

## Swimmers Organize to Protect Florida's Lake Cane

Lake Cane, in Orlando, Fla., is the home of Lucky's Lake Swim, a near-daily event that John "Lucky" Meisenheimer has been hosting since 1989. A dermatologist, philanthropist, decades-long volunteer coach for Orange County Special Olympics, and a national title holder in masters swimming, he owns a house on the shore of the 80-acre freshwater lake. Lake Cane's exceptionally clean water is a quality required for open-water swimming; in fact, Lucky's Lake Swim is rated one of the top 100 open water swims in the country by the Open Water Swimmer's Association.

Meisenheimer is passionate about swimming. Every weekday and Saturday morning, he opens his backyard and Lake Cane to skilled swimmers who can swim a kilometer without stopping. There is no fee. His invitation attracts up to 200 swimmers on any given Saturday.

Most of the lakes in the area are similarly small, non-distressed, and limited to private access. Unlike some large public lakes nearby, they receive minimal attention. But development is intensifying and thus threatening the quality of these small lakes. Universal Studios is just a 15-minute walk from Lake Cane. Development surrounding the lake has resulted in high concentrations of nitrogen in the water because of fertilizer draining from roads, lawns, streets, and driveways.

As Meisenheimer and his friends celebrated the swim's 25th anniversary, they were inspired to plan for the future health and protection of Lake Cane and the promise of a 50th anniversary for Lucky's Lake Swim. The potential for algae growth was real, as was the risk of nitrification for this lake and all those connected by source to the aquifer.

This group of concerned friends decided to involve the 540-plus people who owned property in the basin that drained to the lake; they formed the Lake Cane Restoration Society (LCRS), a science-based, educational organization created as a nonprofit corporation to improve the environmental conditions of Lake Cane. The LCRS board of directors oversees the gathering of water quality data, setting of improvement goals, and establishing improvement strategies and sharing them with stakeholders. LCRS is dedicated to the message that, as stated on its website, "keeping Lake Cane swimmable, fishable, drinkable, and loveable requires proactively protecting this unique spring-fed water resource."

"Swimmers to the Rescue! Part 2: How an Organized Group of Florida's Open Water Swimmers Are Saving

Freshwater Lakes by Adding 'Swimmable' as a Water Quality Parameter" was presented at AWWA and the Water Environment Federations's 2018 Utility Management Conference (Part 1 was presented at the 2017 conference). The authors were leaders of the LCRS: Jerome Madigan (executive director), Valerie Anderson (director of water quality), and Meisenheimer (president). They shared LCRS's approach with utility directors in order to strengthen water resource protection capacity between citizen networks and institutions. "There are potentially hundreds of people who consider clean water resources a top priority in any given neighborhood which features a body of water . . .," they stated in their paper. "Mobilizing lake-basin constituents to become active takes work. As swimmers we are de facto motivated; we cannot help but to drink the water in which we swim."



Swimmers participate in Lucky's Lake Swim. The 25th anniversary of this regular event spawned the idea for the Lake Cane Restoration Society. Photo credit: Jacquie Meisenheimer



A typical Saturday morning crowd of expert swimmers prepares for the 1 km swim at Lake Cane. Photo credit: Jacquie Meisenheimer

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# Janet Hering to Receive Clarke Prize

The National Water Research Institute (NWRI) named Janet G. Hering, an American aquatic biogeochemist, the recipient of the 2018 NWRI Clarke Prize for outstanding achievement in water science and technology. Hering serves as director of the Swiss Federal Institute of Aquatic Science and Technology (Eawag) and holds professorships at ETH Zurich and EPFL, two top universities in continental Europe.

Hering will receive the Clarke Prize on Oct. 26, 2018, at the Twenty-Fifth Annual NWRI Clarke Prize Award Ceremony in Orange County, Calif., and will present her prize-winning lecture there. NWRI annually presents the prize—which consists of a medallion and \$50,000—to recognize research accomplishments that solve real-world water problems and to highlight the need to expand funding for research that addresses water supply challenges.

Hering initially joined Eawag as a Research Fellow after receiving her PhD and began making significant contributions to the field of mineral–water interfaces. Recognized for her leadership skills, she successfully performed duties beyond those of the traditional post-doc position, including organizing scientific exchanges with researchers at other institutions and managing international conferences. In 1993, she wrote a textbook titled *Principles and Applications of Aquatic Chemistry* with her former PhD advisor, François Morel, now professor of geosciences at Princeton University.

Hering returned to the United States to teach at the University of California–Los Angeles, and later at the California Institute of Technology, where she focused much of her research on arsenic removal in drinking water treatment. Hering’s research was critical to the



Hering

efforts of the Los Angeles Department of Water and Power to treat naturally occurring arsenic in its watershed. She also served on various expert committees on arsenic, including as a panel member for the US Environmental Protection Agency (USEPA) Ad Hoc Subcommittee on Arsenic Research and as a consultant to the Drinking Water Committee of the USEPA Science Advisory Board. For her outstanding work on arsenic, she was elected to the US National Academy of Engineering in 2015.

