approach and protection measures
- Avoid most critical habitats and enhance the riparian areas to increase ecological benefits

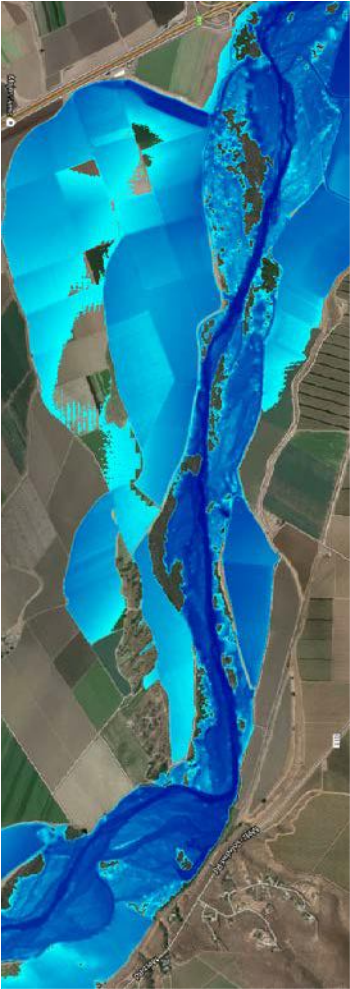




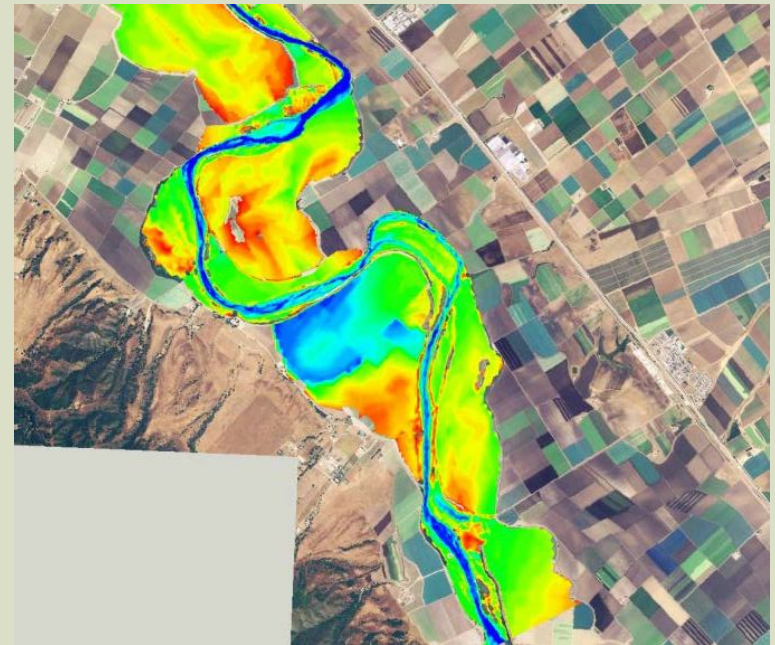
Science-based approach

- Altered river system
 - Reservoirs, dams, levees, Salinas Valley Water Project, etc.
- New 2-dimensional, hydraulic model
 - Diagnose the problems
 - Better define benefits to whole system
 - Better define potential impacts to individual species (aquatic and terrestrial)

