



**WGM GROUP**  
Community Values. Inspired Futures.



**gallatin**  
watertrust

# Managed Aquifer Recharge in the Gallatin Valley





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# MIDDLE CREEK DITCH COMPANY



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1. | Intro to the Gallatin Water Trust
2. | MAR in the Gallatin Valley
3. | Collaboration with Middle Creek Ditch Company





**The Gallatin Water Trust endeavors to create an economically efficient and hydrologically sound exchange of water rights between willing parties.**

**We manage water in trust, provide specialized expertise, and commit to preserving ecological resources, agricultural heritage, and wise community growth in balance with limited water supplies.**

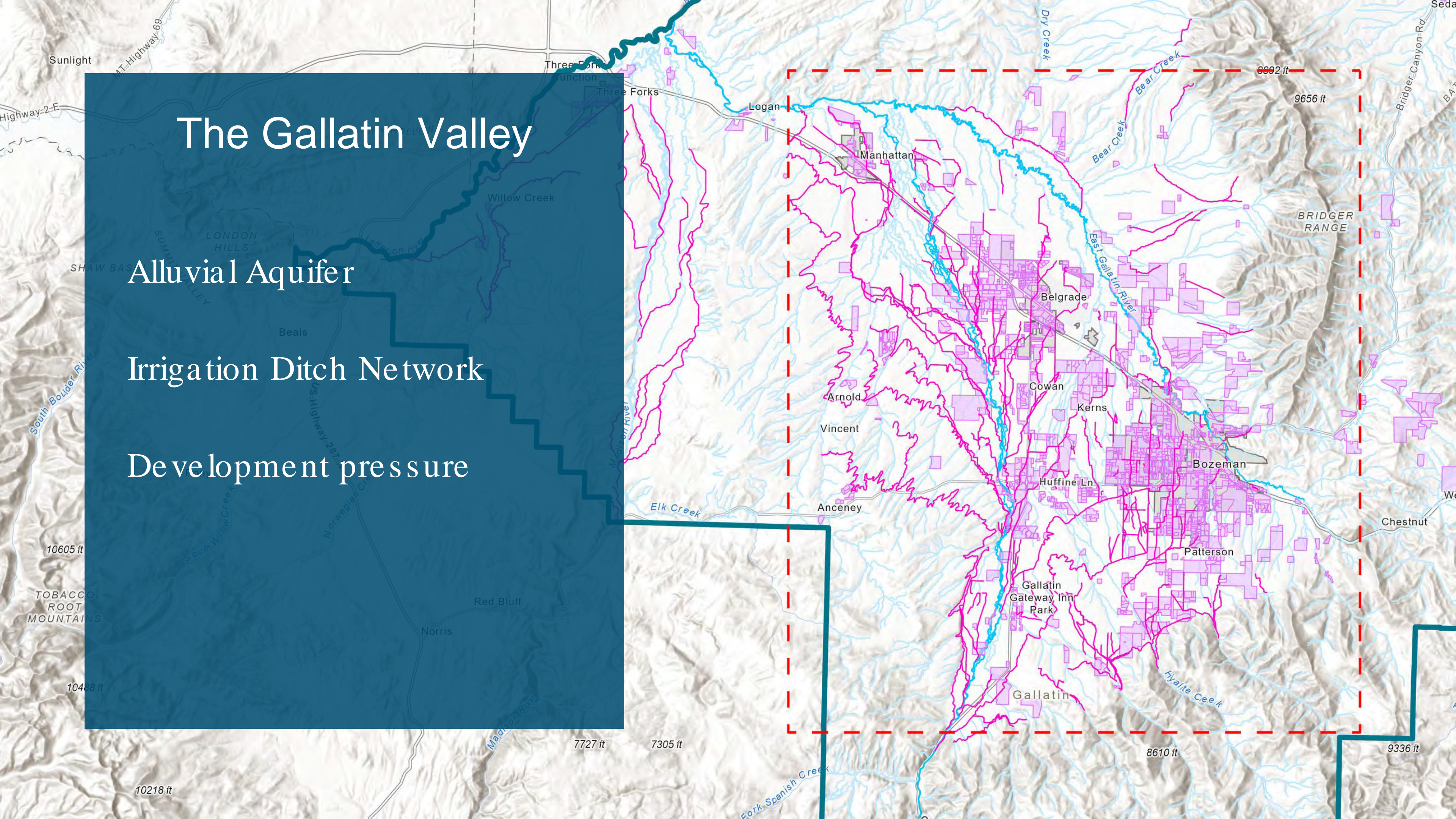
See Lila Rickenbaugh's lightning talk from the Gallatin Watershed Science Symposium for more information:  
<https://www.gallatinwatercollaborative.org/sciencesymposium>

