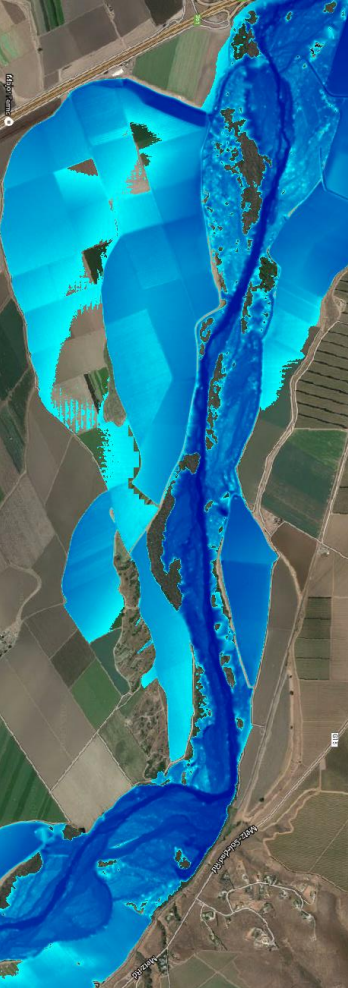
A science-based, multi-benefit approach to collaboration

The Salinas Stream Maintenance Program

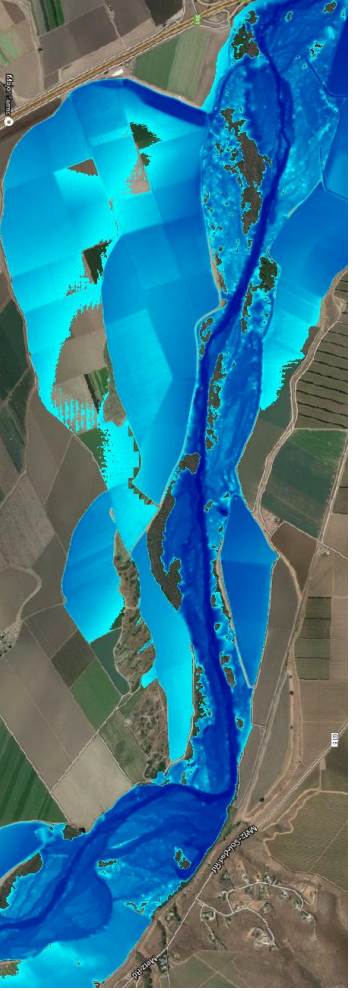
January 22, 2015

Panel members:
Abby Hart (TNC), Abby Taylor Silva (Grower Shipper Association), and Paul Robins (RCD Monterey County)



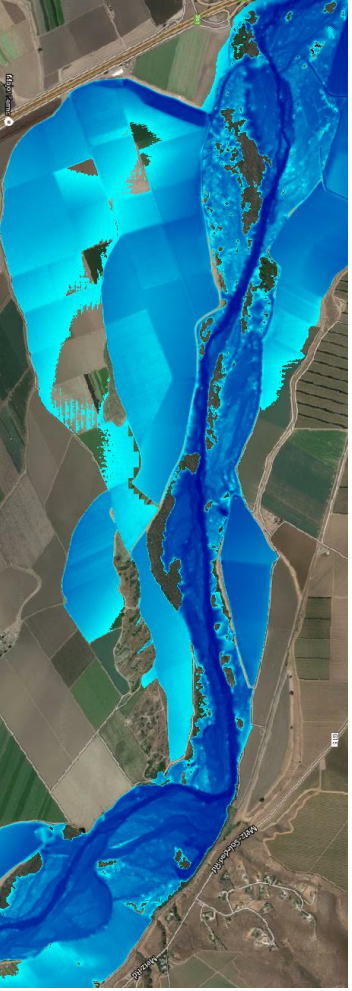
Context

- 100+ miles long
- 4600 square miles
- $4.5 Billion agriculture industry in Monterey County alone: vegetables, berries, grapes…
- Sensitive species:
  - Steelhead trout
  - CA red-legged frog
  - Least Bell’s vireo
  - Western snowy plover



