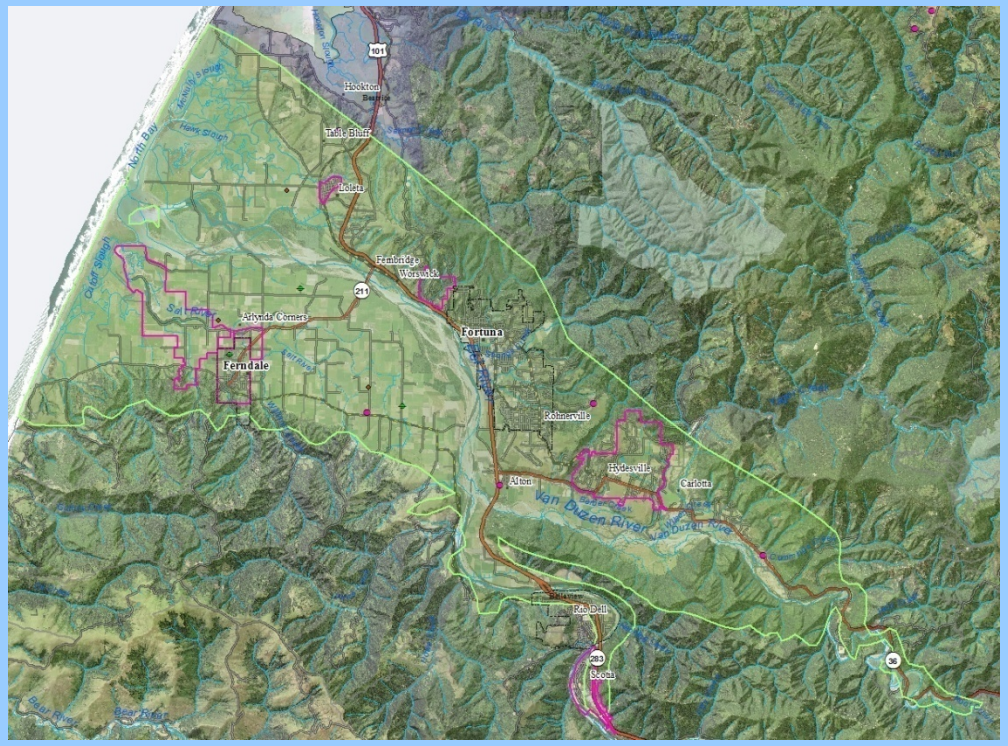
Eel River Valley Groundwater Working Group

Meeting No. 8

December 20, 2016 // 1:00 pm – 2:00 pm

Humboldt County Agricultural Center



Department of Public Works

http://humboldtgov.org/groundwater

Initial Points

1. On December 13, the Board of Supervisors adopted a resolution agreeing to submit a Groundwater Sustainability Plan Alternative for the basin

2. Will go forward for now assuming SGMA will continue to apply
   - Basin prioritization could change in 2017 based on new information (discuss)

3. Regulations are not clear on required content for Alternative
   - Regulations written for full Groundwater Sustainability Plan
   - Looking at examples from Napa Valley and Truckee
   - Our approach is still a work in progress

4. Deadline is January 1, 2017

Agricultural Irrigation Groundwater Use for the Eel River Valley

Source	Irrigated Land (Acres)	Water Use Volume (Acre-feet)	Water Use Rate (Acre-feet per acre)
DWR (1968)	11,700	18,800	1.0 to 1.7
USGS (1978)	17,300	17,300	1.0
DWR (2003)	-	49,000	-
DWR (2012)	26,800	24,400	0.9 (implied)
RCD (2016)	13,558	10,265 to 16,680 (varies seasonally)	0.8 to 1.2

- RCD (2016) grouped grazed pasture, hay production, alfalfa production
- USDA (2013) provides state-wide average water use rates for California: ranges from 2.0 to 3.8 acre-feet per acre depending on land use

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CALIFORNIA CODE OF REGULATIONS

TITLE 23. WATERS

DIVISION 2. DEPARTMENT OF WATER RESOURCES

CHAPTER 1.5. GROUNDWATER MANAGEMENT

SUBCHAPTER 2. GROUNDWATER SUSTAINABILITY PLANS

§ 358.2. Alternatives to Groundwater Sustainability Plans

(c) An Alternative submitted to the Department shall include the following information:

(1) An Alternative submitted pursuant to Water Code Section 10733.6(b)(1) shall include a copy of the groundwater management plan.

