

SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY

BOARD OF DIRECTORS:

Chair:

Mayor Ronald Kott
City of Rio Vista

Vice Chair:

Director Dale Crossley
Reclamation District No. 2068

DIRECTORS:

Vice-Mayor Scott Pederson
City of Dixon

Director Jack Caldwell
California Water Services

Director Spencer Bei
Dixon Resource
Conservation District

Director Ryan Mahoney
Maine Prairie Water District

Supervisor John Vasquez
Solano County District 4

Supervisor Mitch Mashburn
Solano County District 5

Director John Roteveel
Solano County Farm Bureau

Director Russ Lester
Solano County Agricultural
Advisory Committee

Director Kurt Balasek
Solano Resource
Conservation District

SECRETARY/TREASURER:

Roland Sanford
Solano County Water Agency

BOARD OF DIRECTORS MEETING

DATE: Thursday, March 11, 2021

TIME: 5:30 P.M.

PLACE: Virtual Zoom Meeting

<https://us02web.zoom.us/j/83885574549?pwd=eTZpbkN3SXFWkNBRDdnNlYrcEhnUT9>
Meeting ID: 838 8557 4549/Passcode: 630031
One tap mobile: +16699009128,,83885574549#,,,,*630031#
Dial by your location: +1 669 900 9128

Backup Conference line: 800-510-5879/Passcode 385498

1. **CALL TO ORDER**
2. **PLEDGE OF ALLEGIANCE**
3. **APPROVAL OF AGENDA**
4. **ELECTION OF OFFICERS**

RECOMMENDATION:

1. Rotation of Vice Chairperson to Chairperson for Solano Groundwater Sustainability Agency Board of Directors.
2. Election of Vice Chairperson for Solano Groundwater Sustainability Agency Board of Directors.

5. **PUBLIC COMMENT**

Limited to 5 minutes for any one item not scheduled on the Agenda.

6. **CONSENT ITEMS**

- (A) Minutes: Approval of the Minutes of the Board of Directors meeting of October 8, 2020.

810 Vaca Valley Parkway, Suite 203 Vacaville, California 95688
Phone (707) 451-6090 • FAX (707) 451-6099
<http://www.scwa2.com/resources-management/ground-water/solano-gsa-bod>

7. **BOARD MEMBER REPORTS** *(estimated time: 5 minutes)*

RECOMMENDATIONS: For information only.

8. **SECRETARY/TREASURER REPORT** *(estimated time: 5 minutes)*

RECOMMENDATIONS: For information only.

9. **SOLANO GROUNDWATER SUSTAINABILITY PLAN FUNDING**
(estimated time: 10 minutes)

RECOMMENDATIONS:

1. Hear staff report and give direction on securing additional funding to complete Groundwater Sustainability Plan.

10. **SOLANO GROUNDWATER SUSTAINABILITY PLAN UPDATE**
(estimated time: 30 minutes)

RECOMMENDATIONS:

1. Hear presentation and provide direction to staff.

11. **TIME AND PLACE OF NEXT MEETING**

Thursday, April 8, 2021 at 5:30 p.m. at the SCWA offices.

The Full Board of Directors packet with background materials for each agenda item can be viewed on the Agency's website at

www.scwa2.com/resources-management/ground-water/solano-gsa-bod

Any materials related to items on this agenda distributed to the Board of Directors of Solano Subbasin Groundwater Sustainability Agency less than 72 hours before the public meeting are available for public inspection at the Agency's offices located at the following address: 810 Vaca Valley Parkway, Suite 203, Vacaville, CA 95688. Upon request, these materials may be made available in an alternative format to persons with disabilities.

**ACTION OF
SOLANO GROUNDWATER SUSTAINABILITY AGENCY**

DATE: March 11, 2021

SUBJECT: Election of Officers

RECOMMENDATION:

1. Rotation of Vice Chairperson to Chairperson for Solano Groundwater Sustainability Agency Board of Directors.
2. Election of Vice Chairperson for Solano Groundwater Sustainability Agency Board of Directors.

FINANCIAL IMPACT:

None.

