

# WATER FOR FARMS, FISH AND PEOPLE

DECEMBER 20, 2018



SAN MATEO  
RESOURCE  
CONSERVATION  
DISTRICT





# REASON FOR PROGRAM

- State and Federal priorities
  - Recovery Plans for coho and steelhead
  - State Water Action Plan
- Ag Summit
- County Board of Supervisors
- Food System Alliance
- Requests from constituents
- Previous ponds program

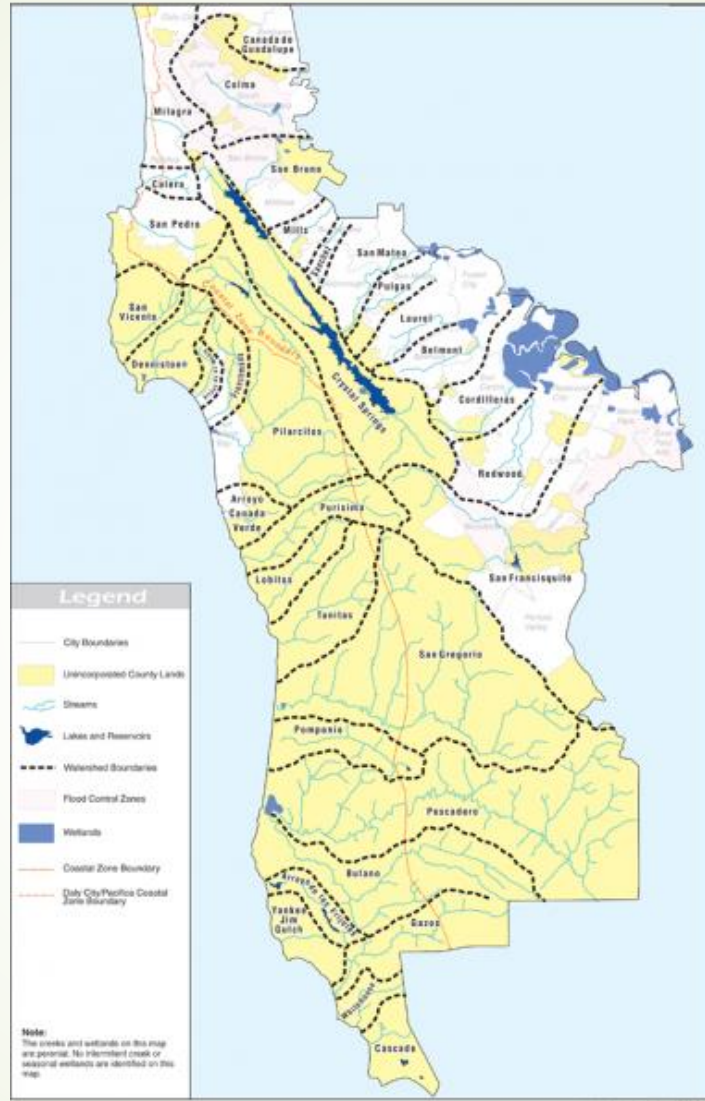
# PROGRAM GOALS

- ▶ Use **less water** through conservation
- ▶ **Minimize impacts** of water diversions by changing when water is taken and how fast
- ▶ Improve **water security** for farms, fish and people



# A FOCUS ON AGRICULTURE

- Water security
  - Drought resiliency
  - Operational flexibility
  - Allowing farmers to plan ahead
- "Win-win" for farms and fish



# PROJECT PLANNING & MEASURING BENEFITS

- ❖ Irrigation evaluations
- ❖ Water demand analysis
- ❖ Identify opportunities
  - ❖ Water system
  - ❖ Pond size
  - ❖ Forbearance agreement
  - ❖ Timing and rate of diversions
- ❖ Evaluate alternatives



<b>Total ETo for HMB *</b>	<b>39</b>
Peak Month ETo **	5.1
April ETo	3.9
May ETo	4.65
June ETo	5.1
July ETo	4.96
August ETo	4.65
September ETo	3.9
October ETo	2.79
Crop K for Veggies and Mint ^	0.35
Crop K for Berries ^	0.5
Crop K for Pasture ^	0.6



Annual						Adjusted Water Requirement	Adjusted Water Requirement	Total Water need on ranch (acre/feet)	Total Water need on ranch (acre/feet)
Farmed Acres on Ranch	Crop	Irrigation Type	Crop Water Requirement (inches)	Current DU	Target DU	Current DU (inches)	Target DU (inches)	Target DU	Current DU
52.5	Veggies	Sprinkler	13.65	53%	80%	25.75	17.06	74.65	112.68
								74.65	112.68



