
GSP Stakeholder Committee

Stakeholder Committee Meeting – March 25, 2019

Image courtesy: Veronica Adrover/UC Merced



Agenda

- Welcome, Introductions, and Agenda Review
- Presentation by Woodard & Curran on GSP development
 - Projects and Management Actions
 - Climate Change Uncertainty Analysis
 - Next Steps in GSP Development
 - Other Updates
- Public Outreach Update
- Interbasin Coordination Update
- Public Comment on Items not on the Agenda
- Next Steps and Next Meeting

Image courtesy: Veronica Adrover/UC Merced

Stakeholder Committee Meeting Agreements

Guidelines for successful meetings

- Civility is required.
 - Treat one another with courtesy and respect for the personal integrity, values, motivations, and intentions of each member.
 - Be honest, fair, and as candid as possible.
 - Personal attacks and stereotyping are not acceptable.
- Creativity is encouraged.
 - Think outside the box and welcome new ideas.
 - Build on the ideas of others to improve results.
 - Disagreements are problems to be solved rather than battles to be won.
- Efficiency is important.
 - Participate fully, without distractions.
 - Respect time constraints and be succinct.
 - Let one person speak at a time.
- Constructiveness is essential.
 - Take responsibility for the group as a whole and ask for what you need.
 - Enter commitments honestly, and keep them.
 - Delay will not be employed as a tactic to avoid an undesired result.

Image courtesy: Veronica Adrover/UC Merced

What are we trying to accomplish today?

- Provide input to CC on draft short list of projects for the First Iteration 2020 GSP
- Review GSP sections schedule
- Updates on status of GSP sections (incl. Undesirable Results)

Image courtesy: Veronica Adrover/UC Merced



Projects and Management Actions

Image courtesy: Veronica Adrover/UC Merced



Conceptual GSP Implementation Timeline

Implementation will be phased over 20 years, with 5-yr updates.

| 2020 | 2025 | 2030 | 2035 | 2040 |
|---|---|--|---|------|
| Monitoring and Reporting <ul style="list-style-type: none"> • Establish Monitoring Network • Install New Wells • Develop Metering Program • Extensive public outreach • Funded and smaller projects implemented | Preparation for Allocations and Low Capital Outlay Projects <ul style="list-style-type: none"> • GSAs conduct 5-year evaluation/update • Planning/ Design/ Construction for small to medium sized projects • Monitoring and reporting continues • Metering program continues • Outreach continues | Prepare for Sustainability <ul style="list-style-type: none"> • GSAs conduct 5-year evaluation/update • Planning/ Design/ Construction for larger projects begins • Monitoring and reporting continues • Outreach continues • Allocation program begins phase-in | Implement Sustainable Operations <ul style="list-style-type: none"> • GSAs conduct 5-year evaluation/update • Project implementation completed • Allocations fully implemented/enforced | |

Projects & Management Actions:

Working list of 50 projects by GSA

| Benefiting GSA* | Number of Projects on List | Project Types |
|---|----------------------------|--|
| Merced Subbasin GSA (MSGSA) | 15 | Flood Control, Conveyance, Storage, Recharge, Monitoring, Regulatory |
| Merced Irrigation-Urban GSA (MIUGSA) | 21 | Conveyance, Recharge, Conservation, Monitoring, Storage, Channel Improvement, Flood Control, System Upgrades, Data Modeling, Water Quality, Recycled Water, Water Exchange |
| Turner Island Water District GSA1 (TIWD) | 2 | Storage, Recharge |
| Combined MIUGSA & MSGSA | 6 | Recharge, Flood Control, Storage, Conveyance |
| Basinwide Benefit (all GSAs) | 6 | Data Modeling, Conservation, Conveyance, Water Quality, Recharge |

*Project beneficiaries to be determined as GSP moves forward. These GSA assignments are preliminary and based on project sponsor and available information to date.



