MCD celebrating 100 years: 1915-2015

About a month after the devastating March 1913 flood, the people of the region already were working to keep “the promises you made in the attic” – promises that flooding would never again ravage the region. A flood prevention committee was formed, headed by Dayton businessman Edward Deeds. A month later, Arthur Morgan already was on board to design the flood protection system.

In February of 1914, Governor James Cox signed the Conservancy Act into law allowing for the formation of conservancy districts. Until then, there was no law allowing for the creation of a flood protection agency that could cross jurisdictional boundaries.

New ideas – and laws – aren’t always embraced, and opposition to the Conservancy Act delayed MCD’s actual formation until June 28, 1915. MCD was organized by a vote of the Conservancy Court, represented by a common pleas judge from each participating county.

Morgan and the MCD staff developed a world-class flood protection system that has unfailingly protected more than 47,000 properties for decades. MCD employed as many as 2,000 people during the construction of the flood protection system between 1918-1922. Today, MCD employs 45 people full-time.

Story continued on page 5

MCD headquarters a gift from Deeds

Soon after MCD formed, the district received a gift that nearly 100 years later still stands strong on the corner of Monument Avenue and Jefferson Street in Dayton – the MCD headquarters.

On July 7, 1915, Colonel Edward Deeds wrote a letter to the MCD Board of Directors, of which he was president. He proposed to pay for the design and construction of a headquarters that would accommodate the staff and house the engineering data used to design and build the flood protection system because “engineers from all quarters will be coming to the Miami Valley to study our work.”

Deeds believed MCD staff didn’t have the time to be concerned with building a headquarters, and the expense “might not be understood by the public.” Deeds also believed that renting would be expensive and the space insufficient. So he built the headquarters and donated it to MCD.

“This decision is reached in order that the great work of saving lives and property may go on without inconvenience, and that the men who are to give the best energy of their lives to our valley, may have quarters in keeping with the magnitude, dignity and purpose of this great undertaking,” Deeds wrote.

Amazingly, the headquarters was built and ready to move into by the end of that year.

Read Deeds’ full letter.
Englewood Dam
Repairs protect against potential danger

MCD has remedied a potentially dangerous underseepage situation at Englewood Dam, the largest dam in the flood protection system.

Underseepage allows water to seep through a dam’s sand and gravel foundation, and, if left unchecked, can lead to dam failure.

The $2.5 million Englewood project used more than 1 mile of pipe to safely send water – captured by relief wells – downstream. The water is always seeking a way to the surface, but the weight of the dam prevents uplift. An earthen toe berm adds weight to counteract any uplift pressure as the water moving beneath the dam moves further downstream and slows down.

Previously, MCD installed nearly 70 relief wells to capture the water moving under the dam. The relief wells and toe berm are intentionally redundant to ensure a high level of safety.

“It’s a belt and suspenders method of protection,” says Kurt Rinehart, MCD chief engineer.

Underseepage has now been addressed at all five of the MCD dams. MCD completed underseepage projects at Huffman in 2000, Germantown in 2002, Taylorsville in 2004 and Lockington in 2011.

About Englewood Dam
- 4,716 feet long
- 110.5 feet high
- 709-foot-long conduits (concrete openings through the dam), each 10.5 feet high and 13 feet wide.
- 651-square-mile drainage area above the dam
- 101.6 billion gallons of floodwater can be stored behind Englewood Dam

Experts scrutinize MCD plans

Imagine having some of the world’s best experts advise your organization on its problems, plans and projects.

That’s exactly what MCD gets every few years when staff meets with the Board of Consultants, world-renown experts in disaster response, resilience, dam and levee safety, and water resources policy.

“The board members bring their experience consulting internationally on projects related to major disasters and flood-risk reduction, and provide invaluable review and critique to MCD,” says Janet Bly, MCD general manager.

Unlike meetings with the MCD Board of Directors and Conservancy Court, meetings with the Board of Consultants aren’t a legal requirement. “Arthur Morgan initiated it, and we still value it,” says Rinehart, MCD chief engineer.

The board critically reviews data, technical investigations and proposed solutions to various issues. MCD staff met with the board for three days in July. Having these experts review plans and projects is invaluable.

“These are always intense, in-depth meetings, and the benefit to MCD and the staff is tremendous,” says Rinehart. “This kind of thorough scrutiny can only make us better and stronger. It’s good for the organization. It helps us make sure we’re doing the right thing, the right way.”

