

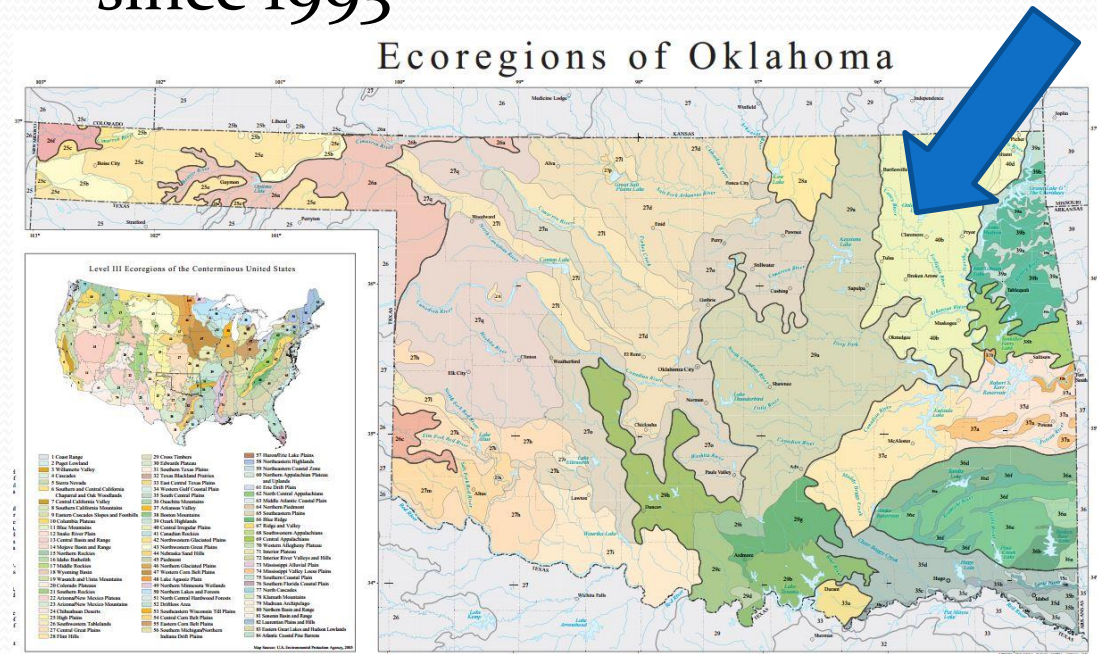
# Stormwater Quality and Public Education

Jacob Hagen

City of Tulsa – Environmental Compliance Supervisor

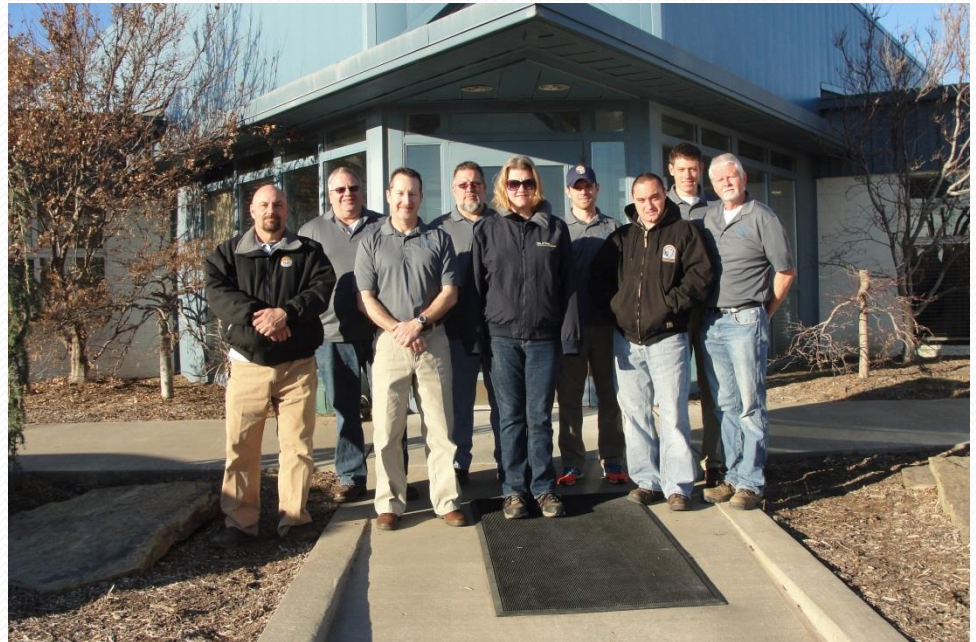
# Tulsa, Oklahoma

- Population – 391,906
- Land Area – 193 mi.<sup>2</sup>
- Ecoregions – Central Irregular Plains and Cross Timbers
- Phase 1 OPDES Permittee since 1993



