

Summary of Draft Sustainable Management Criteria

For Comment and WAC Recommendation

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Wyandotte Creek Advisory Committee
July 1, 2021

Today's Agenda Topic

Recommendations to the Wyandotte Creek Board on the final draft:

- Sustainable Management Criteria (SMC)
- Monitoring Network
- Groundwater Dependent Ecosystems (to be integrated into Basin Setting Chapter)

Chapters will remain draft until the entire GSP is adopted in December

Sustainable Management Criteria (SMC)

Includes

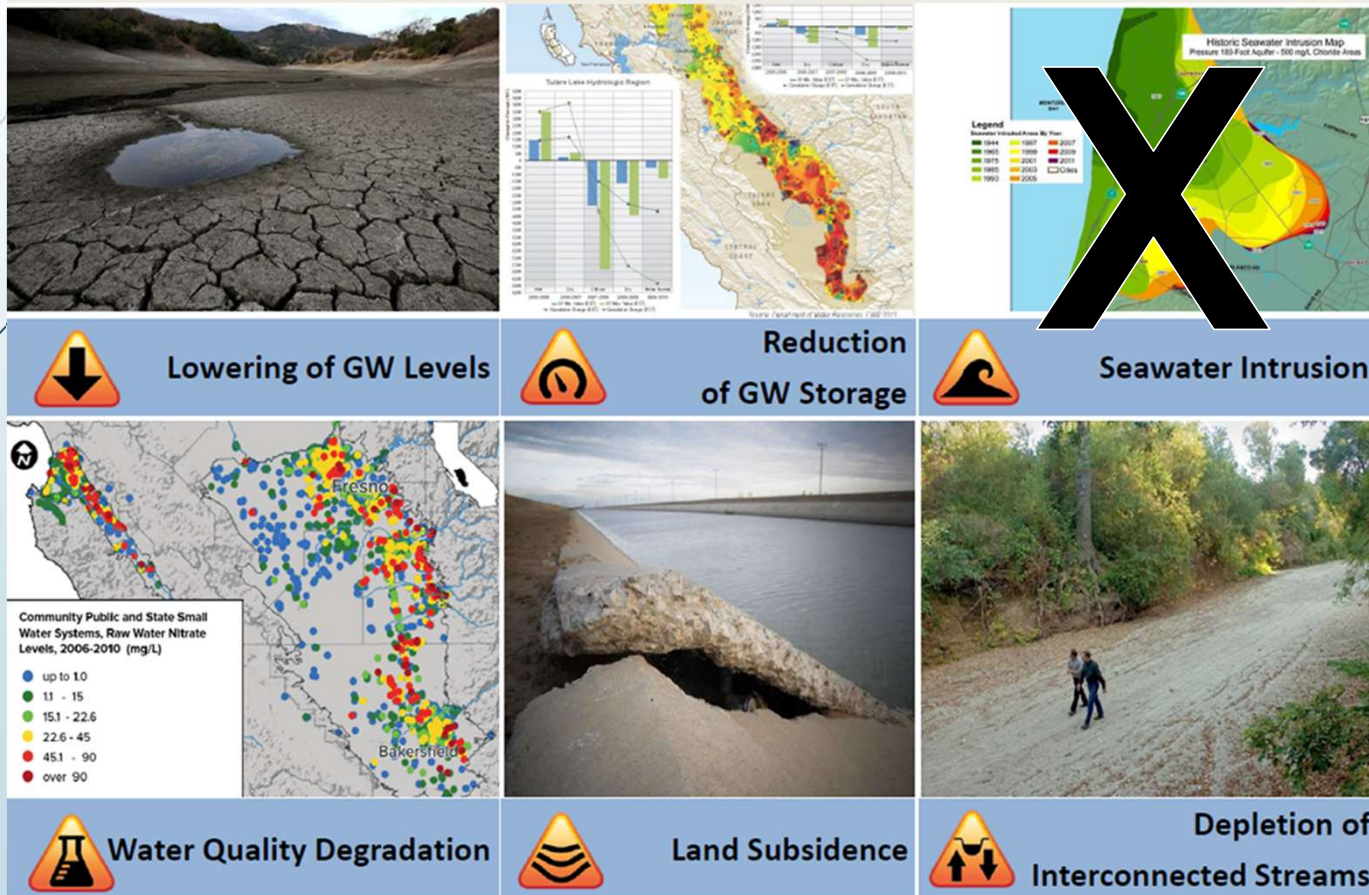
- Sustainability Goal (qualitative)
- Undesirable Results (quantitative)
- Minimum Thresholds (quantitative)
- Measurable Objectives (quantitative)

What's considered “significant and unreasonable” is left for the local GSAs and stakeholders to decide.