Projects & Management Actions:

- 50 projects in draft list total = need to create short list
- Priorities identified from past meetings used as filter for short list include:
 - Project addresses DACs
 - Project addresses white areas
 - Project identified as priority project by GSA
 - Project focuses on recharge
 - Project focuses on conveyance
 - Project to be implemented within first 5 years (esp. monitoring)
 - Project is beyond planning phase
 - Project already has funding
- Projects that achieve **1 of these priorities = 41 projects**
- Projects that achieve **at least 2 of these priorities = 19 projects**

Projects & Management Actions: Draft Projects List Handout

- Handout contains:
 - Adjusted shortlist of priority projects
 - List of projects to be kept in running potential future projects list
- Updates to list since last meeting:
 - Existing known priorities used as filter for shortlist
 - Submitting entity for IRWMP projects identified
 - However, still limited information available for many projects
- Request to group: further input to assist in project prioritization for GSP

Image courtesy: Veronica Adrover/UC Merced

Projects & Management Actions:

Breakdown of current draft short list by GSA below. Contains 19 projects that meet at least 2 of the current list of priorities.

| Benefiting GSA* | Number of Projects on List | Project Types Addressed |
|--|----------------------------|--|
| Merced Subbasin GSA (MSGSA) | 8 | Recharge, Storage, Conveyance |
| Merced Irrigation-Urban GSA (MIUGSA) | 2 | Recharge, Monitoring, Conservation, Conveyance |
| Turner Island Water District GSA1 (TIWD) | 1 | Recharge |
| Combined MIUGSA & MSGSA | 2 | Recharge, Flood Control |
| Basinwide Benefit (all GSAs) | 6 | Data Modeling, Conservation, Conveyance, Water Quality, Recharge |

*Project beneficiaries to be determined as GSP moves forward. These GSA assignments are preliminary and based on project sponsor and available information to date.