Among the topics covered during the three-day meeting were concrete at the Germantown and Englewood dam conduits; foundations of every dam; and levee projects in Franklin, Hamilton and Troy.

A report from the board, with recommendations, is expected this year.
Remembering Gayle B. Price, Jr.

MCD lost a good friend and longtime member of its Board of Directors with the passing of Gayle Price, Jr., on March 7. Mr. Price had retired from the board just three weeks earlier on February 16 – his 85th birthday.

Mr. Price joined the board June 6, 1987, and served as president or vice president of the board 16 of his nearly 28 years on the board.

“Mr. Price was a valuable member of the board of directors,” says Janet Bly, MCD general manager. “With his business acumen, his attention to detail, and his unending passion for MCD, he helped guide the organization for nearly three decades.”

Mr. Price can be credited with several important accomplishments while on the board including:

- Developing a plan to strategically reduce the financing costs of the Dam Safety Initiative, saving millions of dollars.
- Advocating for river corridor development, benefitting communities along the Great Miami River and contributing to the organization of The River Corridor Improvement Subdistrict.
- Advancing the development of The Aquifer Preservation Subdistrict, an innovative approach to protecting, preserving and improving the aquifer, rivers and streams.

In 2007, Mr. Price wrote a book on flood protection in the Miami Valley, titled, “How Safe Are We?”

Mr. Price was the former chairman and CEO of the family business, Price Brothers Company in Dayton. During construction of the flood protection system, Price Brothers provided the flexible revetment – concrete blocks tied together and linked into a flexible mat – used to protect the river beds at the foot of the banks.

Piqua levees accredited

Work continues on MCD levees

Levees in Piqua are now accredited. The Federal Emergency Management Agency (FEMA) officially notified MCD of the accreditation in November. Levees in Middletown were accredited by FEMA in 2012.

Levees in Piqua and Middletown will now be shown as fully accredited on future Flood Insurance Rate Maps. As a result, residents and businesses behind those levees are not required to buy flood insurance. Those who are interested in flood insurance are eligible to buy it at a preferred rate (www.floodsmart.gov).

FEMA recommends all property owners behind a levee purchase flood insurance.

MCD continues to seek accreditation for levees in other cities.

Whelley named to MCD Board of Directors

Beth Whelley has been appointed to the MCD Board of Directors to serve out the term of retired board member, the late Gayle B. Price, Jr.

Whelley is a senior vice president at Fahlgren Mortine, an integrated marketing and communications agency in Beavercreek. She serves on the board of trustees for Sinclair Community College and as a member of the Board of Governors for Leadership Dayton.

She has been honored by the YWCA as a “Woman of Influence,” by the Dayton Business Journal’s 40-Under-40 program, and named a Top Ten Woman by the Dayton Daily News.

A resident of Centerville, Whelley holds degrees from Miami University and Wright State University.

Whelley was appointed to the board of directors by the MCD Conservancy Court. Her term expires in 2017.

Dayton floodwall repaired

Repairs have been made to cracks in the floodwall along the Great Miami River across from RiverScape MetroPark in Dayton. The repairs improve the structural integrity of the wall. Meanwhile, plans are progressing to install a mural on that wall. The decorative painting of the floodwall, known as the “River Run Mural,” is expected to be completed by fall.
You’ve probably heard about California’s drought, which is so severe NASA scientists have estimated California would need 11 trillion gallons of water to refill California river basins. California’s groundwater supply also is in trouble.

A 2014 report by the State of California noted, “since spring 2008, groundwater levels have experienced all time lows in most parts of the state.”

Locally, our groundwater levels have remained stable for the past several decades, says Mike Ekberg, MCD water resources manager. This region has nearly 1.5 trillion gallons of good quality water stored in the Great Miami River Watershed Buried Valley Aquifer.

MCD’s Aquifer Preservation Subdistrict is working to make sure the region’s water resources remain plentiful and safe for generations to come through testing and monitoring, and through community outreach efforts.

In 2014, three agencies gained national attention for their groundwater friendly maintenance practices: the Springfield Country Club, National Trail Parks and Recreation District, and the Kittyhawk Golf Course. That brings the total to 21 organizations locally that have been designated Groundwater Guardian Green Sites (GGGS). Ohio is only second to Nebraska in total GGGS designations which are given by The Groundwater Foundation.

- More than 180 well owners had their well water analyzed at Test Your Well events in Butler, Greene and Warren counties.
- More than 3,000 elementary school children learned about groundwater at various children’s water festivals supported by MCD.
- More than 950 volunteers, including MCD staff, helped improve the Great Miami River during the Clean Sweep river clean-up in 2014, removing 44,800 pounds of trash and debris.

