

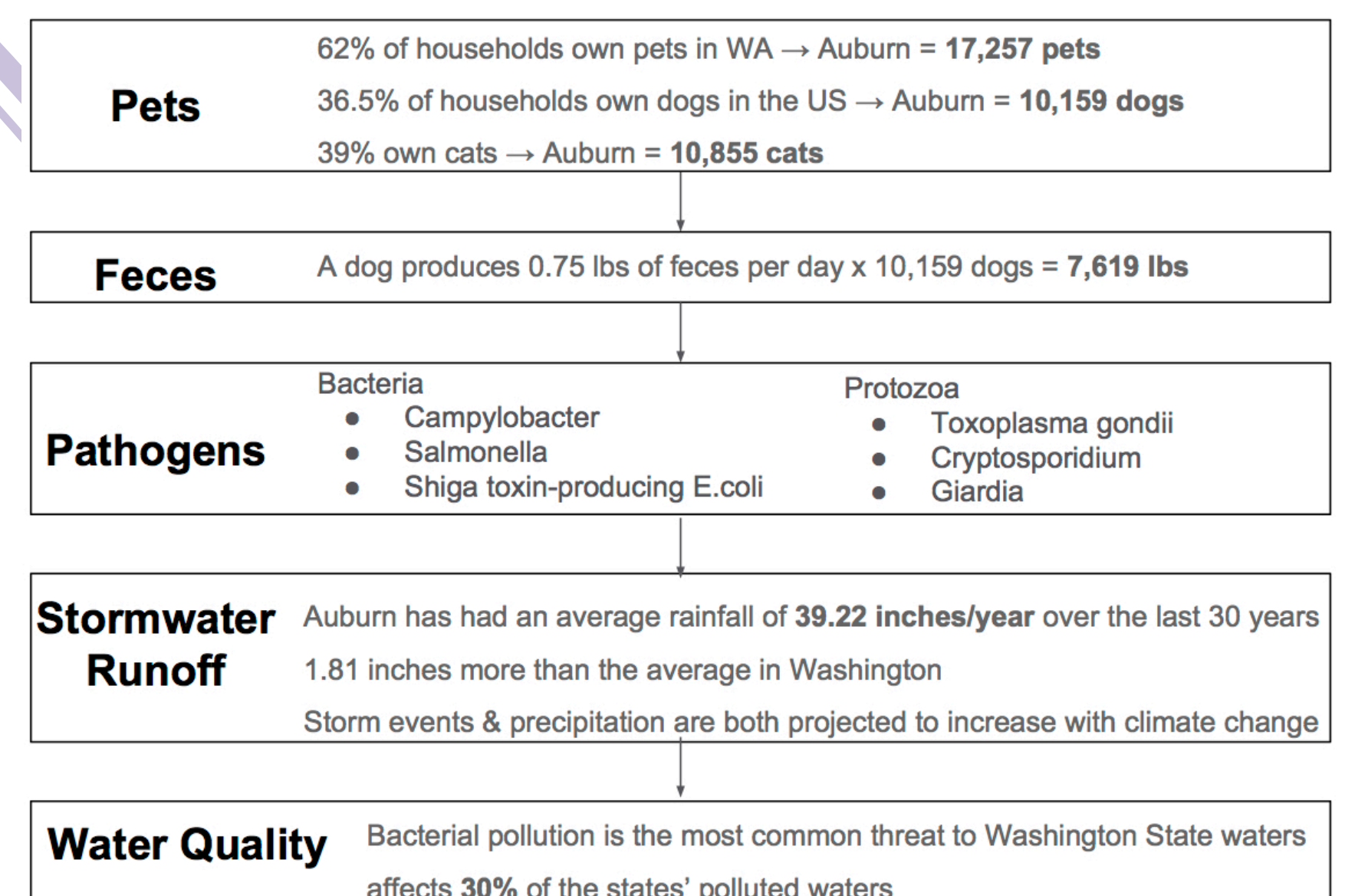
W LIVABLE CITY YEAR

City of Auburn

PET WASTE AND WATER QUALITY

Executive Summary

Bacterial pollution is a significant issue concerning water quality impairment in the state of Washington. Recently, pet waste as nonpoint source of pollution (i.e. of diffuse origin) has received attention as a potentially significant contributor to bacterial pollution in water bodies, especially those in urban areas. Pet feces carry many pathogens, which can cause illness in humans and animals; as well as being high in nutrient content, which leads to eutrophication of water bodies. Our project was undertaken to characterize the issue of pet waste and water quality in the City of Auburn.