# The Gallatin Valley

Alluvial Aquifer

Irrigation Ditch Network

Development pressure



# Suitable Parcels 2024

Continued work by the MBMG and the UCSB Bren School (2016)

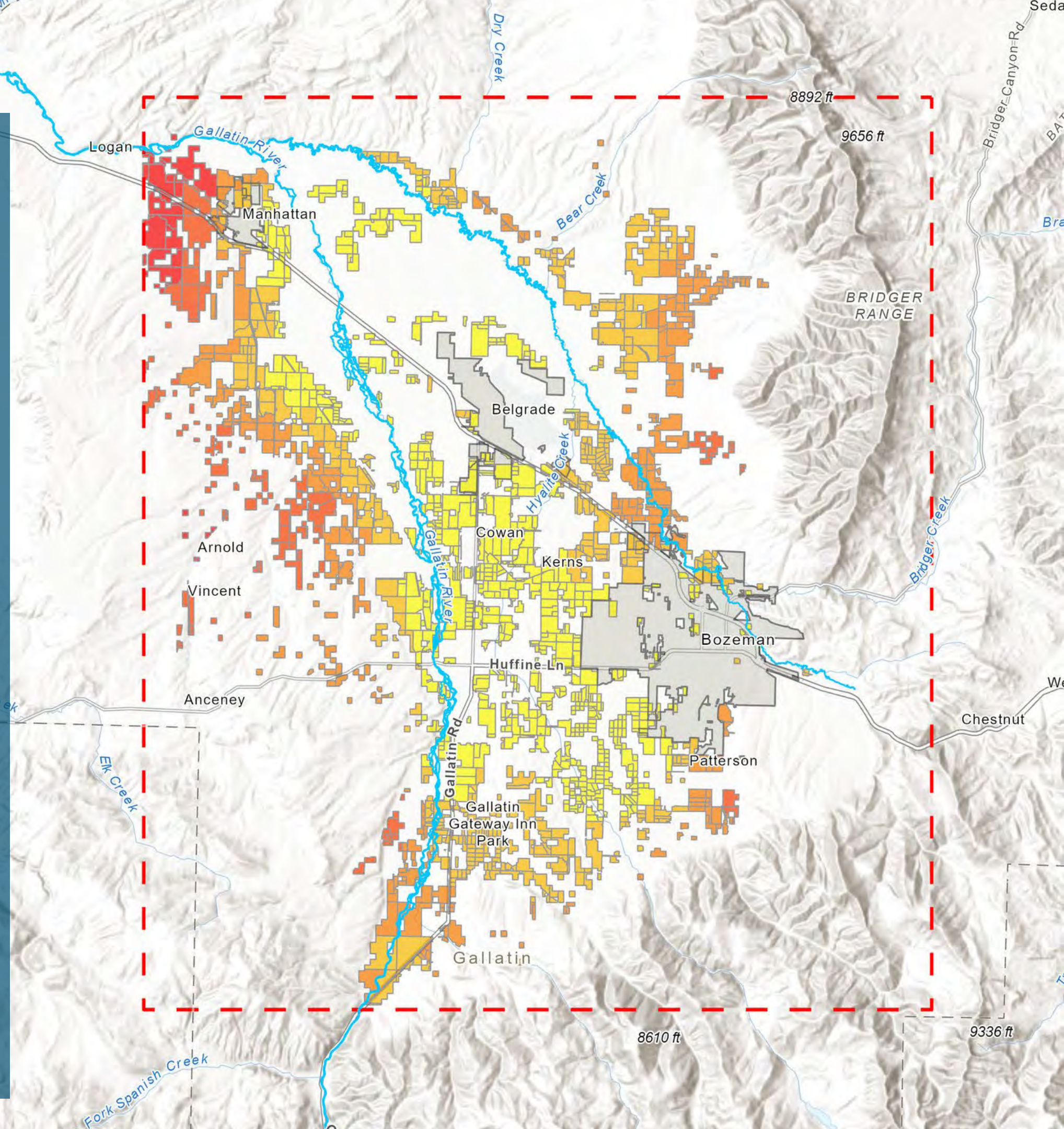
Criteria:

Slope, Geology, Soil  
Land Cover, Subdivision,  
Ownership  
Ditch proximity, depth to groundwater

