East Bay Plain Subbasin

# Groundwater Sustainability Plan Development

Stakeholder Communications & Engagement Meeting

October 20, 2021

# Agenda

- **Draft GSP Overview**
- **Schedule Update**
- **Stakeholder Comments on the Draft GSP**
- **Next Steps**

*GSP: Groundwater Sustainability Plan*

# Draft GSP Overview
## Organization

- Chapter 1: Introduction
- Chapter 2: Plan Area and Basin Setting
- Chapter 3: Sustainable Management Criteria
- Chapter 4: Projects & Management Actions to Achieve Sustainability Goal
- Chapter 5: Plan Implementation
- Appendices

Written to meet California Code of Regulations Title 23, Section 354:
https://www.waterboards.ca.gov/laws_regulations/docs/wrregs.pdf

Developed using DWR's Best Management Practices and Guidance Documents:
https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents

# Draft GSP Overview

## East Bay Plain Subbasin and Stakeholder Outreach

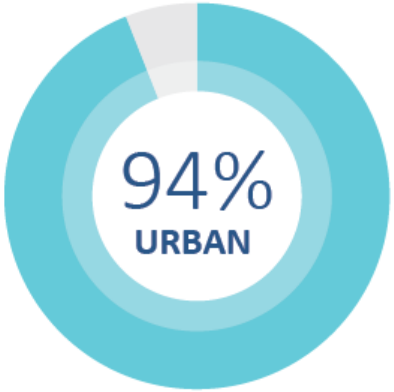


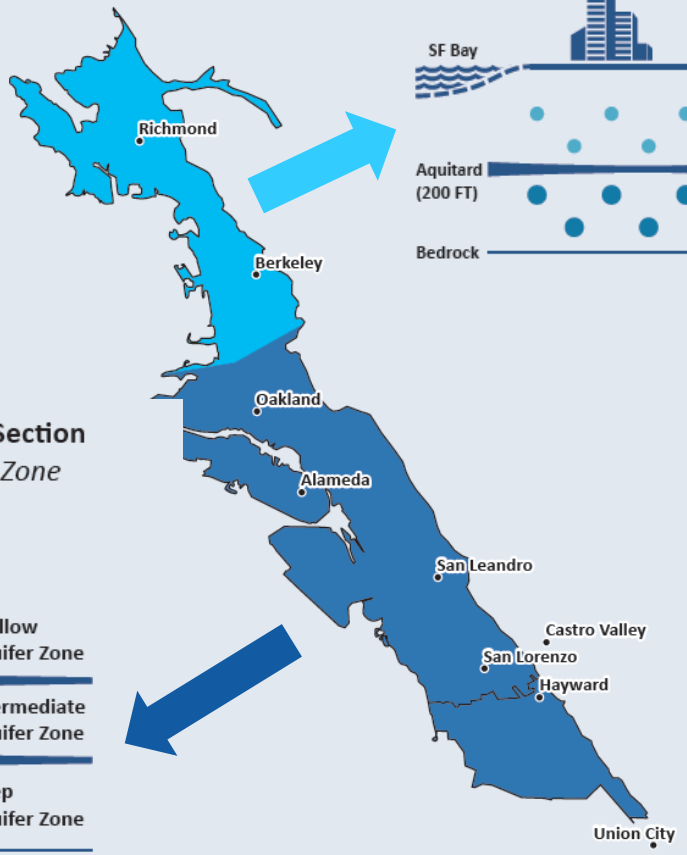
- 6 TAC meetings
- 8 General Stakeholder meetings
- 7 Interbasin Working Group meetings

# Draft GSP Overview
## Land Use & Basin Setting

**Land Use Overview**

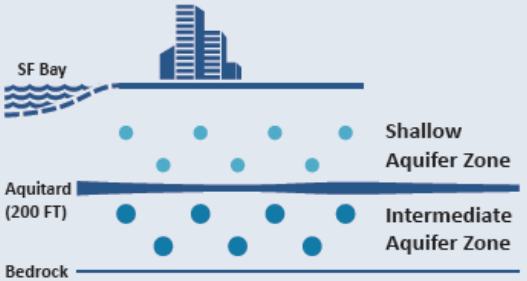
| USE TYPE | % OF EBP SUBBASIN AREA |
|---|---|
| Urban | 94% |
| Open Water | 1% |
| Barren Land | 1% |
| Vegetation | 4% |



