Sacramento Groundwater Authority
Status Update of Major Activities

Presentation to the Sacramento Groundwater Authority Board

Trevor Joseph, P.G., C.Hg., Manager of Technical Services

December 8, 2022

Agenda

- Sustainable Groundwater Management Act (SGMA) compliance
  - Groundwater Sustainability Plan (GSP) - Development and Implementation
- SGM Department of Water Resources (DWR) Grant
- SGA (non-SGMA) Activities

Sustainable Groundwater Management Act (SGMA) compliance

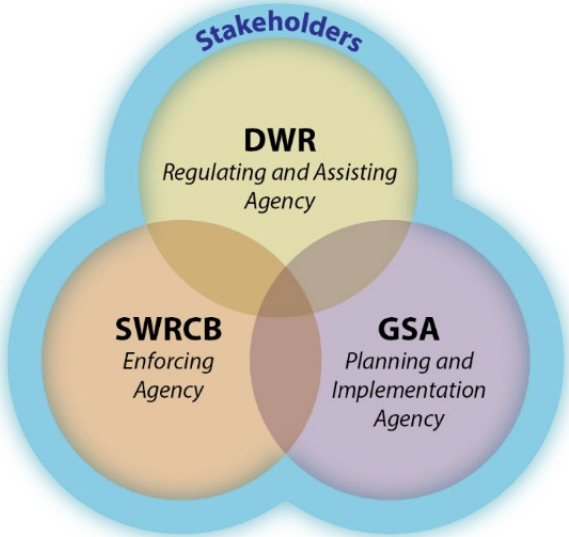
Groundwater Sustainability Plan (GSP) - Development and Implementation

Sustainable Groundwater Management Act (SGMA)

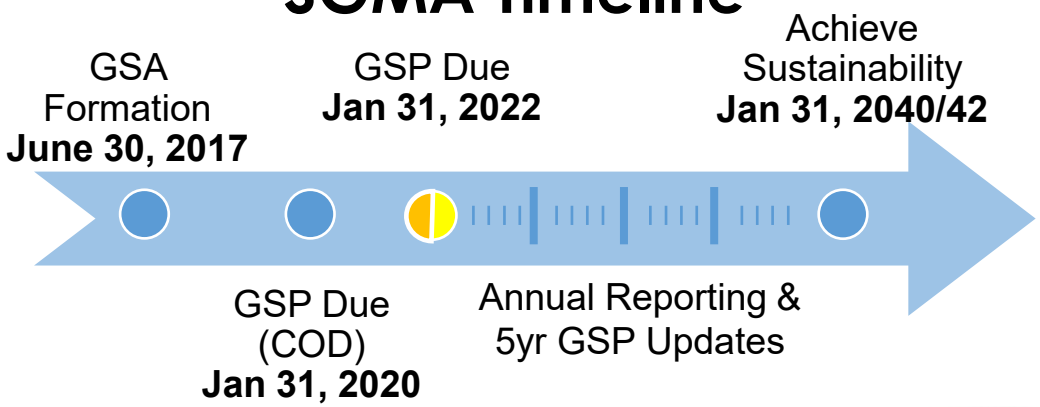
Local Control

"A central feature of these bills is the recognition that groundwater management in California is best accomplished locally."
Governor Jerry Brown, September 2014

