

2021 ANNUAL REPORT

Protecting people, property, and
our environment through preservation,
mitigation, and education

A THANK YOU TO KEN MACKENZIE FROM THE STAFF AT MHFD

THIS PAGE IS TYPICALLY DEDICATED for the Executive Director's public address; however, this year, MHFD staff decided to commandeer this page to talk, in too much detail, about our gratitude and appreciation of Executive Director, Ken MacKenzie.

In August of 2021, Ken MacKenzie announced his impending retirement to the Board of Directors and staff. He would retire in early 2022 giving the Board ample time to find the next Executive Director. As most retirement announcements go, there was surprise, uncertainty, disbelief, anxiety, and even panic — but enough about Ken's reaction. The Board and staff alike were saddened by the news, but confident that the leadership transition would be promising given the talent pool in the senior management team.

Ken's 27-year career at the District began in 1995 as a student intern, and his work ethic and dedication didn't go unnoticed. He was offered a full-time position in 1997 as an Engineering Inspector and the promotions kept coming; to Project Manager in 2006, then Program Manager in 2008, to his final role as Executive Director in 2016. We thought we would take this opportunity to highlight just a few of Ken's many accomplishments that helped preserve and grow the legacy of the District.

- Successfully led a statewide coalition to pass State Bill 15-212, to secure the rights

of government agencies to treat and store stormwater to protect Coloradans

- Spearheaded the recalibration of the Colorado Urban Hydrograph Procedure, the core hydrologic model that is the underpinning of all planning, design, construction and maintenance activities at the District
- Created the Colorado Stormwater Center, a non-profit education and outreach center hosted within the CSU extension service
- Served as a champion and collaborator in repurposing the High Line Canal for stormwater while maintaining it as a public amenity
- Successfully led a new bill to remove the District from the restrictions of TABOR which changed the landscape of the District's funding and influence
- Supported Douglas County in the state legislature to increase their representation on the Board
- Facilitated the renaming and rebranding of the District from the "Urban Drainage and Flood Control District" to the "Mile High Flood District"
- And with just days and hours left in his role as Executive Director, facilitated the purchase of the first building owned by MHFD, thereby securing the new MHFD Headquarters!

"Wisdom is knowing what to do next, virtue is doing it."

Ken will be greatly missed and we wish him well in his retirement. He will be remembered as both wise and virtuous.

In November 2021, The Board of Directors appointed Laura Kroeger as the next Executive Director of the Mile High Flood District. On behalf of MHFD Staff, we couldn't be more excited.



BOARD OF DIRECTORS



CHAIR
Adam Paul
 Mayor
City of Lakewood



CHAIR PRO TEM
Bud Starker
 Mayor
City of Wheat Ridge



SECRETARY
Nancy Sharpe
 Commissioner
Arapahoe County



TREASURER
Stephanie Piko
 Mayor
City of Centennial



MEMBER-AT-LARGE
Dave Sellards
 Engineer
Retired

GOVERNING BODY

21

Locally-appointed
 Elected Officials

2

Licensed Professional
 Engineers

BOARD MEMBERS

Commissioner Lynn Baca
Adams County

Mayor Pro Tem Françoise Bergan
City and Aurora

Mayor Guyleen Castriotta
City and County of Broomfield

Council Member Jolon Clark
City and County of Denver

Council President Stacie Gilmore
City and County of Denver

Mr. Mark Hunter
Engineer, Retired

Commissioner Matt Jones
Boulder County

Mayor Pro Tem Junie Joseph
City of Boulder

Council Member Paul Kashmann
City and County of Denver

Commissioner Tracy Kraft-Tharp
Jefferson County

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City of Thornton

Mayor Meredith Leighty
City of Northglenn

Deputy Mayor Murphy Robinson
City and County of Denver

Mayor Anita Seitz
City of Westminster

Mayor Ashley Stolzmann
City of Louisville

Commissioner Lora Thomas
Douglas County

Mayor Jerry Valdes
City of Littleton

Mayor Marc Williams
City of Arvada

PROJECT HIGHLIGHT

CHERRY CREEK RESTORATION PROJECT

PROJECT SPONSORS

MHFD

City and County of Denver
Parks Department
Department of Transportation & Infrastructure (DOTI)

Arapahoe County

Southeast Metro Stormwater Authority (SEMSWA)

Denver Water

Colorado Water Conservation Board

THE CHERRY CREEK RESTORATION PROJECT restored a one-mile reach of the Cherry Creek corridor in City and County of Denver and Arapahoe County, Colorado. Prior to the project, this reach of Cherry Creek was experiencing severe degradation leaving a 10 to 20-foot deep eroded/incised channel with vertical banks disconnected from the floodplain.