BACKGROUND:

The Board of Directors has developed a rotational basis for officers based off of the different representative groupings. For example, year one, the Chairperson was elected from the Unincorporated Area Representatives, and the Vice Chairperson from the Municipal Representatives. The Board then determined that due to the nature of this Board meeting periodically, retaining officers for two years would provide continuity for the Board.

If past practices are held, the Vice Chairperson would become the Chairperson, and a Vice Chairperson would be selected from the Unincorporated Area Representatives, whom then becomes the Chairperson on year seven. This example is shown in the table below.

Election of Officers is the purview of the Board of Directors. Any officer may resign at any time upon written notice to the Chairperson.

Recommended: _____
Roland Sanford, Secretary

Approved as
recommended

Other
(see below)

Continued
on next page

Modification to Recommendation and/or other actions:

I, Roland Sanford, Secretary to the Solano Groundwater Sustainability Agency, do hereby certify that the foregoing action was regularly introduced, passed, and adopted by said Board of Directors at a regular meeting thereof held on March 11, 2021 by the following vote.

Ayes:

Noes:

Abstain:

Absent:

Roland Sanford
Secretary to the
Solano Groundwater Sustainability Agency

Year Three

Year Three

Chairperson

Vice Chairperson

Mayor Ron Kott, City of Rio Vista

Director Dale Crossley, Reclamation District 2068

Year Five

Year Five

Chairperson

Vice Chairperson

Director Dale Crossley

Unincorporated Area Representative
Solano County District 4
Solano County District 5
Agricultural Advisory Committee
Solano Farm Bureau

Year Seven

Year Seven

Chairperson

Vice Chairperson

Municipal Representative
City of Dixon
City of Rio Vista
California Water Service

Agricultural Representative
Dixon Resources Conservation District
Maine Prairie Water District
Reclamation District No. 2068
Solano Resource Conservation District

The Board of Directors may establish internal subcommittees as it determines necessary. Each such internal subcommittee shall be comprised of members of the Board, shall exist for the term specified in the action establishing the committee, shall meet as directed by the Board, and shall make recommendations to the Board on the various activities identified within the scope of the subcommittee's responsibilities as determined by the Board of the Agency.

**SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY
BOARD OF DIRECTORS MEETING MINUTES**

MEETING DATE: October 8, 2020

The Solano Subbasin Groundwater Sustainability Agency Board of Directors met this evening at the Solano County Water Agency Offices. Present were:

Vice-Mayor Scott Pederson, City of Dixon
Mayor Ronald Kott, City of Rio Vista
Supervisor John Vasquez, Solano County District 4
Supervisor Skip Thomson, Solano County District 5
Director Jack Caldwell, California Water Services Dixon
Director Spencer Bei, Dixon Resource Conservation District
Director Dale Crossley, Reclamation District 2068
Russ Lester, Solano County AG Advisory Committee
Director Kurt Balasek, Solano Resource Conservation District

CALL TO ORDER

The meeting was called to order at 5:37 p.m. by Chairman Kott.

APPROVAL OF AGENDA

On a motion by Director Balasek and a second by Supervisor Thomson the Board unanimously approved-by roll call vote-the Agenda.

PUBLIC COMMENT

There were no public comments.

CONSENT ITEMS

On a motion by Supervisor Thomson and a second by Director Balasek the Board approved-by roll call vote-Consent Item 5(a) Minutes.

BOARD MEMBER REPORTS

There were no Board member reports.

SECRETARY/TREASURER REPORT

There were no additions to the written report.

Director Crossley joined the meeting at this time.

**CONTRACT AMENDMENT WITH LUHDORFF &
SCALMANINI CONSULTING ENGINEERS**

On a motion by Vice-Mayor Pederson and a second by Director Crossley the Board unanimously approved-by roll call vote-the contract amendment with Luhdorff & Scalmanini Consulting Engineers.

SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY PLAN UPDATE

Interim Assistant General Manager Chris Lee introduced the team from Luhdorff & Scalmanini Consulting Engineers (LSCE) to the Board of Directors. Vicki Kretsinger Grabbert from LSCE gave the Board a presentation on current development of the Solano Subbasin Groundwater Sustainability Plan (GSP).

