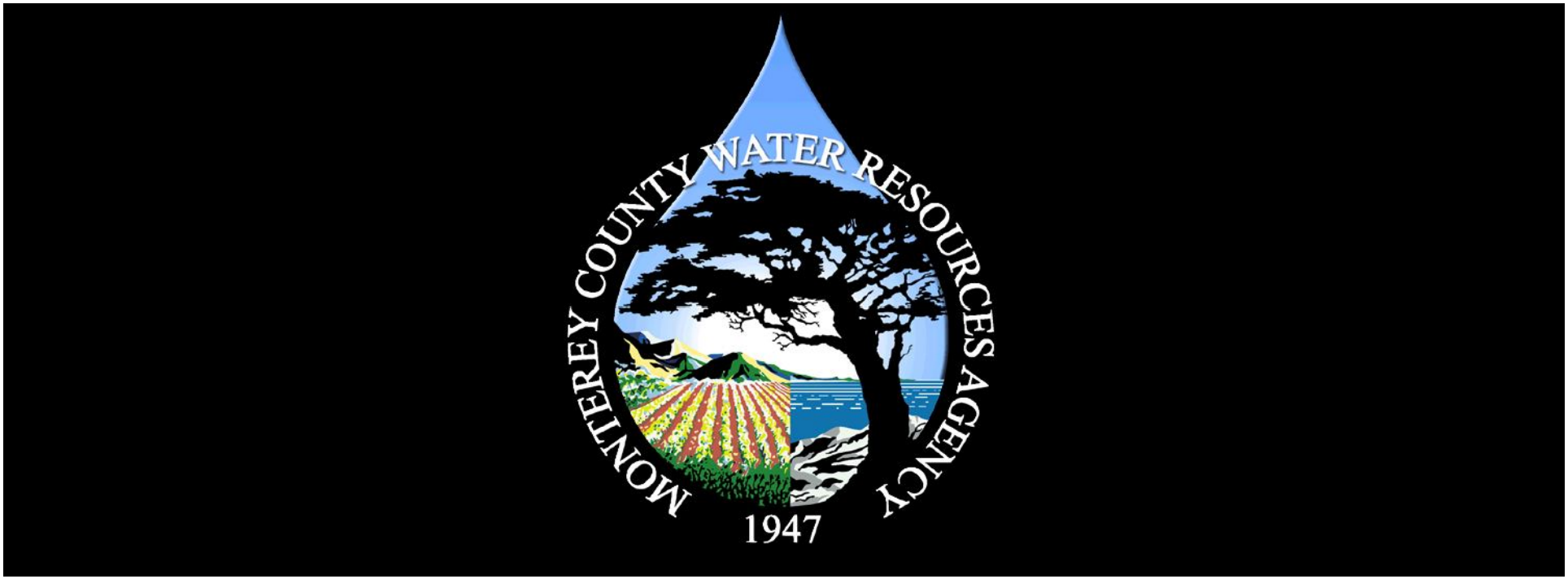


Salinas River Watershed Stream Maintenance Program Update

David Chardavoyne,
General Manager MCWRA

Central Coast Regional Water Quality Control Board
September 24, 2015

Agenda

- **Memorandum of Understanding**
- **Project Background**
- **Project Update:**
  - **Phase 1:**
    - Project Timeline/Status
    - 5-Year Permit Requirement
    - Work Plan: Years 1 & 2
  - **Phase 2:**
    - Project Timeline
    - 2D Model
    - Technical & Design Committee
    - Funding Sources
- **Defining Success**

Memorandum of Understanding (MOU)

- **June 3, 2015**
- **Parties:**
- **Collaboratively manage the Salinas River**
  - Reduce flood risk
  - Enhance groundwater recharge
  - Improve water quality
  - Provide efficient use of surface water
  - Improve wildlife habitat
  - Mitigate food safety risk

MOU Responsibilities

Provide Coordination & Oversight

- Overall administration
- Lead for Program eligibility & authorization
- Permits (401 & 404) & Reports