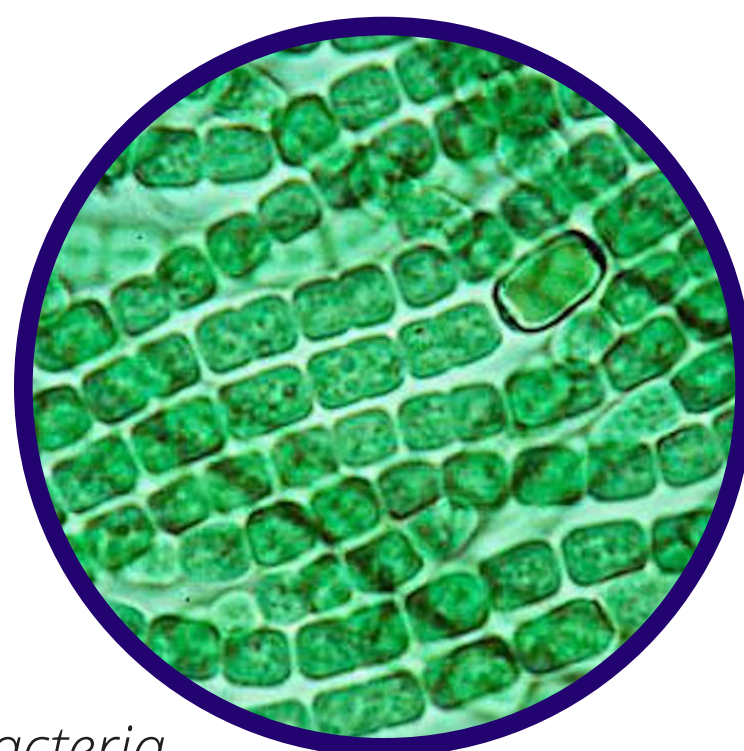


Areas of Focus

Our research focused on the health effects of pet waste and possible remediation efforts:

Surveillance:

- Microbial Source Tracking (MST)



Cyanobacteria
Credit: Dwight Kuhn

Structural Strategies:

- Low Impact Development (LID)
- Composting
- Riparian buffers
- Urban planning - monitor dog park proximity to water
- Dog bag and garbage stations

Behavioral Change Strategies:

- Education
- Increased awareness
- Enforcement

Environment

- Eutrophication
- Deterioration of water quality
- Reservoirs pass infection to humans