## Legend

Parcel Mean Depth to Groundwater

10488 ft		2 - 20 (ft)
		20 - 37
		37 - 65
		65 - 103
		103 - 176



# Gallatin County FLUM


Recharge layers were included as an overlay in the Gallatin County Future Land Use Map

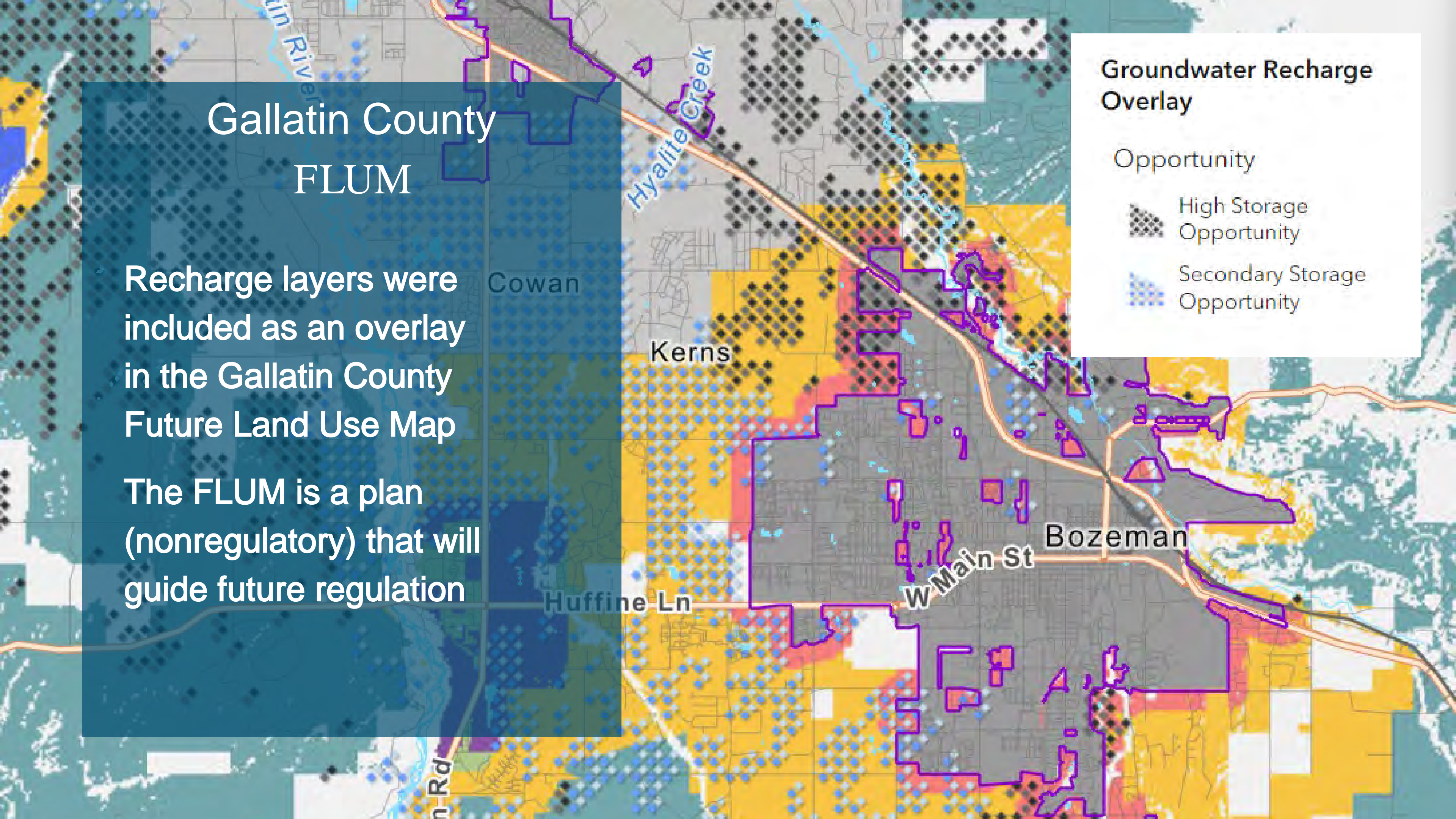
The FLUM is a plan (nonregulatory) that will guide future regulation

