GSP Stakeholder Committee

Stakeholder Committee Meeting – July 23, 2018

Image courtesy: Veronica Adrover/UC Merced

MERCED SGMA

Agenda

- Welcome, Introductions, and Agenda Review
- Merced Subbasin Water Resources Model and Water Budget
  - Baseline overview
  - Current status
- Undesirable Results
  - SGMA requirements and guidelines
  - Merced subbasin conditions
  - Discussion
- Stakeholder Outreach and Engagement Strategy
  - Initial public meeting – August 2, 6:00pm to 8:30pm
- Interbasin Coordination Update
- Public Comment on Items not on the Agenda
- Next Steps and Next Meeting

MERCED SGMA

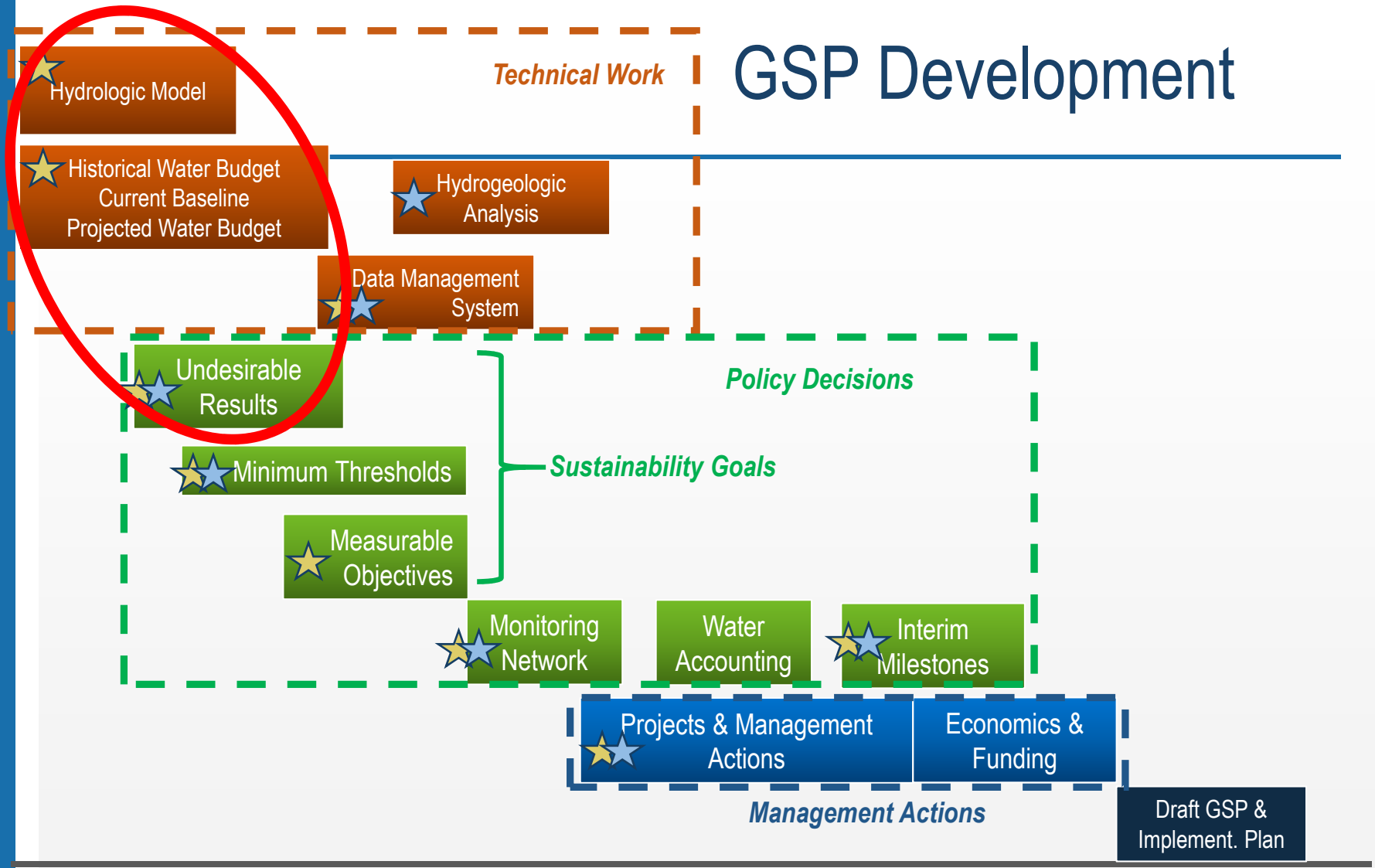
Stakeholder Committee Meeting Agreements

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.

MERCED SGMA

GSP Development



MERCED SGMA

Merced Subbasin Water Resources Model and Water Budget

Image courtesy: Veronica Adrover/UC Merced

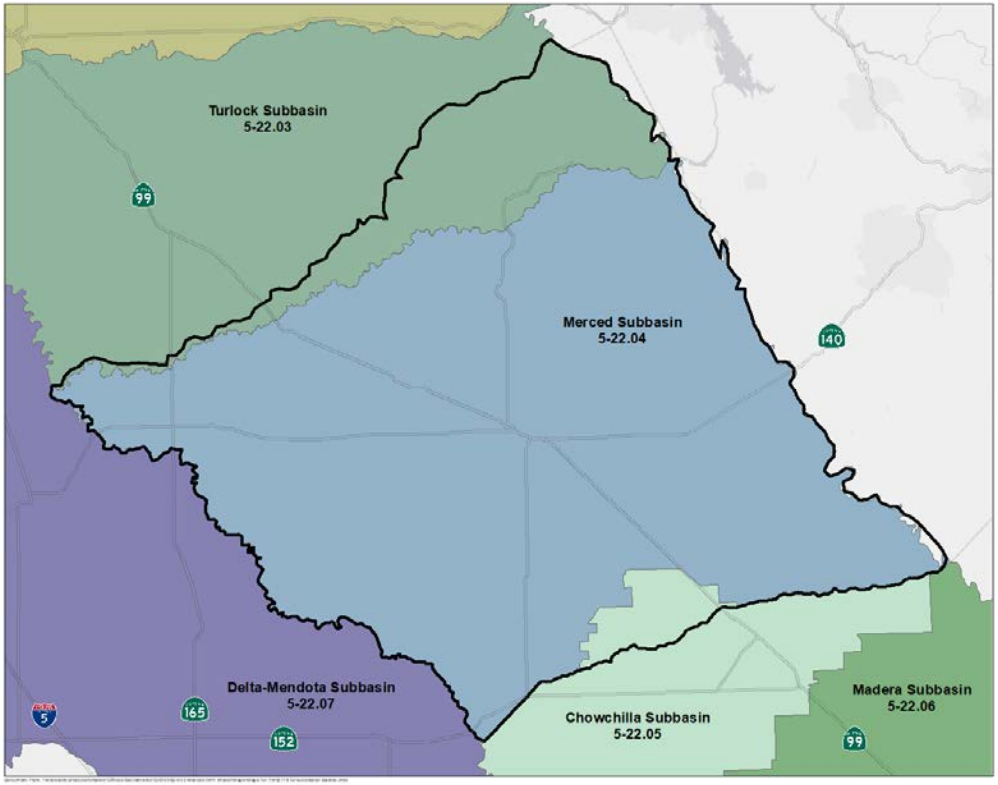
MERCED SGMA

MercedWRM Model Development

- Development through local and DWR funding
- Input data collected and used
- Model calibration efforts completed
- Water quality model efforts in progress (MercedWQM)

MercedWRM Intended Uses

- Basin Characteristics
  - Natural Conditions
  - Stream-Aquifer Interaction
  - Land Subsidence
  - Water Quality
- SGMA Support
  - Groundwater Sustainability
  - Groundwater Banking
  - Water Availability
  - Project Beneficiary Assessment

