



**20 YEARS WITH
A BLUE THUMB**

**John Harrington, P.G., CFM
Oklahoma Blue Thumb Association**

**2019 Oklahoma Clean Lakes and
Watersheds Conference
April 03 2019**



20 YEARS WITH A BLUE THUMB

People assume that time is a strict progression of cause to effect, but actually from a non-linear, non-subjective viewpoint - it's more like a big ball of wibbly wobbly... time-y wimey... stuff.....

- Dr. Who *BLINK* 2007

This presentation may be nonlinear.....



WHY BLUE THUMB?

20 YEARS WITH A BLUE THUMB



WHY BLUE THUMB?

WHAT IS BLUE THUMB?

- Oklahoma's Blue Thumb is a statewide [citizen science](#) program that trains volunteers to monitor creeks and streams and share their knowledge of water quality with others. The goal of Blue Thumb is to [empower people to protect water in their region](#) from nonpoint source pollution.
- The goal of Blue Thumb is to [provide stream protection through education](#). We accomplish this by empowering citizens across the state to monitor a local stream and teaching them how to educate others about Oklahoma's water resources.
- Blue Thumb is funded through the EPA's Section 319 Program, which covers nonpoint source pollution. This is pollution that flows into our streams and rivers from stormwater runoff. Stormwater is not treated before it enters a stream, so everything we do on the land impacts our water quality. We are all part of the problem and we can all be part of the solution.



BECAUSE WATER SHAPES OUR LIVES

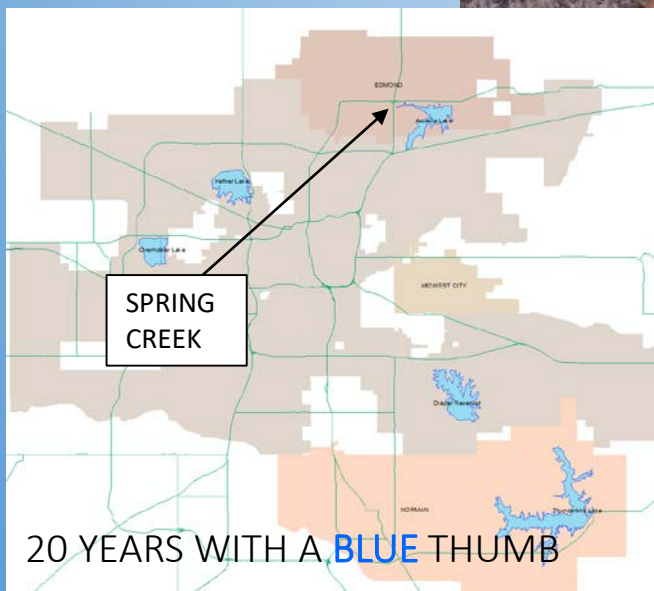
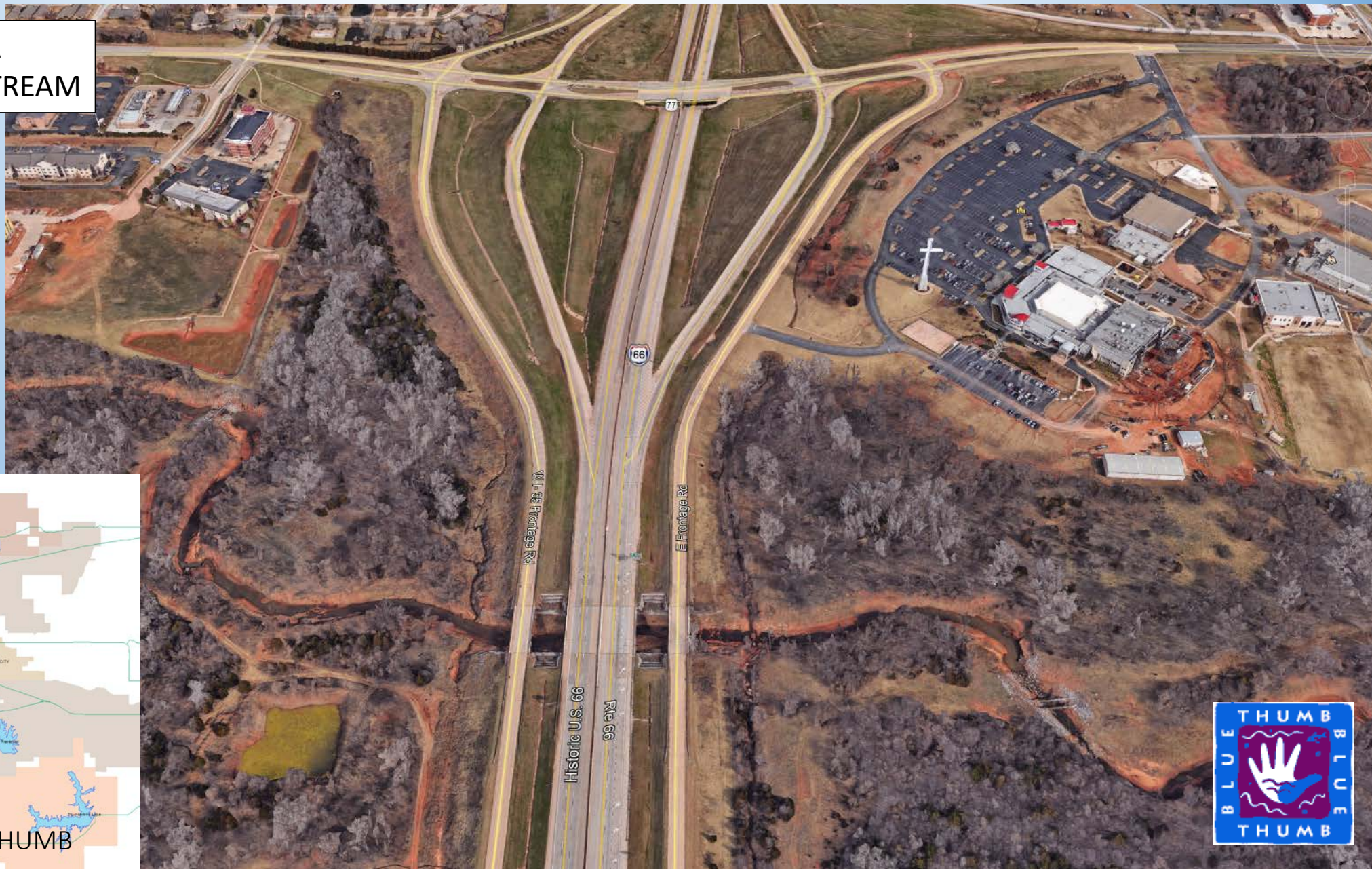