“We’re seeing an increasing awareness of and appreciation for water in this region,” Ekberg says. “And that awareness and appreciation support good decisions that protect our water resources.”

The Miami Conservancy District’s Aquifer Preservation Subdistrict won the 2014 National Ground Water Association’s (NGWA) Special Recognition Award.

The honor is presented to an individual or organization that demonstrates dedication, service, and commitment to the groundwater industry and community through involvement and achievement on a local or regional level.

The NGWA is dedicated to advancing groundwater knowledge and providing information about the development, protection and management of the world’s groundwater resources.
Testing for toxins

MCD is now prepared to test for microcystins, the same toxin that shut down Toledo’s drinking water system last summer. While a similar situation is not likely here, there remains a chance.

“Microcystins are unlikely to affect our region’s drinking water because they are found in algal blooms in lakes and rivers, and nearly all of our region’s drinking water comes from the aquifer,” says Mike Ekberg, MCD manager for water resources. “But since our rivers and aquifers feed one another, and since microcystins also can make water unsafe to recreate in, microcystins remain a concern.”

In 2014, MCD set up a pilot algal toxin testing program, specifically for microcystins. Staff ran tests for the toxin a few times on the Stillwater and Great Miami rivers to get comfortable with the testing process. No toxins were found.

“We won’t run this test on a regular basis, only when there are indications of increasing algal activity in the water, which we can see by abrupt changes in water color or the appearance of green scum floating on the water surface,” Ekberg says. “Changes in real-time water sensors can also indicate an algal bloom.”

Rain affects E. coli conditions in river

Sampling by MCD shows E. coli levels during dry weather mostly meet state standards. But after heavy rains, E. coli levels are elevated.

MCD studied E. coli bacteria in the Great Miami River in relationship to rainfall events in downtown Dayton. When the region gets enough rain to generate runoff, E. coli concentrations increase in the Great Miami River through the Dayton urban core, a problem common to most urban areas.

MCD results show, after it rains, E. coli levels in the river often are higher than is recommended for human contact.

E. coli can come from several sources including failing home sewage treatment systems, leaky sewer pipes, or animal waste from pets and geese.

MCD intends to conduct future E. coli sampling. Changing land use practices and upgrading infrastructure may help reduce E. coli levels.

MCD book takes national award

MCD’s book, A Flood of Memories, won first place in the National Association of Flood and Stormwater Management Agencies’ Excellence in Communications award contest. The Miami Conservancy District (MCD) wrote and published the book in 2013 to commemorate the 100th anniversary of the 1913 Flood.

The book serves as an anniversary keepsake and a history book to be passed on through generations, a reminder of the devastating impact of floods. It also serves as a tribute to the indomitable spirit of those who brought the communities MCD serves back to life after losing everything.

The creation of MCD also has allowed for several other accomplishments including:

- World class parks – MCD leases its land behind the dams to Five Rivers MetroParks for Germantown, Englewood, Taylorsville and Huffman MetroParks.
- An outstanding bikeway – Nearly 60 miles of the Great Miami River Bikeway is on MCD-controlled land in four counties.
- Protection of a clean and plentiful water supply – MCD’s Aquifer Preservation Subdistrict (APS), a watershed-wide program, supports protection and management of groundwater resources, including one of the region’s greatest assets, the Buried Valley Aquifer.

None of these efforts would have been possible without the diligence, persistence, intelligence and dedication of three men, in particular: attorney John McMahon, who wrote the Conservancy Act legislation; Deeds, who advocated for the passage of the Conservancy Act and the formation of MCD; and Morgan, who designed the flood protection system.

As MCD celebrates its 100th anniversary, we are forever indebted to the men who helped the flood survivors keep the promises they made in the attic.
Have you gotten your new regional bikeway map? The 2014 edition highlights more than 30 attractions along the 330-mile bike trail network in southwest Ohio, plus new trail segments that have been added in the last few years. MCD manages nearly 35 miles of bikeway in Montgomery and Warren counties. Pick up your free map at MCD headquarters, local bike shops and at cycling events around the region.

Riverfront development plans for cities along the Great Miami River got a boost earlier this year. Results from a year-long river recreation study of a 99-mile stretch of the Great Miami River validated the corridor’s economic potential to bring tourists, business and jobs to the region.