Scientific foundation The 2D hydraulic model



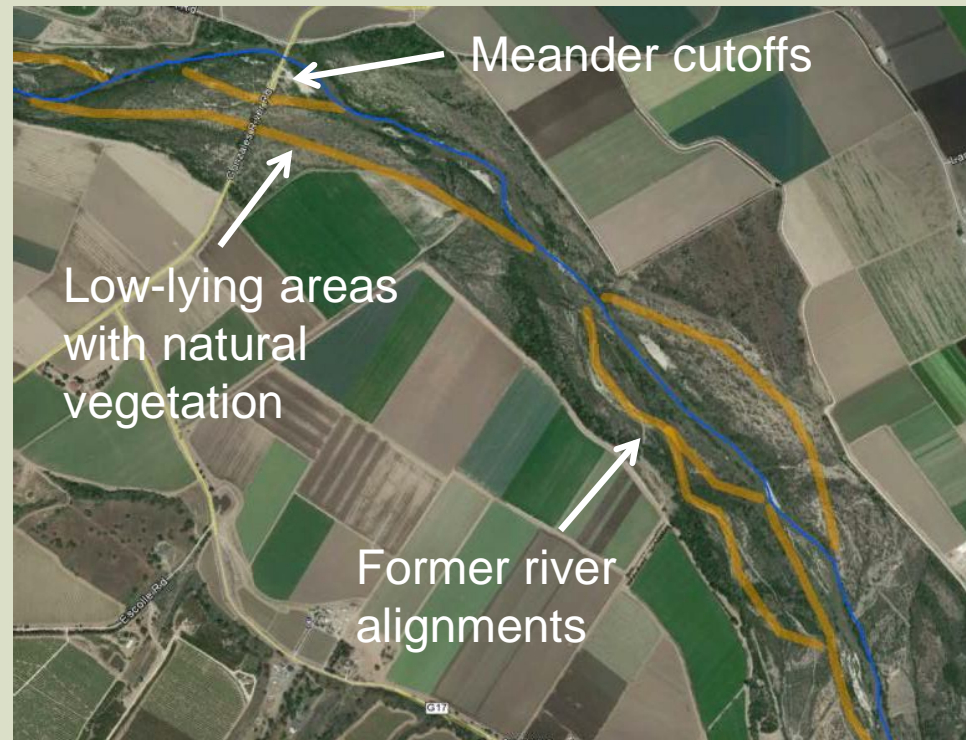
5 and 10 year return flow events

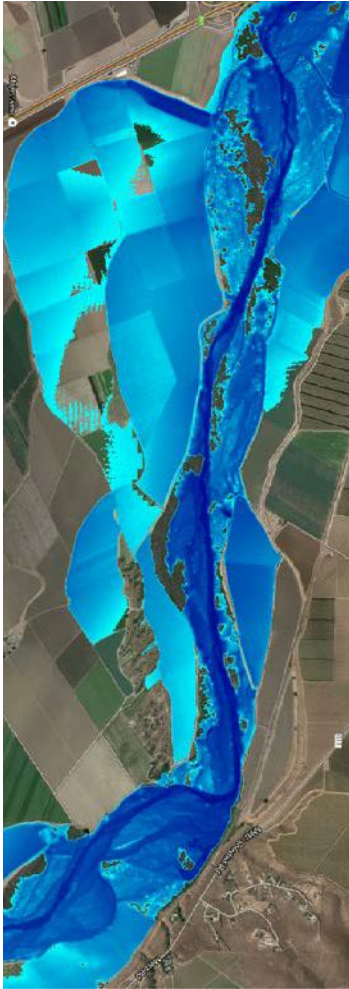




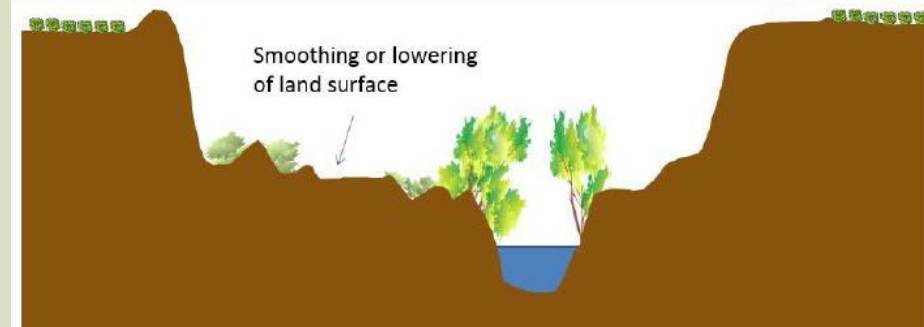
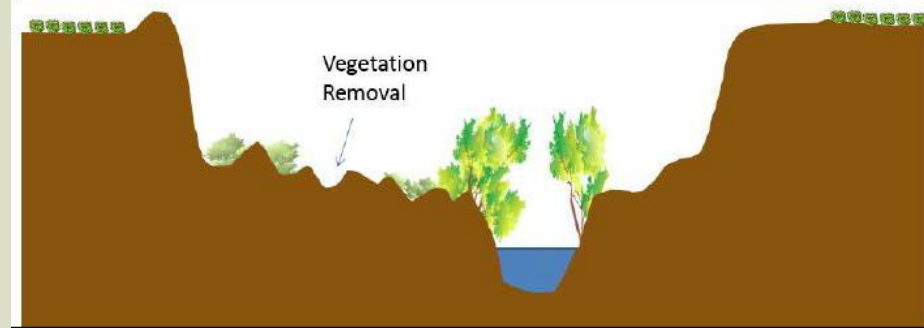
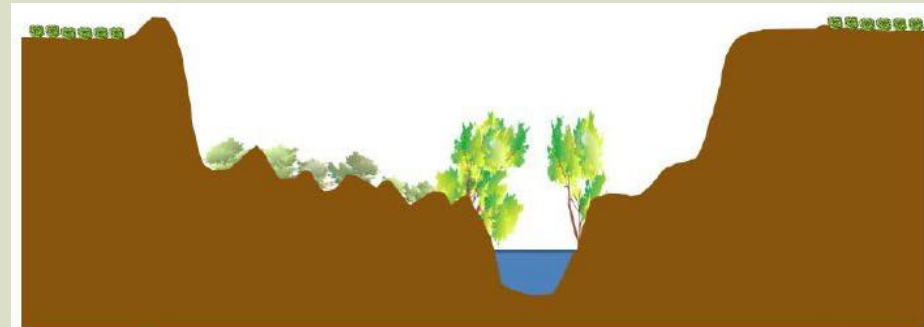
Scientific foundation Designing the secondary channels