Vicki discussed the Hydrogeologic Conceptual Model (HCM). The HCM describes the subbasin based on technical studies and qualified maps that characterizes the physical components and interaction of the surface water and groundwater systems in the basin. This includes the geologic cross sections, which are a key component of the HCM. There are 8 new cross sections to enhance HCM-5 shallow sections along Putah Creek. The HCM also describes jurisdictional areas, land use maps, well density maps, topography, soils, recharge areas, monitoring networks, and land subsidence monitoring.

For groundwater conditions, we will include groundwater data and analyses (historical aquifer/depth zone), groundwater levels (time-series hydrographs, contours of equal elevation) and groundwater quality (key constituents: TDS, nitrate, boron, arsenic, chromium 6).

For the preliminary Surface Water System Budget, just looking at all of the surface water inputs and outflow-we have a positive net groundwater recharge of about 27,000 acre/feet per year.

Next steps include focusing on the entire water budget system, surface water and groundwater budget. Solano Subbasin specific water system budget inputs will replace regional data from the DWR model. We have noticed some significant differences, the DWR regional model shows a lot more groundwater pumping than what our local data suggests is happening. The DWR model also shows significantly more precipitation, but a lot less consumptive use/evapotranspiration, where everything generally evens out.

Our model will extend into the adjacent basins about 5 miles to get a better sense of what is happening, including the Yolo, Eastern San Joaquin, East Contra Costa, and the South American subbasins.

We are also finishing up on shallow monitoring wells near Putah Creek, to get a better understanding of what is happening with the riparian areas which are groundwater dependent ecosystems, something we need to cover in the GSP.

We should have model calibration and the full historical/baseline water later this fall, maybe through early winter next year.

We are also developing concepts for projects and management actions, which will be done by late fall.

The model scenarios, including 50 year projected period, climate change, and project and management actions will probably be done by next spring.

TIME AND PLACE OF NEXT MEETING

The time and place of the next meeting is Thursday, December 10, 2020 at 5:30 p.m., at the SCWA offices.

ADJOURNMENT

This meeting of the Solano Subbasin Groundwater Sustainability Agency Board of Directors was adjourned at 6:23 p.m.

Roland Sanford
Secretary to the Solano Subbasin
Groundwater Sustainability Agency

SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY

MEMORANDUM

TO: Board of Directors

FROM: Roland Sanford, Secretary to the Board of Directors

DATE: March 11, 2020

SUBJECT: March General Manager/Secretary Report

Groundwater Sustainability Plan Update

Luhdorff & Scalmanini (LSCE), our consultants developing the Groundwater Sustainability Plan (GSP), will give the Board an update on progress and next steps for the GSP. Some of the topics they will be covering include: Sections 1 and 2 of the GSP; the Hydrogeologic Conceptual Model and Groundwater Conditions Technical Memorandum; Future Land and Water Use; Draft Sections 3 and 4; Integrated Hydrologic Model-Local Solano Subbasin Model; Projects and Management Actions; and GSP Schedule.

GSP Schedule

As requested, staff will provide the schedule for the GSP at each Board meeting. The GSP schedule will be discussed during the GSP update presentation at the March Board meeting.

It is anticipated that the draft GSP will be complete in October. There is the possibility that staff will ask the Board of Directors (Board) if they are comfortable releasing the entire draft GSP to the public at that time. This might mean that the last section or two of the GSP will be reviewed by staff but not presented to the Board before being released to the public. The main reason to proceed in this manner is the timing. We are hoping that by releasing each section of the GSP to the public as the sections are ready, that we will be able to address any major issues along the way. With this strategy, we are hoping that the entire draft GSP may only get comments on the last section or two from the public. With that in mind, we would bring back any final comments on the draft GSP to the Board at their December meeting. Assuming there were no red flags, staff would anticipate the Board approving that the GSP is ready for submittal to DWR in

January of 2022. Once the GSP is submitted to DWR, there is an official public review period of 60 days.

