



SIERRA CLUB
ILLINOIS CHAPTER

**Sierra Club 2017-18 Candidate Questionnaire
Metropolitan Water Reclamation District of Greater Chicago**

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The statements and answers contained are submitted by my campaign and reflect my positions.

All responses are confidential. Please return completed questionnaire to: Katrina.Phillips@sierraclub.org

ABOUT YOUR ENVIRONMENTAL BACKGROUND AND PRIORITIES

A. Briefly describe any environmental accomplishments in which you have been involved.

Response: I am a licensed Environmental Engineer with over 20 years experience working with both municipal and industrial clients on water, wastewater, and other environmental issues. I feel very fortunate to have the opportunity to contribute to environmental protection and water resource management, and I've built a small business consulting practice around sustainability principals. I am happy to have had the opportunity to contribute to the Direct Potable Reuse (DPR) Initiative supporting the State of California in one of 33 projects to determine the feasibility of developing criteria for DPR. The advancement of DPR is a paradigm shift as wastewater is seen as our future drinking water, causing agendas of public health and environmental protection become one. DPR requires higher levels of wastewater treatment including nutrient removal to provide pretreatment for advanced drinking water treatment systems.

I have recently authored publications on issues related to water quality and reuse as listed below. I feel my most significant contribution is the development of Direct Potable Reuse (DPR) resilience guidelines which identify enhanced wastewater source control and wastewater treatment suitable as pretreatment for advanced drinking water treatment systems. There is no better argument for improved wastewater treatment than the future prospect of drinking it, albeit after advanced water treatment.

Waller, Craddock, and Khan. 2018. Resilience Guidelines for Direct Potable Reuse (DPR). Resilience guidelines for direct potable reuse (Water Environment & Reuse Foundation, WE&RF 14-13, 2015-2017)

Waller, Packman, Hausner. 2018. Comparison of biofilm cell quantification methods for drinking water distribution systems. J Microbiol Methods, v 144:8-21. www.ncbi.nlm.nih.gov/m/pubmed/29111400/

B. If you are elected, what will be your top priorities?

Response:

If elected, my top priorities will be improving public transparency, information technology (IT), and water quality. MWRD would benefit from improved IT infrastructure including the capacity to transform their current paper-based procurement process to electronic submittals. Improved IT is a critical foundation for improving transparency through sharing information with the public and improving water quality via public outreach programs such as waste diversion, technical assistance to industrial dischargers, and discharge tracking via a Geographic Information Systems (GIS) platform. My longer term goal is to develop a business case for expanding nutrient removal for use in building support through industrial outreach, public education, and identification of funding opportunities.

C. Why are you seeking this office?

Response:

MWRD is facing challenges that will require changes in infrastructure and management approaches. I would like decision makers

with backgrounds in environmental science, engineering, and policy to have input how to expand nutrient removal while supporting regional business growth.

My mission is to leave this place better than I found it. This has led me to build a small business consulting practice to address complex problems associated with sustainable water management. My professional experience covers industrial support and municipal planning, so I will consider impacts of potential policies to local industry and jobs. My recent work with development of planning guidelines for enhanced wastewater source control, wastewater treatment and advances water treatment for direct potable reuse (DPR) is applicable to many to the issues significant to MWRD. Although DPR is not warranted in the Great Lakes region, many of the best management practices for enhanced wastewater source control and treatment can be implemented at MWRD to improve ambient water quality and work toward a more sustainable future. We are the stewards of the precious fresh water resources of the Great Lakes, and our surrounding communities will increasingly depend on us to manage it wisely.

Investing in Clean Water Infrastructure

A sustainable system of clean water distribution and treatment is needed to promote environmental quality, healthy living, and long-term economic growth. The Sierra Club has consistently supported new investments of public dollars to repair, upgrade, and modernize our water infrastructure, and create high wage jobs and new opportunities for communities that need them most.

1. If elected, what specific investments, projects, or opportunities would you pursue regarding water infrastructure?
Explain: My top priority would be a major expansion of information technology infrastructure to support future facilities automation, an electronic procurement process, and industrial outreach. My longer term goal is to build a business case for expanding nutrient removal.

2. Would you advocate for a state capital bill in Springfield to use state dollars to repair, upgrade, and modernize Illinois' water infrastructure?

Yes No

Comment: I will lobby state lawmakers for water infrastructure funds. The Great Lakes are a regional resource and should be supported by regional funding.

3. Will you support new funding, including potentially increased tax levies and budgets, to pay for water infrastructure improvements?

Yes No

Comment: I will seek state funding and allocation of local tax increment financing for water infrastructure. I will seek alternate means of funding than additional residential real estate tax.