- Mimic the natural braiding of a sand-based system
- Rebuild some of the historical structure and function of the river

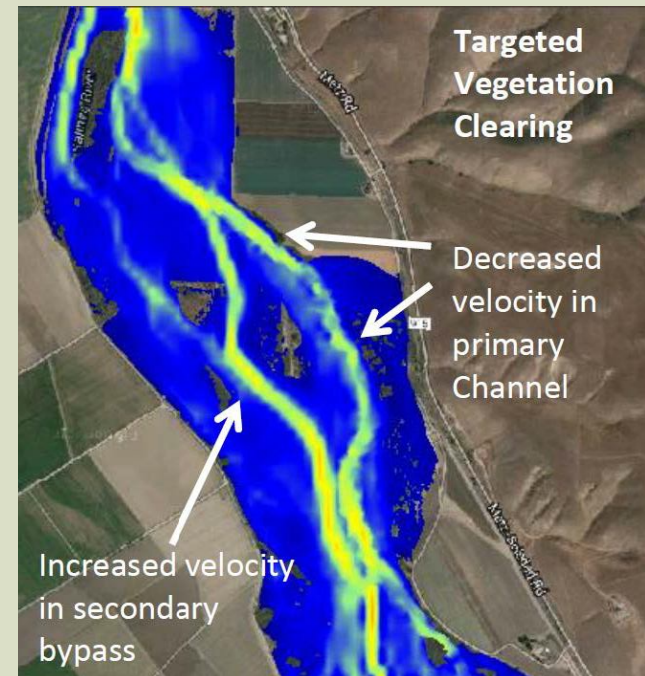
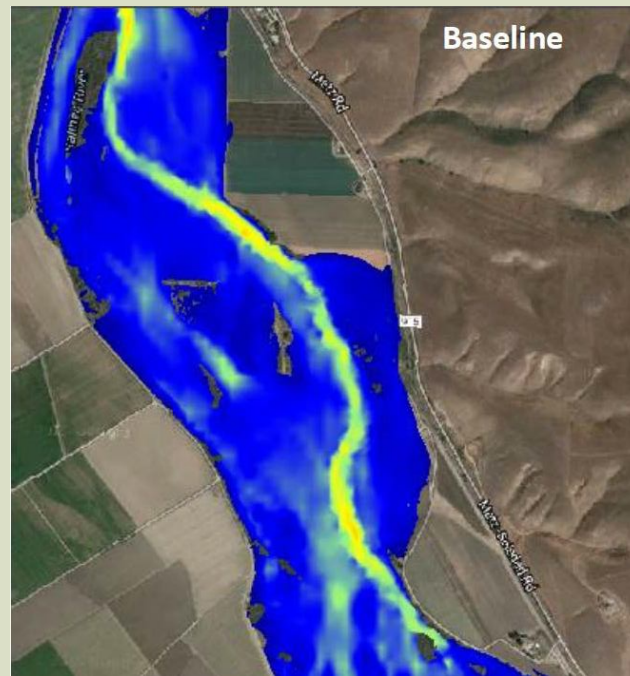
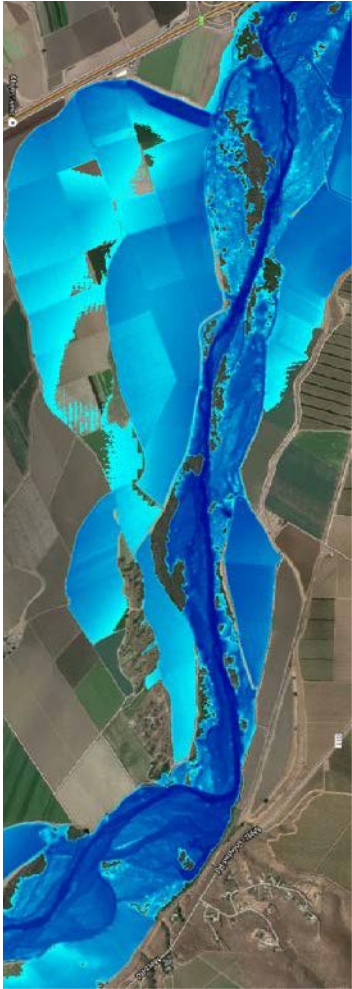


