

*“We were sent here to serve our citizens,
not our ambitions.”*

—President Barack Obama:
State of the Union Address, 2010

Debra Shore, Commissioner
Metropolitan Water Reclamation District



2016 ANNUAL REPORT

When I took office in December 2006, I resolved to issue an annual report each year describing my work on the Board of Commissioners. In this edition, the 10th, perhaps it is appropriate to reflect on achievements, challenges, missed opportunities, even disappointments. The Metropolitan Water Reclamation District of today is not your grandfather’s sanitary district. The District has embraced new mandates—stormwater management for the second-largest county in the country—and new trials: budget constraints, intense rainstorms, climate change.

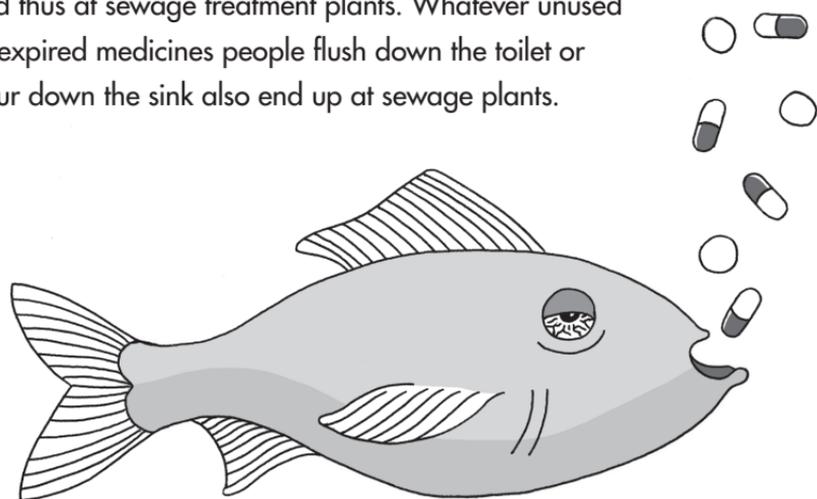
Safe, Secure Pharmaceutical Disposal

Throughout history, people have dumped all manner of human, animal, and industrial waste into nearby rivers, lakes, and harbors. When populations were small and currents washed garbage away, this approach to waste management probably met the needs of most communities. You'll recall the long-held belief that "the solution to pollution is dilution." Such practices occurred until rivers became so contaminated that some caught fire. Others showed no evidence of aquatic life, conditions being too toxic for its survival.

Appalled by the extent and impacts of pollution, people clamored for regulations that would clean up our water. Congress passed the Clean Water Act in 1972; the Safe Drinking Water Act in 1974. As a consequence, municipalities and industries have since spent billions on efforts to reduce pollution and remediate contamination, and many of our nation's waterways are demonstrably healthier now than they were years ago.

Still, new causes for concern are emerging as our ability to detect pollution becomes more sophisticated. Consider drugs, for instance. A complex stew of pharmaceuticals, both over-the-counter and prescription, is now being found in drinking water, rivers, and streams throughout the country. Studies of fish, especially downstream from sewage plants, are showing detrimental effects from exposure to this chemical soup. In a 2010 issue devoted entirely to water, *National Geographic* created an image of a fish made of pills—the specimen taken from Chicago's North Shore Channel—to illustrate the problem. Last spring I heard a fellow say that the salmon in Puget Sound wouldn't pass a drug test.

Any medicine our bodies can't absorb ends up in our urine and thus at sewage treatment plants. Whatever unused or expired medicines people flush down the toilet or pour down the sink also end up at sewage plants.





But sewage plants were not designed to remove these chemicals, so most medicine flushed down the toilet ends up in nearby rivers and streams.

Stockpiling old drugs at home is not the answer. Unused meds accumulating at home can become a risk to seniors, who may accidentally mix different compounds. Teens and young adults are especially at risk of experimenting with prescription drugs and becoming addicted. Studies reveal that the path to opioid addiction for 50 percent of the people afflicted began with the drug dealer at home: the medicine cabinet. In 2015 in

Cook County, 185 people died from prescription drug overdoses, and for each overdose death, there were dozens more hospital admissions.

Almost as soon as I began serving at the MWRD, I set to work on this emerging problem. After sharing my concern with Cook County Sheriff Tom Dart, he installed collection boxes at suburban courthouses. The city of Chicago installed them in nearly every police station. The US Drug Enforcement Administration has hosted twice-annual Drug Take-Back Days encouraging local municipalities to collect unused meds. Still, these were episodic collection events or not-altogether-user-friendly sites. (Several Chicago aldermen noted that the residents of their wards would not feel comfortable taking drugs to a police station even if these were their own prescription meds!!!)

