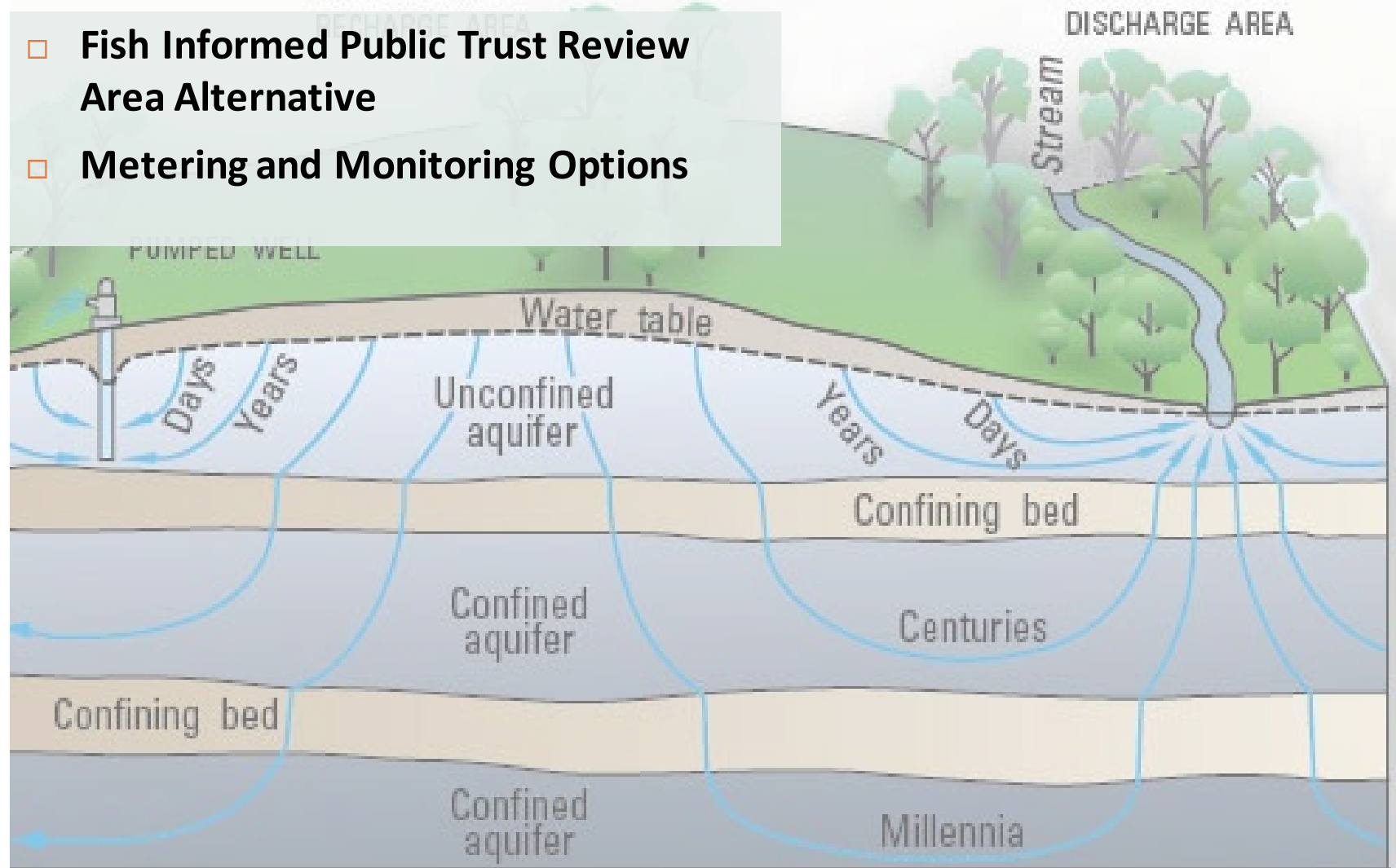


# WELL ORDINANCE POLICY WORKING GROUP MEETING

Robert Pennington, Professional Geologist, Permit Sonoma  
February 22, 2023

# Today's Presentation Topics

- **Fish Informed Public Trust Review Area Alternative**
- **Metering and Monitoring Options**