# Stormwater Quality Section

- 12 full time employees
- Fully responsible for all permit requirements including monitoring, education, inspections, investigations, reporting, etc...
- Budget ~ \$300,000





# Where does education begin?

- Need a dynamic and engaging education/outreach person
  - Julie Monnot – 3 years in current position
  - Plus 11 other excellent outreach employees
  - In Tulsa all stormwater employees are involved in public outreach



# Hire people that love their job

- I grew up playing in my neighbor's creek looking for fish and crawdads...now I get paid to do that
- Not just employees that want to put in their 40 hours and go home or people that say what do we have to do but people that say what can we do



# \*\*\*WARNING\*\*\*

- These people can be flaky and messy
- May not be the best at organization, timekeeping, or data recording BUT they are good at networking, working with kids, engaging people, and demonstrating activities





# Successful education top-down or bottom-up?

- EPA/DEQ education requirements easily met
- These requirements alone honestly won't have much impact
- Education program needs to be driven from the bottom-up by the permittee
  - Example Requirement - "Participate in public events (2 x per year) targeting litter reduction, include informative displays"
  - Example Requirement - "Conduct events that promote LID to developers/contractors"

# Create Interesting Story/Narrative

- Biological Indicator Species can be used better than analytical samples to convey healthy stream message



VS.





# Network, network, network!

- Tulsa Master Gardeners
- Blue Thumb
- Tulsa County Conservation District
- Crow Creek Community Group
- Native Plant Society
- Typros
- Westside YMCA
- M.e.t.
- Groog's Green Barn
- Tulsa Zoo
- Oxley Nature Center
- American Airlines
- OSU
- St. John Medical Center
- Oklahoma Conservation Commission
- Oklahoma Department of Environmental Quality
- Sustainable Tulsa
- Philbrook Museum
- Home Builders Assoc.
- Green Country Stormwater Alliance
- American Society of Landscape Architects
- Oklahoma Floodplain Managers Assoc.
- Etc.....

# Broaden the Base

- Find where stormwater quality issues overlap with other groups and leverage that
  - Example – Tulsa Zoo has a stream right in front of its doors. Push for more info about native species. We could pay for a sign on the bridge talking about fish. They're marketing group worked up the sign and we paid for it.