I wanted to expand the number of collection sites for people to dispose of their unused or expired meds so they wouldn't flush them down the toilet. But we had no idea what people knew or thought, or how they felt about ditching their drugs.

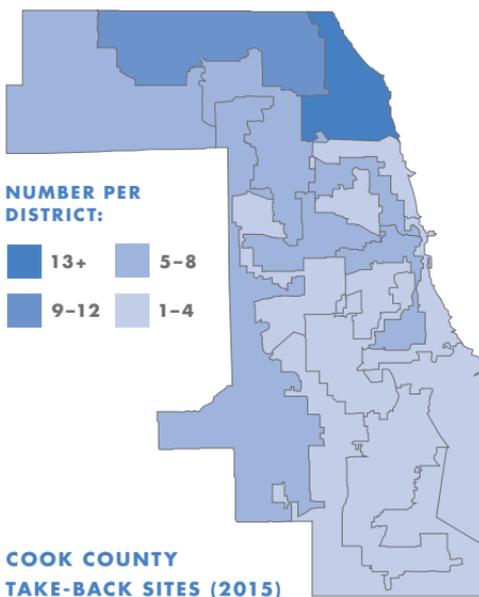


Safe, Secure Pharmaceutical Disposal

In 2008, the District supported survey research conducted by the University of Illinois at Chicago to gather baseline data on Cook County residents' attitudes and beliefs about disposing of their drugs. The findings?

- 80.5 percent of respondents had prescription meds stored at home, and 92.4 percent had nonprescription meds stored at home.
- 59 percent said they throw away unused or expired meds in the garbage, and 31.3 percent said they flush unused or expired meds down the toilet or pour them down the sink.
- 80.6 percent believed that pharmaceutical companies should be responsible for safe medication disposal.
- 93.8 percent were willing to take unwanted meds to the nearest pharmacy, and 54 percent were willing to take them to a drop-off box located inside a police station or sheriff's office.

These stats in mind, I chaired a study session of the MWRD Board in July 2015 to learn about the existing collection programs run by the city of Chicago and the Cook County Sheriff. We directed MWRD staff to explore opportunities to collaborate with the Sheriff's Department, leading to the adoption of an intergovernmental agreement in 2016 and a \$100,000 commitment to support an expanded collection program under the Sheriff's direction. MWRD staff installed bright blue collection boxes in the lobby of District headquarters at 100 E. Erie in Chicago and at the gatehouses of three large treatment plants (Stickney in Cicero, Calumet in Chicago, and O'Brien in Skokie). All told, the District collected more than 277 pounds of unwanted meds last year.



But it was still apparent that residents in large swaths of southern and southwestern Cook County had few places to dispose of their meds: they lived in “collection deserts.” How could we devise a program to provide permanent and easily accessible opportunities for all residents to dispose of their meds safely and securely? We found a model approach outside Illinois—way outside.

In 2012, the Board of Supervisors in Alameda County, California, became the first in the country to adopt a Safe Drug Disposal Ordinance requiring pharmaceutical manufacturers to develop, implement, and pay for stewardship plans providing for collection and disposal of unwanted medicines. Applying the principle of “product stewardship” to unwanted or expired meds was novel but timely. The goal of product stewardship is to establish safe, environmentally sound approaches to dispose of or recycle hazardous products such as batteries, paint, electronics, and pharmaceuticals. Product stewardship means the makers of these products must share responsibility for disposal or recycling.

Not surprisingly, the trade associations for the largest pharmaceutical companies—PhRMA, GPhA, and others—sued Alameda County in federal court. The case took several years to make its way through the courts, but in the end, the decisions supported the County’s authority to adopt such a program. Several other counties in California and Washington soon passed similar ordinances.



My staff and I watched these developments with interest. Could Cook County, the nation’s second-most populous, also pass a safe disposal ordinance based on product stewardship? Well, I wondered, why not try?

