Porterville Community Groundwater Workshop: SGMA & ETGSA

April 2, 2019

Ryan Jensen
Community Water Solutions Manager
CWC

Bryce McAteer
Executive Director
ETGSA

Liesbet Olaerts
Community Development Specialist
SHE

Table of Contents

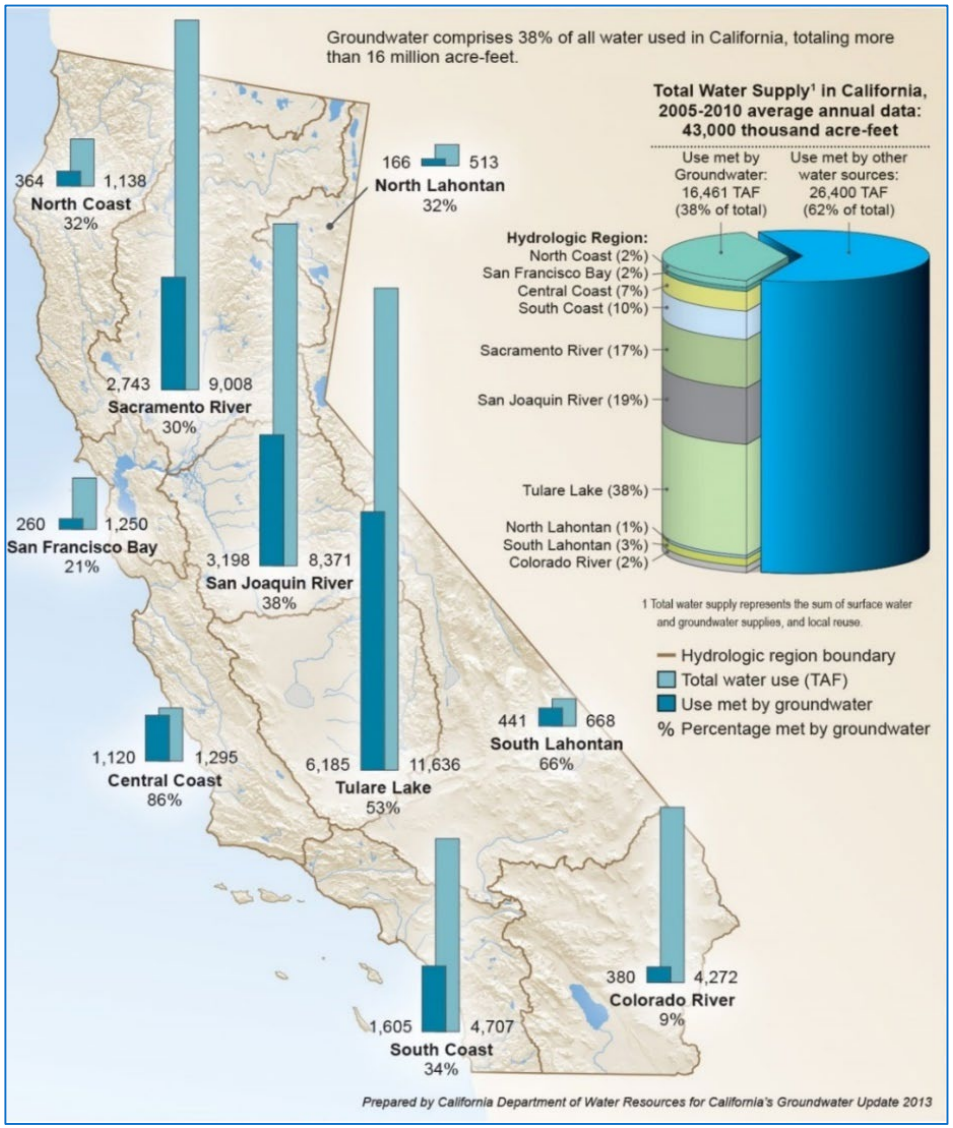
1. **Groundwater in California & the Central Valley**
2. **Sustainable Groundwater Management Act (SGMA)**
3. **Your Local Groundwater Sustainability Agency (GSA) and their SGMA Compliance Efforts**
   - Tule Subbasin
   - Local Groundwater Conditions
   - Eastern Tule GSA (ETGSA)
   - Formation & Governance
   - ETGSA's Lay of the Land
   - Groundwater Sustainability Plan (GSP)
4. **Key Questions and Next Steps in GSP Development**
   - Sustainable Management Criteria
   - Policy Points
5. **How to Get Involved, Available Resources, & How to Contact ETGSA**

FOR DISCUSSION PURPOSES ONLY

1. Groundwater in California & the Central Valley

FOR DISCUSSION PURPOSES ONLY

Groundwater in the Central Valley



Sources: DWR - *California's Groundwater Update 2013,* Centers of Excellence, CDFA
Note: Data is from period 2005-2010, unless otherwise noted

Communities: ~90% of Central Valley residents rely on GW for at least part of their drinking water supply (at home, at work, and at school!), and almost **100%** of unincorporated communities are wholly reliant on **groundwater.**

Economy: From Fresno to Kern County, groundwater helps irrigate **~3 million acres** producing **$22 billion** in cash receipts

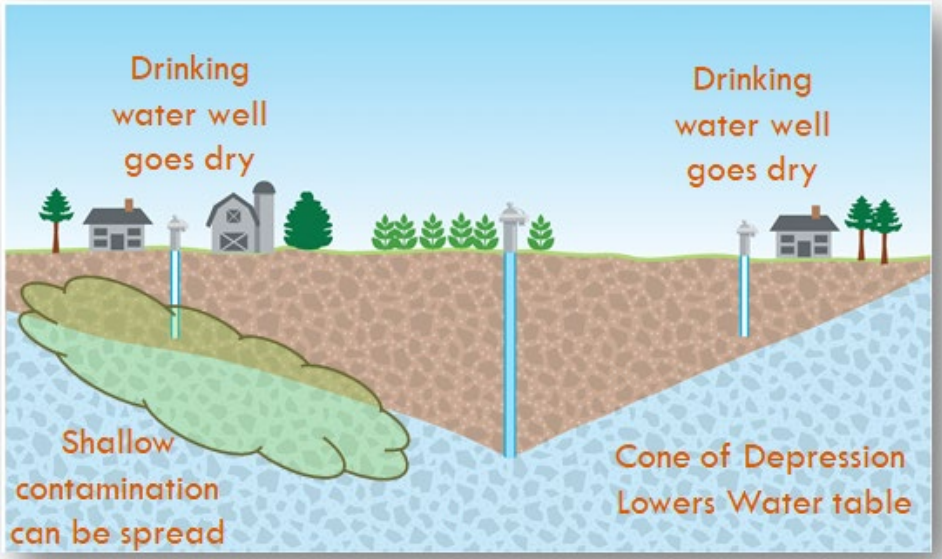
Subsidence – Over-use of groundwater has caused **land subsidence,** which has damaged major infrastructure.

FOR DISCUSSION PURPOSES ONLY

Historical Groundwater Management

- Historically, groundwater management in California has been largely piecemeal and voluntary.

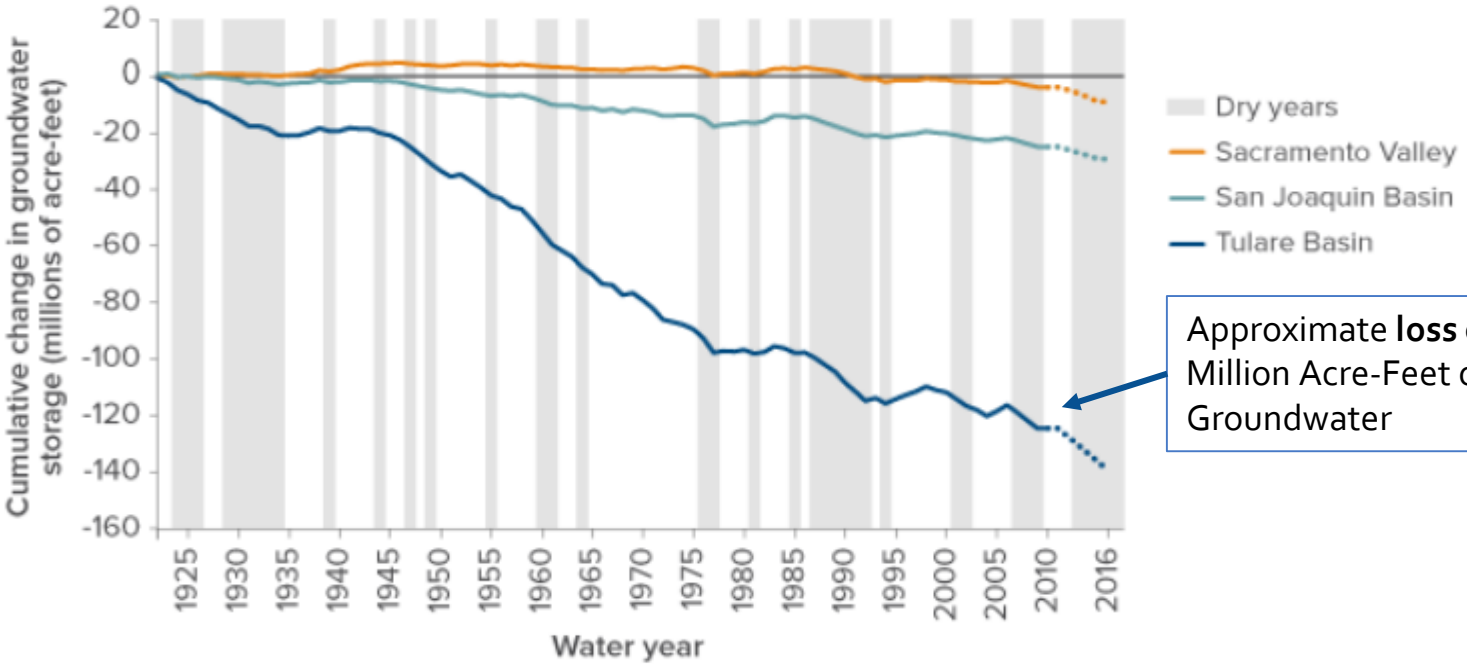
- The lack of effective groundwater management has lead to several undesirable impacts (many of which were accelerated during the 2012-2016 drought):
  - Decline of groundwater levels
  - Decline of groundwater storage
  - Dry wells and well failures
  - Subsidence
  - Degradation of water quality



FOR DISCUSSION PURPOSES ONLY

Overdraft in the Central Valley

Groundwater levels **declined by 9.0 feet** across California's Central Valley, on average, between Spring 2005-Spring 2010.



SOURCE: Updated from Ellen Hanak et al., *What If California's Drought Continues?* (PPIC, 2015), Figure 3, using data through 2009 from the California Department of Water Resources and author estimates thereafter.

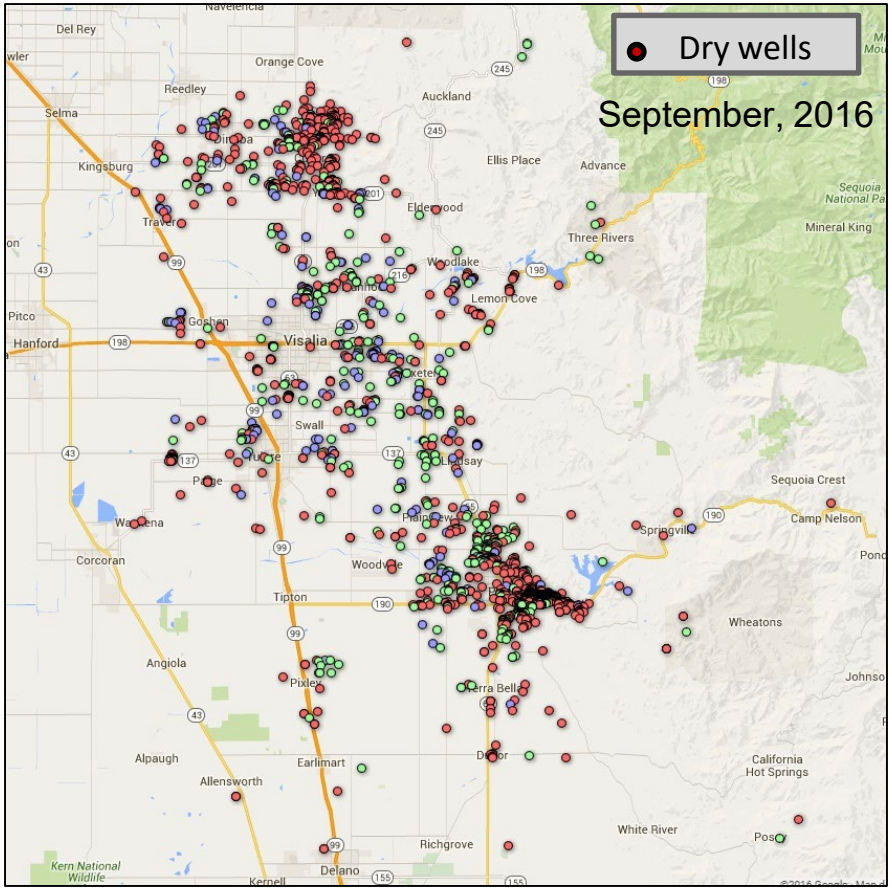
NOTES: Lines show cumulative change in groundwater storage based on water years (October–September). Projections since 2009 may underestimate depletions since the onset of the latest drought in 2012. Dry years are those classified as critical or dry in the Sacramento Valley based on the California Cooperative Snow Survey.