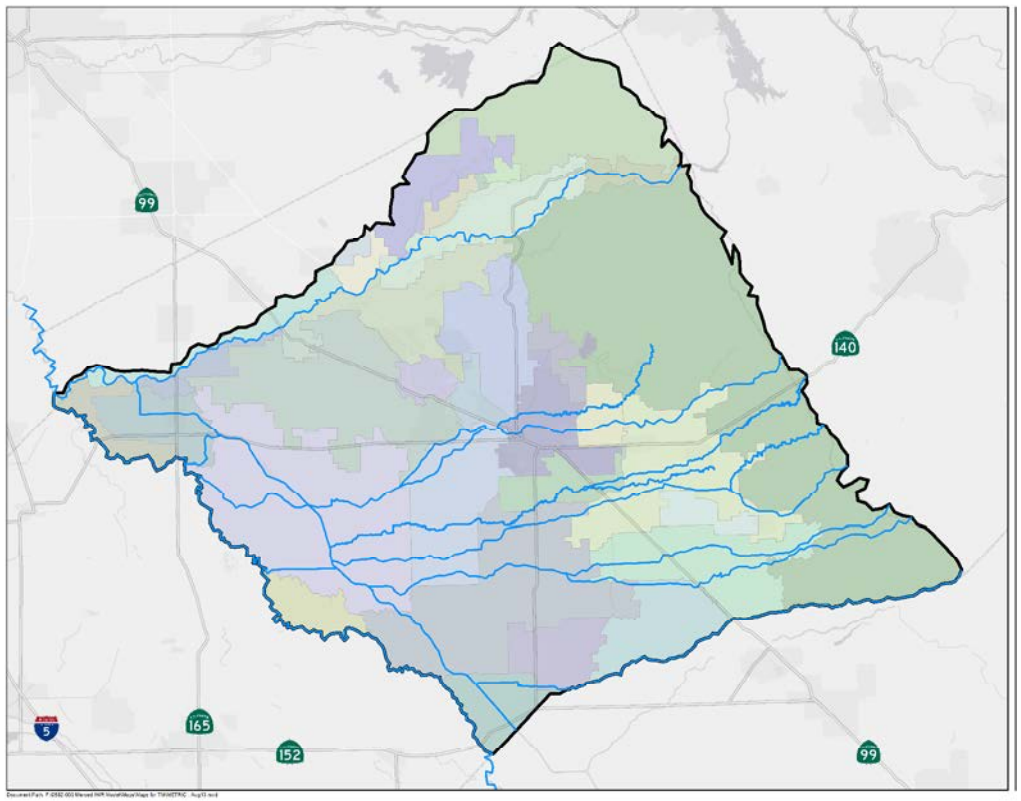


MERCED SGMA

Model Grid

Grid Criteria

- Bulletin 118 (2003) Groundwater Basin Boundaries
- Agency Boundaries
- Stream Flow Operational Boundaries
- Lines
- Major Conveyance Features
- Unincorporated Land Use
- Topography/Drainage
- 5-Mile Boundary Buffer

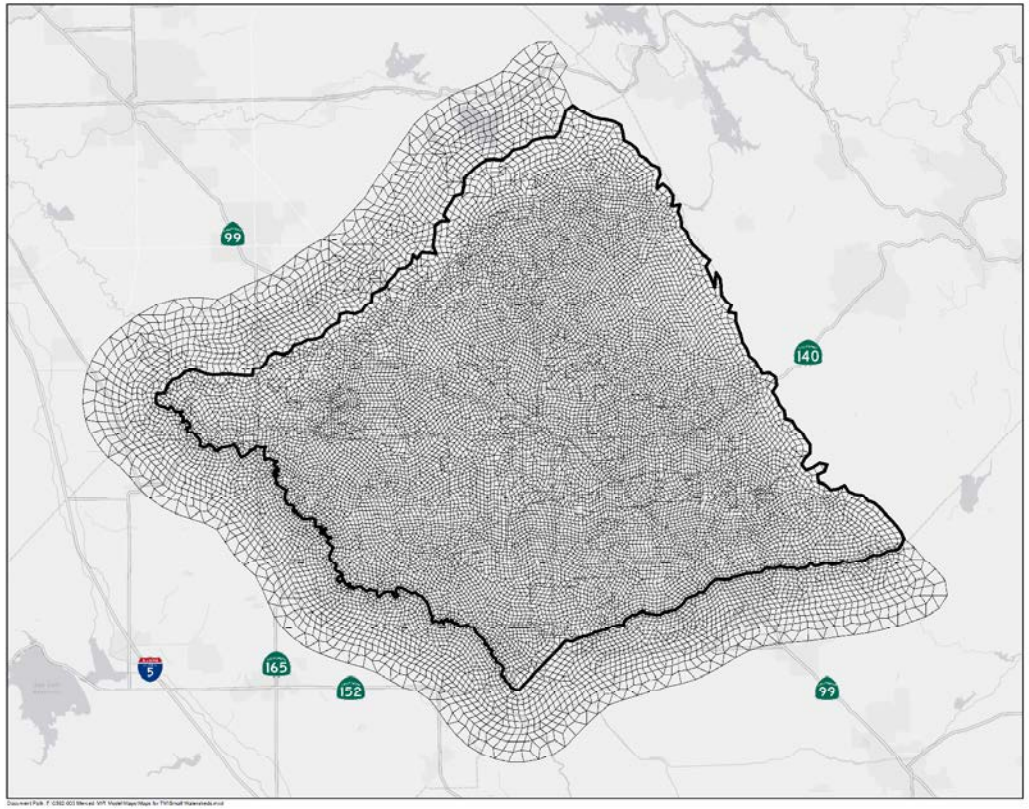


MERCED SGMA

Model Grid

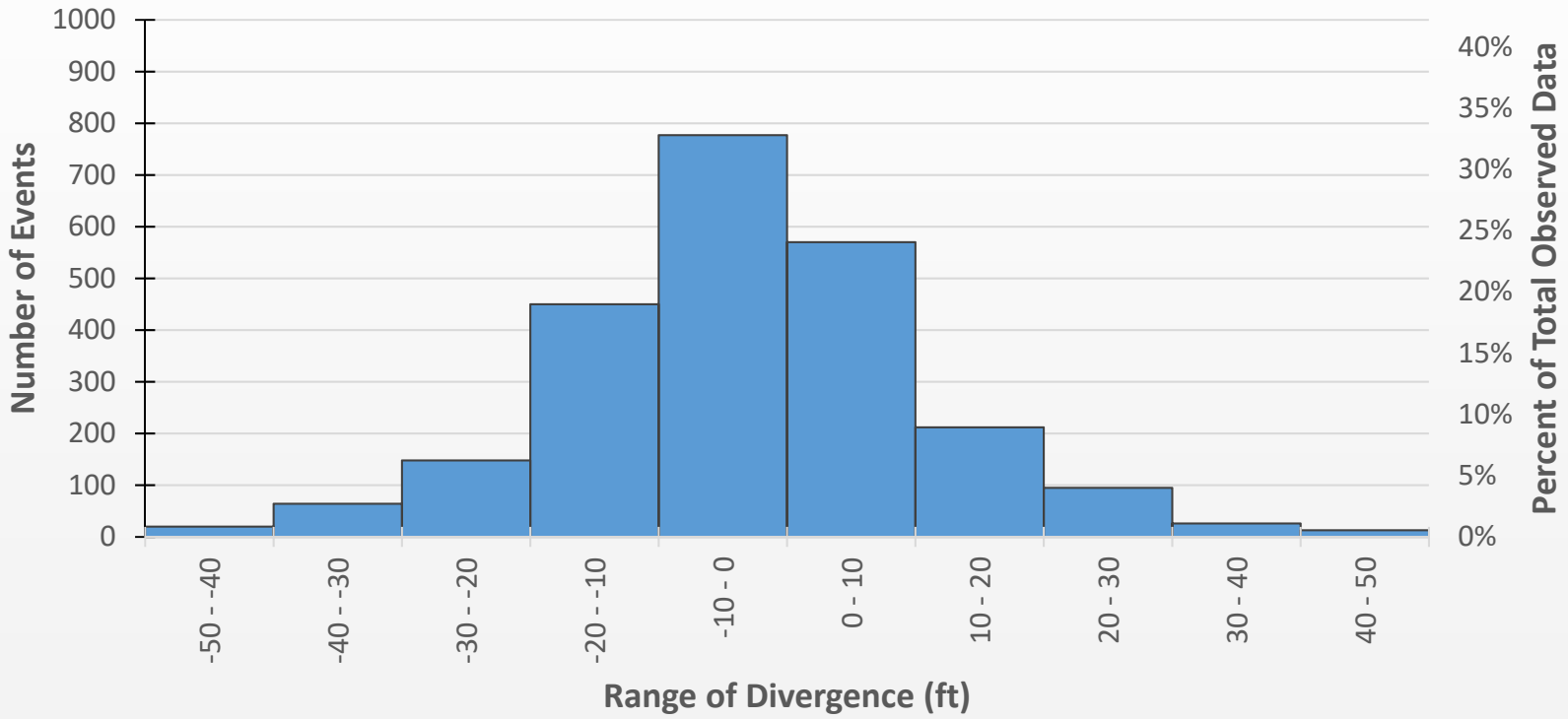
Grid Statistics

- 607,000 Total Acres
- 71 Stream Reaches
- 37 Subregions
- 17,696 Nodes
  - Stream Lines
  - Agency Boundaries
  - ¼ Mile Discretization
- 19,563 Elements
  - Average Size = 24 Acres

