



**GREAT BEER  
GREAT  
RESPONSIBILITY**

<https://www.millercoors.com/sustainability>

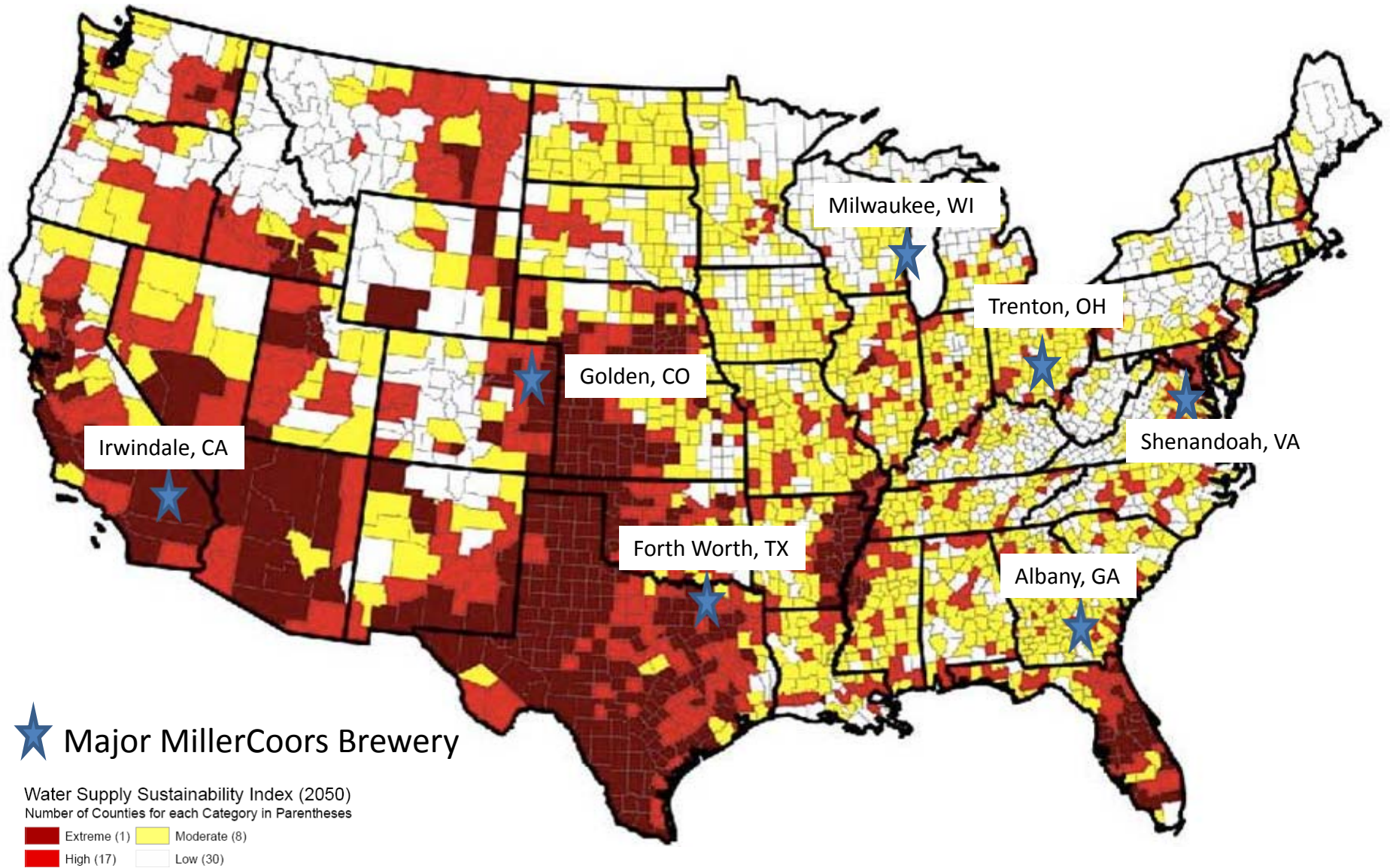


# Global Footprint





# 2050 Water Supply Projections



**No Water..... No Beer**



A photograph of a vast field of golden wheat under a bright blue sky with scattered white clouds. The wheat stalks are in sharp focus in the foreground, showing their intricate structure and golden-brown color. The field extends to the horizon, creating a sense of depth and scale. The overall scene is bright and clear, suggesting a sunny day.