Groundwater Sustainability Plan Implementation Fees

The GSP will be submitted to DWR in January of 2022 and implementation will start shortly thereafter. The first annual report will be due in April of 2022. The process of determining costs for implementing the GSP has to be addressed in the GSP and is currently being worked on. It is very likely that the GSAs will have to charge fees to landowners in the Solano Subbasin to pay for the costs of implementing the GSP on an annual basis. Staff will be asking the Board for guidance on this subject in Action Item number 9.

Inter-Basin Coordination

Coordination with our neighboring groundwater basin continues. We are taking a two-pronged approach. Staff are contacting the other Plan Managers directly and Ag Innovations (through a separate contract with the Solano County Water Agency) is also setting up meetings between the basins. Staff have had meetings with East Contra Costa, Sacramento, and the Yolo basin managers. All of the GSPs are working in slightly different ways to meet SGMA requirements.

Solano Groundwater Sustainability Plan Website

Continuous updates are being made to the Solano Groundwater Sustainability Plan website. The address for the website is: <http://www.solanogsp.com>

**ACTION OF
SOLANO GROUNDWATER SUSTAINABILITY AGENCY**

DATE: March 11, 2021

SUBJECT: Solano Groundwater Sustainability Plan Funding

RECOMMENDATION:

Hear staff report and give direction on securing additional funding to complete the Solano Groundwater Sustainability Plan.

FINANCIAL IMPACT:

None.

BACKGROUND:

The Solano GSA, in coordination with the other GSAs in the Solano Subbasin, known as the Solano Collaborative (Collaborative) was successful in securing a \$1 million grant from the California Department of Water Resources (DWR) under the Sustainable Groundwater Planning Grant Program (SGWP), using funds authorized by the Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Proposition 1) in 2017. The Collaborative is using these funds for development of the Solano Subbasin Groundwater Sustainability Plan (GSP).

The Collaborative was also successful in securing \$705,000 from the California Drought, Parks, Climate, Coastal Protection, and Outdoor Access For All Act of 2018 (Proposition 68). Tasks under this grant include extended outreach, expanding our knowledge regarding data gaps within our groundwater monitoring system, and exploring potential groundwater recharge locations within the subbasin. Unfortunately, DWR was only able to secure \$405,000 from Proposition 68 for the Solano Subbasin. There is a possibility that the additional \$300,000 will be allocated by DWR on July 1, but there are no guarantees that will occur. If those additional funds are allocated, they are dedicated to the tasks of this grant, which will help inform the GSP, but will not provide the additional funding needed to complete the GSP.

Recommended: _____
Roland Sanford, Secretary

<input type="checkbox"/>	Approved as recommended	<input type="checkbox"/>	Other (see below)	<input checked="" type="checkbox"/>	Continued on next page
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Modification to Recommendation and/or other actions:

I, Roland Sanford, Secretary to the Solano Groundwater Sustainability Agency, do hereby certify that the foregoing action was regularly introduced, passed, and adopted by said Board of Directors at a regular meeting thereof held on March 11, 2021 by the following vote.

Ayes:

Noes:

Abstain:

Absent:

Roland Sanford
Secretary to the
Solano Groundwater Sustainability Agency

In addition to the uncertainty of future Proposition 68 funding, additional costs have been incurred for GSA Board and stakeholder outreach meetings, beyond what was originally anticipated in 2017. To complete the GSP, staff are recommending the securing of an additional \$350,000. Although the Solano GSA has a balance in the bank of approximately \$500,000, those funds could be completely exhausted by July 1, 2021.

Staff are recommending four potential alternatives for securing additional funding.

One alternative would be for each of the 5 GSA's to contribute towards the funding needed to complete the GSP. If divided equally amongst the 5 GSA's, the Solano GSA would need to contribute \$70,000. If that amount was divided equally amongst the member agencies of the Solano GSA, each would contribute \$7,778, with Solano County contributing \$23,334 (three representatives). This would need concurrence from all 5 GSA Boards.