	(19.4 max)	Amount pumped in per month (Need + Evap)	Crop water need	Approx. Loss to evaporation	Amount left in pond
April	19.4	4.57	4.27	0.3	19.4
May	19.4	5.45	5.09	0.36	19.4
June	19.4	6.09	5.58	0.51	18.91
July	18.91	5.93	5.43	0.5	18.91
Aug	18.91	0 (forbearance)	5.09	0.48	12.82
Sept	12.82	0 (forbearance)	4.26	0.38	7.56
Oct	7.56	0 (forbearance)	3.06	0.25	3.5



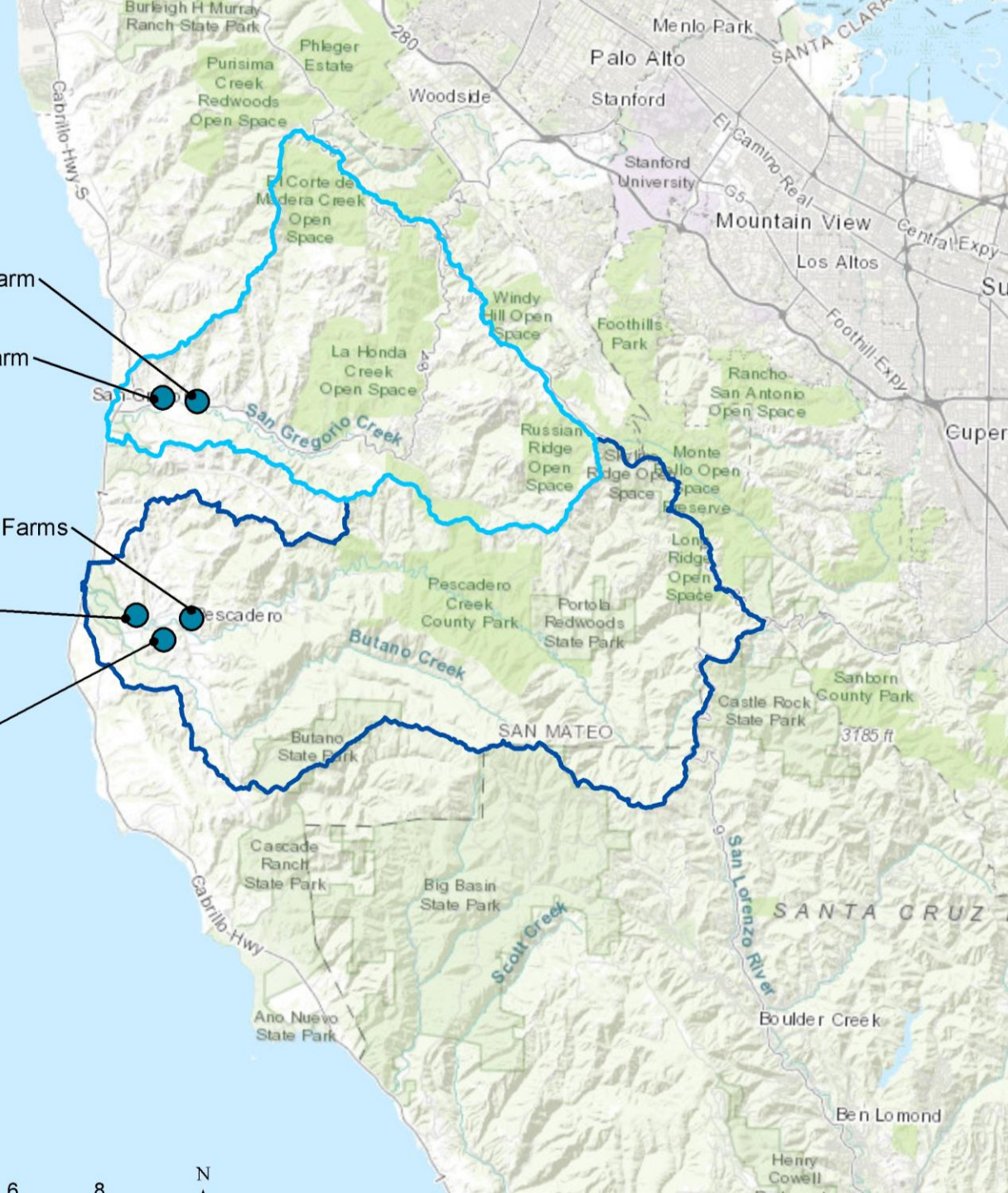


	Location 1: (300 > 70)	Location 2: (300 > 70)	Location 3: (140 > 70)	Location 4: (350 > 70)	Total benefit to flow (cfs)
Apr	0.51	0.51	0.25	0.62	1.89
May	0.51	0.51	0.25	0.62	1.89
Jun	0.51	0.51	0.25	0.62	1.89
Jul	0.51	0.51	0.25	0.62	1.89
Aug	0.22	0.51	0.4	0.62	1.75
Sept	0.22	0.22	0.4	0.62	1.46
Oct	0.22	0.22	0.4	0.62	1.46
Flow Benefit, Jun - Oct	1.68	1.97	1.7	3.1	8.45
Flow Benefit, Apr - Oct	2.7	2.99	2.2	4.34	12.23
Flow Benefit, Aug - Oct	0.66	0.95	1.2	1.86	4.67