20 YEARS WITH A **BLUE** THUMB



BECAUSE WATER SHAPES OUR LIVES

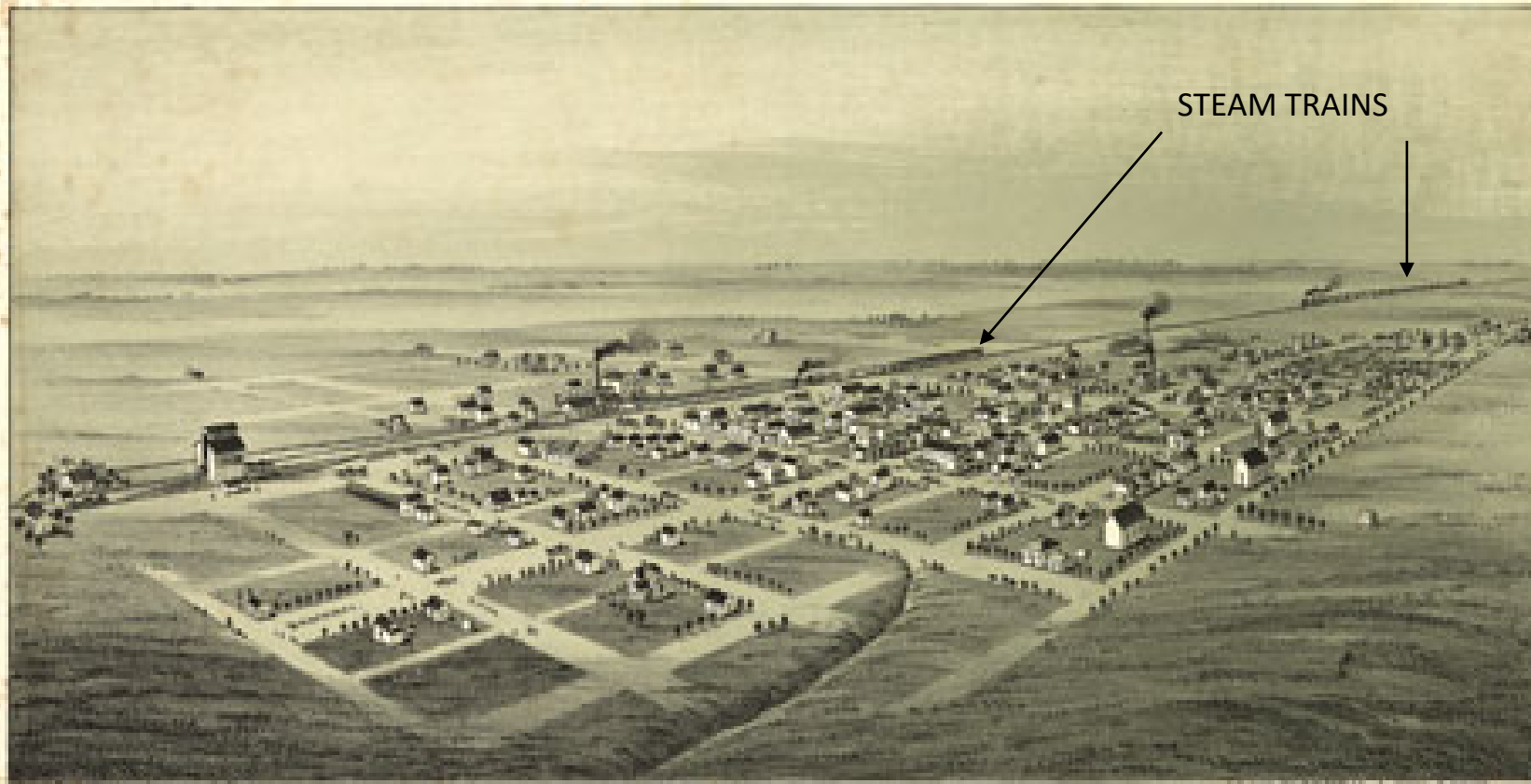
SPRING CREEK IS A
TYPICAL URBAN STREAM



20 YEARS WITH A **BLUE** THUMB



BECAUSE WATER SHAPES OUR LIVES



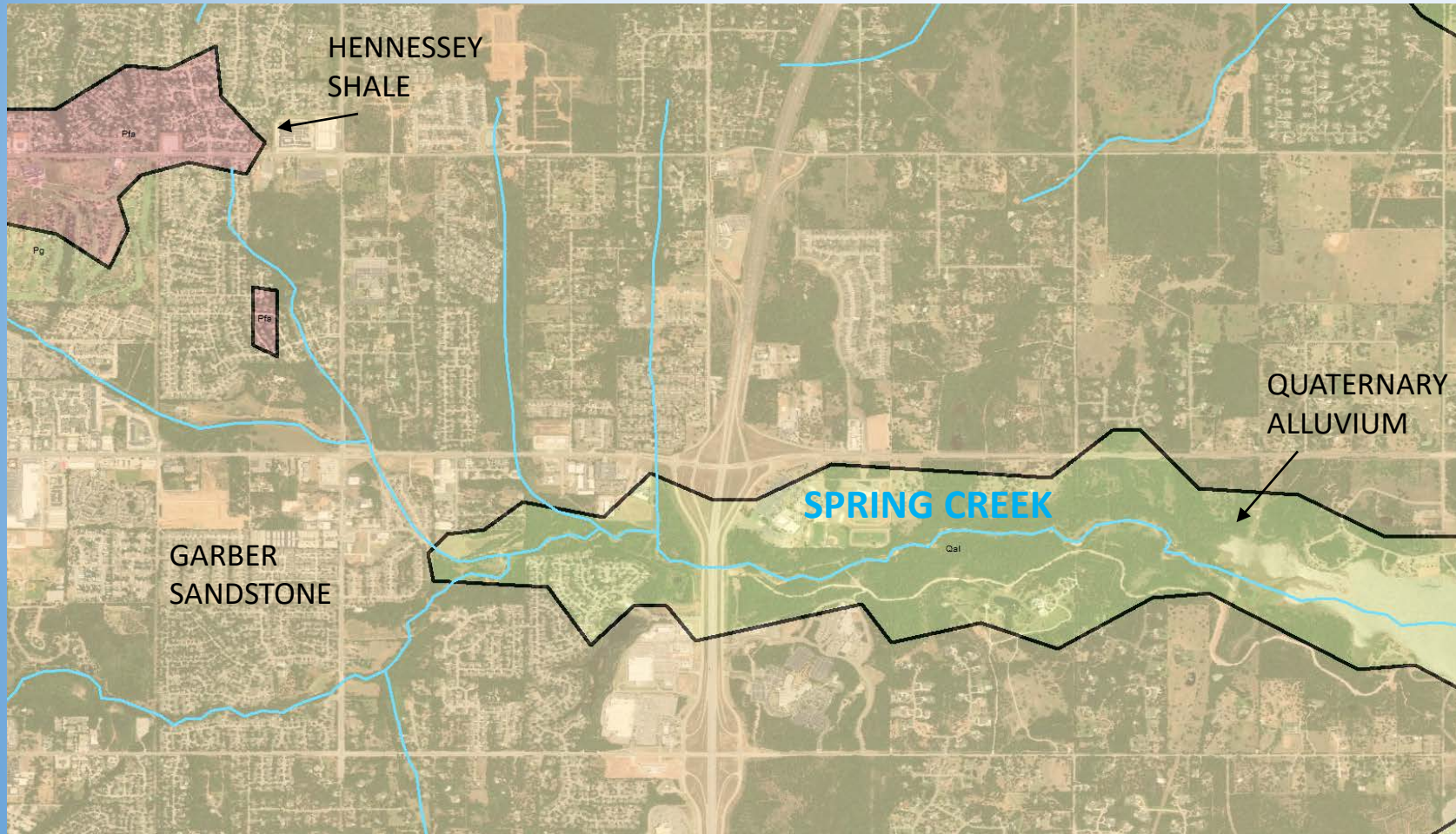
EDMOND,

OKLAHOMA TERRITORY
1901.

- The headwaters of Spring Creek are the springs which are now in downtown Edmond.
- Steam Engines need water. Railroads often took the most direct line from one source of water to the next, thus creating a web of connection from one large spring to the next. Edmond wouldn't be there without the springs.
- Towns grew at the junction of springs and railroads due to good water supplies and ready access to commerce and transportation.
- Why is the city of Norman's downtown streets not oriented north-south like good PLSS planned towns?



BECAUSE WATER SHAPES OUR LIVES



- The Garber Sandstone/Hennessey Shale contact has some really good springs...which flow downstream into Spring Creek!
- This contact is where the aquifer transitions from unconfined to confined conditions.