Roles

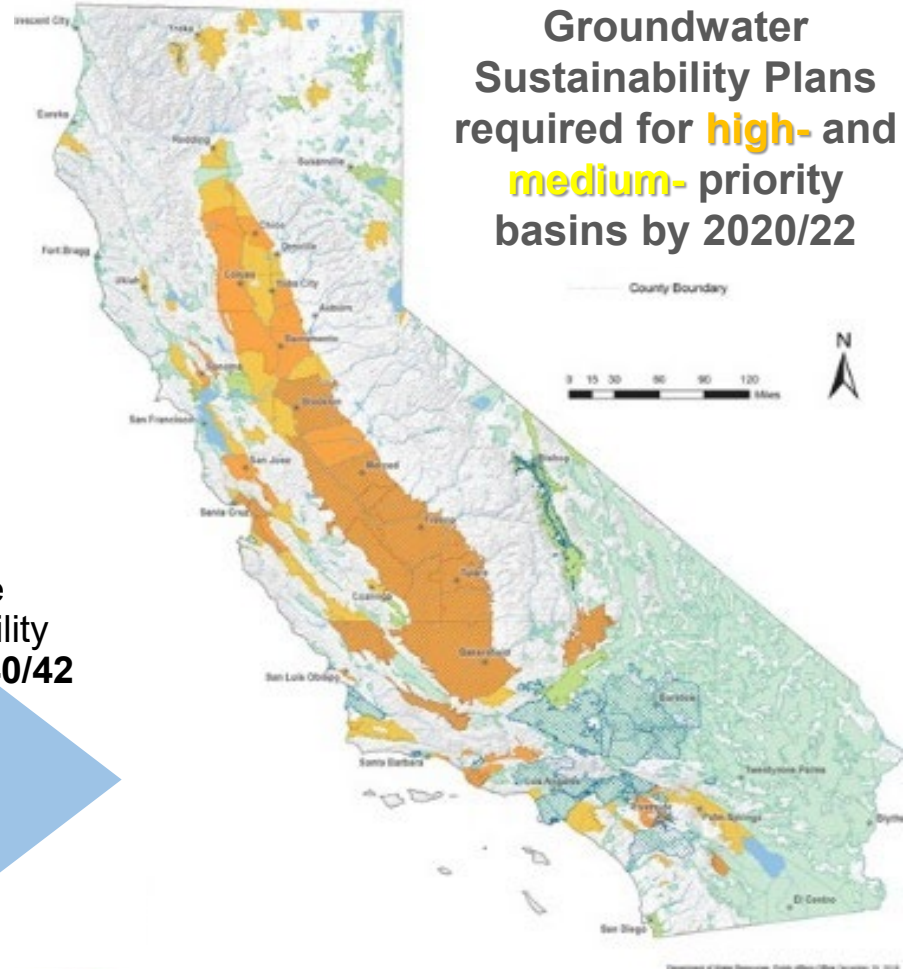


SGMA Timeline

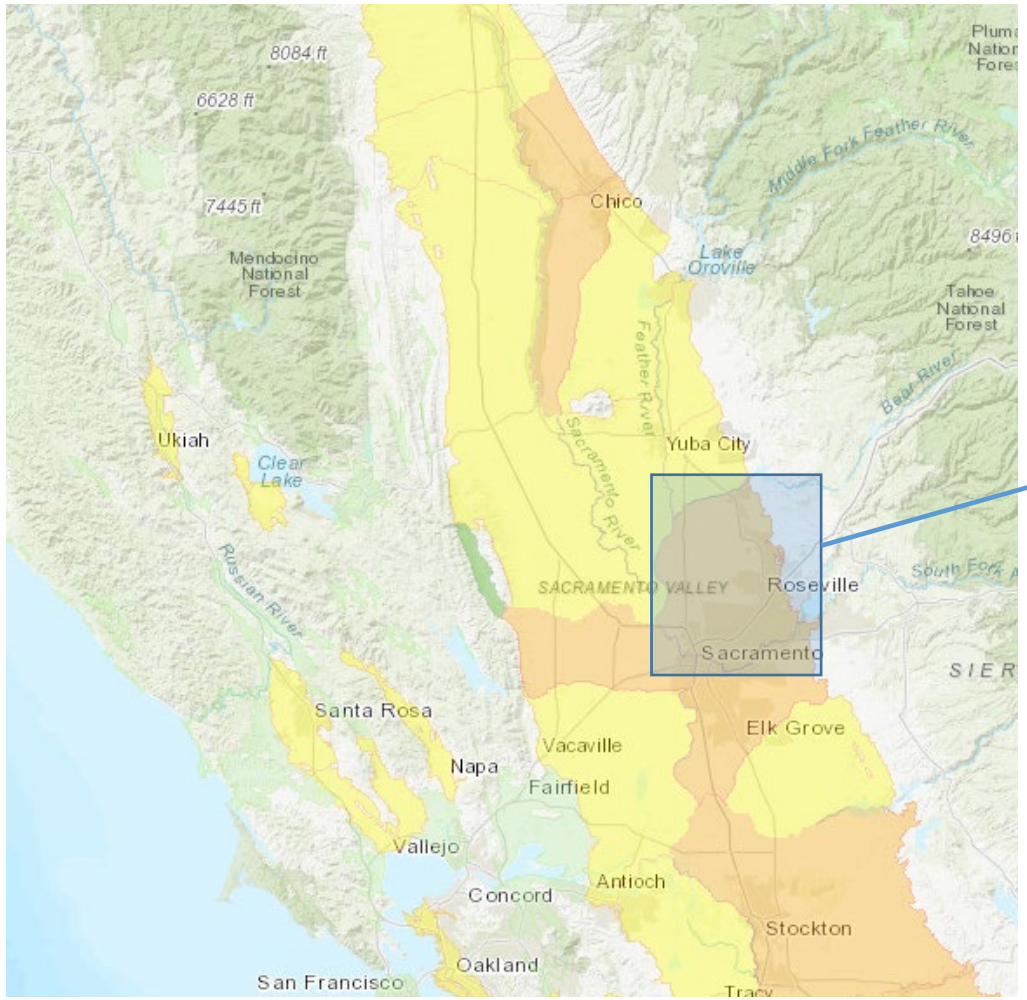


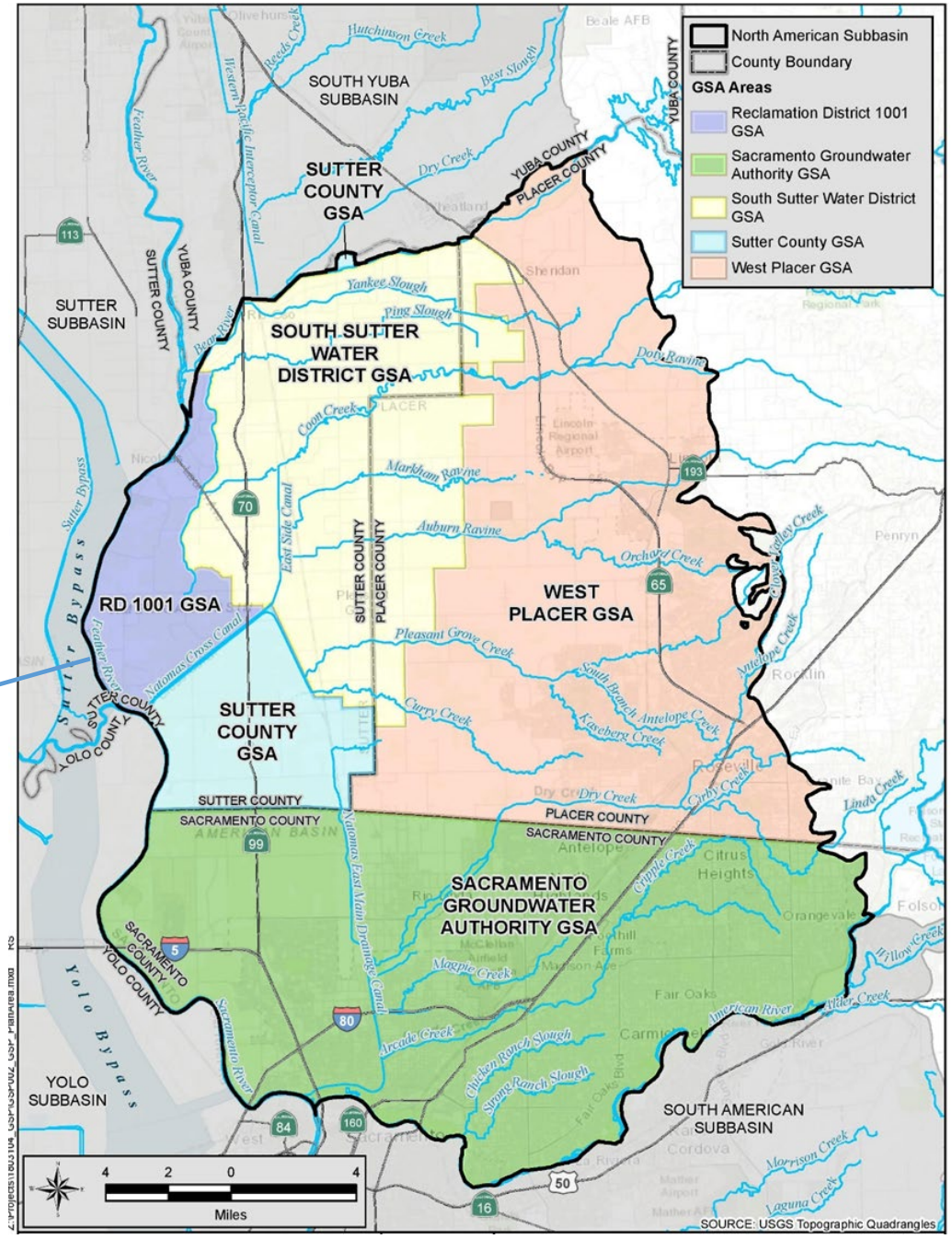
Groundwater Basins

Groundwater Sustainability Plans required for high- and medium- priority basins by 2020/22



Groundwater Sustainability Agencies (GSAs)



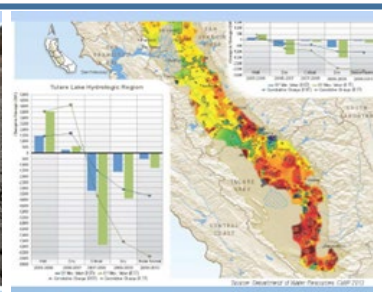


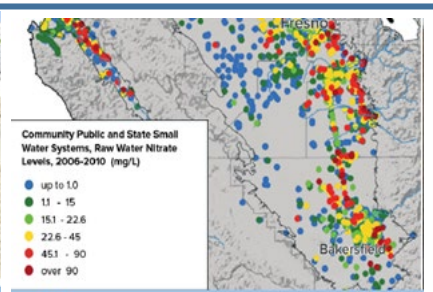
Sustainability Indicators

"effects caused by groundwater conditions throughout the basin that, when significant and unreasonable, cause undesirable results…"