Projects & Management Actions: Categories in Current Short List

Number of Projects that Address Each Category

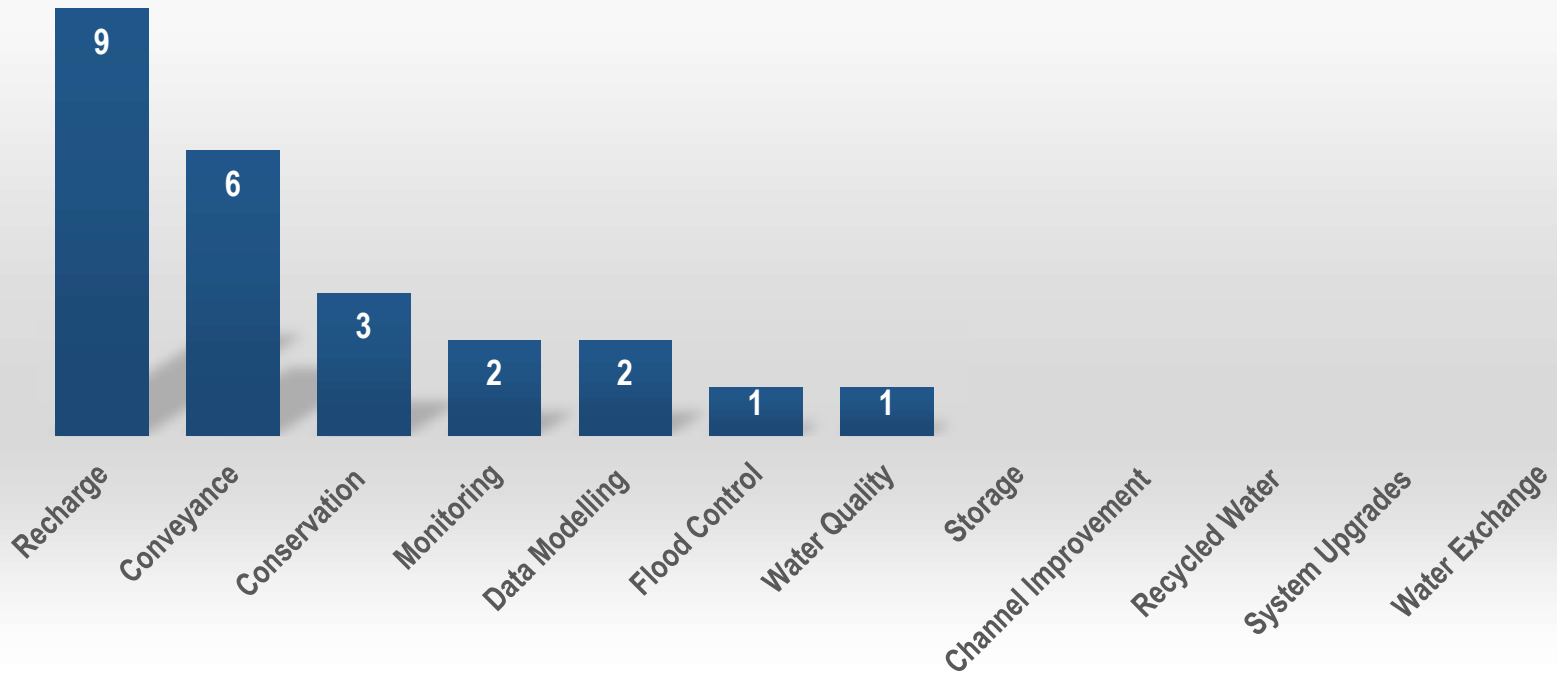


Image courtesy: Veronica Adrover/UC Merced

Discussion:

Projects List for Merced Subbasin GSP

- Are there other priorities that should be used to filter short listed projects?
- What projects, programs, or actions are currently not on the short list but should be?
- Are there other projects that should be included in the general running list of potential projects?

Image courtesy: Veronica Adrover/UC Merced



Climate Change Uncertainty Analysis

Image courtesy: Veronica Adrover/UC Merced



Climate Change Uncertainty Analysis:

GSPs must consider Uncertainty related to Climate Change

Regulatory Background:

SGMA requires taking into consideration uncertainties associated with climate change and sea level rise in the development of GSPs

Image courtesy: Veronica Adrover/UC Merced



Climate Change Uncertainty Analysis:

