



# Stormwater Utility Trends in the U.S.

# Road Map

What is a  
SWU?

Why SWUs can be fairer than other  
funding methods.

Questions  
answered

7 questions answered

Recommendations

So you want a SWU?

Questions?

I will answer your questions.

# What is a stormwater utility?

A recurring non ad valorem fee, not a tax.

Money goes into an enterprise fund to be used for the stormwater program only.

# Who forms SWUs?

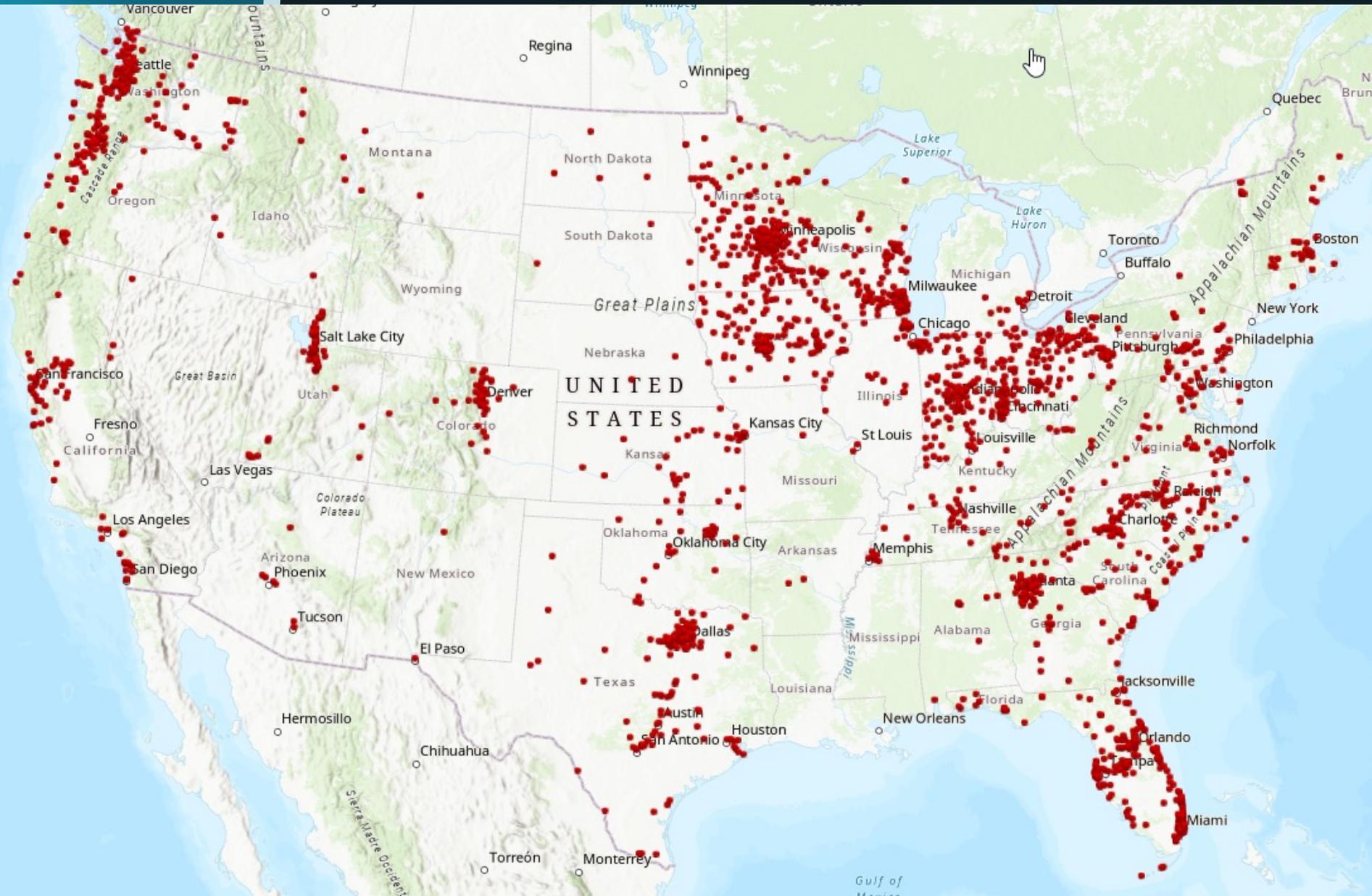
Cities, towns, villages,  
burroughs, townships

Counties

Sanitation or sewer districts

Watersheds

# SWUs 2022



# Questions

What trends have you seen in stormwater utilities over time?