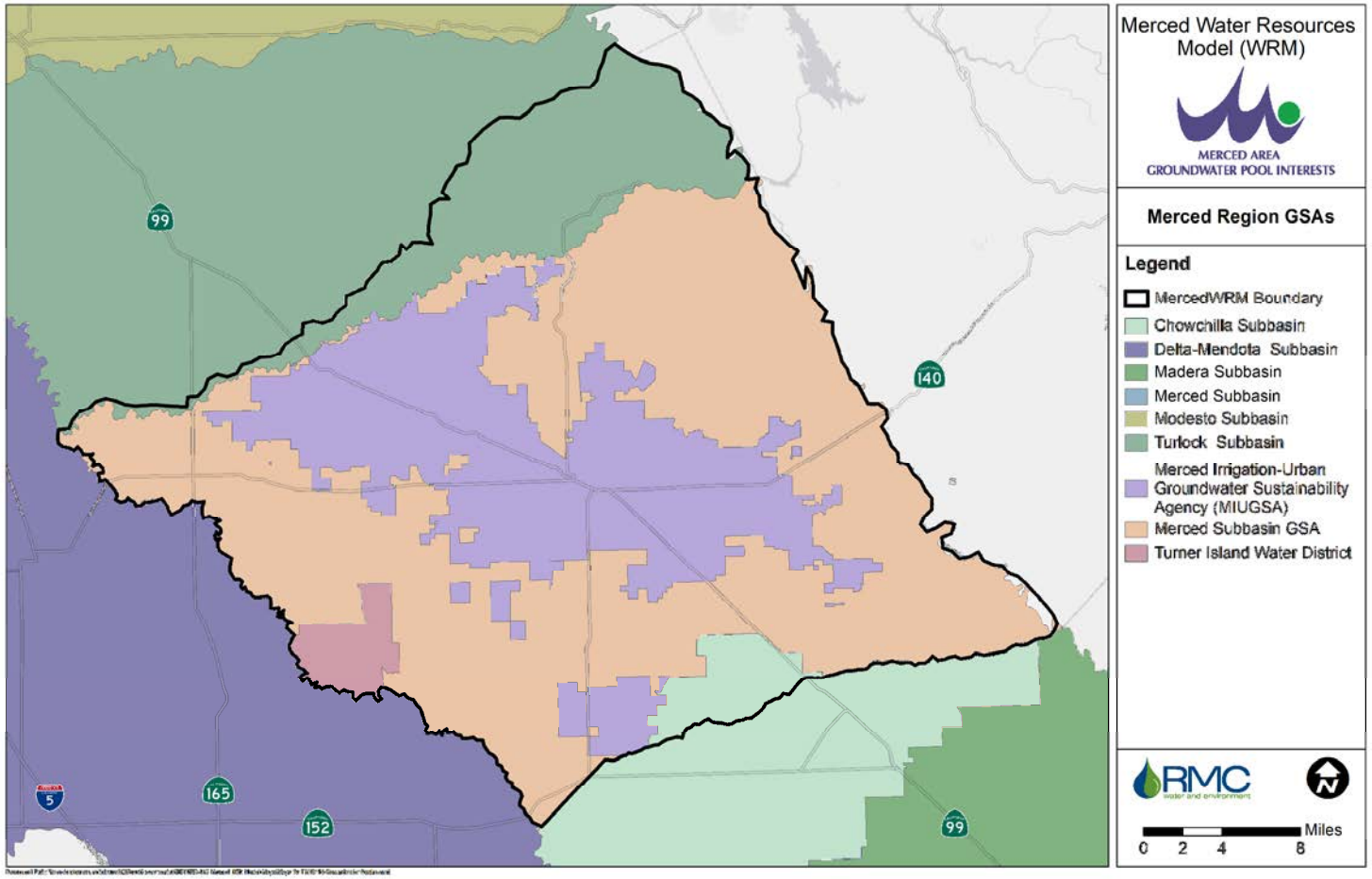


MERCED SGMA

Model Calibration: Statistics



GSA Water Budgets



MERCED SGMA

Water Budget: Defining Time Frames

Historical Water Budget

Uses historical information for hydrology, precipitation, water year type, water supply and demand, and land use going back a minimum of 10 years.

Current Conditions Baseline

Holds constant the most recent or "current" data on population, land use, year type, water supply and demand, and hydrologic conditions.

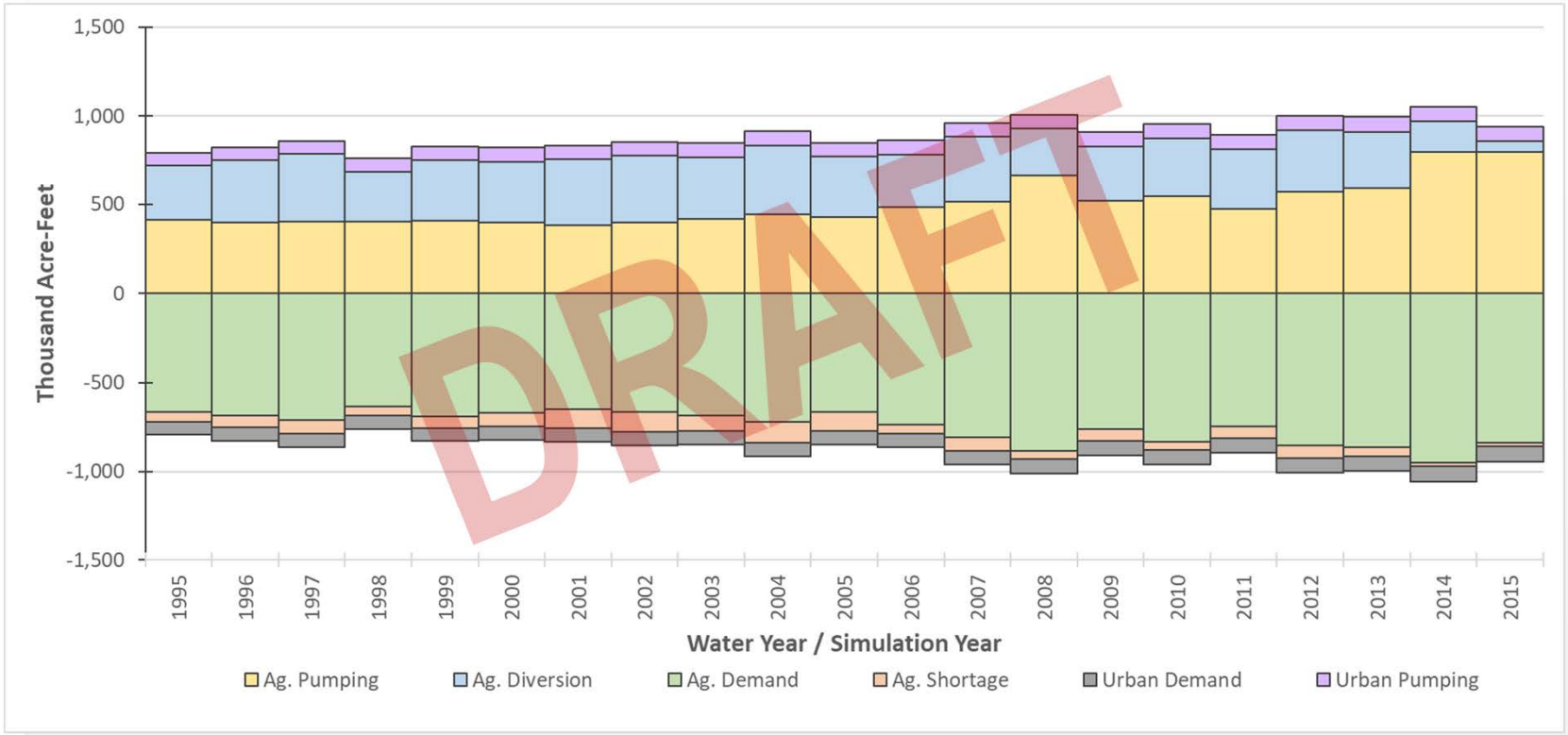
Projected Future Water Budget

Uses the future planning horizon to estimate population growth, land use changes, climate change, etc.