Managing Stormwater and Preventing Flooding

Climate disruption is causing more severe and frequent storm events, increasing flooding and contributing to the degradation of our rivers and streams. Runoff from streets, yards and parking lots pollutes the water and erodes streams. Low income communities with outdated infrastructure are particularly vulnerable to flooding and basement back-ups and are less equipped to prevent and recover from storm events, therefore bearing the greatest burden of the deficiencies in our stormwater management system. The use of green infrastructure like rain gardens, bioswales, porous pavement and green alleys has the potential to help build resilience against storm events and improve water quality by capturing, retaining and infiltrating rainwater on site.

4. Would you be an advocate on the Board for the increased use of green infrastructure and policies to minimize impervious surfaces? If yes, what additional priorities would you propose to expand green infrastructure in the District's territory?

Yes No

Explain: Replacing impermeable pavement with porous surfaces reduces stormwater runoff by promoting infiltration. I have replaced sidewalk with porous pavers and installed a rain garden at my home. Sewer backups have been totally eliminated and seepage in our near 100-year old basement is greatly reduced. I would like to review results of local green alley pilot projects to determine how they wear with garbage truck traffic.

I would like to explore other sustainable applications such as turf replacement with lower maintenance and drought tolerant ground cover. I loved the vegetables in the 2016 city planters and have borrowed that idea for my own planters to move toward sustainable living, if ever so slightly.

Waterways such as Bubbly Creek are increasingly being used for recreational activities such as rowing and paddling, but users are forced to risk their health to do so because of the poor water quality and frequent combined sewer overflows which release dangerous substances into the water. The District's Racine Avenue Pumping Station and many other parts of the infrastructure system discharge untreated wastewater into the waterway when the sewer system is overwhelmed.

5. As Commissioner, would you prioritize actions and investments to improve areas like Bubbly Creek that are heavily used for recreation and experience high levels of pollution from combined sewer overflows?

Yes No

Comment: Separate sewer systems for storm and sewer are ideal, but we have to work with what we have. I believe we should strive to make water quality in all natural streams suitable for recreational contact.

6. What actions would you support the District take to improve conditions in Bubbly Creek and other waterways to reduce the risk of public health threats for recreational users?

Explain: Methods exist to minimize combined sewer overflow impact to streams such as wetlands, and temporary booms used to contain overflow. In the longer term, we should strive to eliminate combined sewer overflows into recreational waters by diversion to underground storage such as MWRD's Tunnel and Reservoir Plan (TARP) or temporary surface retention basins.

7. What actions do you believe the District should take to better inform the public about combined sewer overflows to decrease their risk of exposure to contaminants?

Explain: MWRD may consider a monitoring and warning system similar to the Chicago beach coliform monitoring program. All boat rental businesses on the river should be required to post the information.

Controlling Nitrogen and Phosphorus Pollution

Nutrient pollution from excess phosphorus and nitrogen is harming water quality and wildlife in many parts of Illinois, including downstream of the District's treatment plants. Nitrogen and phosphorus pollution can overfeed algae, causing algal blooms that suck up the available oxygen, harm aquatic life and destroy the aesthetic and recreational value of waterways. Excess nutrients also feed cyanobacteria blooms in lakes and rivers, threatening drinking water supplies and even creating conditions poisonous to people, pets, and wildlife. The Chicago River Watershed has been ranked as one of the top contributors of phosphorus and nitrogen to the dead zone in the Gulf of Mexico. The Illinois Nutrient Loss Reduction Strategy calls for 45% reductions in the amount of nitrogen and phosphorus leaving the state.

This past January the District, Sierra Club and other citizen organizations agreed to a long-term plan to address the problems excess phosphorus creates in the region's waterways. The agreement empowers a Chicago Area Waterway System (CAWS) Nutrient Oversight Committee to hire experts to determine where too much phosphorus may be fueling the growth of excess algae and plants or causing dissolved oxygen problems, and what steps need to be taken to resolve these issues. As a backstop to ensure steady progress, the District has committed to meet a phosphorus discharge limit of 0.5 mg/L by 2030, if feasible, at its three largest treatment plants. The District will also conduct a thorough study of the feasibility of a tenfold reduction in its phosphorus discharge limit.

8. Will you support the recommendations of the CAWS Nutrient Oversight Committee, including plans for capital projects that will be necessary to reach the District's nutrient reduction goals? Please explain your goals for MWRD's control of its nutrient pollution.

Yes No

Comment: I support expanding nutrient removal. I also hope to support existing industry and future industrial growth, so I'd like to review nutrient loads attributed to existing industrial dischargers and find ways to support change in an economically sustainable manner. I would like to learn more about this agreement, what experts will be considered, what options are likely to

be proposed to meet the proposed limits, and review an estimated mass balance for those the various options. I think Life Cycle and Triple Bottom Line Assessment methods may be good tools to assist decision making.