# State Clubs

## States with more than 200 SWUs

Minnesota – 229

Florida – 212

## States with more than 100 SWUs

MN - 229

FL – 212

WA - 146

OH - 138

TX - 137

WI – 137

IN – 125

IA – 111

NC - 103

## States with no SWUs

AK

HI

LA

MS

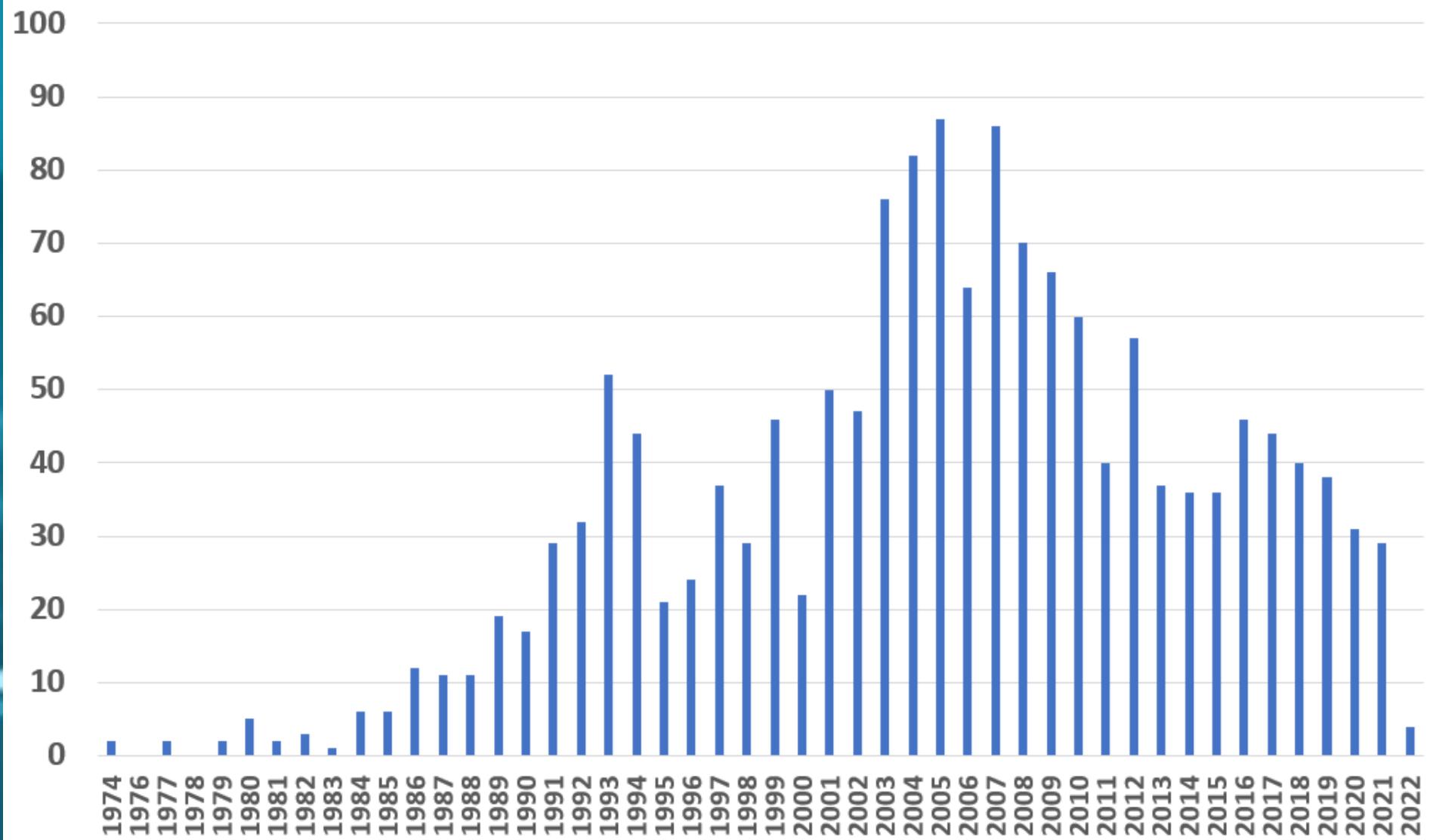
NH

NJ

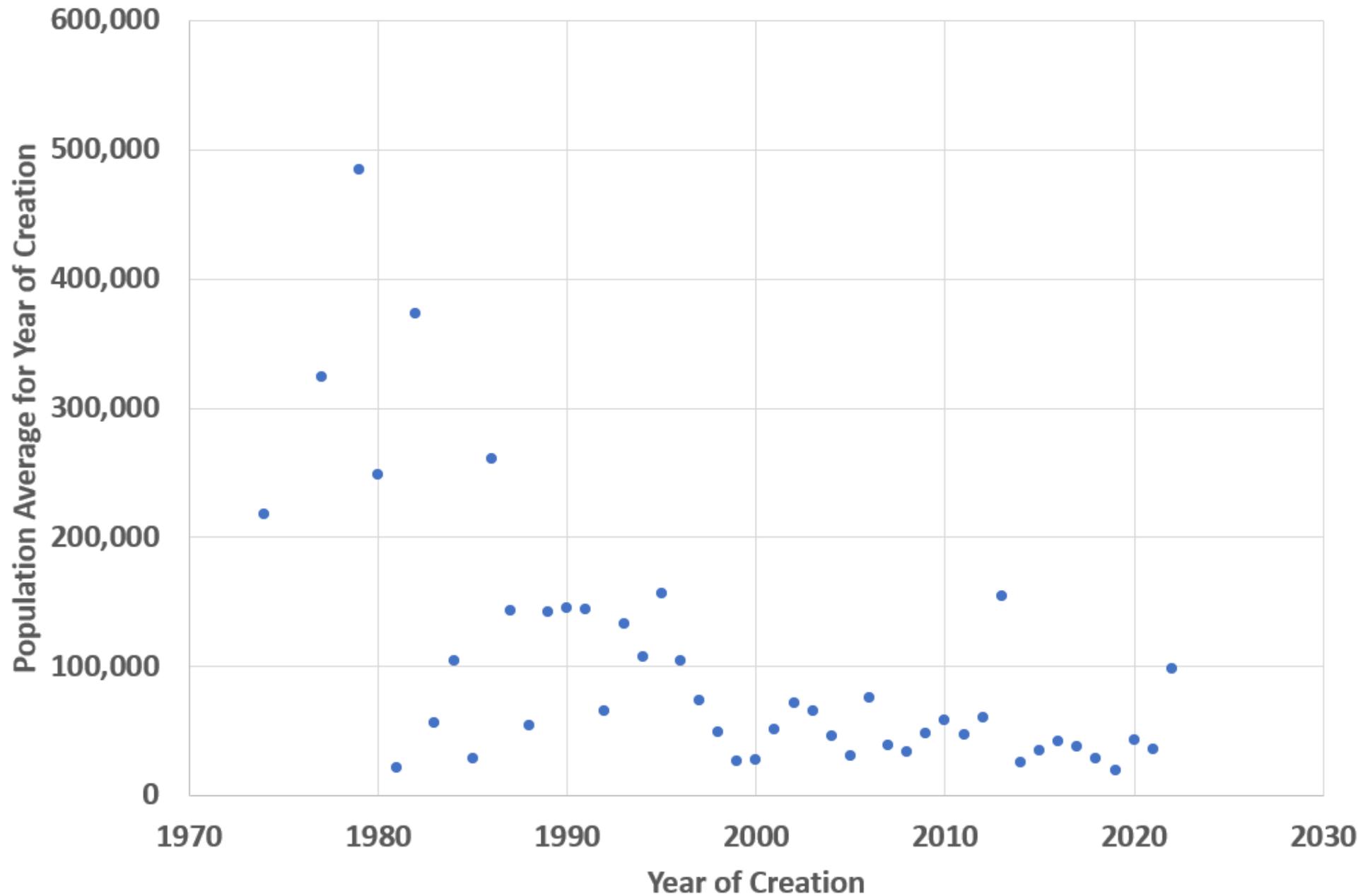