MERCED SGMA

Historical Land & Water Use Budget (WY 1995-2015)

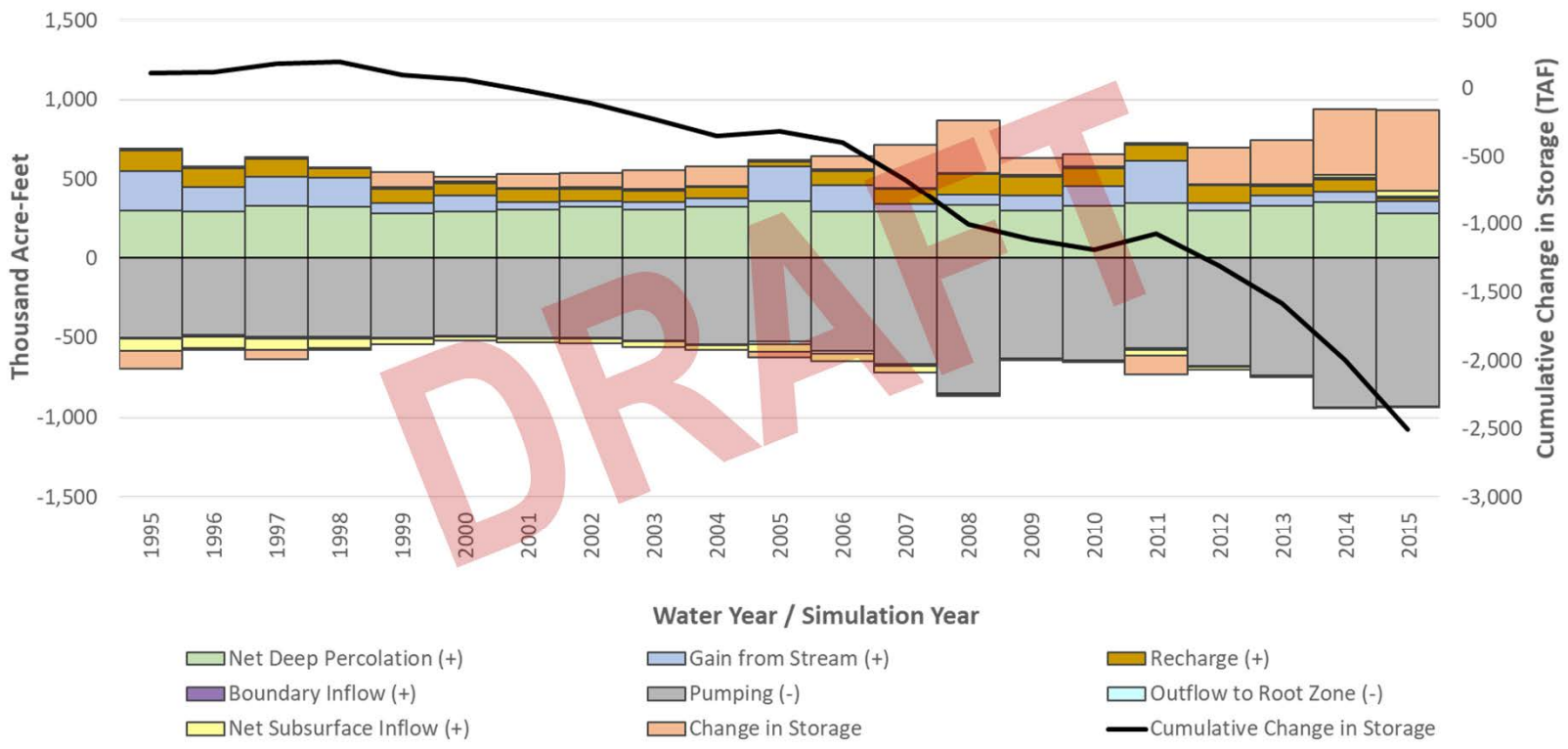
Merced Groundwater Subbasin



MERCED SGMA

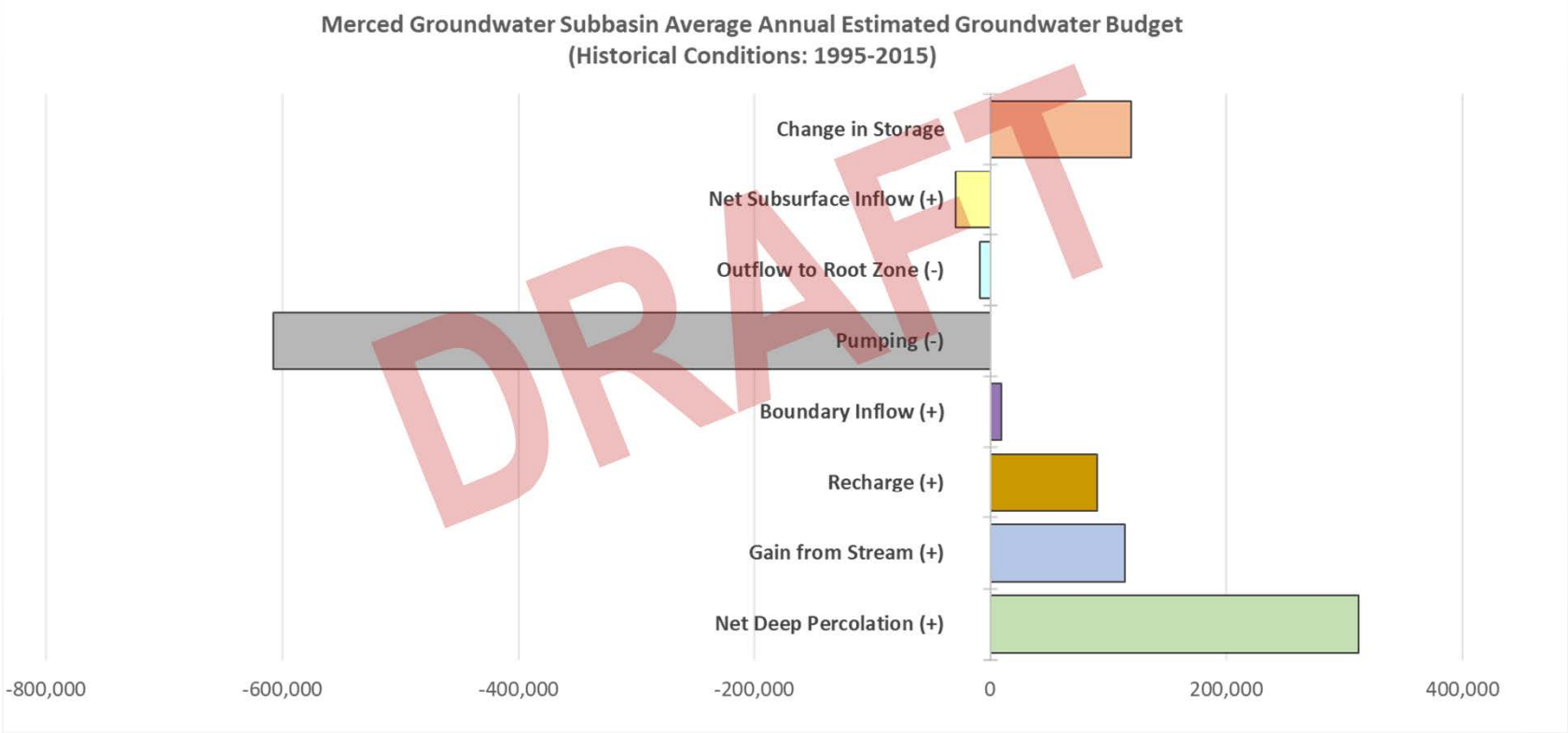
Historical Groundwater Budget (WY 1995-2015)

Merced Groundwater Subbasin



Historical Groundwater Budget (WY 1995-2015)