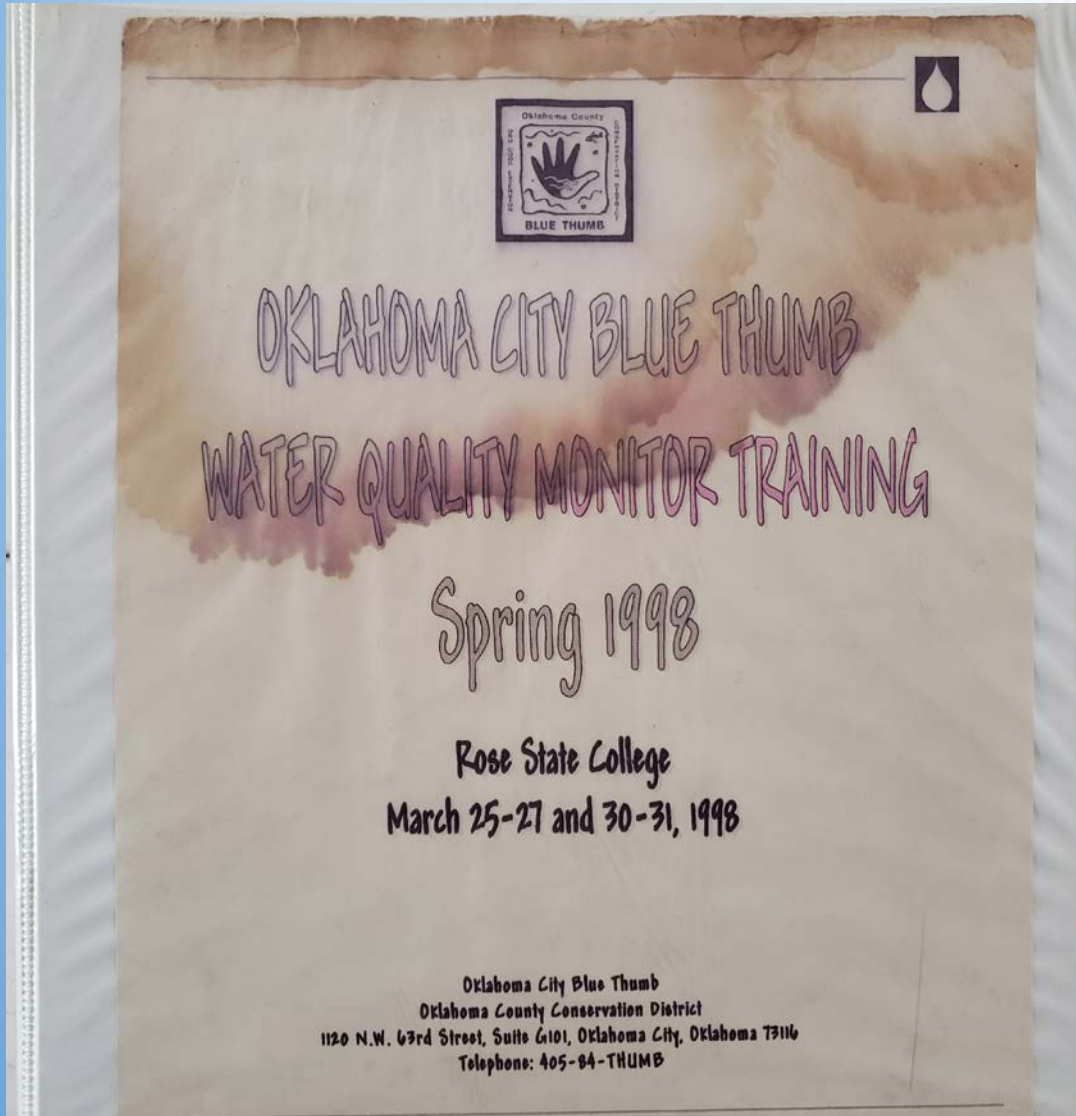




Fish seining in Spring Creek west of I-35 near the Garber Sandstone/Hennessey Shale contact.

- Even today, springs from the Garber Sandstone flow into Lake Arcadia in Edmond via Spring Creek.
- Large springs powered the Belle Isle Power Plant in Oklahoma City.
- Even Oklahoma City had a large water well system until the 1960's. A few of these wells are near the zoo today and are still used.





In 2005, I was asked why I was a Blue Thumb volunteer. At the time I said the following:

- I felt I needed to do something more than just talk about the environment.
- Many people just sit and whine about what should be done about the sad state of the local environment, but do nothing. Volunteering gives one, to put it in folksy fashion, the right to complain.





- As time passed, another benefit emerged which I had not foreseen at first. Continual observation of my site has shown how the creek has reacted to changes in the watershed, both on an annual basis and over the years. The stream is a dynamic system!
- When I first stepped into Spring Creek in 1998, the city of Edmond had just adopted erosion control measures. The creek was full of loose sand from heavy construction in the watershed, and no sign of amphibians or fish. Six years later, the creek had bedrock again, with bullhead catfish and an occasional turtle.
- It has also shown me that some efforts we do in the community to protect and preserve these ecosystems really do have an effect!



The Spring Creek watershed does have problems.....

- Legacy oil and gas issues in the area from the East Edmond Oil Field.

BECAUSE WATER SHAPES OUR LIVES

EXTEND TRAIL UNDER
I-35



- And then came the Arcadia trails plan in 2016.....



BECAUSE WATER SHAPES OUR LIVES



APRIL 2016

20 YEARS WITH A **BLUE** THUMB



BECAUSE WATER SHAPES OUR LIVES



FEBRUARY 2017

20 YEARS WITH A **BLUE** THUMB



BECAUSE WATER SHAPES OUR LIVES



MARCH 2017

20 YEARS WITH A **BLUE** THUMB





JUNE 2018

Spring Creek is amazingly resilient....the macroinvertebrates are back and the fish look good!!!



