

CARSON WATER SUBCONSERVANCY DISTRICT
BOARD OF DIRECTORS MEETING
July 20, 2016, 6:30 P.M.
Minutes

Directors present:

Karen Abowd, Vice Chairman
Brad Bonkowski
Carl Erquiaga
Barry Penzel
Mary Rawson
Chuck Roberts
Ernie Schank
Fred Stodieck

Directors not present:

Ray Fierro, Treasurer
Don Frensdorff
Don Jardine
Doug Johnson
Greg Lynn, Chairman
Austin Osborne, Storey County representative

Staff present:

George Benesch, Legal Counsel
Edwin James, General Manager
Toni Leffler, Administrative Assistant/Secretary to the Board

Also present:

Angela Paul, USGS

In Chairman Lynn's absence, Vice Chairman Abowd called the meeting to order at 6:34 p.m. at the Churchill County Commission Chambers, 155 N. Taylor St., Fallon, NV. The CWSD/Alpine County Joint Powers Board was convened. Roll call was taken and a quorum was determined to be present. The Pledge of Allegiance was led by Director Schank.

Item #5 - Approval of Agenda. *Director Schank made the motion to approve the agenda as amended. The motion was seconded by Director Bonkowski and unanimously approved by the Board.*

Item #6 - Approval of the Board Meeting Minutes from June 15, 2016. *Director Rawson made the motion to approve the Minutes of the Board Meeting on June 15, 2016. The motion was seconded by Director Stodieck and unanimously approved by the Board.*

Item #7 - Public Comment - None.

CONSENT AGENDA

Item #8 - Approval of Treasurer's Report for June 2016. -

Item #9 - Payment of Bills for June 2016.

Item #10 - Discussion for possible action regarding surplus of the Konica Minolta bizhub C451 copy machine.

Item #11 - Discussion for possible action regarding the Budget Expenditures Policy for expenditures exceeding five percent (5%) of the budgeted amount.

Item #12 - Discussion for possible action regarding the General Manager attending the 2016 Floodplain Management Association Conference on September 6-9, 2016.

Director Schank made the motion to approve the consent agenda, including items #8-12. The motion was seconded by Director Stodieck and unanimously approved by the Board.

****END OF CONSENT AGENDA****

Item #13 - Discussion for possible action regarding a presentation by the USGS on the arsenic study in Carson Valley. Angela Paul from the U.S. Geological Survey (USGS) gave a PowerPoint presentation entitled "Vulnerability of Production Wells to Arsenic in Southeastern Carson Valley- Evaluation of Existing Data." She explained that due to elevated arsenic concentrations Douglas County decommissioned production wells in northern Carson Valley and users in Carson City, Indian Hills GID, and Douglas County are now supplied with water by Minden. This study is to help determine whether increasing pumping rates from wells in Minden will mobilize arsenic toward production wells, thereby degrading water quality. She noted that she is referring to untreated source water, not drinking water.

What do we currently know about distribution of arsenic in Carson Valley? Existing surface and groundwater geochemical data were compiled from the USGS National Water Information System (NWIS) database and from the Nevada Division of Environmental Protection (NDEP). Physical information, such as depth to water and well depth, is available for some wells in the NWIS database. Chemical data for production wells were requested from local water suppliers. This data was compiled into a geospatial dataset and spatially evaluated for arsenic occurrence.

Arsenic is naturally occurring. Enrichment of arsenic can occur due to favorable hydrogeology (volcanic rocks, irrigation, long flow paths) and geochemical condition (redox oxidation reduction potential, pH, phosphate). Deep wells can tap groundwater that can contain the reduced form of inorganic Arsenic III, the more mobile form. The general direction of groundwater flow in Carson Valley is from the east/southeast toward the East Fork and main stem Carson River. Flows from east/southeast to the north are picking up arsenic toward Minden. The focus area of this study is production wells in the Carson Valley area using information from the Nevada Division of Water Resources (NDWR) for water years 1960-2015. Arsenic concentrations were primarily in the north west valley, farther away from the river. They represent both filtered and unfiltered water, as recorded by NWIS, Douglas County Public Works, Gardnerville Ranchos, Indian Hills GID, South Tahoe Public Utility District (STPUD), and the Town of Minden.

Ms. Paul explained that arsenic molecules associated with electrons creates a reduction reaction and combined with oxygen creates an enhancing reaction. Arsenic is associated with geothermal areas in the northern part of Douglas County near Hot Springs Mountain.

Director Erquiaga joined the meeting at 6:47 p.m.

Director Penzel asked if the wells studied are county or private wells. Ms. Paul responded that they are a combination of private wells studied with permission from the landowners, USGS monitoring wells, stock water wells, and county wells.

Arsenic concentrations above 10 ppb were found in some of the Minden production wells over time between 2005 and 2015, however, data provided by the Town of Minden for their production wells show most wells are below arsenic standard.

From a 2010 USGS study Ms. Paul explained that when groundwater was sufficiently oxidizing it takes the form of Arsenic V (arsenate) which are influenced by phosphate which is less mobile. Wells at shallow depths show low arsenite concentrations and high arsenate concentrations. The opposite is true at greater depths. Arsenate has an affinity for iron as a form of treatment.

Director Rawson asked if the lower you drill the more arsenic is picked up. Ms. Paul responded that depends on the transmissivity of the aquifer and where you are pulling the water from. Director Penzel asked about the correlation of arsenic to the granite base. Ms. Paul explained that two different mechanisms can provide arsenic to a well: deeper wells are closer to the arsenic source and shallower wells will be more influenced by what's going on at the surface.