RI

WY

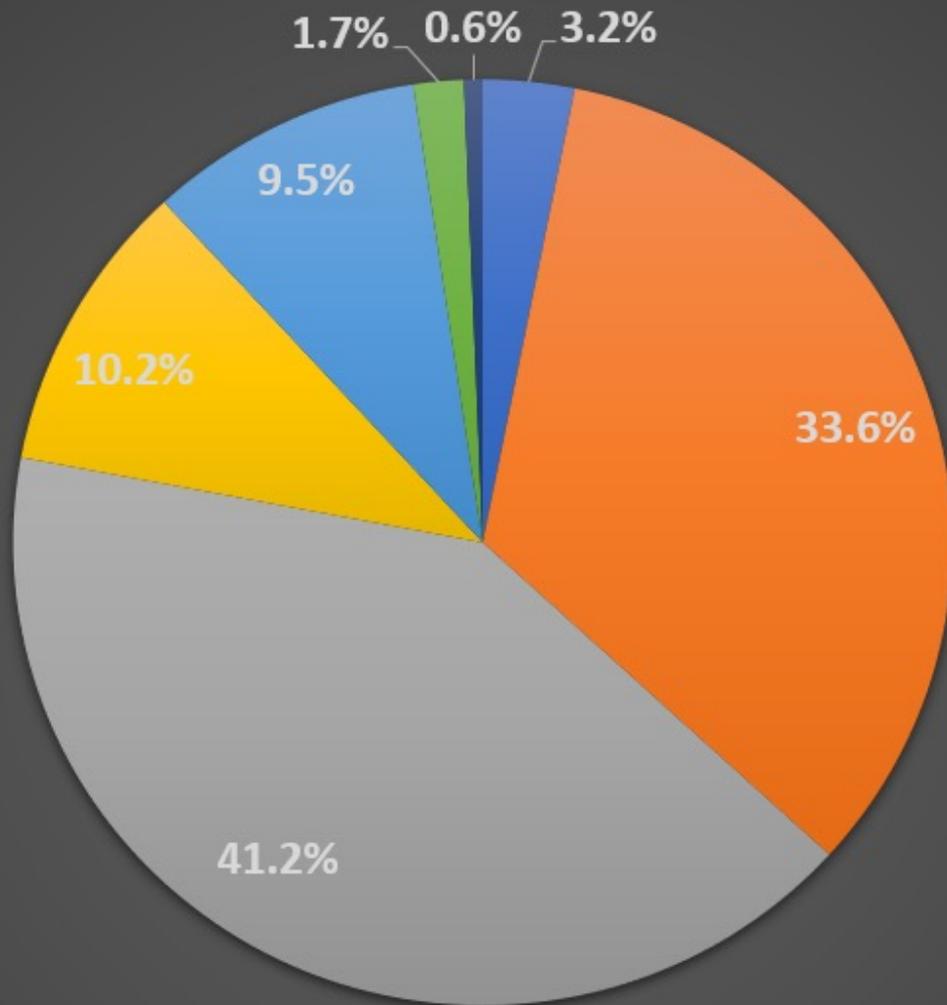
# SWU Formation by Year



# Population Average Versus Year of Creation



# SWUs by Population



0 - 1,000

1,001 - 10,000

10,001 - 50,000

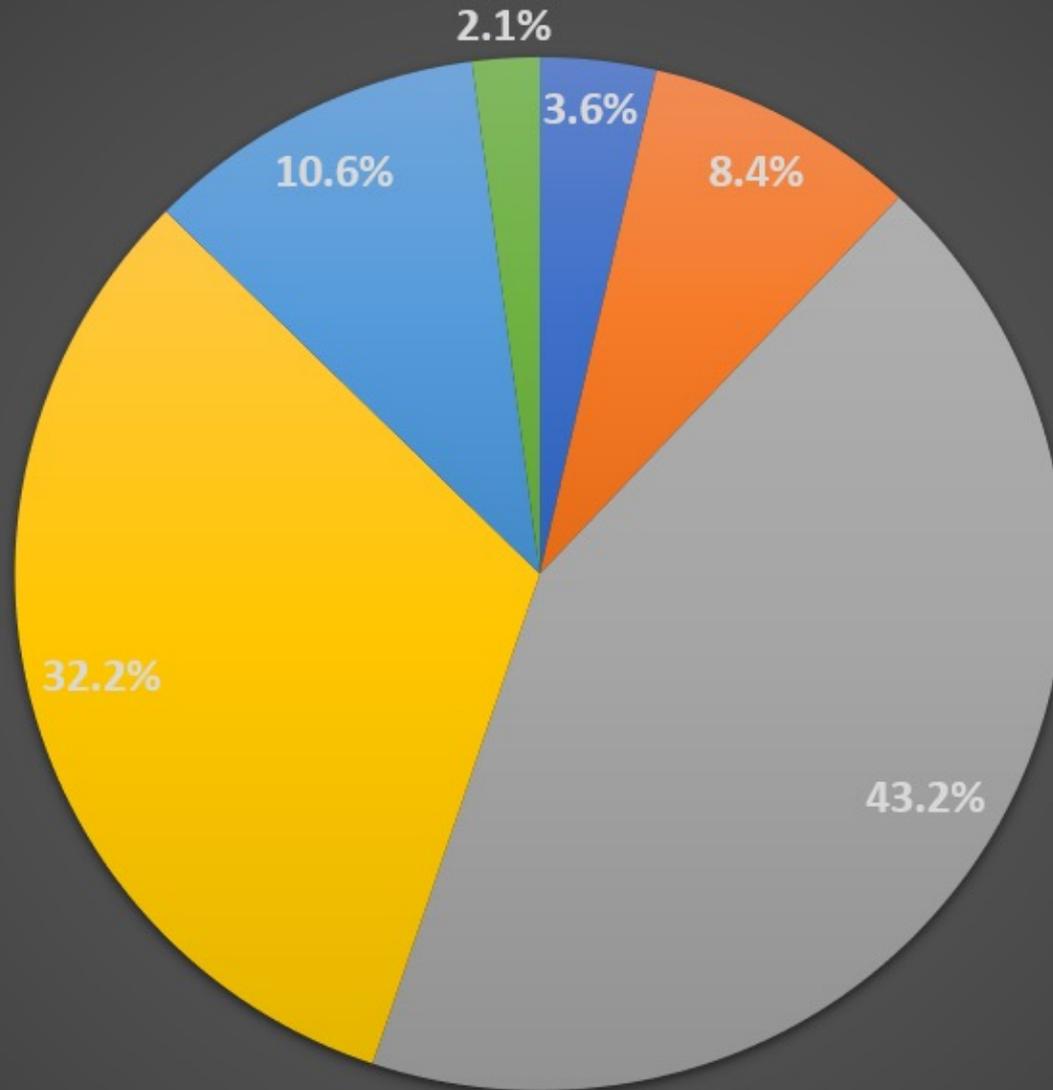
50,001 - 100,000

100,001 - 500,000

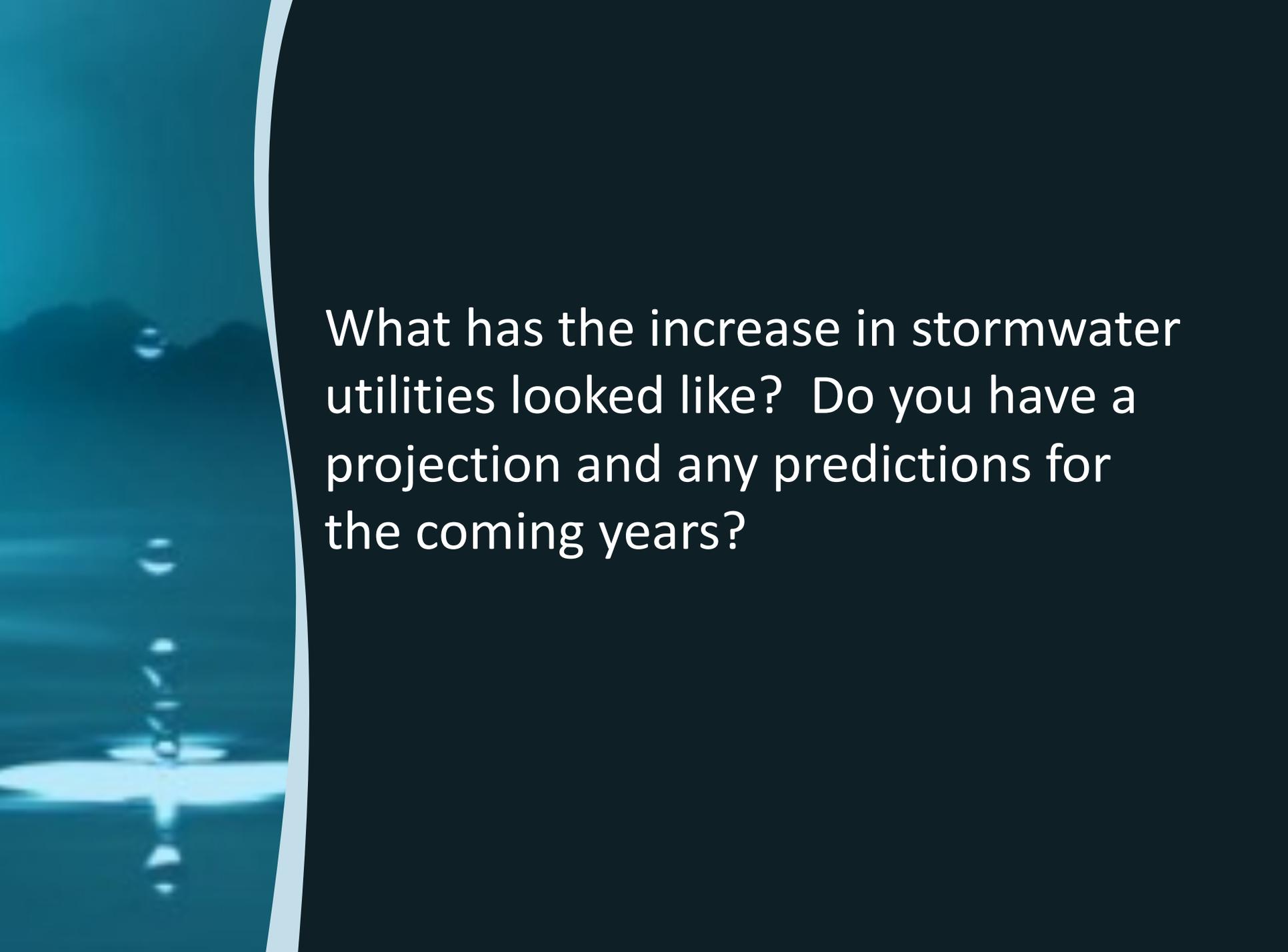
