

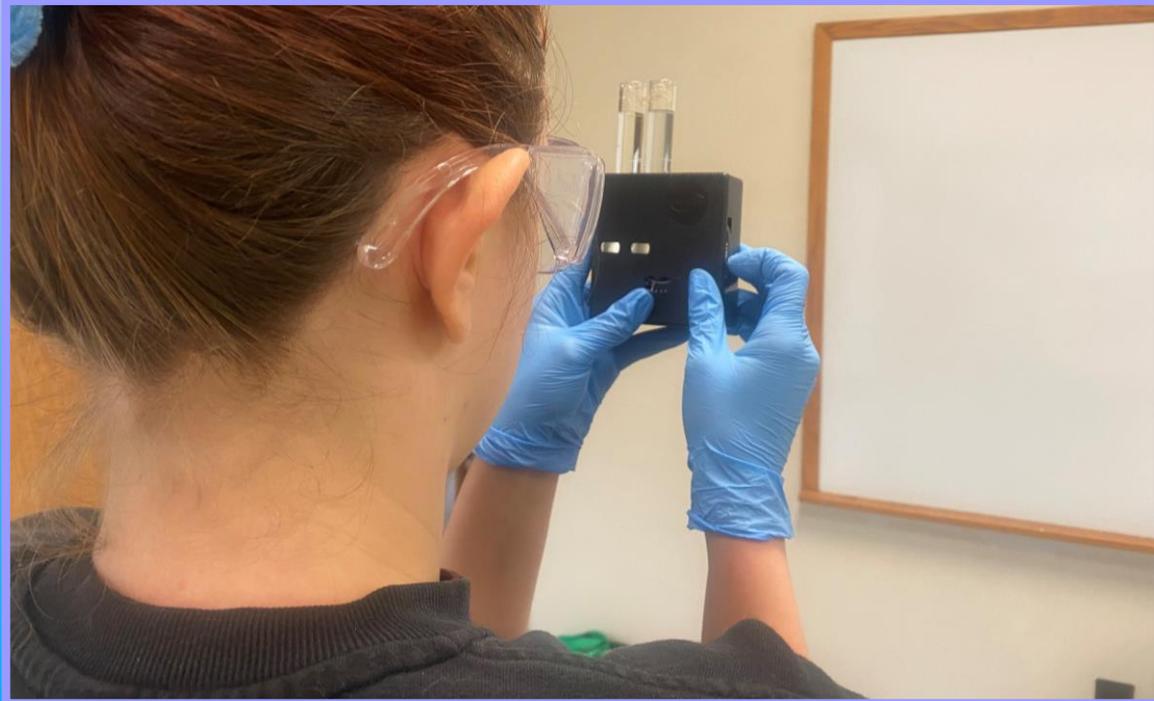


# Blue Thumb

Water Quality Education Program





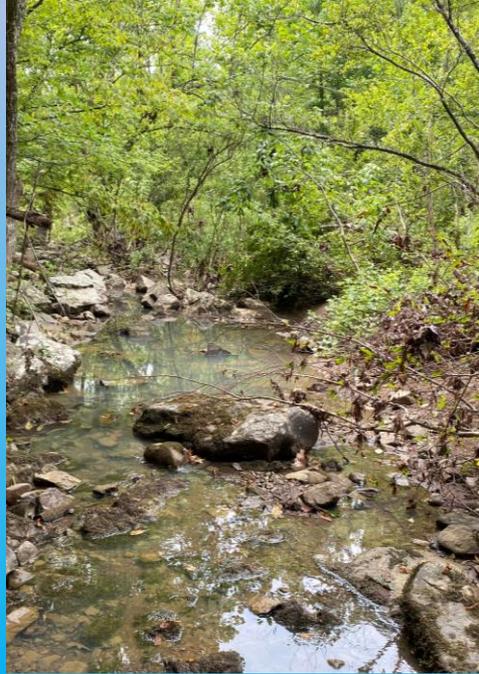


# Citizen Scientist Stream Monitoring





**Benthic  
Macroinvertebrates**



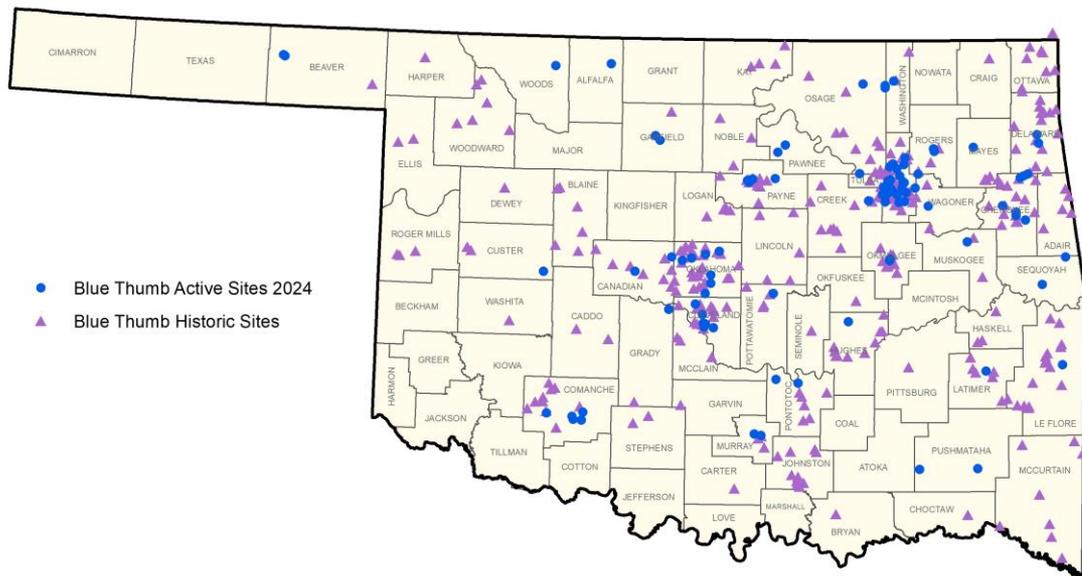
**Habitat**



**Fish**



**Chemistry**



- Blue Thumb Active Sites 2024
- ▲ Blue Thumb Historic Sites





Water Quality  
Education Program

# Learn about Coal Creek

Your neighborhood stream!