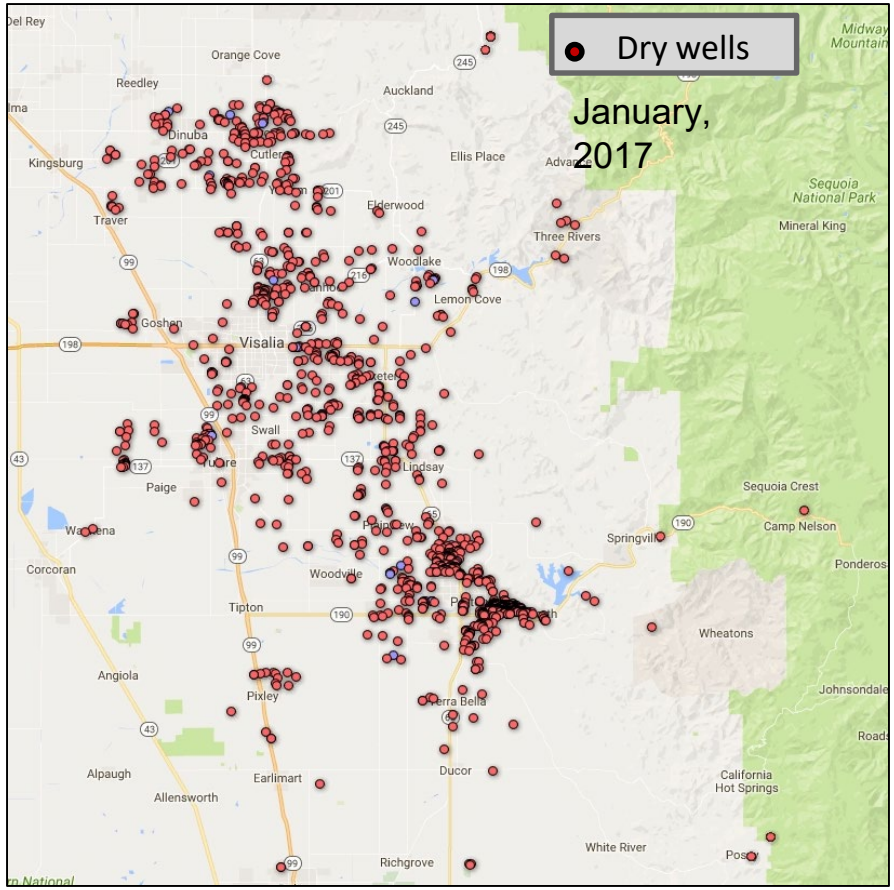
 Source: PPIC – "Groundwater In California"

FOR DISCUSSION PURPOSES ONLY

Dry Wells Resulting from GW Level Declines

County of Tulare: Drought Effects
Dry Well Status Study, 2016 - 2017





FOR DISCUSSION PURPOSES ONLY

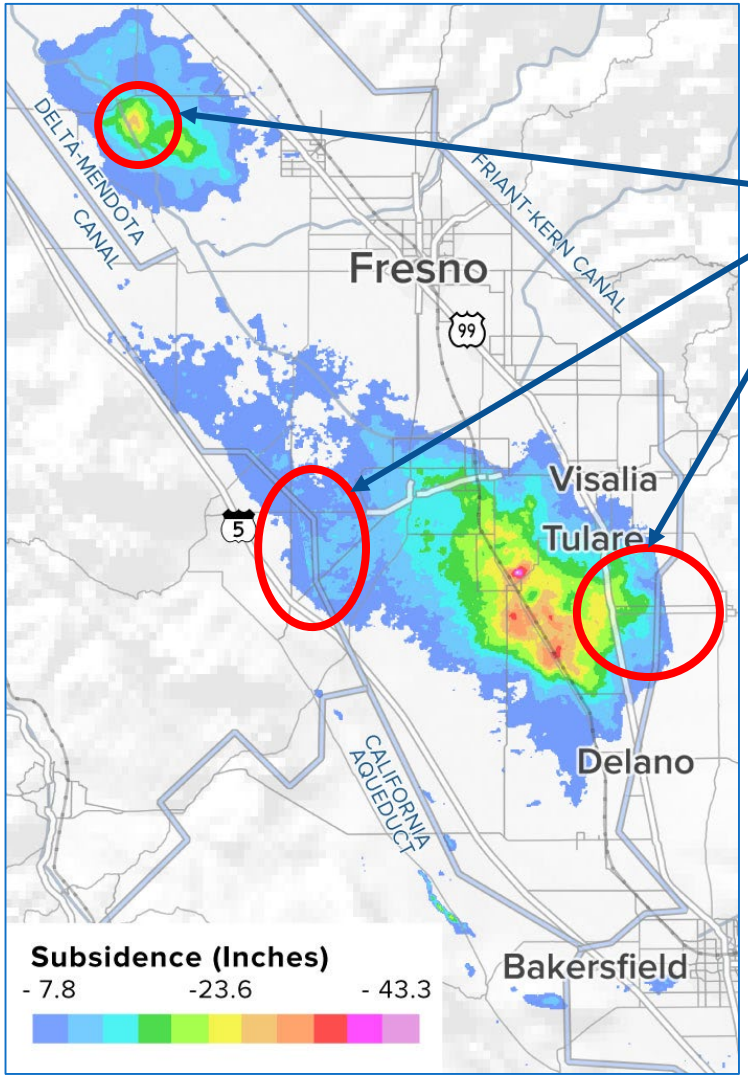
Central Valley Groundwater Quality Issues

Groundwater Quality

There are approximately **2,600 community water systems** (CWSs); **20%** of active CWS wells are **contaminated** by at least one principal contaminant that exceeds a maximum contaminant level.

FOR DISCUSSION PURPOSES ONLY

Subsidence in the Central Valley



Mid-sections of critical conveyance infrastructure (**Delta-Mendota Canal, California Aqueduct, and Friant-Kern Canal**) have, and continue to be, subject to **land subsidence** that impairs flow capacity to southern communities.

Subsidence along the Friant-Kern Canal (esp. MP 95.7-112.9) has **decreased capacity to less than 40%** of original design, with fix costs now estimated to be **> $400mm**.

Subsidence threatens groundwater sustainability by minimizing communities' ability to supply surface water in-lieu of groundwater and altering the ability of aquifers to effectively receive water for recharge.

Source: Tom Farr, NASA Jet Propulsion Laboratory (2007-11)

FOR DISCUSSION PURPOSES ONLY

2. Sustainable Groundwater Management Act (SGMA)

FOR DISCUSSION PURPOSES ONLY

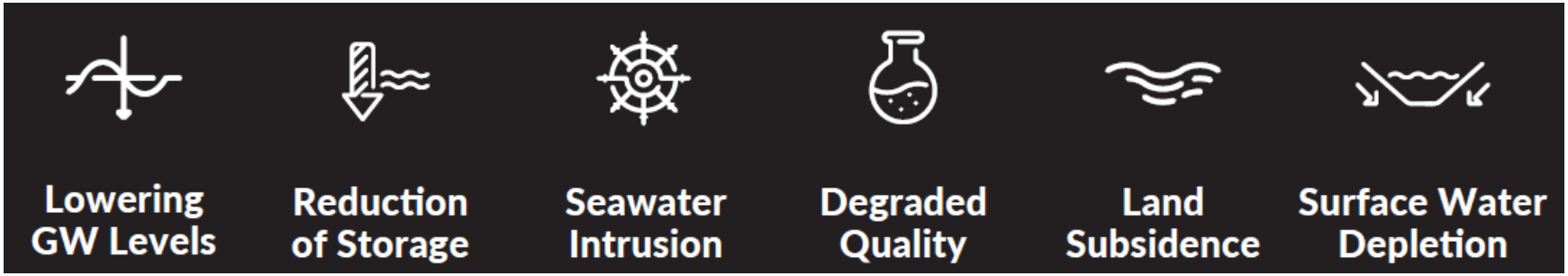
Sustainable Groundwater Management Act

What: A package of three bills: AB 1739 (Dickinson), SB 1168 (Pavley), and SB 1319 (Pavley). Known as the **Sustainable Groundwater Management Act.**

When: Signed into law on September 16, 2014.

Why: To provide a framework for the sustainable management of California's groundwater resources in order to avoid the six "significant and unreasonable" undesirable results.

"Significant and unreasonable"



FOR DISCUSSION PURPOSES ONLY

Whose Interests are at Stake?

Everyone's!

Our lives depend on the availability of adequate quantities and good qualities of water to drink, cook, clean, grow, wash, flush, and much else!

Interested Parties could include…

- Agricultural & domestic groundwater users
- Public water systems
- Landowners, businesses, & communities
- Local land use planning agencies
- Environmental users of groundwater
- Surface water users
- California Native American tribes
- Disadvantaged communities
- Households relying on domestic wells

FOR DISCUSSION PURPOSES ONLY

SGMA Implementation: GSAs & GSPs

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

Groundwater Sustainability Agency (GSA): A local agency charged with implementing SGMA through the creation, adoption, and implementation of a Groundwater Sustainability Plan.

Groundwater Sustainability Plan (GSP): A plan developed and implemented by a GSA that describes, among other things, how the GSA will meet the sustainability goal of basin.