(2) An Alternative submitted pursuant to Water Code Section 10733.6(b)(2) that is not an adjudicated area described in Water Code Section 10720.8 shall include the following:

(A) Information demonstrating that the adjudication submitted to the Department as an Alternative is a comprehensive adjudication as defined by Chapter 7 of Title 10 of Part 2 of the Code of Civil Procedure (commencing with Section 830).

(B) A copy of the proposed stipulated judgment.

(3) An Alternative submitted pursuant to Water Code Section 10733.6(b)(3) shall provide information that demonstrates the basin has operated within its sustainable yield over a period of at least 10 years. Data submitted in support of this Alternative shall include continuous data from the end of that 10-year period to current conditions.

(d) The entity submitting an Alternative shall explain how the elements of the Alternative are functionally equivalent to the elements of a Plan required by Articles 5 and 7 of this Subchapter and are sufficient to demonstrate the ability of the Alternative to achieve the objectives of the Act.

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Required content

1. Basin setting, hydrogeologic conceptual model, groundwater conditions
2. Water budget
    - Include estimate of Sustainable Yield (work in progress)
    - Include current, historical, and projected water budget

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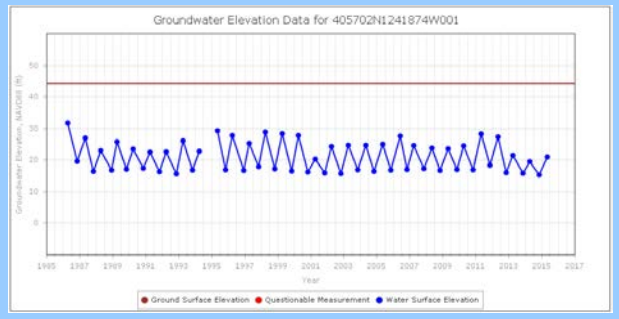
Required content

3. Criteria for defining conditions that constitute sustainable groundwater management
    - A. Sustainability Goal
    - B. Undesirable results: Description of process and criteria for determining if undesirable results are present
        - Criteria not required if demonstrated that an undesirable result is not present and not likely to occur
    - C. Minimum thresholds for undesirable results
        - Thresholds not required if demonstrated that an undesirable result is not present and not likely to occur
    - D. Measurable objectives
4. Monitoring network

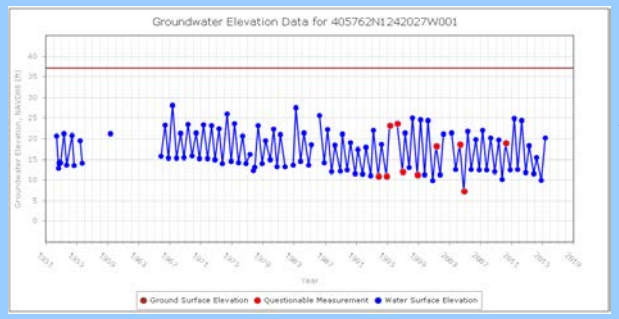
Six Sustainability Indicators (1 of 2)

Sustainability Indicator / Undesirable Result		Evidence
1	Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply	1. Long-term groundwater level data collected by DWR 2. Recent groundwater level data collected by stakeholders
2	Significant and unreasonable reduction of groundwater storage	Same as above
3	Significant and unreasonable seawater intrusion	The position of the seawater/freshwater transition zone mapped in 2016 is comparable to the extent measured by USGS in 1975.

