



Kerry Howe, *Chair*
Steve Glass, *Vice-Chair*
Suzanne Busch
Camilla Feibelman
Julia Maccini

Roland Penttila
John Pietz
Roberto Roibal
Caroline Scruggs

Water Protection Advisory Board
c/o ABCWUA
P.O. Box 568
Albuquerque, NM 87103

Minutes: April 12, 2019
Location: Bernalillo County Public Works Division, 2400 Broadway SE, Bldg. N Conf. Room
Time: 8:30 to 10:30 a.m.

Board Members Present: Steve Glass, Julia Maccini, John Pietz, Roberto Roibal, Dr. Caroline Scruggs, and Suzanne Busch

Board Members Absent (excused): Dr. Kerry Howe, Camilla Feibelman, and Roland Penttila

PIC Members Present: Diane Agnew, Liz Anderson, Kate Mendoza, Kali Bronson, Bart Faris, and Kathleen Verhage.

Guests: Sergio Lozoya (University of New Mexico) and Mo Hobbs (University of New Mexico)

I. Call to Order

Vice-chair Mr. Steve Glass called the meeting to order at 8:33 a.m.

II. Approval of Agenda

Vice-chair Glass requested a motion to approve the agenda. Ms. Suzanne Busch moved to approve the agenda and Mr. Roberto Roibal seconded the motion. Motion to approve the agenda carried unanimously.

III. Approval of Meeting Minutes

Vice-chair Glass asked board members if there were any comments on the March meeting minutes and board members had no additional edits. Ms. Busch moved to approve the March meeting minutes and Ms. Julia Maccini seconded the motion. Motion to approve the March meeting minutes carried unanimously.

IV. Board Business

a. PIC Agency Updates

Ms. Kali Bronson, PIC member, told board members that Bernalillo County (County) is currently conducting a study with the U.S. Geological Survey (USGS) on polychlorinated

biphenyls (PCBs) at four stormwater outfalls in the Albuquerque reach of the Rio Grande. She said the USGS is working to finish the study and presented preliminary results of the study to the County. Ms. Bronson suggested the board see the presentation and board members indicated that USGS would be invited to give the PCB presentation at the May meeting. Ms. Bronson highlighted that PCB-11, usually found in inks for printing, was the most common during the study and it is usually found in trash and landfills. Vice-chair Glass asked if water and sediment were sampled for in the study and Ms. Bronson replied that both substances were sampled and PCB-11 was found in both. Dr. Caroline Scruggs asked if PCB-11 was still allowed to be used and Ms. Bronson said a lot of PCBs have been banned, but perhaps USGS could clarify why PCB-11 is still permitted for use.

Ms. Bronson told board members that the municipal separate storm sewer system (MS4) National Pollutant Discharge Elimination System (NPDES) permit will be under administrative continuance with the U.S. Environmental Protection Agency (EPA) when it expires in June. Ms. Bronson said the permittees are not yet clear on what impacts the administrative continuance of the permit may have on sampling this summer, but the permittees expect to be under the administrative continuance for the next year.

Vice-chair Glass announced that the Ciudad Soil and Water Conservation District (Ciudad) has nearly finalized a professional services agreement to develop a Tijeras Watershed Plan that meets the approved EPA format which will help the entities involved in improving the watershed be better candidates for grants and funding opportunities.

Ms. Kathy Verhage, PIC member, told board members that the EPA came to the City of Albuquerque (City) to inspect stormwater and other municipal facilities such as landfills. She said the City had no significant findings, but will have to do some minor maintenance to stormwater facilities, including replacing pond liners.

Mr. Bart Faris, PIC member, told board members that voluntary remediation work at the downtown Albuquerque Railyards site is moving forward. Mr. Faris indicated that the City observed dissolved manganese in groundwater at the site and the City will be installing additional groundwater monitoring wells to see if the dissolved manganese is a local or regional issue. Ms. Liz Anderson, PIC member, added that dissolved manganese is part of the current unregulated contaminate monitoring rule (UCMR4) that the Water Authority is currently conducting sampling.