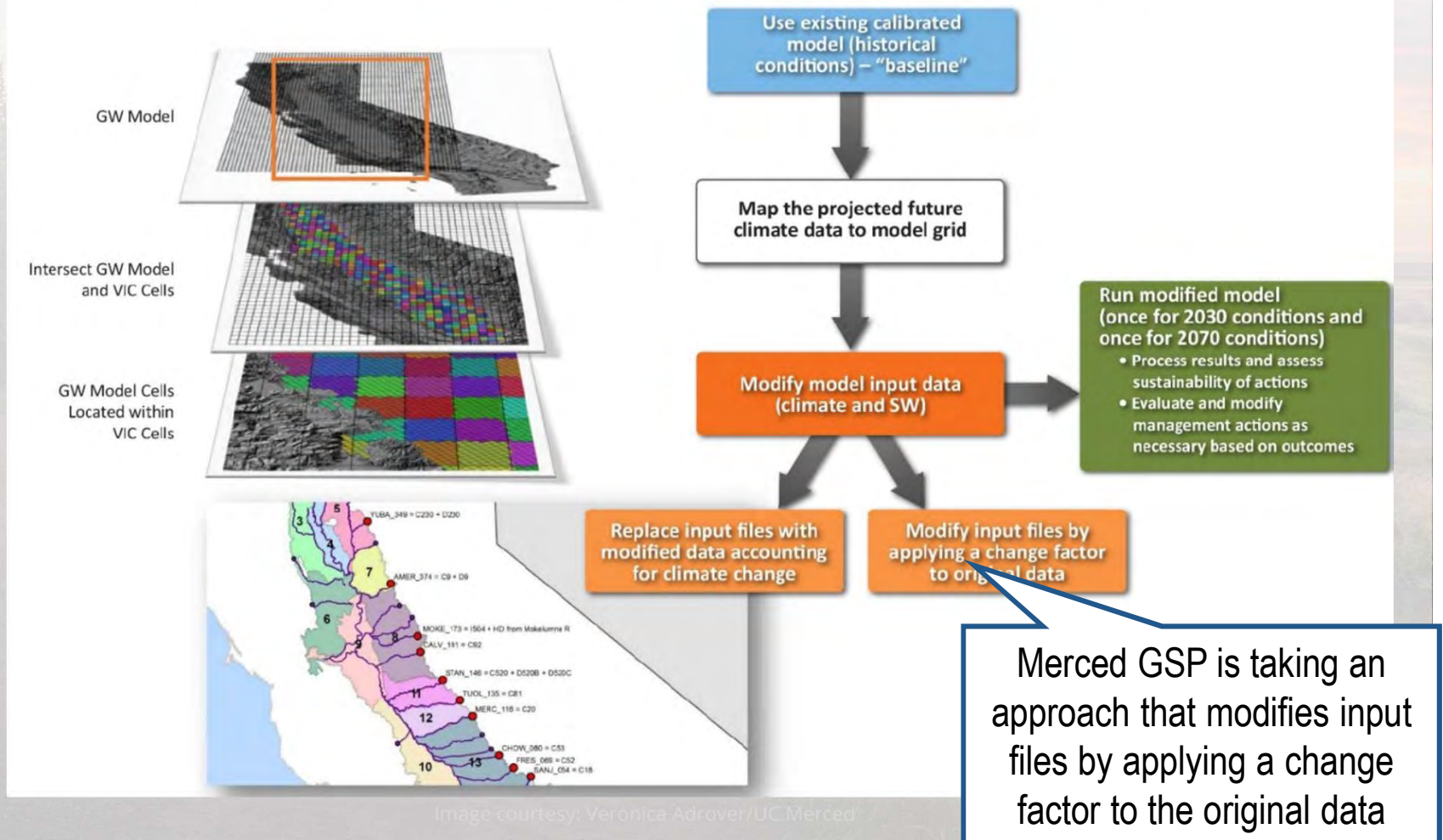
DWR has provided Climate Change Data and Guidance

DWR-provided climate change data are based on the California Water Commission's Water Storage Investment Program (WSIP) climate change analysis results. The climate change data from DWR can help GSAs with assessing uncertainty in long-term water budgets

Image courtesy: Veronica Adrover/UC Merced

Climate Change Uncertainty Analysis: Approach for Merced GSP Consistent with DWR Approach

Groundwater Model Components to Modify for Future Climate Change-Based Projections



Source: DWR Resource Guide, Climate Change Data and Guidance, July 2018

Climate Change Uncertainty Analysis: Overview of Merced GSP Approach

- Projected Baseline and Sustainability Analysis without Climate Change Uncertainty
 - Includes variability in:
 - Long-term and seasonal hydrology
 - Agricultural land use and level of development
 - Population, urban growth, and urban water use conditions
 - Water Supply conditions and availability
 - This is the work conducted to-date and presented in the Water Budget Memo
- Projected Baseline with Climate Change Uncertainty
 - Modified Precipitation
 - Modified Crop ETa
 - Modified New Exchequer Releases
 - Modified Main Canal Deliveries
- Projected Sustainable Yield Analysis
 - Characterize uncertainty of Sustainable Yield due to climate change