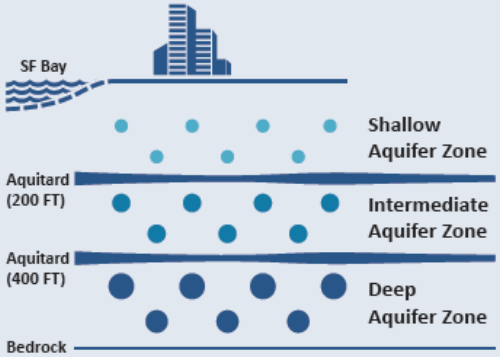

**Northern East Bay Plain Cross Section**

*Deep Aquifer Zone Not Present*




**Southern East Bay Plain Cross Section**

*General Extent of Deep Aquifer Zone*

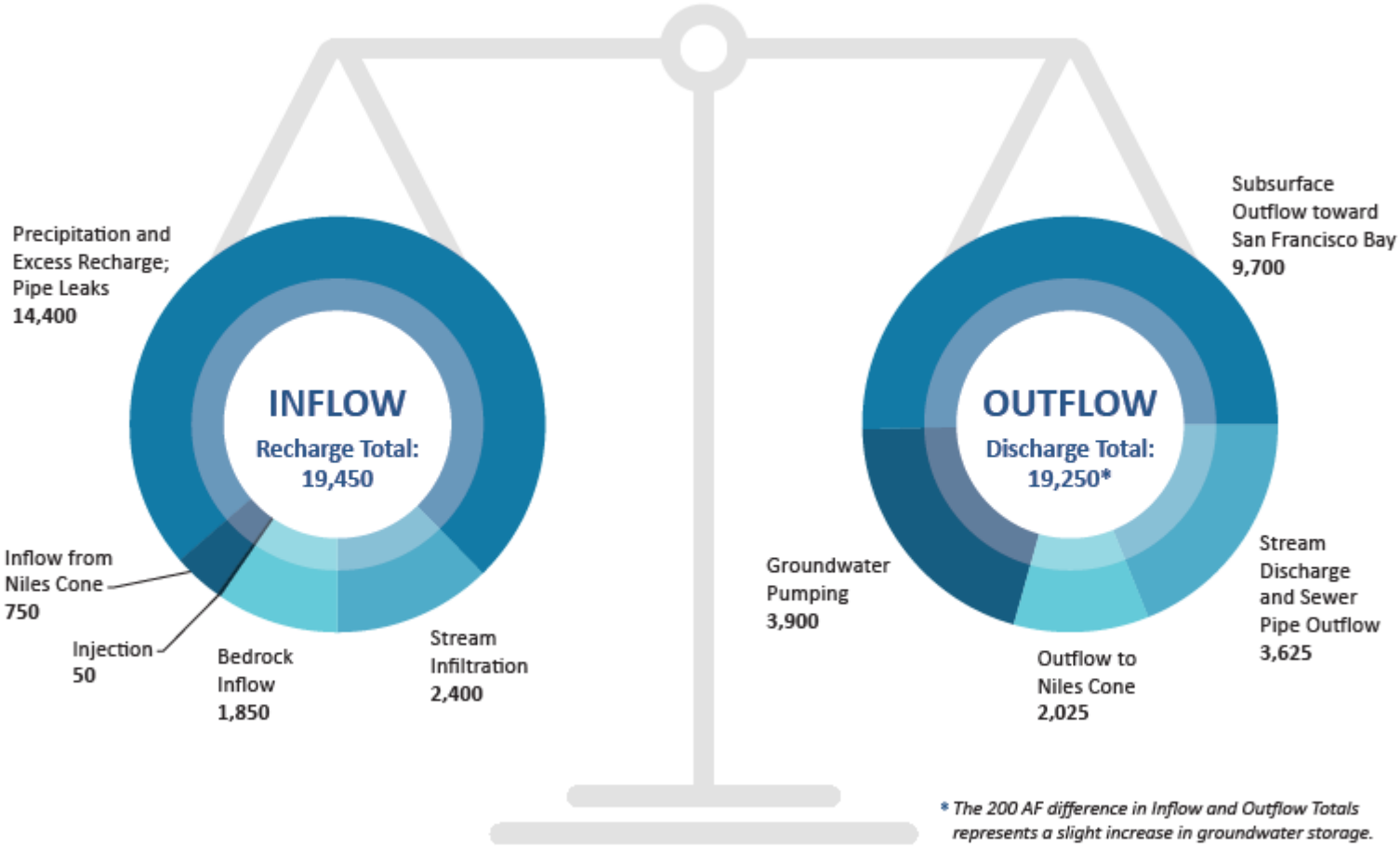