# Create Ambassadors

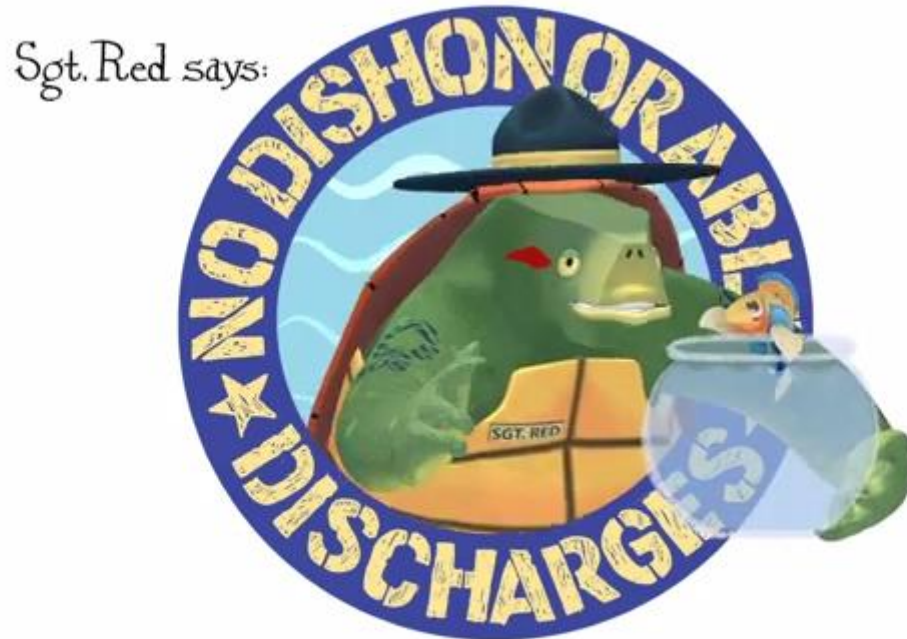


# If possible utilize all forms of media

- TV
- Radio
- Billboards
- Social Media
- Email Newsletter
- Youtube
- WEBSITE



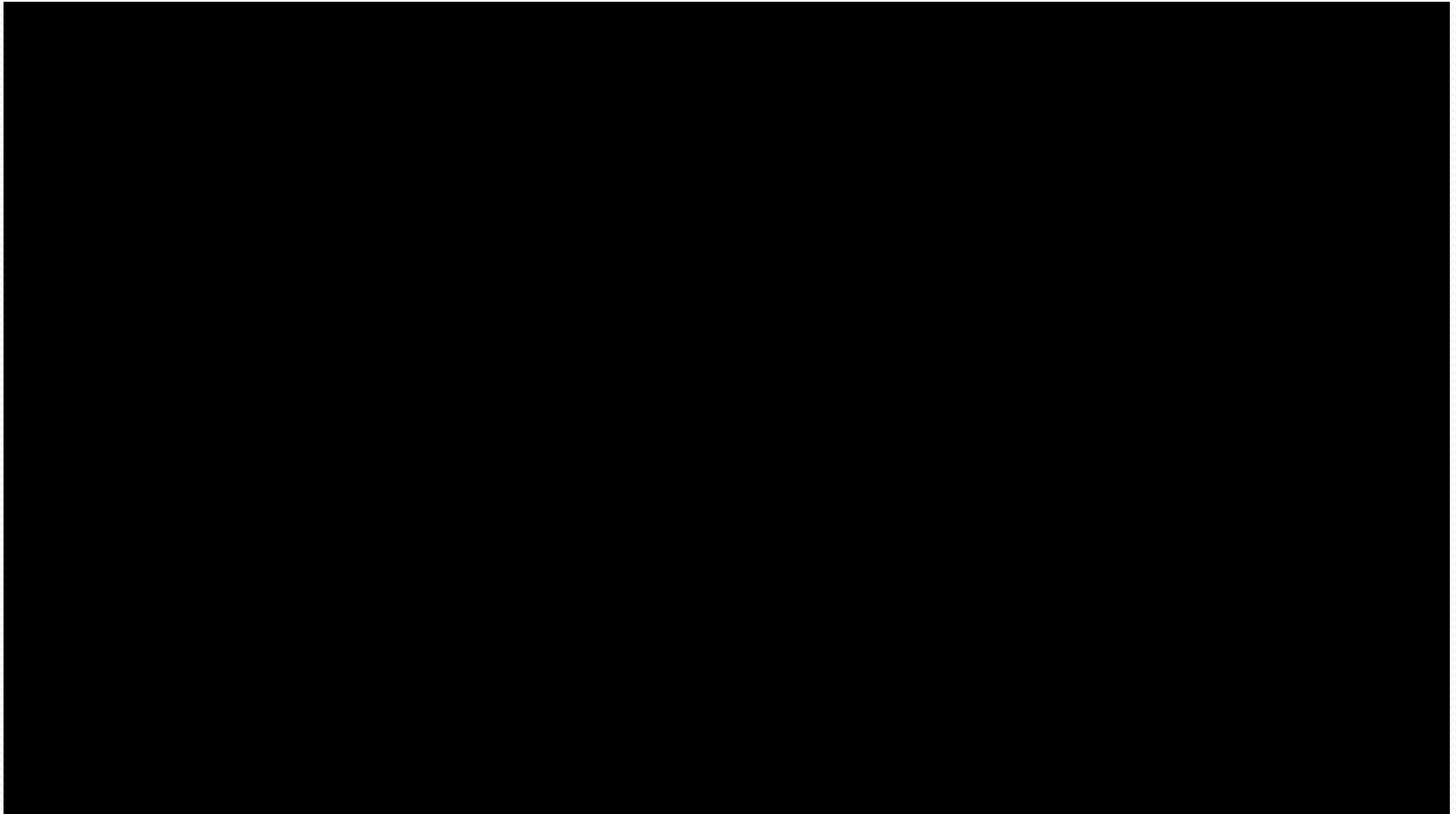
# Create Loveable Characters to Spread your Message



Brought to you by City of Tulsa Stormwater Quality



# Video of Circle of streams commercial



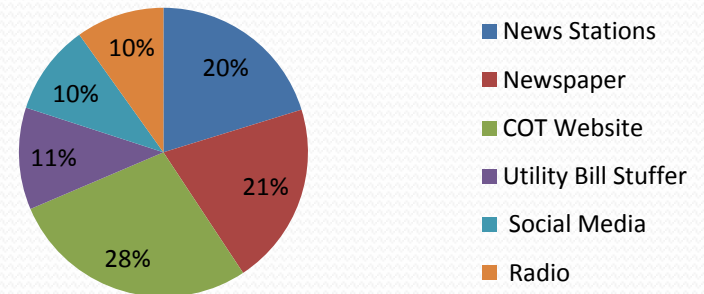
# Which media is best?