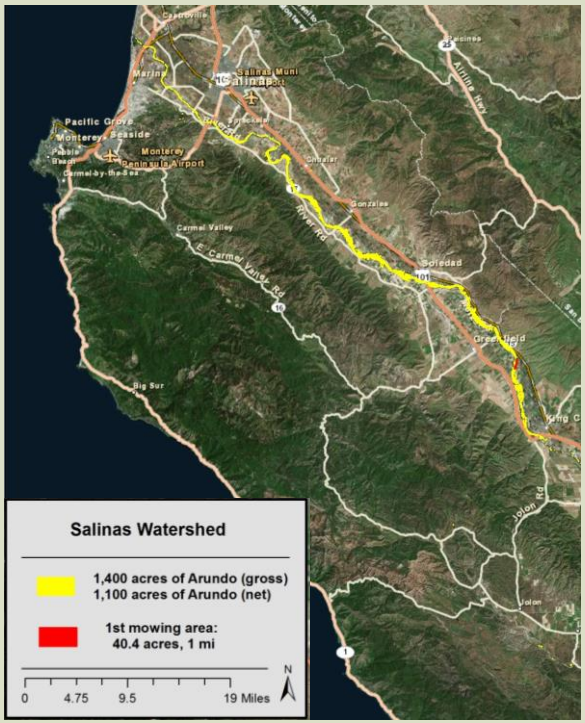
History of the SMP

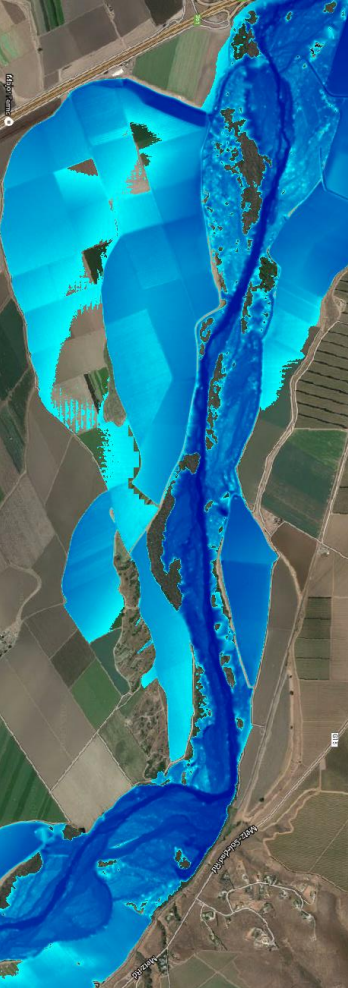
- **1995-2008** – Management for flood risk reduction in response to 1995 flood. Administered by MCWRA which held the 404 and 401 permits. Landowners obtained their own 1600 permits for maintenance activities.
- **2008** – Potential impacts to threatened species and the river system halt the SMP
- **2008-2014**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



Interim solution - Arundo control with RCD

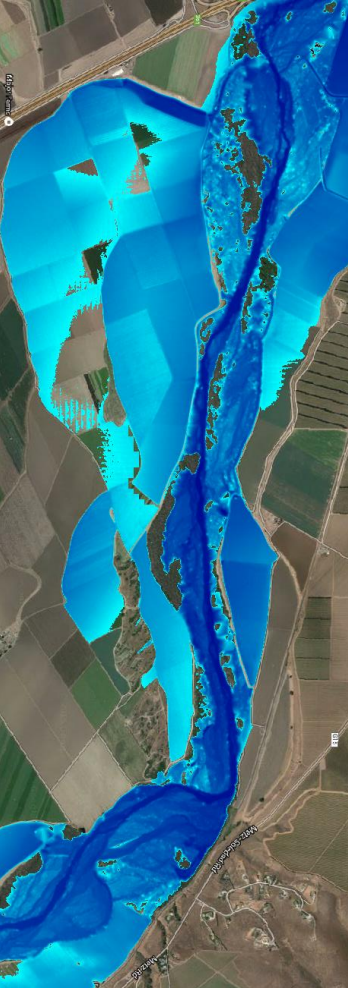
- 1400 acres infested by arundo mapped along the river
- Extent and density of infestation likely to increase with year-round water
- Degrades quality of habitat and worsens flood risk
- Resource agencies' goals aligned with landowners'