Hering’s current investigative efforts at Eawag focus on advancing research in the areas of water quality and management, as well as on promoting collaboration among universities worldwide. In addition, Eawag is an international partner with the National Science Foundation’s Engineering Research Center for Re-inventing the Nation’s Urban Water Infrastructure. Hering balances water science with water policy, supporting the synthesis between academic research and its real-world applications. She encourages water researchers to focus on the broader impact of their studies by addressing issues directly related to the well-being of the public while also creating benefits for governments and funding agencies. Hering has written for various scientific journals, and her works have been cited extensively.

The Clarke Prize was established in 1993 in honor of NWRI’s co-founder, the late Athalie Richardson Irvine Clarke. Recent past recipients of the Clarke Prize include environmental engineer Charles N. Haas (2017) of Drexel University, microbiologist Mark D. Sobsey of the University of North Carolina at Chapel Hill (2016), and environmental engineer John C. Crittenden of Georgia Institute of Technology (2015).

## 2018 Exemplary Source Water Protection Award Winners

Three utilities are recipients of AWWA’s 2018 Exemplary Source Water Protection Award: Albuquerque Bernalillo County Water Utility Authority in Albuquerque, N.M.; Clackamas River Water Providers (CRWP) in Oregon City, Ore.; and Rock County Rural Water District (RCRW) in Luverne, Minn.

Albuquerque won in the category for very large utilities, serving populations greater than 500,000; Clackamas River captured the large utility category for populations of 50,000 to 500,000; and Rock County for small utilities, serving fewer than 50,000. A panel of source water protection experts from across North

America reviewed the applications, which were submitted by utilities serving populations ranging from 3,100 to two million.

Albuquerque Bernalillo County Water Utility Authority has initiated source water protection efforts such as providing financial assistance to low-income families to help with connection to nearby sanitary sewers, which reduces nitrate impacts on domestic wells. The authority monitors and maps potential groundwater contamination and has established collaborative efforts to clean up groundwater contamination sites. The city developed a comprehensive groundwater

protection policy and action plan in the 1980s; it was updated in 2009 to include surface water quality protection activities.

In 2007, stakeholders created CRWP to formalize source water protection efforts. It includes eight providers, who serve about 300,000 people. The basin is large, with many land uses. The judges noted the comprehensiveness of CRWP's source water protection plan.

RCRW serves more than 3,000 people in southwest Minnesota. Unlike most of Minnesota, groundwater resources in Rock County are scarce, and surface waters are impaired by nutrients. RCRW obtains its drinking water from a series of 11 wells, all less than 40 ft deep. In 2001, RCRW's staff obtained one of the state's first wellhead protection plan approvals. In 2017, the district submitted a revised second-generation wellhead protection plan.

## BUSINESS BRIEFS

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The **National Ground Water Association's (NGWA's) Foundation for Groundwater** and the **Groundwater Foundation** have agreed to merge. Under the agreement, the combined entity will carry the Groundwater Foundation name and will leverage administrative and operational support from NGWA. The organizations believe this merger is important because it creates a hub of information and charitable outreach for groundwater professionals and the public alike. The Groundwater Foundation will remain in Lincoln, Neb., and staff will be retained. The group will be supported by NGWA.

**Xylem Inc.** announced that its ozone equipment has been selected to support the City of Grand Forks, N.D., in developing a new regional water treatment plant. The facility will provide drinking water for the city's population of 57,000. The new Grand Forks Regional Water Treatment Plant will have a capacity of 20 mgd. Construction has been underway since Dec. 1, 2016, to replace the aging infrastructure of the existing 62-year-old plant. It is expected that the new plant will be operational by early 2020.

**Global Water Intelligence (GWI)** announced the winners of the 2018 Global Water Awards, which were presented in April at the Pavillon d'Armenonville in Paris, France, as part of the Global Water Summit 2018. The awards recognize the industry's most significant accomplishments during the previous

year, rewarding the initiatives and companies in the water, wastewater, and desalination sectors that are contributing to progress in the industry through improved operating performance, innovative technology adoption, and sustainable financial models. Award recipients included Evoqua, Suez, Xylem, and CosmosID, among others.

In other GWI news, six utilities have joined the Leading Utilities of the World (LUOW) network. With this latest inauguration, the LUOW network now comprises 28 members, spanning 13 countries and featuring more than 80 innovations. The new member utilities are Anglian Water, United Kingdom; PWN, the Netherlands; LA Sanitation, United States; Hera Group, Italy; Southern Nevada Water Authority/Las Vegas Valley Water District, United States; and Department of Energy, Abu Dhabi Emirate.

**East Bay Municipal Utility District (EBMUD)**, based in Oakland, Calif., has signed a five-year, \$1.7 million contract with **Sedaru** to provide real-time information for its operations and maintenance department. EBMUD will use a number of Sedaru's applications to manage data, help its field staff with preventive and corrective maintenance, facilitate pipeline leak and break response, support pipeline shutdowns, and support distribution system what-if analyses. Sedaru will deploy the software to approximately 170 users and provide staff training.