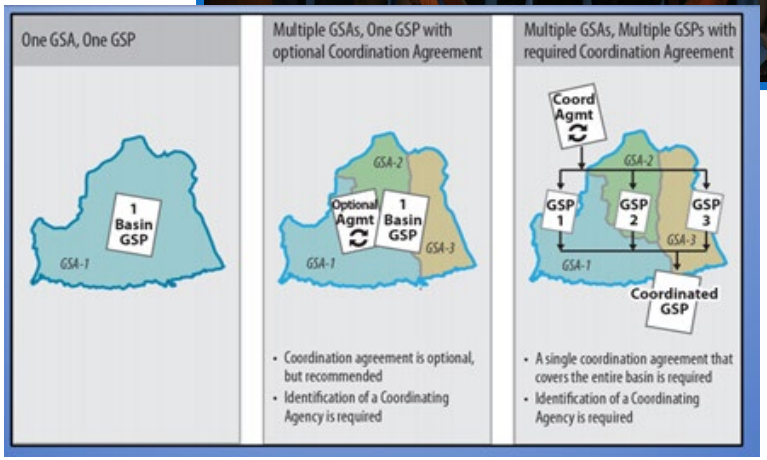
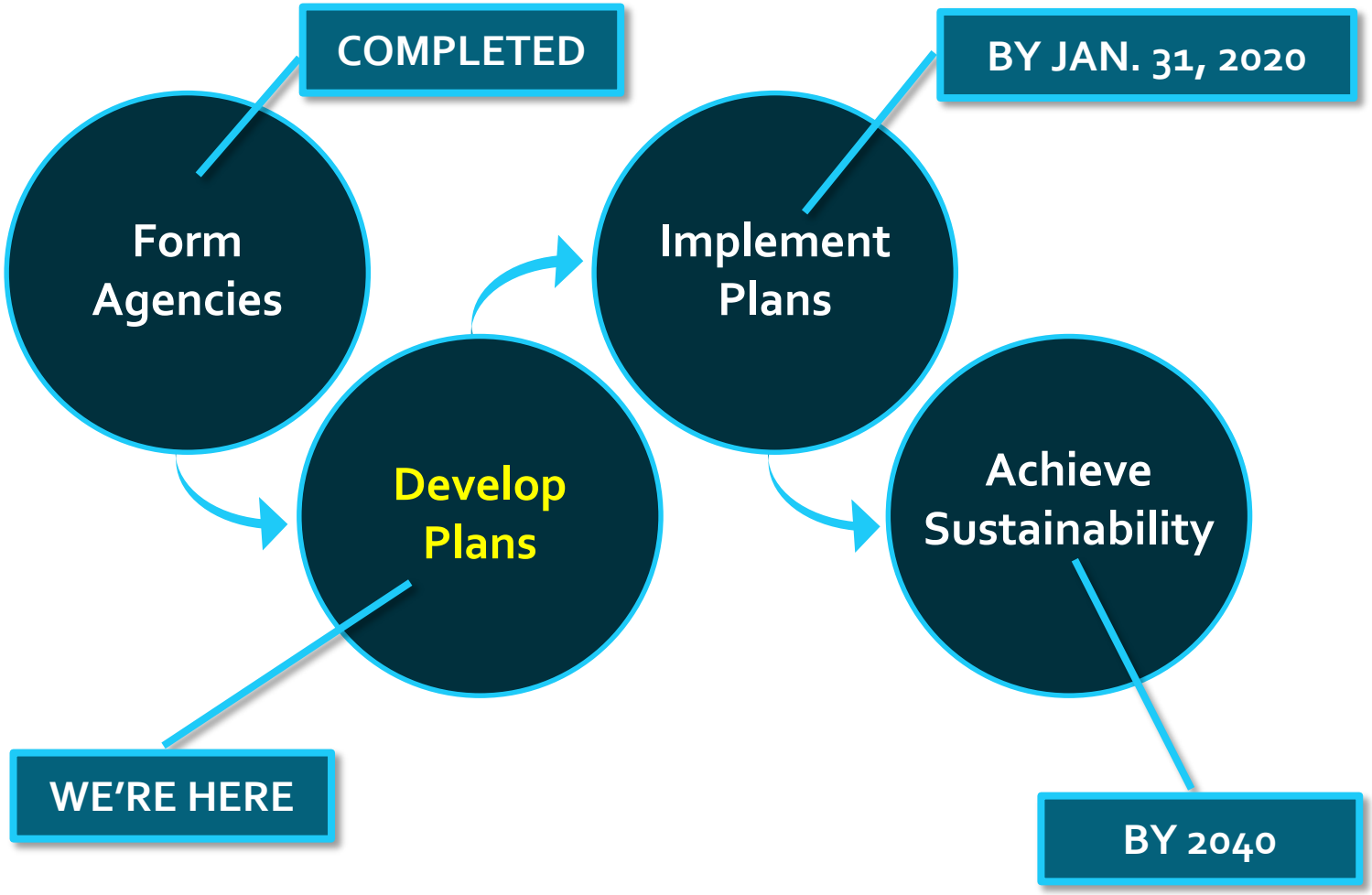


Image Source: DWR Groundwater Sustainability Plan (GSP) Emergency Regulations Guide

FOR DISCUSSION PURPOSES ONLY

Pathway to Sustainability



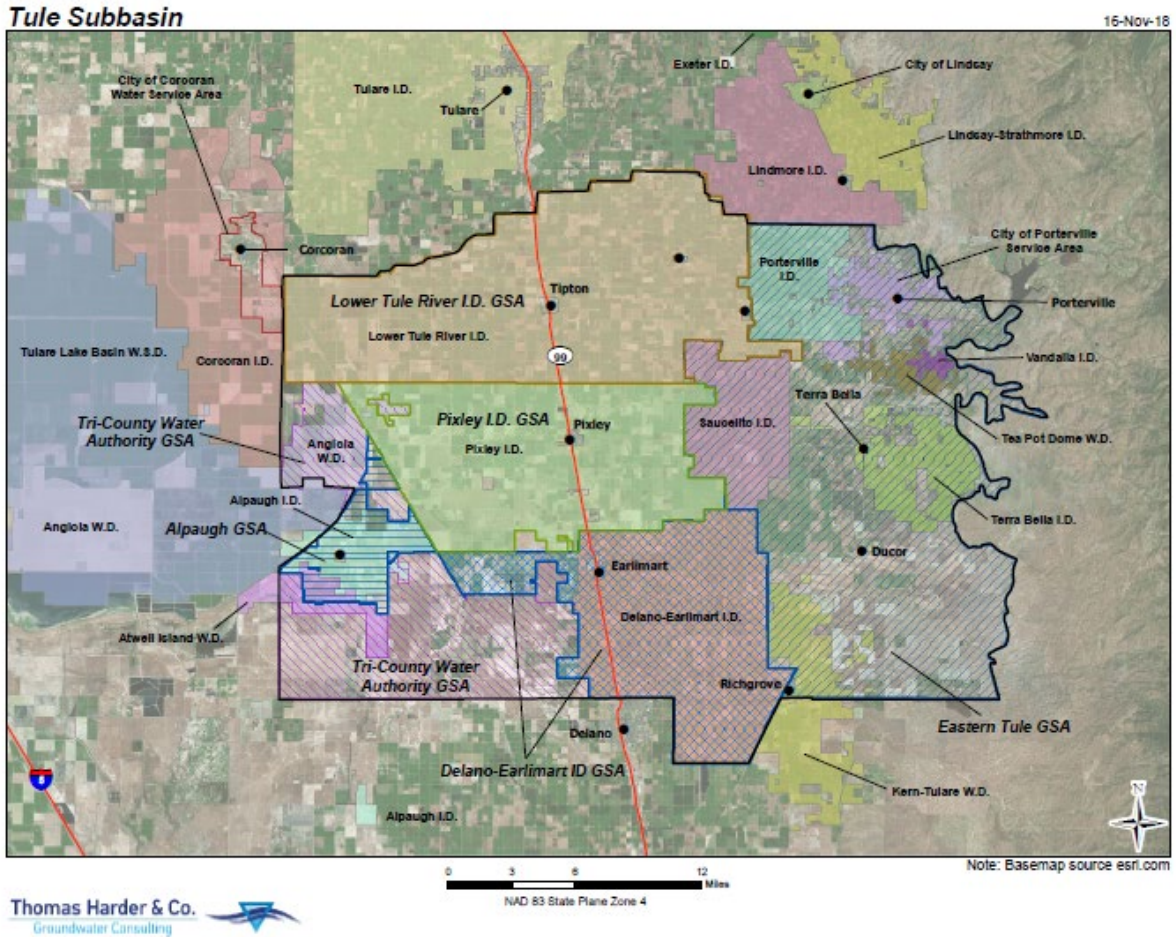
IMPORTANT- Stakeholder engagement is encouraged and mandated throughout all phases of development and implementation!

FOR DISCUSSION PURPOSES ONLY

3. Your Local Groundwater Sustainability Agency (GSA) and their SGMA Compliance Efforts

FOR DISCUSSION PURPOSES ONLY

Our Local Groundwater: Tule Subbasin



General Statistics

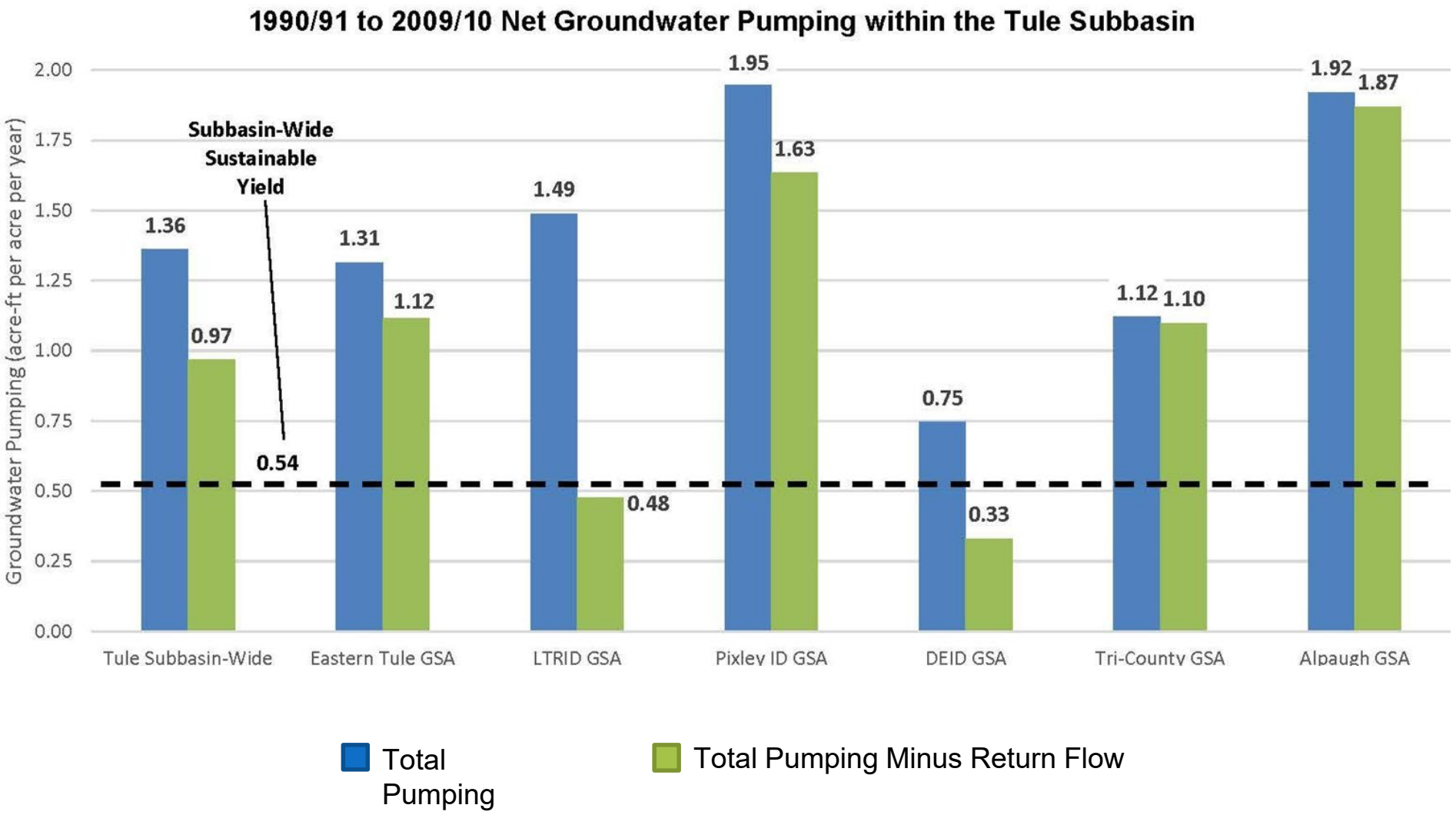
- **Total Area:** ~475,000 acres
- **Urban/Industrial:** ~30,000 acres
- **Agricultural:** ~320,000 acres
- **Native/Rural Area:** ~125,000 acres
- **Population:** ~95,000 persons
- **DACs/SDACs:** 14 communities
- **Clean-Up Sites:** 26 active

- **Community Water Supplied by Groundwater:** 95%
- **Agricultural Water Supplied by Groundwater:** 52%