A second alternative would be to ask the Solano County Water Agency (SCWA) to contribute again towards the GSP, with a similar amount as contributed in 2018. To enact this process, staff could draft a letter for the Board Chair to sign (example letter attached) and submit to SCWA for consideration.

The third alternative would be to start extracting fees on landowners in the Solano Subbasin for completion of the GSP. The Sustainable Groundwater Management Act gives GSAs the authority to extract fees to complete GSPs and for implementation of GSPs (Water Code §10730). To enact this alternative, a rate study would be required to justify the fees as well as compliance with Proposition 218 (though it is not required under SGMA-it would be recommended). See below for more information on Proposition 218 (Prop 218).

A fourth alternative could be a hybrid of alternatives 1 and 2. Each of the GSAs could be asked what they could contribute and ask SCWA if they would help contribute towards the remaining shortfall of funds.

Staff are asking the Board for guidance on how to proceed on securing additional funding to complete the GSP.

If the Board decides to wait on charging fees to complete the GSP, staff are asking for authorization to start looking into the process for developing GSP implementation fees as it may take some time to meet all of the requirements. The cutoff date for special assessments on the tax roll for Fiscal Year 2021-2022 is August 10th.

Additional information on Prop 218

Any special district proposing to adopt a new, or increase an existing, property-related fee or charge must comply with both the substantive and procedural requirements of Prop 218.

Substantive Requirements of Prop 218

According to Prop 218, a property-related fee must meet the following substantive requirements: Revenues derived from the fee must not exceed the funds to provide the service; Revenues derived from the fee must not be used for any purpose other than that for which the fee is imposed; The amount of a fee imposed must not exceed the proportional cost of the service attributable to the parcel; The fee may not be imposed for a service unless the service is actually used by, or immediately available to, the owner of the property subject to the fee; and No fee or charge may be imposed for general governmental services, such as police, fire, ambulance, or libraries, where the service is available to everyone in the community.

Procedural Requirements of Prop 218

It is required by Prop 218 that a public agency proposing a new or increased property-related fee or charge provide written notice by mail to the owner of each parcel upon which the fee or charge will be imposed. The notice must include the following: The proposed amount of the fees or charges; The basis upon which the fees or charges were calculated; An explanation of the need for the new or increased fees or charges; The date, time and location of the public hearing at which the agency will consider the new or increased fees.

Prop 218 requires that a public hearing be held at least 45 calendar days after the mailing of the notice; and Provides that a property owner-related fee or charge may not be imposed or increased if a majority submit a written protest.

Public Hearing Requirements

The final step in the Prop 218 process is the public hearing, which is held at least 45 days after the notice is mailed. At the public hearing, it will be determined whether there is a majority protest against the property-related fee and all public comments will be heard. At the end of the public hearing, if the protests against the

proposed increase are not presented by a majority of affected property owners, the agency may proceed with imposing the fees or charges. California law simplifies the process for determining whether a majority protest exists by allowing one protest, filed by an owner or a tenant of an affected parcel, to be counted.



SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY

March 11, 2021

Dale Crossley, Chair
Board of Directors, Solano County Water Agency
810 Vaca Valley Parkway, Suite 201
Vacaville, CA 95688

Subject: Solano Subbasin Groundwater Sustainability Agency Funding Request to Complete the Solano Groundwater Sustainability Plan

Dear Chair Crosley:

The Solano Subbasin Groundwater Sustainability Agency (Solano GSA) requests that the Solano County Water Agency (SCWA) Board of Directors consider this funding request to help complete the Solano Subbasin Groundwater Sustainability Plan (GSP). An initial request by the Solano GSA to SCWA was generously granted in August of 2018. Since that request, two grant funding sources, through Proposition 1 and Proposition 68, have been secured to help fund development of the GSP. Unfortunately, due to some reduced funding allocations of these grants by the Department of Water Resources (DWR) and some unforeseen outreach needs, additional funds are required to complete the GSP.

On behalf of the Solano GSA, we humbly ask for \$350,000 from SCWA to complete the GSP. The GSP must be submitted to the DWR by January 31, 2022. Without additional funding, the Solano GSA will likely run out of funds by July 1, 2021.