Mr. Faris provided an update on the oil and gas ordinance guidance document that the Mid-Region Council of Governments (MRCOG) Water Resources Board is developing. He said the Water Resources Board assigned a technical advisory group to draft the guidance document over the next two years. Mr. Faris indicated that the technical advisory group will have the first formal report back to the Water Resources Board on May 1st at 10:00 a.m. at the MRCOG office. He added that anyone wanting to provide public comment could do so in five pages or less to the Water Resources Board. Mr. Roibal asked if the ordinance guidance document will include provisions for water quality and cultural factors and Mr. Faris said that it is meant to be an all-inclusive plan for the Middle Rio Grande basin that addresses all potential impacts of the oil and gas industry.

Ms. Anderson told board members that the Water Authority is finishing the sampling for the pharmaceuticals and personal care products study. She said the Water Authority did not do the spring runoff sampling event last year because runoff was poor, but the Water Authority will be sampling the spring runoff this May to finish the study. Ms. Anderson said she expects the report to be issued this fall.

Ms. Anderson said the newly designed consumer confidence report will be finalized this month and will be released to the public in May. She said the Water Authority revamped and improved the document based on customer feedback from a series of public meetings last fall. Ms. Anderson said the goal is to improve readership of the consumer confidence report.

Ms. Diane Agnew, PIC member, shared that the Air Force, including Mr. Mark Correll from the Pentagon, who would be presenting to the Water Authority governing board on Wednesday, April 17th to provide an update on the Kirtland Air Force Base (KAFB) Bulk Fuels Facility (BFF) jet fuel leak project. Ms. Agnew shared that there is a public meeting scheduled on Thursday, April 25th to provide the public with a status update on the cleanup. She added that there will be a technical working group meeting and a stakeholder meeting the week of April 22nd for the jet fuel leak project. Ms. Agnew said the Water Authority recently met with New Mexico Environment Department Secretary James Kenney and discussed stakeholder relationships in the KAFB BFF jet fuel leak project. She said the meeting went well and the Water Authority expects to see improvements in stakeholder relations for the project. Mr. Faris added that the Air Force recently received a draft National Pollutant Discharge Elimination System (NPDES) permit for discharging treated water into the Tijeras Arroyo. He added that the permit will be open for comment for a few weeks and will have a public meeting about the draft permit at the end of the month.

Ms. Agnew told board members that the Water Authority has a nationally-recognized education program and will be included on the Earth Day special for CBS This Morning with Gayle King.

Vice-chair Glass announced that Monday, April 15th is the deadline for submitting comments to the U.S. Army Corps of Engineers on the proposed changes to the Waters of The United States rule. Vice-chair Glass said that he submitted his personal comments building upon a well-crafted statement by the Amigos Bravos group. He added that Tijeras Creek is an example of a local water body that would no longer be considered a “water of the United States” if the proposed changes to the rule were accepted. Vice-chair Glass recommended that everyone submit comments on the proposed changes.

Vice-chair Glass said he had attended the spring signatories meeting of The Nature Conservancy’s Rio Grande Water Fund and announced that Ms. Laura McCarthy, the previous director of the Rio Grande Water Fund, accepted a position with New Mexico State Forestry as the New Mexico State Forester. He told board members that the Board has previously written letters of support for the Rio Grande Water Fund and he is interested to see how the program will do in the future.

b. 2019 State Legislative Summary

Ms. Agnew gave board members a brief update on the outcomes of the 2019 state legislative session. She highlighted legislation that was passed and signed by Governor Michelle Lujan-Grisham including the Forest and Watershed Restoration Act, the Water Data Act, the Oil and Gas Fees bill, and the ISC Composition. Ms. Agnew said that the bill to ban fracking did not pass among many other proposed bills that stalled during the session.

Vice-chair Glass said that State Legislator Melanie Stansbury will be attending the May 1st Mid-Region Council of Governments Water Resources Board meeting to provide an overview of the Water Data Act and what it means for New Mexico's water data. Additionally, Adrian Olgesby from the University of New Mexico (UNM) Utton Center will also be giving a presentation at the Water Resources Board meeting on the university's grand challenge for water that aims to take an interdisciplinary look at water resources.