Sources: DWR, DWR SGMA Data Viewer, Thomas Harder & Company

FOR DISCUSSION PURPOSES ONLY

Critical Overdraft & Tule Basin Imbalance

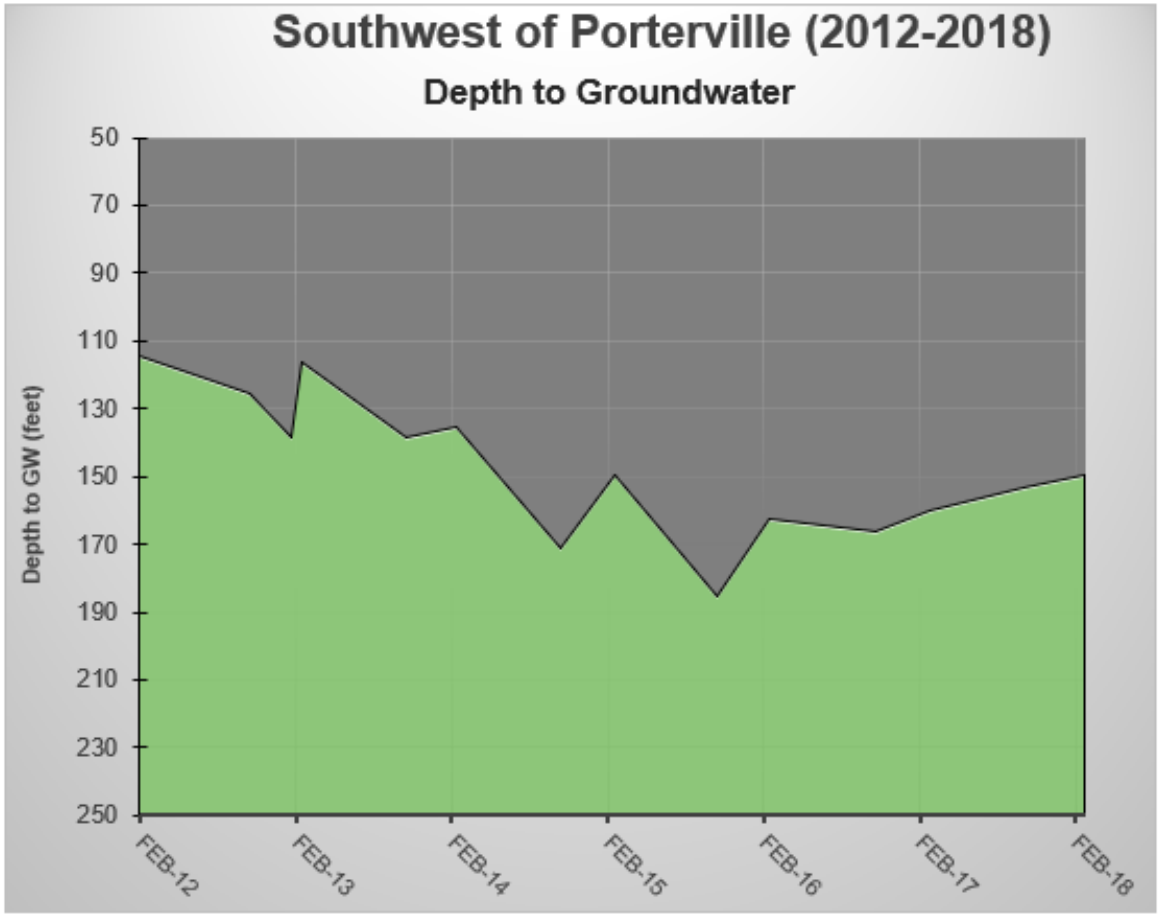


Per TH&Co 2017 Water Budget; Subject to Change & Update

FOR DISCUSSION PURPOSES ONLY

Local Lowering of Groundwater Levels

Location	Southwest of Porterville
CASGEM ID	47952
Selected Data Range	2012-2018
Available Data Range	2012-2018
Change in GW 2012-2018 (ft)	-35
High Year (DTW)	2012 (119.8)
Low Year (DTW)	2015 (167.3)



Source: CASGEM Data

Note: High Year and Low Year based on Average Annual Depth to Groundwater

FOR DISCUSSION PURPOSES ONLY

Local Groundwater Quality

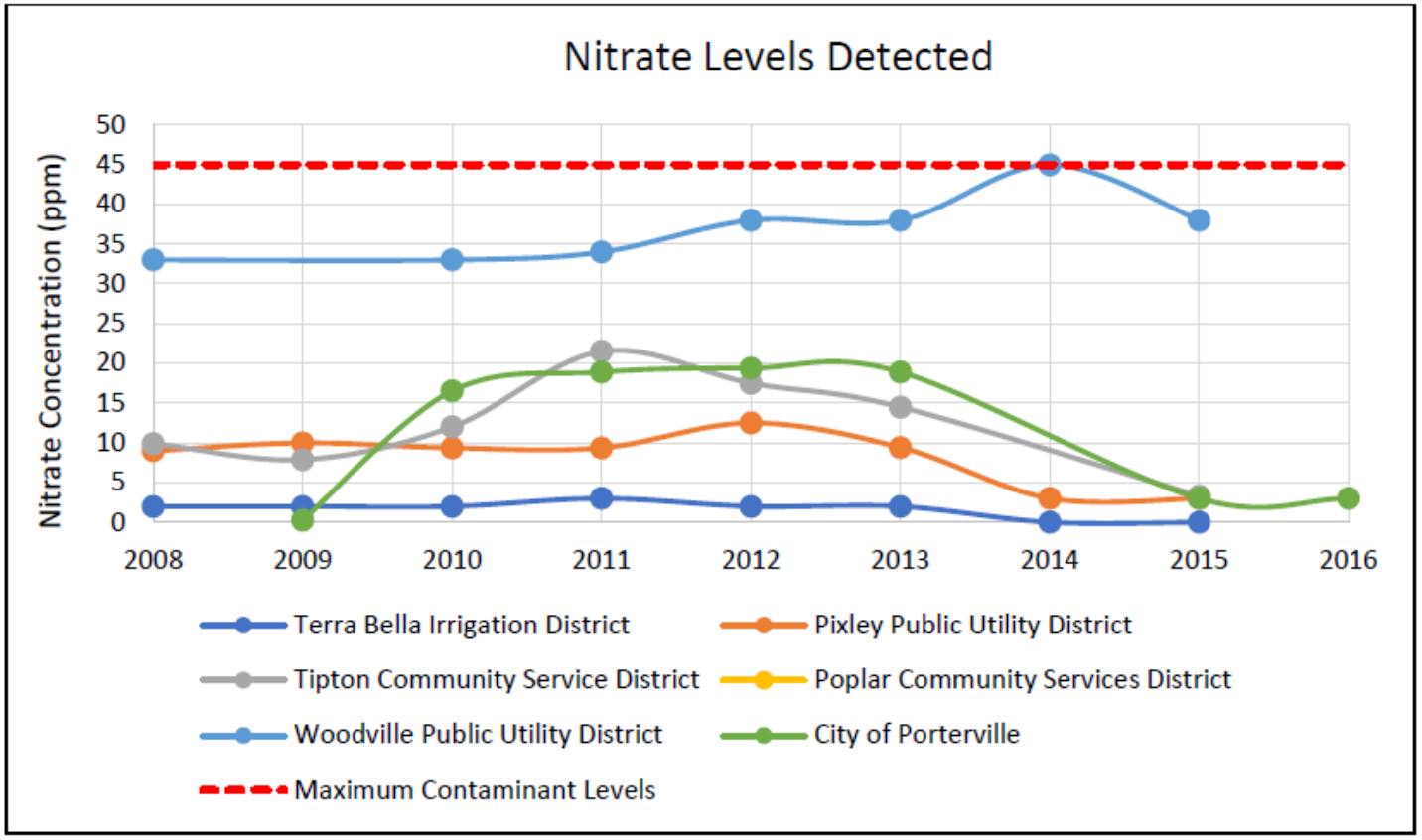
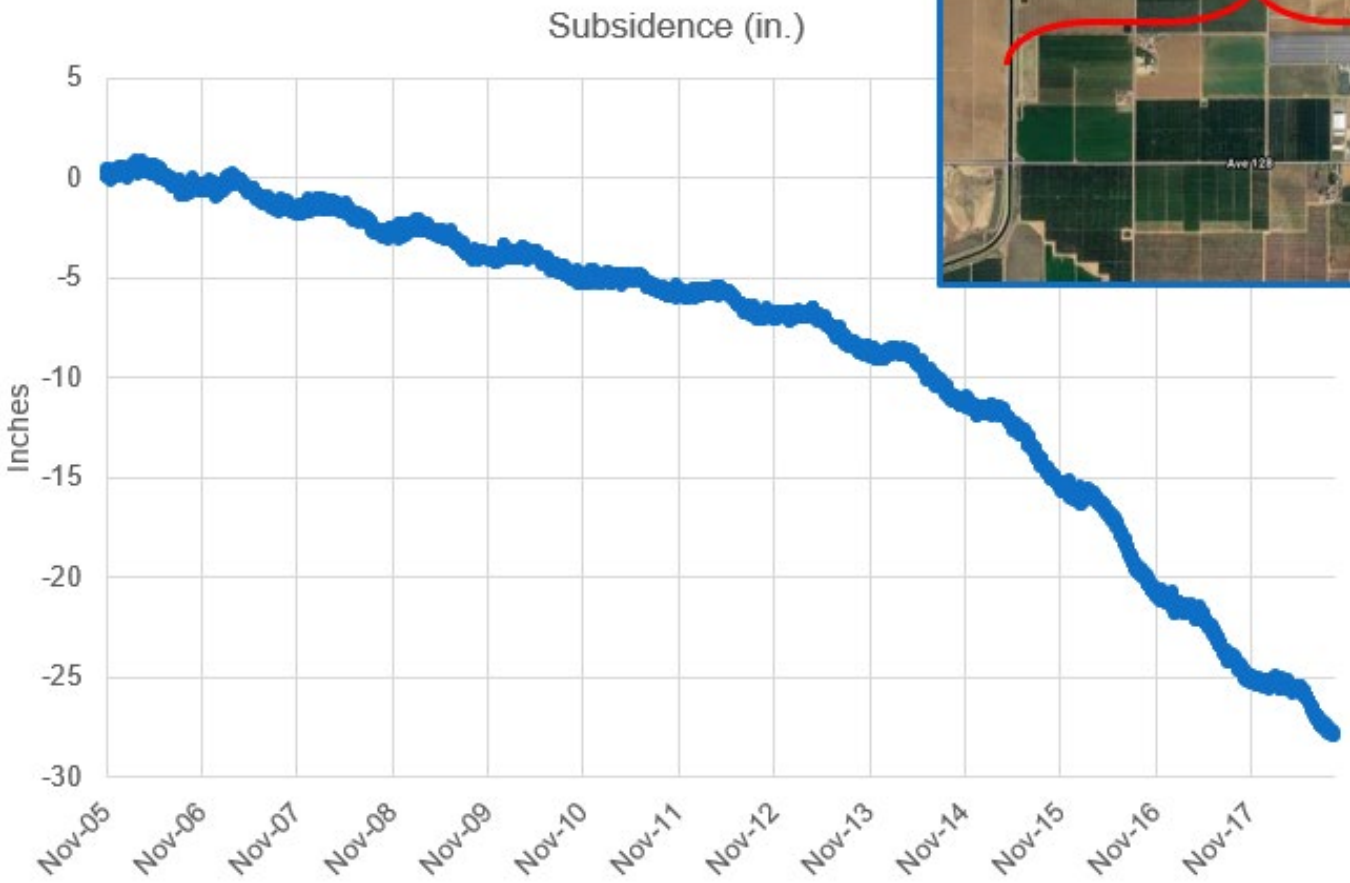


Figure C-7. Nitrate levels detected in IRWMP region (Data source: DCTRA water quality monitoring program)

Source: Tule River Basin IRWMP Update (DRAFT), 2018

FOR DISCUSSION PURPOSES ONLY

Subsidence, At Porterville Airport (Station P056)