→ Management Decision

Defines what
SUSTAINABILITY is and looks
like in the subbasin

Sustainability Indicators



1. Sustainability Goal

To ensure that groundwater is managed to provide a water supply of adequate quantity and quality to support rural areas and small communities, the agricultural economic base of the region, and environmental uses now and in the future.

Comments & Recommendations



Lowering of GW Levels

2. Chronic Lowering of Groundwater Levels Undesirable Result

Comments & Recommendations

Declining GWL	
Definition	An Undesirable Result is experienced if sustained groundwater levels are too low to provide a water supply of adequate quantity and quality to support rural areas and small communities, and the agricultural economic base of the region, or if significant and unreasonable impacts to environmental uses of groundwater occur.
Identification	One RMS well within the Wyandotte Creek Oroville Management Area and Two RMS wells within the Wyandotte Creek South Management Area reach their MT for two consecutive non-dry year-types.
Minimum Thresholds	15th percentile of shallowest domestic wells using refined DWR database (includes wells installed since 1980) based on the elevation of the bottom of the wells within a 3-mile radius of the RMS well.
Measurable Objectives	The groundwater level based on the groundwater trend line for the dry periods (over the period of record) of observed short-term climatic cycles extended to 2030.



Lowering of GW Levels

3. Chronic Lowering of Groundwater Levels Minimum Thresholds

Comments & Recommendations

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Lowering of GW Levels

4. Chronic Lowering of Groundwater Levels Measurable Objectives

Comments & Recommendations

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Measurable Objectives	The groundwater level based on the groundwater trend line for the dry periods (over the period of record) of observed short-term climatic cycles extended to 2030.

5. Groundwater Level Representative Monitoring Network

Comments & Recommendations

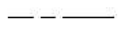
Legend



RMS GWE Monitoring Well



Highways



County boundaries

Groundwater Sustainability Agency (GSA)



Wyandotte Creek GSA

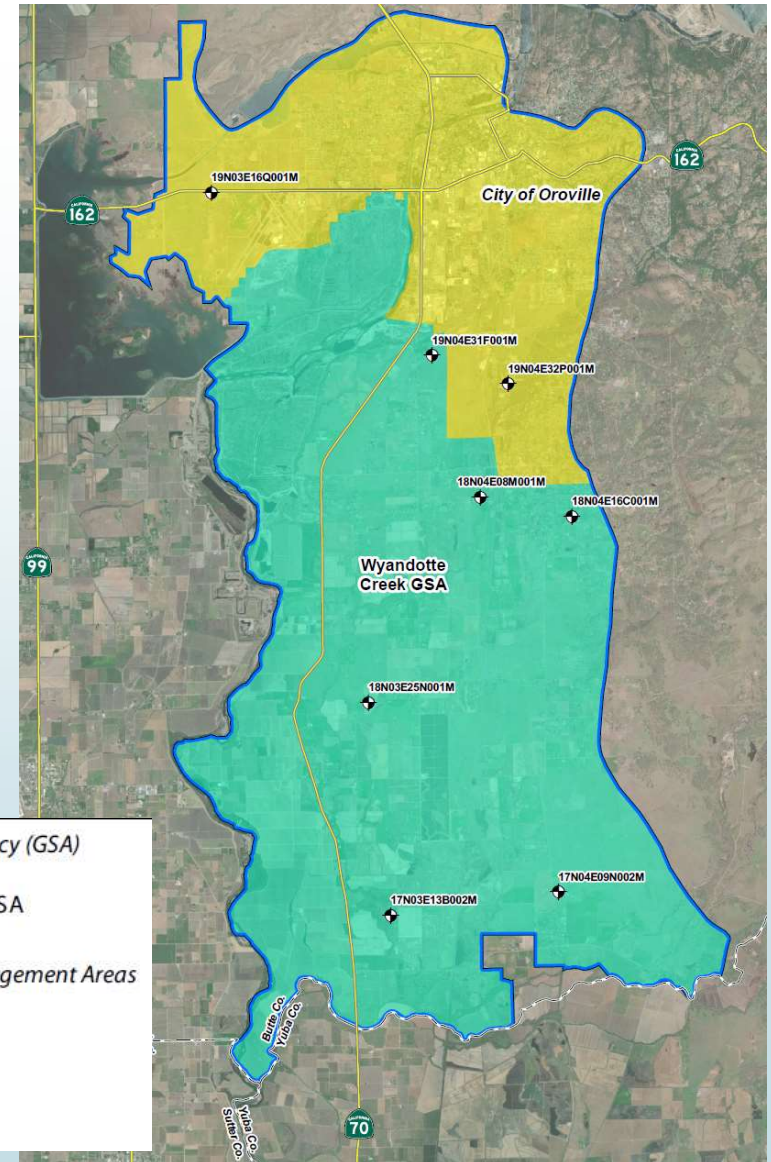
Wyandotte Creek Subbasin Management Areas