Grower Engagement

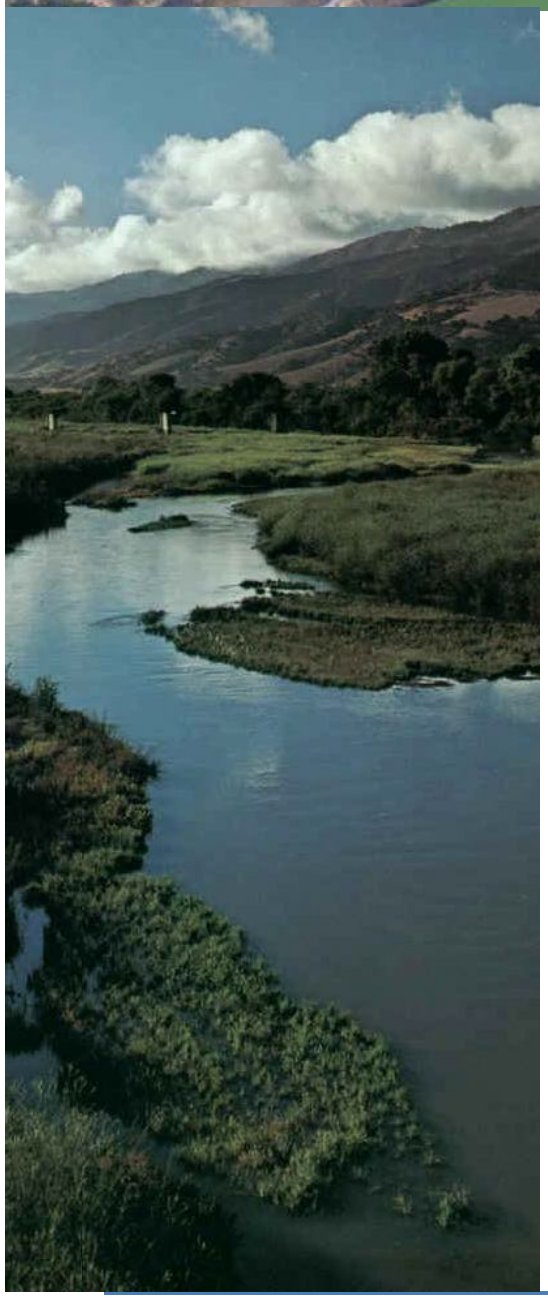
- Explore and confirm participation
- RMU boundary proposals & operating principals