Animal

- Pathogens lead to illness
- Reservoirs pass infection to humans

Human

- Pathogens lead to illness
- Medical Costs



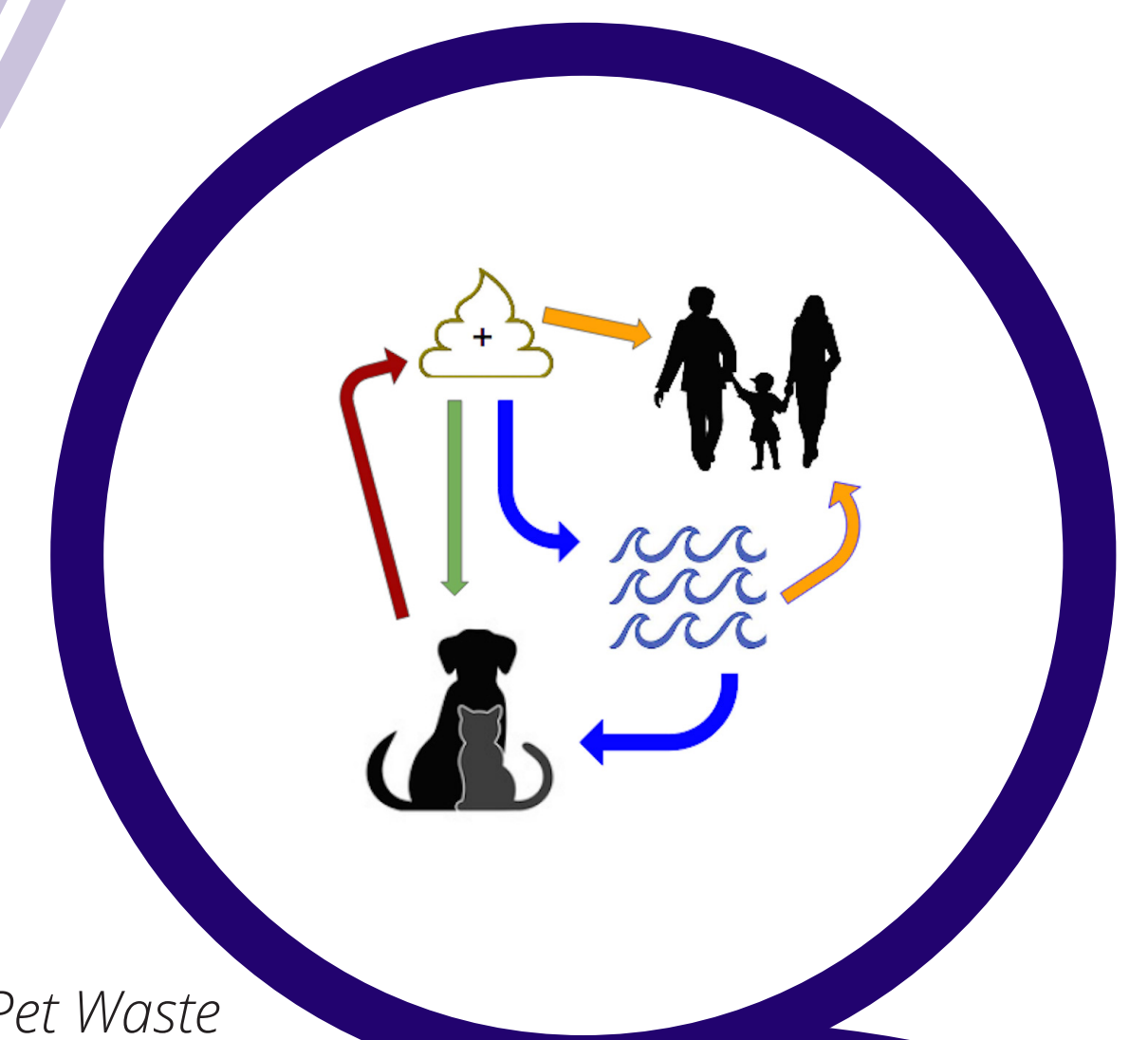
Medical Costs
Credit: CBS News



E. Coli
Credit: CDC

Pathogens of Greatest Concern

- *Campylobacter spp.* (bacteria)
- *Salmonella spp.* (bacteria)
- Shiga toxin-producing *Escherichia coli* (bacteria)
- *Toxoplasma gondii* (protozoa)
- *Cryptosporidium spp.* (protozoa)
- *Giardia spp.* (protozoa)



Cycle of Pet Waste
Credit: Joanna Harrison

Conclusions

Pet waste can cause a variety of problems for humans, animals, and the environment that we live in by causing anything from unpleasing aesthetics to illness. Pet waste also carries a variety of different types of pathogens, some of which are found in King and Pierce Counties. Remediation strategies can target different aspects of the issue, including educating the public, acquiring water contamination data, and providing materials

necessary for successful reduction of pet waste. The long-term goal would be for the community and individuals to understand the consequences of not picking up their pet waste and correct their behaviors as needed; however, remediation efforts will need to occur at the municipal level to continuously meet acceptable water quality criteria standards.

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