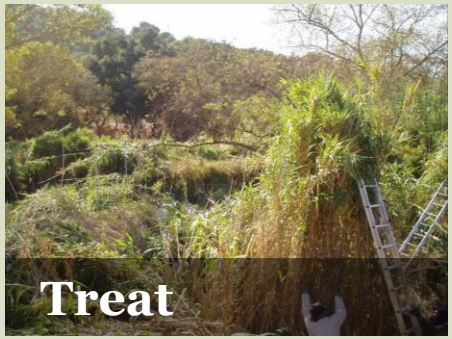


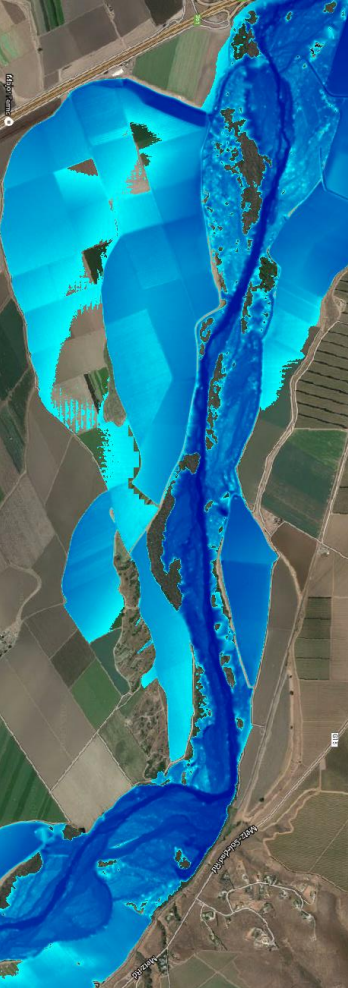
Arundo control with the RCD

- 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



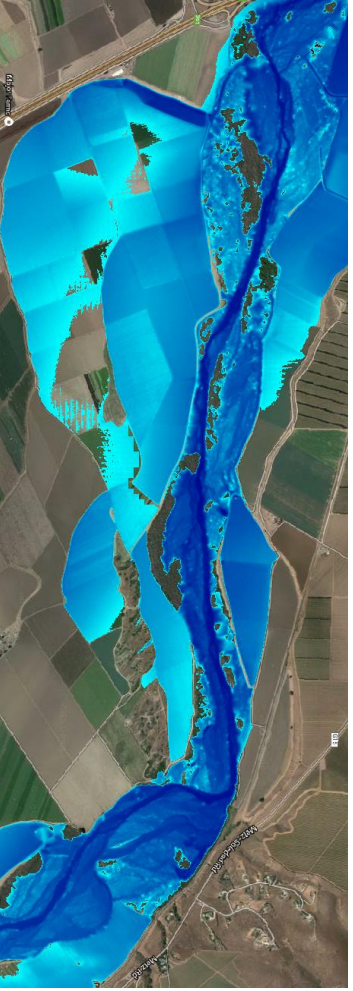
Ideal arundo treatment





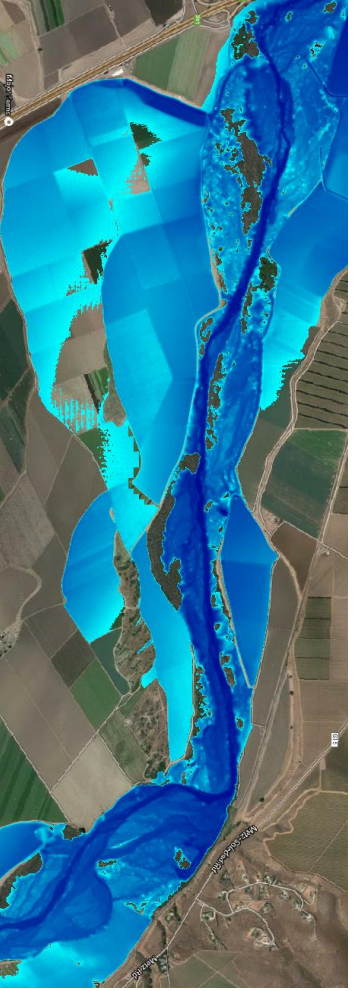
Demonstrating a new approach to stream maintenance

- TNC began having conversations with landowners in 2013, together with GSA, Salinas River Channel Coalition, RCD, Water Resources Agency, 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



Science-based approach

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

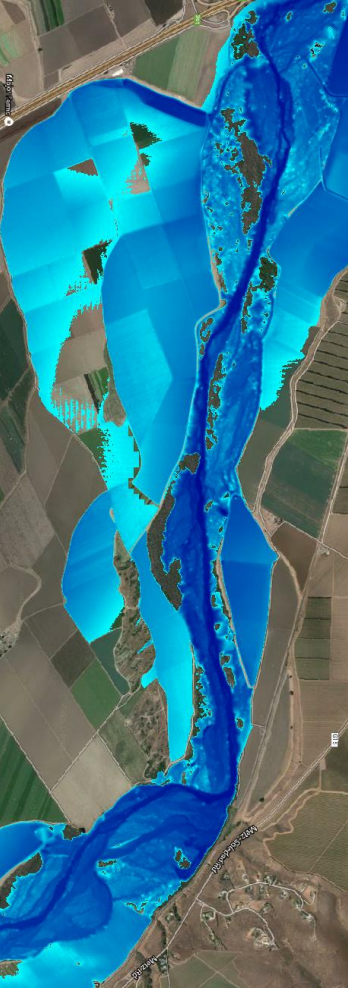


Multi-benefit approach

Stakeholder interests

- Reduce flood risk
- Improve quality and diversity of the ecological system
- Prevent erosion
- Facilitate steelhead trout migration to and from Arroyo Seco River
- Improve water quality

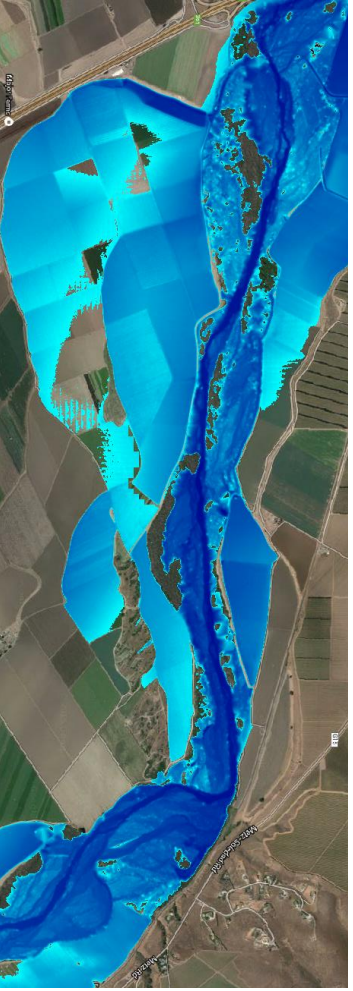
The starting point: Use science to show where these goals align or overlap