V. Presentation: Have You Seen the Poop Fairy?

Sergio Lozoya, Master's candidate in Water Resources at UNM, presented his research on the Poop Fairy campaign. He explained that the campaign focuses on encouraging dog owners to pick up after their dogs and informs dog owners that pet waste is a source of pollution to the Rio Grande. Mr. Lozoya said a 2005 study of *Escherichia coli* (*E. coli*) bacteria showed that a significant source of *E. coli* in the Rio Grande came from dogs. The Poop Fairy campaign was initiated shortly after to control dog waste inputs by influencing human behavior. Two years into the Poop Fairy campaign, the Rio Grande showed a reduction in *E. coli* concentrations and had impairments for *E. coli* lifted for some urban sections of the Rio Grande in Albuquerque.

Mr. Lozoya told the board that a private dog becomes a "public dog" when it's behavior impacts the public. Mr. Lozoya designed a survey to understand dog owner behavior around scooping poop and to see if dog owners in the Bernalillo County (County) area were influenced by the Poop Fairy campaign. He explained that the survey was provided to dog owners who were residents of the County and who were 18 years old and older. The surveys were handed out on the UNM campus, Valle de Oro National Wildlife Refuge events, and the Doggie Dash and Dawdle run/walk event.

Mr. Lozoya analyzed his results in R statistical software and observed some basics about his survey respondents. He said he had an even spread of age groups who responded to the survey but had lots of females and people who were college-educated take the survey. Mr. Lozoya said most people had one dog per household and a few households had up to eight dogs. He said most people walk their dogs a few times a week on average.

As part of the survey, Mr. Lozoya asked how often people pick up their dog's waste and he said 70% of respondents always pick up the poop and 3% of respondents never pick up the poop. Mr. Lozoya asked how often respondents picked up poop from other people's dogs and 65% of people have picked up poop from other people's dogs and 35% of respondents had never picked up another dog's poop. He said that the community sees the dog poop as

a problem and individuals contribute by picking up additional poop to cleanup public spaces.

Mr. Lozoya asked how many survey respondents have seen the Poop Fairy sign and 70% of people surveyed had seen the sign. He also asked where people had seen the sign posted and most people reported having seen the sign in neighbors' yards and public spaces, like parks. Mr. Lozoya said many people who saw the sign may have been influenced to pick up the dog poop, but most survey respondents who said they had seen the Poop Fairy sign already pick up their dog's poop and were not influenced by the sign.

Mr. Lozoya asked about the acceptability of dog poop in public spaces and found that most survey respondents said dog poop was unacceptable in public spaces but should also be picked up in private spaces. He noticed that many people did not view Open Space areas as public spaces and people who walked their dog off-leash during a hike in an Open Space area or the forest would not pick up the poop because they either did not see their dog poop or considered a natural space an area they did not need to pick up the poop.

Mr. Lozoya said that the Poop Fairy campaign was successful in influencing human behavior because most people who had seen the Poop Fairy sign were more likely to pick up the poop. He added that the results suggest that the Poop Fairy campaign was effective and may have contributed to water quality improvements in the Middle Rio Grande. Mr. Lozoya concluded his presentation by suggesting that the *E. coli* source tracking study for the Middle Rio Grande be updated. Additionally, he suggested that the framework of his study could be applied to other public health campaigns across a variety of disciplines.

Mr. Roibal shared that he has heard about the Poop Fairy campaign through his neighborhood coalition and asked who was doing the outreach for the campaign in the Middle Rio Grande. Ms. Bronson said that the stormwater quality team, primarily the City and County, have been doing outreach for the Poop Fairy campaign. Ms. Verhage shared that Poop Fairy signs have been distributed to the neighborhood associations and are available upon request.

Ms. Bronson shared that the County is working on a new microbial source tracking study with the City and the U.S. Geological Survey and claimed they will be cooperating with the Water Authority in the southern part of Albuquerque. She said the County is interested in pinpointing where the source of the *E. coli* may be coming from and why concentrations are so high in the southern reach of the Rio Grande in Albuquerque. Ms. Verhage said that the preliminary results of the City's microbial source tracking study are available and the City is working with their contractor to finalize the report. Dr. Scruggs said that the preliminary results of the City's microbial source tracking study will be included in Mr. Lozoya's thesis.