In response to the degraded condition of the site, the City and County of Denver, Arapahoe County, MHFD, SEMSWA, and Denver Water initiated a corridor restoration project in March of 2017 for this one-mile reach of Cherry Creek. The project restored stream function while maintaining flood conveyance, included over 10,000 feet of new trails, and created new opportunities and open space for passive and active recreation.

Design team:

- Muller Engineering, *Engineer*
- Stream Design, *Landscape Architect*
- Pinyon Environmental, *Hazardous Materials Investigation*
- Great Ecology, *Revegetation*
- Corvus Environmental, *Environmental Permitting*
- CTL Thompson, *Geotechnical*
- ERC, *Geomorphology*
- Hydrosystems KDI, *Irrigation*
- Topographic Land Surveyors, *Survey*
- Harris Kocher Smith, *Utilities*

CONSTRUCTION TEAM

Concrete Express Incorporated (CEI)

EXPECTED COMPLETION

Spring 2022

TOTAL PROJECT COST

Approx. \$16M



PROJECT HIGHLIGHT

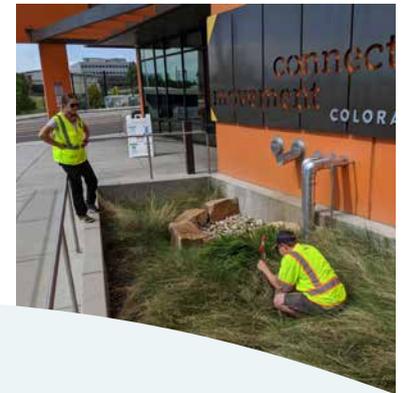
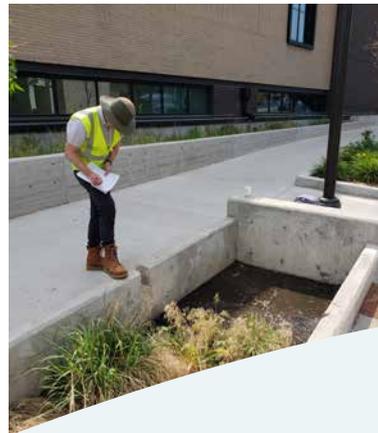
EVALUATING LONG-TERM SUCCESS OF BIORETENTION BASINS IN COLORADO

THIS RESEARCH PROJECT COMPILED data at over 20 sites comprising 125 stormwater treatment systems throughout the Denver Metropolitan region to better understand optimal design considerations for minimizing maintenance requirements and promoting overall function.

This project was partially funded by the Urban Water Research Institute (UWRI) and by Colorado Stormwater. Geosyntec Consultants authored the literature review and many local government partners dedicated to advancing stormwater treatment contributed information and access to their facilities.