Oroville



South



Chronic Lowering of Groundwater Levels

Interim Milestones (IM)

Comments & Recommendations

Table 3-1. Groundwater Levels SMC by RMS in feet above mean sea level

RMS Well ID	MT	MO	IM		
			2027	2032	2037
Wyandotte Creek Subbasin – Oroville Management Area					
16Q001M	85	133	134	133	132
32P001M	78	107	108	106	104
CWS-03	102	133	135	132	130
Wyandotte Creek Subbasin – South Management Area					
13B002M	35	47	48	46	44
09N002M	35	49	51	47	43
25N001M	37	52	53	52	50
08M001M	59	86	87	85	84
16C001M	71	95	96	95	94
31F001M	76	99	101	98	95

6. Interconnected Surface Water



**Depletion of
Interconnected Streams**

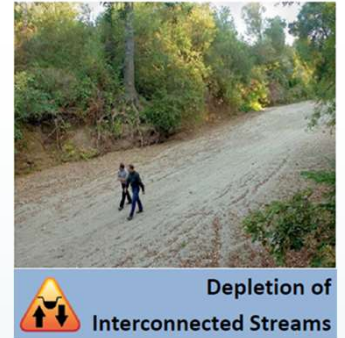
Interconnected Surface Water	
Definition	Avoiding significant and unreasonable depletion of surface water flows caused by groundwater pumping that significantly impacts beneficial uses
Identification	[Same as for GWL SMC] One RMS well within the Wyandotte Creek Oroville Management Area and Two RMS wells within the Wyandotte Creek South Management Area reach their MT for two consecutive non-dry year-types.
Minimum Thresholds	15th percentile of shallowest domestic wells using refined DWR database (includes wells installed since 1980) based on the elevation of the bottom of the wells within a 3-mile radius of the RMS well.
Measurable Objectives	The groundwater level based on the groundwater trend line for the dry periods (over the period of record) of observed short-term climatic cycles extended to 2030.
Data Gap	Data needed to develop this SMC includes: definition of stream reaches and associated priority habitat, streamflow measurements to develop profiles at multiple time periods, and measurements of groundwater levels directly adjacent to stream channels, first water bearing aquifer zone, and deeper aquifer zones.

6. Interconnected Surface Water

Framework:

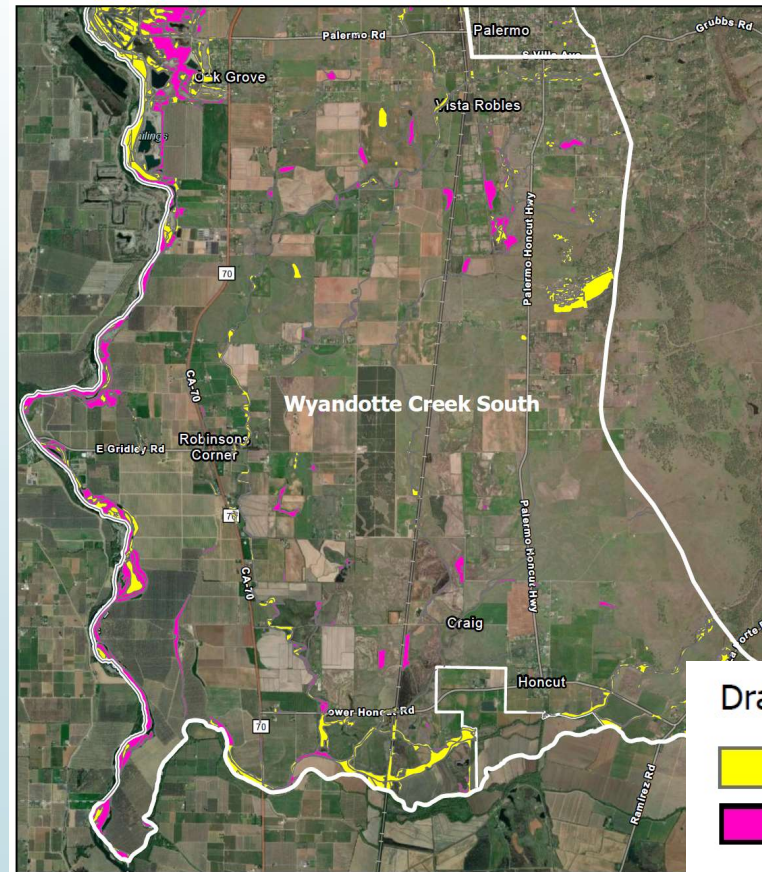
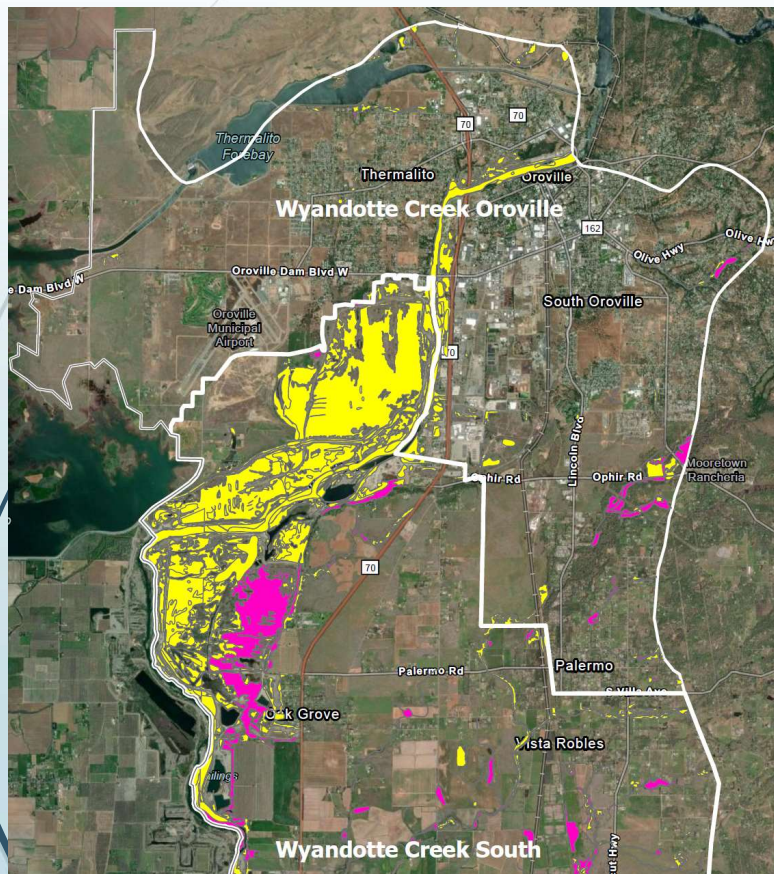
1. Definition of stream reaches and associated priority habitat.
2. Multiple streamflow measurements in each stream reach to develop a profile of streamflow at multiple time periods over at least one year.
3. Measurement of groundwater levels directly adjacent to the stream channel in the adjacent riparian zone or floodplain.
4. Measurement of groundwater levels in the first water bearing aquifer zone.
5. Measurement of groundwater levels in deeper aquifer zone.