In March 2016, Cook County Commissioner Larry Suffredin introduced item #16-1983: An Ordinance Governing the Safe Disposal of Pharmaceuticals modeled on Alameda County’s successful measure. The MWRD Board swiftly passed a resolution supporting the framework proposed by Cook County. Product stewardship champions across the nation reached out to offer their support, including Heidi Sanborn, Executive Director of the National Stewardship Action Council, and Supervisor Nate Miley from Alameda County. Numerous conservation organizations, public health and substance abuse agencies, police

Safe, Secure Pharmaceutical Disposal

departments from around the county, and other public interest groups voiced their support at a public hearing on August 3.

"I think of wastewater treatment plants as hospitals for water," said MWRD Executive Director David St. Pierre in his testimony. "These hospitals take in water containing all varieties of contaminants and treat it to ensure healthy water is released back into the environment. If you are concerned about your health, the last place you want to be treated is in the hospital. A hospital provides urgent care. Preventative healthcare is a much-preferred alternative. In the water industry, we still are predominantly reliant on the treatment plants or water hospitals. We are beginning to understand and promote the value of preventative measures to protect our waterways. Addressing pharmaceuticals in a proactive manner through proper disposal is the best, most cost-effective and responsible approach."

Still, PhRMA and other industry trade groups hired a raft of lobbyists to weaken or defeat the measure.

Instead of promoting safe take-back sites, industry reps pitched an education-only program called "MyOldMeds" recommending that people dispose of their meds by mixing them with kitty litter, sawdust, or coffee grounds, sealing them in a plastic bag, and throwing them out in household trash. BAD IDEA. Why? Because drugs thrown out in



the trash will end up in groundwater (if a landfill is not properly lined) or in rivers and streams (as the dissolved leachate from landfills is conveyed to sewage plants). In other words, throwing unused or expired meds out in

the trash transfers the potential environmental harm from people (rifling through medicine cabinets) to our waterways. Why bother when a better approach exists, namely take-back sites?

My staff and I worked diligently through the spring and summer to increase support for Cook County's ordinance. A number of my colleagues pitched in too. AARP Illinois, with 500,000 members in Cook County, sent a letter of support, as did the National Safety Council, the South Suburban Mayors and Managers Association, the Environment Committee



of the Metropolitan Mayors Caucus, the Solid Waste Agency of Northern Cook County, and many others. The *Chicago Sun-Times* published an editorial in support — and the *Chicago Tribune*, an op-ed by the MWRD Commissioners.

Subsequently, Commissioner Suffredin amended the ordinance to place the direction and implementation of the expanded collection program under the authority of Sheriff Dart, since he already had experience collecting unused meds—and deferred imposition of any fee to cover the costs until July 2018. In addition, the ordinance established an Advisory Council with representatives from public health and environmental departments and from the Cook County and MWRD Boards, a consumer rep, and a pharmaceutical industry rep to oversee the program. (I was appointed in January 2017 to serve on this council.)

Following another extended public hearing in October, the County Board unanimously adopted the Safe Disposal of Pharmaceuticals Ordinance in late October to take effect in January 2017. The MWRD committed another \$100K in its 2017 budget to support take-back sites.

Soon, if all goes well, collection boxes will be popping up in underserved areas of Cook County, and all residents will finally have safe, secure, and readily accessible places to dispose of their unwanted meds. Cook County can lead the way nationally toward extended producer responsibility while providing an important service for its residents. It was a long and often frustrating process, but I am proud to have helped shepherd this important measure to passage.

A Decade of Service: Big 10 Achievements

Many things can happen in 10 years. Some things take years to come to fruition (e.g., the Watershed Management Ordinance or the repurposing of a quarry into a reservoir). Some are marked by a single day (e.g., appointing a new executive director!). The following illustrate the 10 achievements I'm most proud of in my 10 years serving as your MWRD Commissioner.

When people ask whether serving on the Board of Commissioners was what I expected, I invariably say "No." The issues are more substantive and more varied; the work is more difficult and lonelier; one's impact is less visible or even knowable. Yet it is also more satisfying and salient: access to fresh water of ample quantity and high quality will be central to the future of our region—ecologically, economically, even ethically.

In 2005, when I was first running for office, Asian carp had not yet leapt out of the river and into the headlines, potentially posing an existential threat to the \$7 billion sport and commercial fishery of the Great Lakes. Stormwater management was a new mandate for the agency. In the ensuing decade, Lake Michigan would dip to historically low levels, and Cook County would experience two of the wettest years on record. Weather weirding and climate change become the new normal. The old sanitary district is changing. You'll want to know what's up.