Biological Monitoring

- Required by Permits & Maintenance Surveys

Technical & Design Support

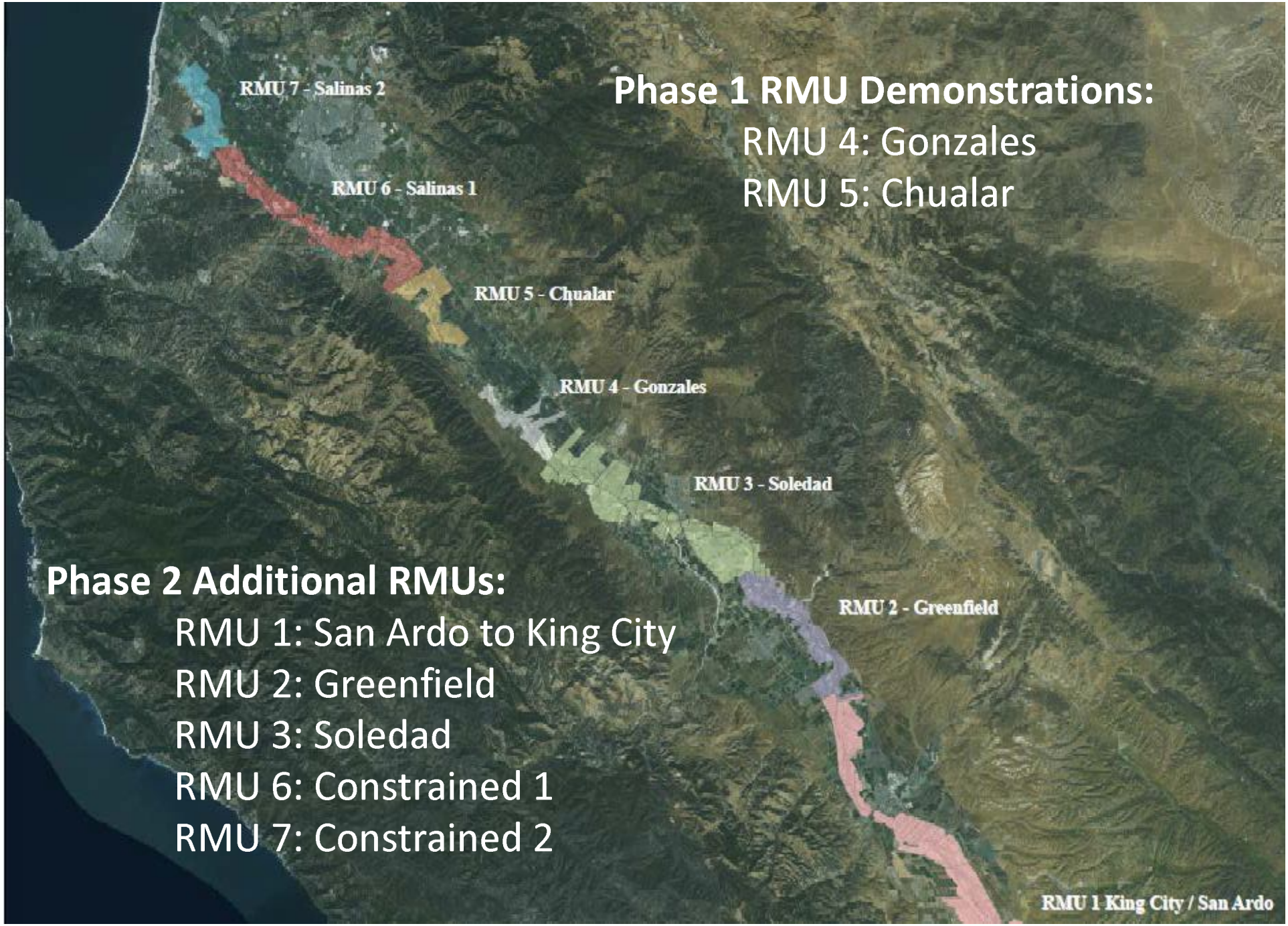
- Conduct biological surveys
- Assess hydrological & biological baseline conditions