BEFORE & AFTER
Looking Southeast near Jewell Street

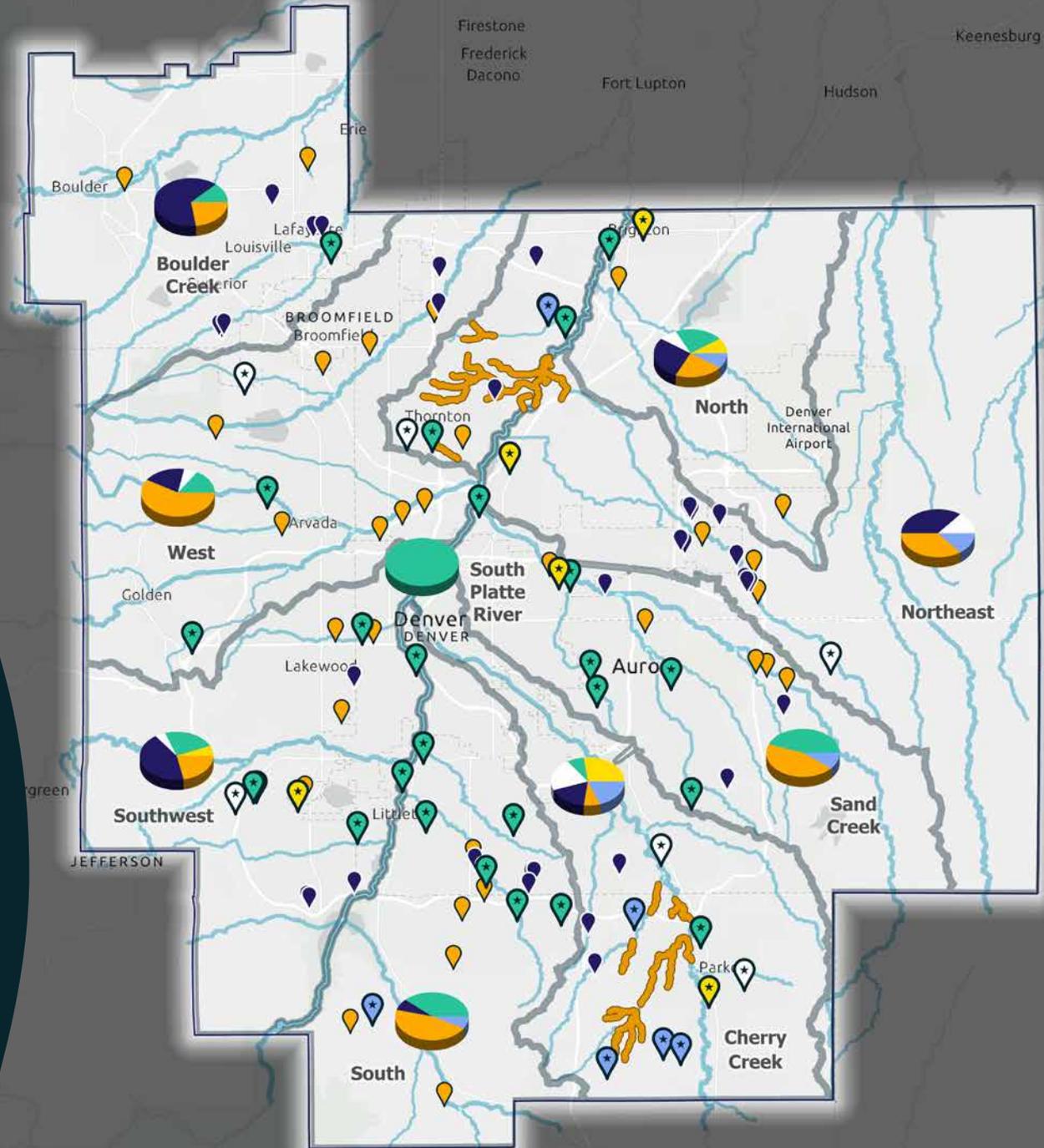


PROJECT HIGHLIGHTS

- Included a thorough literature review available at mhfd.org/resources
- Demonstrated that source controls benefit function
- Informed a change in our bioretention media to improve success of vegetation
- Demonstrated that visibility has a positive impact on maintenance
- Improved understanding of how stormwater and sediment move through bioretention basins
- Created a database of bioretention basins in the region that MHFD will continue to monitor

WORK COMPLETED IN 2021

-  Physical Map Revisions
45 Stream Miles
-  Floodplain Letters of Map Change (35)
-  Maintenance Eligibility Projects (26)
-  Maintenance Restoration Projects (26)
5.8 Miles of Stream Stabilization
-  Development Improvement Projects (6)
-  Capital Improvement Projects (5)
2.7 Miles of Steam Stabilization
-  Planning Studies (6)

