Groundwater Recharge in North Coast Region

Matt St John
Executive Officer, RB1

California's Water Supply Strategy

- Action 2.1 - Expand average annual groundwater recharge by at least 500,000 acre-feet
  - Provide regulatory and technical assistance
  - State Water Board to prioritize water rights groundwater recharge permits
  - Regulatory streamlining for Flood-Managed Aquifer Recharge (Flood MAR) projects funded by Department of Water Resources
- Manage the effects of Climate Change
  - Unpredictable swings in climatic conditions
  - Longer droughts and more severe, frequent, and seasonal flooding
  - Optimize management of water based on availability

Why is Groundwater Recharge Important?

- Implement California's Water Supply Strategy
- Implement the North Coast Region's Policy Statement for Groundwater Protection
- Ensure Sustainable Water Supply – Municipal/Domestic, Agricultural
- Enhances instream flows to support aquatic life
- Reduce flood risk
- Implement Groundwater Sustainability Plans

What is Regional Board 1 Doing to Promote Groundwater Recharge?

- October 2022 adoption of Policy Statement for Groundwater Protection in the North Coast Region – Resolution No. R1-2022-0040
- December 2022 hearing – add Flood Managed Aquifer Recharge (Flood MAR) projects category to Conditional Waiver for Specific Categories of Low Threat Discharges – Order No. R1-2022-0031
- Technical support and regulatory cover for large scale (Flood MAR) and small scale (LID and construction storm water) groundwater recharge projects

Policy Statement for Groundwater Protection in the North Coast Region

FINDINGS

- Predominance of high-quality groundwater in the North Coast Region
- Reliance on groundwater for drinking water, especially in DACs
- Groundwater basins provide a crucial buffer against drought and climate change
- There are existing risks to groundwater quality and drinking water supply that need to be managed
- Human Right to Water is a core value and influences all Regional Board activities

Policy Statement for Groundwater Protection in the North Coast Region

DIRECTION TO STAFF

- Use Water Board policies and authorities to protect and restore groundwater quality
- Prioritize permitting of groundwater recharge projects, per Exec Order N-7-22
  - Streamlined permitting
  - General Waste Discharge Requirements and Waivers
  - Provide funding assistance to communities
  - Support for local Groundwater Sustainability Plans in priority groundwater basins

Conditional Waiver of Waste Discharge Requirements for Low Threat Discharges

- Permits specific categories of low threat discharges to land, for example:
  - Domestic water line flushing
  - Pumped water from storage tank excavations
- Application by Notice of Intent (NOI)
- Wavier issuance by Executive Officer contingent on compliance with prescribed conditions for discharge

NEW Low Threat Category: Flood Managed Aquifer Recharge (Flood MAR) projects

To support Beneficial Uses:

- Groundwater Recharge (GWR)
- Freshwater Replenishment (FRSH)

Waiver Conditions:

- Monitoring and Reporting
- No degradation of underlying groundwater
- No creation of adverse geochemical reactions with underlying earth materials
- No resulting migration of existing groundwater contamination

Russian River Alexander Valley Flood MAR

Divert winter high river flows onto dormant vineyards and fallowed fields

1. Recharges groundwater
2. Provides late summer baseflow back to river for downstream communities

FOLEY FAMILY WINES
Real Vineyards. Real Wineries. Real Wines.