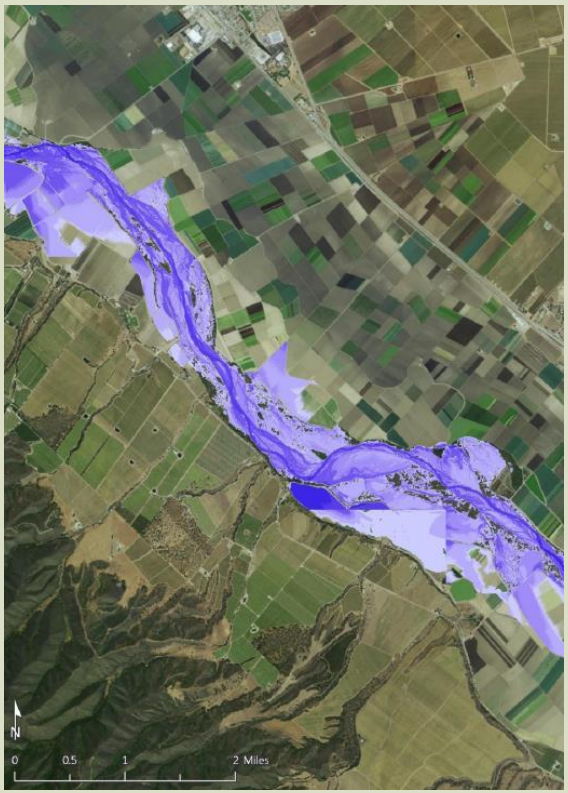
Scientific foundation

The 2D hydraulic model

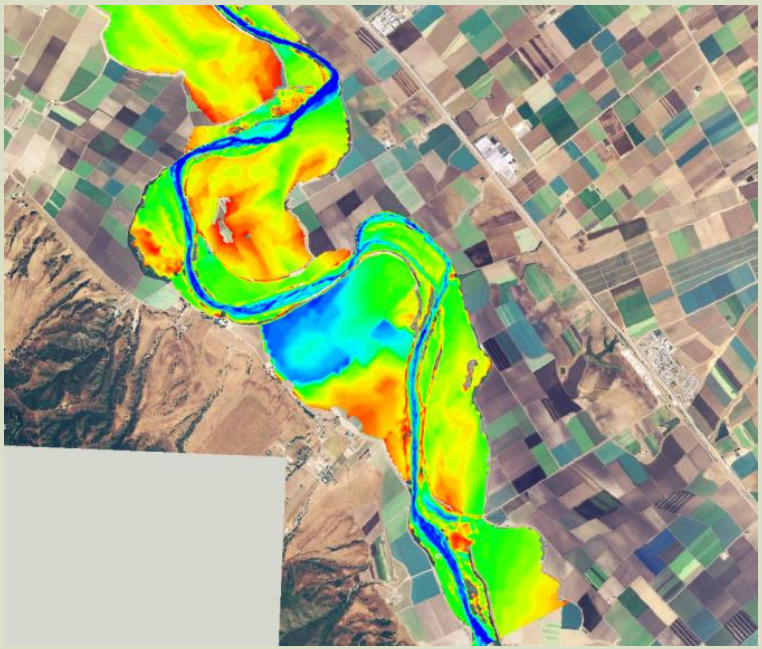
- Modeled frequent flow scenarios
  - 2, 5, and 10-year return flow events
- Modeled “bookend” management scenarios to understand range of possible benefits and impacts
  - Bookend 1 – Total clearing of vegetation in the river channel
  - Bookend 2 – No clearing, current river conditions
- Modeled proposed scenarios based on stakeholder goals and multi-benefit approach



Scientific foundation
The 2D hydraulic model



5 and 10 year return flow events



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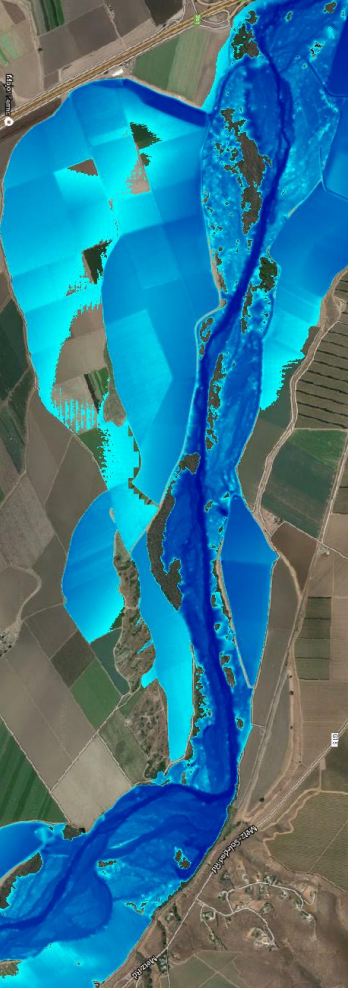

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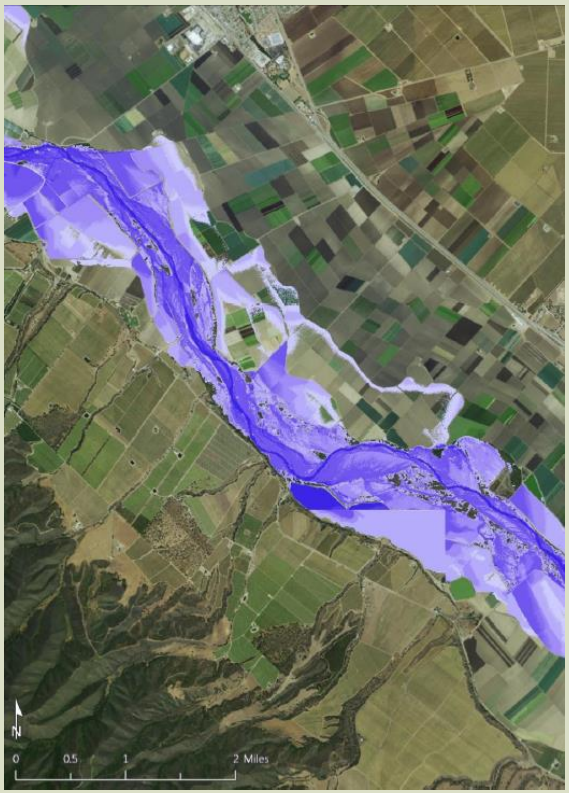