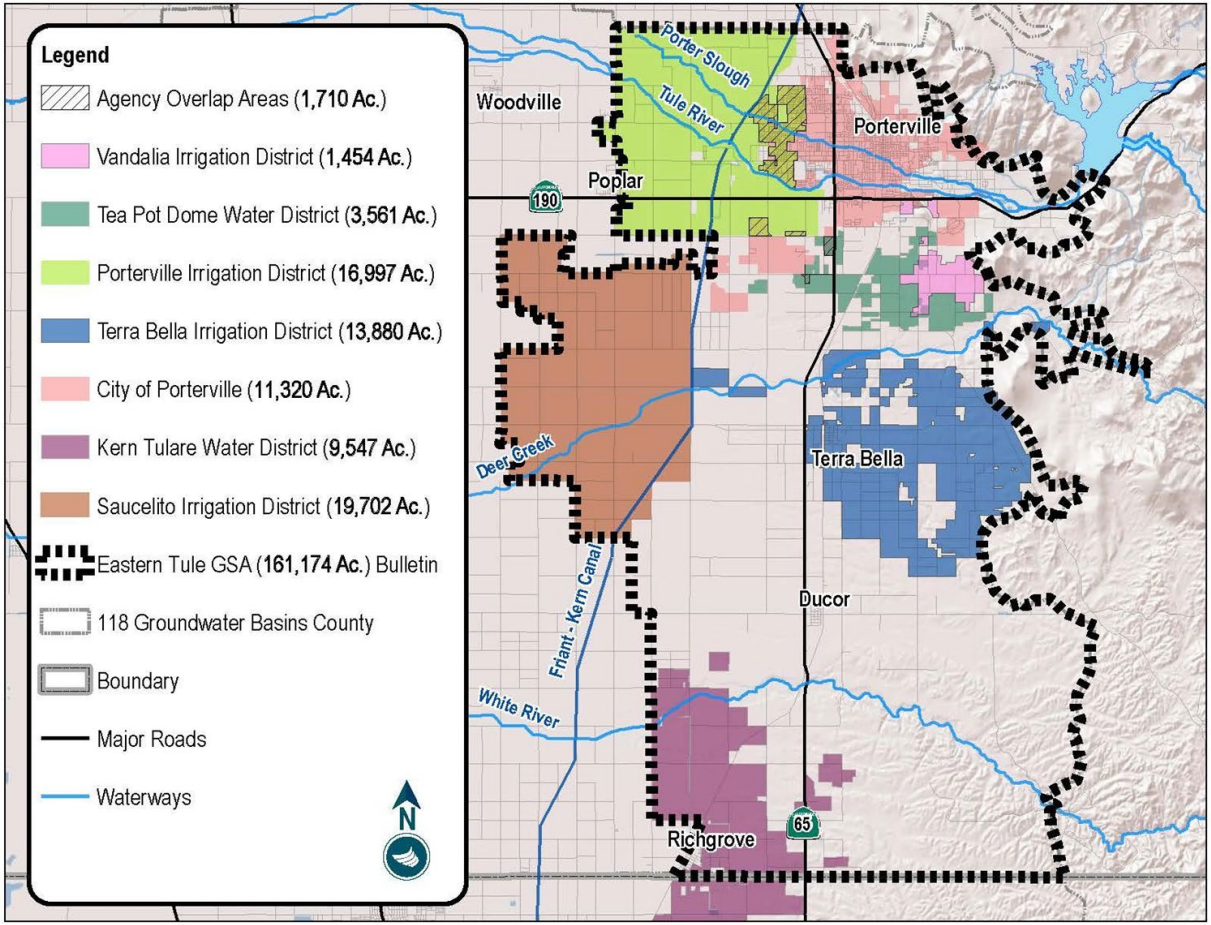


Source: UNAVCO, PBO Station P056

FOR DISCUSSION PURPOSES ONLY

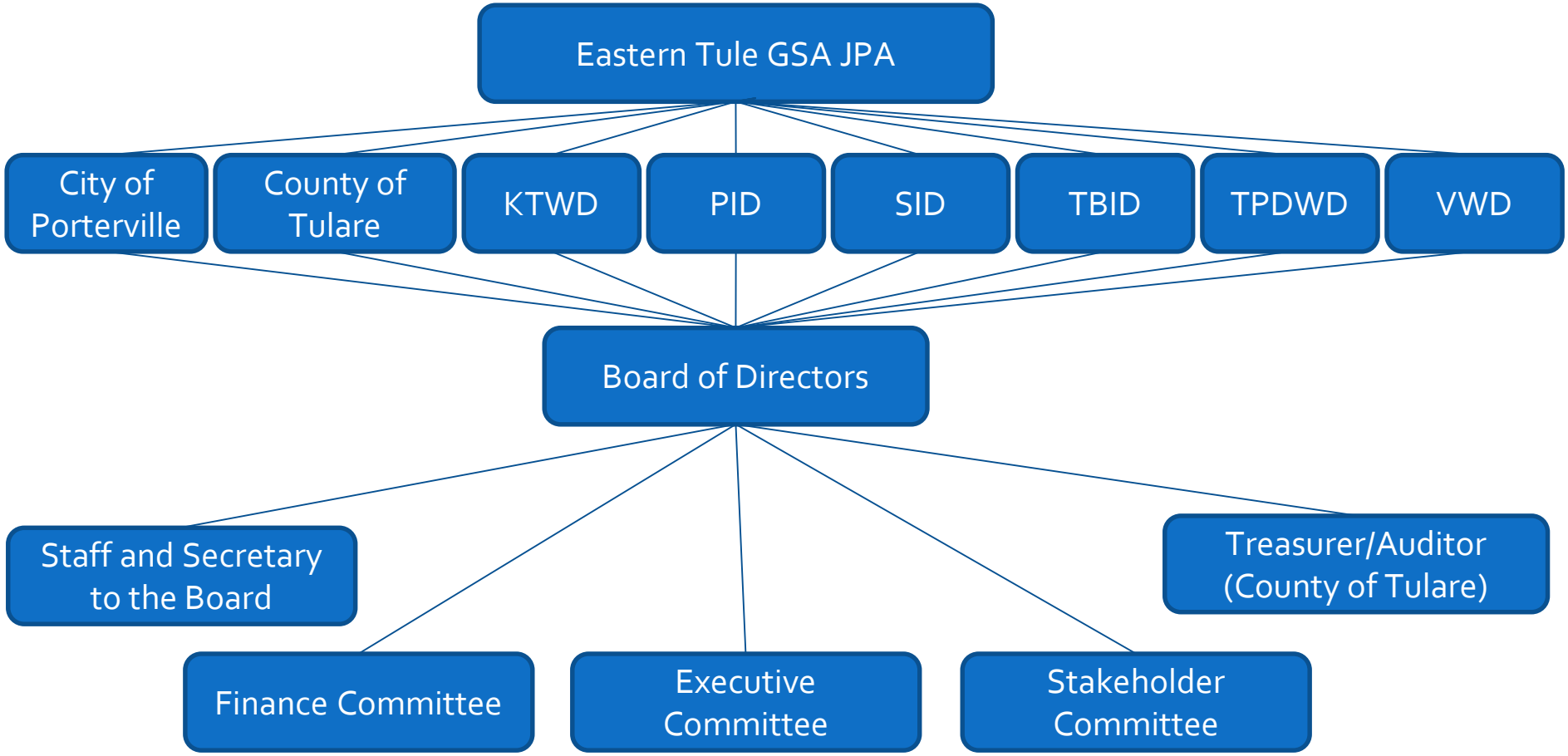
Your Local Agency: ETGSA

OFFICIAL NAME	**Eastern Tule Groundwater Sustainability Agency Joint Powers Authority**
FORMED	**December 6, 2016**
AGENCY TYPE	**Joint Powers Authority** (A joint powers authority is a new entity which consists of two or more public agencies jointly exercising powers, limited by the combined territorial jurisdictions of the individual agencies.)
GSA MEMBER AGENCIES	City of Porterville, Porterville Irrigation District, Saucelito Irrigation District, Tea Pot Dome Water District, Vandalia Water District, Terra Bella Irrigation District, Kern-Tulare Water District, County of Tulare