Facts: Then & Now

Total Biosolids
Utilized

2007

143,150 dry tons

135,100 dry tons

2016

Stormwater
Management Fund

2007

\$24.5 million

\$40.5 million

2016

Stormwater Management/ Green Infrastructure

Since receiving authority for stormwater management for Cook County in late 2004, the District has spent millions on projects to alleviate flooding, distributed 114,707 rain barrels, supported green playgrounds and gardens at nine public schools, contributed to 157 buyouts of homes in flood-prone areas, cleared debris from streams, and witnessed two of the wettest years on record.



Watershed Management Ordinance

Set standards across the County for development and redevelopment on sites above a size threshold to slow stormwater runoff, promote green infrastructure, and reduce flooding.

Estimated Taxes for
\$100,000 Home

2007

\$125.01

\$116.29

2016

Average Total Phosphorus
in Stickney Effluent

2007

1.01 mg/L

0.3 mg/L

2016
(after Ostara)

A Decade of Service: Big 10 Achievements



Disinfection

Installed ultraviolet light arrays at O'Brien plant in Skokie and chlorination/dechlorination at Calumet plant in Chicago at a cost of \$100M to kill bacteria and pathogens in treated wastewater; operational in 2016; early studies show dramatic declines in bacteria counts.

New Executive Director Appointed in June 2011

For the first time in 50 years, the MWRD Board appointed a new Executive Director from outside the ranks of District employees. David St. Pierre came from stints at utilities in St. Louis and Atlanta.



Consent Decree

MWRD, Dept. of Justice, US EPA, and IL EPA entered into a consent decree establishing a firm schedule for completion of the Thornton and McCook reservoirs; set goals for stormwater capture using green infrastructure and rain barrels; assessed a \$675K fine.

Pension Reform

Tackling its own looming pension crisis, the MWRD proposed and the Illinois General Assembly passed legislation increasing employees' contributions to 13 percent of their salaries, and the District's contribution nearly doubled, to a multiplier of 4.19. As a result, the District's unfunded obligation has begun to shrink, and it has retained a AAA bond rating.



Nutrient Recovery

MWRD installed the world's largest nutrient recovery facility at the Stickney plant, to remove phosphorus from treated effluent and produce crystals to be sold in the fertilizer market; negotiated agreement to meet new stringent limits on discharge of phosphorus into waterways.



Thornton Reservoir

A 300-ft-deep limestone quarry visible from I-80 in Hodgkins was repurposed to capture combined sewer overflows at a cost of \$441M; at capacity it can hold 7.9 billion gallons and protects 182,000 structures in 14 communities from flooding.

Jobs & the Economy

MWRD projects create jobs and contribute billions to the local economy—that's what a powerful study by the Illinois Economic Policy Institute and the University of Illinois revealed in 2015. 13,200 total jobs in 2014 alone and a \$1.3B boost to the economy.



Pharmaceutical Collection

The Cook County Board of Commissioners adopted an ordinance expanding collection sites for safe disposal of unwanted pharmaceuticals with broad public support; MWRD installed collection boxes and supported the take-back program run by the Cook County Sheriff's Office. Cook County's residents and fish rejoiced!

Notable Events in 2016



FEB

Water for Flint: MWRD in Solidarity (and Liquidity)

Commissioners and employees of the MWRD contributed funds to purchase 36,000 bottles of drinking water and arranged for their delivery in early February to a food bank in Flint, MI, for distribution to residents.



MAR

Current Begins to Flow

For years I've been saying that the Chicago region should exploit its access to freshwater as a strategic and economic advantage. With support from the MWRD and the City of Chicago, World Business Chicago launched an initiative called *Current*—(get it? Water has a current but so does electricity!)—to take advantage of the intellectual capital found in the region's universities, industries, utilities, and federal research labs, and to link entrepreneurs to public and private water assets in order to demonstrate new technologies at scale. This endeavor is new and its future unknown, but it's happening, folks, it's happening!



APR

Oak Saplings to Restore the Urban Canopy

In an ambitious plan to mitigate the loss of thousands of city trees to emerald ash borers and other pests and to help manage stormwater in Cook County, the MWRD launched an initiative to distribute 100,000 18-inch oak saplings. Trees not only provide welcome shade in an urban setting but also retard the flow of stormwater into the sewers and help to reduce flooding. By the end of the year, the District had distributed 22,000 saplings to 33 municipalities, 38 schools, 45 community groups, and at many open houses and public events. A medium-sized oak tree can absorb 2,800 gallons of rainfall per year. If 20,000 trees are planted, the MWRD has the potential to provide at least 56 million gallons of stormwater storage.