VI. Presentation: Benthic Invertebrates: The Macro Side of Water Quality

Ms. Mo Hobbs, intern at the Water Authority and Master's candidate in Water Resources at the UNM, presented her master's work on benthic macroinvertebrates in the Rio Chama and their relationship with water quality. She told board members about biomonitoring, which focuses on using biology to monitor for water quality in stream systems. Ms. Hobbs said that using organisms for monitoring purposes adds a temporal component to water

quality monitoring. She explained that the organisms had to live in the environment for an extended period of time as opposed to the “snapshot” in time that other water quality measurements provide. Ms. Hobbs said that benthic macroinvertebrates are useful for biomonitoring because they are ubiquitous across stream types, relatively sedentary, and are relatively easy to see. She added that there are many metrics for using benthic macroinvertebrates for water quality monitoring that have been developed for many stream types and ecosystems across the nation. Ms. Hobbs cautioned that there is a very wide variety of species of macroinvertebrates and that can sometimes make identification quite challenging.

Ms. Hobbs told board members that benthic macroinvertebrates can be categorized into functional feeding groups, habitat utilization, and degree of tolerance to impairment or pollution to best understand a stream ecosystem. Ms. Hobbs elaborated that the division of macroinvertebrates by their functional feeding group can help to understand if a stream system is autotrophic or heterotrophic, how a riparian area functions, nutrient composition in the stream and more about the substrate of a stream. She said that categorizing benthic macroinvertebrates by their habitat utilization can also help to understand stream functions. For example, macroinvertebrates that “cling” may indicate harder substrate such as rocks and a stream that typically has higher velocity flows. Ms. Hobbs told board members that each species of benthic macroinvertebrates have various tolerances to pollution and water quality conditions. She told board members about the percent *Ephemeroptera*, *Plecoptera*, and *Trichoptera* (EPT) index that uses the percentages of benthic macroinvertebrates in the *Ephemeroptera*, *Plecoptera*, and *Trichoptera* families found in a stream and streams with more species in those families typically have better water quality than streams with very few of those species.

Ms. Hobbs said that stream temperature can have a significant impact to life cycles of benthic macroinvertebrates and unfavorable temperatures can decrease diversity and abundance of benthic macroinvertebrates in a stream. She said research has demonstrated that a change of one degree Celsius in stream temperature could result in as much as a 50% reduction in diversity and abundance of benthic macroinvertebrates in a stream system.

Ms. Hobbs talked about general water chemistry parameters and their relationships to benthic macroinvertebrate communities. She explained that dissolved oxygen is positively correlated with species diversity but pH, turbidity and total dissolved solids are all inversely correlated with species diversity. Ms. Hobbs said that there are physical impacts to benthic macroinvertebrate diversity such as fine sediment accumulation that can lead to altered food availability, chemical composition changes, and feeding inhibition. These deficiencies can lead to decreased diversity or die-off of species. She also told board members that other chemicals such as pharmaceuticals and fertilizers can have significant impacts on benthic macroinvertebrate communities.

Ms. Hobbs told board members that her research is focused on linking flow targets developed to optimize flows for ecosystem benefit and recreational opportunities on the Rio Chama to the biological integrity of the Rio Chama. She said that she wants to determine what physical and chemical parameters are driving the benthic macroinvertebrate community within a highly-managed reach of the Rio Chama and determine if the driving

parameters are related to the managed flow regime. Ms. Hobbs discussed her experimental design, sampling process, and showed the board her sample locations.

Ms. Hobbs shared her hypotheses that the benthic macroinvertebrate community is driven by the percent of fine sediment accumulation, availability of food resources, and stream velocity. She said she expects to see certain families of benthic macroinvertebrates present based on specific stream characteristics. Ms. Hobbs further hypothesized that there may be more stress-intolerant species closer to El Vado dam because physical and chemical conditions are more stable at the dam outlet compared with downstream conditions.

Ms. Hobbs said she is still processing the data that she has collected for her project and is hoping to have her results soon. She told board members that her results could help refine the environmental goals for the flow targets identified for the Rio Chama and her research will establish baseline data for the biological integrity of the stream system. Ms. Bronson asked if the benthic macroinvertebrate sampling occurred during water releases from El Vado and Ms. Hobbs responded that her data will show the various velocities recorded during her sampling events, adding that it is already apparent that water releases from El Vado dam affect sediment deposition.

VII. Other Board Business

None.

VIII. Public Comment

No public comment.

IX. Adjourn

The meeting was adjourned at 9:55 a.m.