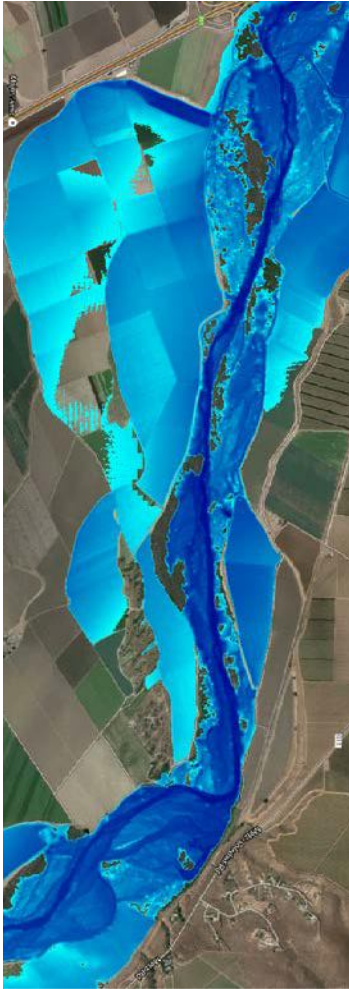


Scientific foundation Designing the secondary channels



Scientific foundation Visualizing the benefits



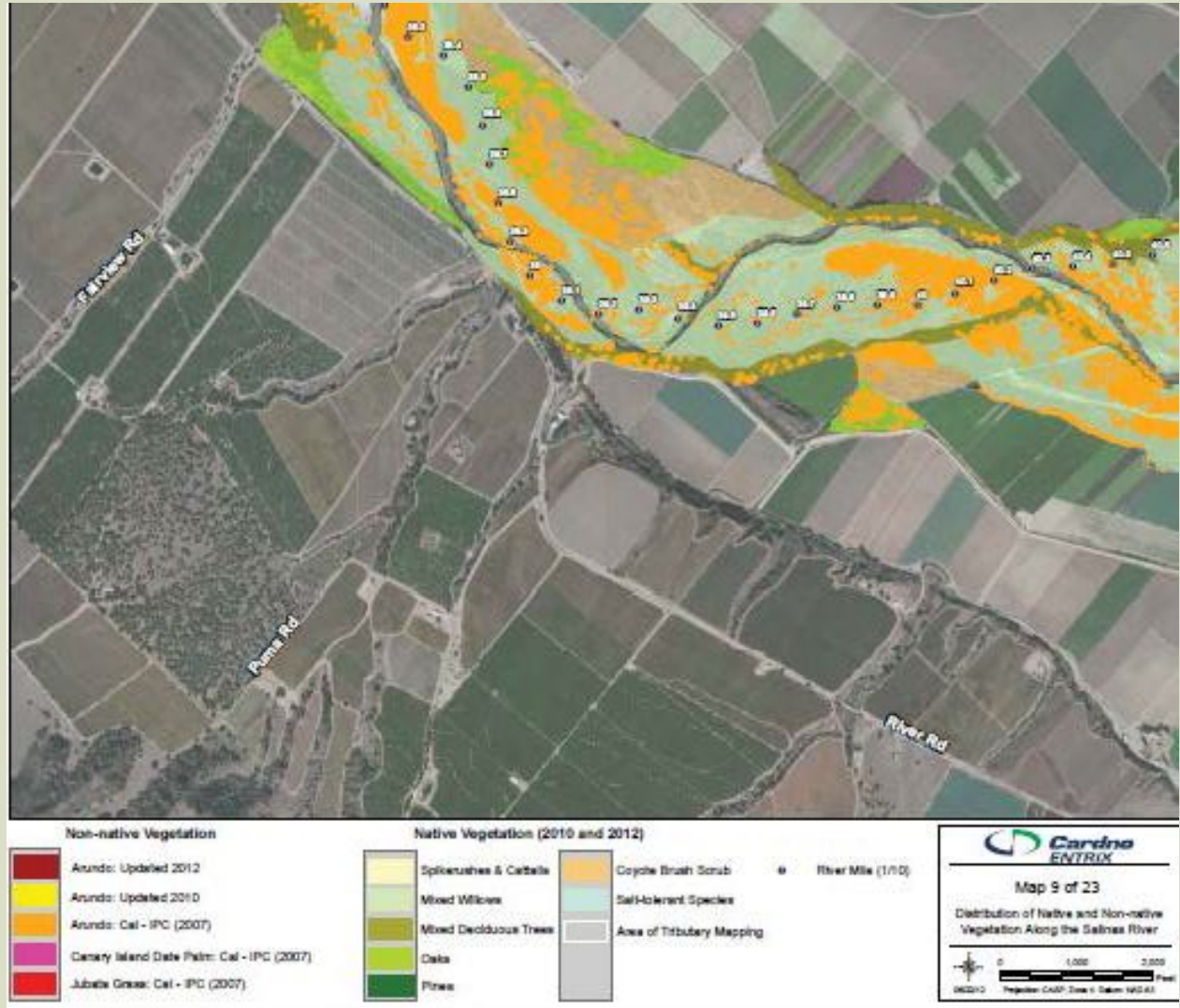
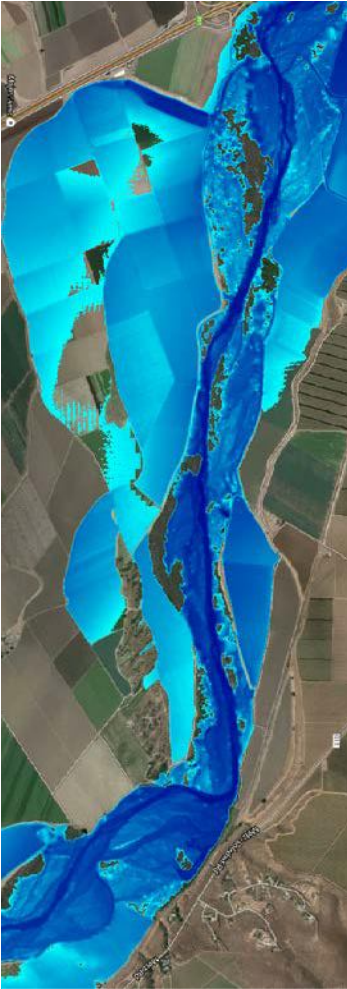