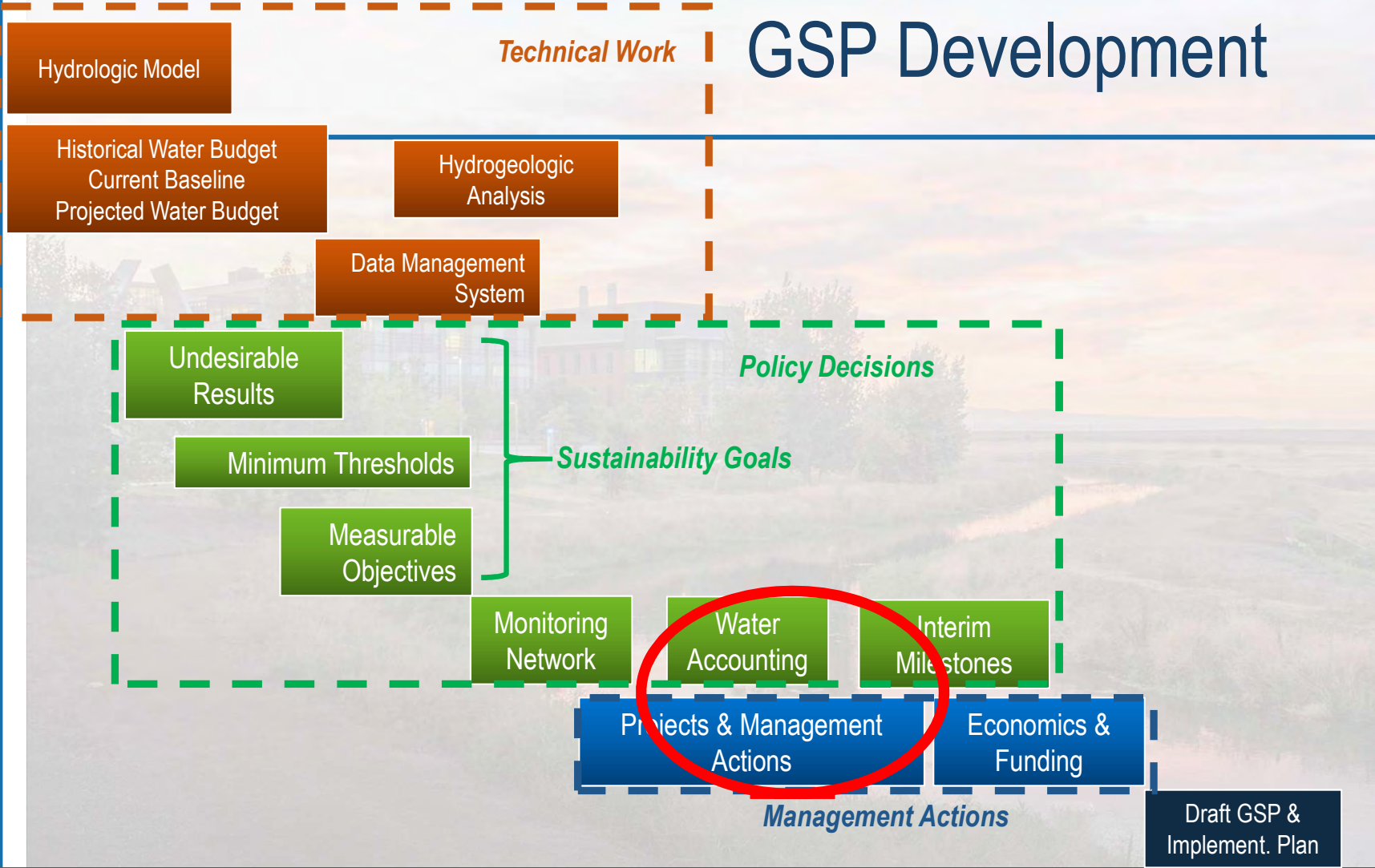


Next Steps in GSP Development

Image courtesy: Veronica Adrover/UC Merced



GSP Development



Jun 2018 Jul 2018 Aug 2018 Sep 2018 Oct 2018 Nov 2018 Dec 2018 Jan 2019 Feb 2019 Mar 2019 Apr 2019 May 2019 Jun 2019 Jul 2019