July, 2023

Coal Creek is monitored by Blue Thumb volunteer Jeffrey Jenkins and Blue Thumb staff member Cheryl Cheadle. Both are Glenpool citizens. Monitoring takes place at Morris Park. In a nutshell, Coal Creek has:

- Reasonably good water quality (results from chemical testing)
- Reasonably good fish and benthic macroinvertebrate community
- Good habitat



How can Glenpool residents help  
**COAL CREEK?**

Streams are a reflection of their watershed! A watershed is an area of land that contributes water to a specific waterbody.

Make your property *NATURE FRIENDLY!* The Yard by Yard Community Resiliency Project recommends conservation practices that promote healthy soil, and in turn these soils filter water and slow runoff—which are very good practices for our streams, and in this case, for Coal Creek. Learn more at:

[www.okconservation.org/yardbyyard](http://www.okconservation.org/yardbyyard)



*Cheryl and Jeffrey visit Coal Creek monthly to do chemical testing. After collecting their water sample they either complete testing at the park or they finish at the Glenpool Public Library. Would you like to join them?*



### Water Chemistry

Blue Thumb volunteers test their stream water on a monthly basis for salts, nutrient pollution, dissolved oxygen levels, etc.



### Habitat

Observations are made on habitat with every creek visit. The primary habitat information comes from completing a habitat assessment at the same time a fish collection is done.



### Stream Life

The life in the stream is meaningful to all who enjoy the outdoors. Coal Creek's fish collection of 2021 indicates that the stream continues to rebound after a period of decline.



**Blue Thumb  
Training for New  
Volunteers**

August 26 and 27, 2023  
DiscoveryLAB, Tulsa  
[www.bluthumbok.com](http://www.bluthumbok.com)  
[cheryl.cheadle@conservation.ok.gov](mailto:cheryl.cheadle@conservation.ok.gov)

- Reasonably good water quality
- Reasonably good fish and benthic macroinvertebrates (creek bugs)
- Good habitat

# Coal Creek: Morris Park

Summer 2021 Fish



**644**

total fish

**18**

species

**C(76%)**

grade

## Intolerant



redfin darter (16)



spotted sucker (1)

## Intermediate



redeer sunfish (2)



spotted bass (1)



bluntnose minnow (11)



central stoneroller (54)



brook silverside (159)

## Tolerant



white crappie (1)



yellow bullhead (11)



largemouth bass (2)



mosquitofish (63)



gizzard shad (15)



spotted gar (1)



red shiner (13)



longear sunfish (224)



bluegill (47)



green sunfish (18)



orangespotted sunfish (5)

Coal Creek fish collection was compared to an average of high quality streams of similar size from the same ecoregion.

High quality streams are determined through monitoring by Oklahoma Conservation Commission water quality specialists and Blue Thumb monitoring.

# Fred Creek

Summer 2021 Fish

**430** total fish  
**6** species  
**E(36%)** grade

**Intolerant**

**Intermediate**



central stoneroller (68)

**Tolerant**



red shiner (300)  
 bluegill (10)  
 green sunfish (34)  
 largemouth bass (2)  
 mosquitofish (16)

# Mooser Creek

Summer 2020 Fish

**349** total fish  
**10** species  
**C(76%)** grade

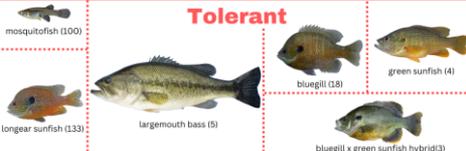
**Intolerant**

**Intermediate**



central stoneroller (74)  
 orangethroat darter (9)  
 logperch (2)  
 redear sunfish (1)

**Tolerant**



mosquitofish (100)  
 largemouth bass (5)  
 bluegill (18)  
 green sunfish (4)  
 bluegill x green sunfish hybrid(3)  
 longear sunfish (33)

# Flat Rock Creek

Summer 2021 Fish

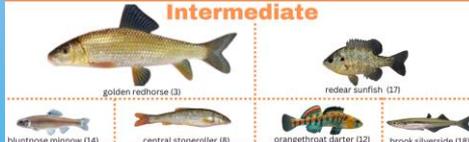
**542** total fish  
**17** species  
**C(76%)** grade

**Intolerant**



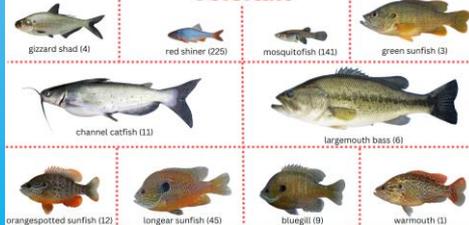
suckermouth minnow (13)

**Intermediate**



golden rehorse (3)  
 redear sunfish (17)  
 bluntnose minnow (14)  
 central stoneroller (8)  
 orangethroat darter (12)  
 brook silverside (18)

**Tolerant**



gizzard shad (4)  
 red shiner (225)  
 mosquitofish (143)  
 green sunfish (3)  
 channel catfish (11)  
 largemouth bass (6)  
 orangespotted sunfish (12)  
 longear sunfish (45)  
 bluegill (9)  
 warmouth (1)

# Spunky Creek

Summer 2021 Fish

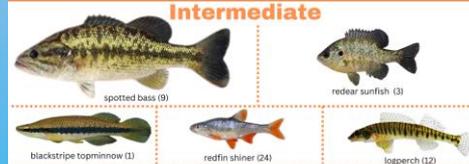
**782** total fish  
**18** species  
**B(84%)** grade

**Intolerant**



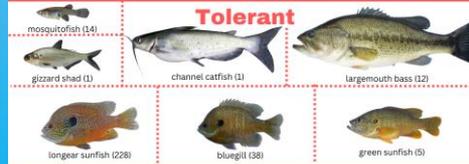
slim minnow (1)  
 spotted sucker (2)