Scientific foundation Vegetation Communities

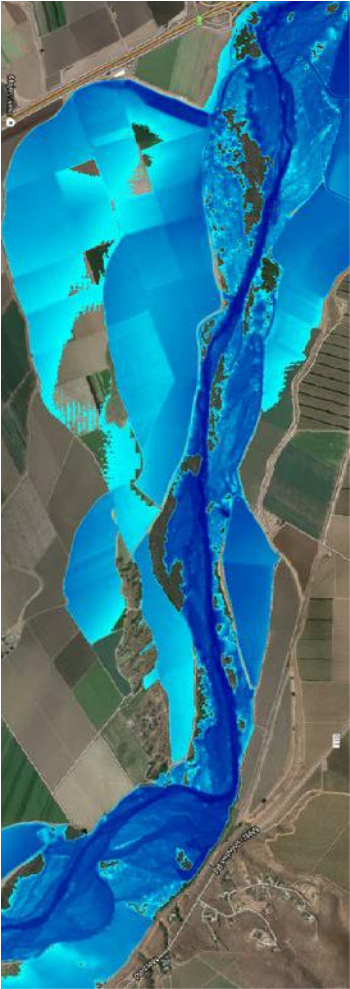
Ecological communities and vegetation types:

- Sparse and early successional vegetation widespread and lower habitat value than wetlands and late successional
- Relatively little seasonal wetland which are easy to avoid
- Stands of more mature, later successional forest not creating flood risk and relatively easy to avoid
- Arundo more concentrated in upper/middle sections of river and good opportunity for multi-benefit work

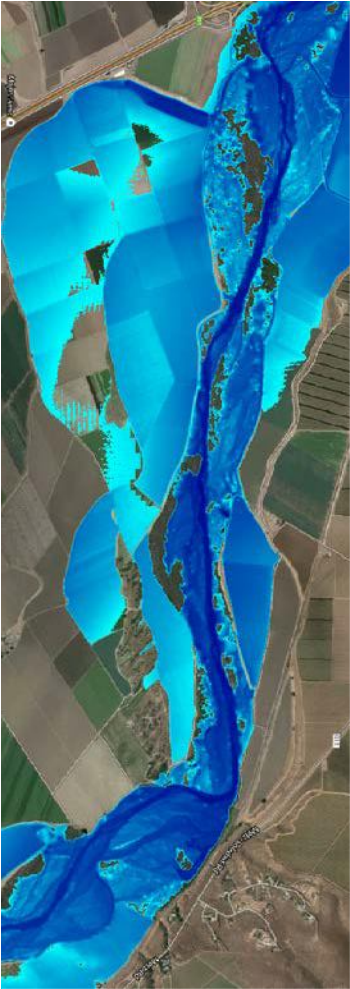
Scientific foundation Vegetation Mapping