500,001 - 1,000,000

1,000,001 - 10,000,000

# Fee Amount

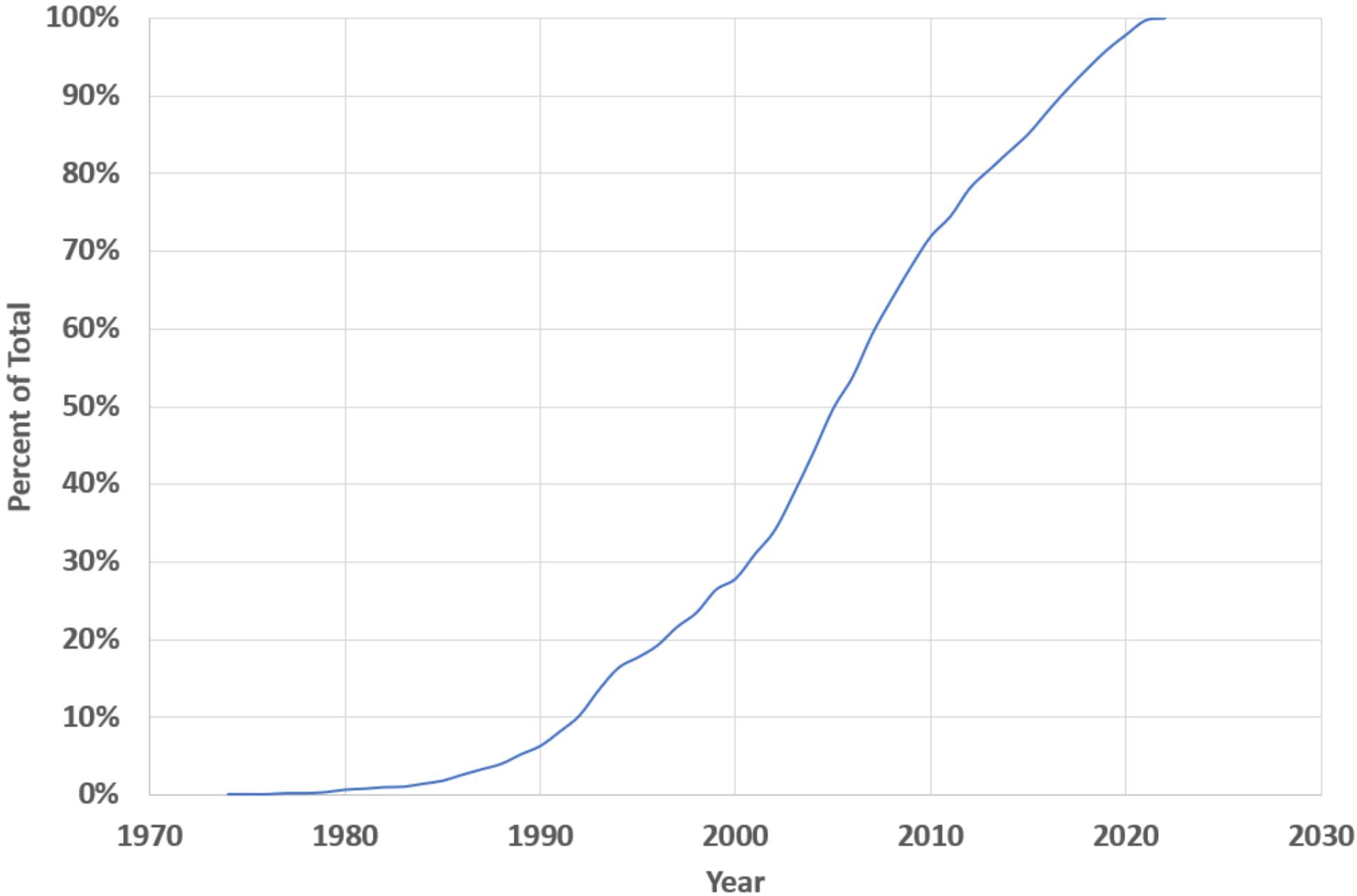


■ \$0 - \$1   ■ \$1.01 - \$2   ■ \$2.01 - \$5   ■ \$5.01 - \$10   ■ \$10.01 - \$20   ■ \$20.01 - \$50



What has the increase in stormwater utilities looked like? Do you have a projection and any predictions for the coming years?