**Intermediate**

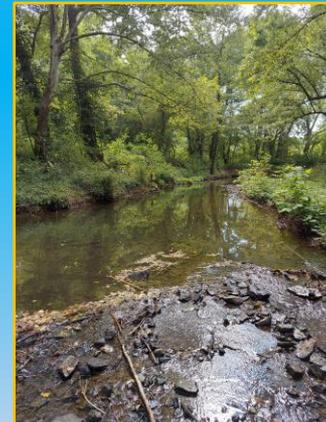
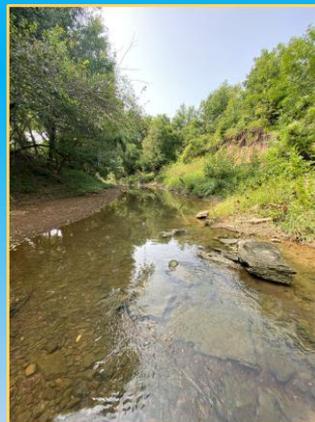
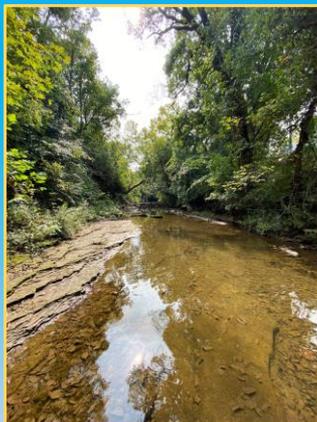
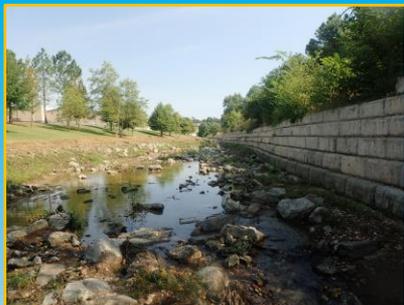


spotted bass (9)  
 redear sunfish (3)  
 blackstripe topminnow (1)  
 redfin shiner (24)  
 logperch (12)

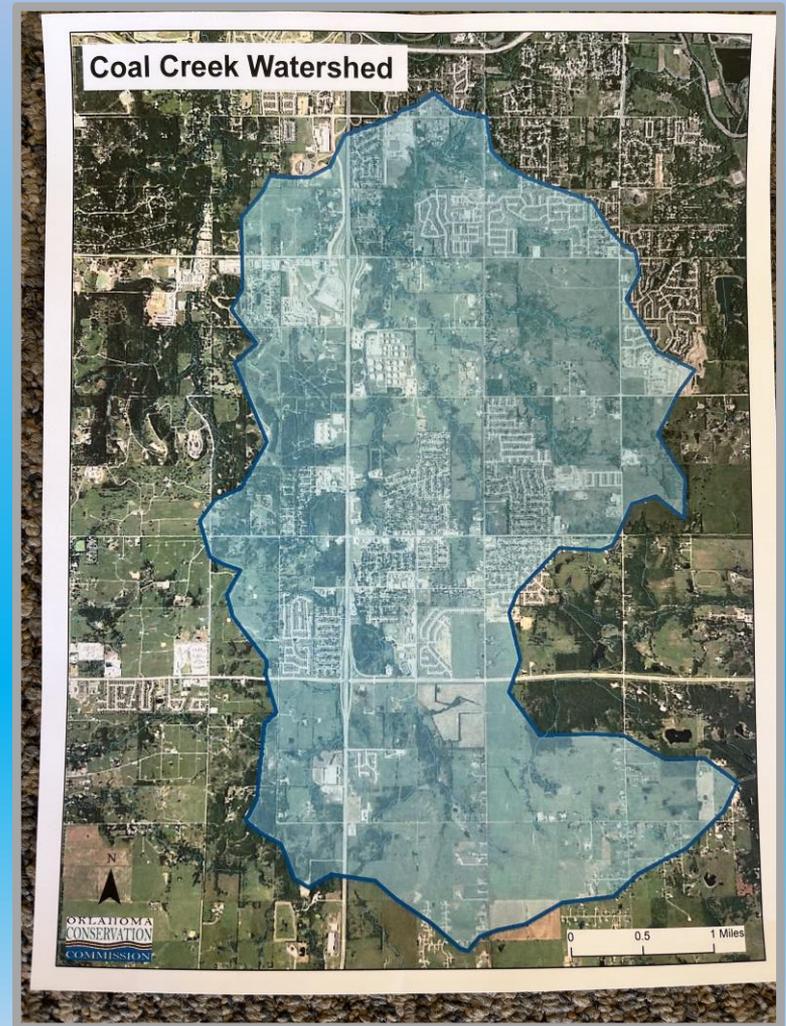
**Tolerant**



mosquitofish (34)  
 gizzard shad (1)  
 channel catfish (1)  
 largemouth bass (12)  
 longear sunfish (228)  
 bluegill (38)  
 green sunfish (5)



# What is a WATERSHED?



**Riparian areas** – the natural zone of vegetation along the banks of a stream

- Shade water
- Stabilize banks
- Filter pollutants
- Provide a place for floodwater
- Serve as travel corridors for wildlife
- Woody/leafy debris