Comments & Recommendations



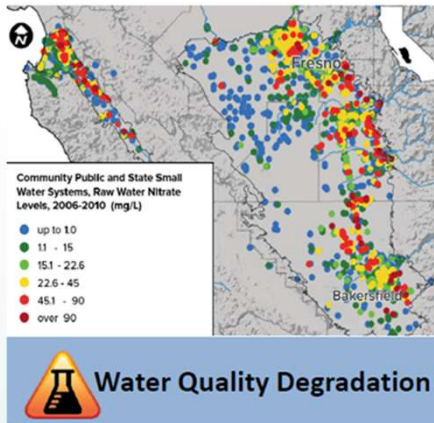
7. Groundwater Dependent Ecosystems

Comments & Recommendations



Draft Conclusions

- Likely A GDE
- Not likely a GDE



8. Degraded Water Quality

Undesirable Result
Minimum Threshold
Measurable Objective

Comments & Recommendations




Degraded Groundwater Quality	
Definition	An Undesirable Result is experienced if groundwater pumping compromises the long-term viability of rural areas and small communities, the agricultural economic base of the region, and environmental uses for suitable habitat.
Identification	This occurs in the Wyandotte Creek subbasin when two RMS wells over the entire Wyandotte Creek Subbasin exceed their MT for two consecutive non-dry years.
Minimum Thresholds	The upper Secondary Maximum Contaminant Level (1600 $\mu\text{S}/\text{cm}$) for specific conductance based on the State Secondary Drinking Water Standards.
Measurable Objectives	The recommended Secondary Maximum Contaminant Level (900 $\mu\text{S}/\text{cm}$) for specific conductance based on the State Secondary Drinking Water Standards.

8. Degraded Water Quality


Representative Monitoring Network

Comments & Recommendations



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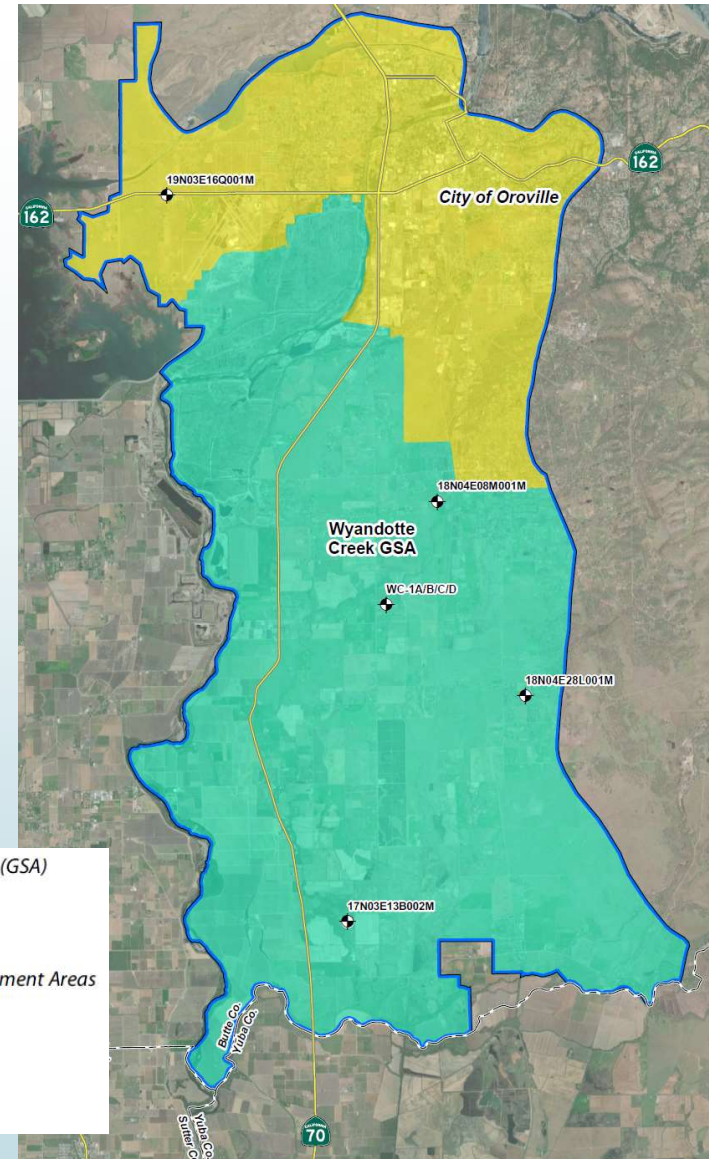
-  RMS WQ Monitoring Well
-  Highways
-  County boundaries