# SWUs by Year



# Forecast

Current database – 2057

Could have easily gotten to 2100

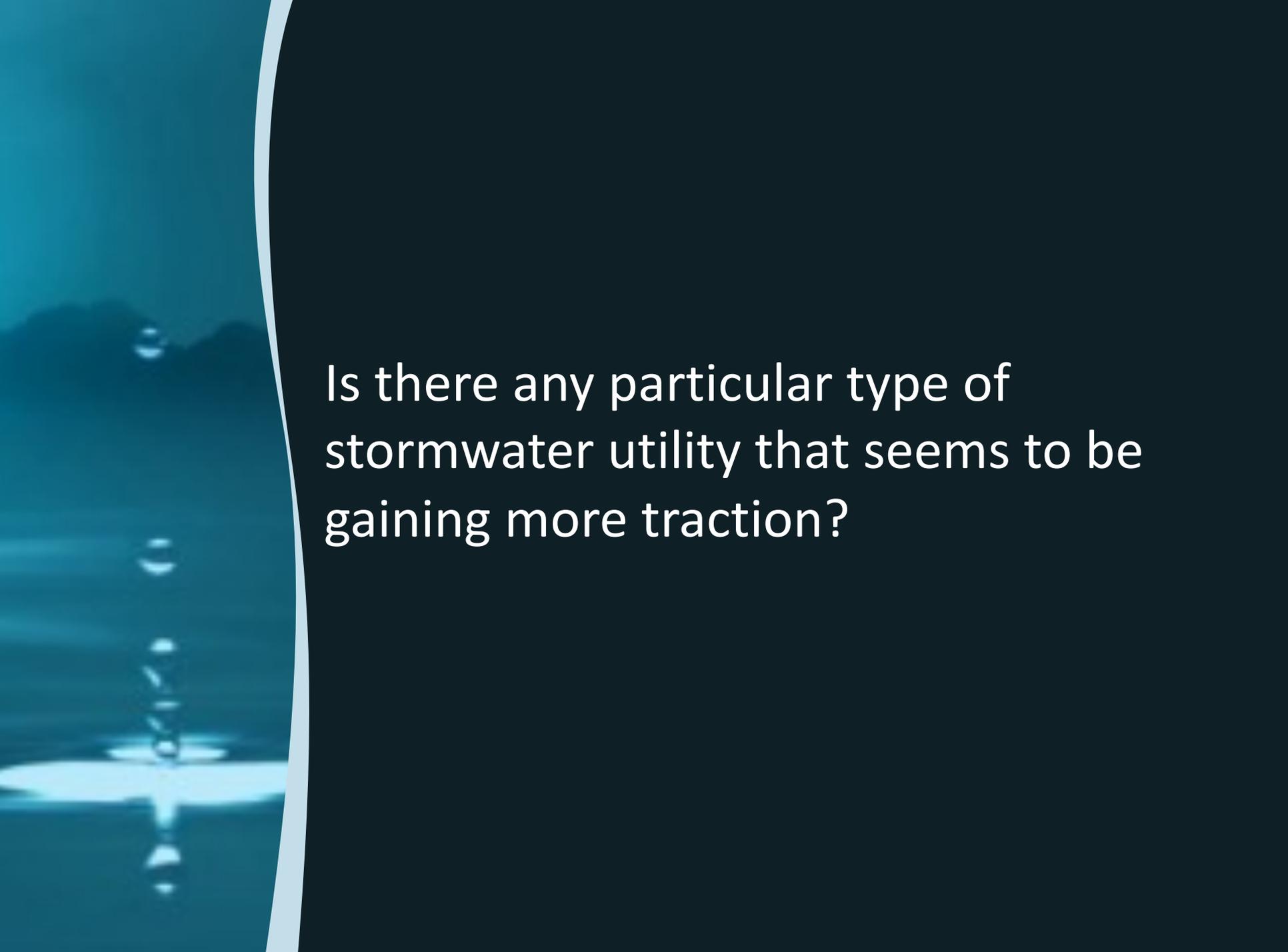
High confidence on 2500

Good chance there are 3000 U.S. SWUs

Formation strongly affected by regulatory and political environment

If some flood-prone states get their 1<sup>st</sup> SWU, rate could increase

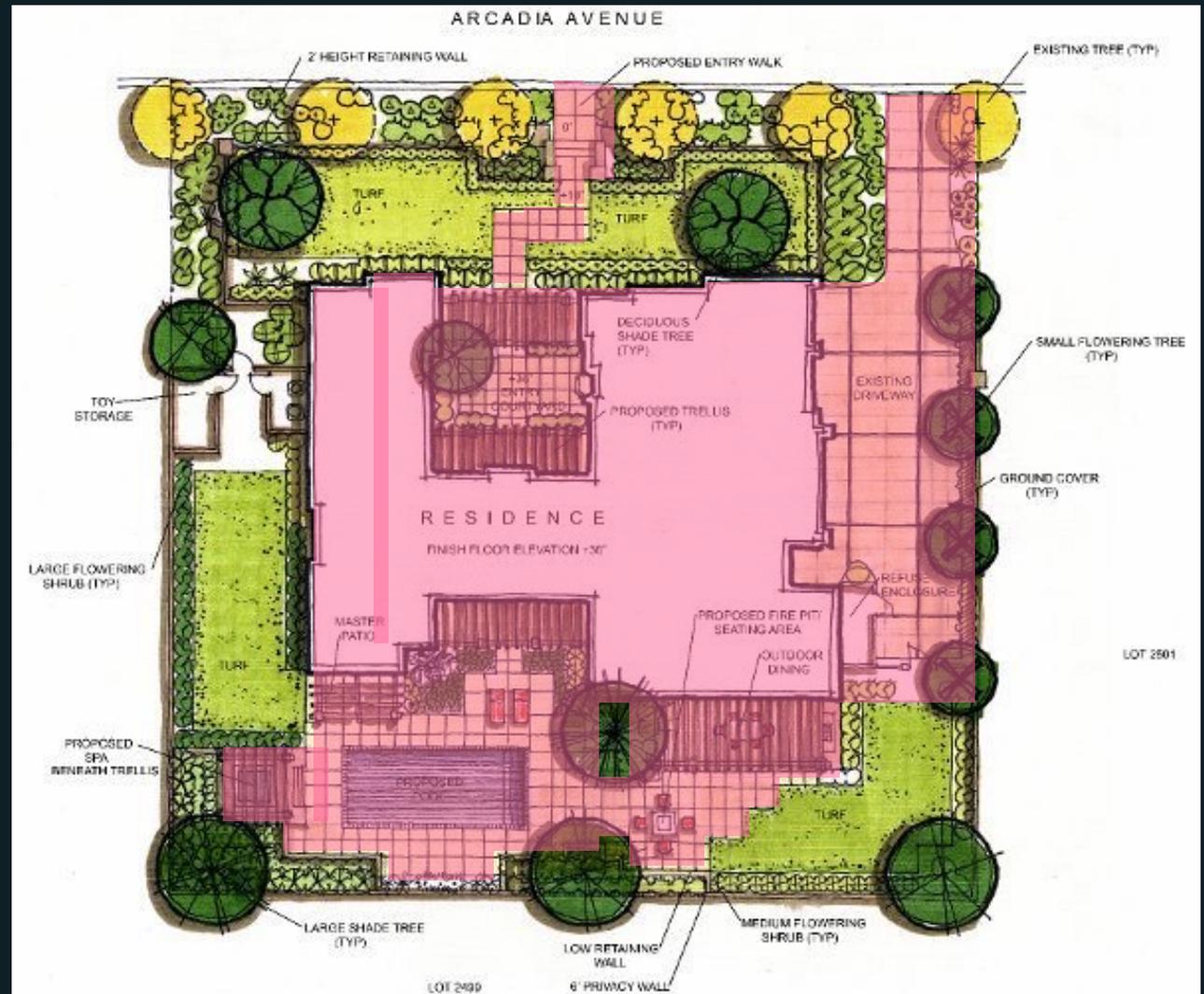
Failing this, I see a gradual tapering off from the 2020 - 2021 rate of around 30 per year.



Is there any particular type of stormwater utility that seems to be gaining more traction?

# ERU

Image Source: Creative Commons



SCHEMATIC LANDSCAPE PLAN



# REF

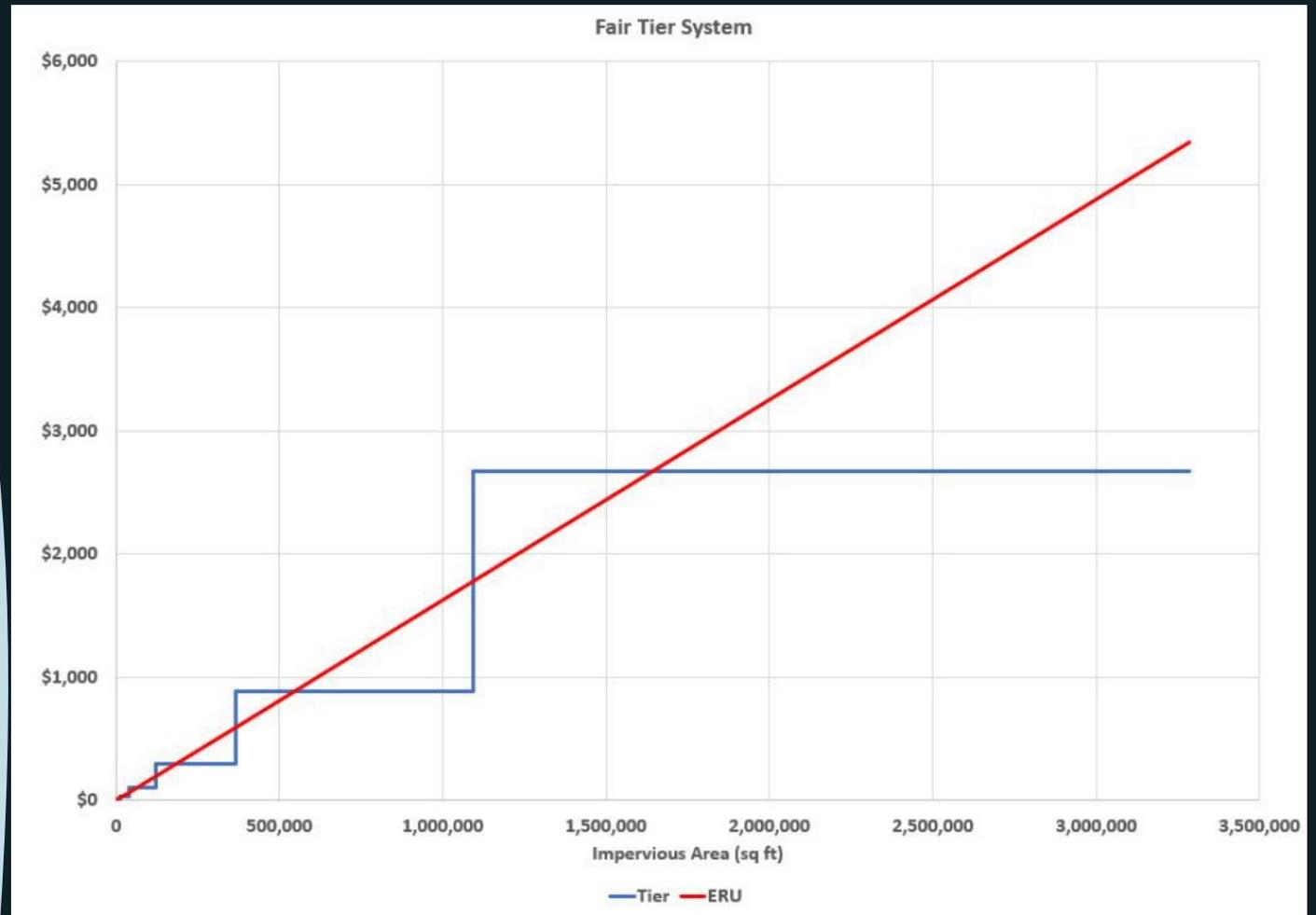
## Choose

- Soil type
- Standard storm

## Calculate

- Runoff per acre of single-family residential parcel
- Runoff per acre for non-residential parcels
- Ratio of the two
- Fee = base fee x ratio x parcel size in acres