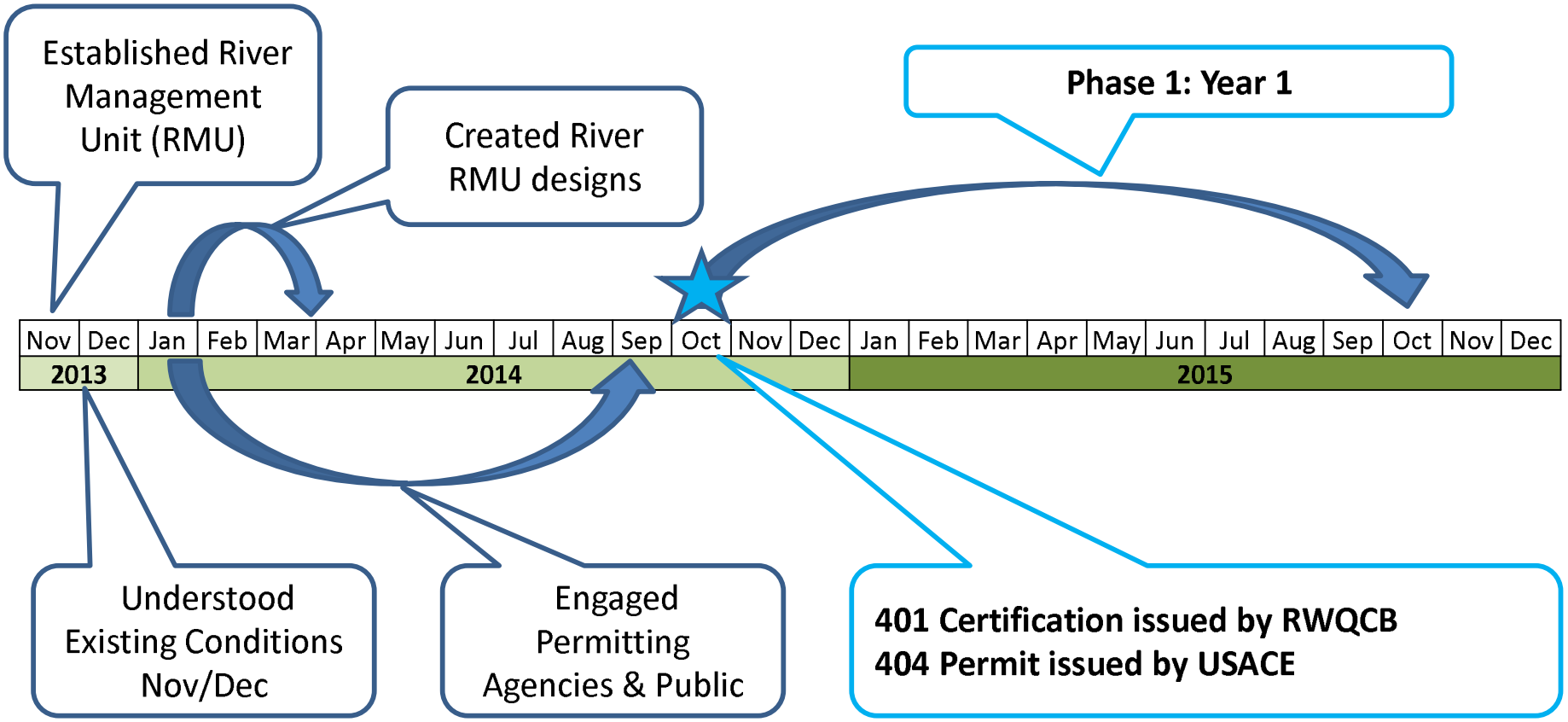
Project Background

- **Background/Objective**:
  - Initiated new process/approach in 2013
  - Holistically manage 94 miles of the Salinas River

- **Consists of Two Phases:**
  - Phase 1: River Management Unit (RMU) Demonstrations (11.5 miles)
  - Phase 2: Additional RMU Design & Permitting (82.5 miles)


RMU 7 - Salinas 2
RMU 6 - Salinas 1
RMU 5 - Chualar
RMU 4 - Gonzales
RMU 3 - Soledad
RMU 2 - Greenfield
RMU 1 King City / San Ardo
Phase 1 RMU Demonstrations:
RMU 4: Gonzales
RMU 5: Chualar
Phase 2 Additional RMUs:
RMU 1: San Ardo to King City
RMU 2: Greenfield
RMU 3: Soledad
RMU 6: Constrained 1
RMU 7: Constrained 2