Undesirable Results

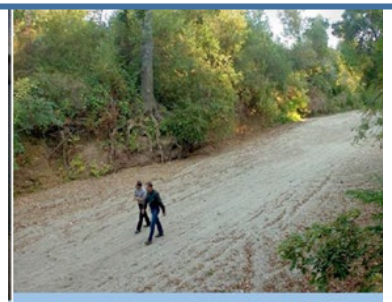

Lowering of GW Levels

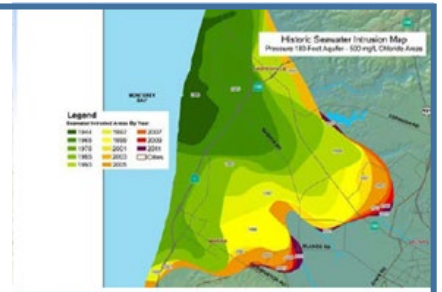

Reduction of GW Storage



Water Quality Degradation


Land Subsidence


Depletion of Interconnected Streams

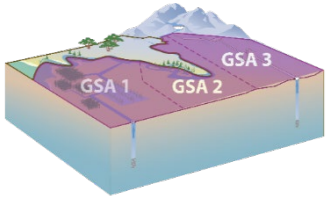
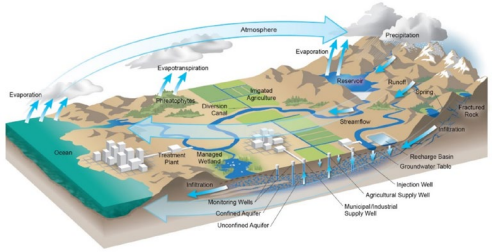
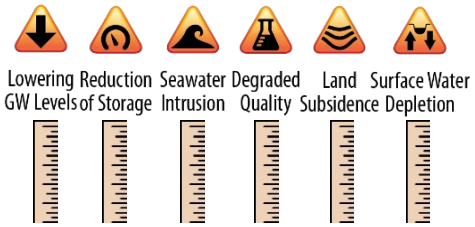
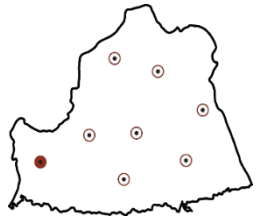
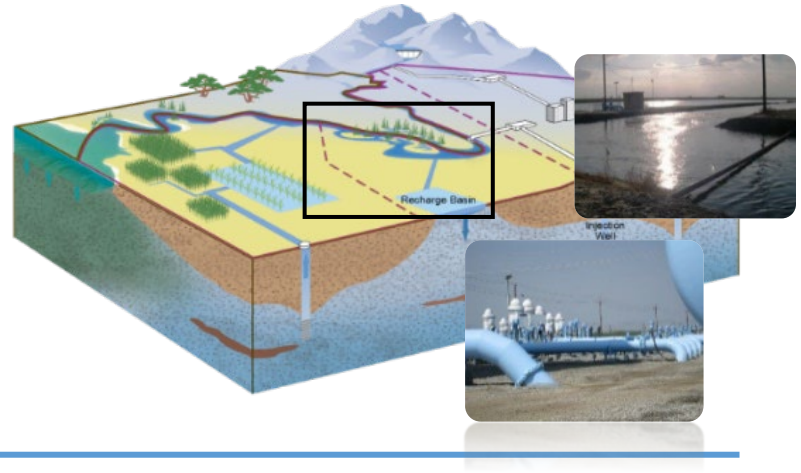


Seawater Intrusion

NASb Applicable Sustainability Indicators

Lowering GW Levels	Reduction of Storage	Degraded Quality	Land Subsidence	Surface Water Depletion	Seawater Intrusion
Applicable NASb Sustainability Indicators					Not applicable in the NASb

Groundwater Sustainability Plan (GSP) Regulations & NASb Sections

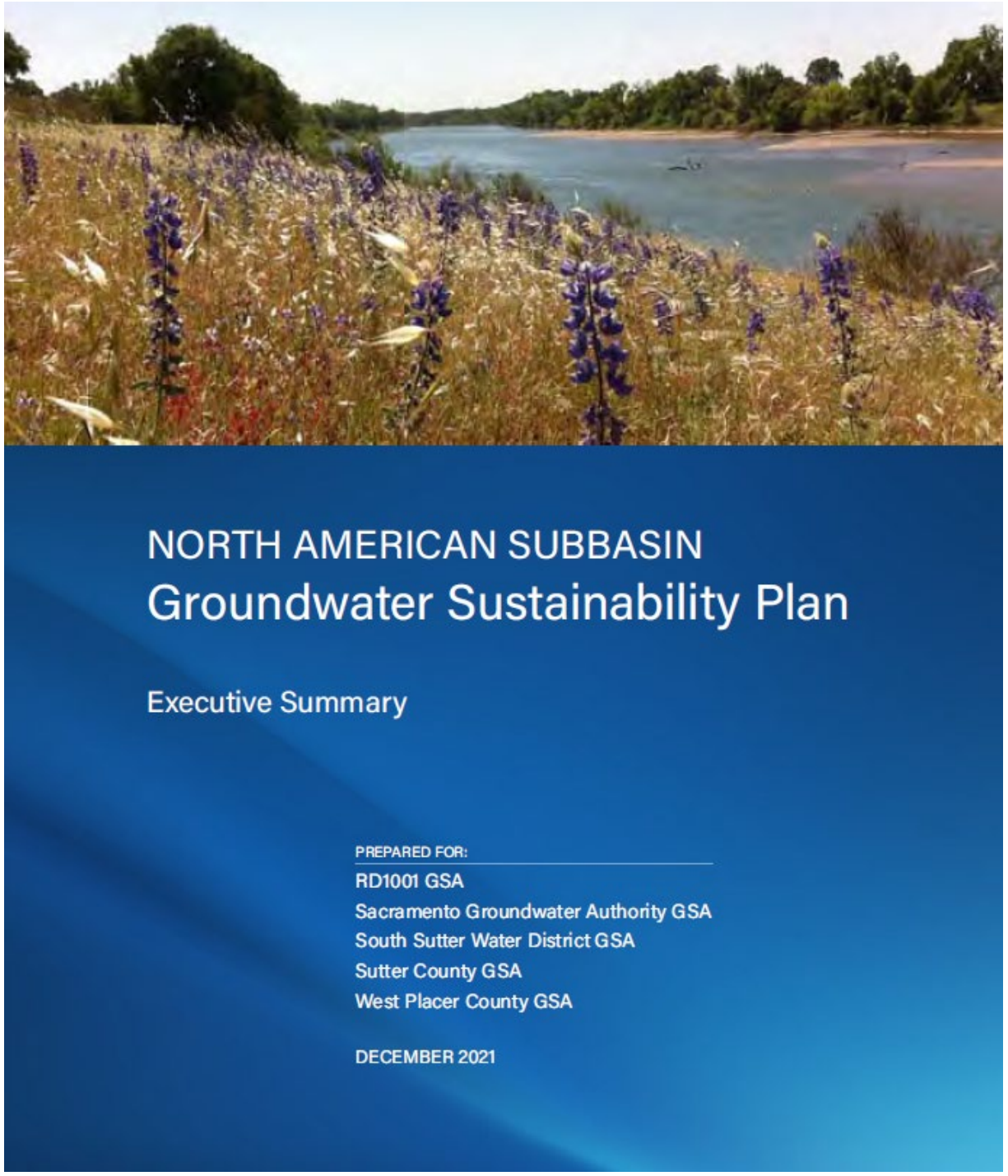
GSP Development Phases	1. Understand existing basin conditions	2. Develop water levels that consider beneficial uses and users	3. Develop management actions and/or projects to ensure basin is sustainable
GSP Regulation Requirements	**Who** *- Administrative Information -*  **What** *- Basin Setting -* 	**Where** *- Sustainable Management Criteria -*  *- Monitoring Network -* 	**How** *- Projects & Management Actions -* 
NASb GSP Sections	○ Section 1 Introduction ○ Section 2 Agency Information ○ Section 3 Plan Area ○ Section 4 Hydrogeologic Setting ○ Section 5 Groundwater Conditions	○ Section 6 Water Budgets ○ Section 7 Monitoring Networks ○ Section 8 Sustainable Management Criteria	○ Section 9 Projects and Management Actions ○ Section 10 Plan Implementation ○ Section 11 Notice and Communications