Groundwater levels are stable and the basin is sustainable

# Draft GSP Overview

## Sustainable Yield & Projected Future Water Budget

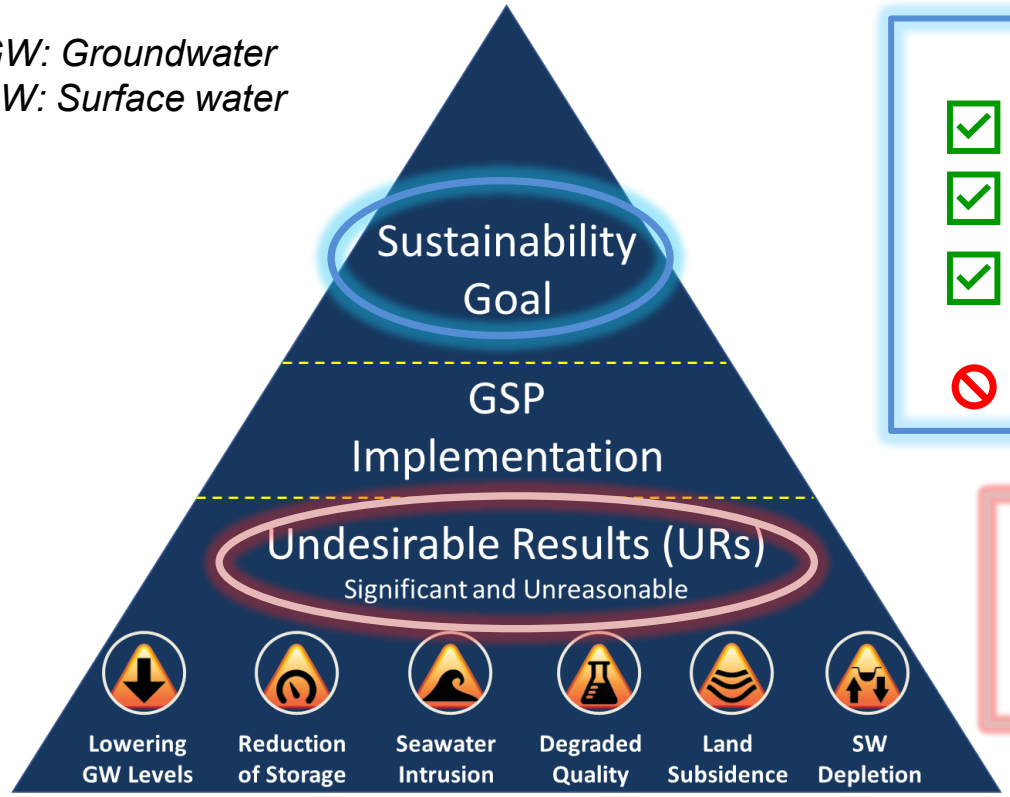
Initial Estimated Sustainable Yield = 12,500 acre-feet




