**NORTH BAY WATER DISTRICT**

**22950 BROADWAY, SONOMA, CA  95476**

Board of Directors

Mike Mulas, President and Chair (Sonoma Valley); Craig Jacobsen, Vice-President (Petaluma Valley); Carolyn Wasem, Secretary (Petaluma Valley); Matthew Stornetta, Treasurer (Sonoma Valley); and Mike Sangiacomo (Sonoma Valley)

PVGSA Advisor: Eugene Comozzi SVGSA Advisor:  Jim Bundschu

SGMA Compliance Advisor: Mike Martini

Legal Counsel: Richard Idell

Date: July 13, 2021

Time:  6:00 PM

Location:   22950 Broadway, Schell-Vista Station #1 (via Teleconference due to Covid-19 Shelter-in-Place Order)

**MEETING MINUTES**

1. **CALL TO ORDER/ROLL CALL**

Chair Mike Mulas called the meeting to order at 6:00 pm. Board Members Michael Sangiacomo, Craig Jacobsen, Matt Stornetta, and Carolyn Wasem were present. Counselor Richard Idell, Advisor Martini, Advisor Bundschu and Advisor Comozzi were also present. Ginalisa Tamayo was present.

1. **CLOSED SESSION**

There were no closed session items.

1. **PUBLIC COMMENT PERIOD**

There were on public comments.

1. **APPROVAL OF MINUTES OF PREVIOUS MEETING**

Director Sangiacomo made a motion to approve the June 2021 Minutes. Director Stornetta seconded the motion. The Minutes were unanimously approved.

1. **FINANCIAL REPORT**

Chair Mulas reported that the NBWD account had a balance of $ 10,546.07. He also noted that Ginalisa Tamayo was paid for her work on the website. Director Wasem made a motion to approve the Financials. Director Jacobsen seconded the motion. The motion was unanimously approved.

1. **ITEMS FOR CONSIDERATION**

Item 1: Update from Counselor Richard Idell

Counselor Idell reported that the fundraiser on the 15th would need speakers to solicit contributions. There are likely 30-40 people planning to attend. It would be helpful to have a one pager to hand out. One or more Director’s should talk about the Groundwater Sustainability Agency and how decisions made by that body will impact the landowner. The Board recommended that Mike Sangiacomo and Richard Idell take the lead in the conversation as these individuals are known to the invitees. Director Wasem will provide bullet points for discussion.

Advisor Martini provided a one pager that he suggested should be used as the basis for the pitch.

Chair Mulas asked about the run of show? The event starts about 5 pm. Director Sangiacomo suggested that the pitch should be brief and then there will be a question and answer session. Guests should be allowed to mingle and enjoy themselves prior to the request.

Taft Street will donate 6 bottles for the event, JFW will contribute 6 bottles and Richard Idell will bring 4 bottles to share.

Item 2: Report of Director Mike Sangiacomo on Sonoma Valley GSA

Director Sangiacomo informed the Board that the next GSA meeting is scheduled for July 26th. The Advisory Committee met earlier today. Jim Bundschu will be able to update everyone later in the meeting. The last GSA meeting was held on June 28th and a community meeting was held on June 23rd.

Update on the June 23rd Community Meeting is as follows:

The points of a poll for well owners in the Valley were shared with the public. The major points included:

1. Identification of landowners with a well
2. Uses of identified wells
3. Identification of location within the basin
4. Water levels of the well within the last ten years
5. Has the well gone dry?

The timeline for the GSA’s work was provided. In June 2017, the GSA was formed; by the end January of 2022 a Groundwater Sustainability Plan will be developed and adopted; and by January of 2042 the basin will achieve sustainability. Note that review of the Plan will be available in the fall of 2021.