GSP Adopted and Submitted

- GSP Submitted January 24, 2022
- Public Comments closed
  April 16, 2022
- DWR has 2 years to review GSP

GSP available at:

nasbgroundwater.org



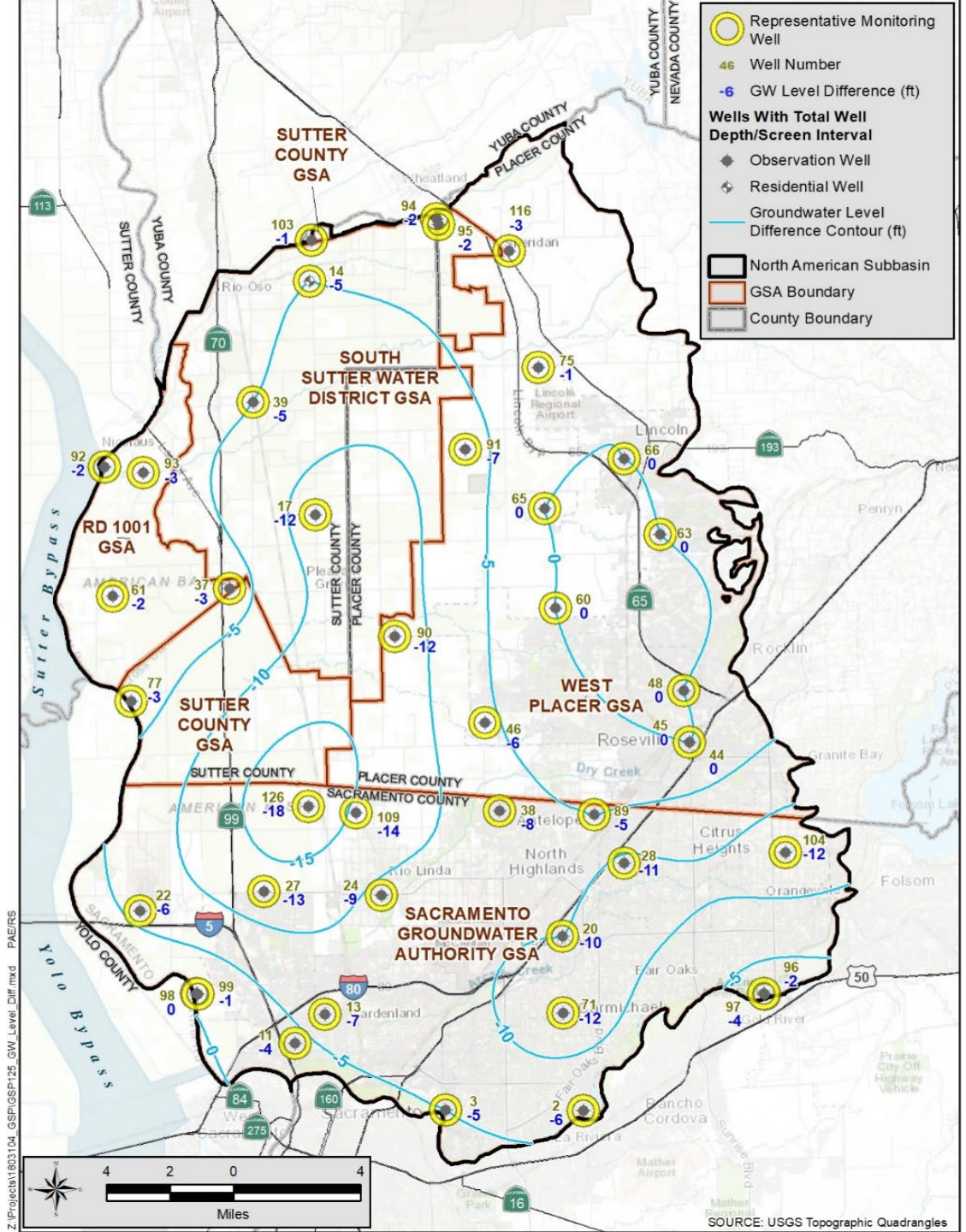
Groundwater Budget from Model

Model Scenario	Groundwater Use (acre-feet)	Change in Storage (acre-feet)
Current Conditions	303,300	14,900
Projected Conditions	325,300	5,400
Projected Conditions with Climate Change	345,100	-3,500

Estimated sustainable yield = 336,000 acre-feet per year

Projected Groundwater Level Changes

- 50-year simulation
- Subtracted projected declines from baseline to establish minimum thresholds
- Compared the effects of these future levels on beneficial uses and users