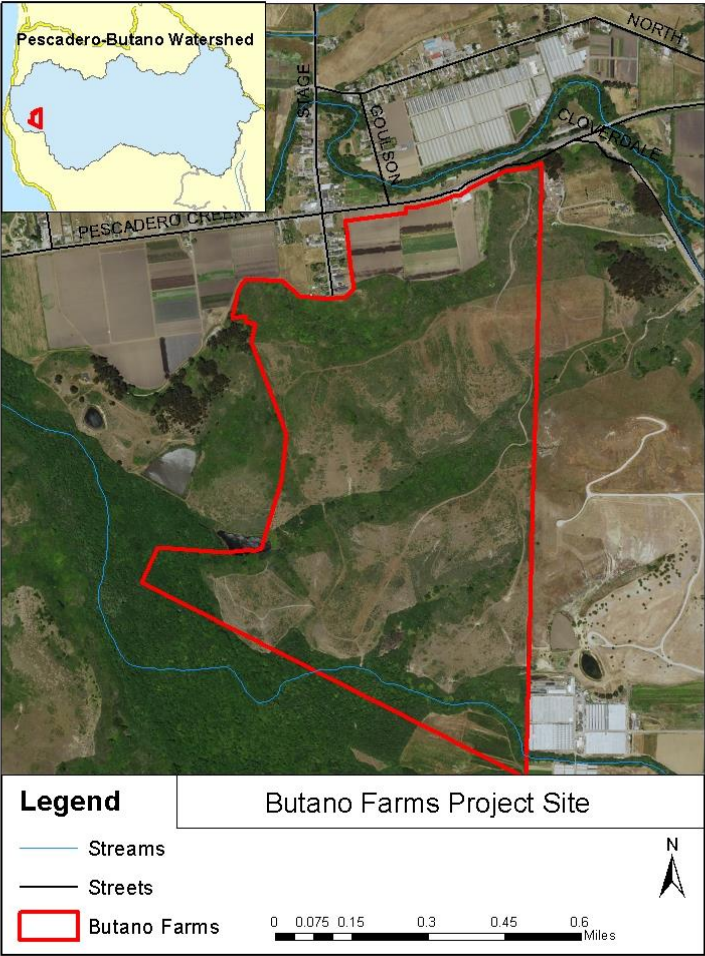


# HIGHLIGHTED PROJECTS

- Repetto Farm
- Blue House Farm
- Harley Farms
- Carpy Ranch
- Butano Farm



# BUTANO FARM

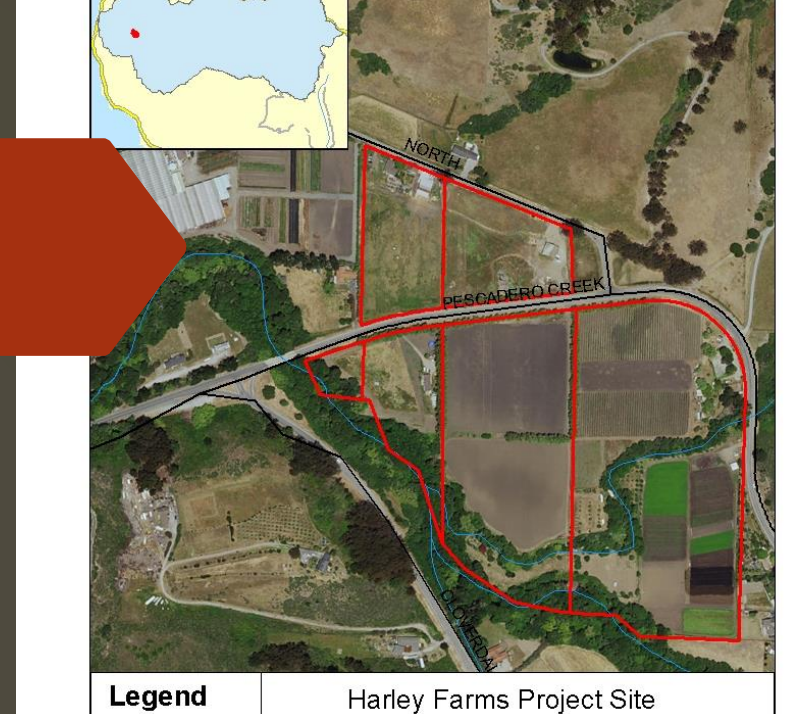


❖ Highlighted issue: Site selection



# HARLEY FARMS

- ▶ Highlighted issues