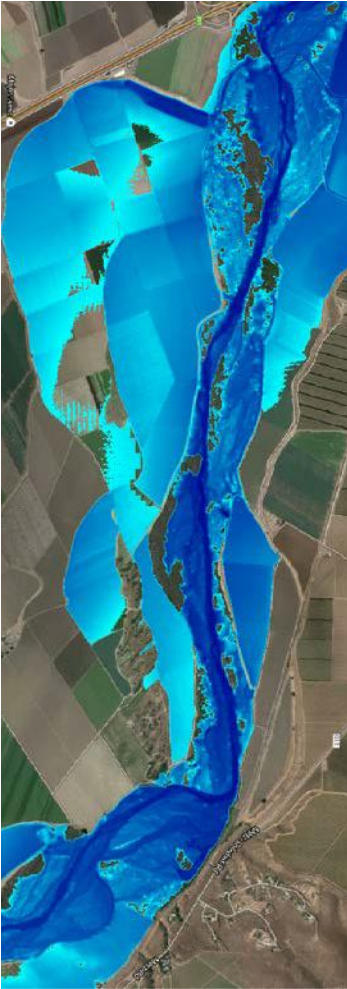
Scientific foundation Avoidance Areas



Scientific foundation Avoidance Techniques



Scientific foundation Demonstration of a Secondary Channel





Water Quality Certification

- Demonstration Project, Lessons Learned, and Permitting Committee informed Certification
 - Activities and approach
 - avoidance and minimization
 - mitigation
 - Reporting structure and timelines
 - Assessments to inform effectiveness



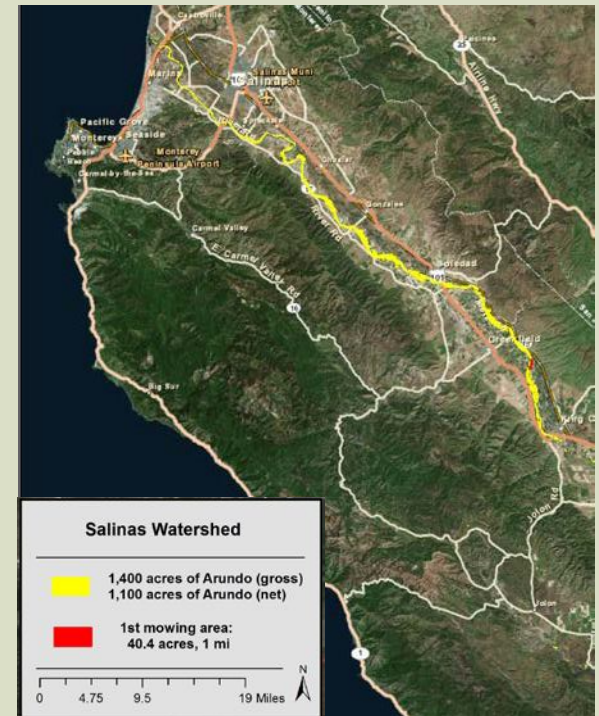
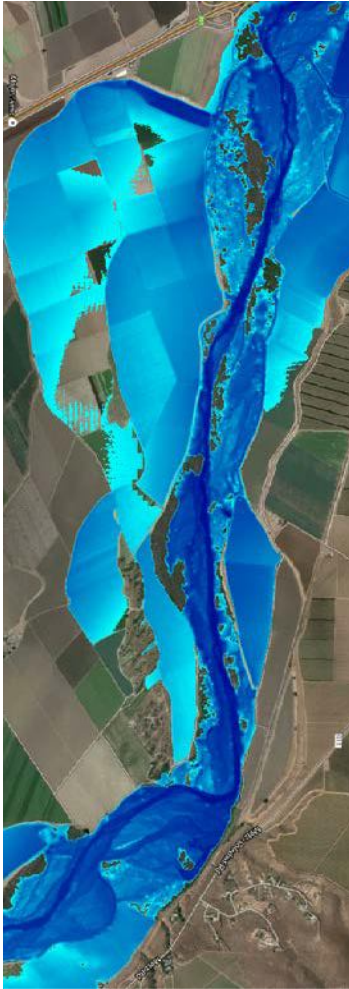