# Public Trust Review Area Matrix – Fish Informed Alternative

3

Habitat	Low SFD (0 – 10%)	Medium SFD (10 – 20%)	High SFD (>20%)
Low Habitat Value	Low Risk Area Not included in PTR	Low Risk Area Not included in PTR	Low Risk Area Not included in PTR
Moderate Habitat Value	Low Risk Area Not included in PTR	Moderate Risk Area Stream buffers	High Risk Area Sub-watershed
High Habitat Value	Moderate Risk Area Stream buffers	High Risk Area Sub-watershed	High Risk Area Sub-watershed
Very High Habitat Value	High Risk Area Sub-watershed	High Risk Area Sub-watershed	High Risk Area Sub-watershed

**Low Habitat Value:** Limited or no summer rearing habitat for salmonids

**Moderate Habitat Value:** Moderate value summer rearing habitat for salmonids

**High Habitat Value:** High value summer rearing habitat for salmonids (generally Coho habitat)

**Very High Habitat Value:** Upper Mark West, upper Green Valley, Dutch Bill, and Mill Creek watersheds (critical Coho habitat)

**Stream Flow Depletion (SFD)** means reduction in flow relative natural flow conditions during the dry season (July – Sept) estimated from from best available information and models

**Low / medium / high SFD** from Richter, Davis, M. M., Apse, C., & Konrad, C. (2012). APRESUMPTIVE STANDARD FOR ENVIRONMENTAL FLOW PROTECTION. River Research and Applications, 28(8), 1312–1321. <https://doi.org/10.1002/rra.1511>

**Stream Buffers:** **750'** in alluvial and sedimentary rocks (Class 1 + 2 + Stetson Areas), **250'** in volcanic bedrock (Class 3 areas), **100'** in basement rocks (Class 4 areas).