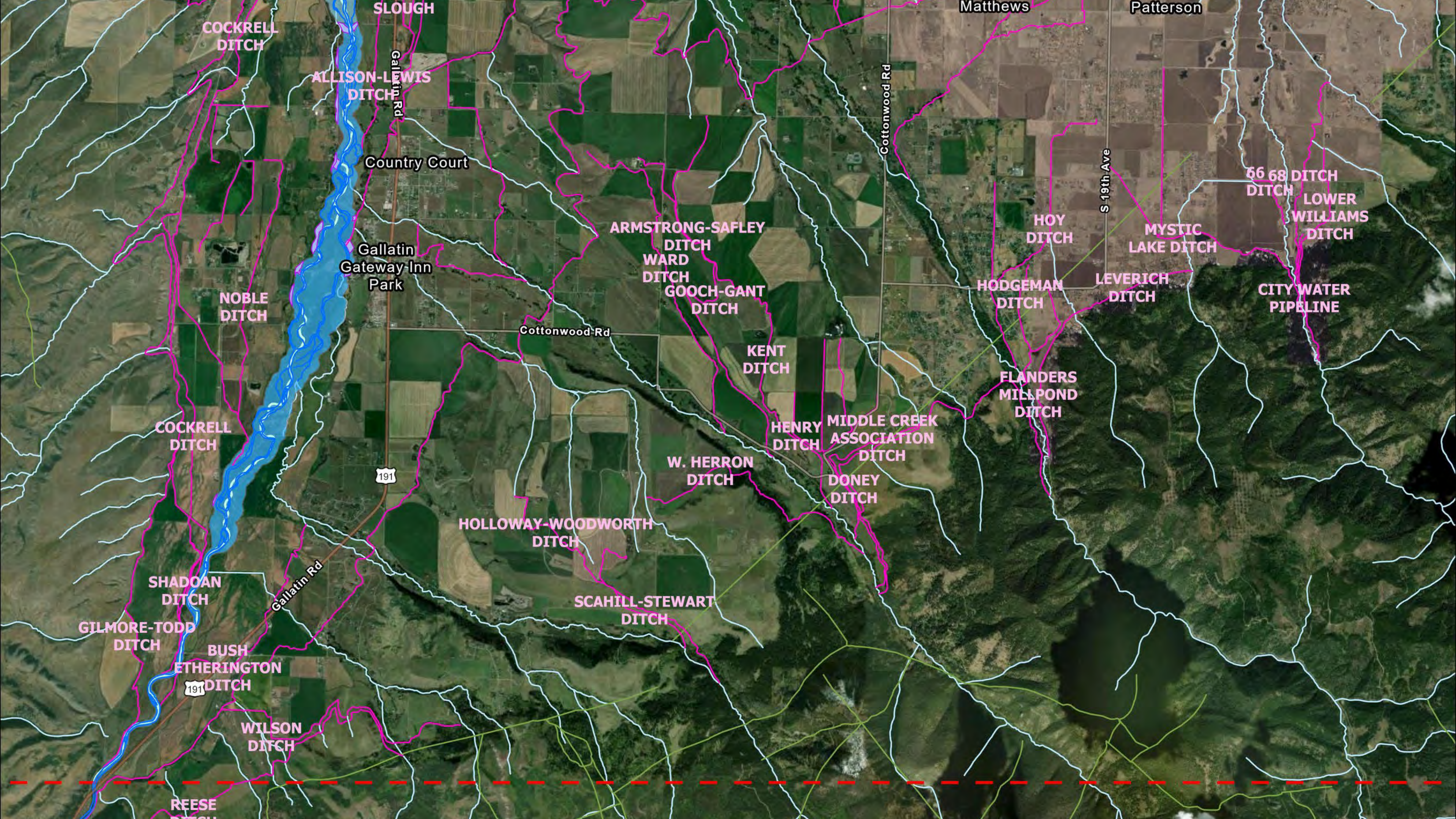
## Groundwater Recharge Overlay

### Opportunity

 High Storage Opportunity

 Secondary Storage Opportunity





COCKRELL DITCH

ALLISON-Lewis DITCH

Country Court

Gallatin Gateway Inn Park

NOBLE DITCH

ARMSTRONG-SAFLEY DITCH  
WARD DITCH  
GOOCH-GANT DITCH

Cottonwood Rd

KENT DITCH

HODGEMAN DITCH

HOY DITCH

MYSTIC LAKE DITCH

LEVERICH DITCH

66 68 DITCH

LOWER WILLIAMS DITCH

CITY WATER PIPELINE

COCKRELL DITCH

HENRY DITCH

MIDDLE CREEK ASSOCIATION DITCH

FLANDERS MILLPOND DITCH