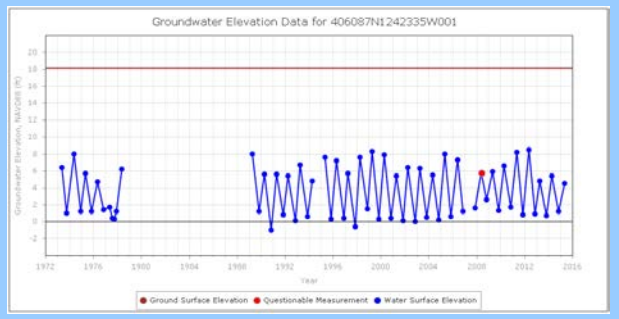
DWR Monitoring Wells in Eel River Basin



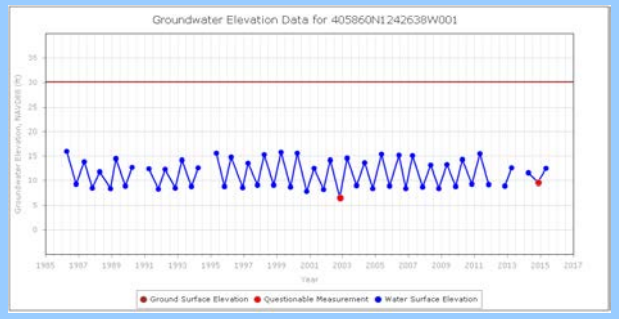
Pleasant Point Road (Ferndale)



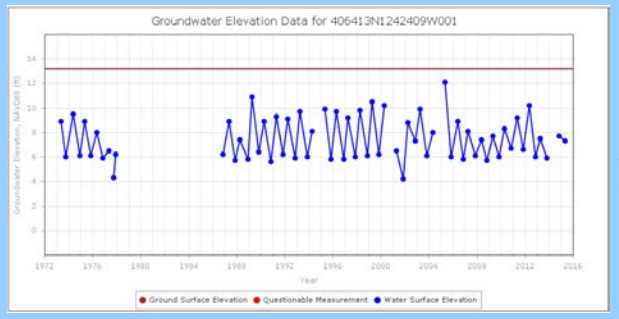
Waddington Road (Ferndale)



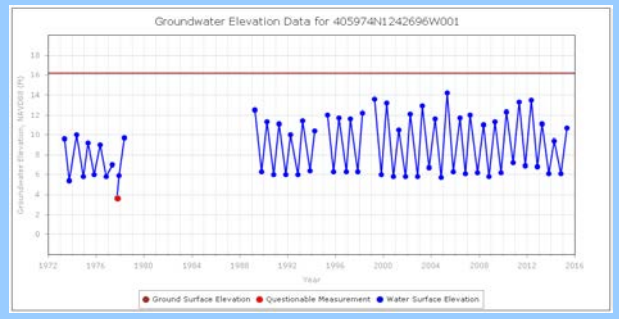
Goble Lane (Ferndale)



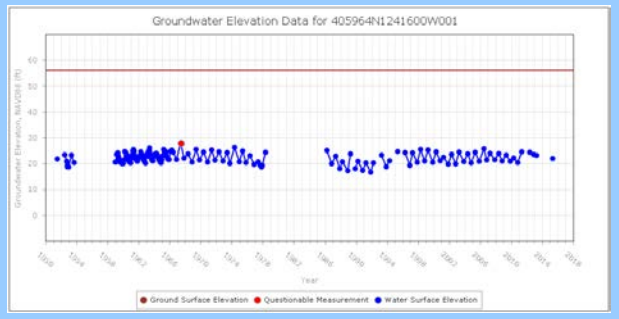
County Fairgrounds (Ferndale)



Cannibal Island Road (Loleta)



Dillon Road (Ferndale)



7th and K St. (Fortuna)