Rowing Teams Make National Splash (and Splash at Nationals?)

In May, New Trier High School's rowing team dominated the premier varsity events at the Scholastic Rowing Association of America finals, winning first place in each competitive category. Head coach Rose Marchuck founded the

program in 2002, using the North Shore Channel—a narrow, eight-mile stretch from Wilmette Harbor to the North Branch of the Chicago River near Foster Ave. in Chicago—as training ground. As they say: there must be something in the water.



Phosphorus Recovery Begins at Stickney

On May 25, the MWRD hosted a ribbon-cutting ceremony for the new phosphorus recovery facility at the Stickney plant. Using the Ostara process, the District began removing this vital nutrient from treated water and turning it into a slow-

release fertilizer component that can be sold in the Midwest. Huge step toward resource recovery and improved water quality.



Collateral Channel: Smelly No More

Just south of 31st Street, between California and Kedzie Avenues, lies a little-known stretch of waterway called the Collateral Channel. 100 feet wide and a quarter-mile long, the Channel is an old, underutilized navigation slip that runs

roughly perpendicular to the Sanitary & Ship Canal. Decades of combined sewer overflows (CSOs) and industrial wastes deposited into the stagnant channel have made it one of Chicago's most unpleasant waterways. *Chicago Magazine* has called the Collateral Channel one of the "five smelliest spots in Chicago," and the Little Village Environmental Justice Organization (LVEJO) has advocated for odor and safety solutions for years.

Notable Events in 2016

As steward of Chicago's waterway system—and as the original builder of the Collateral Channel—the MWRD has long had an interest in figuring out a way to improve conditions in and around the channel. Yet none of the solutions proposed over the years were ever adopted.

Several long-term proposals remain under consideration, including an intriguing vision put forth by Ross Barney Architects, which emerged from a community charrette led by the Metropolitan Planning Council through its Great Rivers Chicago initiative.

In the short term, to address the odor and health questions, MWRD staff formulated a three-part plan:

- increase circulation of water in the channel by opening a gate to one of the MWRD's interceptor sewers;
- install charcoal filters at a manhole that was a significant source of odor-producing gases;
- and start monitoring odor in the area.

By early June, neighborhood residents and visitors were able to enjoy an odor-free summer. LVEJO Executive Director Kim Wasserman sums it up this way: "For years and decades previously, the stench was unbearable. This year, the smell has almost disappeared. And with the smell dissipated, we can focus on ensuring the safety and health of the community and the workers around the site."

We're not done with the Channel yet, but as of summer 2016, it's no longer one of Chicago's smelliest spots.



Westside Bee Boyz

The Cook County Farm Bureau led Commissioner Kari Steele and me on a tour of Westside Bee Boyz—Chicago's first apiary services company—which provides everything from beekeeping classes to delicious, Chicago-made honey. In February 2017, co-owner Thad Smith

met with District staff to talk shop; Westside Bee Boyz will soon manage an apiary at MWRD's Racine Avenue Pumping Station. Sweet!



AUG

Cal-Sag Plunge

Friends of the Cal-Sag Trail reached out to the MWRD with a bold ask: Who wants to jump in the Cal-Sag Channel, celebrate the construction of the Chatham St. Bridge bikeway in Blue Island, and cheer the transformation of the Channel from maligned waterway to healthy

recreation and nature corridor? "I'll do it!" said a proudly confident MWRD Executive Director David St. Pierre.

Disinfection of treated wastewater from the Calumet plant since March 2015 had been killing bacteria, and the Thornton Reservoir had prevented combined sewer overflows. Among the hearty celebrities also plunging on August 27 were Blue Island's Deputy Director of Development, Jason Berry; the Metropolitan Planning Council's Josh Ellis; and my aide, Alfred Saucedo. (I was grateful to have had an out-of-town commitment that weekend...)



AUG

Water Re-Use Revs Up

I've also long advocated for re-use of treated water as a driver for economic development. MWRD's Executive Director has begun discussions with the Ford Motor Company about using treated water from the Calumet wastewater plant on Chicago's far south side at Ford's

Assembly Plant to prepare cars for painting. That could save drinking water for other needed purposes.



DEC

Most Demanding Hour Spent in 2016?

Visiting with a class of first-grade students at Village Leadership Academy in Chicago's South Loop to talk about what the District does, where poop goes, and how to help the river. Whew.

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