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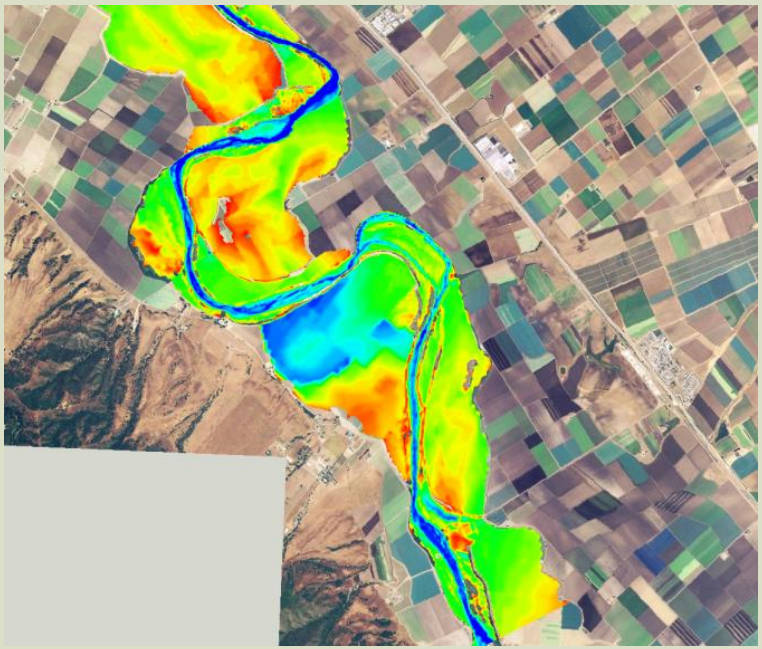

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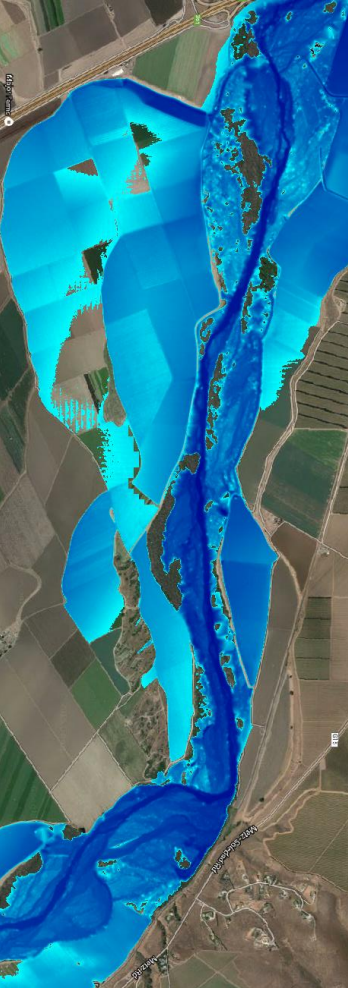
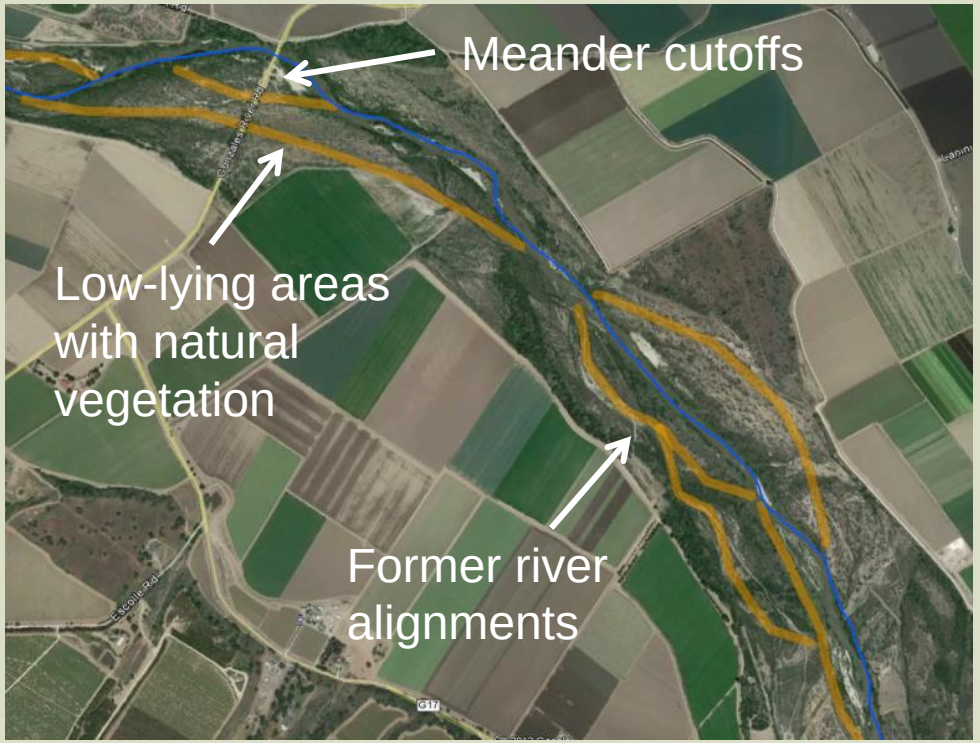
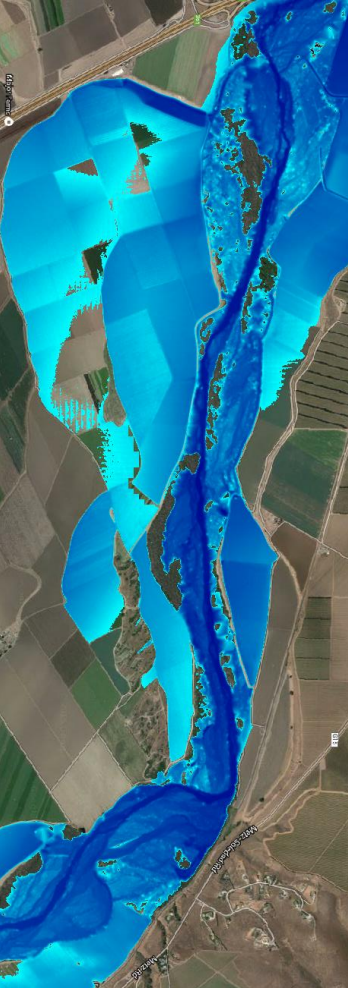