The sections of the GSP discussed with the public included:

1. Basin and Aquifer Description
2. Sustainability Goal to avoid undesirable results
3. Actions to Achieve the Sub-basin’s Sustainability Goals
4. Monitoring Plan

Marcus Trotta provided a breakdown of the water available in the basin. He shared that 52% of the water available for use is groundwater, 35% is imported water, 10% is recycled water and 3% is surface water. He also noted that the geology of the region is very complex as faults and geology affect groundwater occurrence and flow directions. Also, land uses affect water quantity and quality.

The current tools to measure groundwater include remote sensing data for satellites, will drilling samples/data, weather station instruments and hydrographs. The general flow of groundwater in the basin is impacted by topography, with flow generally coming from the highlands to the valley floor.

Marcus noted that groundwater pumping **is not** causing land subsidence in the basin.

Groundwater quality is generally acceptable. Arsenic and boron naturally occur in the basin, creating challenges for using the water for drinking. Chloride and total dissolved solids are slightly elevated, likely due to tidal influences; and nitrate is found sporadically, also creating a challenge for use as drinking water.

As part of the plan a water budget was developed.

1. Inflows and outflows were inventoried using historical conditions 1971-2018 with current conditions identified as data from 2012-2018.
2. A summary of surface and groundwater budgets was drafted to evaluate the change in stored groundwater and arrive at estimated groundwater overdraft and sustainable yield over the next 50 years.

Major inflows identified: Percolation of precipitation – Mountain front recharge – Watershed subsurface flows with two minor contributors identified as stream recharge and septic return flows.

Major outflows identified: Groundwater Pumping - Discharge to streams/wetlands – Groundwater ET with two minor contributors identified as surface leakage and basin subsurface flows.

NOTE: The data used determined that total groundwater storage is declining. Historic (-) 300-acre feet (1971-2018), current (-) 900-acre feet (2012-2018).

* Agriculture from 1971 to 2018 estimated pumping: 3,400 vs. 1,500 for domestic and rural
* Agriculture from 2012-2018 estimated pumping: 3,800 vs. 1,900 for domestic and rural
* Data gaps exist that need to be filled in the early years of the GSP implementation.

To understand the threshold of activities required to rectify declining groundwater levels – the GSA adopted the following statement:

Chronic lowering of groundwater-levels that significantly exceed historical levels or cause significant and unreasonable impacts to beneficial users. Groundwater levels will be monitored at a total of 31 potential points (17 shallow zone and 14 deep zone)

It was noted that seawater intrusion inland of areas of existing brackish groundwater due to groundwater pumping is a significant and unreasonable condition.

For depletion of interconnected surface water due to groundwater pumping, it was noted that the GSA adopted the statement that “Significant and unreasonable depletion of surface water from interconnected streams occurs when surface water depletion, caused by groundwater pumping within the sub-basin exceeds historical depletion or adversely impacts the viability of groundwater dependent ecosystems or other beneficial uses”.

Significant and unreasonable water quality conditions occur if an increase in the concentration of constituents of concern in groundwater leads to adverse impacts on beneficial users or uses of groundwater due to actions by the SVGSP projects, or undesirable results occurring for other sustainability indicators.

Projects for sustainable management include:

1. Collection of data to fill gaps
2. As yet unidentified projects, scope and number of projects
3. Voluntary conservation and water use efficiency
4. Percolating stormwater into recharge
5. Recharging drinking water directly into the aquifer
6. If needed, mandatory actions not yet identified

Related to other business, and just to confirm NBWD’s outstanding invoices: at the GSA meeting on June 28th the financials indicated that North Bay Water District had an outstanding due from March 30th, $6,666. I have asked for confirmation as to whether we are past due.

The rural community outreach program went well. Now they are moving to the focus groups to understand what individuals are thinking about what is “fair”. We were also provided an update on the rate and fee study. The GSA was asked to authorize that the Administrator work with three GSA Selection Committee to select a rate and fee study consulting firm, negotiate a scope of work and budget, and execute a Professional Services Agreement.

General Liability insurance is going to be moved to Golden State.