W. HERRON DITCH

DONEY DITCH

HOLLOWAY-WOODWORTH DITCH

SCAHILL-STEWART DITCH

SHADOAN DITCH

GILMORE-TODD DITCH

BUSH ETHERINGTON DITCH

WILSON DITCH

REESE DITCH

191

191

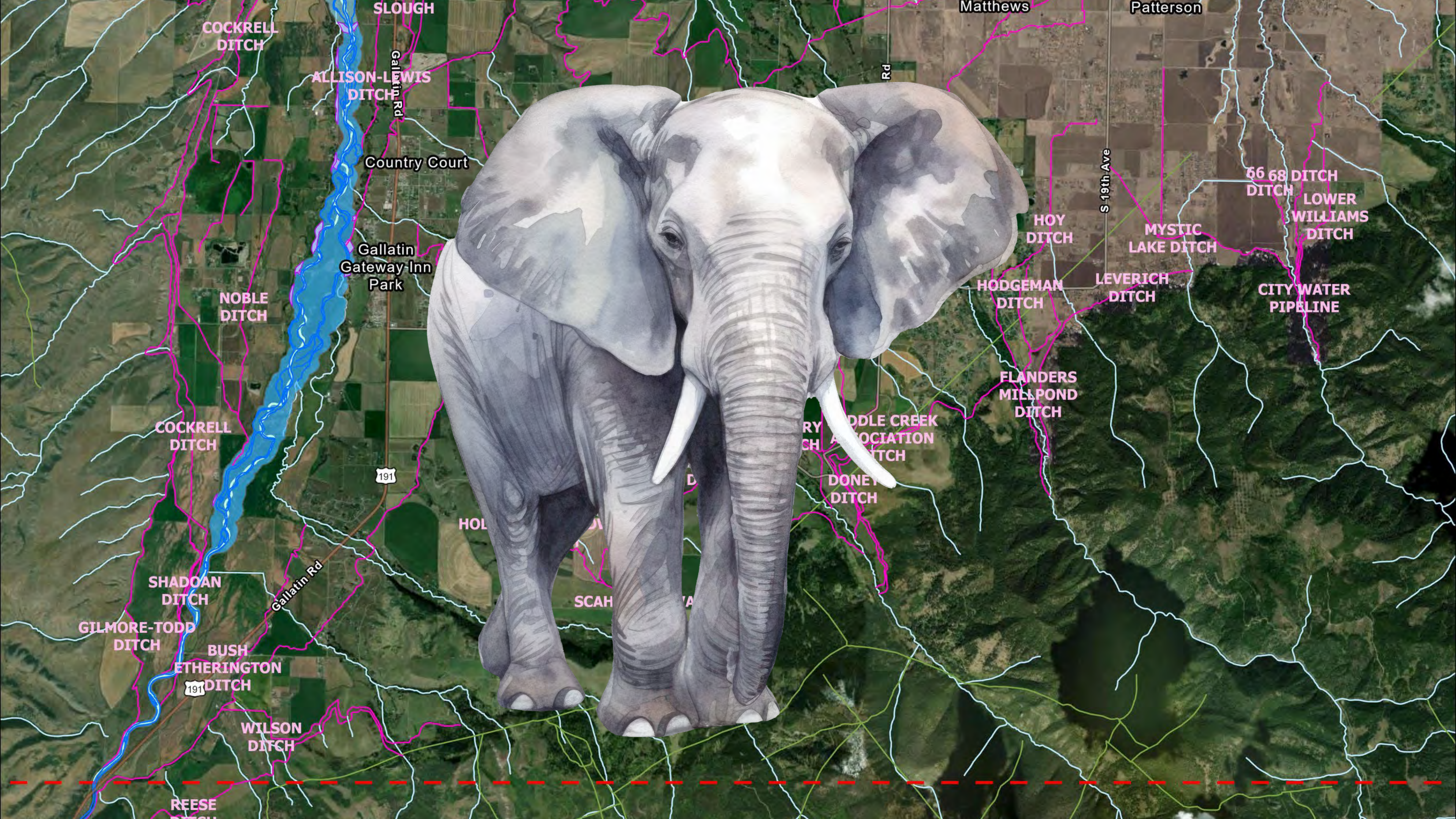
Matthews

Patterson

Cottonwood Rd

S-19th Ave

Gallatin Rd



COCKRELL DITCH

ALLISON-Lewis DITCH

Country Court

Gallatin Gateway Inn Park

NOBLE DITCH

COCKRELL DITCH

SHADOAN DITCH

GILMORE-TODD DITCH

BUSH ETHERINGTON DITCH

WILSON DITCH

REESE DITCH

191

Gallatin Rd

191

HOL

SCAH