Scientific foundation

Designing the secondary channels

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





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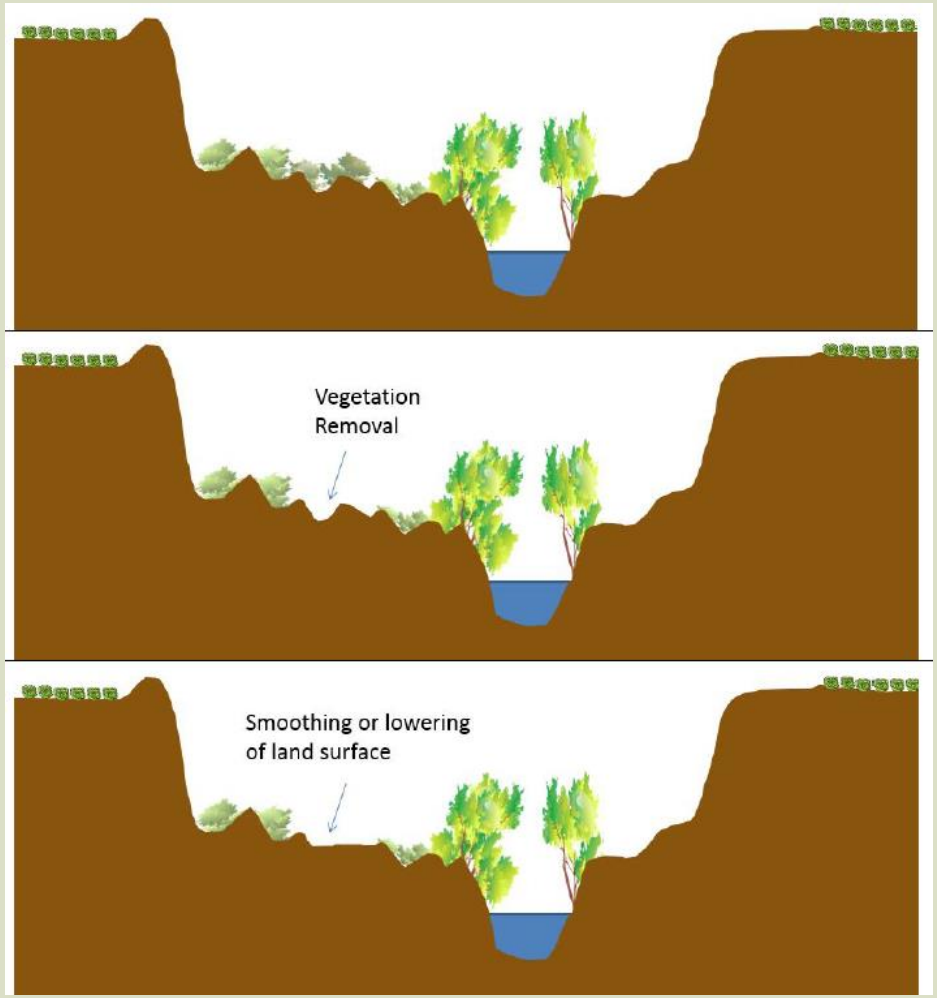