BECAUSE WATER SHAPES OUR LIVES



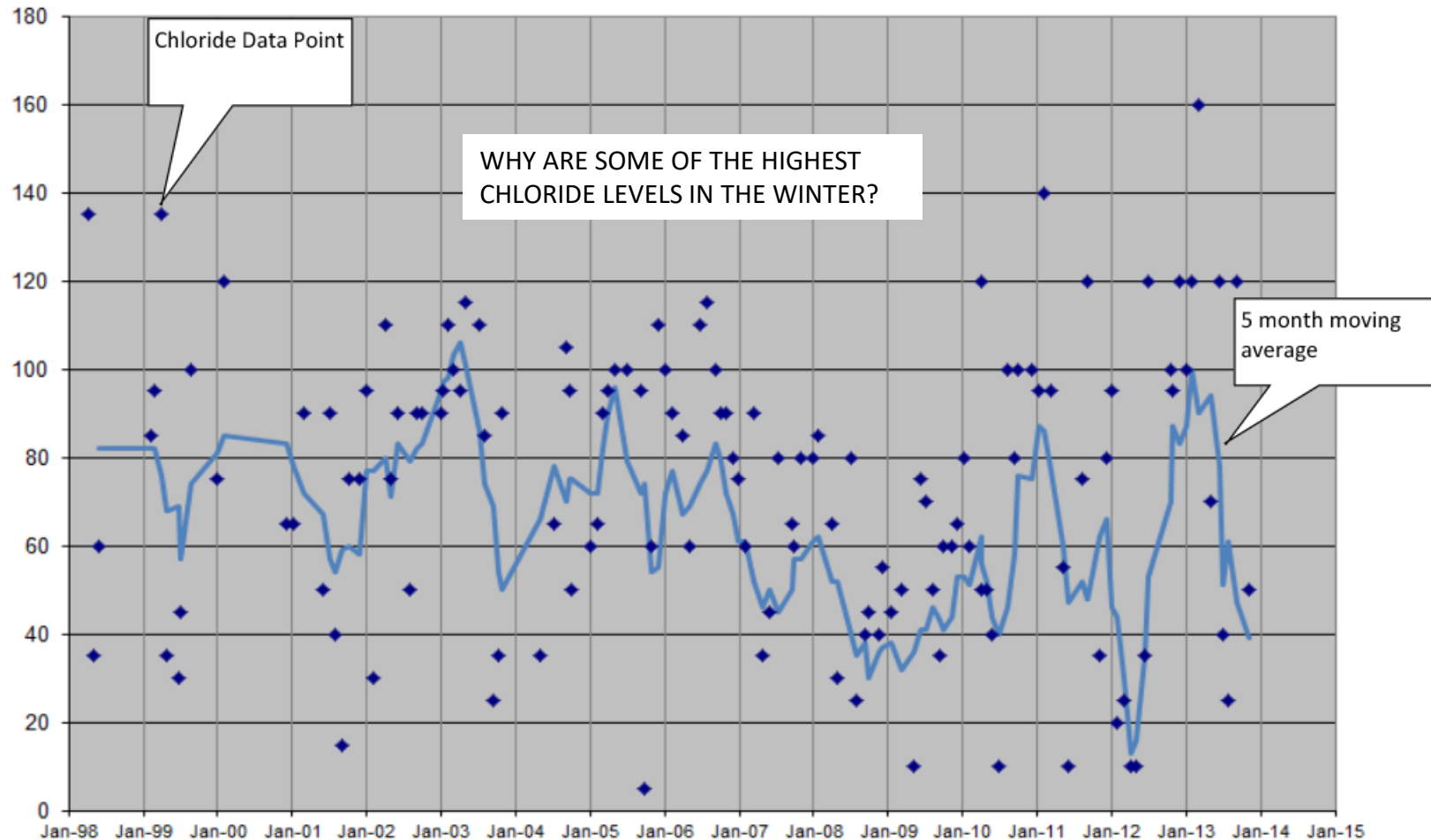
Spring Creek does have an occasional surprise....



After snacking at the snake buffet line, it got heavy and sleepy. So the snake fell into the creek.

After lying there stunned for a few minutes, it slithered off to the far bank and disappeared....

AND WHAT DO YOU DO WITH THE DATA???