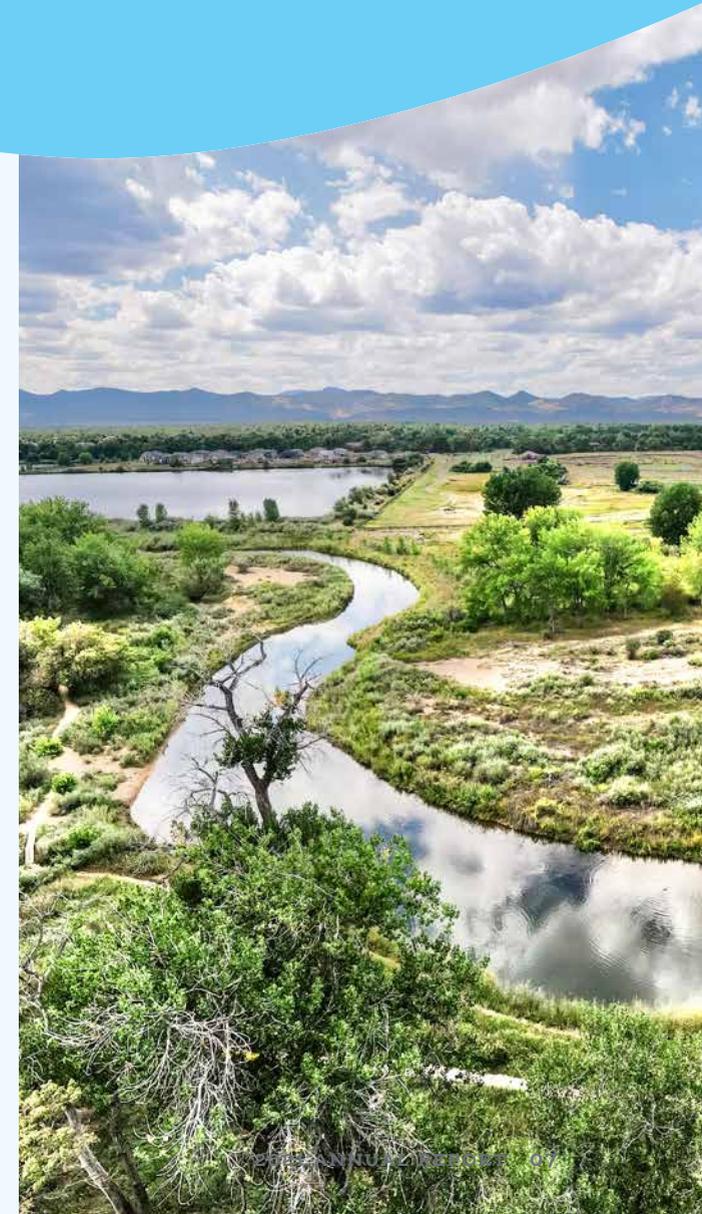


2021 FINANCIALS

Revenue Source	Amount
Adams County	\$8.3 M
Arapahoe County	\$12.1 M
Boulder County	\$5.8 M
Broomfield County	\$1.4 M
Denver County	\$21.1 M
Douglas County	\$5.1 M
Jefferson County	\$9.6 M
Miscellaneous	\$4.4 M
Total Revenue	\$67.7 M
Development Services Enterprise	
Land Development Projects	\$14.4 M

Mill Levy	1.000 mills
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Expenditures	Amount
Construction Projects	\$25.3 M
Maintenance Services	\$21.4 M
Payroll and Benefits	\$6.9 M
South Platte River	\$6.2 M
Operating Costs	\$2.1 M
Operations and Development	\$2.5 M
Floodplain Preservation	\$0.8 M
Flood Warning	\$1.0 M
Watershed Planning Studies	\$0.8 M
Floodplain Management	\$1.5 M
Contract Services	\$0.1 M
Total Expenditures	\$68.7 M



OUTREACH & EDUCATION

IN 2021, MHFD COMPLETED AN Education and Outreach guide to help shape efforts and lay the foundation for how and why we communicate with groups. MHFD's education and outreach mission is to inform, equip, and inspire our audiences, creating passionate advocates that help further our goals in whatever ways are most relevant to their capabilities and positions. We have three key audiences:

1. Industry Professionals
2. Partners and Policy Makers
3. The General Public

We were thrilled to be able to get back to our annual symposium event in July of 2021 after taking a year off due to the pandemic. The Stream Management Academy continued in 2021 with a combination of classroom and field time. We also continued to partner with the Colorado Stormwater Center and the APWA Public Works Institute by hosting and co-instructing classes.

In 2021, we expanded on-demand offerings on our YouTube channel with educational content, TED-style talks, instructional videos, and lessons learned. As a result, we saw an 82% increase in subscribers and an 85% increase in views.

56,293

Flood Hazard Brochures delivered to residents in higher-risk areas

3520

Professional Development Hours granted through MHFD programming

1032

Additional Professional Development Hours granted through MHFD partnerships

17

New Watershed Ambassadors graduated from the Stream Management Academy

406

MHFD Annual Symposium Attendees

16k+

MHFD YouTube Watches

1100

Hours of MHFD Content Watched

41 DAYS WITH FLOOD POTENTIAL IN 2021



May	02	15	17	22	23	29	30									
June	05	06	13	19	24	25	26	27	28	29	30					
July	01	02	03	04	05	06	07	14	17	21	22	23	25	29	30	31
August	03	12	14	19	20	26										
September	03															

00 Intense rain measured by MHFD gauges

00 National Weather Service Flash Flood Warning

2021 NEW EMPLOYEES

IN 2021, THE DISTRICT WAS FORTUNATE IN FINDING AND recruiting seven talented full-time staff—definitely one of the many silver linings from this unpredictable year. As part of their introductions, we've asked each of our new employees to identify their own 2021 Silver Linings, captured below.