AF: acre-feet

# Draft GSP Overview
## SMC Evaluation

*GW: Groundwater*
*SW: Surface water*




**Achieved in 20 years**

- ☑ Manage & protect the East Bay Plain Subbasin
- ☑ Collect data to support science-based decisions
- ☑ Evaluate new opportunities for sustainable groundwater beneficial uses
- ⊘ Avoid undesirable results

**Sustainable Management Criteria (SMC)**

Metrics defining when URs occur and when sustainability goal is maintained/ achieved

Key Takeaways

1. SGMA requires that the GSAs consider 6 sustainability indicators in the GSPs
2. Interim SMC criteria for each indicator were developed with stakeholder input and using best available science & data with the caveat that major data gaps need to be addressed

# Draft GSP Overview

## SMC Evaluation Update: Degradation of Water Quality

| Undesirable Results | Effects on beneficial users or uses | Data Gaps |
|---|---|---|
| • Significant and unreasonable degradation of GW quality caused by GSA projects and management actions | • Precludes beneficial use for drinking water | • Lack of historical water quality data to establish baseline concentrations |

**Interim Criteria for URs**

*Action Levels*

- *If concentrations > 50% of MT for a constituent with Primary MCL (nitrate and arsenic), GSA to conduct additional investigation of cause(s)*
- *If concentrations > 75% of MT for a constituent with Primary MCL, GSA acts to avoid undesirable result (if caused by GSA activity) or reports to appropriate agencies (if not caused by GSA activity)*
- 25% of Representative Monitoring Site (RMS) wells exceed MT

# Draft GSP Overview

## SMC Evaluation Update: Degradation of Water Quality

### Interim MT

- MCLs:
  Nitrate (primary) – 10 mg/L
  Arsenic (primary) – 10 ug/L
  TDS (secondary) – 500 mg/L
  Chloride (secondary) – 250 mg/L
- If baseline concentration already exceeds MCL, assign 20% increase from baseline

### Justification

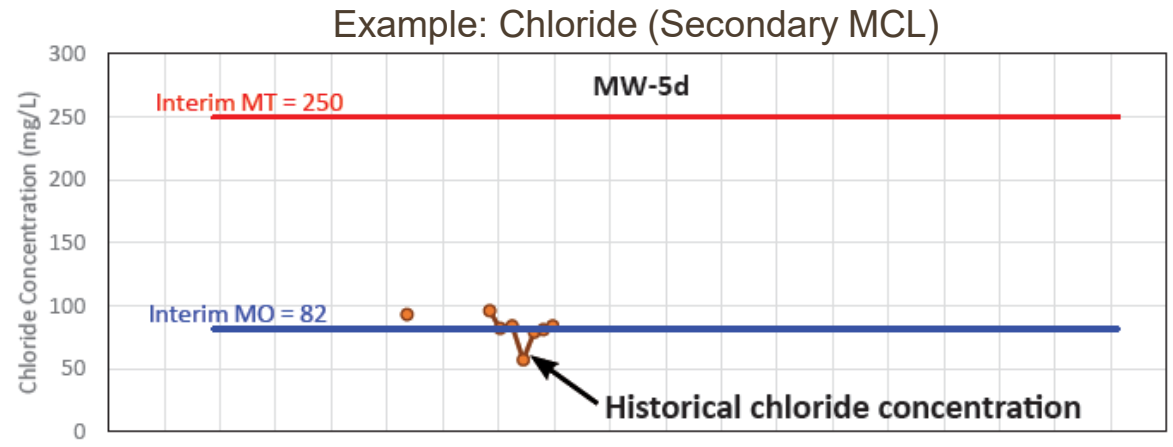
- GW quality is generally acceptable if below an established MCL
- 20% increase is based on evaluation of 3 potential sources of fluctuations:
  (1) analytical lab methods
  (2) sampling methods
  (3) variability in GW system