Merced Groundwater Subbasin

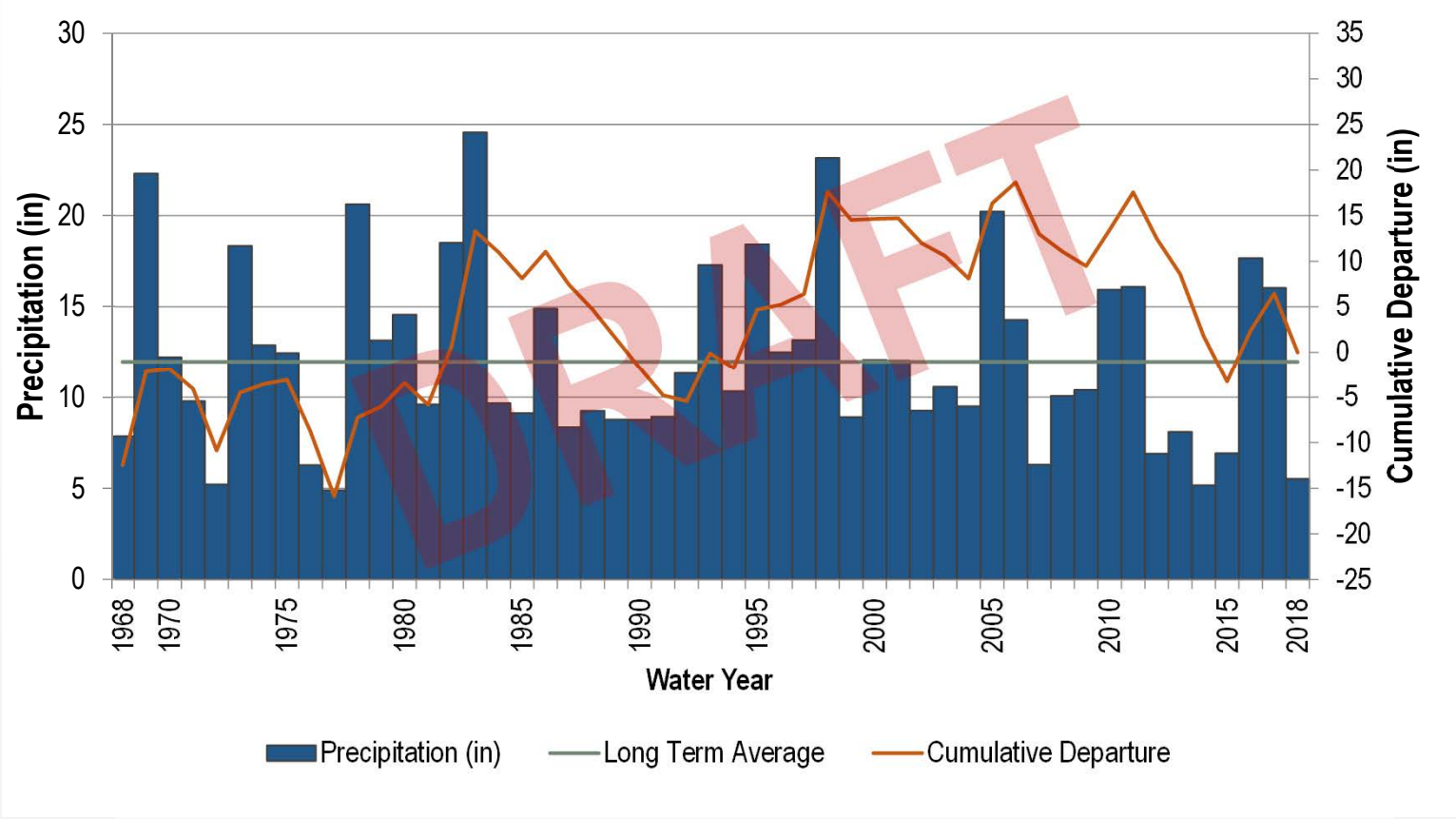


Current Conditions Baseline - Assumptions

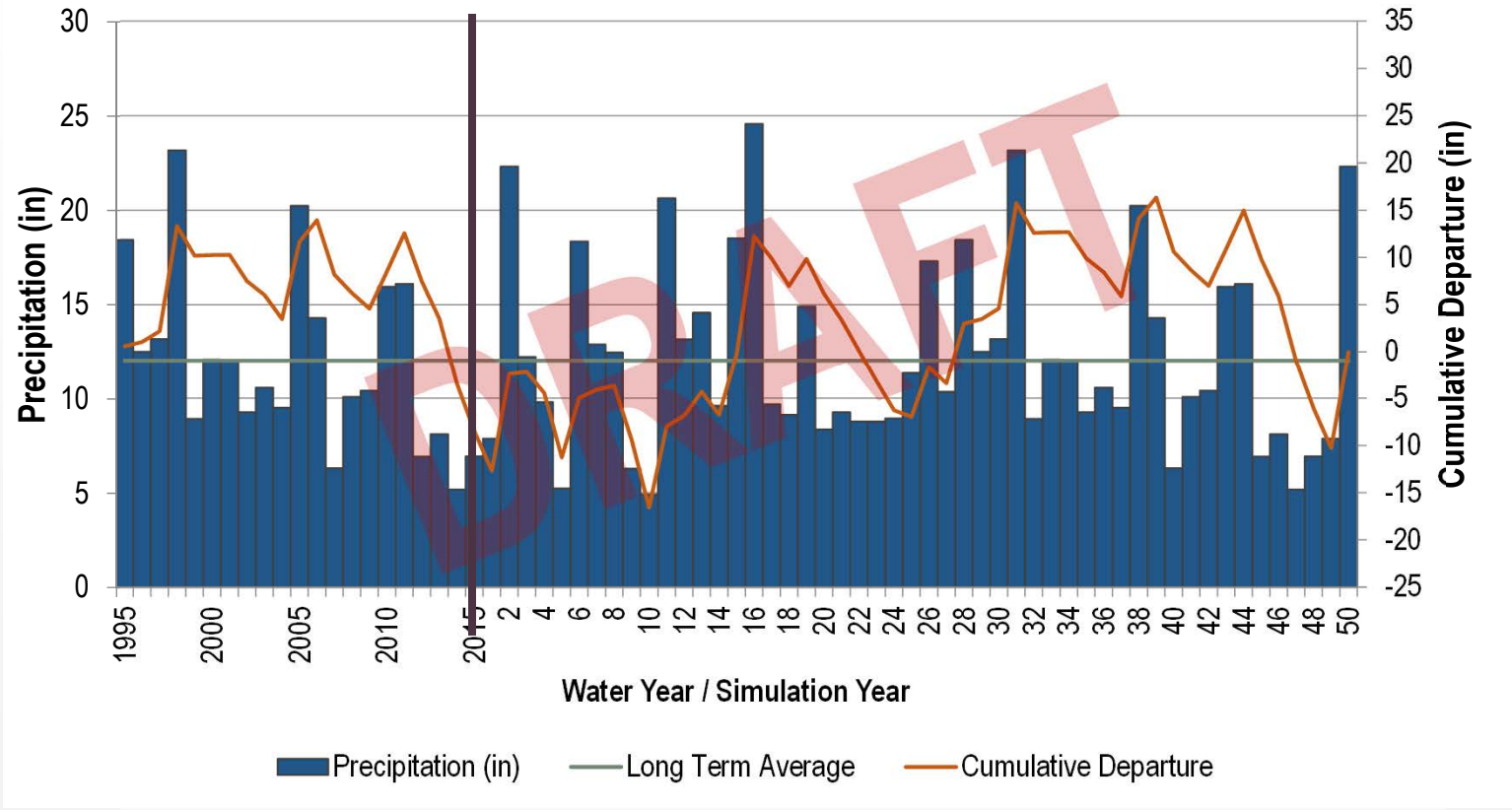
- Hydrologic Period: Water Years 1968-2018 (~50-YearHydrology)
- River Flows
  - Merced: MercedSIM
  - San Joaquin: CalSim
  - Local Tributaries: Historic Records
- Land Use and Cropping Patterns: 2014 LandIQ
- Urban Water Use: 2013
- Surface Water Deliveries
  - MID
  - SWD
  - TIWD
  - Chowchilla WD