*Center for Watershed Protection:  
8% development impacts  
streams*



# *Streams need their riparian areas!*





**Healthy streams in urban areas –  
help people understand their  
role in stream protection.**



***An important  
conduit from land  
to water***





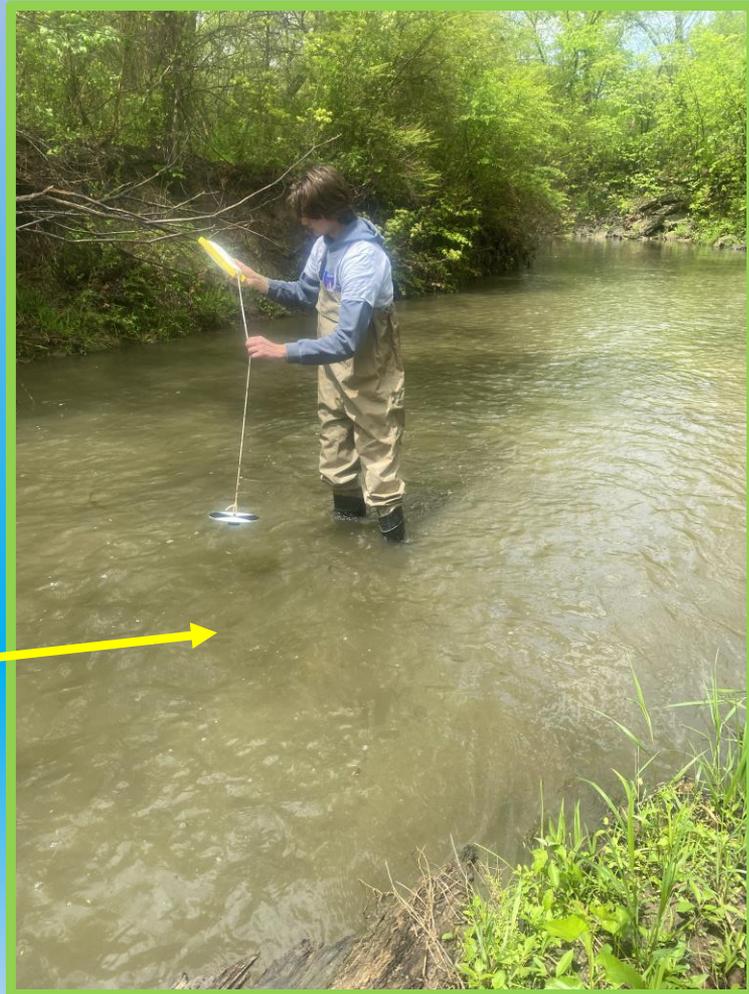
**Land and Water – always  
connected**





My Yard  
My Storm Drain  
My Creek

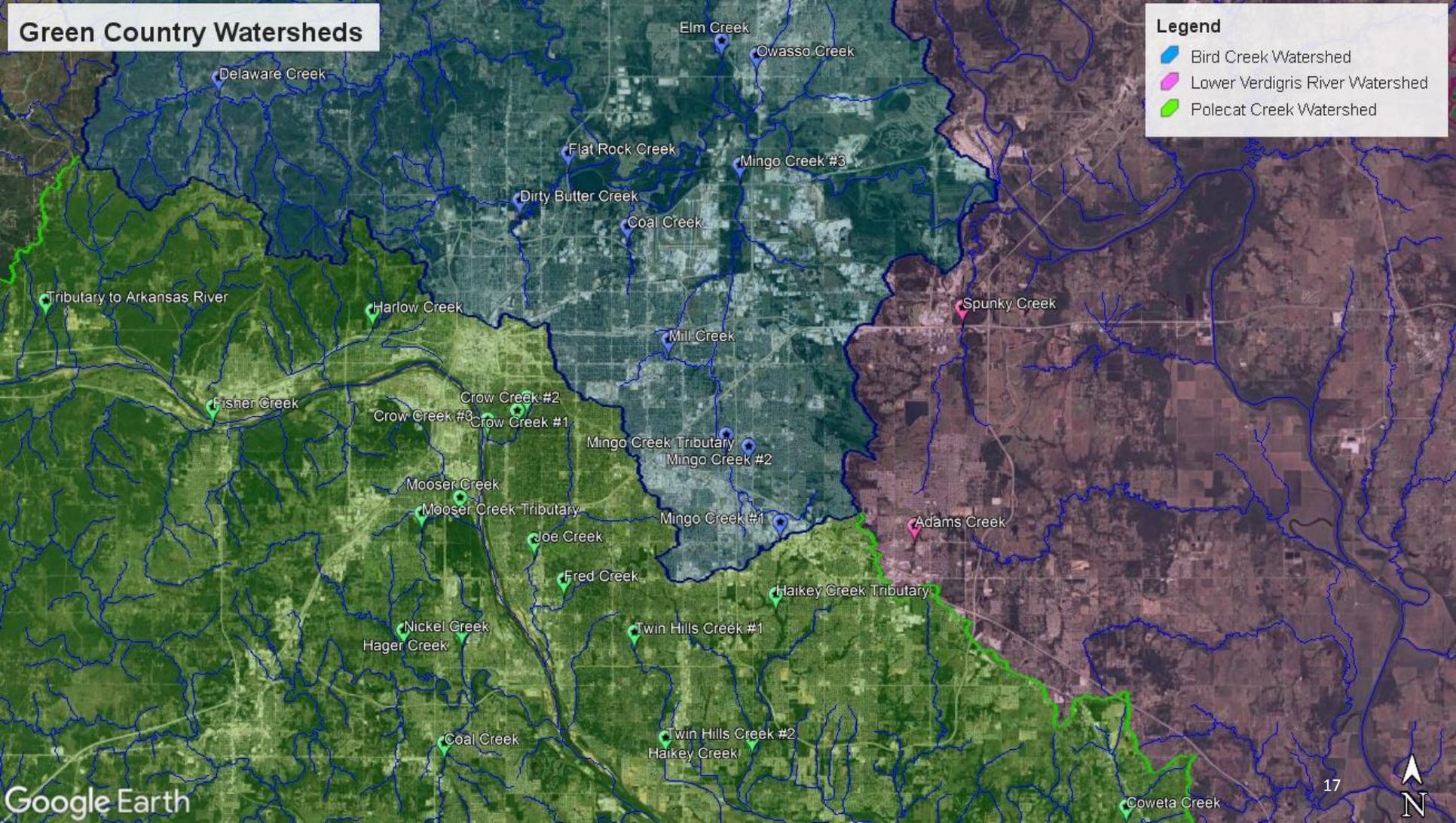
*Healthy Soil  
filters Water!*



# Green Country Watersheds

**Legend**

- Bird Creek Watershed
- Lower Verdigris River Watershed
- Polecat Creek Watershed





# Help People Connect with their local stream

Identify your local stream

Sign up for newsletters and announcements

Learn of upcoming events

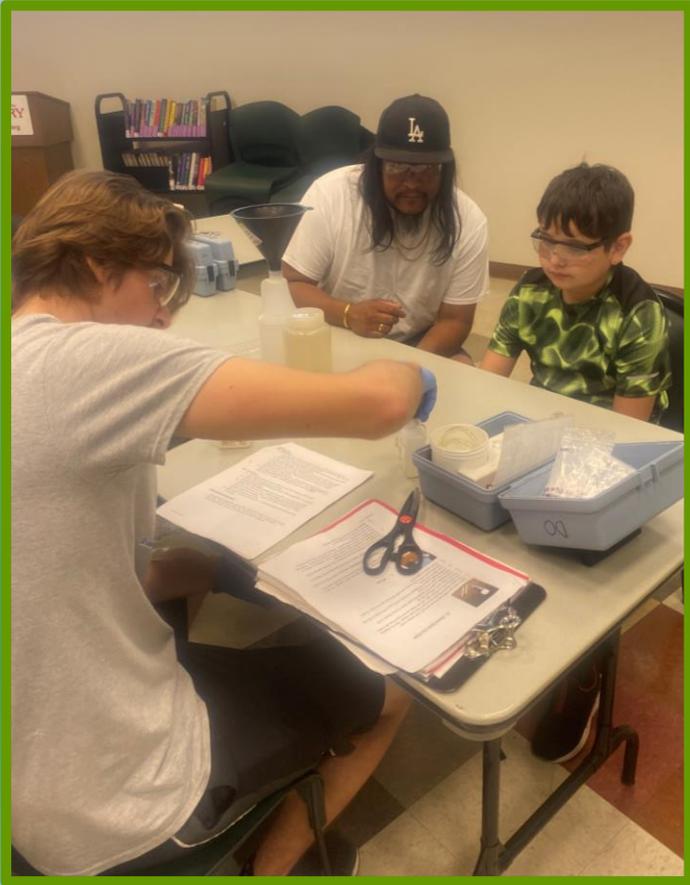
Tour the New Samuel Woodhouse Nature  
Center (at Chandler Park)

Free conservation education materials for  
children

Fun pollution prevention demonstrations



**GREEN COUNTRY**  
**WATERSHEDS**  
**COALITION**





INTERESTED IN CHECKING OUT ONE OF THESE BOOKS?