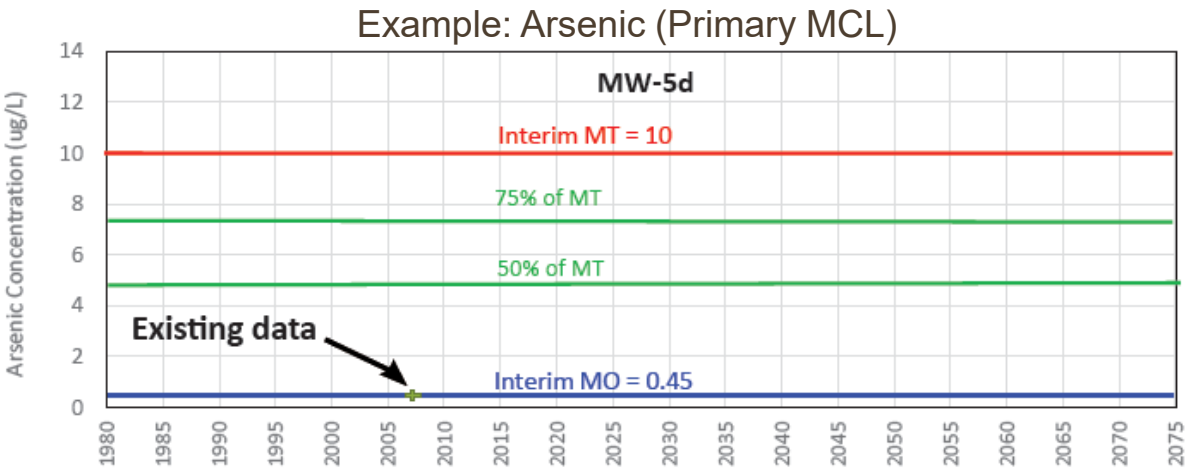
### Interim MO and IMs

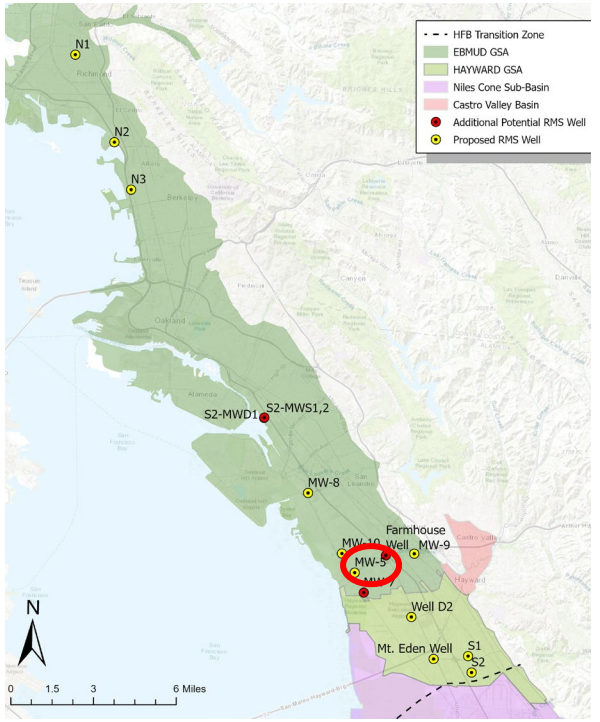
- Average baseline concentrations where data are available