Cook County soils have plenty of phosphorus to maintain normal healthy lawns, making phosphorus found in fertilizers an unnecessary contributor to pollution in our watersheds. Illinois has banned lawn care companies from using fertilizers containing phosphorus, but the State does not have resources to adequately enforce the ban. Several Illinois communities have taken steps to prohibit or limit the sale of phosphorus-containing fertilizer at retail stores.

9. Would you support a ban on retail sales of phosphorus-containing lawn fertilizer in Cook County?

Yes No

Comment: I'd like to review the data myself, but a ban seems reasonable if soil phosphorus is adequate. I would like to consider phosphorus requirements of vegetable crops in the decision.

Addressing Contaminants to Protect Water Quality & Public Health

Dangerous components of many consumer and industrial products end up in local waterways because the District's treatment plants are not equipped to remove them. The District could be a leader in protecting water quality from emerging contaminants by advocating for extended producer responsibility to manage waste products that can harm aquatic life and likely have damaging effects on human health. The presence of these compounds in the District's effluent and biosolids combined with the emerging science around endocrine disruptors and chemicals of concern should galvanize the agency into acting on this class of pollutant.

10. Do you support the District working to identify the sources of emerging contaminants present in its effluent and advocating for product bans or other efforts to limit the amount of these pollutants entering the District's plants?

Yes No

Comment: Keeping contaminants of emerging concern out of the wastewater source is the most cost effective way to keep them out of our streams. Enhanced wastewater source control programs implemented at major municipalities such as Los Angeles and San Diego serve as a template for development of local best management practices, policy, and public outreach methods.

Pharmaceuticals are one category of emerging contaminants found in Cook County waters and fish. With the recent passage of a Cook County ordinance expanding the county's pharmaceutical disposal program, actors like the District are needed to ensure the effective, equitable and sustainable implementation of the initiative to reduce the presence of pharmaceuticals in our water.

11. Do you believe the County's pharmaceutical take-back program should be funded by pharmaceutical producers rather than taxpayers, and expanded to better protect public health and water quality?

Yes No

Comment: I believe the cost of pharmaceutical take-back programs would be a minimal cost for manufactures to cover. I'd also like to see them study fate and transport of all degradation byproducts (as is done in Europe) instead of only the commercially available chemical.

12. Do you support the District investing in additional technologies to remove pollutants from pharmaceuticals and other emerging contaminants?

Yes No

Comment: I'd like to see feasibility study on treatment systems for contaminants of emerging concern. Small molecular weight contaminants of emerging concern are best removed by membrane-based treatment systems, so treatment of only a small volume side-stream may be economically feasible. It will likely be more cost effective to manage the source and divert contaminants of emerging concern before they reach the conventional wastewater treatment process.

Dust and particles containing high levels of toxic and carcinogenic polycyclic aromatic hydrocarbons (PAHs) found in pavement sealants, such as coal tar-based sealants, are tracked into homes and wash off into our waterways as these coatings wear away, harming aquatic life and threatening public health. Alternatives are available at a similar cost.

13. Would you support a Cook County ban on the use of toxic pavement sealants?

Yes No

Comment: I am not familiar with pavement sealants, but I am aware of risk assessment data for PAHs through the Illinois EPA Voluntary Cleanup Program. I agree that PAH-containing products should be avoided or banned. I'd also like to see an alternatives evaluation for diversion of flame retardant clothing coatings such as brominated compounds and nano-silver containing compounds considered.

Managing Land Ownership & Public Access

The District is one of the largest landowning government entities in the Chicagoland region. Most of this land is along the highly valued waterways and contains valuable open space and wildlife habitat. It also holds opportunities for other uses that some communities need, such as clean job hubs and green stormwater management systems that provide additional community benefits.

14. Would you support the permanent protection of MWRD holdings that are suitable for community-driven uses (habitat, recreation, clean jobs, green infrastructure, etc.) by transferring ownership or management to a public land agency or another entity that could facilitate such uses?

Yes No

Comment: I support public use of MWRD open space such as the TARP deep tunnel corridor which is enhanced by the Skokie Sculpture Park and public use parkland near Chicago Park District's River Park. I think transferring ownership would interfere with unrestricted access for maintenance, but perhaps an agreement could be reached if it benefited all parties.

15. Do you support the establishment of a habitat buffer (where possible) along riverbanks owned by the District?

Yes No

Comment: I'd like to see a habitat buffer, and pedestrian and bike trails with underpasses at major crossings along the entire river corridor, to do for the river what Daniel Burnham did for the lakefront. Our river is such an amazing asset that should be protected and accessible to all.

16. How would you incorporate community-led visioning and voices into land use planning and decision making as Commissioner for the District?

Explanation: Public outreach and stakeholder involvement is critical for community acceptance of any major municipal plan. A market study approach can be used to develop two acceptable options that may be presented for public vote to engage the community.