MIDDLE CREEK ASSOCIATION DITCH

DONEY DITCH

Rd

HODGEMAN DITCH

FLANDERS MILLPOND DITCH

HOY DITCH

LEVERICH DITCH

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66 68 DITCH

LOWER WILLIAMS DITCH

CITY WATER PIPELINE

S-19th Ave

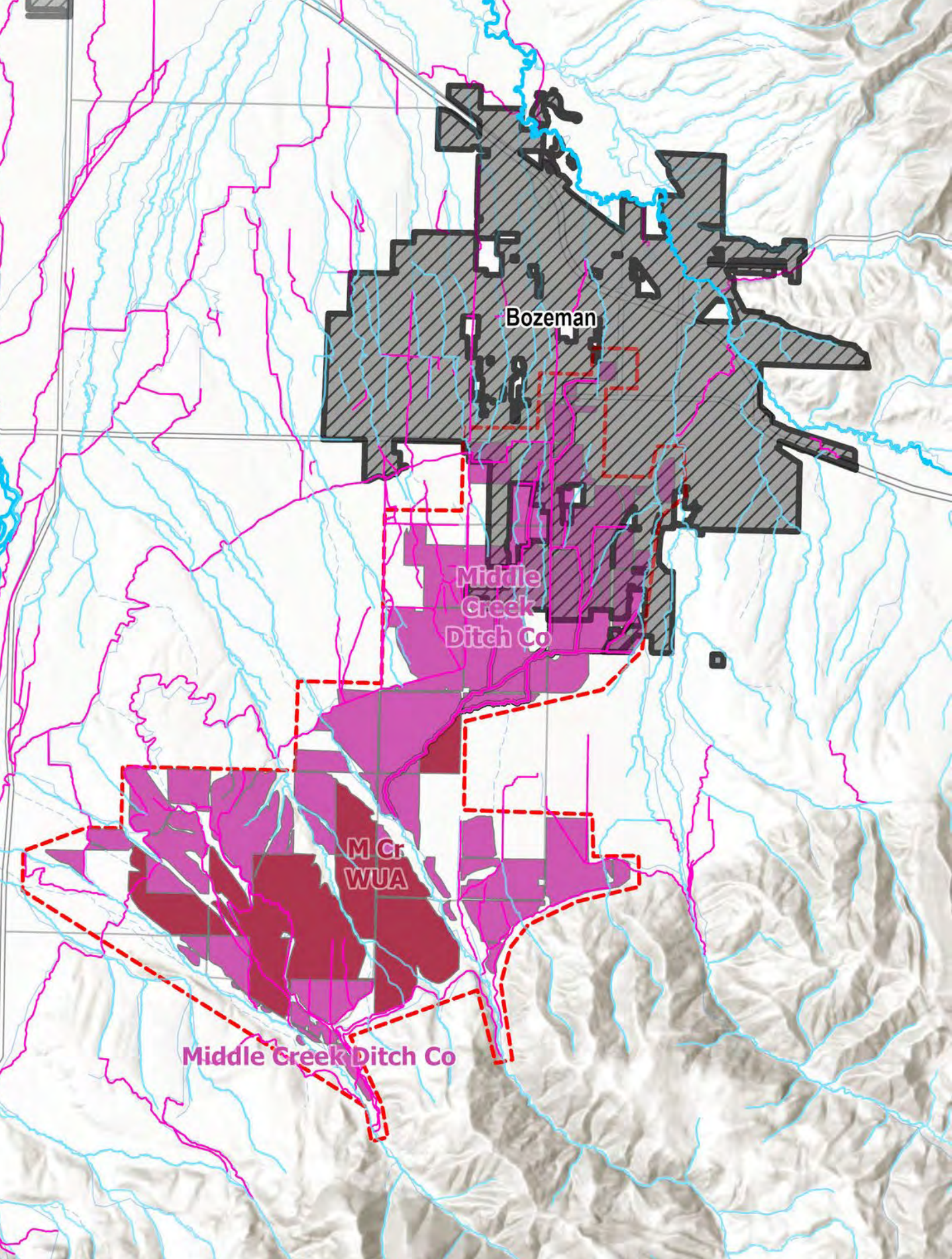
Matthews

Patterson

# Middle Creek Ditch Company Collaboration

Reclamation and Development  
Planning Grant Funded

Zoom in on one network with  
willing partners



Former ditch paths blocked or relocated by developers without permission from the ditch company