DOES YOUR MAKE THE CUT?

# COMMUNITY RESILIENCY PROJECT

## YARD BY YARD

OR CONTACT BY VATION ONLY YARD BY YARD



**Blue Thumb**  
Water Quality Education Program  
Stream Resiliency through Education





Feed birds and butterflies

Build healthy soil

Filter pollutants from runoff

Grow your own food

Offer a water source

Reduce flooding

Resilience to drought

Take important steps to  
**LIVE BETTER**

*Partners*



*Help me help our community...*



**YARDby  
YARD**

**COMMUNITY RESILIENCY PROJECT**  
okconservation.org/yardbyyard

Let's work together, yard by yard, to protect our soil, water,  
and native pollinators for a more resilient community!



*A note from your constituent...*



**YARDby  
YARD**

**COMMUNITY RESILIENCY PROJECT**  
okconservation.org/yardbyyard

Share our goals for healthy soil, clean water, and pollinator habitat. Let's  
work together for a strong, healthy and resilient community. Yard by Yard!



Do you know about the new Yard by Yard Program? I am being a better neighbor by adding strength, health, and resiliency to my landscapes, and thus improving our community!



I am happy to be working with the \_\_\_\_\_ Conservation District to have a yard that is good for our community. My yard helps protect our community's watershed, a water source for all of us. To find out how you can help our community and the Yard by Yard program, visit: <https://www.okconservation.org/yardbyyard>



Dear: \_\_\_\_\_

I am happy to be working with the \_\_\_\_\_ Conservation District to have a yard that is good for my community. My yard helps protect the \_\_\_\_\_ watershed.

Do you know about the new Yard by Yard Program? Please support me and my neighbors as we add strength, health, and resilience to our landscapes, and thus to our communities! Will you also support the use of conservation practices in our public areas, such as parks and right of ways?

I vote for local leaders who know and understand what the environmental issues are, both locally and globally. Please earn my vote by standing up for sustainability and strong districts.



## What we have:

- Monoculture of an introduced species
- Fertilizer and Pesticides applied
- Shallow root system
- Costly to maintain
- Almost zero habitat
- Little infiltration
- Requires irrigation





Minimally  
functional



Functional



Very short grass, very short roots



Add a prairie – increase infiltration, feed pollinators, create wildlife observation areas, save time and money.

# Let's be Systems Thinkers





**Grassland Birds That Benefit**

Grassland birds of Oklahoma and Texas in native prairie ecosystems benefit from diverse mixes of grass, tallgrass and native meadows.

This small scaled, mixed grass prairie serves as habitat for prairie species as many of which have experienced declines in population since the 1970s due to habitat loss.

The conservation and restoration of prairie ecosystems in Oklahoma and surrounding grassland regions is essential to preserving these bird populations for generations to come.

**Grassland Birds That Benefit**



Mowed good height

Tomatoes

Bird feeder/bird bath

Diverse

Chemical free

Native Plants

*Attractive antique brick border*









**Beauty can come in more than one  
LOOK**



[New studies confirm insects are vanishing at an alarming rate \(nationalgeographic.com\)](https://www.nationalgeographic.com)

[The insect apocalypse: 'Our world will grind to a halt without them' | Insects | The Guardian](https://www.theguardian.com)

*Insects are vanishing at an alarming rate—  
but we can save them  
Insects aren't just pests. They're crucial for  
the planet and our food supply, and scientists  
say we can all pitch in to help.*



Insects are an important path to moving energy from plants up the food chain. (declines of up to 75% in last 60 years)

Silent Skies: Billions of North American Birds  
Have Vanished - Scientific American

3 billion less birds than  
in 1970

***Biodiversity Crisis***





"If you have a backyard, this book is for you."  
—Richard Louv, author of *Last Child in the Woods*

# Bringing Nature Home

UPDATED AND EXPANDED

**How You Can  
Sustain Wildlife  
with Native Plants**

**Douglas W. Tallamy**

Foreword by Rick Darke

NEW YORK TIMES BESTSELLER



# NATURE'S BESTHOPE

A New Approach  
to Conservation That  
Starts in Your Yard

**DOUGLAS W. TALLAMY**

Author of *Bringing Nature Home*

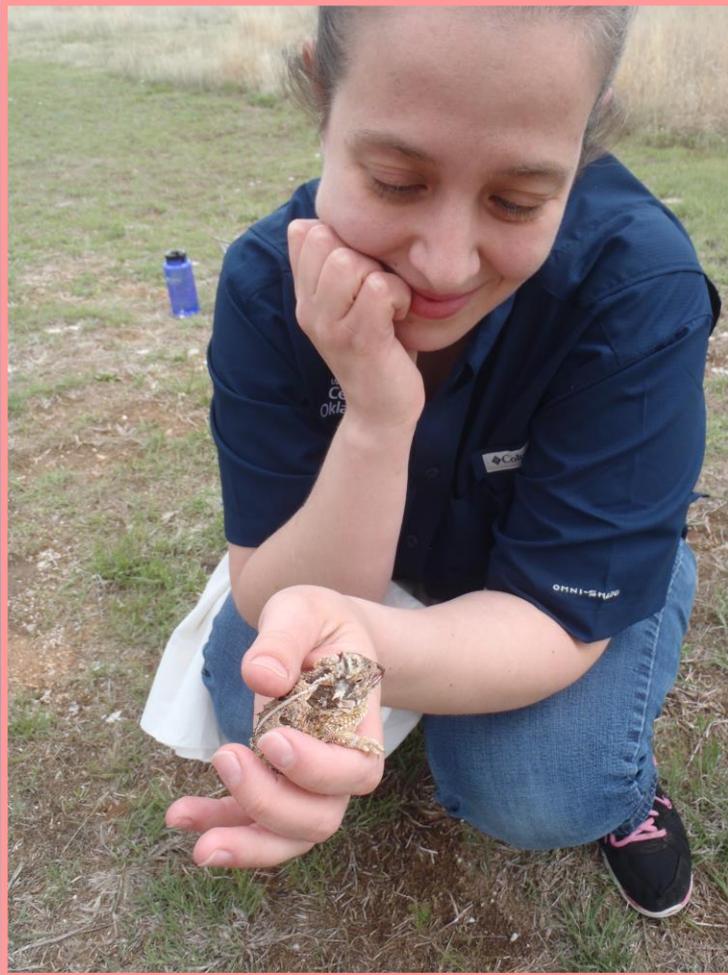


Let's abandon the miniature golf course look.