TROUT UNLIMITED

ROBERT YOUNG

Russian River Property Owners Association

CALIFORNIA DEPARTMENT OF
WATER RESOURCES

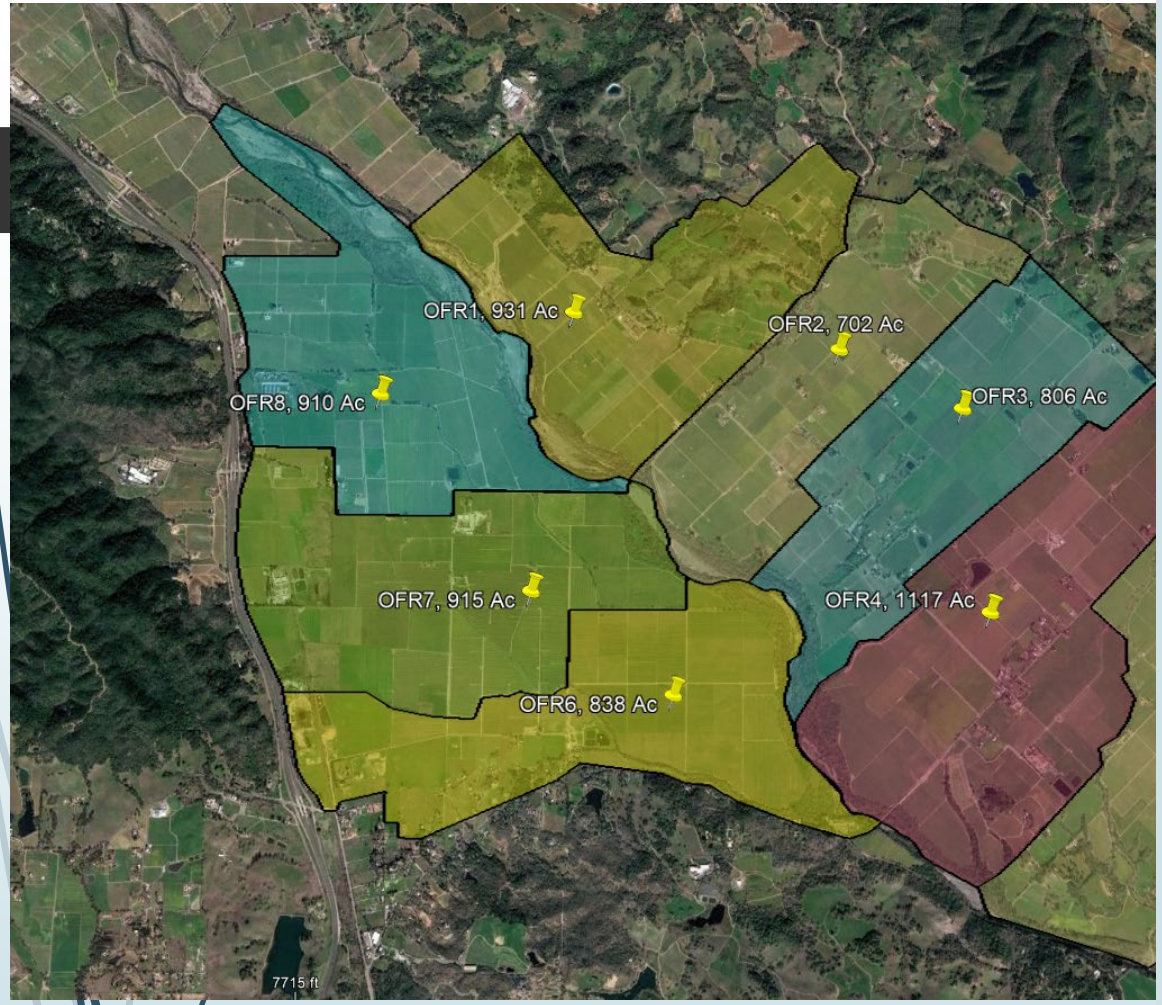
SANTA ROSA PLAIN
GROUNDWATER
SUSTAINABILITY AGENCY

David Rabbitt

NOAA FISHERIES

PETALUMA VALLEY
GROUNDWATER
SUSTAINABILITY AGENCY

Russian River Alexander Valley Flood MAR




Credit: Steve Orloff

Flood Managed Aquifer Recharge Projects: Scott Valley Groundwater Sustainability Plan

OBJECTIVES

- Improve groundwater conditions within the Scott River Valley
- Augment streamflow
- Improve water quality in critical locations of the mainstem Scott River