Image courtesy: Veronica Adrover/UC Merced



GSP Development: Sections Review Schedule

| # | Section | Admin Review Draft Sent Out | Deadline for Consolidated Comments (2 wks) | SC and CC Review Period | Relevant Mtg for Discussion | Final Public Draft Deadline (June mtg on 6/24) |
|-----|---|-----------------------------|--|-------------------------|-----------------------------|--|
| 1 | Plan Area and Authority | 29-Jun-18 | 20-Jul-18 | N/A | | 24-Jun-2019 |
| 2 | Basin Setting | (in sections, see below) | | | | 24-Jun-2019 |
| 2.1 | <i>Hydrogeologic Conceptual Model</i> | 6-Nov-18 | 30-Nov-18 | N/A | | |
| 2.2 | <i>Current and Historical Groundwater Conditions</i> | 15-Mar-19 | 29-Mar-19 | 15-Apr - 29-Apr-19 | 22-Apr-19 | |
| 2.3 | <i>Water Budget Information</i> | 5-Mar-19 | 19-Mar-19 | 26-Mar - 9-Apr-19 | | |
| 2.4 | <i>Climate Change Analysis</i> | 22-Apr-19 | 6-May-19 | 13-May - 27-May-19 | 27-May-19 | |
| 3 | Sustainable Management Criteria | 15-Apr-19 | 29-Apr-19 | 6-May - 20-May-19 | 22-Apr-19 | 24-Jun-2019 |
| 4 | DMS | 15-Mar-19 | 29-Mar-19 | 15-Apr - 29-Apr-19 | 22-Apr-19 | 24-Jun-2019 |
| 5 | Water Allocation Framework | 29-Apr-19 | 13-May-19 | 27-May - 10-Jun-19 | 24-Jun-19 | 24-Jun-2019 |
| 6 | Projects and Management Actions to Achieve Sustainability Goal | 15-Apr-19 | 29-Apr-19 | 6-May - 20-May-19 | 27-May-19 | 24-Jun-2019 |
| 7 | Plan Implementation | 6-May-19 | 20-May-19 | 27-May - 10-Jun-19 | 24-Jun-19 | 24-Jun-2019 |

Image courtesy: Veronica Adrover/UC Merced



Other Updates

Image courtesy: Veronica Adrover/UC Merced



Undesirable Results Definition

- “Significant and Unreasonable” negative impacts that can occur for each Sustainability Indicator
- Conditions that we do not want to occur
- Used to guide and justify GSP components
 - Monitoring Network
 - Minimum Threshold
 - Projects and Management Actions

Merced GSP Sustainability Goal

The sustainability goal for the Merced Subbasin is *to achieve sustainable groundwater management on a long-term average basis by increasing recharge and/or reducing groundwater pumping, while avoiding undesirable results.*

Image courtesy: Veronica Adrover/UC Merced

Undesirable Results

- Chronic lowering of groundwater levels
 - Unusable and stranded groundwater extraction infrastructure
 - Reduced groundwater production
 - Increased pumping costs due to greater lift and deeper installation or construction of new wells
 - Shallow domestic wells going dry
- Reduction of groundwater storage
 - Not present and not likely to occur (Cumulative change in storage currently is ~0.3% per year; not reasonable to expect available gw storage would be exhausted to a significant and unreasonable extent within any foreseeable time period.)
- Seawater intrusion
 - Not present and not likely to occur (salinity being addressed as a minimum threshold under “degraded water quality”)