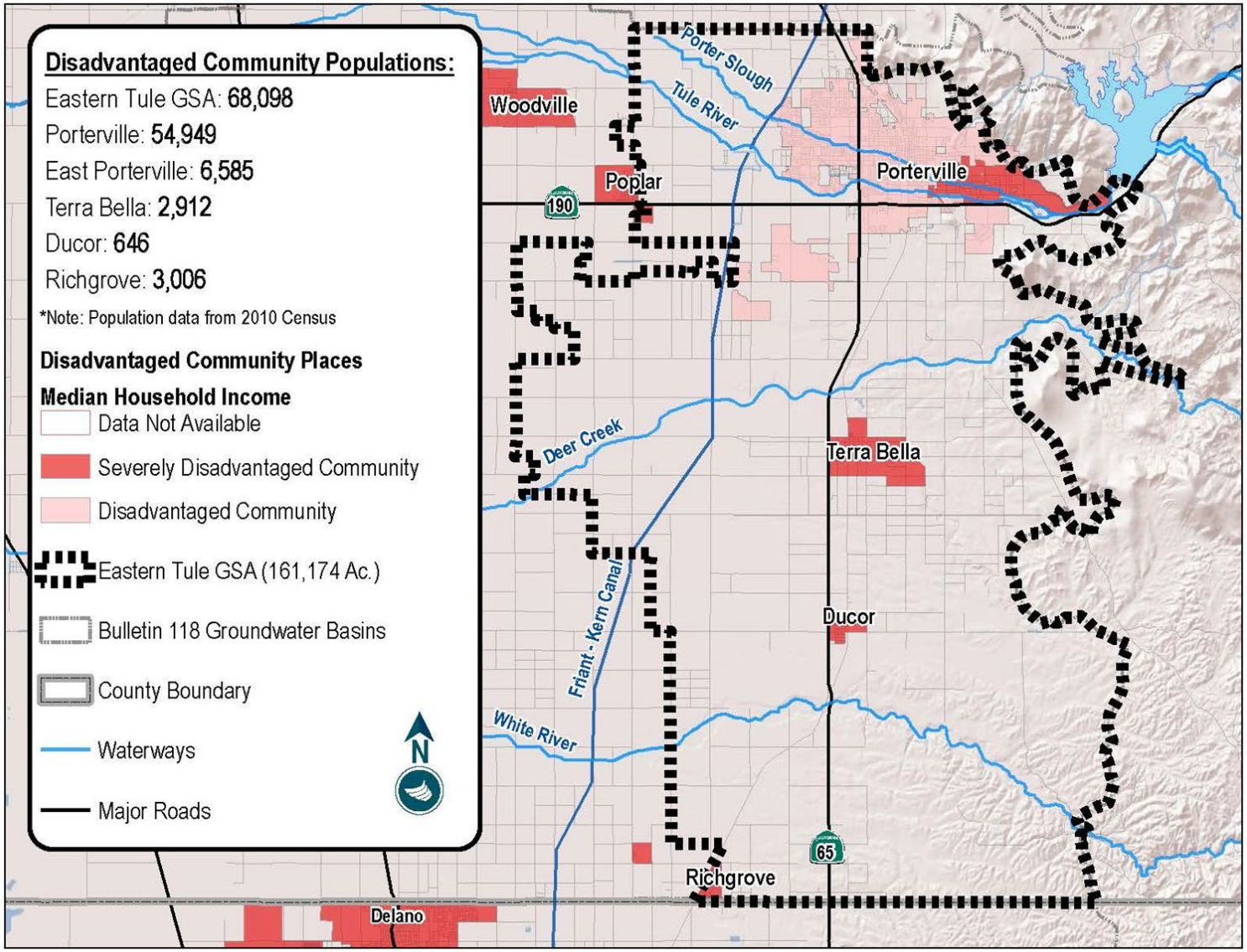
FOR DISCUSSION PURPOSES ONLY

Governance and Structure of ETGSA



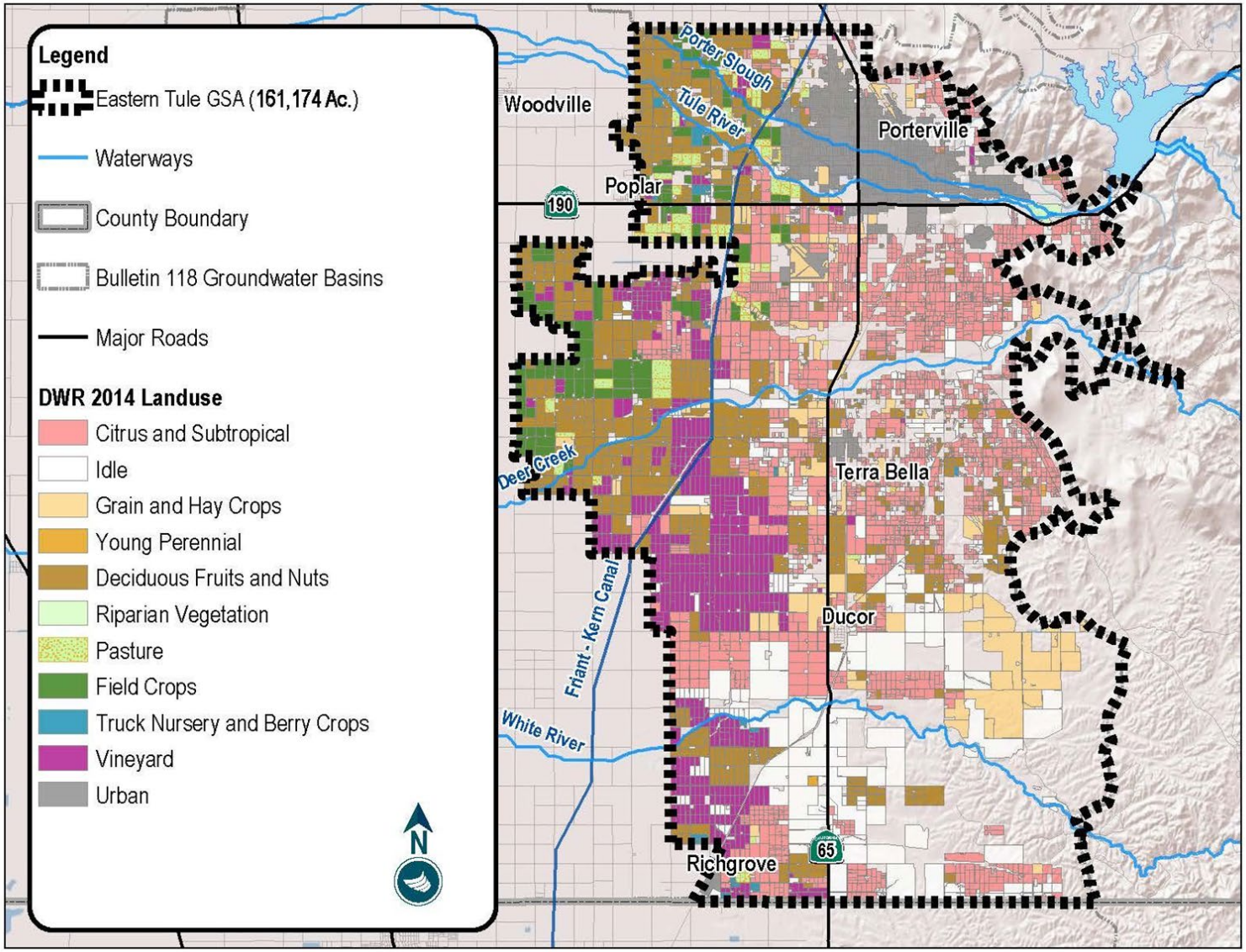
FOR DISCUSSION PURPOSES ONLY

Lay of the Land: DACs and SDACs



FOR DISCUSSION PURPOSES ONLY

Lay of the Land: Cropping in the ETGSA, 2014



Source: DWR Land Use Data, 2014; Analysis by 4Creeks

FOR DISCUSSION PURPOSES ONLY

Drafting Our GSP

Introduction – Chapter 1
- General Agency information and overview

Basin Setting – Chapter 2
- Water Budget and description of local groundwater conditions

Sustainable Management Criteria (SMC) – Chapter 3
- Sustainability Goal, Sustainable Management Criteria, and definition of "Undesirable Results"

Monitoring Plan – Chapter 4
- Description and location of the Monitoring Network

Projects and Management Actions – Chapter 5
- List of Projects and Management Actions that Agency has determined will achieve the sustainability goal

Areas for Significant Stakeholder Engagement: These chapters help describe "what do we want our future to look like" and "how will get there"?

FOR DISCUSSION PURPOSES ONLY

Draft GSP Creation Schedule

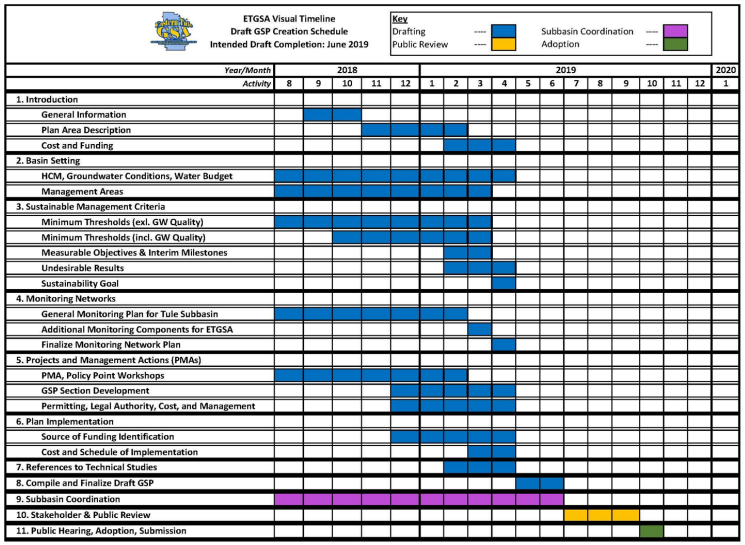
Drafting
Present - April 2019

Finalizing
April - June 2019

Public Review
July - September 2019

Adoption
September 2019 - January 31 2020

See the Full Schedule Online by visiting ETGSA's Website!



Note: This Timeline serves as a general representation of ETGSA's intended draft GSP development schedule, which is subject to change. This Timeline is current as of January 3, 2019.

FOR DISCUSSION PURPOSES ONLY

GSP Submittal and Approval by DWR

1. Tule Subbasin GSAs need to submit GSPs by **January 31, 2020**

2. DWR will provide the Tule Subbasin GSAs with a **written assessment** of their plans within **2 years.**

3. **DWR** can give the GSP one of three **determinations:**

ADEQUATE

DWR believes that the GSA, through implementation of its GSP, is ***likely to achieve its sustainability goal*** within the 20 year statutory time horizon. GSAs continue locally implementing their plans.

INCOMPLETE

GSAs given up to 180 days to **fix their GSPs,** then re-submit and re-evaluate

INADEQUATE

DWR believes that the GSP ***is not likely*** to be able to achieve sustainable groundwater management by 2040.

Under this determination, the State (via the SWRCB) may designate the basin as ***Probationary*** and ***manage the Subbasin*** through an **Interim Plan**!

- Much more expensive
- Much less local control

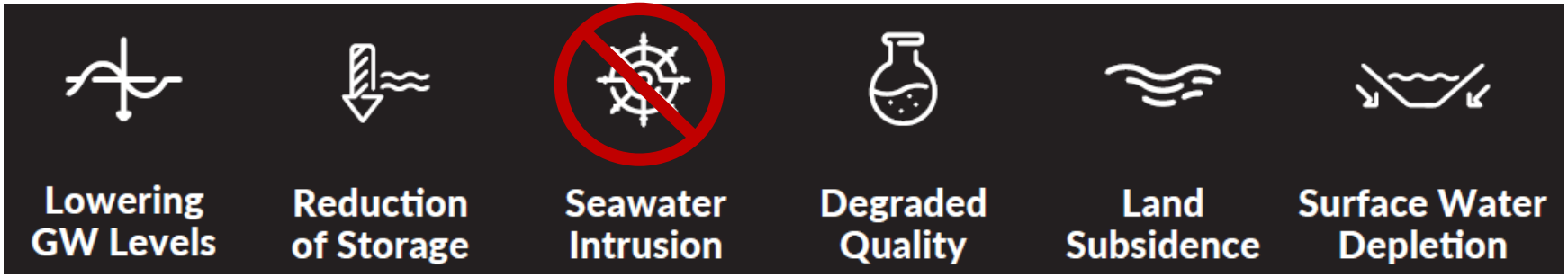
FOR DISCUSSION PURPOSES ONLY

4. Key Questions & Next Steps in GSP Development

FOR DISCUSSION PURPOSES ONLY

Sustainable Management Criteria

SGMA requires Agencies to avoid Undesirable Results that are considered "**significant and unreasonable**"



FOR DISCUSSION PURPOSES ONLY

Sustainable Management Criteria

The Question We Are Trying to Answer:

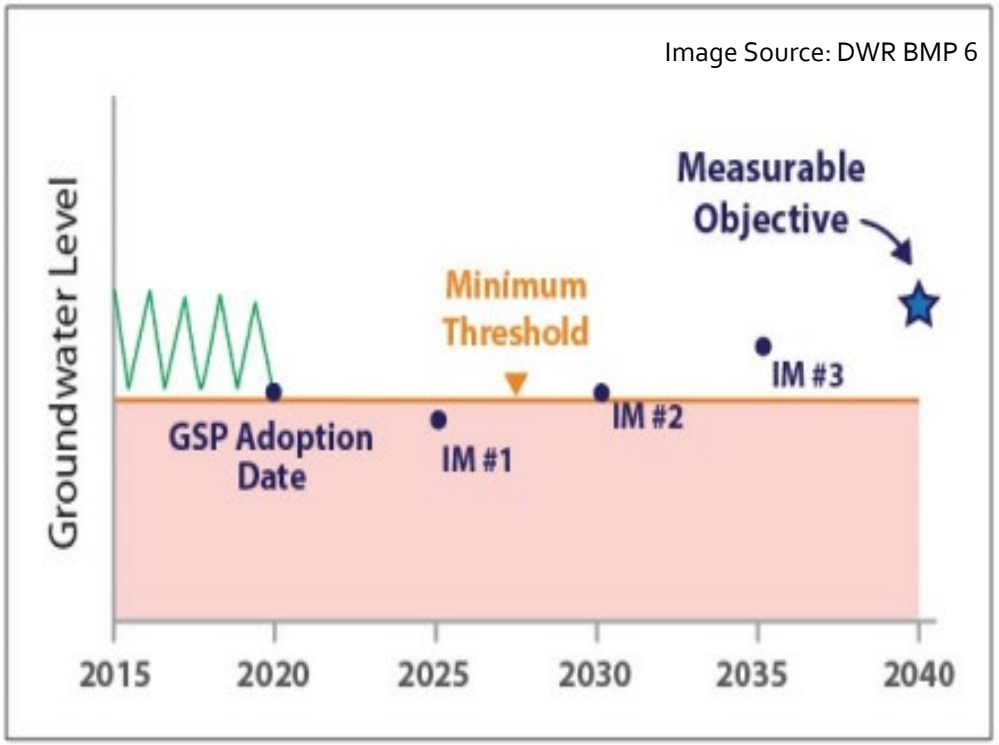
"What future (groundwater levels, water quality, and subsidence) are we comfortable with and striving for (to maintain, avoid, or improve conditions) across our Subbasin?"

Local stakeholders get to define what they consider to be **significant** and **unreasonable!**

SMCs are composed of:

- **Sustainability Goal**
- **Undesirable Results**
- **Minimum Thresholds**
- **Interim Milestones**
- **Measurable Objectives**

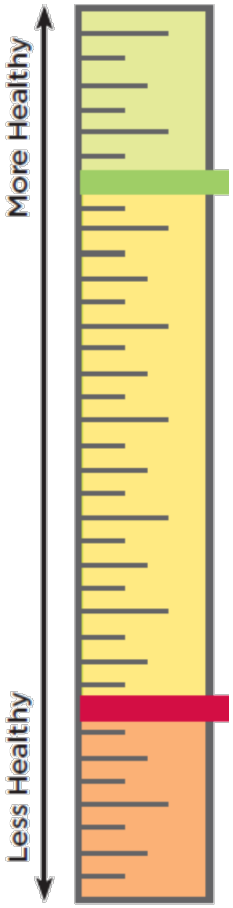
Image Source: DWR BMP 6



Note: Intra-basin GSPs must be coordinated, and their implementation cannot impede adjacent basins' ability to achieve their sustainability goals.

Sustainable Management Criteria

Two key concepts:



Measurable Objectives →

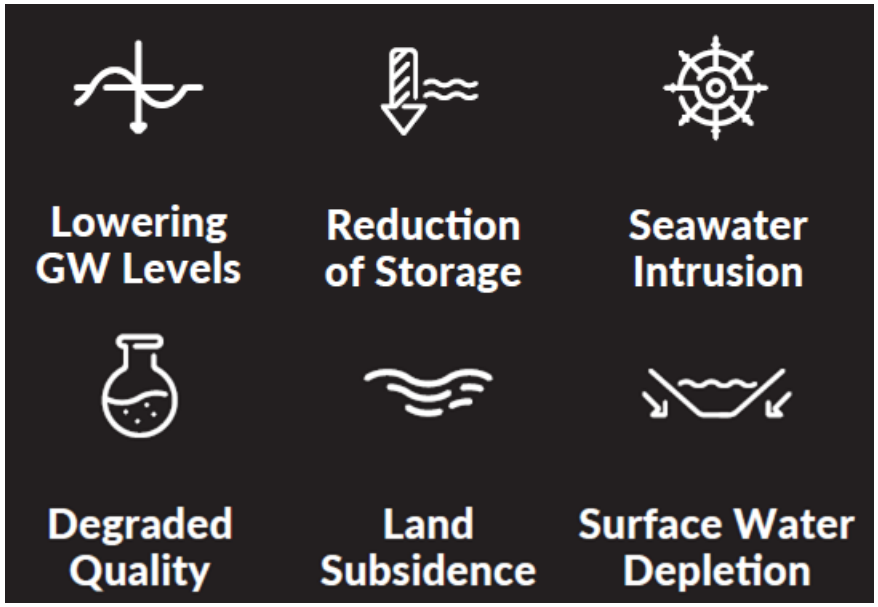
Are **aspirational goals.**
Technically, you should achieve them by 2040, but may be difficult to enforce.