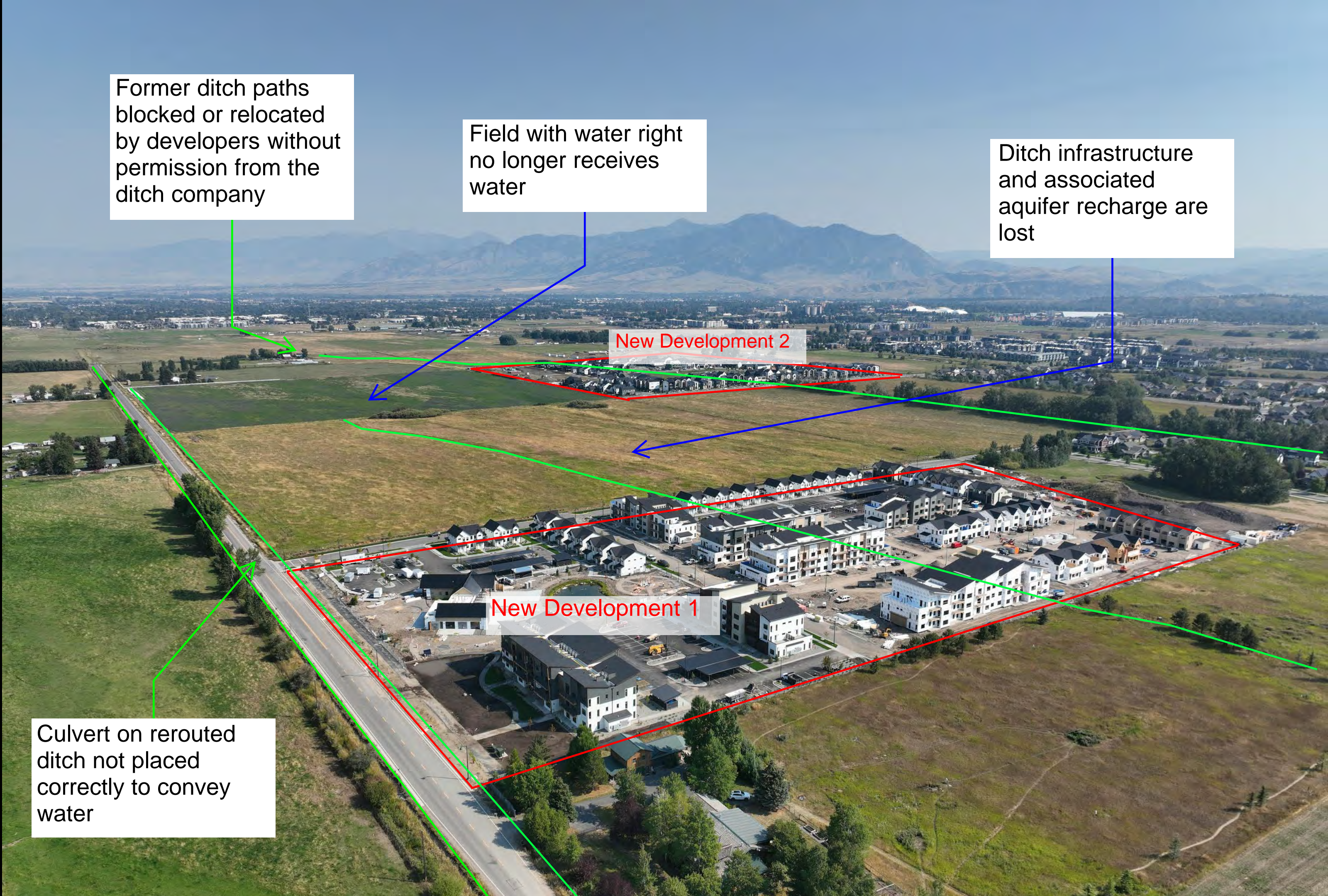
Field with water right no longer receives water

Ditch infrastructure and associated aquifer recharge are lost

New Development 2

New Development 1

Culvert on rerouted ditch not placed correctly to convey water



# Middle Creek Ditch Company Collaboration

## Phase 1

- Map and understand ditch network
- Create monitoring plan
- Identify potential recharge sites