Image courtesy: Veronica Adrover/UC Merced

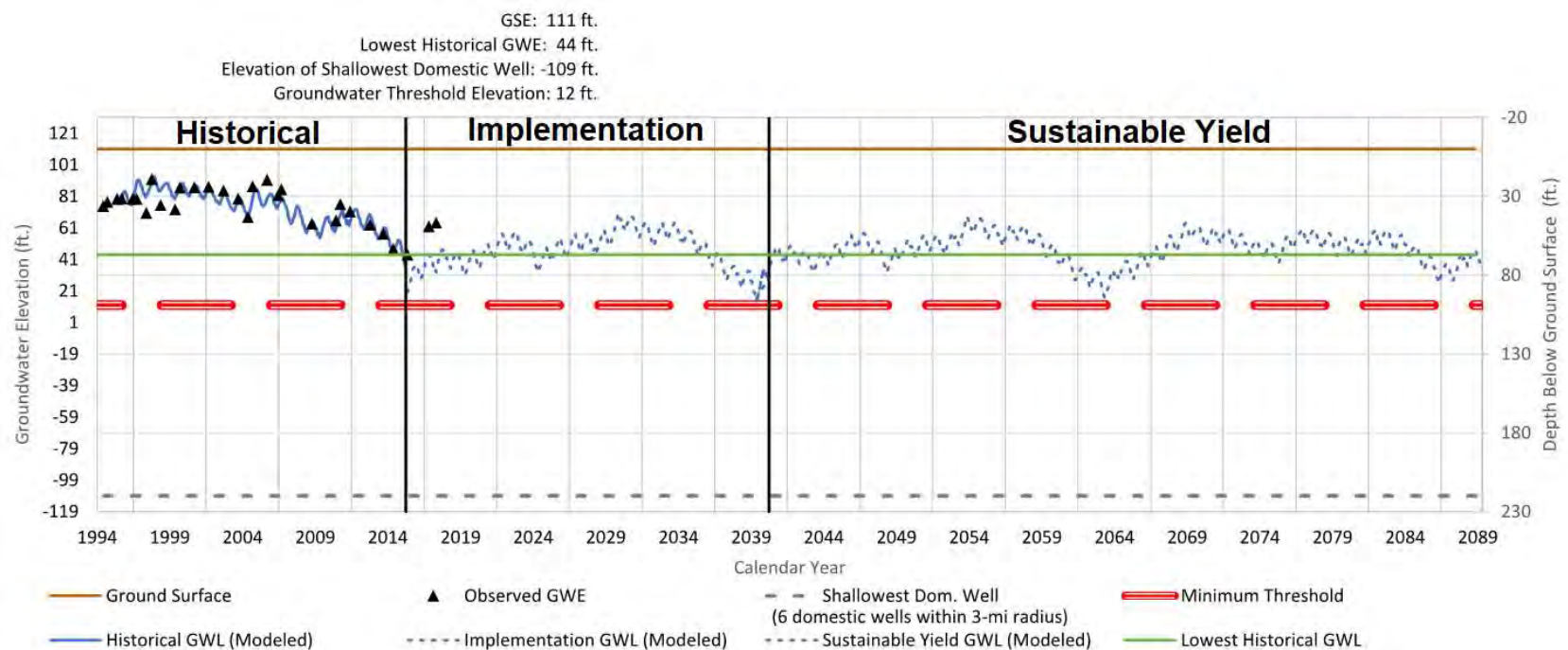
Undesirable Results (cont.)

- Degraded water quality
 - Causal nexus between groundwater extractions and groundwater quality that causes significant and unreasonable reduction in the long-term viability of domestic, agricultural, municipal, or environmental uses
- Land Subsidence
 - Reduction in the viability of the use of infrastructure (e.g., roads and highways, flood control, canals, pipelines, utilities, public buildings, residential and commercial structures)
 - (note – measurable threshold to be based on groundwater levels)
- Depletions of interconnected surface water
 - Effects on operations of upstream reservoirs and/or reduction in the viability of agricultural, fishery, riparian habitat or recreational uses
 - (note – measurable threshold to be based on groundwater levels)

Image courtesy: Veronica Adrover/UC Merced

Next steps on Undesirable Results under Sustainable Yield Scenario

- Generate hydrographs of sustainable yield scenario for monitoring locations
- Compare water level under sustainable yield to draft minimum threshold
- Define undesirable results in terms of minimum threshold for exceedance