The United States Army Corps of Engineers (USACE) found numerous strengths along the corridor including the network of bike and water trails, variety of parks, and a growing interest in private development. On the flip side, USACE noted gaps in the bike trails, a demand for more activity hubs and overnight lodging, and a need for a unified marketing identity for the corridor.

All of it – the strengths and challenges – was good news to riverfront cities interested in using their riverfronts to drive economic development.

“Riverfront cities can now take this report and work together to identify the amenities that will strengthen the corridor, drawing more workers to the region, and making southwest Ohio a prime location for business relocation and expansion,” says Troy Mayor Michael Beamish.

Virtually every community along the Great Miami River has plans for riverfront development. Among the many planned amenities are whitewater parks, amphitheaters and performance stages, boat drop-offs, festival areas, walking paths, watercraft storage, additional bikeway miles, downtown apartments, hotels, recreation sports complexes, waterfront restaurants and more.

“It’s an exciting time along the Great Miami River,” says Janet Bly, MCD general manager. MCD was the local sponsor for the USACE study. “I thought I knew everything the Great Miami River had to offer, and even I was surprised by some of the report findings.”

The study focused on the Great Miami River from upstream of the City of Sidney to downstream of the City of Hamilton. The study was funded by the USACE Planning Assistance to States program and 15 local agencies and communities.

Read the report.

A 1.5-mile extension of the Great Miami River Bikeway is under construction in Hamilton.

Great Miami River Corridor holds economic potential for cities

“Gear Up 4 Bike Profits,” an MCD program piloted last year with the City of Miamisburg, is helping businesses realize the untapped economic potential of the Great Miami River Bikeway.

“Bike trails are a multi-million dollar business,” says Angela Manuszak, MCD special projects coordinator. “The more businesses can make trail users feel welcome, the more people will stop in their shops and restaurants.”

During the event with Miamisburg businesses, the City of Miamisburg launched its Bike Friendly Business program. Each Bike Friendly Business agrees to provide cyclists free water, restrooms, trail maps and information, and bike parking.

“With so many businesses joining, it’s creating an energy that trail users will feel,” says Andrew Schlegel, manager of Great Miami Outfitters, whose shop is now a Bike Friendly Business.
Trail News

Great Miami Bikeway featured in national newsletter
There’s no guarantee we’ll see an influx of visitors to the Great Miami River Bikeway, but if the trail seems more popular don’t be too surprised. The Rails-To-Trails Conservancy featured the bikeway as its “Trail of the Month” last June, sending the story to 500,000 monthly online newsletter subscribers.

“This article and another published by AARP capture the bikeway’s essence: safe, scenic, and connecting river cities,” says Angela Manuszak, MCD special projects coordinator.

You can read the stories here and here.

Trail R&R
Every summer, you see road construction as repairs keep the roads comfortable for travelers. The Great Miami River Bikeway with its 63 connected miles of asphalt bikeway is no different.

Repaving
Three different sections of bikeway, totaling 5 miles in Moraine, West Carrollton and Miamisburg, were repaved during the summer for a smoother ride. Workers removed a layer of asphalt, taking with it the bumps, cracks and worn pavement, before repaving the trail.

Repair
A routine check of the Great Miami River Bikeway after a high-water event revealed a potentially dangerous situation during the 2013-2014 winter. MCD staff found concrete along the base of the wall west of Carillon Historical Park in Dayton had washed away and a hole had developed under the retaining wall that supports the bikeway. In addition, a metal stairway used by anglers had washed away. The erosion at the base of the wall could have undermined the trail if it hadn’t been repaired. MCD closed the bikeway for about 200 feet near the Tait Station low dam to make the repairs.

North River Walk
Folks using the North River Walk in Dayton will see plenty of improvements this spring, including two swings on the levee top. The swings are a perfect spot to watch the river and enjoy the downtown Dayton skyline. The swings were part of a makeover that included a new gravel walkway, concrete curbing along the walkway, two concrete staircases, and new handrails on four staircases. The McPherson Town Development Corporation, a local neighborhood group, contributed funds toward the swings.

Shook Bridge
With the opening of the Robert J. Shook Bikeway Bridge in October, cyclists, walkers and runners can now travel 63 miles, from Piqua to the southern tip of Franklin along the Great Miami River Recreation Trail. The 290-foot bridge, which completes the trail in Miami County, connects Piqua to Troy. The west edge of the bridge is built on MCD-owned land.

New trail signage
In 2014, MCD joined forces with the Dayton Aviation Heritage National Historic Park to update way-finding signs to include information about aviation heritage sites. New signs with the National Park Service logo and the distance to a particular site can now be found at several locations along the Great Miami and Mad River bikeways in Dayton. The region includes more than a dozen historic aviation sites, and most are easily accessible from the bikeway network.