# Tier System



# Types of Fees

Equivalent Residential Unit (ERU)

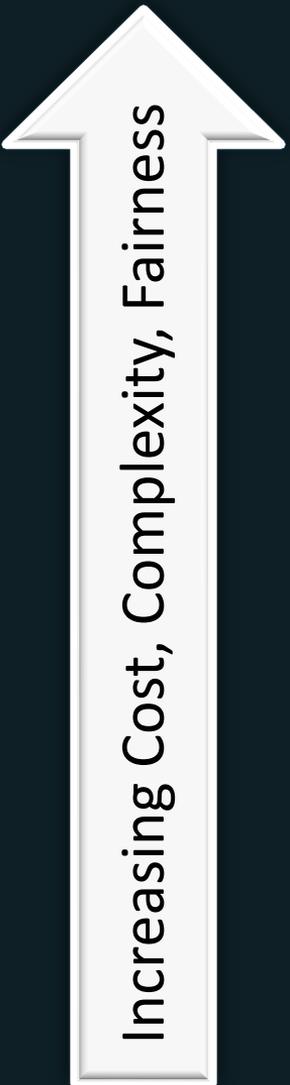
Residential Equivalent Factor (REF)

Tier

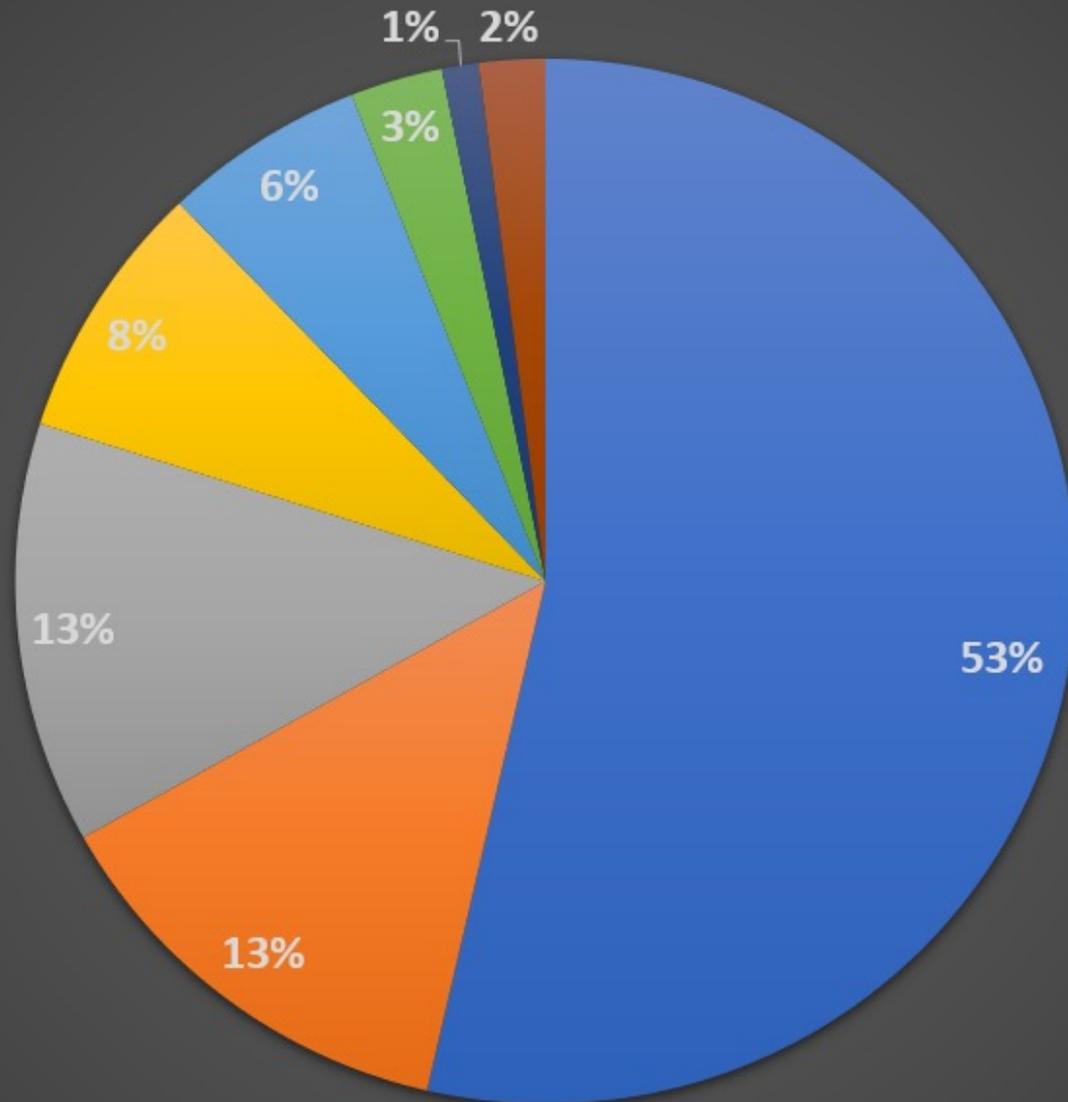
Dual

Flat

Increasing Cost, Complexity, Fairness

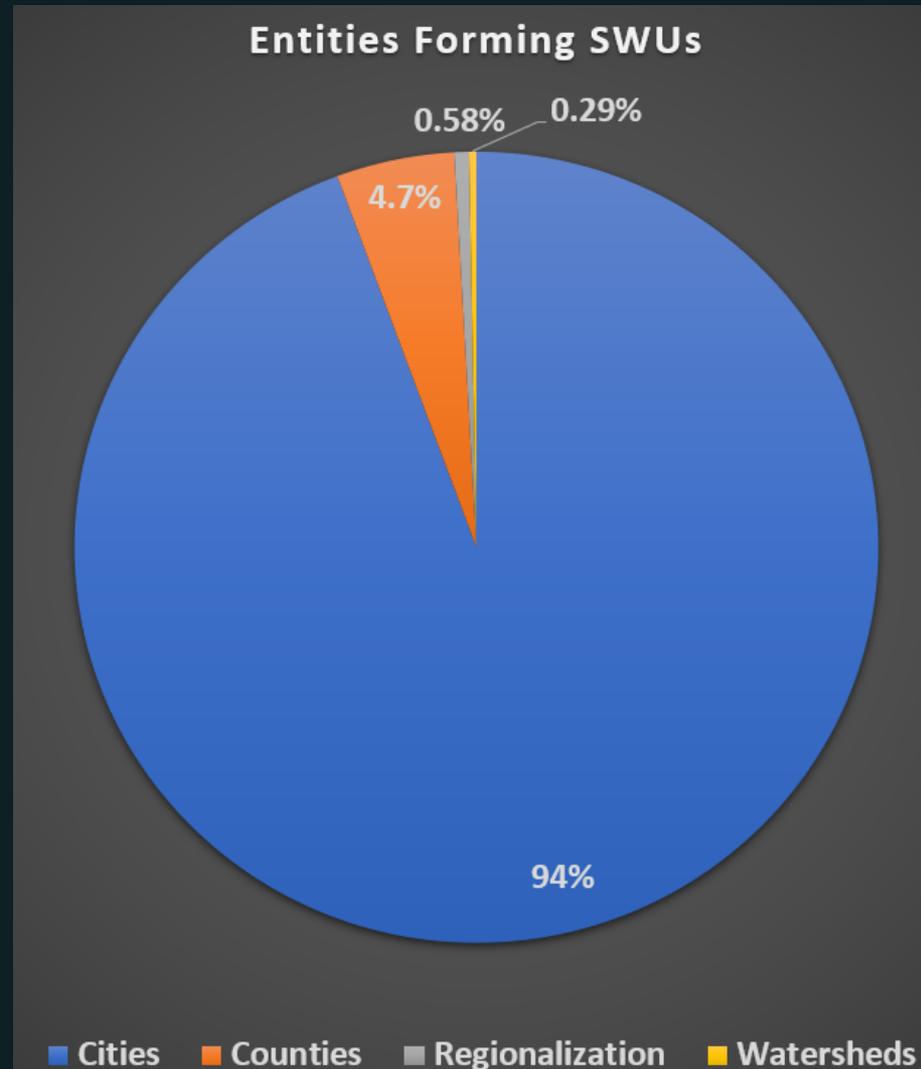


# Fee Type



■ ERU ■ Flat ■ Tier ■ REF ■ Dual ■ Impervious Area ■ Land Use ■ Other

Do you see more individual municipalities with SWUs or more regionalization?