Annual Report

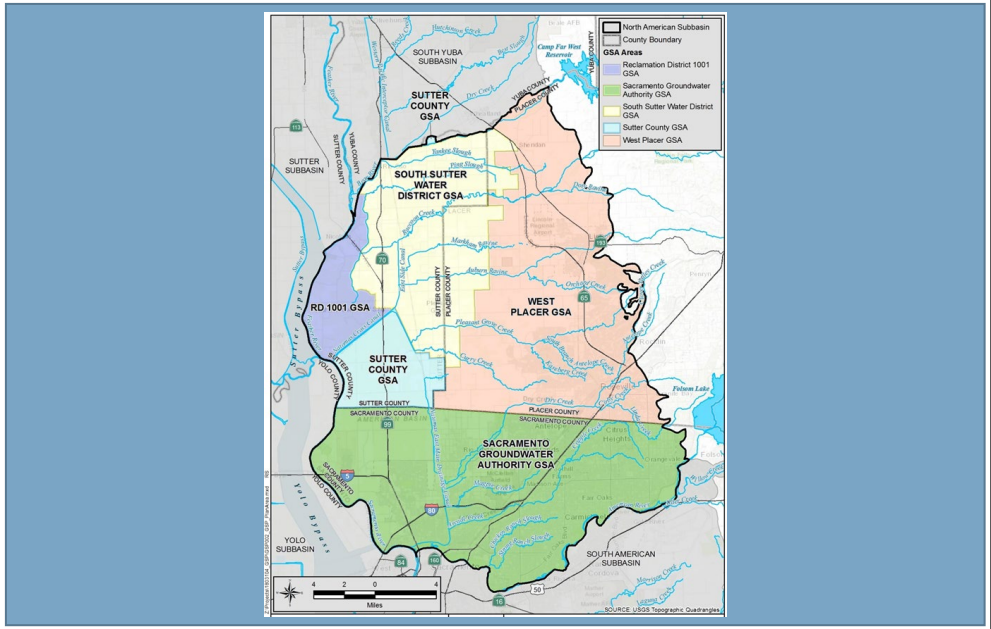
- Hydrology
- Water Use
- Water Budget
- Groundwater Levels
- Groundwater Storage
- GSP Implementation
- Sustainability Indicators

GEI Consultants

Consulting
Engineers and
Scientists

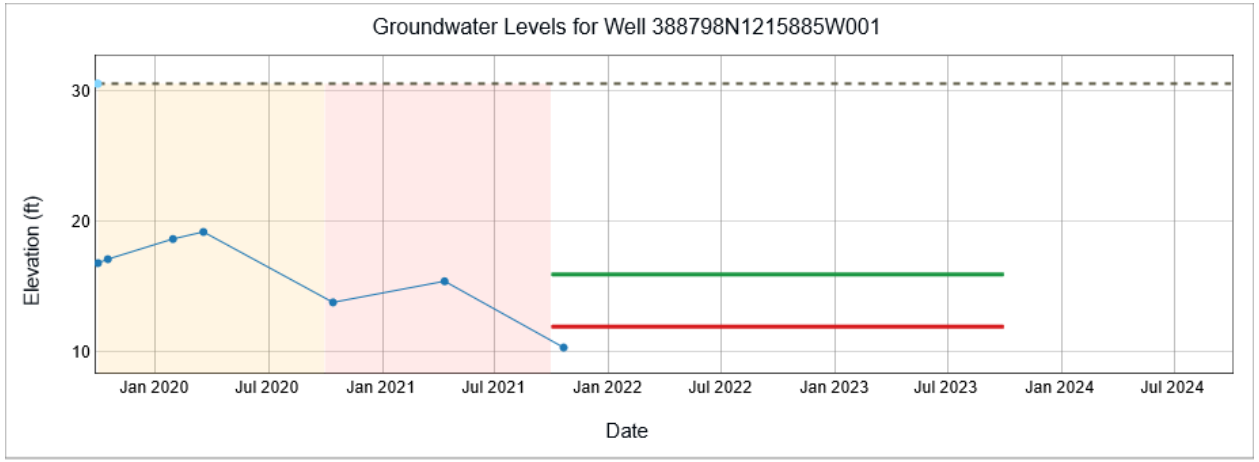
Water Year 2021
Annual Report for the North American Subbasin

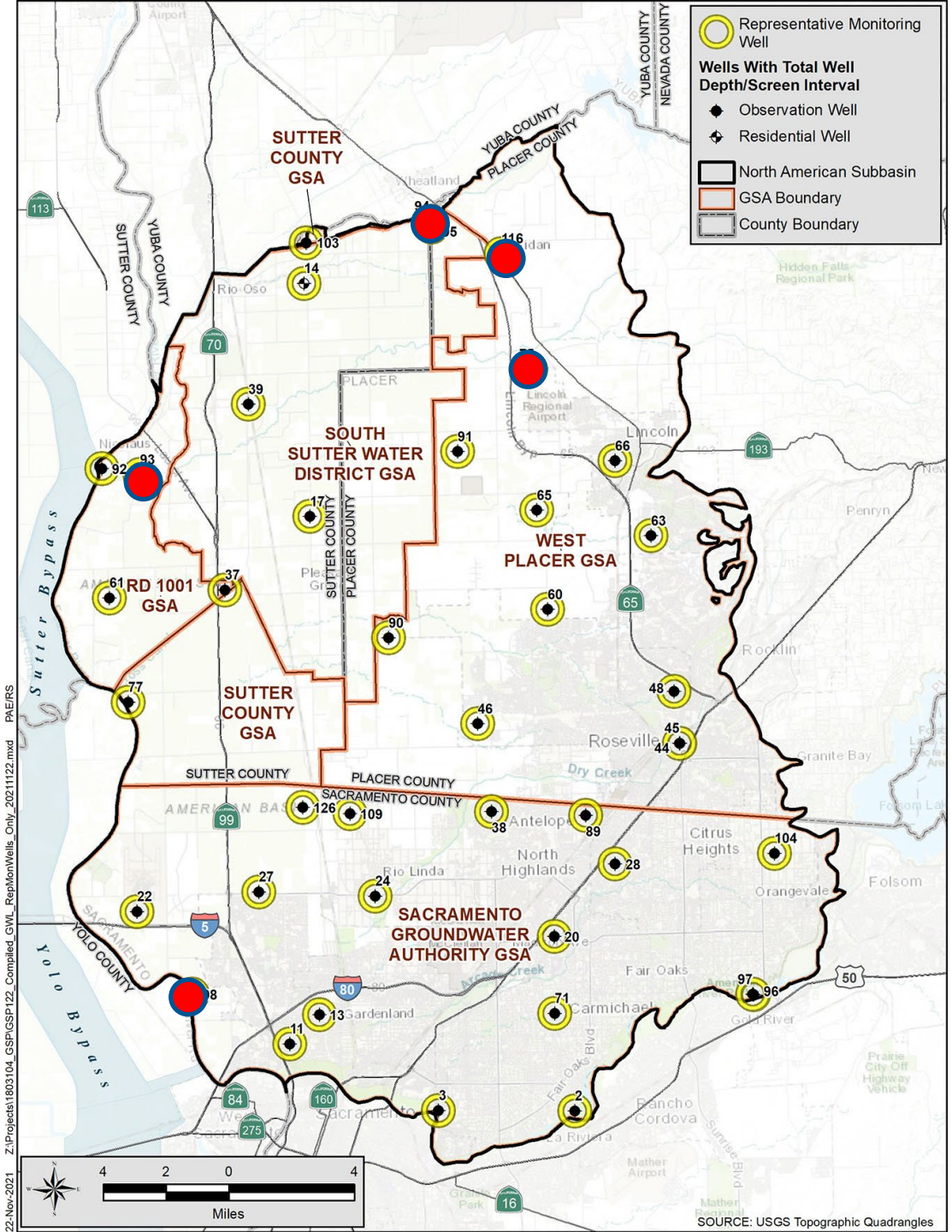
March 2022



Prepared for the North American Subbasin GSAs:
RD1001
Sacramento Groundwater Authority
South Sutter Water District
Sutter County
West Placer