Minimum Threshold →

Are **failure points** and should be **avoided**.
If they are crossed, you may be causing significant and unreasonable undesired results.

FOR DISCUSSION PURPOSES ONLY

Setting the SMCs



Questions About Our Future

- Where do we want our ***water levels*** to be?
- What costs are we willing to ***pay***?
- How much ***damage*** is acceptable, and can we mitigate for it?
- How will this affect our ability to grow our ***crops*** and ***communities***?

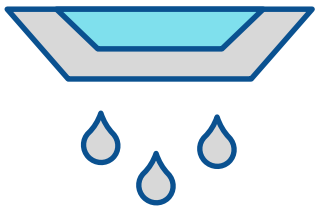
Questions About Our Path

- What ***projects*** will be built?
- What ***management actions*** will we take?
- ***How soon*** can we implement these?

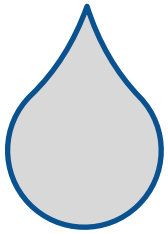
FOR DISCUSSION PURPOSES ONLY

Tools for Sustainable GW Management

GSAs will describe the Projects & Management Actions they intend to undertake in order to sustainably manage groundwater within their jurisdiction. These might include:

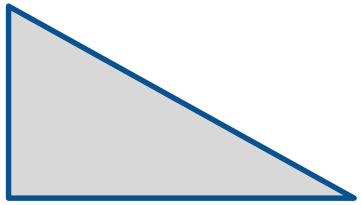


Groundwater Recharge

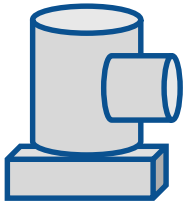


New & Optimized Supplies

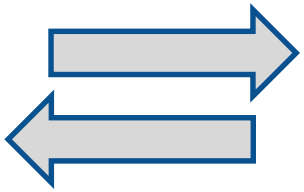
Collaboration, Mitigation, and Project Funding



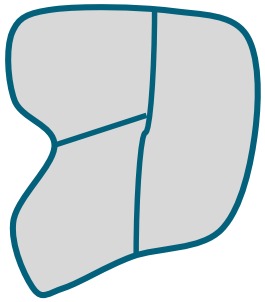
Reduction in GW Pumping



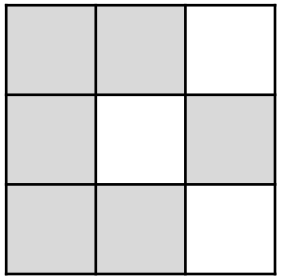
Pumping Fees



Groundwater Markets



Management Areas

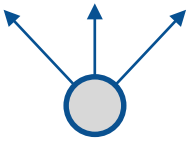


Land Retirement/ Fallowing

FOR DISCUSSION PURPOSES ONLY

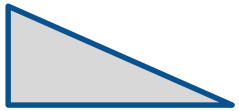
Sharing Groundwater & ETGSA Policy Points

A. Sharing System



B. Sustainable Yield

C. Allocation Decisions



D. Transitional Allocations & Period

E. Transferability

F. Wells & Monitoring of Use

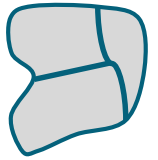
G. Penalties for Overuse

H. Pre-2020 Recharge Recognition

I. Recharge of Surface Waters

J. Banking Allocations of Groundwater

K. Groundwater Quality



L. Management Areas

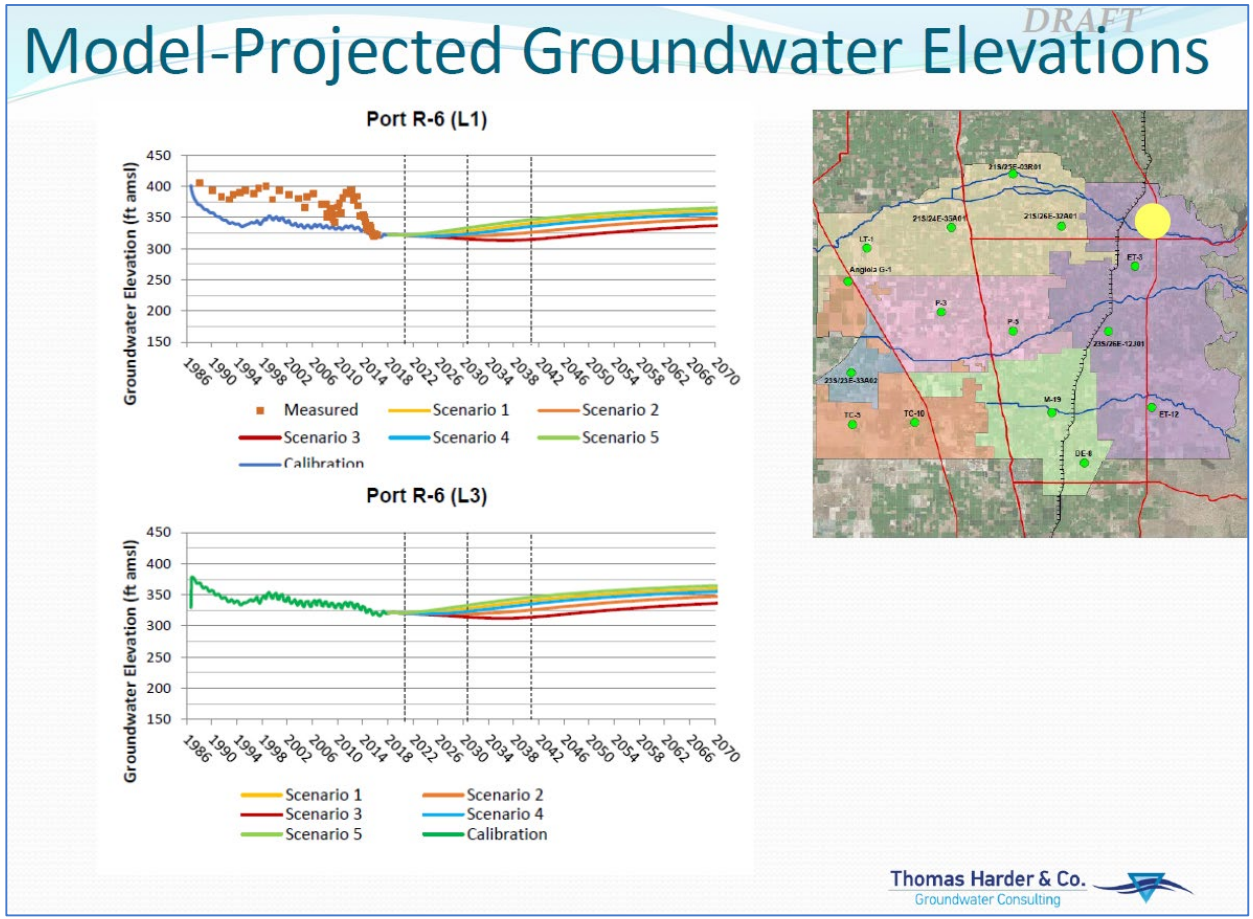
M. Funding Mechanisms

N. Governance

FOR DISCUSSION PURPOSES ONLY

Evaluating Future Scenarios via GWFM

The Tule Subbasin GSAs use the Tule Subbasin Groundwater Flow Model (**GWFM**) to perform Future Projection Scenario Runs (**FPSRs**) to help them *evaluate projects and their impact on future groundwater conditions.*



FOR DISCUSSION PURPOSES ONLY

5. How to Get Involved, Available Resources, & How to Contact ETGSA

FOR DISCUSSION PURPOSES ONLY

Ways to Participate in GSP Development

Join the ETGSA and help us shape our local GSP!

1) Share your **vision for sustainability** and ideas for projects to address groundwater conditions by **filling out today's Stakeholder Survey**

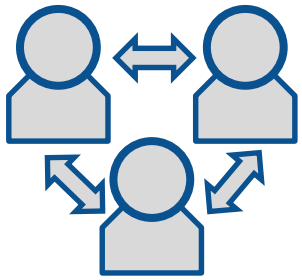
2) Visit our website for more information: **www.easterntulegsa.com**

3) Join us at **Monthly Meetings**

(a) Board Meetings
- (a) 1st Thursday of Every Month at 2pm
- (b) City of Porterville Council Chambers

(a) Stakeholder Committee Meetings
- (a) 2nd Thursday of Every Month at 2pm
- (b) 15 E. Thurman Ave, Suite D, Porterville

(a) Executive Committee Meetings
- (a) 3rd Thursday of Every Month at 2pm
- (b) 15 E. Thurman Ave, Suite D, Porterville



4) Join our **Interested Parties List** (sign up at our website or by filling out today's Stakeholder Survey) for more updates

FOR DISCUSSION PURPOSES ONLY

Technical Assistance for Disadvantaged Communities

Self-Help Enterprises

- Outreach and Education
- Direct Community Assistance (e.g. coordination, facilitation, and translation services)
- GSP Development Assistance
- Planning and Project Development
- Procurement of Professional Services

Liesbet Olaerts
(559) 802-1611
liesbeto@selfhelpenterprises.org

Community Water Center

- Outreach and Education
- GSP Development Assistance
- DAC Vulnerability Tool

Ryan Jensen
(559) 733-0219
ryan.jensen@communitywatercenter.org

FOR DISCUSSION PURPOSES ONLY

Communities Water Managers Leadership Institute

Be Part of the 2019 Rural Communities Water Managers Leadership Institute

SELF-HELP ENTERPRISES INVITES COMMUNITY WATER BOARD MEMBERS AND STAFF, WATER LEADERS AND RESIDENTS FROM RURAL COMMUNITIES TO APPLY!

The Rural Communities Water Managers Leadership Institute will consist of trainings, workshops, and an educational tour focused on building and maintaining long-term water management expertise in rural communities. The six-month program will focus on topics including, but not limited to:

- Local and Regional Community Water Uses, Challenges, and Solutions
- California Water Management and Planning Programs including, Water Management Agencies, Laws and Regulations
- Effective Community Participation in Water Management and Planning
- Available Funding and Financing
- Educational Water Tour
- Sustaining Community Participation in Water Management and Planning, Building Community Networks and Recruiting/Building New Community Leaders

Why Participate:

- Water Planning is Important to Ensuring that Water Sources are Available Over the Long-term and During Drought Periods — Ensure your Community's Water Needs are Known/Represented
- Gain New Skills and Tools Necessary to Improve your Participation in Water Management and Planning
- Network with other Communities Facing Similar Water Challenges

Schedule: March 2019 – August 2019 (sessions will be held one Saturday per month)

Location: Self-Help Enterprises 8445 W. Elowin Court Visalia, CA 93291

If you are interested in participating in the 2019 Leadership Institute, please apply today at http://bit.ly/RCWMLI2019 or complete and return an application.
You may also contact Eva Dominguez at EvaD@SelfHelpEnterprises.org or (559) 802-1634 to sign up or for more information.

This Leadership Institute is offered for free to interested participants. Funding for the Institute is provided by the Central Valley Community Foundation and the United States Department of Agriculture. Additional funding for this project has been provided from the Water Quality, Supply, and Infrastructure Improvement Act of 2014 and through an agreement with the State Department of Water Resources.

Join the 2019 Rural Communities Water Managers Leadership Institute

1) **What is:** Trainings, workshops, and an educational tour focused on building and maintaining long-term water management expertise in rural communities

2) **Schedule**: One Saturday per month from March 2019 to August 2019. With first session on March 23rd**!**

3) **Location:** Self-Help Enterprises 8445 W. Elowin Court Visalia

4) **Deadline to apply:** Tuesday, March 12th, 2019.

5) Visit our website for more information: https://www.selfhelpenterprises.org/programs/community-development/leadership-development/

FOR DISCUSSION PURPOSES ONLY

ETGSA Contact Information

Join the ETGSA and help us shape our local GSP!