  - ▶ Site selection
  - ▶ Highlighted issue: electrical permits



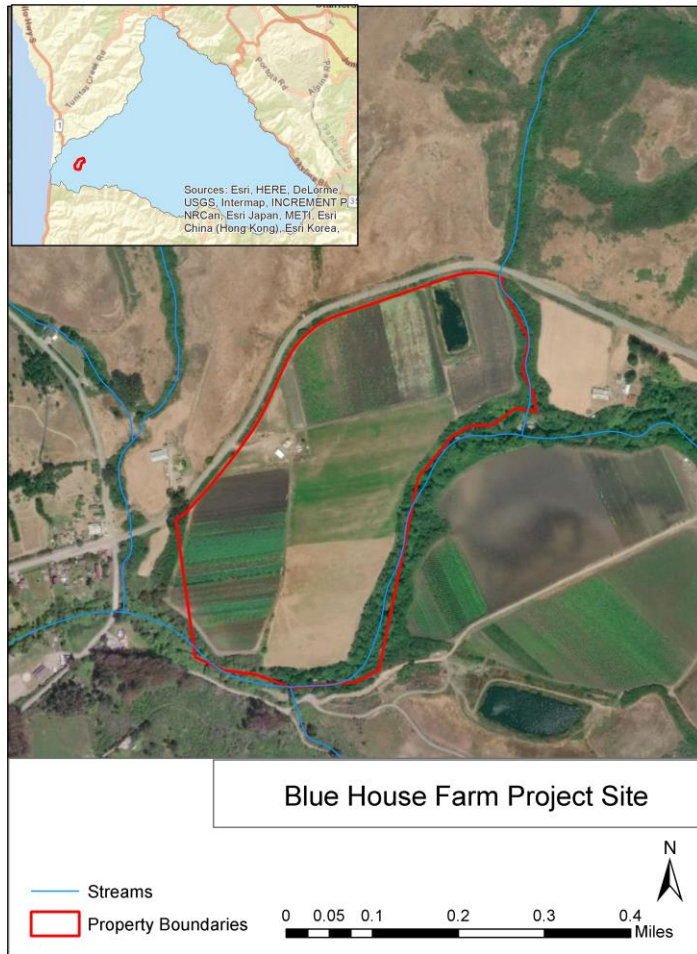
# CARPY RANCH



- ❖ Highlighted Issues:
  - ❖ Tradeoffs between production and water storage
  - ❖ Gullies and erosion threats
  - ❖ Multiple uses of property