If you have any questions, please contact Chris Lee at (707) 455-1105 or via email at cle@scwa2.com.

Thank you for your consideration in this most important groundwater matter.

Sincerely,

Roland Sanford,
General Manager, Solano County Water Agency
Secretary and Treasurer to Solano GSA

810 Vaca Valley Parkway, Suite 203 Vacaville, California 95688
Phone (707) 451-6090 • FAX (707) 451-6099

**ACTION OF
SOLANO SUBBASIN GROUNDWATER SUSTAINABILITY AGENCY**

DATE: March 11, 2021

SUBJECT: Solano Groundwater Sustainability Plan Update

RECOMMENDATION:

Hear presentation and provide direction to staff.

FINANCIAL IMPACT:

None.

BACKGROUND:

Luhdorff & Scalmanini Consulting Engineers (LSCE) will provide an update on progress of the Solano Groundwater Sustainability Plan (GSP) to the Board. Topics to be covered during the presentation (attached):

- Draft Sections 1 and 2
- Technical Memorandum
 - Hydrogeologic Conceptual Model
 - Groundwater Conditions
- Future Land and Water Use
- Draft Sections 3 and 4
- Integrated Hydrologic Model-Local Solano Subbasin Model
- Projects and Management Actions
- Schedule

After the presentation, staff will ask for input from the Board on continued direction of the development of the GSP.

Recommended: _____
Roland Sanford, Secretary

<input type="checkbox"/> Approved as recommended	<input type="checkbox"/> Other (see below)	<input type="checkbox"/> Continued on next page
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Modification to Recommendation and/or other actions:

I, Roland Sanford, Secretary to the Solano Groundwater Sustainability Agency, do hereby certify that the foregoing action was regularly introduced, passed, and adopted by said Board of Directors at a regular meeting thereof held on March 11, 2021 by the following vote.

Ayes:

Noes:

Abstain:

Absent:

Roland Sanford,
Secretary to the
Solano Groundwater Sustainability Agency

Slide 1

SOLANO SUBBASIN
**Groundwater Sustainability Plan:
Status Update**

LSCCE Team
March 11, 2021: Presentation to Solano GSA Board

Slide 2

GSP Status Update

- Draft Sections 1 and 2
- Technical Memorandum:
 - Hydrogeologic Conceptual Model
 - Groundwater Conditions
- Future Land and Water Use
- Draft Sections 3 and 4
- Integrated Hydrologic Model – Local Solano Subbasin Model
- Projects and Management Actions
- Schedule

Slide 3

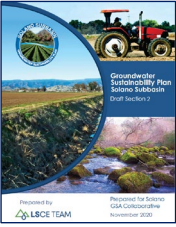
Solano Subbasin Groundwater Sustainability Plan

- Describe the Basin Conditions**
Plan Area, Subbasin Setting & Water Supplies
Draft Sections 1, 2, 4
TM: Surface Water Budget
TM: HCM and GW Conditions
- Define Basin Sustainability**
Sustainable Management Criteria & Monitoring
Model Development
Input: Future Land & Water Use
- Develop Projects/Management Actions & Implementation Plan**
Input: Potential Projects and Management Actions
- Develop & Adopt GSP**
Submit GSP to DWR: January 31, 2022

Slide 4

Draft Sections 1 and 2

- **Draft Section 1: Introduction**
 - Purpose
 - Key Terms
 - Beneficial Uses, Groundwater Users and Public Participation
 - Agency Information
- **Draft Section 2: Plan Area**
 - Jurisdictional
 - Water Resources Monitoring and Management Programs
 - Land Use
 - Other GSP Elements



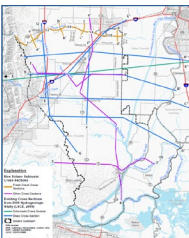
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Slide 5

Hydrogeologic Conceptual Model

§ 854.14. Hydrogeologic Conceptual Model
Each Plan shall include a descriptive hydrogeologic conceptual model of the basin based on technical studies and qualified maps that characterizes the physical components and interaction of the surface water and groundwater systems in the basin.