# Draft GSP Overview

## SMC Evaluation Update: Degradation of Water Quality



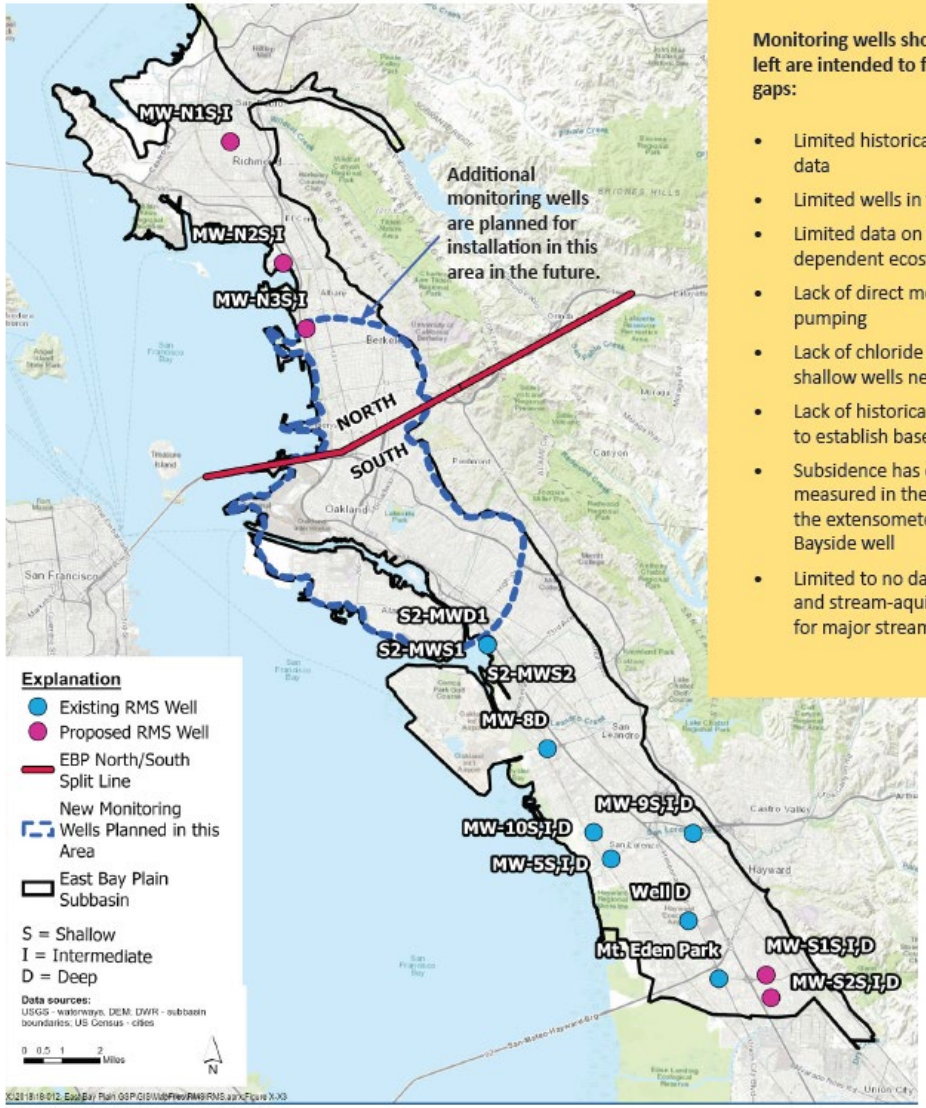




*MO = Measurable Objectives*
*MT = Minimum Threshold*
*d = Deep Aquifer Zone*

# Draft GSP Overview

## Representative Monitoring Site Wells




**Monitoring wells shown in the map at left are intended to fill the following data gaps:**

- Limited historical groundwater level data
- Limited wells in the North
- Limited data on groundwater dependent ecosystems
- Lack of direct measurements of pumping
- Lack of chloride measurements and shallow wells near Bay margin
- Lack of historical concentration data to establish baseline concentrations
- Subsidence has only been directly measured in the EBP Subbasin using the extensometers near EBMUD's Bayside well
- Limited to no data on streamflow and stream-aquifer interconnection for major streams