Ms. DuBay also informed the Board that a regional Drought Drop-By event is planned for August. The goal is to provide conservation kits to the public. Staff asked for an expenditure of $2500 for the Drought Drop-By event. The expenditure was approved.

Jay Jasperse provided an update on the Groundwater Sustainability Plan. All six sustainable management criteria have been approved as of Marcy 2021. The Groundwater Sustainability Plan status is as follows:
 Sections 1-3: Introduction, Description of Plan Area and Basin Setting all drafted and released for review.

Section 4: Sustainable Management Criteria table of contents is available for Board review. Some sections are under development – and should be released in early July 2021 for review.

Sections 5-7: Monitoring Networks, Projects and Management Actions, and Implementation Plan are all being drafted. These sections should be available to the GSA by July/August 2021.

Staff recommended that project for sustainable groundwater management be broken into two buckets:

1. Those that have potential funding sources (low cost, recycled water, water use efficiencies and alternate water source projects; and
2. New or significant expansion projects, including recycled water lines, aquifer storage and stormwater recharge projects.

Staff is currently compiling and running model scenarios to evaluate the benefits of the projects.

In terms of the Implementation Plan, the goal is to provide a roadmap for efforts needed to implement the GSP, with a focus on the next five years. The Advisory Committee have discussed the following components of the Plan:

1. GSA Administration
2. Communication and Engagement
3. Routine Monitoring, Data Evaluation and Annual Reporting
4. Addressing Data Gaps
5. Maintaining, Updating and Improving the Models (Method for simulating projects and management actions will include incrementally adding projects to the model until a reasonable change in groundwater levels is achieved.
6. Refining, Study and Implementation of Potential Projects
7. Five-Year Update to GSP
8. Five-Year Budget and Funding Strategy

Group 1 Scenarios shared with the Board included:

• Incorporate recycled water deliveries to rural domestic and agricultural customers for contracts beginning after the end of the current period

• Assume 20% reduction(1) in all rural domestic outdoor water use beginning in 2025

• Assume 10% reduction (1) in vineyard irrigation beginning in 2025 – the GSA advisors are planning to use .76 acre feet per acre of grapes. The report shows a discrepancy with number of irrigated acres.

1. Conservation and alternate water sources include smaller-scale dispersed land-owner projects, such as turf removal, rain-water harvesting, stormwater capture/reuse, etc. Does not include any potential future “drought-related” conservation requirements. The exact types of these dispersed projects are not distinguished for the purposes of evaluating potential benefits using model scenarios

Group 2a Projects:

* Incorporates all Group 1 projects and actions
* recycled water expansion
* aquifer storage and recovery

Group 2b Projects

 • Incorporates all Group 1 and 2a projects and management actions

 • Additional ASR wells: ◦ Vicinity of Golf Course ◦ Along 8th Street East (east of Eastside Fault)

 • surficial Stormwater Recharge: ◦ Alluvial fans of Carriger, Felder, and Rodgers Creeks ◦ Alluvial fan of Arroyo Seco Creek ◦ Mainstem of Sonoma Creek (near Glen Ellen)

Finally, staff identified data gaps – perhaps this is something that Dr. Boulton can focus on. Those gaps included:

Data Gap

1. Amounts and locations of groundwater pumping (rural residential, agricultural, commercial, and industrial)
2. Three-dimensional data gaps in the monitoring network for each primary aquifer, including spatial coverage and aquifer interconnection
3. Role of faults within and along the boundaries of the sub basin
4. Basin boundary characteristics, such as the direction and magnitude of groundwater fluxes across sub basin boundaries
5. Interconnection of streams to the shallow aquifer system, including seasonal variability and how groundwater pumping can affect streamflow
6. Aquifer characteristics, recharge and discharge mechanisms and volumes for both the shallow and deep aquifer systems
7. Distribution and extent of brackish groundwater along margins of baylands area