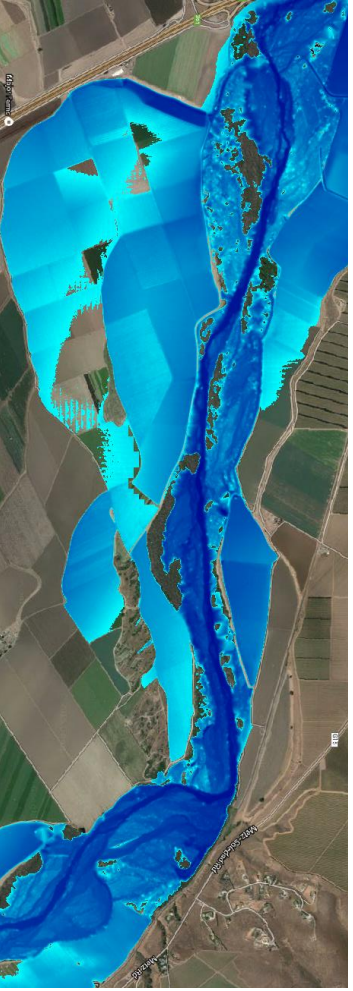
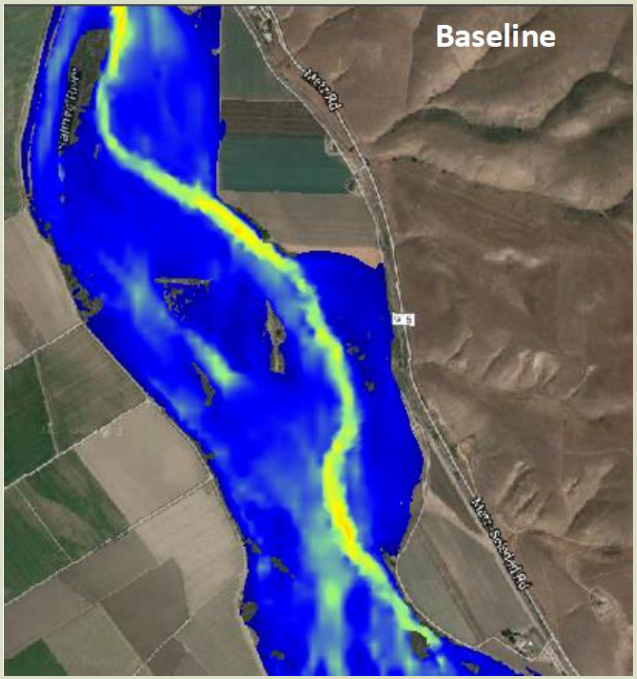
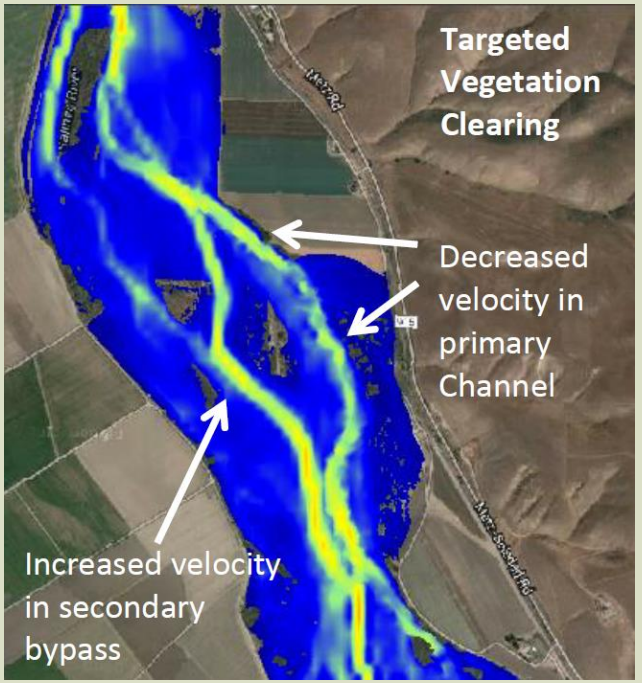
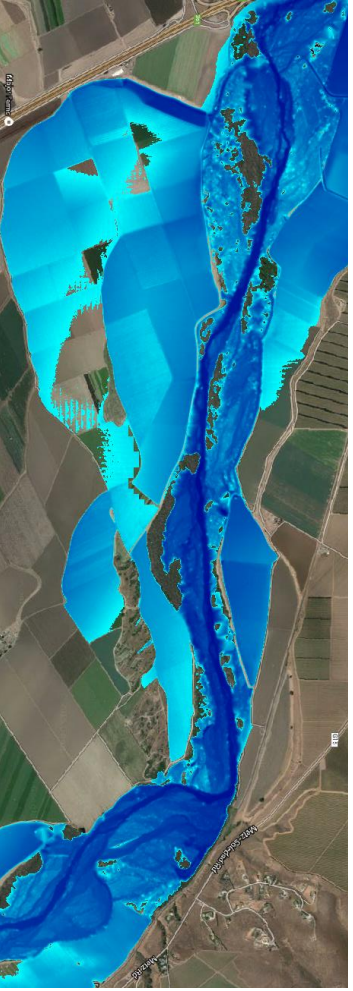