# Draft GSP Overview
## Monitoring Actions

### GROUNDWATER LEVEL MONITORING

### GROUNDWATER QUALITY

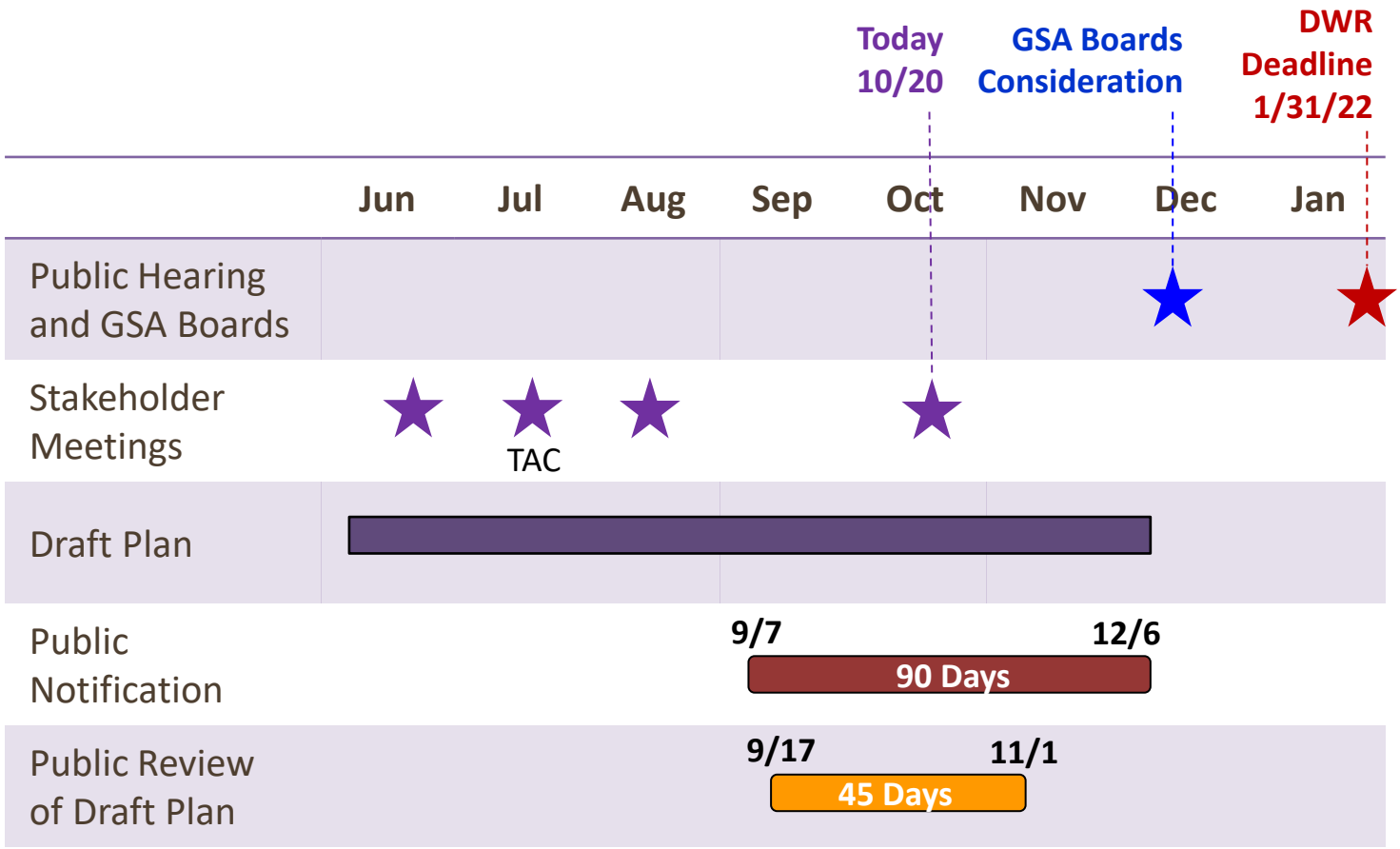
### SURFACE WATER MONITORING

### SUBSIDENCE

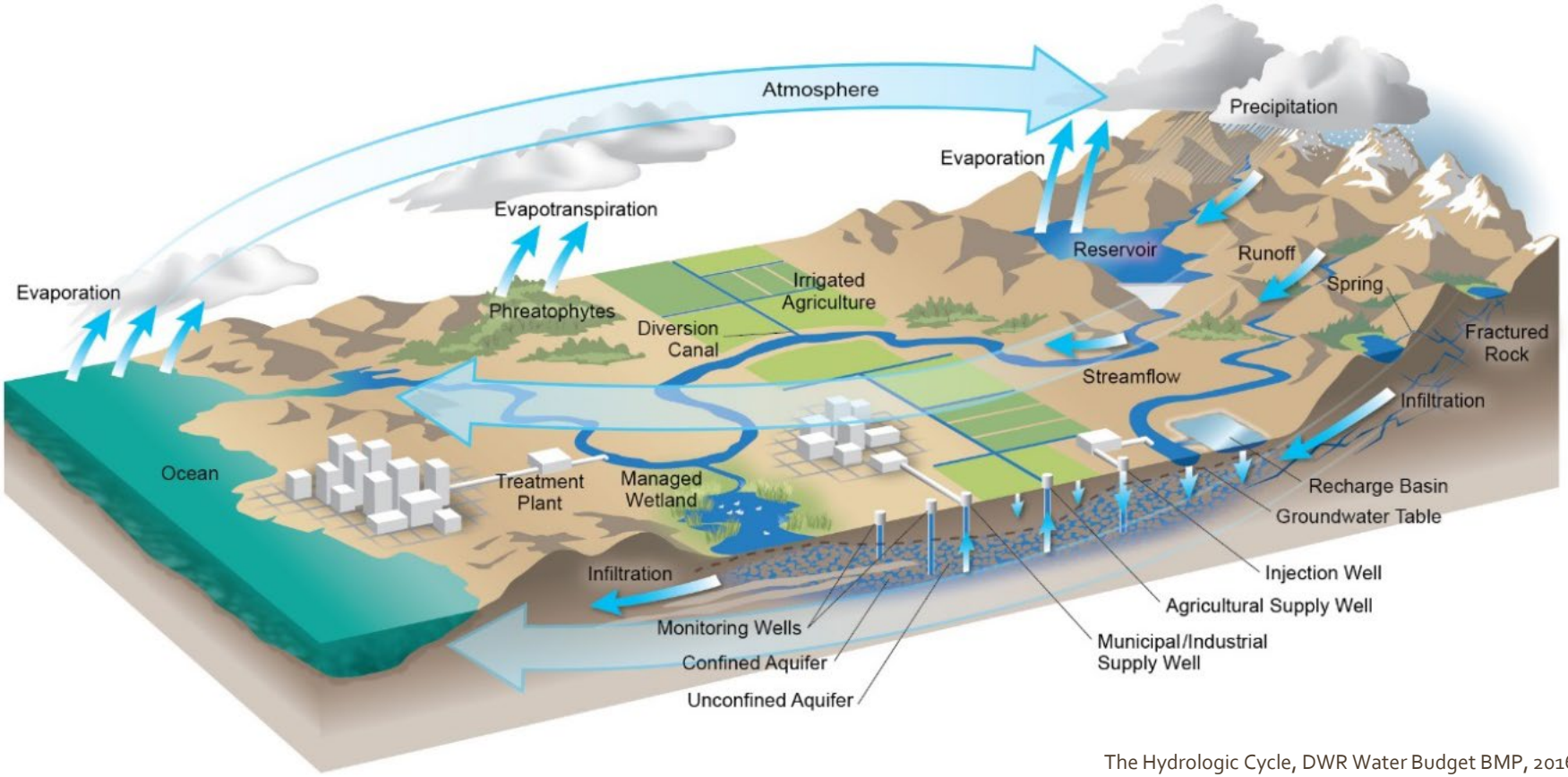
Future Informed by Science

Monitoring actions are going to fill data gaps to drive **science-based solutions** in the future.

# Schedule Update



# Stakeholder Comments




The Hydrologic Cycle, DWR Water Budget BMP, 2016

# Next Steps

- **Stakeholder comments due by November 1**
  - Complete and email the comment form available on EBMUD's and Hayward's websites
  - Email or mail a comment letter

- **GSAs to review and respond to comments**