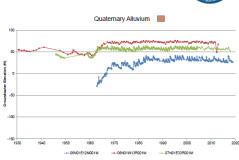
- **Geologic Cross Sections (Key Component of HCM)**
 - 7 prior cross sections focused on deeper conditions
 - 8 new cross sections to enhance HCM
 - 5 shallow sections along Putah Creek
 - 3 across northern and southern areas of Subbasin
- **Lithologic & Geophysical Logs: Characterize Subsurface Sediments to Depths >2500 Ft**



Slide 6

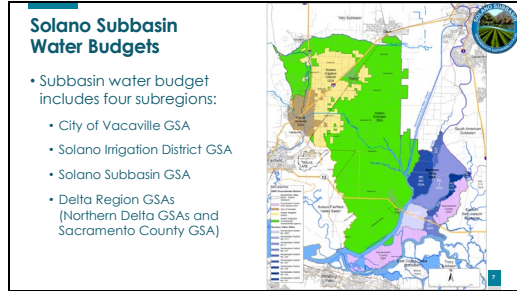
HCM and Groundwater Conditions

- Previous Hydrogeologic Studies
- Numerous Figures/Maps
- Groundwater Data and Analyses (historical by aquifer/depth zone)
 - GW levels (hydrographs; contours)
 - GW quality (key constituents: TDS; nitrate; boron; arsenic; chromium 6)

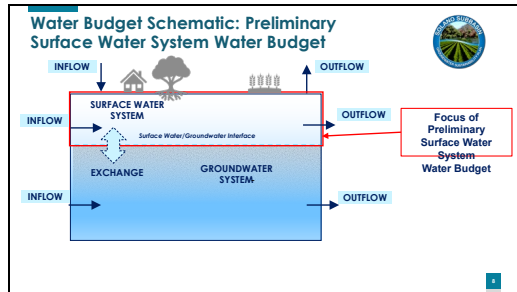


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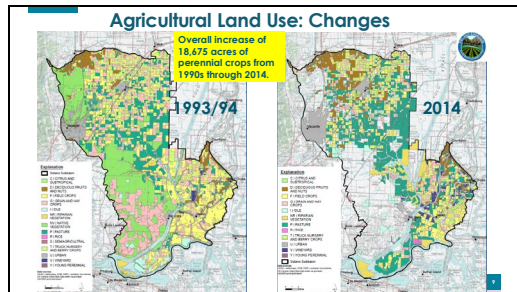
Slide 7



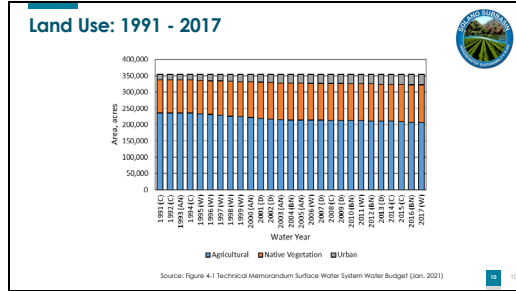
Slide 8



Slide 9



Slide 10



Slide 11

GSAs' Input Requested: Future Land and Water Use

- Land Use (Acres):
 - ✓ Historical/Recent: 1991-2017
 - ❓ Future: 5, 10, 50 years
- Water Use (Acre-Feet): By supply source and use type
 - ✓ Historical/Recent: 1991-2017
 - ❓ Future: 5, 10, 50 years
- Pending
 - Estimates of Ag to Urban Conversion (about 3500 acres)

Slide 12


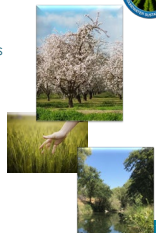
Summary of Initial GSAs' Input

- Urban areas (~ 32,500 acres): about 9% of the 354,400 acres in Subbasin
 - Majority of urbanization in Subbasin occurred from 1991 – 2017
- **Increase** in urbanization (~ 2% or up to 6,400 acres) could occur in next 50 years
- Urbanization potential is in Vacaville and Dixon Sphere of Influence