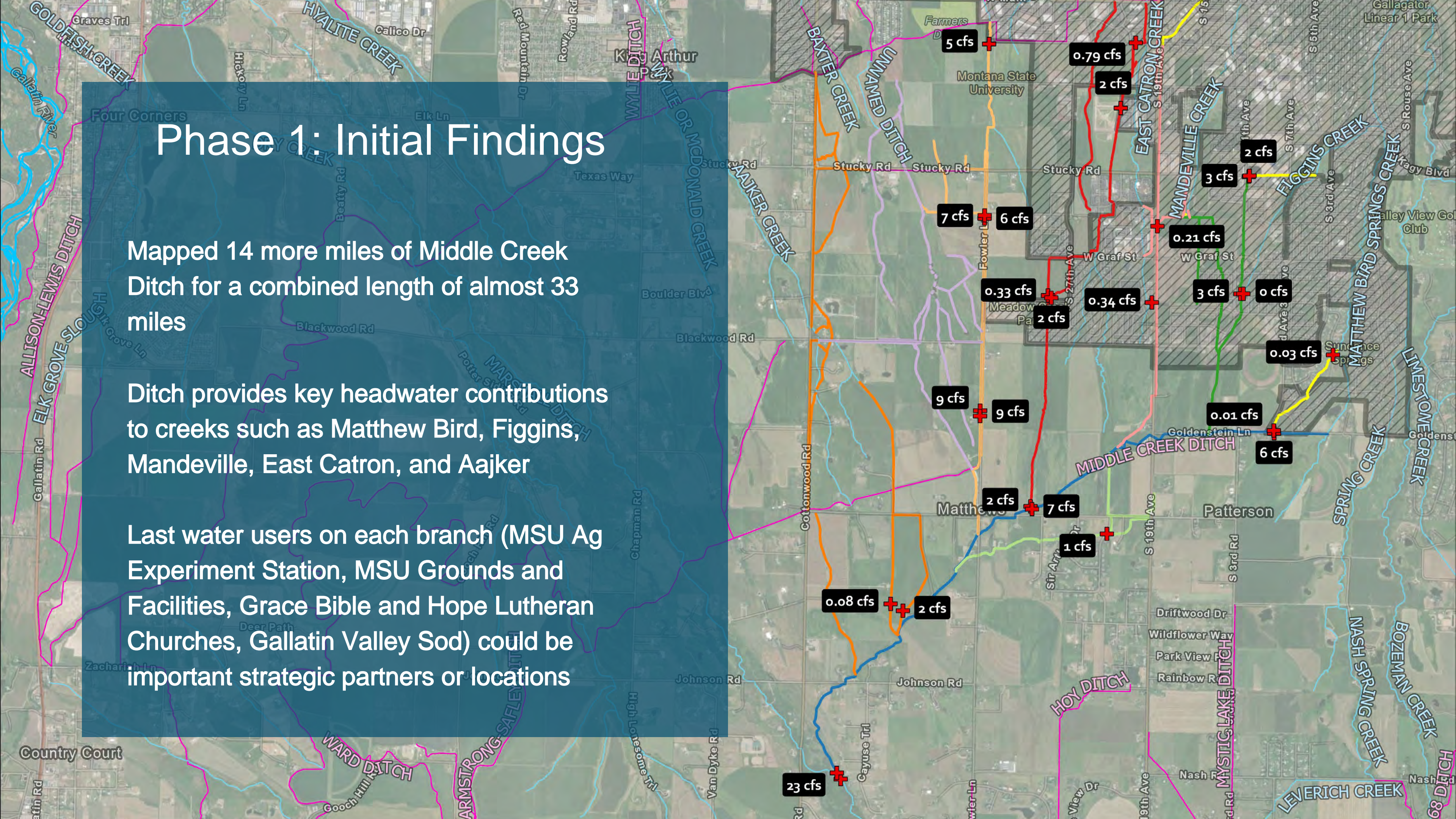


# Phase 1: Initial Findings

Mapped 14 more miles of Middle Creek Ditch for a combined length of almost 33 miles

Ditch provides key headwater contributions to creeks such as Matthew Bird, Figgins, Mandeville, East Catron, and Aajker

Last water users on each branch (MSU Ag Experiment Station, MSU Grounds and Facilities, Grace Bible and Hope Lutheran Churches, Gallatin Valley Sod) could be important strategic partners or locations





# Middle Creek Ditch Company Collaboration

## Phase 2

- Implement monitoring plan
- Create outreach materials
- Develop pilot project to apply for further funding



Thank you