2015 Cycling Summit
Pittsburgh Mayor Bill Peduto will be the keynote speaker at the 2015 Miami Valley Cycling Summit at Fort Piqua Plaza on Friday, May 29. Peduto is leading the way in transforming Pittsburgh into a pro walk, pro bike, livable city and will share his bicycling initiatives. The cycling summit promotes safe cycling for recreation and transportation in the Miami Valley. Learn more.
Conservancy Court
MCD is governed by a Conservancy Court comprised of one common pleas court judge from each of the counties within the Conservancy District boundaries. The Conservancy Court appoints MCD’s Board of Directors and Board of Appraisers, and approves their plans.

Honorable Barbara P. Gorman, Presiding Judge
Montgomery County
Honorable Keith M. Spaeth
Butler County
Honorable Thomas J. Capper
Clark County
Honorable Stephen A. Wolaver
Greene County
Honorable Robert P. Ruehlman
Hamilton County
Honorable W. McGregor Dixon, Jr.
Miami County
Honorable David N. Abruzzo
Preble County
Honorable James F. Stevenson
Shelby County
Honorable Robert Peeler
Warren County

Board of Directors
Mark G. Rentschler
President
William E. Lukens
Vice President
Beth Whelley
Member

Board of Appraisers
David K. Galbreath, Jr.
Realtor, Troy, OH
Robert A. Harris
Appraiser, Dayton, OH
James E. Sherron
Attorney, Middletown, OH

A message from the general manager

1915 – Woodrow Wilson was President. Babe Ruth hit his first career home run for the Boston Red Sox. Frank Sinatra was born. And only two years after the Great Flood devastated Dayton and all of southwest Ohio, MCD was formed.

Between 1915 and 1922, MCD hired thousands of employees to construct a system of dams and levees – designed to protect from floods even greater than that seen in 1913. In conjunction with building a robust, environmentally friendly flood protection system, MCD created parklands and reserved open space for all to enjoy.

Most of the staff moved on to other jobs in the early 1920s, but some were retained for ongoing maintenance and monitoring. Several big storms in the 1920s and ‘30s tested the newly built system. The dams and levees performed admirably, with only minor improvements needed.

In the late 1930s and early 1940s – following the Great Depression – workers from the Works Projects Administration and the Civilian Conservation Corps helped MCD. They built parking lots, shelters, roads, trails, and footbridges at MCD’s parks.

MCD enjoyed the economic good times of the 1950s. Then, in 1959, MCD faced its greatest test. Excessive rain fell on frozen ground that January. Much of Ohio experienced severe flood damages – the worst since 1913. The MCD dams, however, held back 44.8 billion gallons of water, and the system prevented flooding in the cities along the Great Miami River.

In 1964, the Montgomery County Park District (now Five Rivers MetroParks) formed. This began a long, successful partnership between MCD and area park districts – integrating flood risk management, natural resource protection and recreation.

In the 1970s, MCD built the first 8-mile bikeway loop along the Great Miami River in Dayton and allowed Troy to build bikeways on the levees. It was the start of the bikeway network that is now one of the best in the country.

By the 1990s, the flood protection system had spared local communities from flooding many times, but some of MCD’s infrastructure was beginning to show its age. That, and advances in scientific knowledge, brought the need for upgrades. Studies, evaluations, and plans were undertaken so repairs could begin. MCD’s expertise in water resources also prompted new programs to protect and preserve the sustainability of our aquifer, rivers, and streams.

Since 2000, MCD has improved its readiness – updating emergency action plans, strengthening dams and levees, preserving more acres of undeveloped floodplain, and upgrading flood forecasting tools. We launched an innovative nutrient trading program and projects to improve and protect water quality. We created more land and water trails, welcoming people and activity to our waterways.

As MCD looks toward its next century, the future is bright. There is new energy in our riverfront communities. Partnerships among MCD, local, state, and federal agencies are strong. Our standards are high. Our staff is talented and dedicated. We are prepared to address challenges and seize opportunities for a safe, resilient, vibrant and prosperous tomorrow.

Janet M. Bly
General Manager

The MCD system is unique in many ways, including the high level of protection it offers, the environmental and recreational opportunities it provides, and the fact that it is almost 100 percent locally funded.

Contact us at (937) 223-1271 or bgibson@MCDwater.org.
MCDWATER.ORG