Slide 13

Summary of Initial GSAs' Input

- Ag areas (> 200,000 acres): ~ 58% of Subbasin
- Ag acres could **reduce** ~ 3% in next 50 years
 - **Increases** in acreage of almonds, walnuts, vineyard and misc orchard are assumed
 - **Reductions** in alfalfa, corn, tomatoes, wheat/grains are assumed
- Native, Riparian, Water Areas (~ 115,000 acres): ~ 32% of Subbasin
 - Could **increase** ~ 2% in next 50 years




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Slide 14

Upcoming: Draft Sections 3 and 4

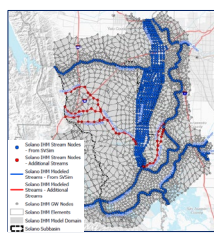
- **Draft Section 3: Basin Setting**
 - Geologic Setting
 - Hydrogeologic Conceptual Model
 - Description of Monitoring Networks and Programs
 - Surface Water and Groundwater Conditions
- **Draft Section 4: Historical, Current, Projected Water Supplies**
 - Land Uses and Population Trends
 - Water Supplies and Uses
 - Total Solano Subbasin Water Use



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Slide 15

Solano Integrated Hydrologic Model (Solano IHM)



- Started with DWR Sacramento Valley model (SVSim)
- Solano IHM locally refined & calibrated
 - Swapped surface system info (local land use, etc.)
 - Added streams, adjusted nodes/elements
 - Refined sediment textural data for calibrating aq. parameters
 - Updated well locations and depths
 - Assign boundary conditions (e.g., WIs at model boundary)
- Calibrate with
 - GW levels and streamflows, water budgets
- Key outputs: groundwater levels, water budget components – historical and future

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Slide 16



Slide 17

SGMA Requirements: Projects and Management Actions

- Description of PMAs to achieve the sustainability goal for the Subbasin; respond to changing conditions in the Subbasin
- Measurable objective that is expected to benefit from the PMAs
- Implementation of PMAs
- Notice and actions to be taken

ADAPTIVE MANAGEMENT

<p>Projects: Increase Supply</p>	<p>Management Actions: Reduce Demand</p>
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Slide 18

SGMA Requirements (cont.)

- Quantification of demand reduction
- Permitting and regulatory process
- Time-table for initiation and completion
- Benefits expected to be realized
- How PMAs will be accomplished
- Legal authority
- Cost
- Long-term sustainability

ADAPTIVE MANAGEMENT

<p>Projects: Increase Supply</p>	<p>Management Actions: Reduce Demand</p>
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Project Category (Examples): Supply Expansion

- **Conveyance & Distribution:** move more water for direct use or storage
- **Recharge:** basins, conveying SW to areas that only have access to GW (in-lieu recharge), incentivizing on-farm recharge, GW banking
- **Recycled water:** expand use of treated municipal wastewater for irrigation or GW recharge
- **Surface storage:** new or expand existing storage
- **Surface water trading:** SW purchases and exchanges for direct use or storage
- **Surface water treatment:** more use for urban areas and smaller communities

Projects: Increase Supply






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Project Category (Examples): Demand Management

- **Irrigation efficiency:** improve water use efficiency in ag operations
- **Land fallowing:** decrease ag water use by taking farmland out of production
- **Pumping restrictions, etc.:** variety of tools to reduce water demands
 - GW allocations, metering, fees tied to volume pumped, pricing to incentivize use of SW instead of GW, and GW trading
- **Urban conservation:** investments in metering and leak reduction and other programs to reduce water use in urban areas

Management Actions: Reduce Demand

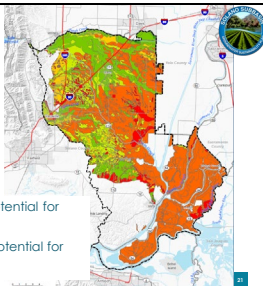




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Potential Groundwater Recharge Areas/Projects

- Surplus Storm/Flood Water Capture Projects
- Capture excess flows for recharge
- Select recharge locations selected based:
 - Soil properties
 - Hydrogeology

■ Excellent Potential for Recharge
■ Very Poor Potential for Recharge

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