**Water Footprint.  
90% in Agricultural  
Supply Chain.**

# Brewery Water Sources

- Golden, Shenandoah, and Irwindale- combination of ground and surface water
- Trenton and Albany- ground water
- Milwaukee and Fort Worth- surface water



Lake Michigan



# Brewery Water Opportunities

## Trenton

- incoming ground water chloride issue

## Fort Worth

- Biomass/slime
- High bacteria count  
UV technology



Fort Worth Water treatment

# Brewery Wastewater Treatment

- Golden and Shenandoah  
- treat both process and domestic wastewater
- Irwindale and Fort Worth  
– Anaerobic Pretreatment
- Trenton and Albany  
- Aerobic treatment
- Milwaukee- No treatment  
send to MMSD



Shenandoah wastewater treatment



# Brewery Wastewater Opportunities

High COD Loading

Beer, yeast, dextrose, sucrose,  
flavorings

pH Swings

From beer to sodium hydroxide

TSS

Diatomaceous earth as filter aid



Fort Worth wastewater treatment

# Brewery Wastewater Opportunities

- Nutrients
  - Phosphorus
  - Ammonia
  - Nitrogen
- Source reduction upstream
- Discharge Temperature limits
- Bio solids-odor



Fort Worth wastewater treatment



# Brewery Wastewater Opportunities

Biogas – Hydrogen sulfide and SO<sub>2</sub>

Rocky Mountain Bottle Plant

- Oil and Grease

Rocky Mountain Can Plant

- Fluoride

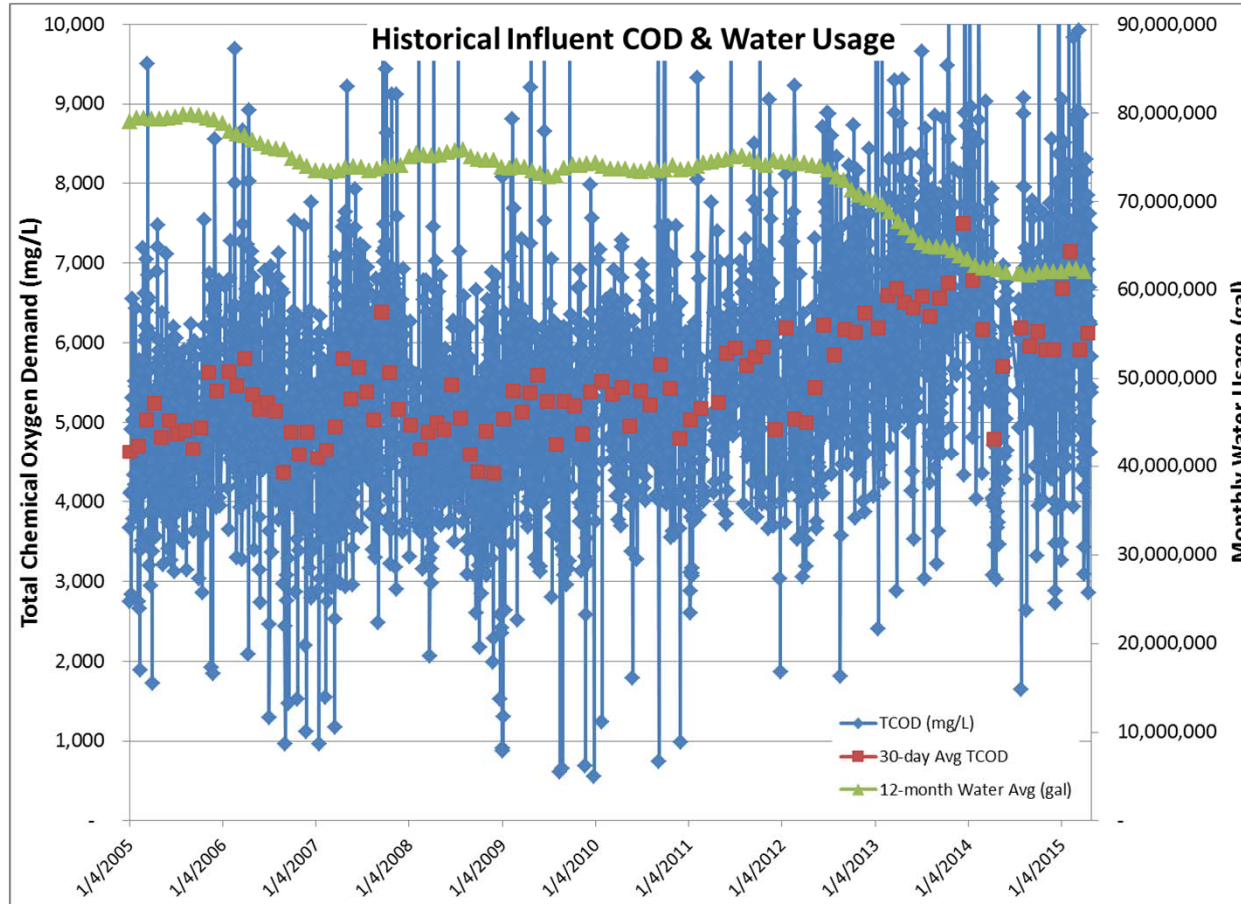
Golden and Shenandoah

- E.coli



Albany clarifier

# Brewery Wastewater Opportunities



With Sustainability Efforts of reducing our water usage

- Influent COD concentration has increased





**MillerCoors<sup>®</sup>**

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Our  
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