*kindness*





**World Wildlife Fund 2022: “Monitored vertebrate populations have decreased 69% since the '70's.”**

A place for life...



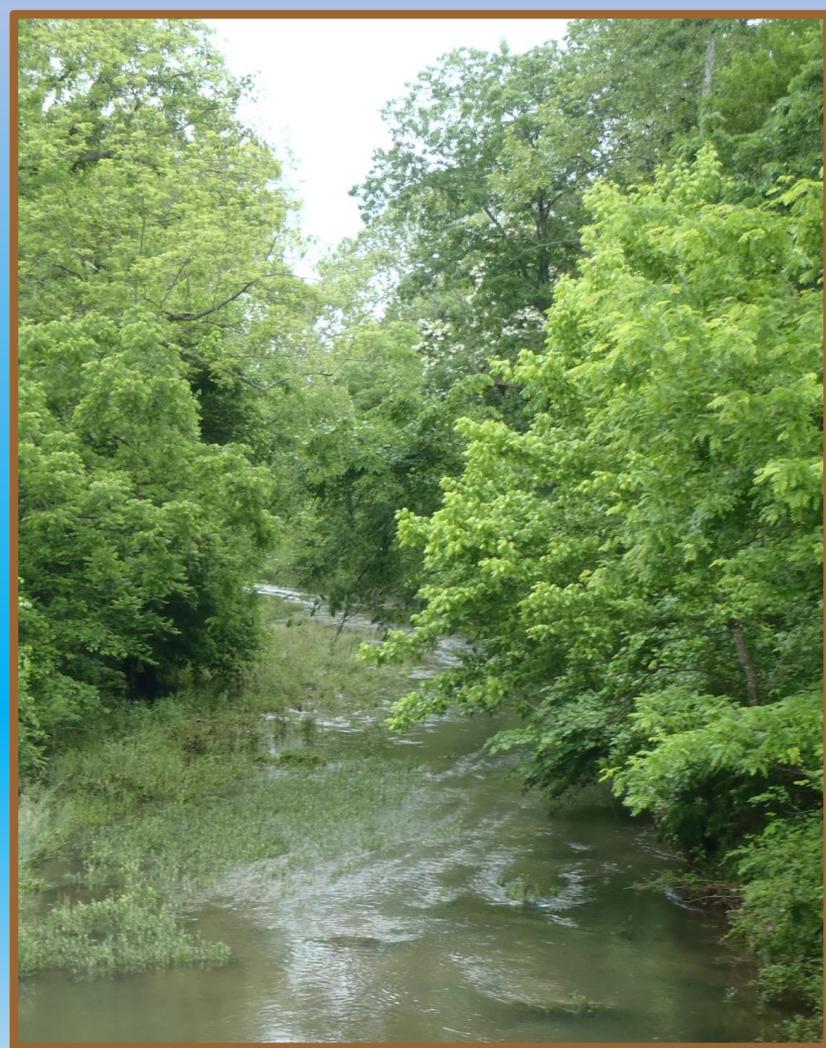
...a buffer zone  
for comfort



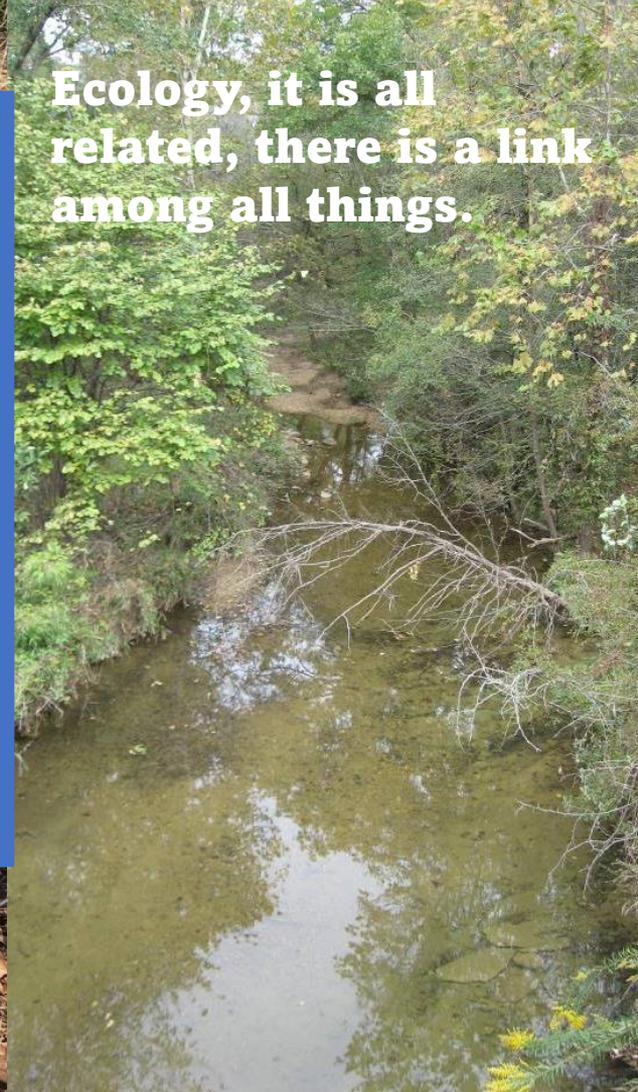
This...

...will become this





Do you see the  
difference?



