



SANTA ROSA PLAIN • PETALUMA VALLEY • SONOMA VALLEY

GROUNDWATER SUSTAINABILITY AGENCIES

SUSTAINABLE MANAGEMENT CRITERIA FOR
DEPLETION OF INTERCONNECTED SURFACE WATER

Current Strawman Significant and Unreasonable Statement

Significant and unreasonable depletion of surface water from interconnected streams, occurs when groundwater pumping within the Basin/Subbasin depletes streamflows below historical levels and adversely impacts the viability of GDEs or other beneficial surface water users.

Significant and Unreasonable Conditions- Initial Advisory Committee Input

- **Who/what is impacted by S&U conditions?**
 - Recreation
 - Water well levels
 - Desiccation of riparian vegetation/habitat or direct impacts to species
 - Surface water rights holders (particularly in late summer/fall)

- **What kind of impact constitutes S&U?**
 - Maintain stream flows to protect beneficial users and uses
 - Lowering of static and dynamic well-water levels could be an early warning trend
 - Any groundwater pumping activities which stop or reverse recovery of sensitive species
 - Repeated or progressive surface water depletions impacting surface water withdrawal

Advisory Committee Input (cont.)

- **Over what time period are conditions S&U?**

- Year round- there could be negative impacts in wet months due to over pumping
- Year-to-year surface water depletions can severely impact species (in addition to impacts within a single year)
- Over various water-year types- impacts are dependent on how much/how little rainfall in a given year

- **Over what geographic area are conditions evaluated?**

- Atascadero/Green Valley Creeks serve as recharge for Sebastopol-to-Graton GSA should be included
- Areas near stream channels not already encroached on/urbanized
- Critical recharge areas
- Stream courses/wetlands with high past/current saturation zones

ISW SMC Practitioner Work Group Feedback

- Remove reference to “stream flows below historical levels”; the goal is to be protective of stream levels independent of a historical baseline
- Maintain reference to historical levels; may provide reference point for long-term health of streams and potential impacts or fluctuations in groundwater usage
- “Stream flows” may be too restrictive; consider using “surface water” generally to cover groundwater impacts to wetlands as well
- Consider replacing “significant and unreasonable” with “adverse impacts to beneficial uses.”

Potential Methodology for Determining ISW SMC

Correlation Assessment of Simulated Streamflow Depletion with Groundwater Levels

- Incorporate available historical data and variety of water-year types
- Analysis of groundwater pumping effects on surface water depletion
- Use simulation analysis and historical data together to inform selection of SMCs
- Allow for any potential future instream flow requirements, etc.

Challenges:

- At majority of potential Representative Monitoring Points (RMPs), we only have one years worth of groundwater-level data
- Variable levels of correlation between simulated streamflow depletion and groundwater levels
- Potential instream flow targets not available

Strawman Methodology for Determining ISW SMC

Strawman proposal for setting "initial" SMCs while we work to build datasets and model capabilities during GSP implementation:

1. For RMPs where we have less than 5-years of data, use Fall groundwater-level contour maps of shallow aquifer system from year with greatest simulated SWD (eg, Fall 2015 for SRP) to pick MT elevations at the locations of the RMPs
2. For any RMPs with >5 years of data, use measured historical low elevations
3. For MOs, pick a year representative of lower values of SWD or set "aspirational" MO of maintaining GWLs above streambed?
4. Include a detailed plan in the GSP for how we will build our datasets and improve simulation capabilities to more fully incorporate the correlation assessment methodology we have tested.

ISW SMC Practitioner Work Group Feedback on SMC Methodology

- General support for straw methodology
- Clearly linking stream flow depletion to adverse impacts from groundwater usage is important for successful implementation of the SMC
- Thresholds should not be set to one or more severe droughts in the historical records
- Linking existing biological flow requirements to the SMC may help illustrate the importance of any actions associated with the SMC
- The SMC will require an explanation of when data gaps will be filled in during the GSP implementation process

Next Steps in Developing SMC for Depletion of Interconnected Surface Water

1. Continue developing DRAFT Significant and Unreasonable Statement
2. Complete GDE and ISW mapping
3. Further evaluate potential RMP network
4. Develop draft SMC at each proposed RMP based on potential methodology
5. Review potential methodology with work group at January 21 work group meeting