Addressing the Threat of Aquatic Invasive Species

Aquatic invasive species (AIS) have wreaked havoc on our waterways, costing billions of dollars and damaging ecosystems. The Chicago Area Waterways System (CAWS) provides a principal pathway for AIS to move between the Great Lakes and Mississippi River basins.

The threat of Asian carp entering the Great Lakes is at the forefront of the attention on this issue as we've seen significant advances of these fish up the Illinois River. The existing electric barriers are not an effective long-term solution; multiple studies show that small fish and eggs can traverse the barriers, and barges can pull fish through the barriers. An adult Asian carp was found just 9 miles from Lake Michigan this past summer, upstream of the electric barrier system intended to stop them.

The Army Corps of Engineers recently released a Tentatively Selected Plan (TSP) that includes installing an electric barrier and other structural control measures at the Brandon Road Lock and Dam to reduce the risk of Asian carp moving through the lock. While this plan does not go far enough to prevent the upstream movement of Asian carp, and does nothing to address AIS moving from the Great Lakes towards the Mississippi River basin, it is a step to reduce the risk of Asian carp reaching and establishing in the Great Lakes.

17. Would you support the expeditious implementation of the Brandon Road TSP and the testing of additional measures, such as a treatment lock, that could be implemented both at Brandon Road and in other control points in the CAWS for two-way prevention of AIS transfer?

Yes No

Comment: I'm open to demonstration pilot projects. I would like to see approaches such as genetic engineering methods, introduction of a sterilized breeding competitor, and implanted tracking devices. Finding a solution should be a collaborative research and development effort of the entire Great Lakes Region to protect our drinking water supply. I don't think barriers are a long term solution. I would like to see Life Cycle and Triple Bottom Line Assessment methods applied to feasibility assessments.

18. Would you be in favor of the District taking a lead role with the Army Corps and other local stakeholders to design plans for a Chicago Area Waterway system that prevents the interbasin transfer of aquatic invasive species while also improving flood control and water quality?

Yes No

Comment: MWRD needs to be engaged in the decision making process to ensure a solution acceptable to local stakeholders is reached.

Working with City of Chicago

The City of Chicago's goals to get more people on and along the river are possible because of the District's investments, such as disinfection controls, and further improvements in water quality will lead to more economic and recreational opportunities. How the City deals with combined sewer overflows and stormwater runoff affects the District's ability to clean up the stormwater and wastewater that it discharges to Chicago Area Waterways. Clearly there are many opportunities for the City and the District to work together to improve water quality and flood control.

19. What could you do as a Commissioner to foster a strong working partnership with City of Chicago elected officials and staff?

Explain: I have experienced a good working relationship with Chicago Department of Water Management (CDWM) on various projects over a span of more than 10 years. I am familiar with lab facilities at the Jardine Water Purification Plant and the contract laboratory program used for compliance monitoring. I do not know the current CDWM Commissioner, so I would suggest a face to face meeting to establish a list of topics for potential collaboration.

Prioritizing Environmental Justice and Service Equity

Seattle Public Utilities (SPU) has created an [Environmental Justice and Service Equity Division](#) (EJSE), serving as an example of how a public service agency can commit to delivering inclusive and equitable service to customers across the city. They look for the full picture of the community to account for service equity, seeking to identify gaps in what they know and assume when they plan a project, program or policy. They strive to be fair and ethical in how they spread the risks and benefits of projects, considering the health of people and the environment. They also commit to focusing their resources so that race, language, income, age, or disability are never barriers to working with them. They have 3 key strategies that guide their work: Embed racial and social justice and service equity across SPU; work to include under-represented groups when working with communities; and continue to align their efforts with city, county, and community efforts.

The District has taken steps towards more equity and inclusion in their hiring and contracting practices, but more can be done to break down barriers to working with the District and ensure that every person receives equitable service.

20. Would you support the creation of an Environmental Justice and Service Equity division within the District? What additional steps would you propose to promote equity, justice and inclusion within the District and the communities it serves?

Yes No

Comment: I would support limited commitment of personnel to coordinate and leverage volunteer efforts for the inclusion of underrepresented communities in decision making via focused stakeholder meetings. Creation of a division of more than five full-time personnel may be premature.

21. The District's affirmative action program was created to ensure competitive business opportunities for small, minority and women-owned business enterprises in the award and performance of MWRD contracts. What would you do as Commissioner to further the efforts and impact of this program?

Explain: As a small WBE firm certified by City of Chicago, I have insight into small business challenges. To assess opportunities to increase inclusion, I would review the skill sets available in the W/M/DBE database to identify opportunity to describe new projects and scopes of work to attract small businesses such as issuing a few small projects that may be a lower financial risk for small-sized firms. There may also be an opportunity to introduce W/M/DBE firms to larger firms for potential partnering opportunities in a meet-and-greet format.