Solution

1. Outreach and information sharing with well owners (e.g., GUIDE program) Consider expansion of voluntary groundwater-level network
2. Additional multi-depth monitoring wells with focus on developing Seawater Intrusion RMP network Additional geophysical surveys
3. Additional geophysical surveys
4. Additional multi-depth monitoring wells with focus on developing Seawater Intrusion RMP network Additional geophysical surveys Consider expansion of voluntary groundwater-level network
5. Improve data/information on existing water wells and stream diversions Additional GDE mapping/remote sensing for vegetation health Compile and evaluate existing and relevant habitat field surveys Additional shallow monitoring wells near streams, as needed
6. Additional multi-depth monitoring wells
7. Additional multi-depth monitoring wells with focus on developing Seawater Intrusion RMP network Evaluate future airborne geophysical data (DWR funded) Additional shallow monitoring wells near streams, as needed

Potential Sources for Funding included:

• GSA fee program (rate and fee study update planned for 2021/2022)

• Grant funding (DWR, federal and local grant opportunities)

• DWR technical support (new RMP wells, airborne geophysics, etc.)

• Partnerships with member agencies, other GSAs and other entities that leverage mutually beneficial programs, projects and studies

**Item 3: Report of Director Carolyn Wasem on Petaluma Valley GSA**

Director Wasem informed the Board that the next Advisory Committee meeting will be held on July 14th. Mr. Comozzi will be able to update us on this at our next meeting. Our next GSA meeting will be held on July 22nd. The agenda items will mirror those of the Sonoma Valley GSA.

On May 26th, a Petaluma Valley GSA Community Meeting was held. It followed the same format at the Sonoma Valley Public Meeting and provided the same information with the following discrepancies:

Marcus Trotta provided a breakdown of the water available in the basin. He shared that 60% of the water available for use is RR imported, 20% is groundwater, 20% is recycled water.

There approximately 850 wells in the basin. Water levels vary over time, however overall, the water level appears stable.

Marcus noted that groundwater pumping is not causing land subsidence in the basin.

Groundwater quality is generally acceptable. Arsenic is a natural occurrence in the basin, creating challenges for using the water for drinking. Chloride and total dissolved solids are slightly elevated, likely due to tidal influences; and high nitrates is found in shallow wells NW of the basin.

Understanding potential for future seawater intrusion due to groundwater pumping represents a significant data gap in this basin.

Major Basin Inflows identified: Streambed Recharge – Percolation of Precipitation – Basin subsurface flows with two minor contributors identified as Watershed Subsurface Inflows and Septic Return Flows.

Major outflows identified: Discharge to streams/wetlands – Groundwater ET with two minor contributors identified as groundwater pumping, surface leakage and basin subsurface flows.

NOTE: The data used determined that total groundwater storage is declining. Historic 0- acre feet (1969-2018), current - 100-acre feet (2012-2018).

|  |  |  |  |
| --- | --- | --- | --- |
| **Time Period** | **M & I** | **Rural Domestic** | **Agriculture** |
| **1969-2018** | **500** | **200** | **5,100** |
| **2012-2018** | **200** | **300** | **4,500** |
| **2021-2024** | **300** | **300** | **1,900** |
| **2041-2070** | **400** | **300** | **1.600** |

**Projected Water Budget:**

|  |  |
| --- | --- |
| **Period** | **Mean in Acre Feet** |
| **2021-2040** | **+ 500** |
| **2021-2070** | **+100** |

**Data gaps exist that need to be filled in the early years of the GSP implementation. These include:**

• What are the vertical and horizontal data gaps in the monitoring network for our aquifers?

• What is the role of faults within and along the boundaries of the Basin?

• What are the Basin boundary characteristics, such as the direction and magnitude of groundwater fluxes across Basin boundaries?

• How are streams interconnected with aquifers? How does that interconnection change horizontally and over time, and how does pumping in wells affect streamflow?