MERCED SGMA

Merced WR Model Historical Hydrology

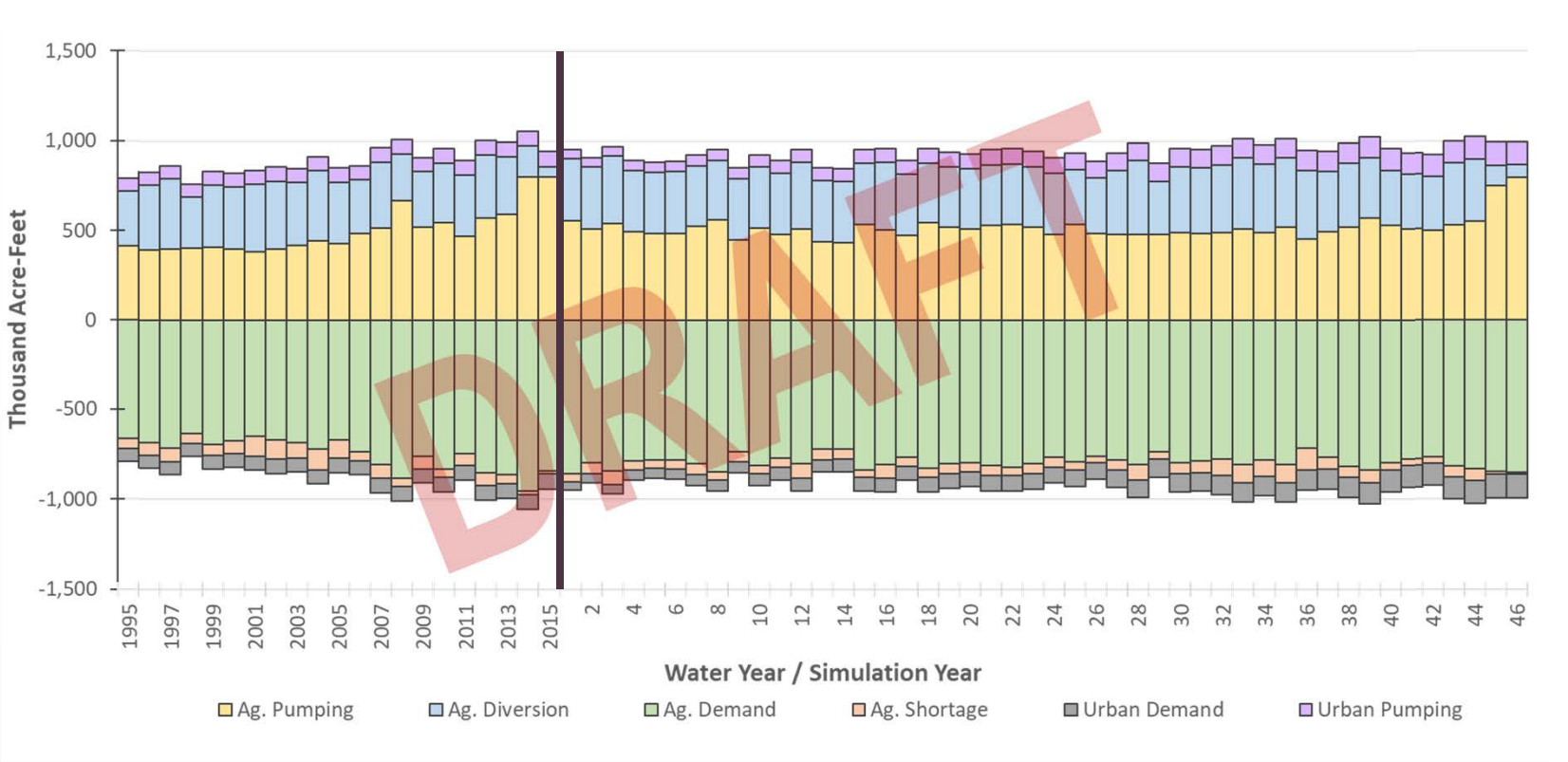


Merced WR Model Baseline Hydrology



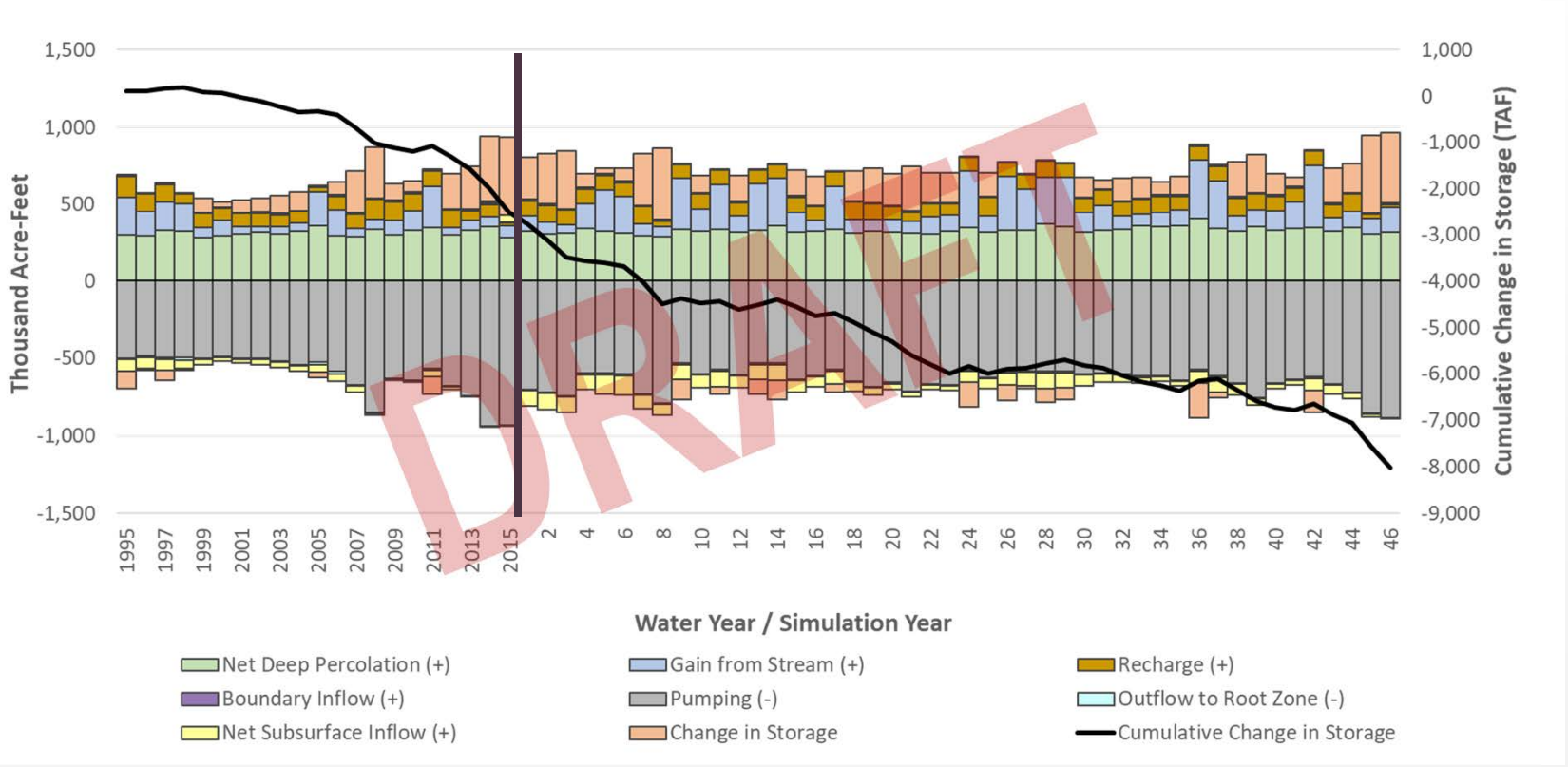
Current Condition Baseline Land & Water Use Budget