Stacey Thompson joined the District in January as the *Floodplain Manager*, leading the District's efforts for floodplain management, land-use regulation, and the national flood insurance program (NFIP). Prior to joining the District, Stacey served as the Floodplain and Master Planning Manager for the Southeast Metro Stormwater Authority (SEMSWA) for over 7 years. Stacey holds a BS in Civil Engineering from Iowa State University and is a Certified Floodplain Manager.

Stacey's 2021 Silver Lining is flexibility in the work day.



Sara DeGroot joined the District in January as a *Project Manager*. Sara has over 10 years of experience in both the private and public sector working on floodplain and stormwater management projects. Sara also worked at FEMA headquarters providing technical support. Sara holds a BS in Civil Engineering and a BS in Environmental Science from Lehigh University and a ME in Civil Engineering from Colorado State University. Sara is a Certified Floodplain Manager and is a registered PE in Colorado.

Sara's 2021 Silver Lining is adopting a sweet three-year old dog named, Cricket!



Chad Kudym rejoined the District in June as the District's *Information Technology (IT) Director*. Chad began his career with the District in 2005 as a GIS Administrator. Since his departure in 2009, Chad has gained/sharpened a multitude of skills in discovery, business process improvement, project management, software development, database management, network administration, and cyber security. Chad holds a BS in Geography and an MA in Geography from the University of Nebraska. Chad is also a Certified Floodplain Manager, a licensed GIS professional, and holds several software certifications.

Chad's 2021 silver lining is spending extra time with his youngest daughter during her senior year before going off to college.



Charlie Pajares rejoined the District in June as a *Project Engineer* supporting the West Watershed Service Area. Charlie was a Student Intern with the District back in 2015 working in Arapahoe County. Since his departure from the District, Charlie spent five years with Jacobs Engineering where he gained valuable technical experience in engineering design, construction, and project management. Charlie holds a BS in Civil Engineering from CU Denver and a BS in Biology and Biochemistry from Arizona State University. Charlie is a registered PE in Colorado.

Charlie's 2021 silver lining is that he was able to get a puppy and spent a lot more time with his wife and family.



Colin Haggerty joined the District in June as a **Watershed Manager** managing the North Watershed Service Area. Colin comes to us with over 18 years of engineering experience including project design, project management, and program management. Previously at Stantec, Colin developed long-lasting connections with many stakeholders along the Front Range and Denver Metro in the North Watershed, which helped make for a smooth transition both internally and externally. Colin holds a BS in Civil Engineering from the University of Arizona, is certified as a Project Management Professional (PMP), and is a registered PE in Colorado.

Colin's 2021 silver lining is getting a pool table instead of a 40th Birthday Party!



Jeff Battiste joined our engineering team in August as a **Staff Engineer** working in the South Watershed Service Area. Jeff comes to us from Matrix Design Group in Colorado Springs where he worked as a Water Resources Engineer for four years focusing on stream stabilization and restoration projects. Prior to his engineering work, Jeff taught math at the University of Oregon and abroad in Sydney. Jeff attended Bowling Green State University in Ohio where he earned his BA in Mathematics and English then went on to earn his MS in Environmental Engineering from the University of Michigan.

Jeff's 2021 silver lining is watching his niece Avyn learn to walk!



Shannon Carscallen joined the District in November as an **Administrative Assistant**. A recent transplant from Arizona, Shannon was a teacher for over seven years where she taught 10th grade English and Orchestra as well as piloted several special projects aimed at improving the learning process. Shannon's background in English and academic leadership bring a valuable skillset to the District. Shannon holds a BS in Secondary English Education from Northern Arizona University.

Shannon's 2021 silver lining is moving into the Historic Baker neighborhood, home to many great restaurants and bars within walking distance!



Rachel Rodriguez joined the District in November as an **Administrative Assistant**. Rachel comes to us with over seven years of experience in administrative operations and office management. Before joining the District, Rachel worked for an international private jet company. Rachel is a Colorado native raised in a military family, which allowed her to live in many parts of the US before settling back to Colorado in 2013. Rachel holds an AA in Psychology from Rio Salado College in Arizona.

Rachel's 2021 silver lining is convincing her favorite cousin, Juliana, to move to Colorado from Pennsylvania!



MHFD

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