The pH of the water can affect the mobility of arsenate. Arsenic concentration with depth to screened interval showed that generally as you reach greater depth, the arsenic concentrations seem to increase.

Summary of Phase I:

- There is limited data for past 10 years from areas surrounding the target study areas near and up gradient from the production wells in the Minden-Gardnerville area.
- The current geochemical data (arsenic speciation and redox parameters) are needed to understand the spatial distribution and redox conditions within the aquifer underlying the eastern and southern parts of Carson Valley. Understanding these conditions is essential in evaluating possible geochemical controls on arsenic mobility.
- Ancillary geochemical data (e.g., dissolved oxygen, pH, iron, phosphate, chloride) are needed for each sample of arsenic. Currently, not all geochemical data are available within a given sample.
- The limited data analyzed as part of this study suggest that higher concentrations of arsenic are found in samples collected from wells screened within the deeper regions of the aquifer.
- Additional water level measurements are needed to evaluate how deep within the actual aquifer samples are being collected.
- The pH values are generally below what is critical for the desorption of Arsenic V (arsenate) from aquifer sediments; however, elevated arsenic concentrations have been observed.

Director Penzel asked if arsenic would be effected by drought. Ms. Paul responded that more pumping and greater depth could occur during drought which could draw arsenic.

Steps Forward – Phase II – The USGS will:

- Use existing groundwater flow models to determine likely source water flow paths to production wells in the Minden-Gardner area (particle tracking method).
- Sample groundwater from wells located in source water flow paths to potentially vulnerable production wells.
- Monitor water level, continuous head, and temperature in wells surrounding the potentially vulnerable production wells.
- Work with municipalities to sample for arsenic speciation, DO, pH, phosphate, nitrate, iron, manganese, and chloride.

Director Rawson noted that since arsenic is naturally occurring, we don't have a chance to not have arsenic in our water. Director Penzel pointed out that data is good but there is a resident at the end of the pipeline who is paying for this, so we have an obligation to determine that studies present data collection to reflect resident distribution. Mr. James explained that the study is to determine whether we will draw arsenic into major production wells in the future.

Ms. Paul explained that Fair Grounds #2 well, as an example, was exceeding the arsenic standard when pumping exceeded 200 gpm. If pumping stayed under 200 gpm, the arsenic level stayed under 10 ppb. If Douglas County has to pump a higher rate to meet demands, they will have to treat water, and the customers will have to pay the price for treatment. Director Penzel expressed his concern over focusing on the "flavor of the day" element which is being treated and then have to change treatment for a different element, like pharmaceuticals. Should we not have a larger, better view of water quality, the whole spectrum of the problem, before determining the best treatment? Ms. Paul responded that in the next phase of sampling the USGS can include sampling for various elements to identify a broader range of potential concerns.

Director Bonkowski asked if arsenic levels drop with the reduction in pumping, is it possible to determine the point at which the arsenic retreats for an optimal pump rate? Ms. Paul responded that it is unclear if there is a pumping level at which arsenic will permanently retreat.

No action was necessary for this item; receive and file.

Item #14 - Discussion for possible action regarding the General Manager's annual review. Director Abowd explained that the Administrative Committee met on June 8, 2016, to go over the General Manager's annual reviews submitted by Board members. The results were an average 17.39 rating out of a possible 18 points. Mr. James is topped out in his salary range, so no salary adjustment is available, but a satisfactory review qualifies him for a \$500 longevity award. When asked if he had any comments about his review, Mr. James requested that the board share with him the rumors they hear and information they would like to be given to their boards.

Director Schank commented that in his two years as Chairman of the CWSD Board, he is extremely appreciative of Mr. James' knowledge and working relationship with the Legislature. Mr. James has done a lot for this watershed, and Director Schank applauded Mr. James' leadership.

Director Schank made the motion that the General Manager be given a satisfactory review which qualified him for a \$500.00 longevity award. The motion was seconded by Director Penzel and unanimously approved by the Board.

Item #15 – Discussion for possible action regarding the water supply projections for this summer.

Mr. James explained that the 2015 snow water equivalent in the Carson River Basin were near historic lows. In 2016, we are at average, though it seems like a lot more water after the several years of drought we have experienced. On the East Fork at Gardnerville, the river is falling below historic average, as on the West Fork at Woodfords. We can't make up for several years of drought in one year of average water. At Ft Churchill the flows are dropping at a faster rate than at the other gages. This year we had good precipitation but the snow pack disappeared quickly. As we start planning for the future, we need to keep this scenario in mind, a new scenario that changes are occurring.

Director Schank noted that the Carson River underachieved what was predicted, whereas on the Walker River, it overachieved the prediction.

Director Schank noted that Lake Tahoe is a good indicator of drought conditions, even though the Carson River doesn't draw any water from Lake Tahoe except at Lahontan Reservoir through the Truckee Canal from the Truckee River.

No action was necessary for this item; receive and file.

Item #16 - Staff Reports

General Manager - Mr. James had nothing to report in addition to the staff report in the Board package.

Legal –Mr. Benesch had nothing in particular to report.

Correspondence – As included in the Board package and handed out at the meeting.

Item #17 - Directors' Reports

Director Schank thanked the Board for coming to Churchill County to meet this month and for the tour of county and conservation district projects preceding the meeting so Board members could see what CWSD is funding.

None of the other directors had anything specific to report.

Item #18 - Public Comment. None

There being no further business to come before the Board, Director Schank made the motion to adjourn, seconded by Director Rawson. The meeting was adjourned at 7:58 p.m.

Respectfully submitted,

Toni Leffler
Secretary