# Are there any causative factors?

Regulatory Environment

Major Floods

Legislation  
CA Prop 218

Covid 19

Lack of Clear Statutory Authority

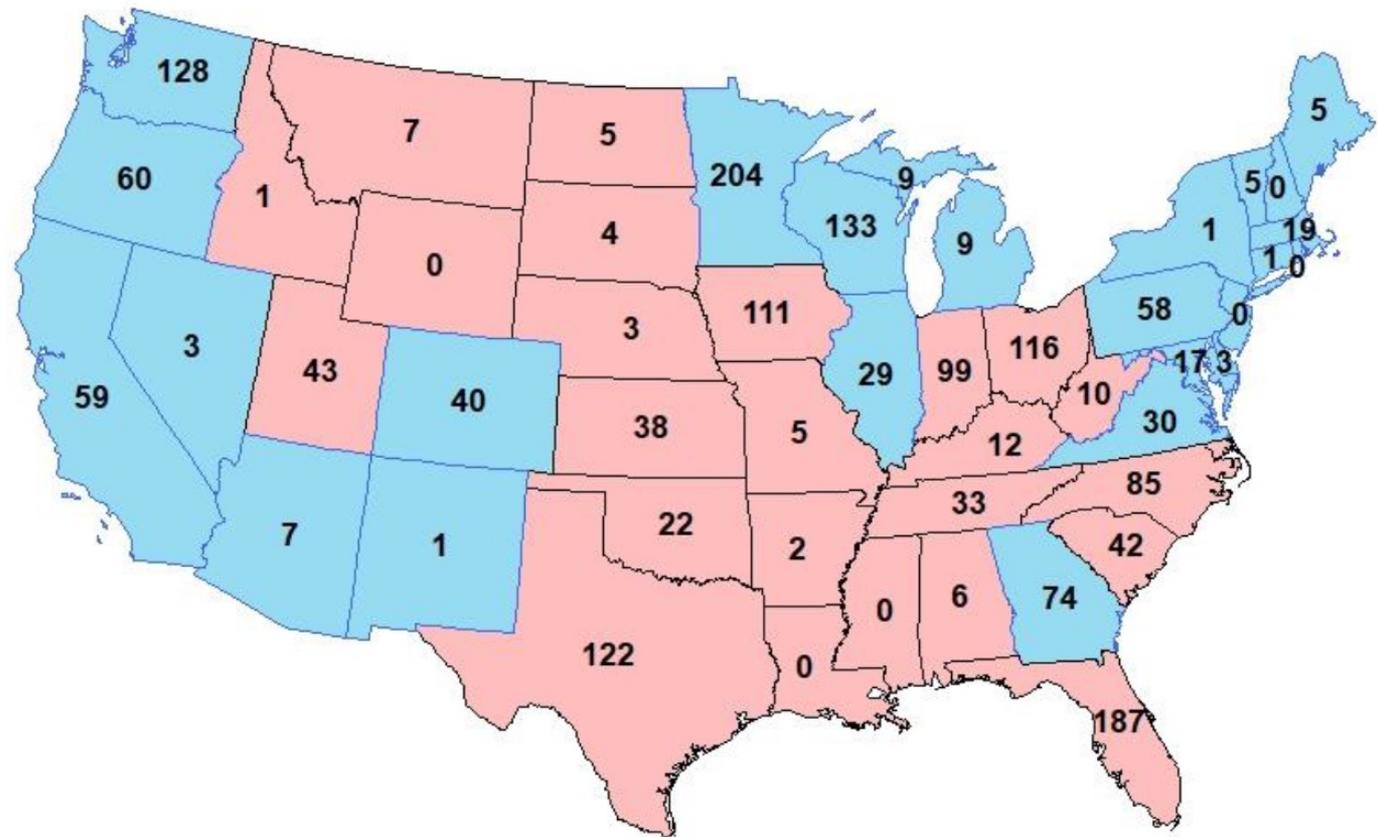
# Surprising Non-Factors

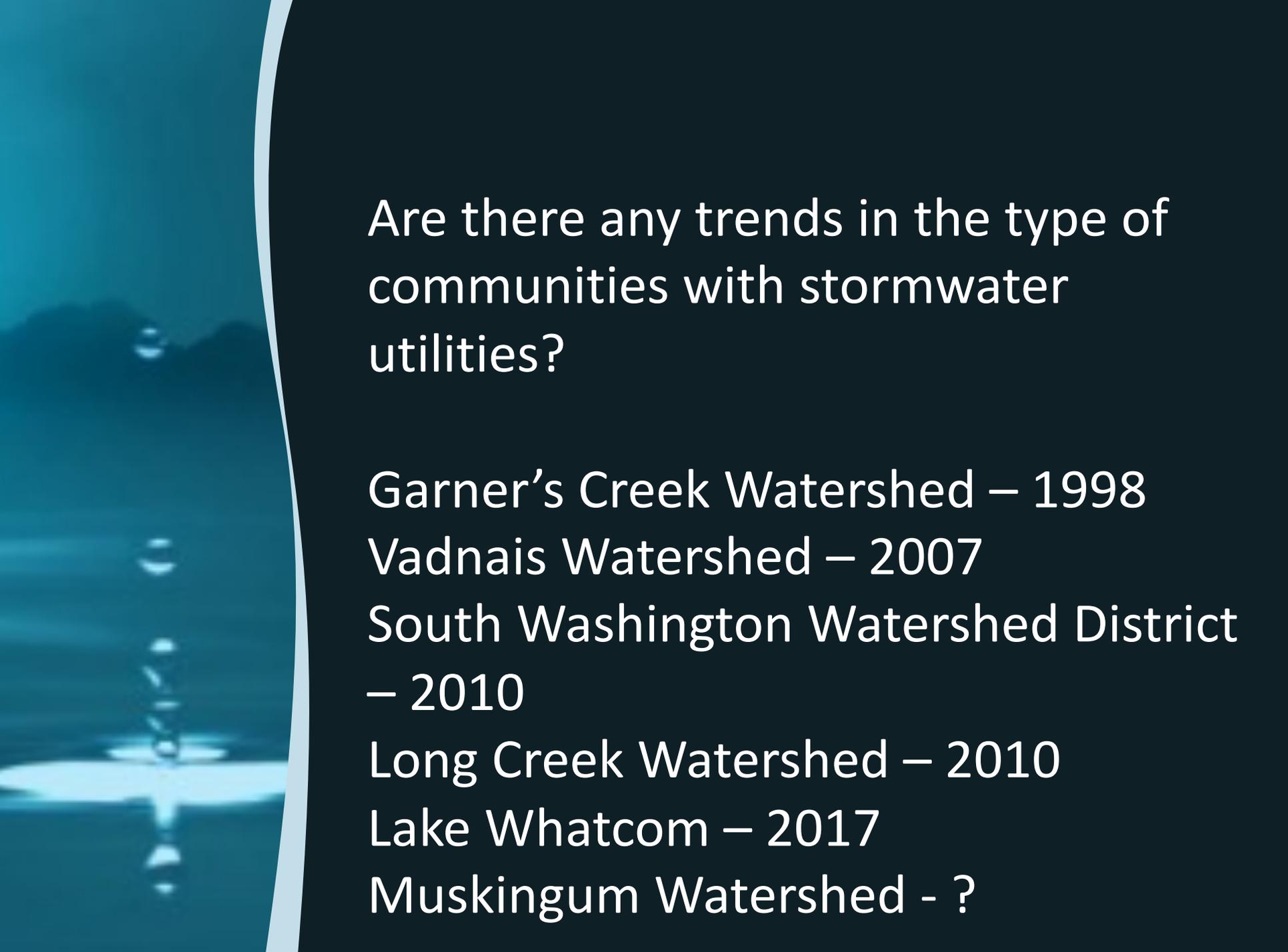
NJ and CT Enabling Legislation

Politics

# Surprising Non-Factors

Stormwater Utilities by State and 2020 Election





Are there any trends in the type of communities with stormwater utilities?

Garner's Creek Watershed – 1998

Vadnais Watershed – 2007

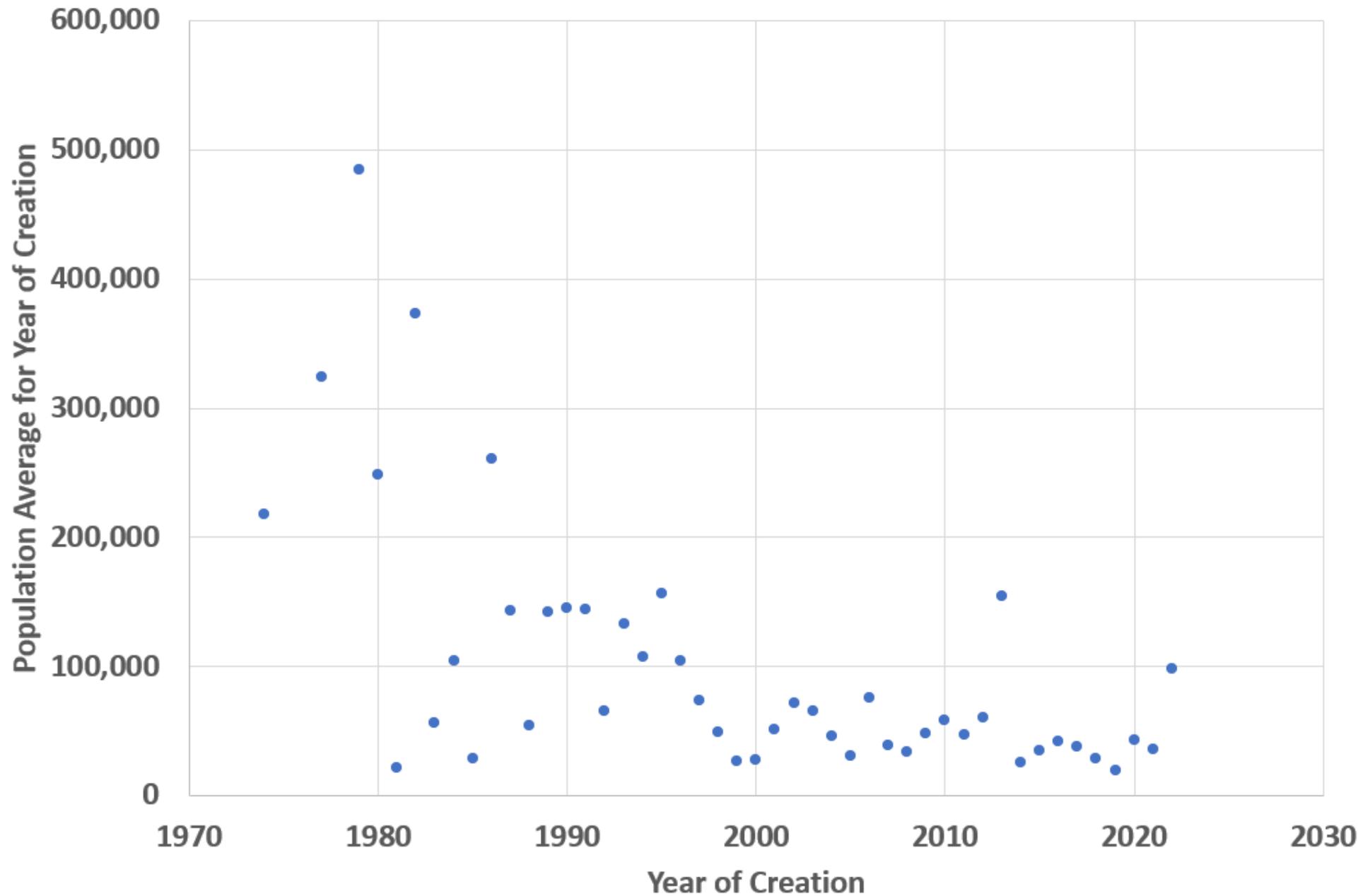
South Washington Watershed District  
– 2010

Long Creek Watershed – 2010

Lake Whatcom – 2017

Muskingum Watershed - ?

# Population Average Versus Year of Creation



# Other Trends

In a state, after one SWU forms, others begin to form often in geographic proximity to the 1<sup>st</sup>.

Rate of formation varies from state to state.

Examples: Philadelphia - 2011, at least 59 in PA.  
Louisville – 1987, only 15 in KY today.



Have you seen any trends with fee increases over the years?

Most increase with inflation.

A few fees are decreased.

KY Sanitation District 1 went from \$5.04 in 2020 to \$4.94 in 2021

A few are tied to the CPI.

Some ordinances show fee amounts over a period of years.

Most do not keep up with inflation.

# Interested in forming a SWU?

Hire an experienced company to do it.

No money? Begin with flat fee or 3000 sq ft ERU

Put some teeth into your ordinance.

~~Take to court~~

~~Lien on property~~

Turn off water and power



Mount a multimedia campaign – rule of thumb – 1 year.

# Who will oppose SWUs?

About 1 out of 177 SWUs will be repealed.

Who Opposes?

Churches

Airport Authorities

Railroads

School districts

Opportunistic politicians

Residents

# Questions?

Warren Campbell  
School of Engineering and Applied Sciences  
Western Kentucky University  
1906 College Heights Blvd.  
Bowling Green, KY 42101

[warren.campbell@wku.edu](mailto:warren.campbell@wku.edu)

[https://digitalcommons.wku.edu/cgi/viewcontent.cgi?article=1003&context=seas\\_faculty\\_pubs](https://digitalcommons.wku.edu/cgi/viewcontent.cgi?article=1003&context=seas_faculty_pubs)

<https://www.wku.edu/seas/undergradprogramdescription/stormwaterutilitysurvey.php>