Eastern Tule GSA

Bryce G. McAteer

Executive Director

www.easterntulegsa.com

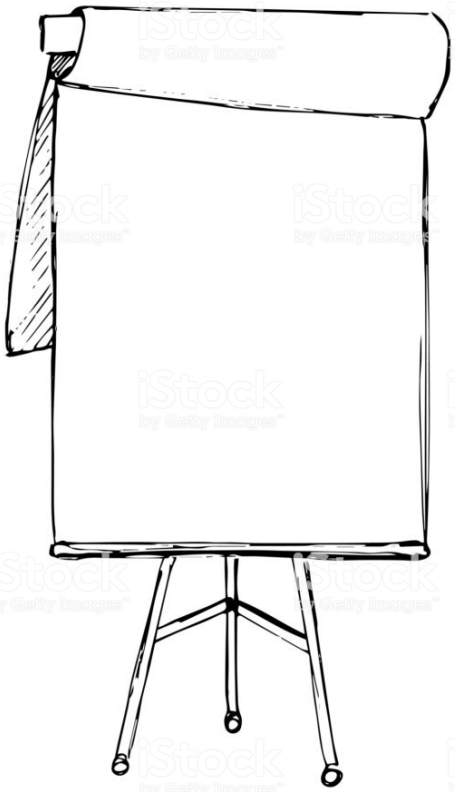
info@easterntulegsa.com

559-791-8880

881 W. Morton Ave, Ste D, Porterville

FOR DISCUSSION PURPOSES ONLY

-WORKSHOP ACTIVITY-



What are the groundwater challenges your community is facing?

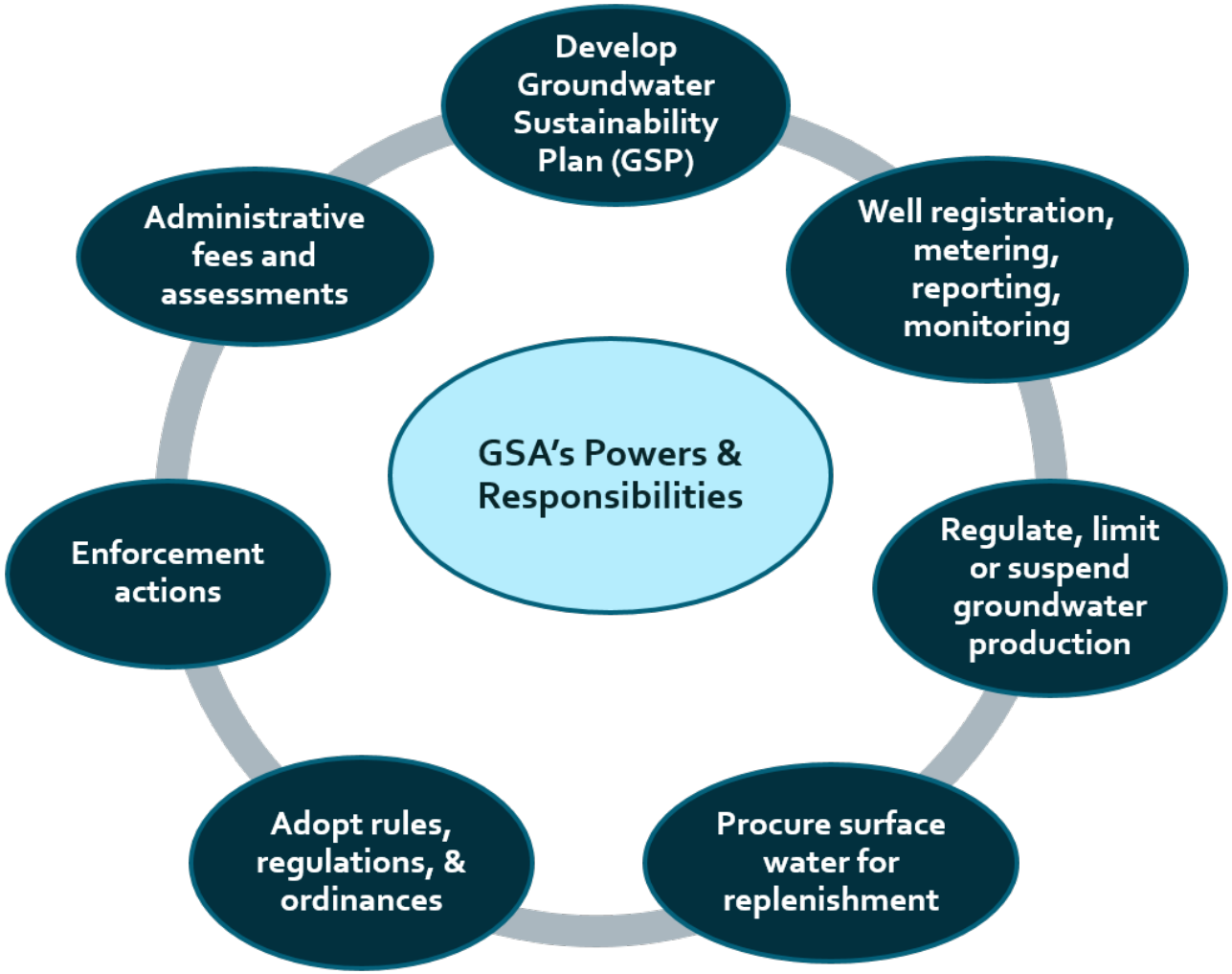
You can help shape what is included in the plan and you have valuable knowledge of the challenges your community faces!

FOR DISCUSSION PURPOSES ONLY

Additional Slides

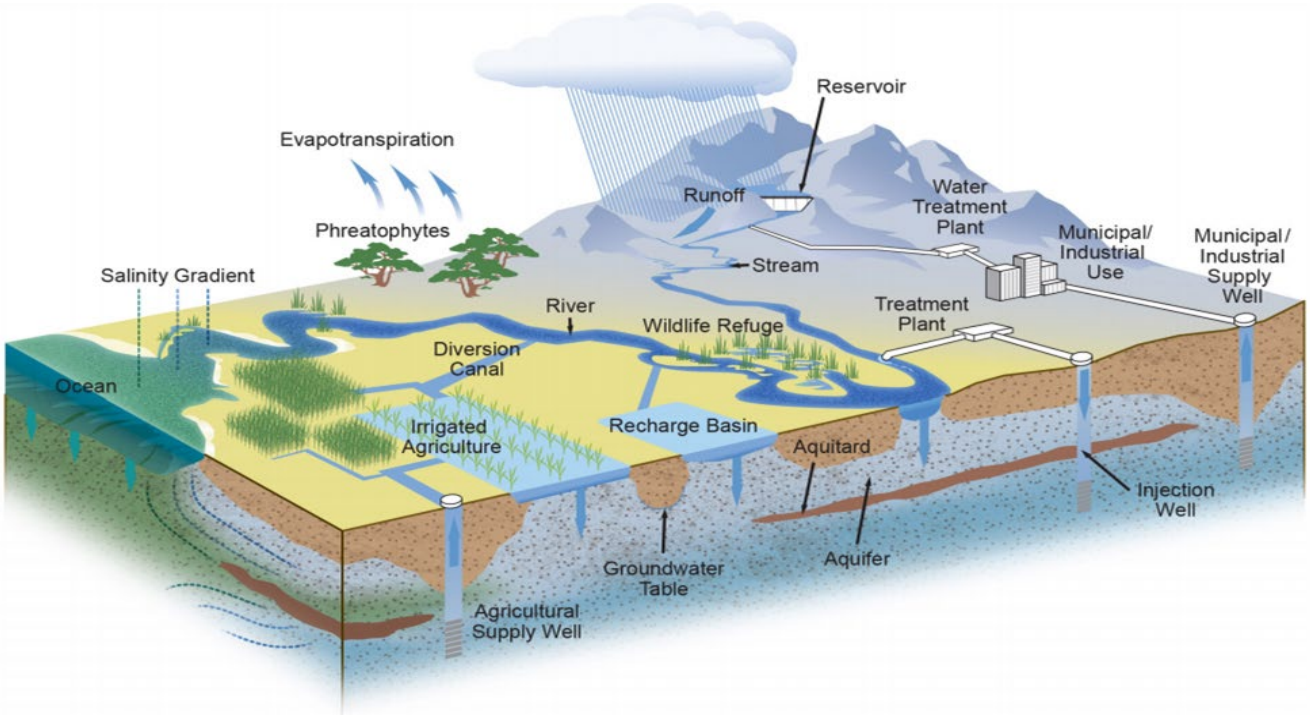
FOR DISCUSSION PURPOSES ONLY

GSA Powers and Responsibilities



FOR DISCUSSION PURPOSES ONLY

Water Budget



The **Water Budget** is an accounting of all the **inflows** and **outflows** of water in your area. DWR requires that GSAs create **three** different water budgets:

- ***Historical*** *– What has happened in the past?*
- ***Current*** *– What is going on today?*
- ***Future*** *– What do we expect to happen over the next 50 years?*

The **Sustainable Yield** is the volume of groundwater that we estimate can be **sustainably extracted** without causing **undesirable results**.

TH&Co Tule Subbasin Data (Avg. 1990-2010)

Average Sustainable Yield (acre-ft/yr): **~257,725**

Basin Area (acres): **~477,000**

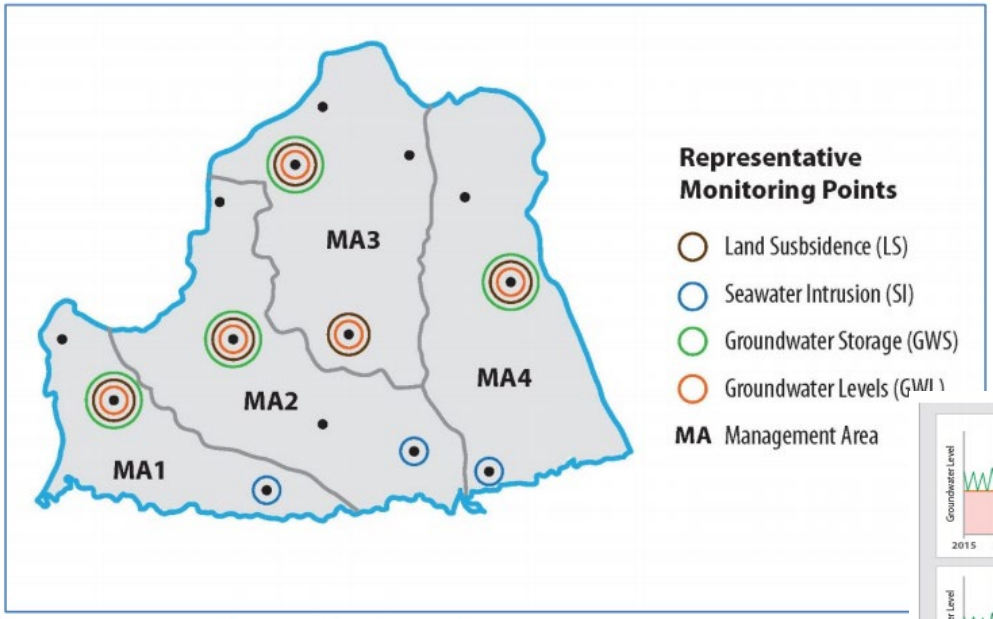
Source: TH&Co 2017 Water Budget; Subject to Change & Update

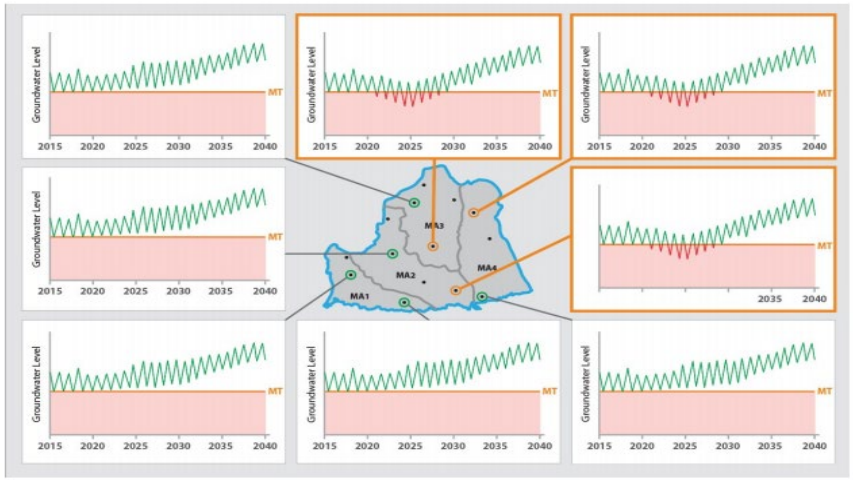
FOR DISCUSSION PURPOSES ONLY

Monitoring Network

The **Monitoring Network** is made up of **monitoring sites** that are chosen to:

- Monitor **conditions** (i.e. sustainability indicators) and **impacts** across a basin





FOR DISCUSSION PURPOSES ONLY