Phase 1: Project Timeline/Status



Phase 1: 5-Year 401 Certification Requirements

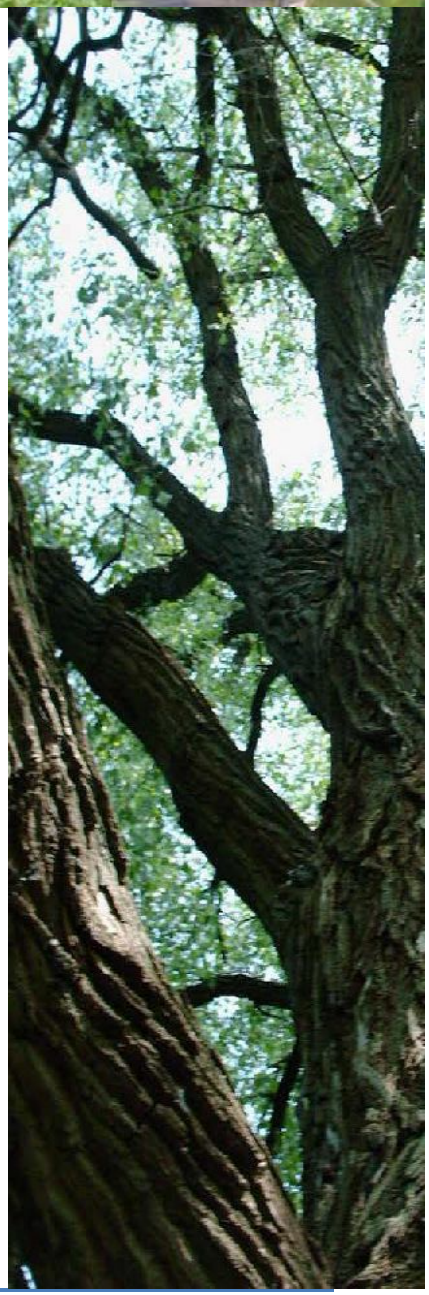
- Annual Work Plan
- Annual Training
- Pre-Construction Staking
- Pre-Construction Biological Surveys
- Pre-Maintenance Staking
- Pre-Maintenance Biological Surveys
- Compensatory Mitigation for Impacts
- Daily Inspecting, by MCWRA staff
- Annual Reporting