Scientific foundation
Visualizing the benefits



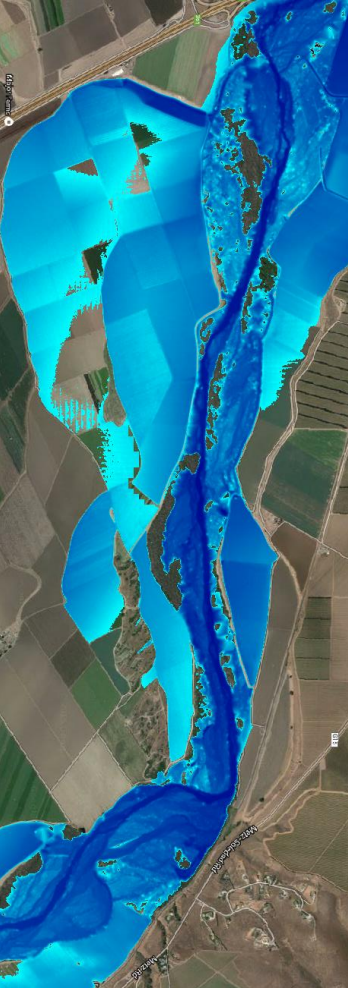




Demonstrating the approach

Building on partnerships

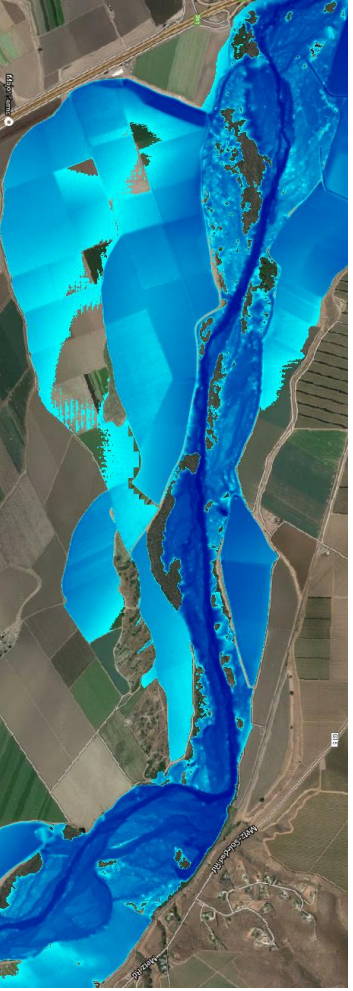
- Conduct site visits and meet regularly with project stakeholders
- Engage landowners at every step
  - Technical and Design Committees
  - Permitting Committee
- Iterative, collaborative approach



Demonstrating the approach

Phase I – Chualar and Gonzales RMUs

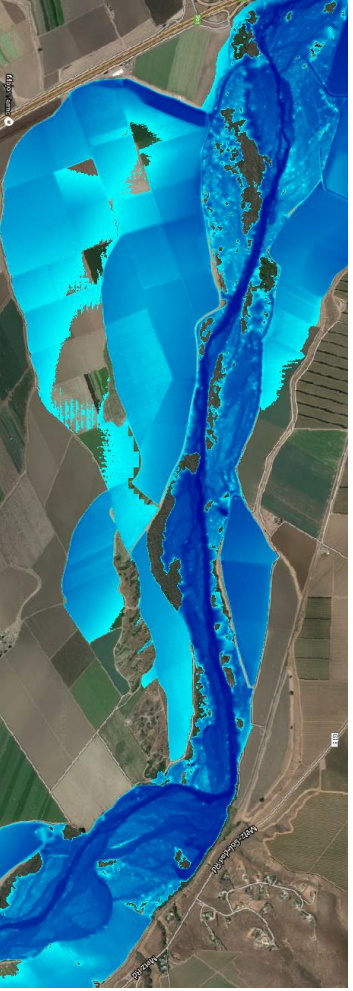
- Spring 2014 – Submit permit application for demonstration project along 11 miles of the river in Chualar and Gonzales River Management Units (RMU)
- Fall 2014 – Work begins at the demonstration site
- Fall 2015 – Second year of work begins



Expanding the approach

Phase II – Hwy 1 to San Ardo

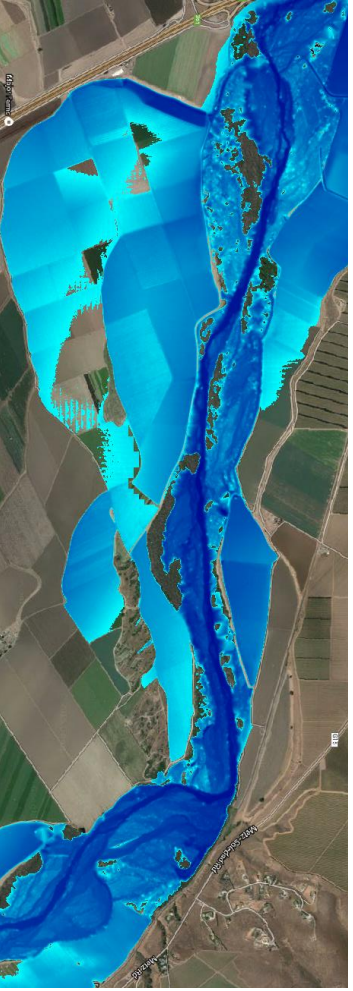
- Revised the model to assess flows across a much larger portion of the river
- Defined RMUs for the rest of the program area
- Worked with landowners to design maintenance areas through Technical & Design Committee
- Permitting Committee prepared materials for the permitting agencies, hosted a field visit and reviewed permit application



Expanding the approach

Next Steps

- Ongoing engagement with permitting committees
- Prepare for work to begin in the fall of 2016



Thank you!

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