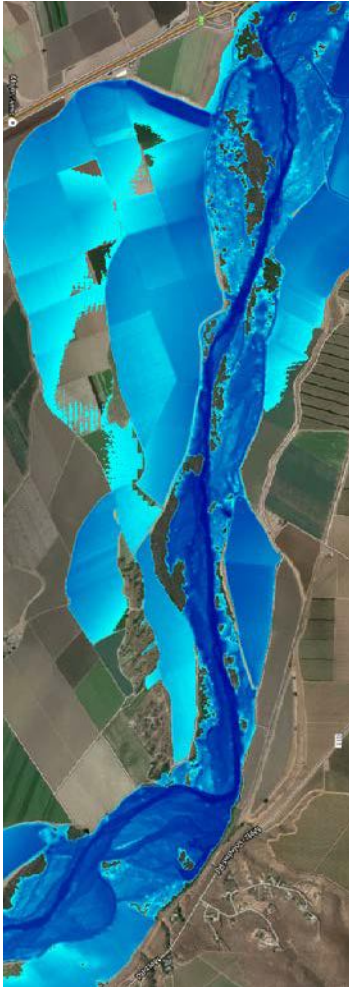
Water Quality Certification

- Long-Term Salinas River Management Strategy:
 - Proposed SMP provides data, processes, partnerships and other valuable data
 - Challenging timeline
 - Funding uncertain
 - Connection to impacts from proposed project unknown
 - Collaboration necessary for success, much bigger than MCWRA or established short-term team

Complementary Program - Arundo control with RCDMC

- 1400 acres infested by arundo mapped along the river
- Extent and density of infestation likely to increase with year-round water
- Degrades quality of habitat and worsens flood risk
- Resource agencies' goals aligned with landowners'

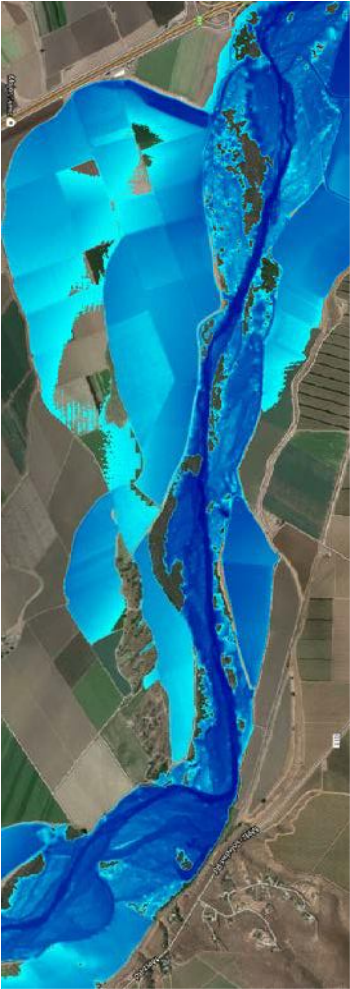




Arundo control with the RCD

- Top-to-bottom of watershed treatment
 - SLO County infestations under management
 - Upstream of King City treated once
- Minimize environmental impacts and focus on positive benefits of control
- Environmental permitting 2011-2014
- Pursuing funding to augment landowner efforts.
- CA Wildlife Conservation Board \$1.1 M Aug 2014 and another \$3.3 M Feb 2016