Merced Groundwater Subbasin



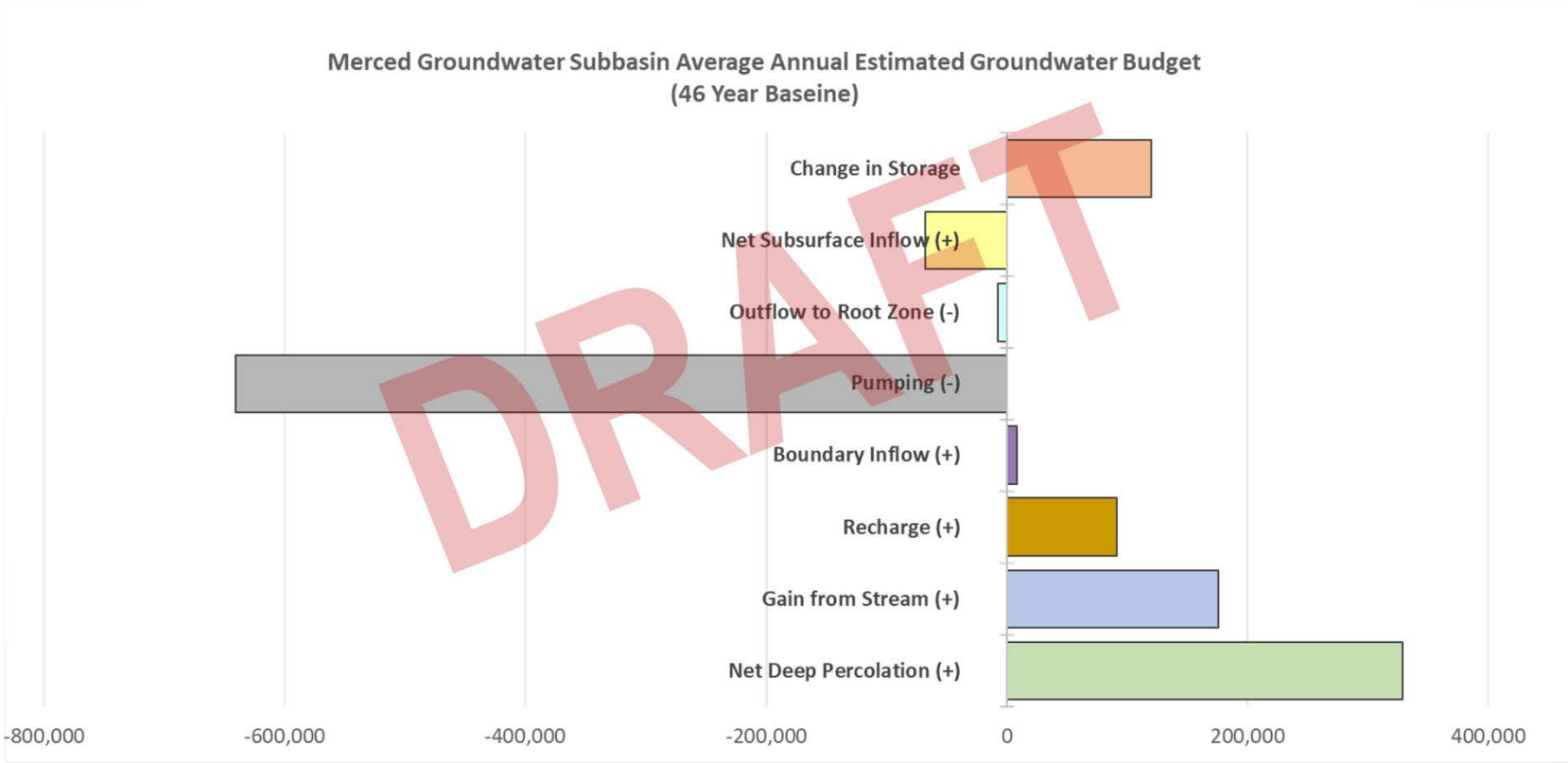
Current Condition Baseline Groundwater Budget

Merced Groundwater Subbasin



Current Condition Baseline Groundwater Budget

Merced Groundwater Subbasin



What's Up Next? Projected Water Budget

Historical Water Budget

Uses historical information for hydrology, precipitation, water year type, water supply and demand, and land use going back a minimum of 10 years.

Current Conditions Baseline

Holds constant the most recent or "current" data on population, land use, year type, water supply and demand, and hydrologic conditions.

Projected Future Water Budget

Uses the future planning horizon to estimate population growth, land use changes, climate change, etc.

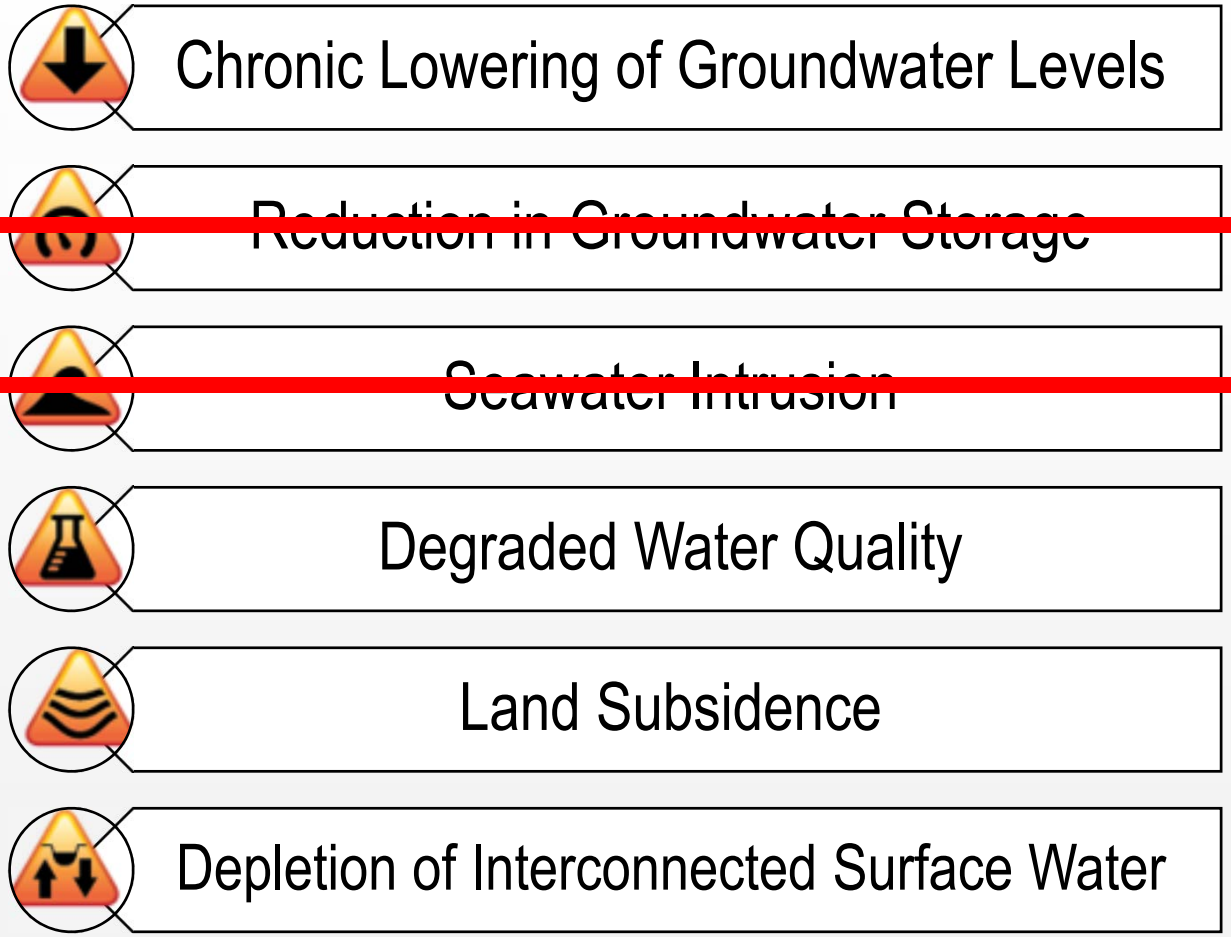
MERCED SGMA

Undesirable Results

Image courtesy: Veronica Adrover/UC Merced

MERCED SGMA

Overall Objective: Develop Measurable Objectives for Each Sustainability Indicator