**Ecology, it is all related, there is a link among all things.**



# INFILTRATION



**Nearly two hours!**



**Less than a minute!**

*The job of rain is to hydrate plants and fill waterbodies.*



**INFILTRATION**

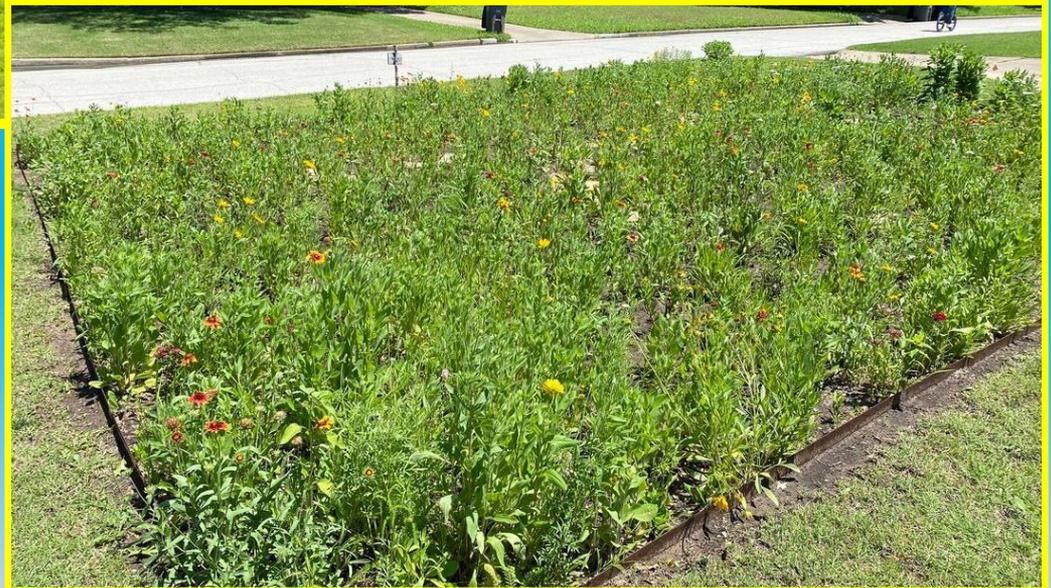
**WATER we waiting for?**



We encourage “functionality” when we bring Oklahoma native plants back into the picture.

We may have to reconsider the meaning of “beauty.”

We have to reconsider sharing our world with other species.









LOGAN  
COUNTY  
CONSERVATION  
DISTRICT

USDA NRCS  
U.S. Department of Agriculture  
Natural Resources Conservation Service