# Alternative “Fish Informed” PTRA - Refinements

**Ad-Hoc** met Feb 15, 2023

## **Expands** to full sub-watersheds

- Mill Creek
- Mark West Creek
- Dutch Bill Creek

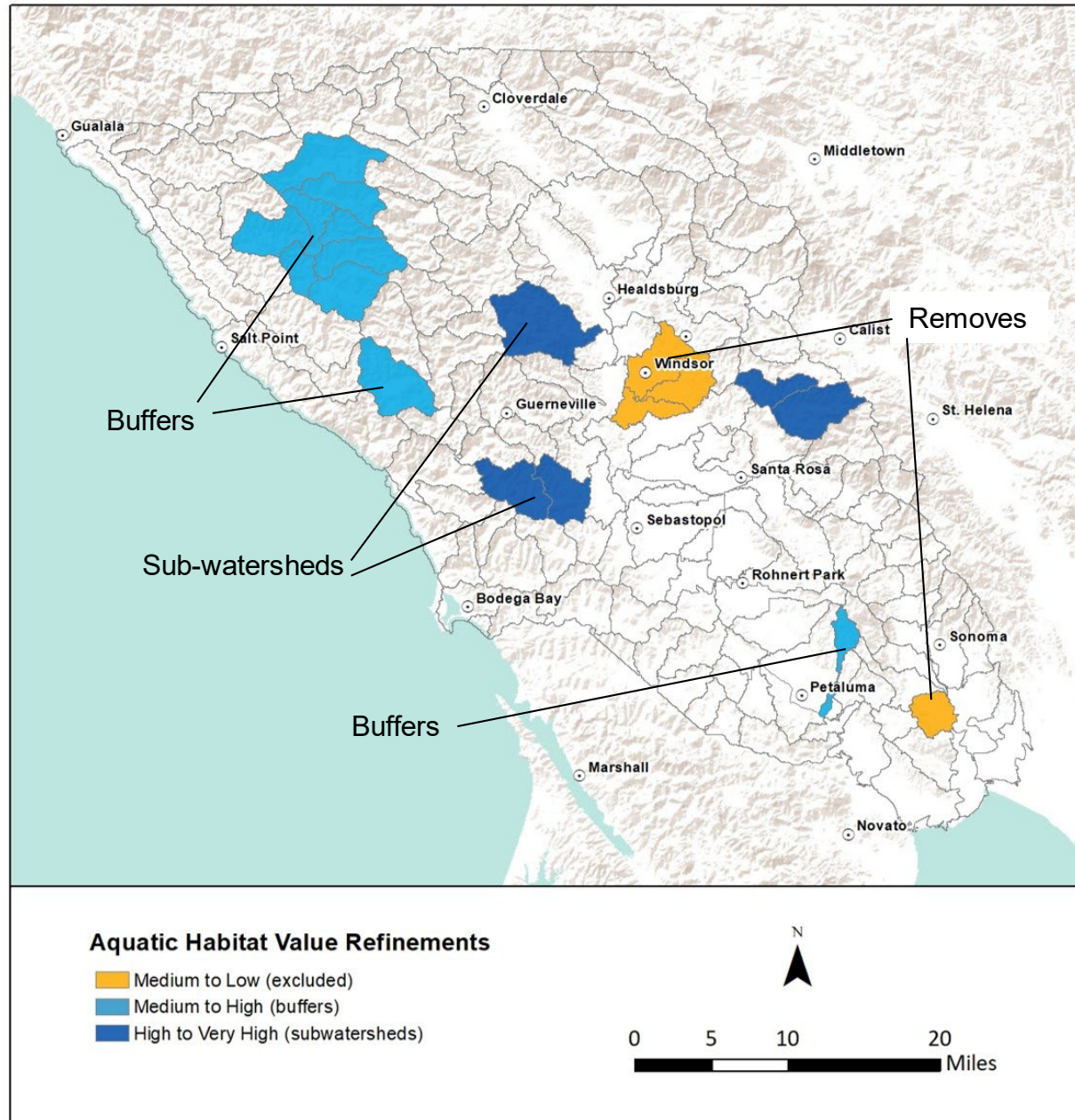
## **Adds buffers**

- Wheatfield Fork (Gualala River)
- Ward Creek (Austin Creek)
- Adobe Creek (Petaluma River)

## **Removes** Low habitat value sub-watersheds

- Windsor Creek sub-watershed
- Southwest Sonoma Valley near HWY 121

[Link to Well Ordinance Viewer](#)