# BLUE HOUSE FARM

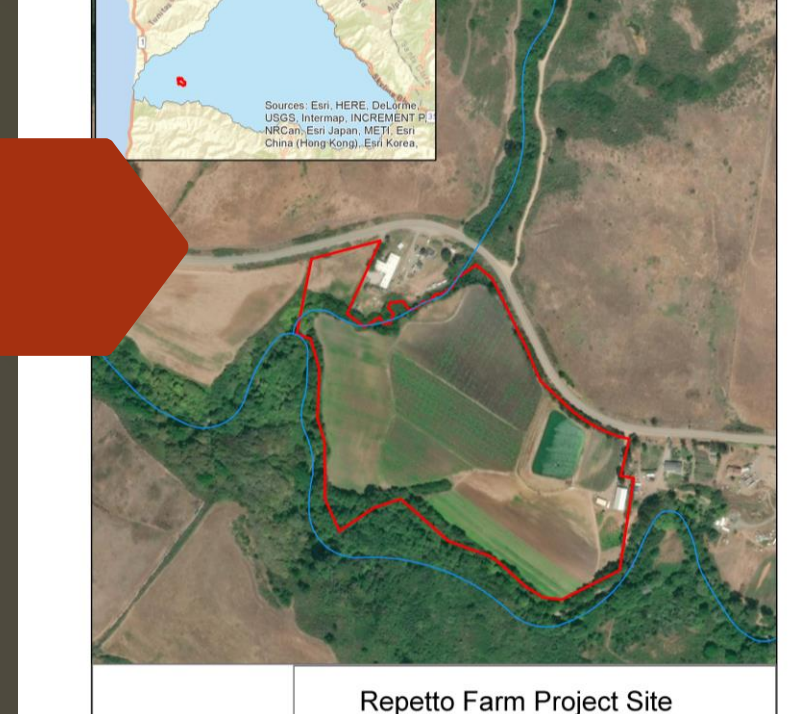


- ❖ Highlighted Issues:
  - ❖ Existing habitat and phasing of project
  - ❖ Managing water for existing operation



# REPETTO FARM

- ▶ Highlighted issue:
  - ▶ Challenges during construction



# CHALLENGES: FUNDING

## ❖ Funding

- Uncertain because grant dependent
- Cost to apply for grants
- Grantees can wait for over a year until funding is awarded
- Planning vs construction
- Some funders can bring complexity and new requirements to project design and permitting
- Lengthy delays in grant payments
- Onerous administrative requirements

Funding Source	Total Amount	Number of Projects
Department of Water Resources	\$3,250,000	25
Wildlife Conservation Board	\$886,590	1
NOAA	\$421,764	1
Coastal Conservancy	\$344,552	1
NRCS	\$281,753	On-going
CDFW	\$19,,350	1
USFWS	\$5,000	1
SVCF	\$40,000	1
<b>Total</b>	<b>\$5,249,009</b>	





# CHALLENGES: PERMITTING

- ❖ Complex permit requirements
- ❖ Costs of permitting
- ❖ Length of time to get permits (sequenced with funding timeline and construction windows and agricultural operations)
- ❖ Existing ponds can be habitat for protected species

	Agency	Permit
State	SWRCB	1707
State	CDFW	1600
Federal	NOAA	Section 7
Federal	USFWS	BO
Local	County	Encroachment
Local	County	Grading Exemption
State	Clearing House	CEQA
County/State	Coastal Comission	Coastal Development



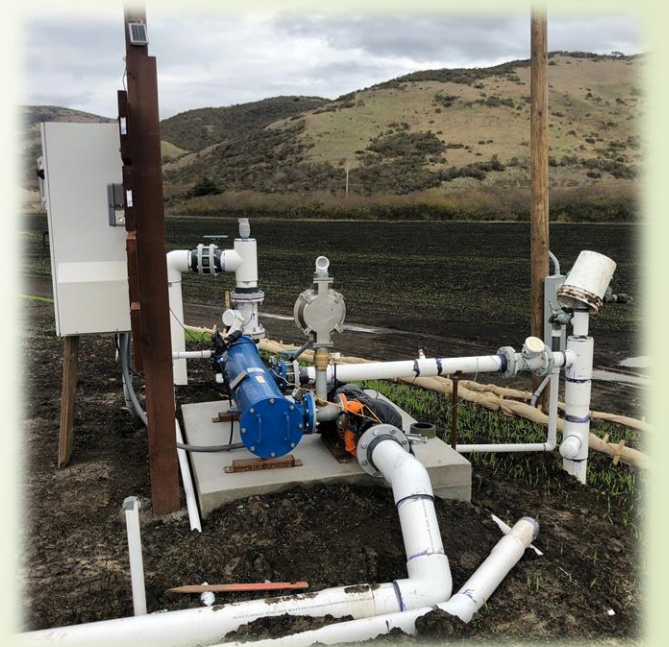
# ADDITIONAL CHALLENGES

- ▶ Tradeoffs between water storage and land for production
- ▶ Aligning timelines of funding, permits, construction season, contractor availability, landowner needs, tenant needs, weather
- ▶ Unfunded monitoring requirements
- ▶ Tradeoffs in project benefits, i.e. each pond cannot be designed for maximum frog habitat, maximum instream flow, and maximum ag viability- vocal stakeholders for each



# ACCOMPLISHMENTS

- ❖ 25 farms received technical assistance
- ❖ 12 farms have improved water conservation
  - 8 more are planned
- ❖ 7 farms have added water storage
  - 9 more are in planning and funding stages
- ❖ 26 million gallons of new local water storage built
  - 22 million gallons of additional storage planned
- ❖ 51 million gallons per year of water conserved





**Questions for the Team?**