• What are the aquifer characteristics, recharge and discharge mechanisms and volumes for both the shallow and deep aquifer systems? • Where and to what degree is brackish groundwater present on the margins of the Baylands?

To understand the threshold of activities required to rectify declining groundwater levels – the GSA adopted the following statement:

Chronic lowering of groundwater-levels that significantly exceed historical levels or cause significant and unreasonable impacts to beneficial users. Therefore, groundwater levels will be monitored at a number of points throughout the basin.

Reduction of groundwater storage that causes significant and unreasonable impacts to the long-term sustainable beneficial uses of groundwater in the basin caused by: Long term reduction in groundwater storage; or pumping exceeding the sustainable rate.

Land Surface Subsidence due to groundwater pumping - Any inelastic subsidence caused by groundwater pumping is a significant and unreasonable condition, everywhere in the sub-basin and regardless of the beneficial uses and users.

Seawater Intrusion (due to groundwater pumping) Seawater intrusion inland of areas of existing brackish groundwater due to groundwater pumping is a significant and unreasonable condition.

For depletion of interconnected surface water due to groundwater pumping - significant and unreasonable depletion of surface water from interconnected streams occurs when surface water depletion, caused by groundwater pumping within the sub-basin exceeds historical depletion or adversely impacts the viability of groundwater dependent ecosystems or other beneficial uses.

Projects for sustainable management include:

1. Collection of data to fill gaps
2. Unidentified projects, scope and number of projects
3. Voluntary conservation and water use efficiency
4. Percolating stormwater into recharge
5. Recharging drinking water directly into the aquifer
6. If needed, mandatory actions not yet identified

Item 4: Report by Advisor Jim Bundschu

The Advisory Committee just met. We spent our time discussing DWR GSP Reviews. Matt and I both attended. We started discussing whether we needed an August meeting. It is yet to be determined. We discussed the schedule. In early September, staff will have a draft of the Groundwater Sustainability Plan. Sections 1-7 will be available in October for review. October will also inform fees. Staff discussed what to expect. Staff is hoping to convene quarterly the Advisory Committee. There is a five -year review process. There will be a vehicle to annually identify challenges with the Plans. It is pretty much a living document. The DWR has 2 years to approve the Plan. There is a 90-day window for any interested party to communicate directly with DWR to address concerns.

Projects were then discussed including stormwater recharge, direct injection. Director Stornetta said this meeting represented the first experience where staff discussed recharge. We discussed options. Director Wasem suggested that growers get in touch with Marcus Trotta to discuss recharge projects.

In terms of the 10% cutback by 2025, there needs to be collaboration with farmers. Stornetta shared that the baseline for irrigated agriculture water use was identified as .76-acre feet per acre. Recycled water and grant funding discussion will take place this week with the recycled water contracts. Staff wants to discuss the contract to revitalize the Bay. Staff already discussed feasibility of a market for water.

Marcus Trotta shared with the Advisors the following outline:

1. Farm Plans for data collections and actions
2. Information sharing
3. Monitoring Data Collection
4. Third Party Inspection
5. Coordinate with agencies/water sampling, water monitoring.
6. They will require some metering.

**Management Actions for GSP Inclusion**

• Projects and management actions are added incrementally to the model until a reasonable change in groundwater levels is achieved that will help with achieving and maintaining sustainability

•Adding incremental groups of projects and management actions allows to show relative benefits of each group of projects

•Specific project assumptions will be described in the Projects and Management Actions GSP section.