Public Outreach Update

Image courtesy: Veronica Adrover/UC Merced



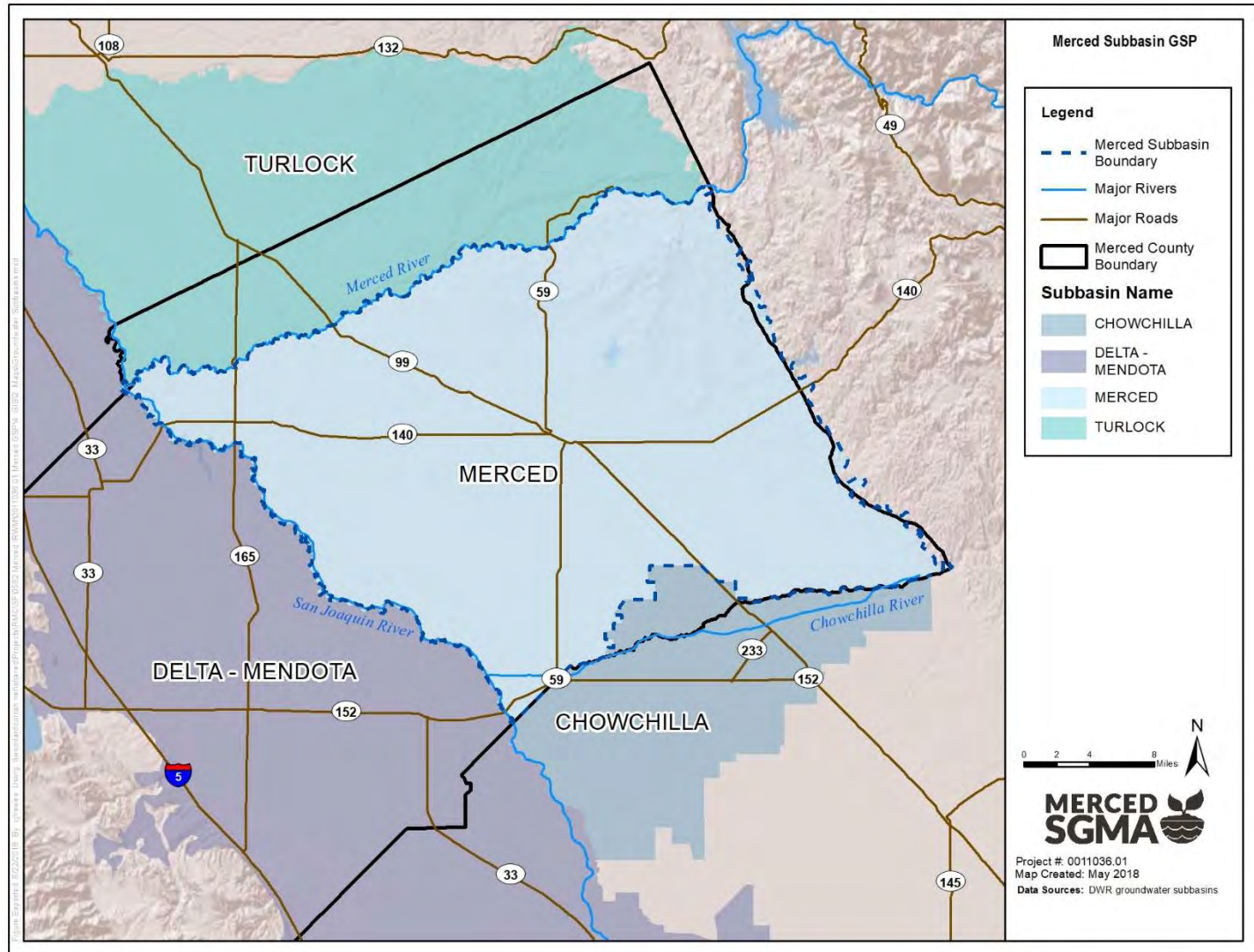


Coordination With Neighboring Basins Update

Image courtesy: Veronica Adrover/UC Merced



Coordination with Neighboring Basins





Questions/Comments from Public

Image courtesy: Veronica Adrover/UC Merced





Next Steps

Image courtesy: Veronica Adrover/UC Merced



What's coming up next?

- GSP Development Items:
 - Complete climate change uncertainty analysis
 - Begin addressing implementation
- Focus for April meeting
 - Minimum Thresholds and Measurable Objectives
 - Implementation planning
- Adjourn to next meeting: April 22nd, 9:30 AM at Castle Conference Center

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