

Lower Arkansas Valley Water Conservancy District



ARCA Committee Meetings
December 7, 2022

Jack Goble, P.E.

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Rule 10 Plans

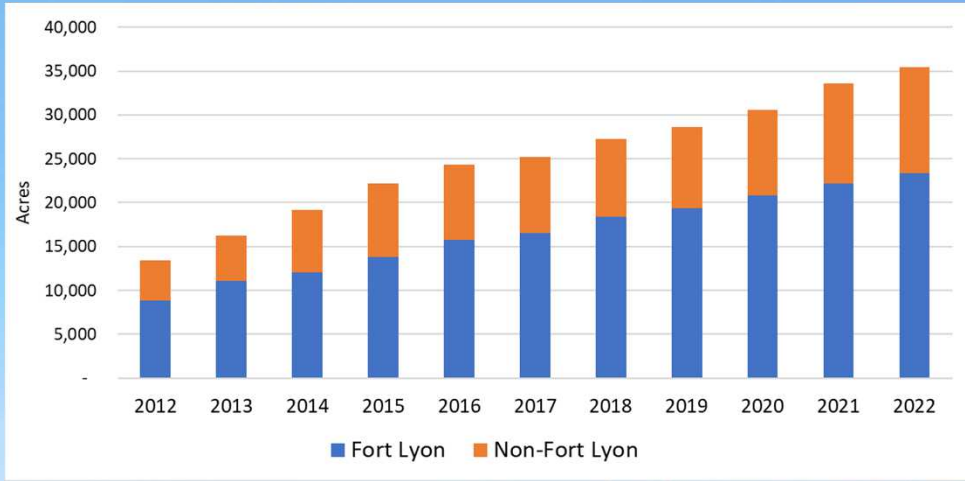
- **Fort Lyon Plan** (only Fort Lyon farms)
 - 220 sprinklers covering 23,400 acres
 - 1 lateral ditch lining that serves 1,170 acres
- **Non-Fort Lyon Plan** (includes farms from 19 ditches)
 - 120 sprinklers covering 12,060 acres
 - 15 drip irrigation systems covering 800 acres
 - 4 lateral ditch linings that serves 2,700 acres



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LAVWCD Rule 10 Plans - Sprinkler Acres



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Leasing-Fallowing



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Leasing-Fallowing

Catlin Pilot Project

- Approved to operate from 2015 through 2024
- Fallow up to 30% 10 out of 10 years
- 1,098 Catlin Canal shares from 960 acres
- Municipalities: City of Fountain and Security Water District
- Delivered 2,519 ac-ft during the 8 years of operating

Colorado Springs Utilities Pilot Project

- Approved to operate from 2020 through 2029
- Fallow 100% 3 out of 10 years
- 1,573 Catlin Canal shares from 1,449 acres
- Delivered 1,021 AF during 1 year of operating
- Municipality: Colorado Springs Utilities

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Colorado Multi-Purpose Account



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Colorado Multi-Purpose Account

- 5 year pilot project approved on July 1, 2022
 - 20,000 AF account
 - 4 water sources approved for 2022
 - Additional sources can be added w/ approval from both State Engineers
 - 12.5% storage charge to Kansas
 - May be suspended by either state, with 12 months of storage from notice of suspension for water already in the account
- Current Participants:
 - LAVWCD, SECWCD, PRWCD, LAWMA, Arkansas Groundwater and Reservoir Association, Catlin Augmentation Association, La Junta, Lamar, Colorado Springs, and Tri-State Energy

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Water Quality

- Under Colorado’s Section 303(D) list of impaired water waters, the mainstem of the river between JMR and the CO/KS state line is listed as impaired with a “high” priority level for Selenium and Uranium.

COLORADO'S SECTION 303(D) LIST

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
 Water Quality Control Commission
 REGULATION #93 - COLORADO'S SECTION 303(D) LIST OF IMPAIRED WATERS AND MONITORING AND EVALUATION LIST
 5 CCR 1002-93

COARLA01c: 1c: Mainstem of the Arkansas River from the outlet of John Martin Reservoir to the Colorado/Kansas border.

Listed portion: COARLA01c_A: Mainstem of the Arkansas River from the outlet of John Martin Reservoir to the Colorado/Kansas border.