We then discussed water levels in the Shallow Aquifer for water year 2040, the model showed the following:

Results:

Localized areas of small (5-10 feet) groundwater level decline due to shallow pumping

Localized areas of groundwater level rise due to relatively wet conditions beginning in WY2035

Very few MT exceedances projected for relatively wet period (2021-2040)

During projected severe drought (~2050-2070), nearly all RMPs experience MT exceedances

in the Deeper Aquifer for water year 2040, the model showed the following:

Results:

Groundwater level declines of about 10 to 20 ft associated with irrigation and rural residential pumping from the deep aquifer, primarily east of Eastside Fault

MT exceedances persist for several RMPs during relatively wet period (2021-2040)

During projected severe drought (~2050-2070), nearly all RMPs experience MT exceedances

**Description of Group 1 Projects and Management Actions**

• Incorporate recycled water deliveries to rural domestic and agricultural customers for new expected contracts at the start of the projected period • Assume 20% reduction\* in all rural residential water use beginning in 2025 • Assume 10% reduction\* in vineyard irrigation beginning in 2025

**Group 2a Projects and Management**

(Including Group 1) This Scenario: •Incorporates all Group 1 projects and management actions • Adds: ◦ Recycled Water (RW) Expansion ◦ Expanded RW deliveries along 8th St East / Napa Road ◦ 50% build out of west study area •Aquifer Storage and Recovery (ASR) ◦ City of Sonoma ASR to offset existing pumping near City Well #6 ◦ VOMWD ASR to offset existing pumping near VOMWD Well #5 (at Verano Ave)

**Group 2b Projects and Management**

(Including Group 1 and 2a) Since Group 1 + Group 2a are not quite resolving some of the exceedances, a group 2b list of projects will be simulated next and results will be presented at the July AC meeting. Note that there is always a level of uncertainty associated with the simulated scenarios, due to modeling artifacts and highly conceptual nature of the proposed projects Therefore, identifying other potential projects that could be added will help include some buffer as needed during implementation.

Item 5: Report by Advisor Eugene Comozzi

The Advisory Meeting will be held tomorrow, so I will have an update next month. They are working on Prop 68 which is a deep well drilling. They will be drilling between two to four wells. They are hoping that only 7% additional water for municipalities - from groundwater. Staff agreed that the number was very low. Question for Director Sangiacomo – who did you talk to get acres reduced – irrigated ag? Staff is counting 500 acres as irrigated. Director Stornetta said that they are counting all pasture acres as irrigated. They did not reduce the acres, Marcus and Andy Rich just clarified.

Mike Sangiacamo said that the consultants will determine the numbers. Stornetta said that staff is starting to reassess the data gap.

Item 6: Report of Compliance Advisor Mike Martini

I do not have anything. The fundraiser on Thursday should get us far along in terms of the matching. I think we are in pretty good shape. Whenever you are ready to look at expansion, we can do that. Chair Mulas suggested that if it comes up, expansion – we need to be willing to suggest. Advisor Bundschu shared that our State govt. is evolving into allowing only public entities to sit at tables when developing policy.

Advisor Martini shared that the Ocean Keeper filed a lawsuit against Sonoma County for lack of review of relationships between groundwater and surface water. When I asked Peter Kiel if this has legs, the language in Sonoma County is better. They may not get as hammered on it as other counties have.

Item 7. Report by GinaLisa Tamayo on Website Development

Chair Mulas asked if everyone got the email asking for comments on Mission Statement, Values, Goals and Benefits so that it could be uploaded on-line? The Chair suggested that incorporating Jim Bundschu’ s comments would be valuable.

Ms. Tamayo suggested that the one-pager handout for the fundraising event should be included on the website – and a plug to subscribe. I will also add the logo. We received one email, and I asked Richard and Mike how to answer. She further asked if it would be helpful to include links to other water related news? Everyone agreed that it was a good idea.

1. **ADJOURNMENT** Director Wasem made a motion to adjourn. Director Stornetta seconded the motion. The meeting was adjourned at 7:01 pm.

The Next scheduled meeting is scheduled for August 10th at 6:00 pm. Those who wish to attend in person will be able to do so There will be a zoom option for those that cannot make the meeting in person.

Board meeting documents are available to review prior to the meeting at the Shell-Vista Station, 22950 Broadway, Sonoma California. Please call or contact Mike Mulas for an appointment to obtain a copy.