Phase 1 Work Plan: Year 1

- Constructed 19 secondary channels
- Removed 53.1 acres of invasive Arundo

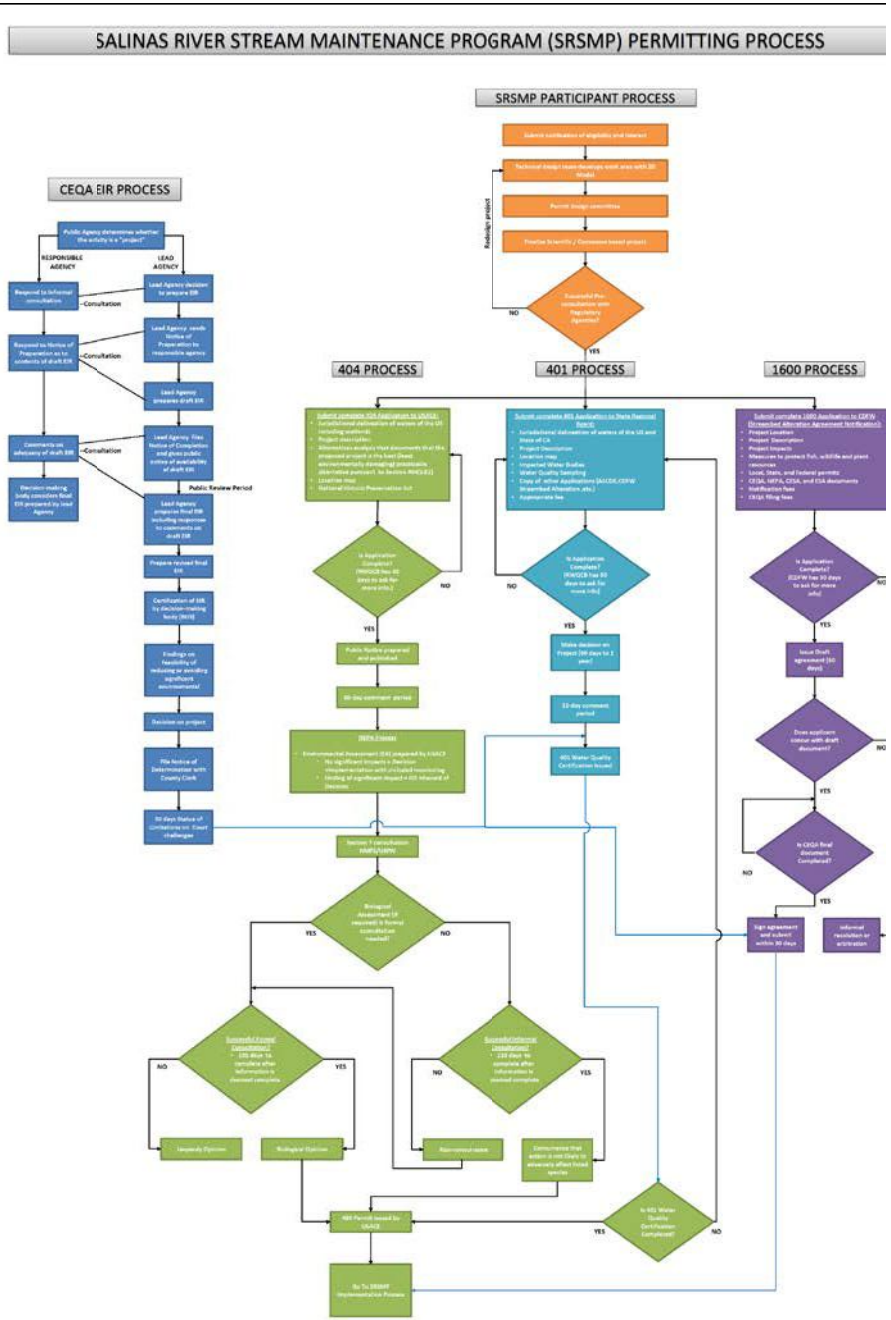
Phase 1 Work Plan: Year 2

- Construct 4 secondary channels
- Remove 12.2 acres of Arundo
- Remove 15,000 CY of Sediment
- Plant 45 cottonwood, alder or sycamore trees
- Re-Treat 13 secondary channels
- Re-Treat 61.8 acres of Arundo re-growth