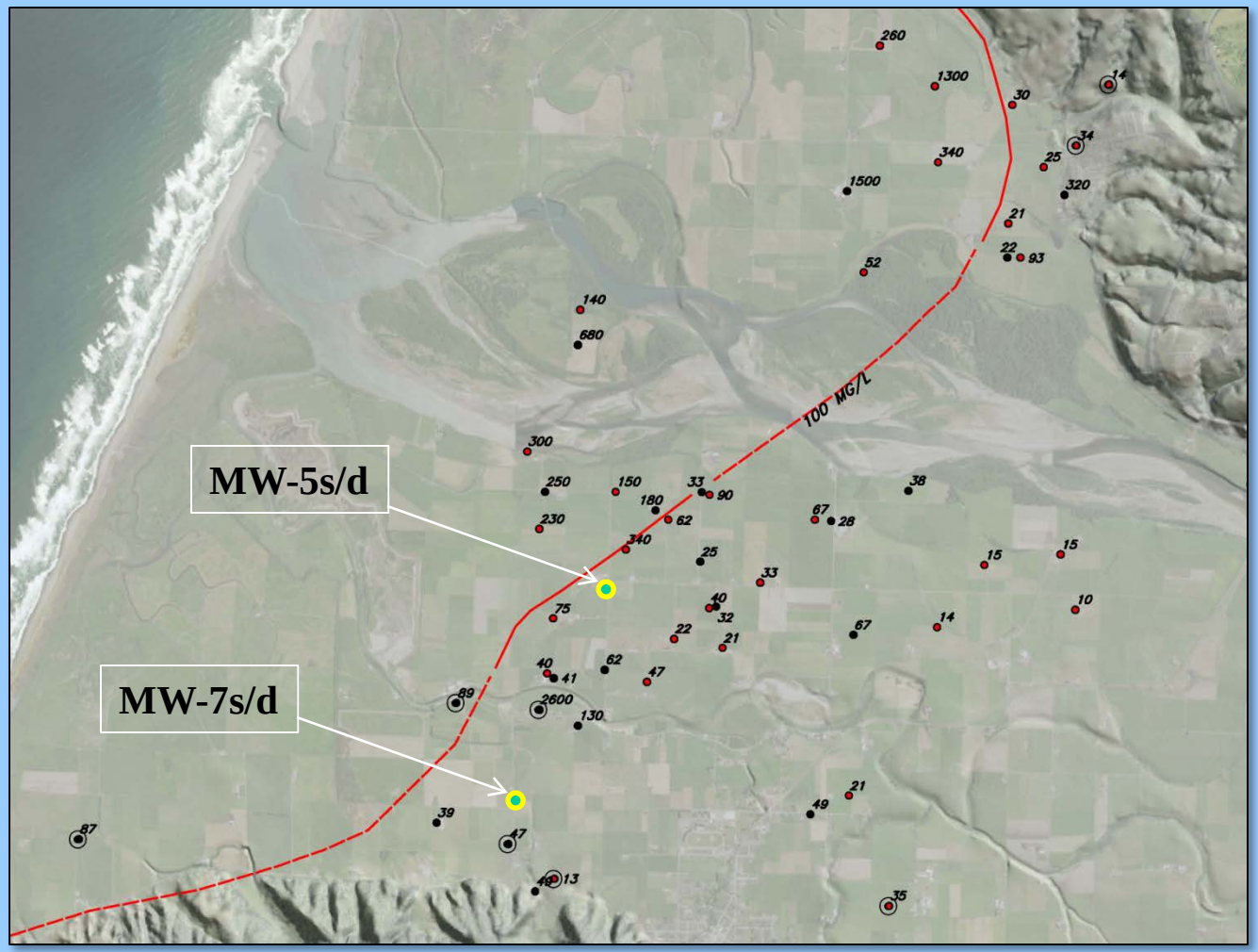
Potential Locations for seawater intrusion threshold

MW-5s (100-110')
not yet sampled

MW-5d (200-210')
63 mg/L
Set at 150 mg/L

MW-7s (30-40')
36 mg/L
Set at 100 mg/L

MW-7d (240-250')
170 mg/L
Set at 250 mg/L



Six Sustainability Indicators (2 of 2)

Sustainability Indicator / Undesirable Result		Evidence
4	Significant and unreasonable degraded water quality	1. State Water Board data for salts and nutrients 2. Absence of large-scale contamination affecting water supplies
5	Significant unreasonable land subsidence	Stable groundwater levels
6	Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water	1. Stable groundwater levels over several decades. 2. Groundwater use represents approximately 5% of annual recharge. 3. Groundwater levels were not significantly different in Fall 2014 when the Lower Eel went subsurface. 4. The Lower Eel maintains deep pools. 5. Primary causes of low-flow conditions are flood deposits, upstream diversions 6. No flow-study to define flow requirements for beneficial uses