Groundwater Sustainability Agency (GSA)

-  Wyandotte Creek GSA

Wyandotte Creek Subbasin Management Areas

-  Oroville
-  South



8. Degraded Water Quality

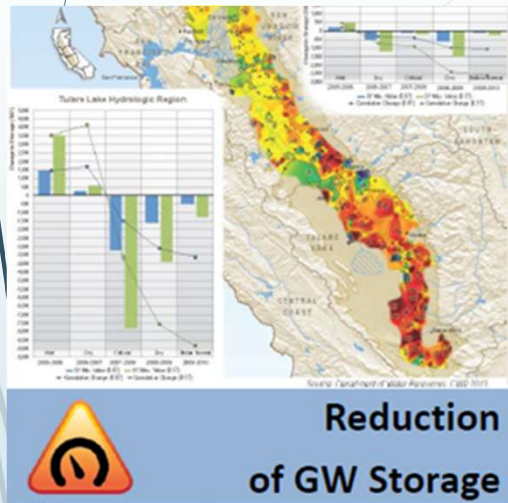
Table 3-2. Water Quality SMC by RMS in $\mu\text{S}/\text{cm}$

GSP Well ID	MT	MO	IM		
			2027	2032	2037
Wyandotte Creek Subbasin – Oroville Management Area					
16Q001M	1,600	900	900	900	900
CWS-02					
Wyandotte Creek Subbasin – South Management Area					
08M001M	1,600	900	900	900	900
WC-1A/B/C/D ¹					
28L001M ²					
13B002M					

1. New well being installed by DWR under TSS Grant
2. If access cannot be obtained for this well, new well will be obtained.

9. Groundwater Storage

Comments & Recommendations



Change in Storage	
Definition	An Undesirable Result is experienced if sustained groundwater storage volumes are insufficient to support rural areas and small communities, the agricultural economic base of the region, and environmental uses for suitable habitat.
Identification	[Same as for GWL SMC] One RMS well within the Wyandotte Creek Oroville Management Area and Two RMS wells within the Wyandotte Creek South Management Area reach their MT for two consecutive non-dry year-types.
Minimum Thresholds	15th percentile of shallowest domestic wells using refined DWR database (includes wells installed since 1980) based on the elevation of the bottom of the wells within a 3-mile radius of the RMS well.
Measurable Objectives	The groundwater level based on the groundwater trend line for the dry periods (over the period of record) of observed short-term climatic cycles extended to 2030.



Land Subsidence

10. Land Subsidence

Comments & Recommendations

Subsidence	
Definition	An Undesirable Result is experienced if groundwater pumping leads to changes in the ground surface elevation severe enough to disrupt critical infrastructure, development of projects that enhance the viability of rural areas, small communities, and the agricultural economic base of the region.
Identification	[Same as for GWL SMC] One RMS well within the Wyandotte Creek Oroville Management Area and Two RMS wells within the Wyandotte Creek South Management Area reach their MT for two consecutive non-dry year-types.
Minimum Thresholds	15th percentile of shallowest domestic wells using refined DWR database (includes wells installed since 1980) based on the elevation of the bottom of the wells within a 3-mile radius of the RMS well.
Measurable Objectives	The groundwater level based on the groundwater trend line for the dry periods (over the period of record) of observed short-term climatic cycles extended to 2030.

Wrap Up

Final Comments & Recommendations

**Public Comment Period Deadline was
Wednesday, June 30**



Lowering
GW Levels



Reduction
of Storage



Seawater
Intrusion



Degraded
Quality



Land
Subsidence



Surface Water
Depletion

Sustainability is **demonstrated** by
the avoidance of Undesirable
Results for the six sustainability
indicators

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Lowering
GW Levels



Surface Water
Depletion



Degraded
Quality



Land
Subsidence



Seawater
Intrusion



Reduction
of Storage