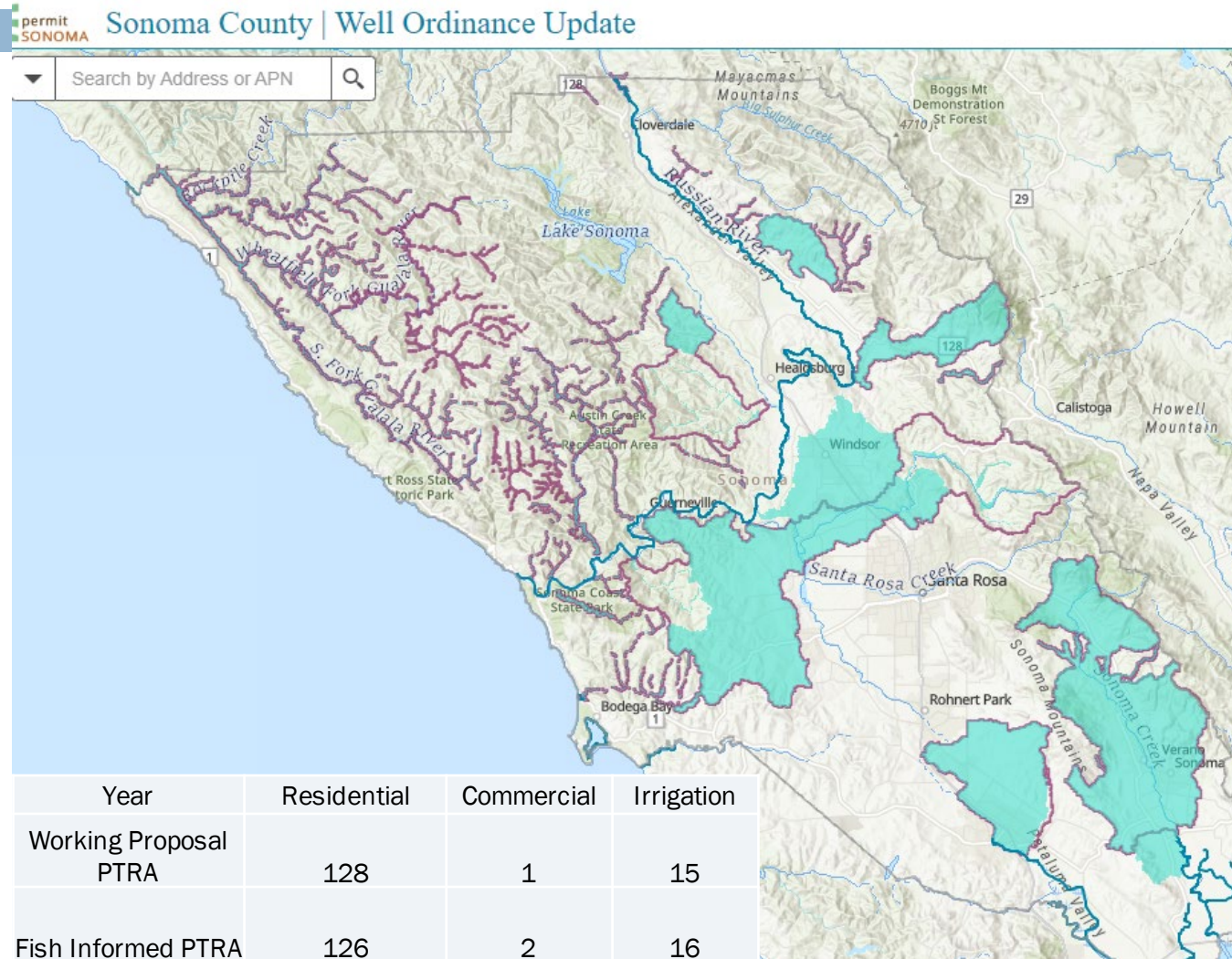


# Alternative “Fish Informed” PTRA - Refinements

## [Link to Well Ordinance Viewer](#)

Working PTRA = 277 square miles  
(16% of County)

Fish Informed = 313 square miles  
(18% of County)



# Metering and Monitoring – Options

	Option 1 / Voluntary	Option 2 – Working Proposal	Option 3 / Universal Reqs
<b>Water Meter Installation</b>	No	Meter for each service connection, all well classes. (service connection is separate parcel served)	Same as Option 2
<b>Water Meter Reporting</b>	All Voluntary	Monthly data collected, reported annually, all well classes except low water use residential wells  Low water use residential wells and existing well may report in voluntary program	Monthly data collected, reported annually, all well classes
<b>Water Level Monitoring</b>	All Voluntary	Monthly data collected, reported annually for parcels using 5 AFY or more.	Same as Option 2
<b>Conservation Practices Reporting</b> for Agricultural, Commercial, and Industrial sites	Same as Option 2	Annual reporting of implementation of agricultural, commercial, and industrial water conservation practices for parcels using 5 AFY or more. 1. Through enrollment in agricultural conservation program, or 2. Through self reporting form	Same as Option 2

\*\*\*All requirements apply to new wells subject to revised ordinance (not existing wells)

Reporting program costs  
\$150 - \$450 per year

Meter installation costs  
\$300 - \$1000 per meter

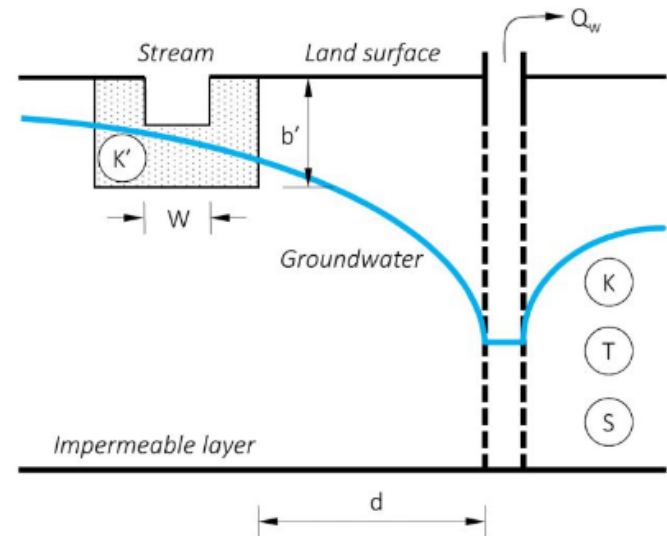
## Extra Slides



# Impacts Analysis Methods

8

- Calibrated numerical models
  - “Gold standard” for estimating streamflow depletion
  - Useful for acute and cumulative impacts
  
- Analytical models with hydrogeologic reports and PTRAs methods
  - Cumulative impacts - PTRAs methods and/or hydrogeologic reports
  - Acute impacts – [analytical models](#)
    - Jenkins 1968 or Hunt 1999
    - Model run for year including spring recession and dry season





# Discretionary Review - Adverse Impacts

(triggers mitigation or permit denial)

9

Habitat/Stream/Area	Percent of Flow
Coho Summer Rearing Streams	>10% reduction during periods of spawning, rearing and migration
Steelhead Streams	>20% reduction during periods of spawning, rearing and migration
GSA Basin	>20% reduction and not inconsistent Sustainable Management Criteria for Interconnected Surface Water * * *

\*\*\* pending future development