Affected Use	Analyte	Category / List	Priority
Aquatic Life Use	Temperature	3b - nR2 list	NA
Aquatic Life Use	Selenium (Dissolved)	5 - 303(d) list	H
Water Supply Use	Arsenic (Total)	5 - 303(d) list	L
Water Supply Use	Manganese (Dissolved)	5 - 303(d) list	L
Water Supply Use	Uranium (Total)	5 - 303(d) list	H

COARLA02a: 2a: All tributaries to the Arkansas River, including wetlands, from the Colorado Canal headgate to the Colorado/Kansas border except for specific listings in segments 2b, 2c, 2d, 3a through 9b, and Middle Arkansas Basin listings.

Listed portion: COARLA02a_B: All tributaries to the Arkansas River, including wetlands, from the Colorado Canal headgate to the Colorado/Kansas border except for specific listings in segments 2b, 2c, 2d, 3a through 9b, and Middle Arkansas Basin listings.

Affected Use	Analyte	Category / List	Priority
Water Supply Use	Manganese (Dissolved)	5 - 303(d) list	H
Water Supply Use	Sulfate	5 - 303(d) list	H

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Water Quality

- Under Colorado's 303(D) list of impaired waters, the mainstem of the Arkansas River between JM and the CO/KS state line is impaired with a high level for Selenium and Uranium.
- The main source is thought to be from groundwater weathering of ancient marine shale layers that underly the river valley.

Mainstem of the Arkansas River from the outlet of John Martin Reservoir to the Colorado/Kansas border.

Analyte	Category / List	Priority
Temperature	3b. - M&E list	NA
Selenium (Dissolved)	5. - 303(d) list	H
Arsenic (Total)	5. - 303(d) list	L
Manganese (Dissolved)	5. - 303(d) list	L
Uranium (Total)	5. - 303(d) list	H

Affected Use	Analyte	Category / List	Priority
Aquatic Life Use	Temperature	3b. - M&E list	NA
Aquatic Life Use	Selenium (Dissolved)	5. - 303(d) list	H
Water Supply Use	Arsenic (Total)	5. - 303(d) list	L
Water Supply Use	Manganese (Dissolved)	5. - 303(d) list	L
Water Supply Use	Uranium (Total)	5. - 303(d) list	H

Colorado/Kansas border.

COARLA02a 2a. All tributaries to the Arkansas River, including wetlands, from the Colorado Canal headgate to the Colorado/Kansas border except for specific listings in segments 2b, 2c, 3a through 9b, and Middle Arkansas Basin listings.

Listed portion: COARLA02a_B all tributaries to the Arkansas River, including wetlands, from the Colorado Canal headgate to the Colorado/Kansas border except for specific listings in segments 2b, 2c, 3a through 9b, and Middle Arkansas Basin listings.

Affected Use	Analyte	Category / List	Priority
Water Supply Use	Manganese (Dissolved)	5. - 303(d) list	H
Water Supply Use	Sulfate	5. - 303(d) list	H

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Water Quality

- Based off of 20+ years of research in the valley, Colorado State University recommends the following best management practices (BMPs) to reduce deep percolation and lessen shale weathering:
 - Canal/Ditch Sealing and Lining
 - Reduced Irrigation Application (sprinklers and drip)
 - Lease-Fallowing
 - Enhance Stream Riparian Areas
 - Nitrogen Fertilizer Reduction

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Water Quality – LAVWCD BMP Funding Sources

LAVWCD Funding to implement the recommended BMPs:

- \$3.3 million from three Section 319 Grants from the CDPHE
- \$1 million in Supplement Environment Project funds resulting from a stormwater water quality lawsuit settlement w/ Colorado Springs
- Currently applying for additional 319 Grant funds

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Water Quality – BMPs Implemented

- 8 – Sprinkler Pond Linings
- 1 – Sprinkler
- 1 – Drip Irrigation System
- 2 – Lateral Ditch Lining
- 2 – Lease-Fallowing Projects
- 2 – Riparian Buffer Zones
- 2 – N Fertilizer Reduction Projects



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Water Quality - BMPs to be Implemented

- 4 – Sprinklers
- 3 – Pond Linings
- 3 – Lateral Ditch Lining
- 2 – Lease-Fallowing Projects
- 2 – Riparian Buffer Zones
- 2 – N Fertilizer Reduction Projects

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Section 319 Grants - Projects



BEFORE



AFTER

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Section 319 Grants - Projects



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Section 319 Grants



Monitor surface water and groundwater quality before and after

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Colorado - Kansas Water Quality Summit



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Questions?



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