Ideal arundo treatment



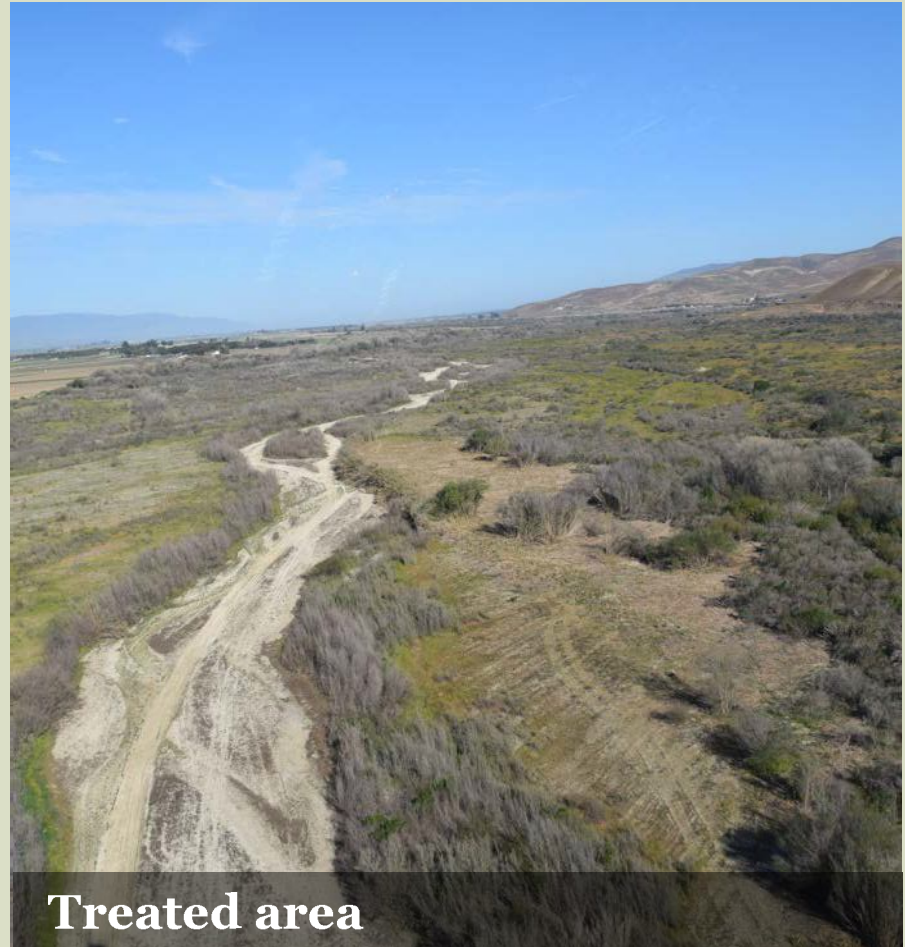
Treat



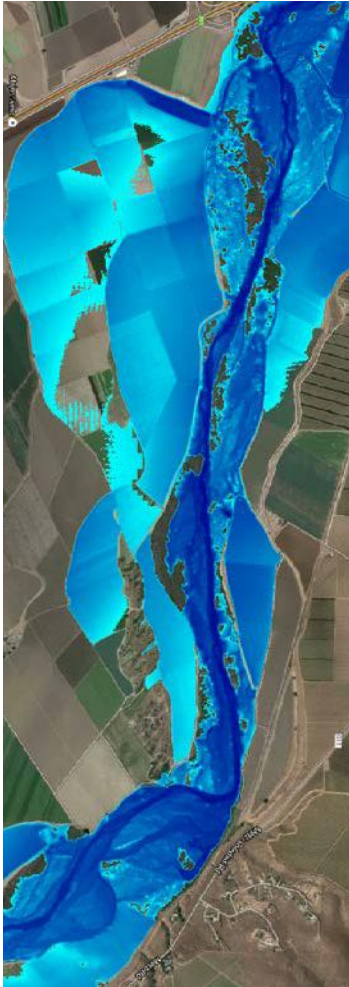
Reduce



**Revegetate
(when appropriate)**



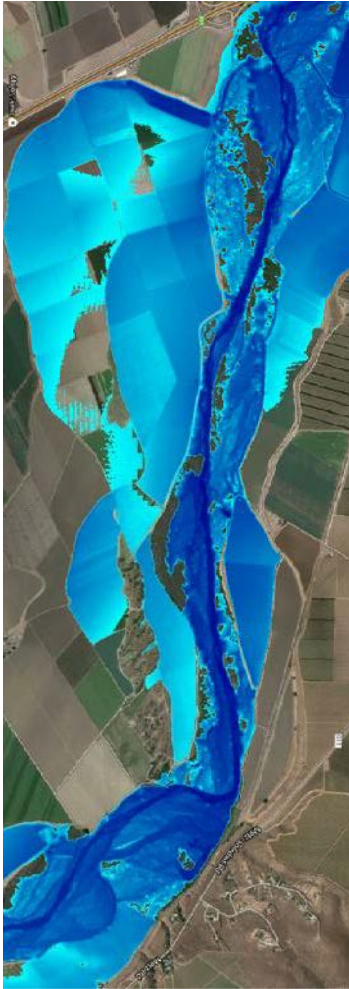
Treated area



Expanding the approach Next Steps

- RWQCB 401 Cert.
- NNMFS and USFWS concurrence/BO
- USACE 404 Permit
- CDFW Routine Maintenance Agreement
- Prepare for work to begin in the fall of 2016:
 - Agreement between MCWRA/RCD and participants
 - Train participants in permits and Program
 - Pre-maintenance surveys





Thank you!



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