CONSERVATION  
DAY IN THE PARK





Stream Protection

KADE MINOR  
MEMORIAL  
Lawrence, Kansas

#AMA

NAT

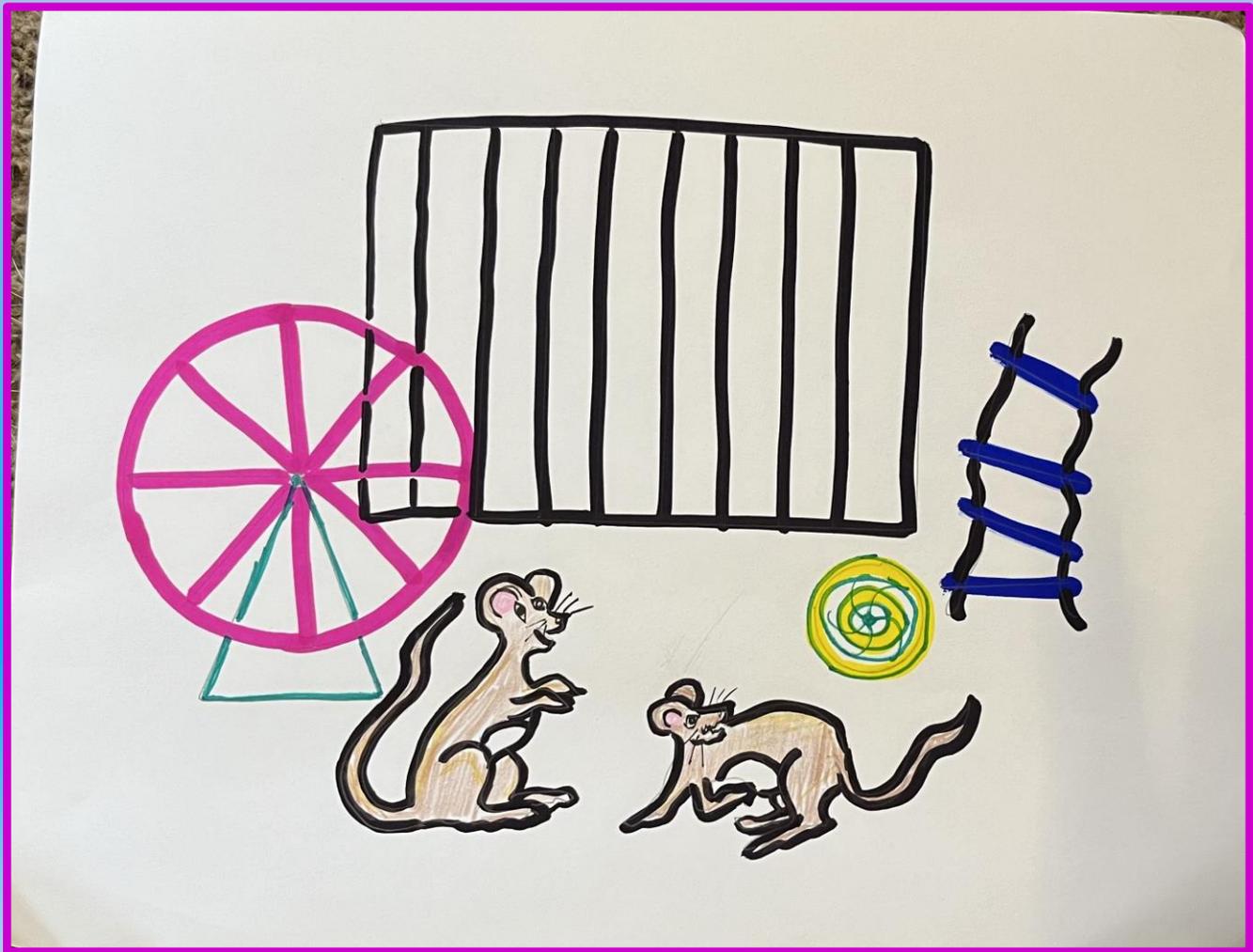
HAR  
WHEM



# Horse Creek/Grand Lake









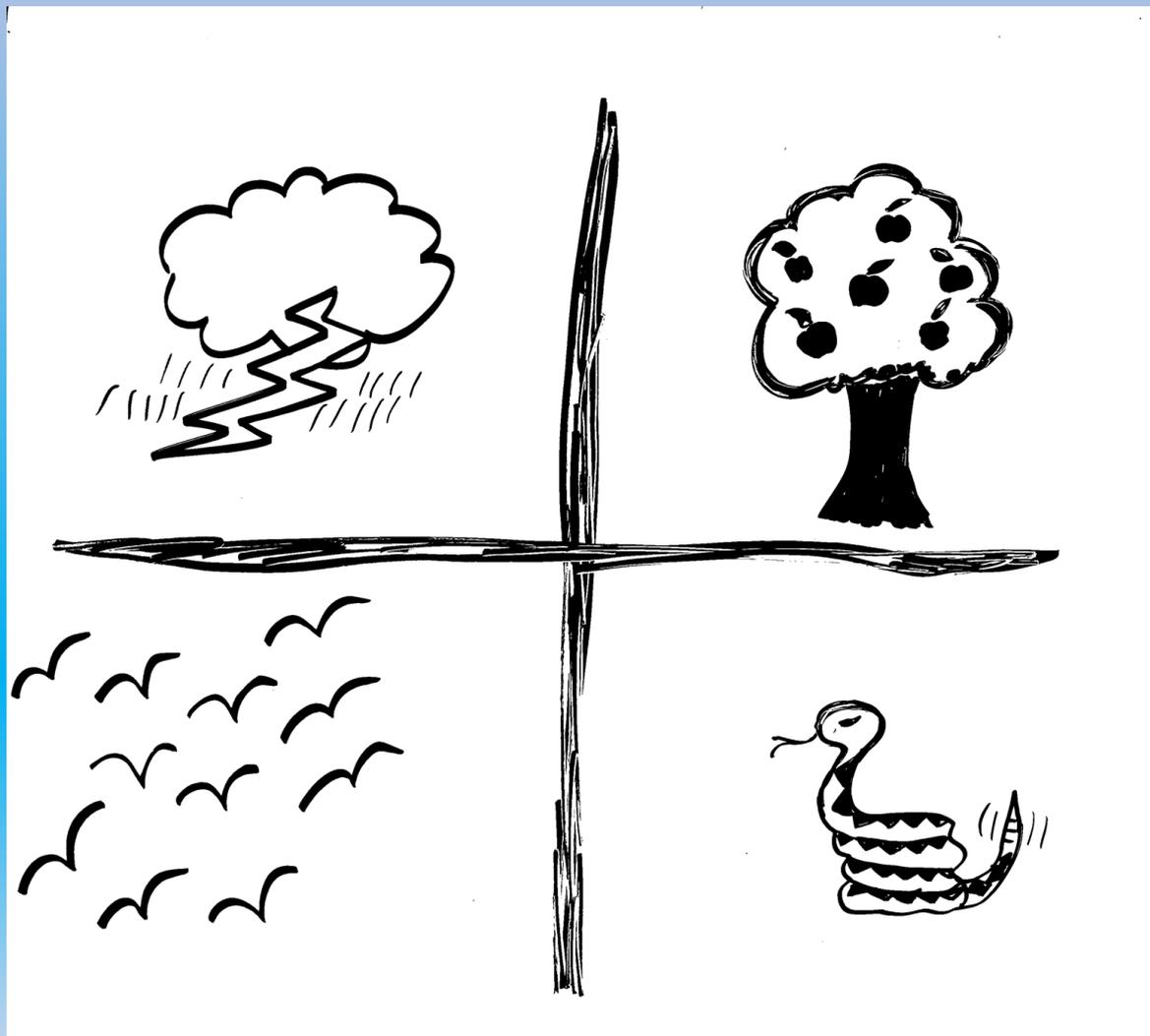
Once we were  
hunter/gatherers

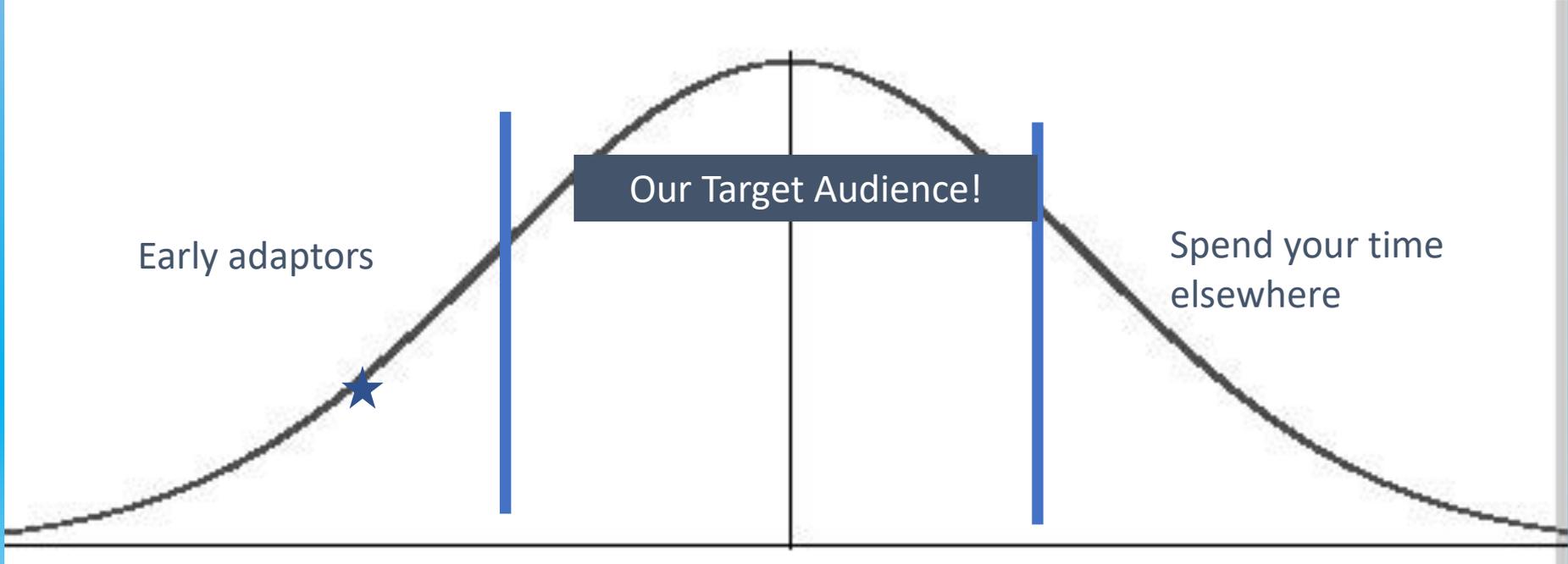


Important  
to Know...



Important  
to Know...







**The End**