**Global Water Resources Inc.** has signed a definitive agreement to acquire Turner Ranches Water and Sanitation Co., a nonpotable irrigation water utility in Mesa, Ariz. The acquisition will add 960 residential irrigation customers and approximately 7 mi<sup>2</sup> of service area. It is also anticipated to add nearly \$1 million in revenue. Turner Ranches has several capital expenditure projects under way to upgrade its infrastructure, which Global Water Resources will complete.

In summer 2017, the **Henry County Water Authority (HCWA)**; McDonough, Ga.) hosted approximately 20 science teachers from Henry County Schools for four days of Rain to Drain public education workshops, introducing them to water professionals and facilities that might be of interest to their students. HCWA was later invited to present how-to insights on Rain to Drain workshops to members of the National Science Teachers Association (NSTA) at its 2018 national conference, which was held at the Georgia World Congress Center in Atlanta. HCWA employees shared perspectives and ideas with conference attendees.

Through **WaterStart**, Netherlands-based tech company **microLAN** has partnered with the University of Nevada, Las Vegas (UNLV) for a pilot project that tests its BACTcontrol unit, which detects the presence of bacterial contamination in water and can be used for the detection of bacterial

activity in water. In its research with UNLV, the pilot project implementing microLAN's technology aims to demonstrate how microLAN's products can help local agencies address water quality concerns. Once the project is complete, microLAN plans to fund future research internships for Nevada students.

**Middlesex Water Company** (Iselin, N.J.), a provider of water and wastewater and related services primarily in New Jersey and Delaware, broke ground recently on an underground large-diameter water transmission main from the Township of Edison to the Borough of Metuchen, N.J. The 42 in.-diameter main is being installed to provide critical backup water supply and ensure resiliency in the company's water distribution system. This \$52 million project, known as the Western Transmission Main, will supplement the company's existing transmission main, which serves a population of approximately 300,000 in eastern Middlesex County, N.J., and help mitigate risks associated with aging infrastructure.

**Radix** and **Seeq** are collaborating to deliver advanced analytics solutions to their customers. The goal of the partnership is to accelerate digital transformation and harness the capabilities of advanced analytics to deliver greater operational efficiency and deeper insight across the organization.

**Rainmaker Worldwide** has delivered its first Water-to-Water technology to Cape Town, South Africa. The company is working with an international distributor with local presence in Cape Town as its sales and technical partner. Through an operational hub in Cape Town, the company will use a mobile unit to demonstrate the efficacy of its technology. This initial deployment will be followed by larger machine deployments that are under

contract. Rainmaker's technology is both wind and solar powered.

**Suez** has been honored as one of 2018's top 100 digital companies in the United States by IDG Company's *CIO* magazine. The Suez information technology (IT) team was recognized in the annual ranking "for driving digital business growth through tech innovation." Suez was the only water utility on the annual list, which included many computing, telecommunications, and pharmaceutical giants. The digital transformation of a water utility, integral to the Suez Smart Utility initiative, is a multi-year effort to enhance the connection that customers have with operations and improve workforce productivity through nimble analytics and increased automation. The new digital core of technologies will transform Suez's IT operations from supporting infrastructure to optimizing each step of the business cycle, including metering, workforce management, asset management, asset location, and customer operations through advanced metering infrastructure, mobile workforce management, and a geographic information system.

**NineStar Connect**, a smart utility providing water, sewer, electric, and high-speed fiber services, announced that the Town of Cumberland, Ind., voted to accept its offer to acquire Gem Water Utility, which the town has owned since 2010. As part of the acquisition, NineStar Connect will retire Cumberland's bond debt for Gem Water Utility, and its Central Indiana Communications Inc. for-profit communications subsidiary will build a fiber optic network that connects Cumberland's town hall and other municipal facilities, including municipal parks and trails. This will allow for greater public safety and enhancements like security cameras and public WiFi. Each Gem Water customer

will become a member of the NineStar Connect cooperative. Within 18 to 24 months of the sale date, NineStar said it intends to begin building high-speed fiber optic facilities to each home and business within the Gem Water Utility territory.

**Burns & McDonnell** has completed a 15,000 ft<sup>2</sup> expansion in Denver, Colo. The recently completed expansion will accommodate plans to double in size within the next five years. To recognize the opening of its newly updated space, on May 16 the firm hosted an event that included technology demonstrations. Burns & McDonnell's leadership discussed growth in Colorado, industry trends, and how the company is using technology to reduce safety risks and deliver cost-effective data on its projects.

**Gannett Fleming** received a Grand Award from the American Council of Engineering Companies (ACEC) at the Engineering Excellence Awards (EEA) Gala on April 17, sharing the award with the **City of Tempe, Ariz.**, and **PCL Construction Inc.** for the Tempe Town Lake Dam Project. Gannett Fleming was the design engineer of record for the \$45 million dam and provided design and construction management services. The dam is one of the largest hydraulically operated steel-gate dams of its kind and consists of eight hydraulically operated steel gates—each 106 ft long, 17 ft tall, and approximately 300,000 lb—that improve the dam's durability and reliability and offer heightened safety and operational flexibility. ACEC's EEA program honors the year's most outstanding engineering accomplishments from member firms. Projects that are winners at state-level EEA competitions are eligible for ACEC's national EEA competition.

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