Water Level SMC





Projects and Management Actions and Supplemental Projects

Projects

#1: Regional Conjunctive Use Expansion - Phase 1

#2: Natomas Cross Canal Stability Berm and Channel Habitat Enhancement Project

Management Actions

#1: Complete Planning for Sacramento Regional water Bank

#2: Explore Improvements with NASb Well Permitting Programs

#3: Proactive Coordination with Land Use Agencies

#4: Domestic/Shallow Well - Data Collection and Communication Program

#5: GDE Assessment Program

Supplemental Projects

- Regional Water Authority - Expansion of the Sacramento Regional Water Bank (Phase 2)
- Placer County Water Agency - RiverArc
- South Sutter Water District - Water System Conveyance System Improvements
- Natomas Mutual Water Company - Service Area Expansion
- Expansion City of Lincoln – Recycled Water Conjunctive Use
- Placer County - Sustainable Agricultural Groundwater Recharge Program

Plan Implementation – Budget

Budget Description/Year	2022	2023	2024	2025	2026
Data Collection and Management	$17,300	$42,500	$17,700	$42,900	$18,100
Annual Reports	$65,000	$50,000	$40,000	$40,000	$40,000
5-Year GSP Assessment/Update	$0	$0	$0	$125,000	$125,000
Modeling Support and Update	$20,000	$20,000	$20,000	$150,000	$90,000
Program Management and Administrative Expenses	$18,800	$19,800	$20,900	$29,500	$31,800
Projects and Management Actions	$45,000	$35,000	$10,000	$7,500	$7,500
Annual Estimated Cost	**$166,100**	**$167,300**	**$108,600**	**$394,900**	**$312,400**
5-year Total Cost					**$1,149,300**
Average Annual 5-year Cost	$229,860	$229,860	$229,860	$229,860	$229,860
Estimated Average Annual Contribution by GSAs					
SGA	$83,171	$83,171	$83,171	$83,171	$83,171
West Placer	$76,912	$76,912	$76,912	$76,912	$76,912
SSWD	$44,521	$44,521	$44,521	$44,521	$44,521
Sutter County	$13,583	$13,583	$13,583	$13,583	$13,583
RD1001	$11,673	$11,673	$11,673	$11,673	$11,673

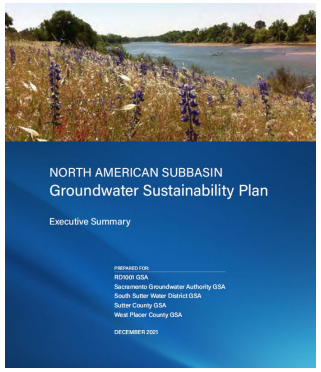
SGA – Timeline of Activities

SGMA

GSP development and adoption

GSP Implementation Begins and continues…

5-year updates (2026, 2031, 2036, 2041)



2016 to 2021

Annual Reporting

Projects and Management Actions

Groundwater Sustainability Agency (GSA) Coordination

Outreach and Engagement

Monitoring and Data Management

Budgeting and Funding

2022

Dec

2023

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

SGM Department of Water Resources (DWR) Grant

Department of Water Resources (DWR) SGM Grant Overview

- DWR is administering the Sustainable Groundwater Management (SGM) Grant Program
- **Solicitation Opened: October 4, 2022. Deadline: ~~November 30, 2022~~ December 16, 2022, 10 AM**
- Final Guidelines and Proposal Solicitation Package (PSP) were released in December 2021 – **some things have changed**
- Two rounds of grant solicitations.
  - Round 1 – funds were awarded spring 2022 for Critically Over-drafted Basins

    ~$150 million
  - **Round 2- High, Medium and Critically Over-drafted basins are eligible.**

    ~231 million available.

    Grant awards will be: Minimum – $1 million per basin; **Maximum**– $20 million per basin
- Only one application will be accepted per basin/subbasin-

Department of Water Resources (DWR) SGM Grant Overview (cont.)

- Component description and benefits: up to 26 pts
  - Evaluated separately and averaged-> critical that all projects have strong supporting information
  - General background description/map (14 pts)
  - Does the component benefit an Underrepresented Community (-ies), a Tribe or an SDAC? (4 pts)
  - Will the component positively impact issues associated with small water systems or private shallow domestic wells? (4 pts)
  - How does the component address the Human Right to Water (AB 685 Section 106.3)? (4 pts)
- Remaining points for budget (1 pts) and schedule (1 pt)

Sustainable Groundwater Management (SGM) Grant Program SGMA Implementation Round 2 - Applicant Workshop