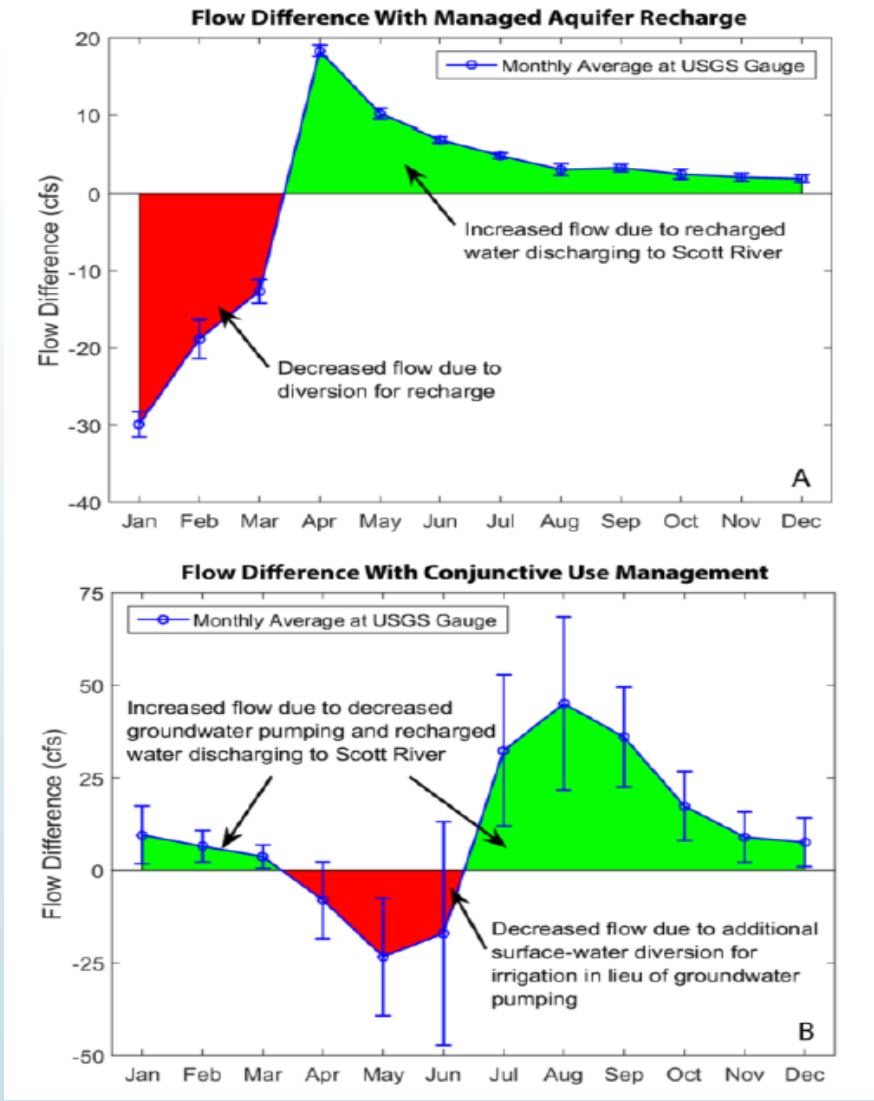
COLLABORATION

- Local Landowners, Irrigation District, Resource Conservation District, University of California, Davis, CalTrout

Flood Managed Aquifer Recharge Projects: Scott Valley Groundwater Sustainability Plan

PRIOR EFFORTS

- Scott Valley Integrated Hydrologic Model (SVIHM) developed by UC Davis with Water Board funding
- SVIHM analysis to evaluate potential recharge strategies
- Proof-of-concept pilot project completed showing high infiltration, no crop damage
- Water right permit obtained for larger-scale project
- Awaiting project implementation



Groundwater Recharge Projects: Smaller-Scale Opportunities

- Municipal Separate Storm Sewer Systems (MS4) Permitting
  - Post-construction stormwater management (i.e. Low Impact Development)
- Stormwater Construction General Permitting
  - Stormwater capture and detention
    - "Slow it. Spread it. Sink it. Store it." management approach

North Coast Examples

- Bioretention basins or swales
- Porous pavement
- Rain gardens

Closing Considerations

- We must consider numerous water supply needs
  - Domestic and municipal; agricultural; aquatic life
- Groundwater recharge projects must balance the benefits for water supply against potential risks to groundwater quality
- Careful review and project oversight can achieve these objects