- Survey Question: Where do you go for your local news or for info about the City of Tulsa? (Circle all that apply)
  - News Stations
  - Newspaper
  - City of Tulsa website
  - Utility Bill Stuffer
  - Social Media
  - Radio

# 2014 Home and Garden Show

## Question 3 Answers

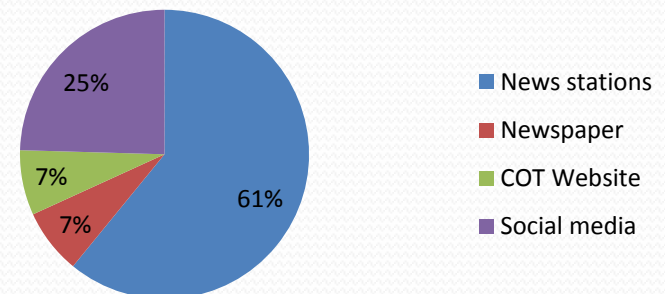
- Four day event
- About 35,000 attend
- Surveyed 489 people



# 2015 Home and Garden Show

## Question 3 Answers

- Four day event
- About 36,000 attend
- Surveyed 110 people





# What media is the best bang for your buck?

- Hard to say
- Various media is analyzed differently
- Type of advertisement the public receives is different for each type of media
- More work to be done here



# Get swag

- Buy promo items that segue into your message



# Anatomy of our Stormwater Booth

Ask a question. Spark conversation.

Brand! Brand! Brand!

Buy a fish tank

Have giveaways  
and promo  
items

Kids  
activities  
– with  
message



Ease of access into booth



# How to gauge whether education program is working???

- Simplest way is if your streams are meeting all beneficial uses...it is working
- Surveys
  - Home and Garden Show: 36,000 people
  - Tulsa State Fair: 1.1 million people
  - Ask the same questions over and over
    - What is a watershed?
    - Where do stormdrains go?
    - Is Tulsa mandated to reduce pollutants in stormwater?
  - Use results to guide education program and gauge your success





# My WATERS Mapper

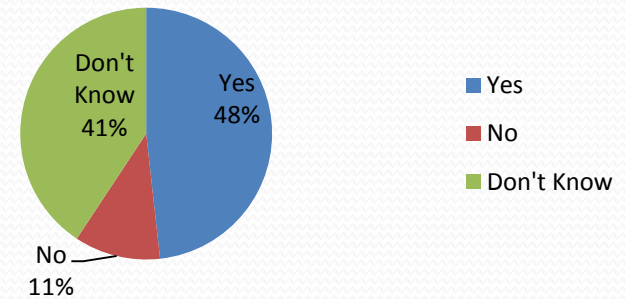
MyWATERS Mapper dynamically displays snapshots of EPA Office of Water program data. This version of MyWATERS Mapper depicts the status of NPDES permits for each State; summary information from the Clean Watershed Needs Survey; and water quality assessments. Future versions will include other Office of Water Program Snapshots. MyWATERS Mapper also contains water-related geographic themes such as 12-digit watersheds, the national stream network known as the National Hydrography Dataset, and other water-related map layers. MyWATERS Mapper enables you to create customized maps at national and local scales.



# Survey Question Results

- Is Tulsa federally mandated to reduce pollutants in stormwater runoff?

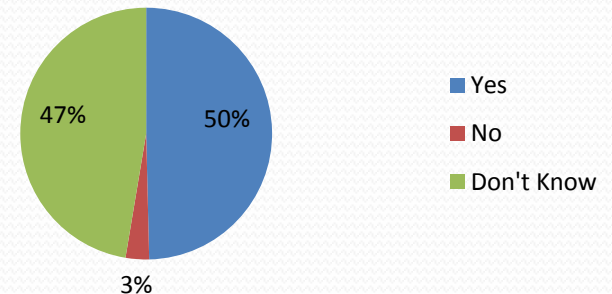
**2014 Tulsa - Question 7  
Answers**



- 2014 Results

- 2015 Results

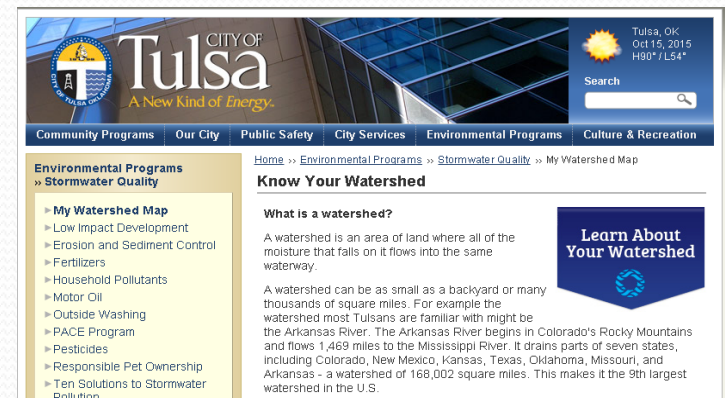
**2015 Tulsa Question 7  
Answers**



# Future To Do's

- Analyze forms of media to gauge best bang for our buck
- Continue survey questions to see long term trends
- Utilize existing city property for advertising
- Foster ownership/intimacy with people's local streams

<https://www.cityoftulsa.org/environmental-programs/stormwater-quality/my-watershed-map.aspx>





# Questions?



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