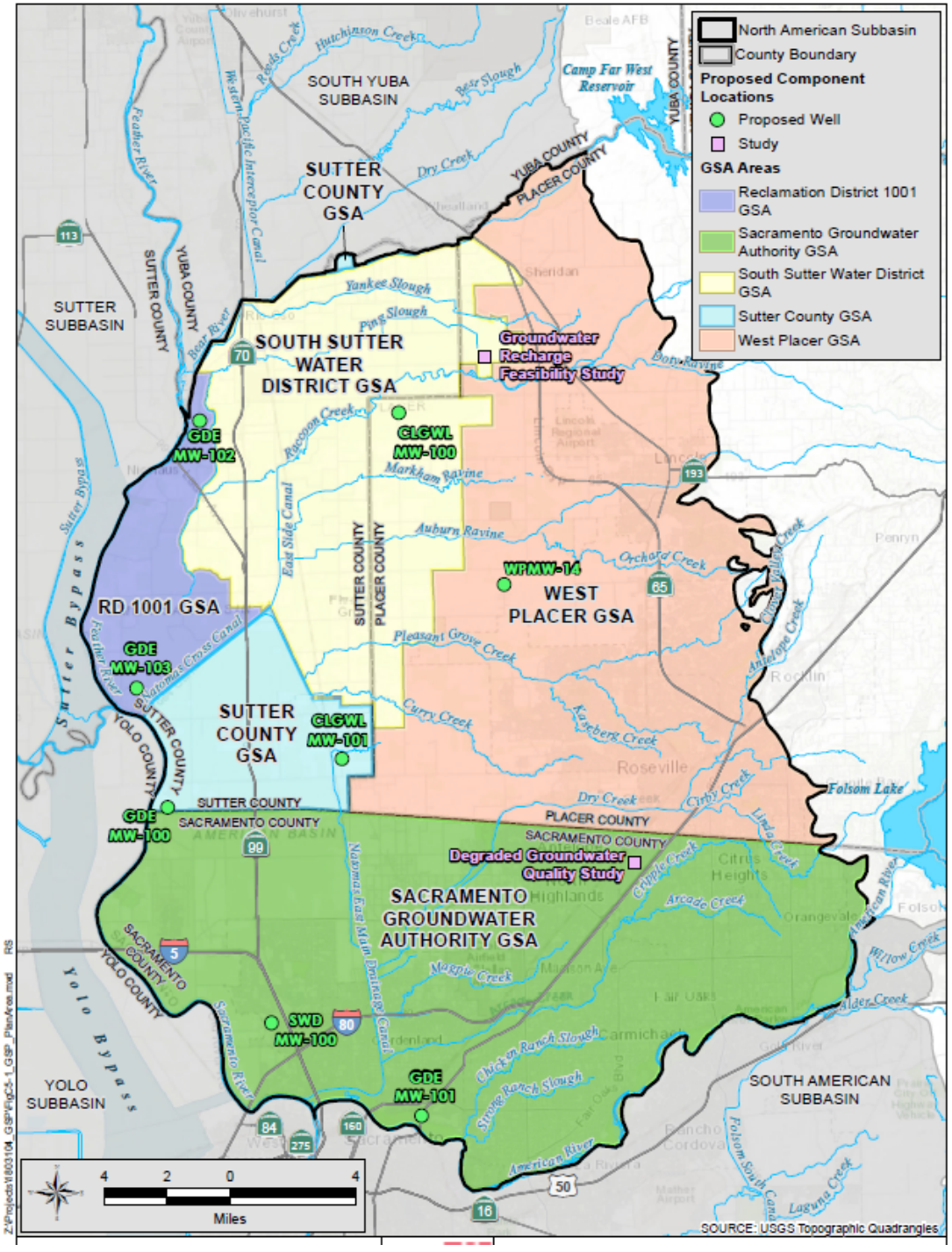
SDAC- Severely Disadvantaged Communities

SGA – NASb Grant Components

Advancing NASb Sustainable Groundwater Management

Components

1. Grant Administration
2. Recharge Basin Feasibility Study
3. PCEWater Quality Study
4. Monitoring Wells
   - GDE (4)
   - Lowering of Levels (1)
   - SW Depletion (1)
5. Large Capacity Monitoring Well/Emergency Supply Well
   - Domestic and Emergency Supply (1)
6. Annual Reporting and 5-year update
7. CoSANA modeling improvements



Key threshold or determination to proceed to next stage

Fatal Flaws?

SGM Grant Component

Favorable Site?

Suitable Site?

Step 1: Site Screening

Step 2: Field Investigation

Step 3: Performance Testing

Step 4: Long Term Operation & Maintenance

Primary Stage Objectives & Activities

1. Site Identification
2. Preliminary Background Search (desktop analysis)
3. Develop and apply site ranking criteria

1. Obtain right of entry/access agreement to conduct testing
2. Conduct site field investigation
3. Develop Report of Findings

1. Design and Conduct Pilot or Full Scale Testing
2. Develop Performance Testing Technical Memorandum

1. Secure Long Term Recharge Land Use Agreement
2. Develop Financial Plan
3. Proceed to
    1. Final Design
    2. Construction
    3. Operations

Specific considerations & additional activities during each Stage

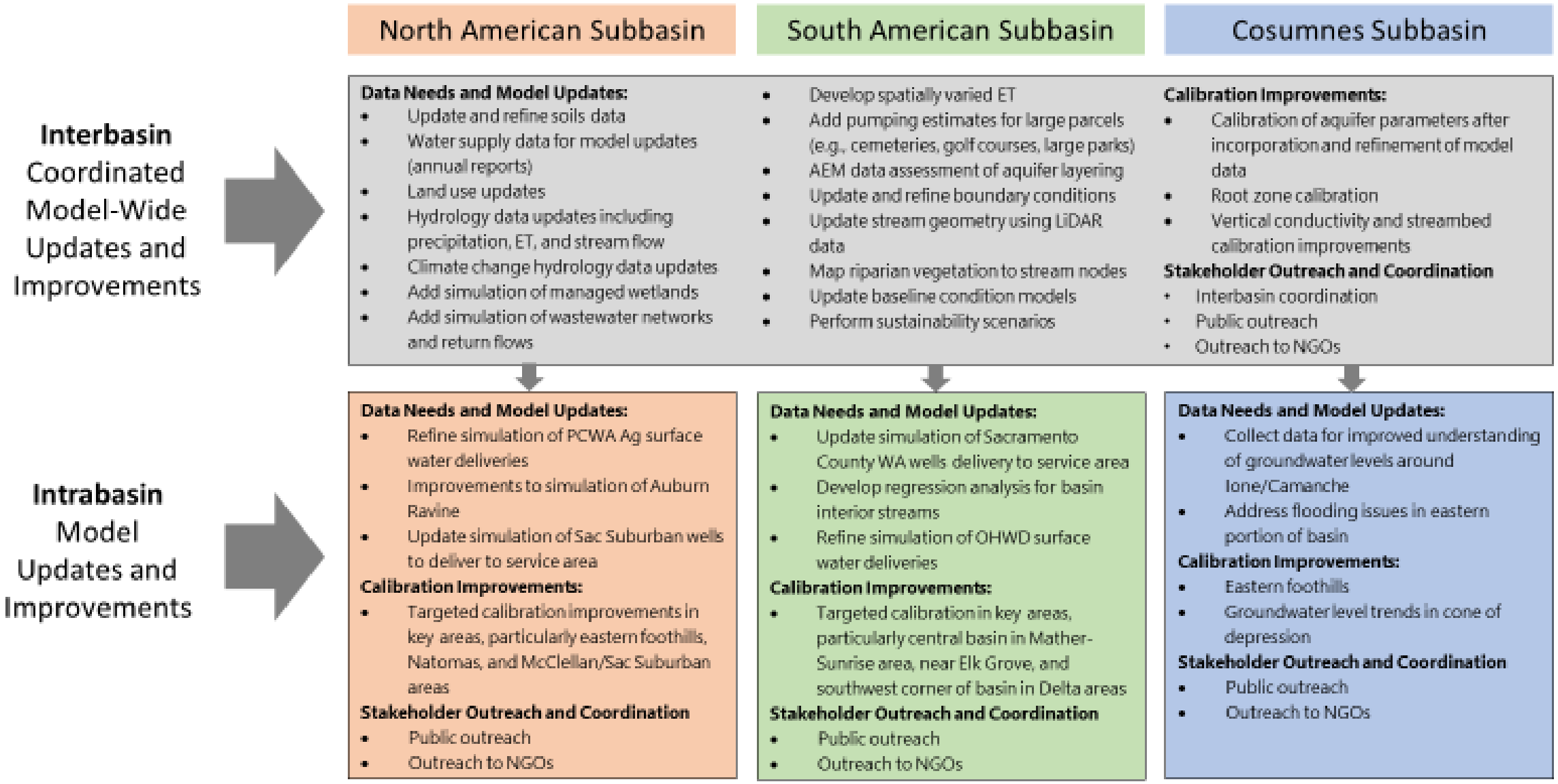
- At a minimum criteria should consider:
    + SGMA benefit
    + Geology & Soils
    + Land Use
    + Water Conveyance
    + Sensitive Habitat & Zones
    + Groundwater Conditions
    + Site History/Potential Contamination
    + Land & Water Costs