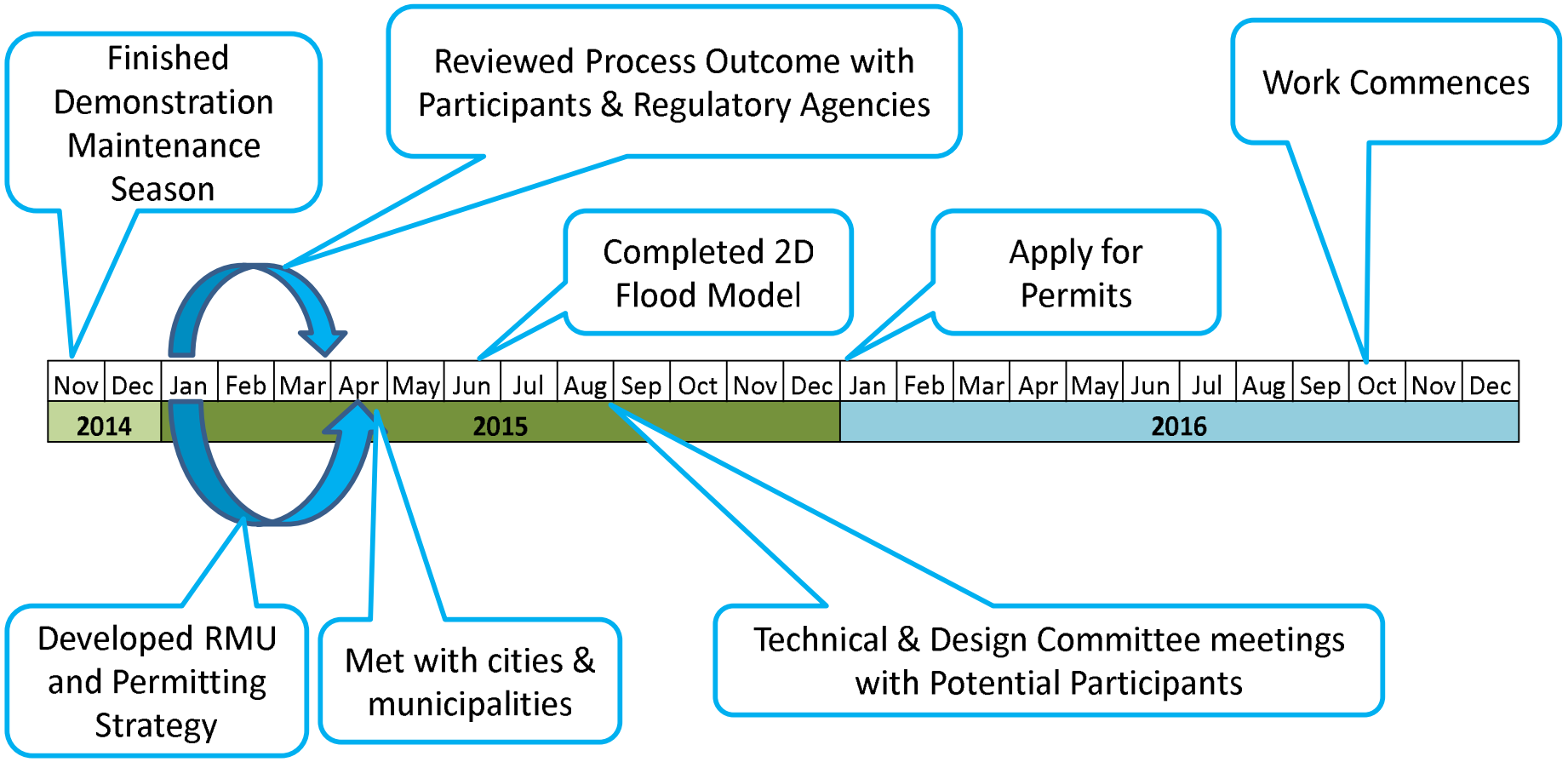


Permitting Process

- CEQA EIR
- 404
- 401
- 1600



Phase 2: Project Timeline



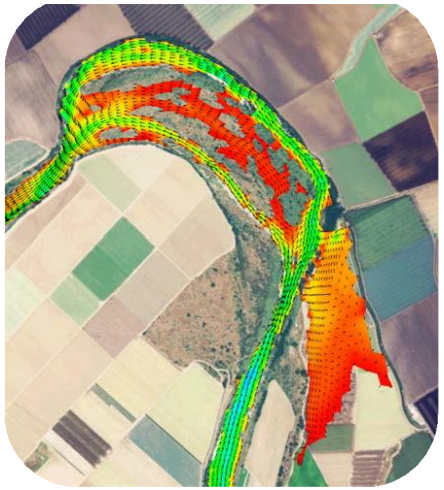
2D Flood Model

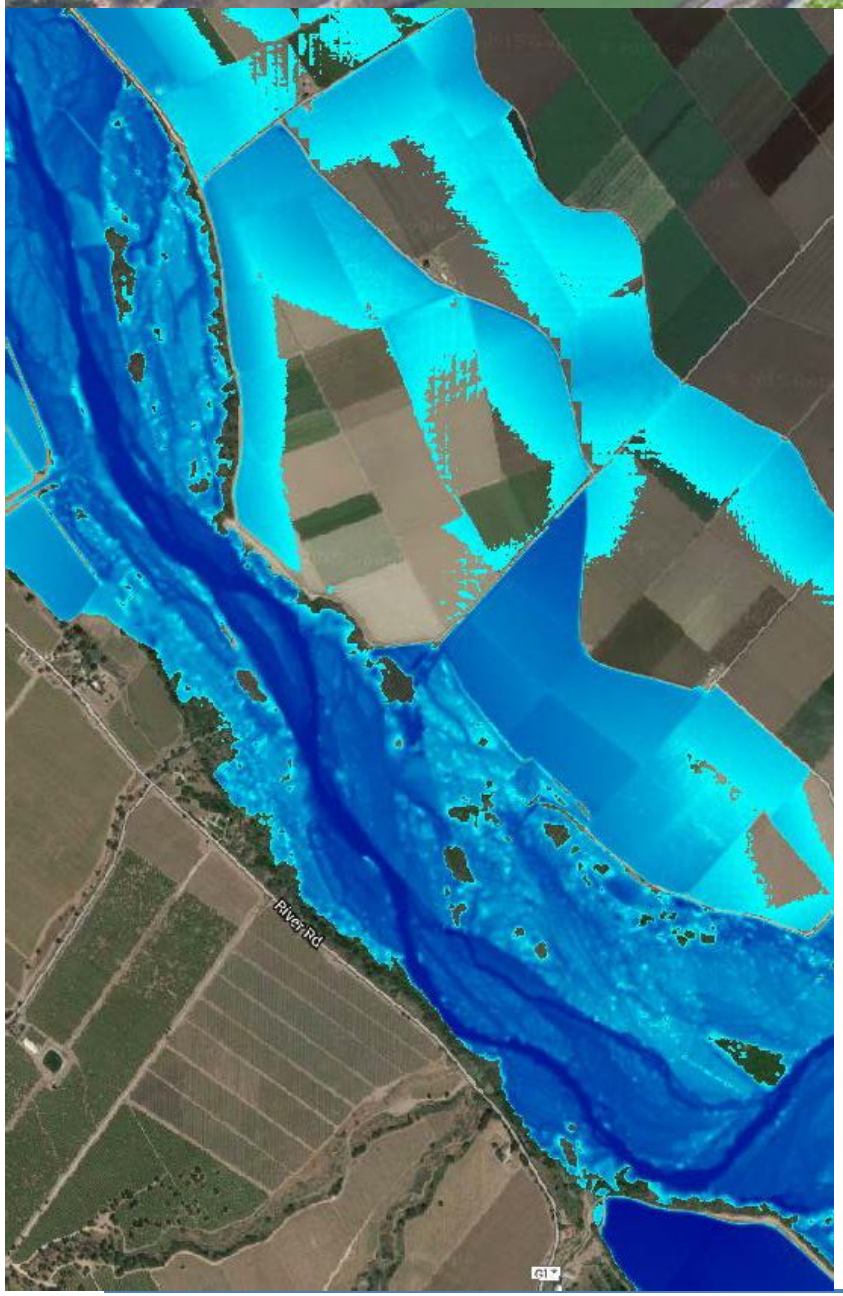
- New model developed by US Army Corps of Engineers – beta versions tested by consultant
- Represents Salinas Valley 3D surface, with varying "roughness" based on vegetation
- Simulates flow of water through the valley
- Incorporates water surface, depth averaged velocity, and other parameters