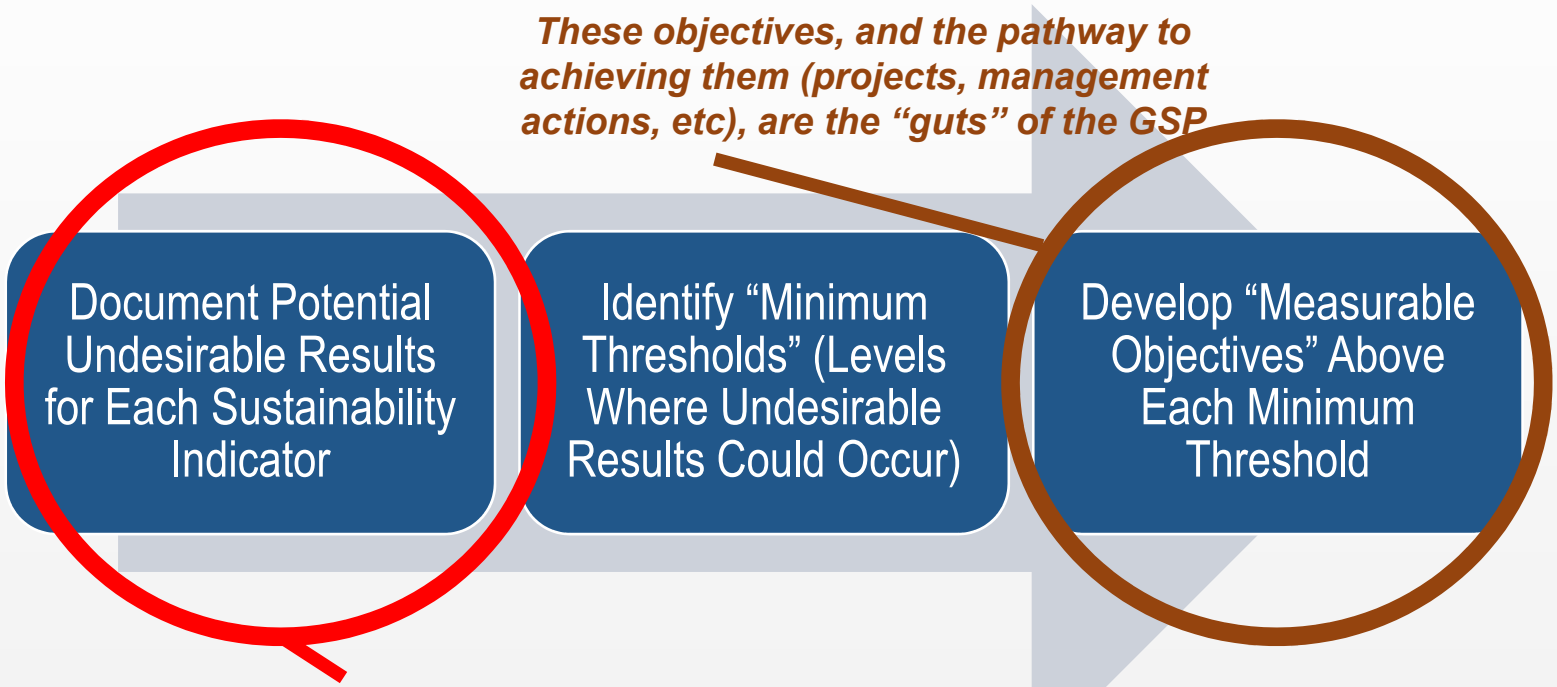


Storage addressed by bringing budget into balance

Salinity Addressed Under Water Quality

MERCED SGMA

Process for Defining Measurable Objectives Begins with Identifying Undesirable Results

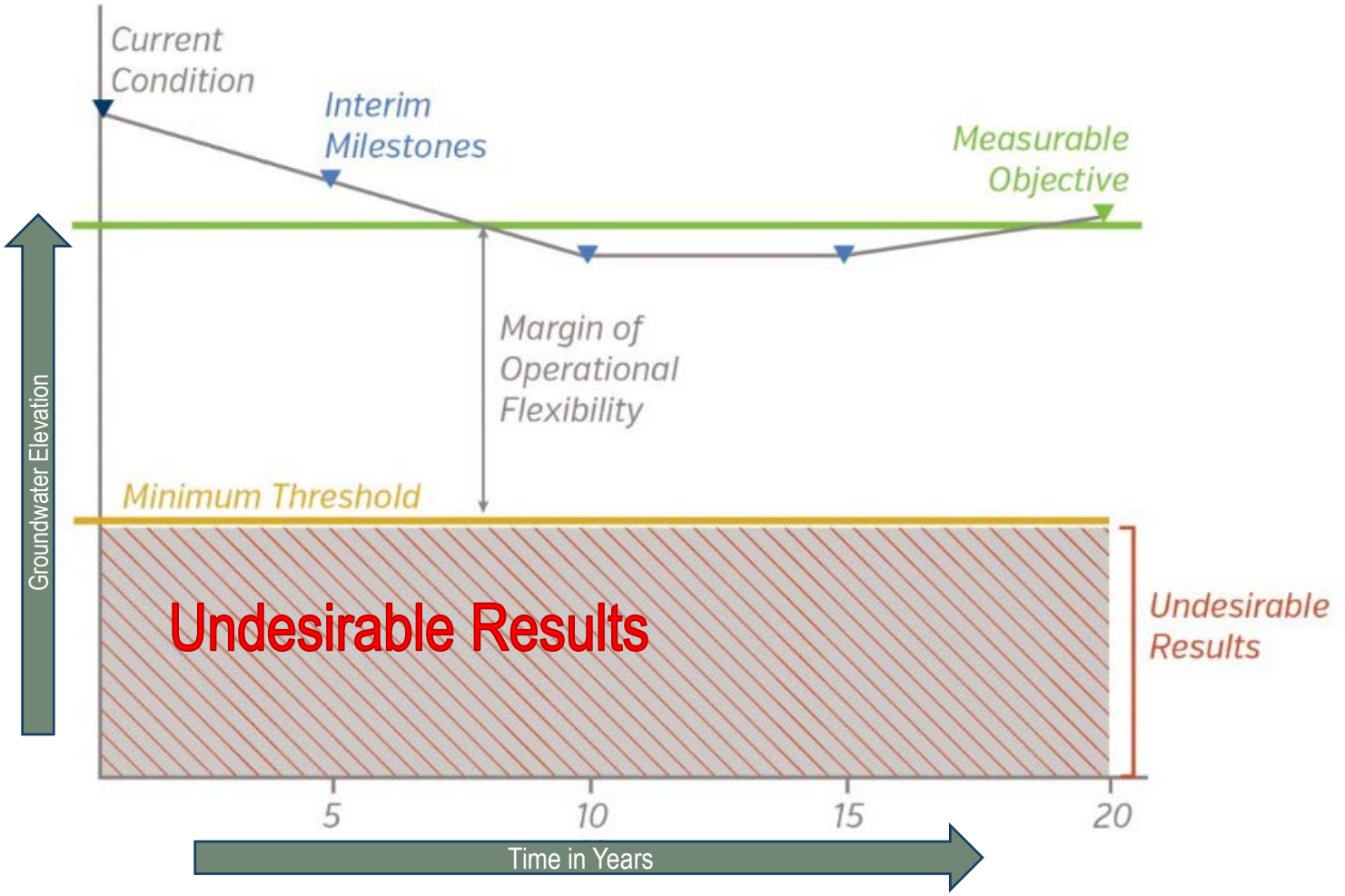


MERCED SGMA

Undesirable Results

- "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

Example: Groundwater Levels



Brainstorming: What Undesirable Results Are We Trying to Avoid?

- Chronic Lowering of Groundwater Levels
- Reduction in Groundwater Storage
- Seawater Intrusion
- Degraded Water Quality
- Land Subsidence
- Depletion of Interconnected Surface Water

MERCED SGMA

Brainstorming Questions

- For each indicator:
  - What “significant and unreasonable” undesirable results have you observed?
  - What “significant and unreasonable” undesirable results should we try to prevent from occurring?
- Of all of the undesirable results discussed, which are most important to address or prevent? Are any more important than others?

Stakeholder Outreach & Engagement Strategy

Image courtesy: Veronica Adrover/UC Merced

MERCED SGMA

Merced GSP Outreach Structure

- GSA Leadership – overall authority for decision-making, GSP development and implementation
- Coordinating Committee – Advise on plan development and recommendations to decision-makers
- Stakeholder Committee – Represent diverse stakeholders in basin and provide input to inform plan development
- Public workshops – Building awareness and understanding; emphasis on engagement of DACs

MERCED SGMA

Outreach and Engagement Activities

- GSA Governing Bodies and Coordinating Committee
- Stakeholder Committee
- **Public Workshops and Briefings**
  - **First workshop August 2**
- GSP Website
- Organizational Partnerships
  - Notification and information
  - Briefings and engagement
- Media and social media

First Public Workshop to be Held Next Month

Notice of Public Workshop

Groundwater Sustainability Planning is Underway for the Merced Subbasin
Get Involved Now to Learn about the Future of Groundwater

Thursday, August 2, 2018, 6:00 to 8:30 p.m.
Sam Pipes Room, Merced Civic Center, 678 W 18th Street, Merced, CA

Interbasin Coordination Update

Image courtesy: Veronica Adrover/UC Merced

MERCED SGMA

Questions/Comments from Public

Image courtesy: Veronica Adrover/UC Merced

MERCED SGMA

Next Steps

Image courtesy: Veronica Adrover/UC Merced

MERCED SGMA

What's coming up next?

- First Merced GSP Public Workshop – August 2, 6-8:30pm
- Next Stakeholder Committee meeting – August 27th
  - Projected Water Budget
  - Undesirable Results and Minimum Thresholds
- Planning activities underway
  - Initial sections of GSP under development
  - Using model to refine historical and current, and develop future water budget estimate

GSP Stakeholder Committee

Coordinating Committee Meeting – July 23, 2018

Image courtesy: Veronica Adrover/UC Merced

MERCED SGMA