- At a minimum findings should consider:
    + SGMA benefit
    + Geology & Soils
    + Water Source, Quality, & Conveyance
    + Sensitive Habitat
    + Groundwater Conditions
    + Potential Contamination
    + Land & Water Costs

- At a minimum performance testing will consist of:
    - Installation of recharge monitoring infrastructure
        - Wells
        - Gages
        - Berm Maintenance
    - Monitoring:
        - Infiltration rates
        - Groundwater flow & quality

- Implement Financial Plan
- Secure Interagency and land owner agreements
- Implement and document conditions based on long term monitoring
- Reporting SGMA and other benefits

CoSANA Model Upgrade and Enhancements
Coordinated Effort for Cosumnes, South American, & North American Subbasins



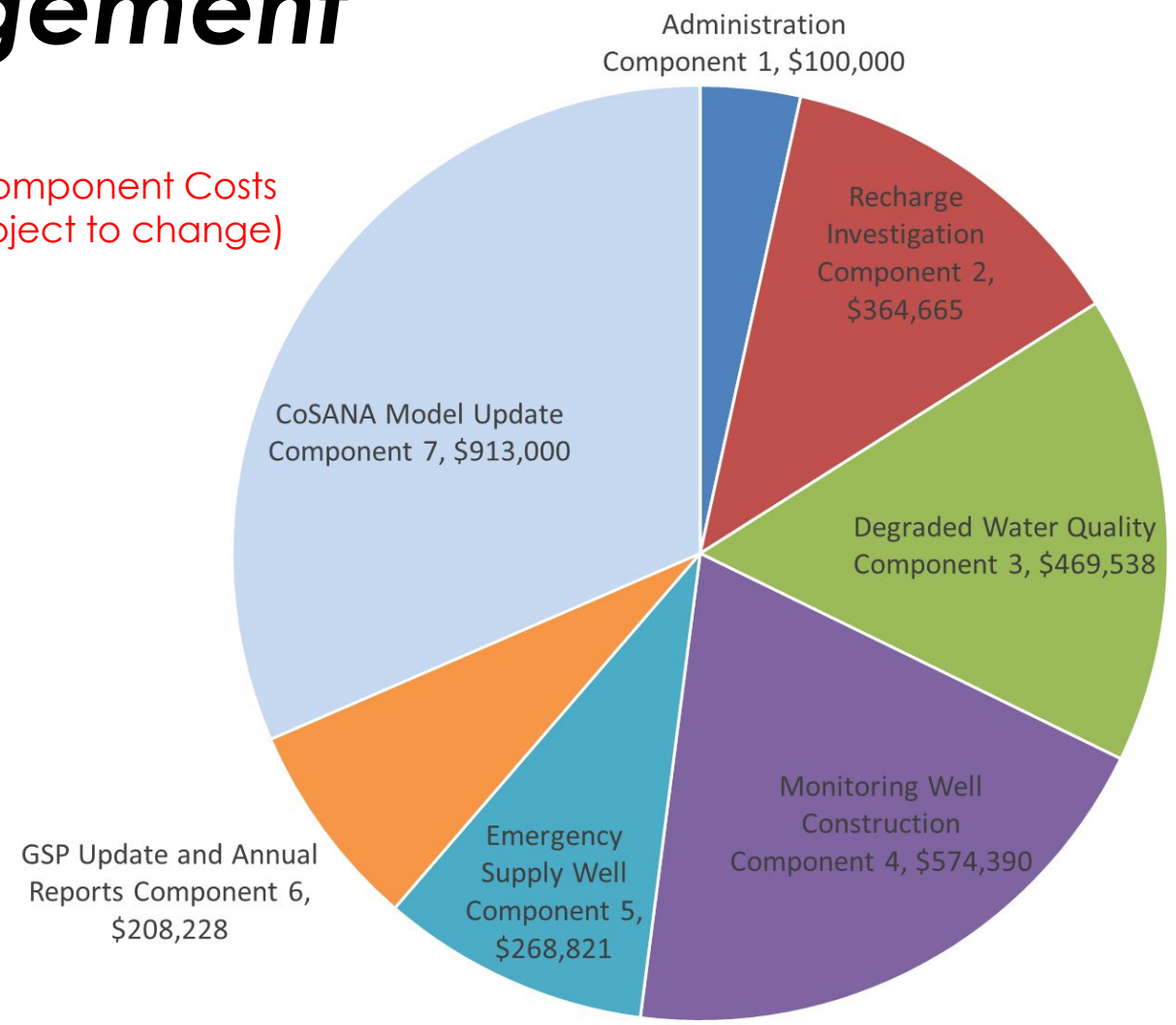
subject to change

Advancing NASb Sustainable Groundwater Management

Components

1. Grant Administration
2. Recharge Basin Feasibility Study
3. PCE Water Quality Study
4. Monitoring Wells
5. Large Capacity Monitoring Well/Emergency Supply Well
6. Annual Reporting and 5-year update
7. CoSANA modeling improvements

Estimated Component Costs
(costs are subject to change)



Total Estimated Cost = $2,798,700

SGA (non-SGMA) Activities

SGA (non-SGMA) Activities

- Prior Groundwater Management Plan (GMP) development & implementation (State of Basin Reporting)
- Prior Local Groundwater Assistance Grants

- **Analysis of Pumping Targets to Optimize Conjunctive Use**
- **Monitoring and Data Management**
- **Other: Well Permitting, General Plan Evaluation, Future Grants, etc**
- **Regional Contamination Issues Committee (RCIC)**

- Groundwater Substitution Transfers (RWA subscription service)

SGA – Timeline of Activities

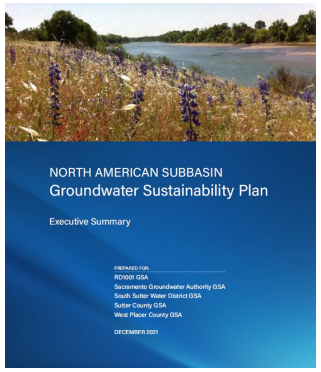
SGMA

SGA

GSP development and adoption

GSP Implementation Begins and continues…

5-year updates (2026, 2031, 2036, 2041)



2016 to 2021

Prior Groundwater Management Plan Development and Implementation

2022

Dec

SGM Department of Water Resources (DWR) Grant

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Regional Contamination Issues Committee (RCIC)

Monitoring and Data Management

Other: Well Permitting, General Plan Evaluation, Future Grants, etc