- I teach at OSU-OKC. I want to show my students that real data is pretty messy at times.
- One of the labs I give my students shows Spring Creek chloride data.
- After realizing that the salting from I-35 during the winter ends up in the creek, the students are faced with a dilemma:



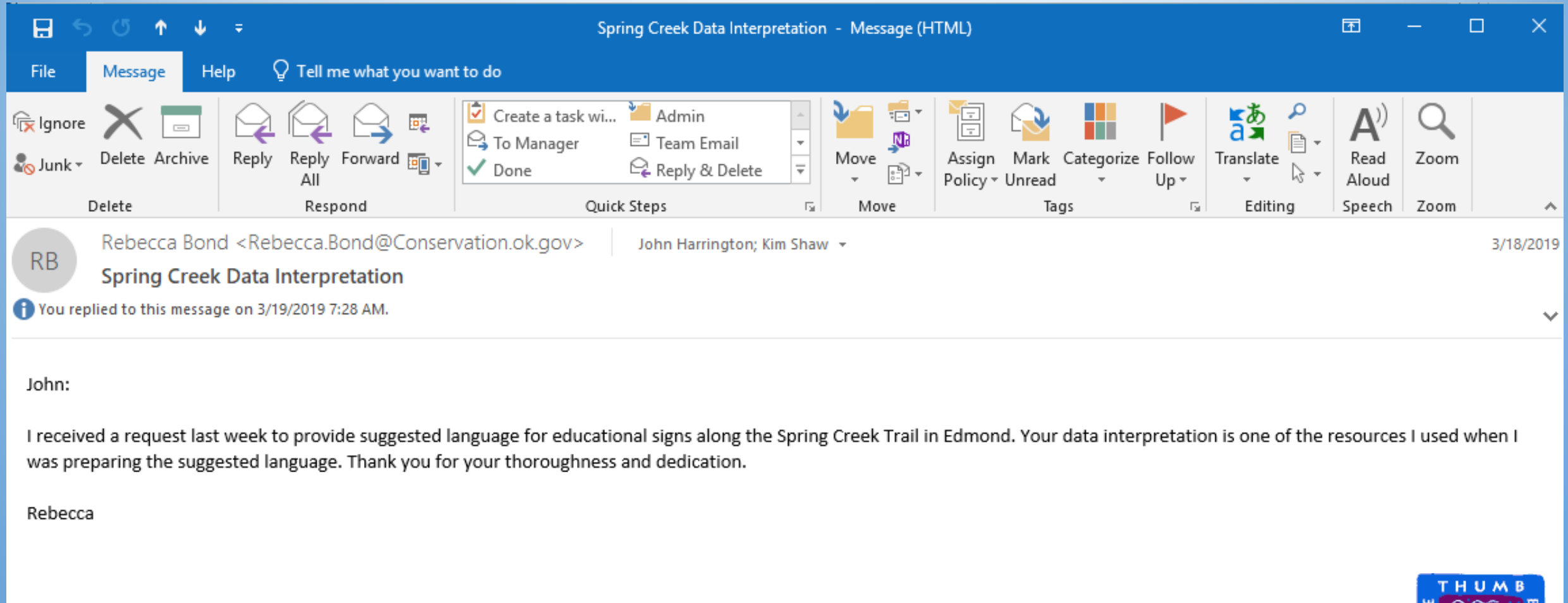
DO WE SALT I-35
AND KEEP
TRAFFIC
INJURIES
DOWN?

DO WE PRESERVE THE
WATER QUALITY IN
SPRING CREEK AND
KEEP THE
MACROINVERTEBRATES
HEALTHY?



BECAUSE WATER SHAPES OUR LIVES

AND WHAT DO YOU DO WITH THE DATA???





GRETCHEN JEAN – ON SPRING CREEK SINCE 2000

20 YEARS WITH A **BLUE** THUMB

WHY BLUE THUMB?

- Finally, Blue Thumb gives me a great opportunity to meet people and work with them. Over the years I have developed wonderful friendships with a number of people!
- These are intelligent people with a desire to learn more about the world about them and to become better stewards of their backyards.
- These are the kind of people I want in my community. These are the kind of people we need to grow and nurture in the next generation, so that our children can have a healthy environment to live in.



WHY **BLUE** THUMB?

BECAUSE WATER SHAPES OUR LIVES

20 YEARS WITH A **BLUE** THUMB

