WASTEWATER EXFILTRATION and RELATED ISSUES

Is wastewater exfiltration a source of bacteria in storm drain systems and waterways?

For years the stormwater quality community has struggled with controlling water quality in California’s creeks, lagoons, bays and coastal waters. A common issue for water quality is bacteria, including fecal bacteria from human sources. Water Quality Improvement Plans and other water quality studies throughout California frequently cite sanitary sewer exfiltration as a source. In the summer of 2018 the San Diego Regional Water Quality Control Board (RWQCB) released a draft tentative investigative order that would require stakeholders to identify and quantify the sources and transport pathways of human fecal material into the San Diego River watershed. The tentative investigative order identifies sewer exfiltration as a source of human fecal material in the San Diego river watershed and requires the stakeholders to provide the San Diego Water Board with an estimation of the exfiltration of wastewater from the sanitary sewer collection system to the San Diego River Watershed. This directive is alarming to collection system owners since there are so many other sources of human fecal material such as homeless encampments, illegal dumping or illicit connections.

Do sewers really leak?

There have been a few studies to attempt to quantify exfiltration. The conclusion, more research is needed.

- Exfiltration definition, not a hole or a break
- Some pipe materials may be more prone to the potential of exfiltration
- Wastewater’s natural crack sealing properties
- Issues with sewer laterals (upper, lower, private, public)

What is the transport and fate of wastewater from exfiltration?

If exfiltration actually does occur there are several factors that influence the effects in the watershed.

- Soil types
- Groundwater level
- Adjacent infrastructure
- Natural treatment mechanisms
- Issues with tracers such as potassium bromide

Human fecal matter indicators

There are tests that link bacteria to a human source, are they reliable?

- Current: HF 183, does not indicate viability
- Future: Microbial Communities
City/county versus special district responsibilities, money and politics

Most watersheds have a complicated patchwork of public and private entities that effect water quality.

- Who has Municipal Separate Storm Sewer System (MS4) responsibilities?
- MS4 water quality requirements do not have a good funding source
- Who has sewer lateral responsibilities?
- Who has septic system responsibilities?
- Homeless contributions could be significant, this gets political fast.

Next steps

The statewide implications of an Investigative Order on sewer exfiltration could be significant. What are our next steps?

- Education and outreach. To whom?
- Studies and investigations. Who will fund? Which systems?
- Massive collection system rehabilitation and replacement. What if collection systems are not a source of bacteria in the watershed?
- How can we collaborate with the regulators, scientists, stormwater community special interest groups?