Note:
2D Model results indicate the Stream Maintenance Program efforts provide for flood reduction for less than 10-Year flood events.

Modeling the Salinas River

- Salinas River often overflows its banks
- Salinas River has non-continuous levees
- Flooding can occur as backwater flowing upstream onto farmland
- Channel often has multiple flow paths





Flood Model Limitations

- Model is only as good as input data
- Cannot be 100% accurate in every location
- Focus on moderate flows vs. catastrophic floods
- Does not simulate losses to the aquifer

Technical & Design Committee

Total of 3 meetings per RMU:

- Refine flood model and site specific data
- Finalize river management unit boundaries
- Identify the following:
  - Flood risk reduction objectives
  - Probable costs and benefits
  - Habitat conditions to be retained
  - Arundo removal objectives
- Conduct modeling for identified maintenance activities and resulting flood conveyance goal

Phase 2 Example Funding Sources

Source	$$$	Task
The Nature Conservatory	$ 85,000	Flood Model
Coastal Conservatory IWRP Funding	$ 65,000	Flood Model
Coastal Conservancy Climate Ready Grant	$ 276,000	Baseline surveys, reports, permits, coordination
MCWRA	FY 15/16	Staff Support

Note:
Completion of Phase 2 permits will require alternative sources or another fiscal year to be fully funded.

Defining Success

In summary,

we continue to collaboratively work together on shared interests to protect and restore multiple benefits of a healthy and productive Salinas River system


MONTEREY COUNTY WATER RESOURCES AGENCY
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Flood Model Inputs: Flow (CFS)

Location	50% Flow Event	Similar to 2011 Flow Event	20% Flow Event	10% Flow Event
Selected Flow at Bradley	3740	12490	18550	22000
Addition at San Lorenzo	0	0	0	5000
Resulting Flow at Soledad	3740	12490	18550	27000
Addition at Arroyo Seco	0	0	6900	15800
Resulting Flow At Chualar	3740	12490	25450	42800
	Dec 1983 Feb 2000 Jan 2010	Mar 2001 Apr 2006 Mar 2011	Jan 1997 Feb 1993	Feb 1998