

San Diego River Investigative Order:

**Quantifying Sources of
Human Fecal Pollution
in the
Lower San Diego River Watershed**

Presentation to the SCCWRP Commission

07 June 2024

Background and Rational for the IO

- Fecal indicator bacteria frequently exceed water quality objectives
- Epidemiology study quantified an increased risk of illness in surfers during wet weather compared to not entering the ocean
- Quantified HF183 and human pathogens consistently in wet weather runoff from the SD River discharge to the ocean
- Cost Benefit Study identified that controlling human fecal sources was the most efficient way to reduce public health risk

The IO

- Names the sources
 - Illicit connections and Illegal discharges (IC/ID)
 - Public or Private Sanitary Sewer Overflows (SSOs)
 - Public or Private Sewer Exfiltration
 - Onsite Wastewater Treatment Systems (OWTS) or aka “septic systems”
 - Direct or Indirect inputs from People Experiencing Homelessness
- Names the products and timelines
 - Workplan, QA Plan, Conceptual Model, Progress Reports, Final Report
- Silent on approach or methods

Study Questions from Approved Workplan

1. What is the watershed load of fecal pollution from each human source in the SDR watershed?
2. How does the watershed load of fecal pollution compare among the different human fecal sources in the SDR watershed?

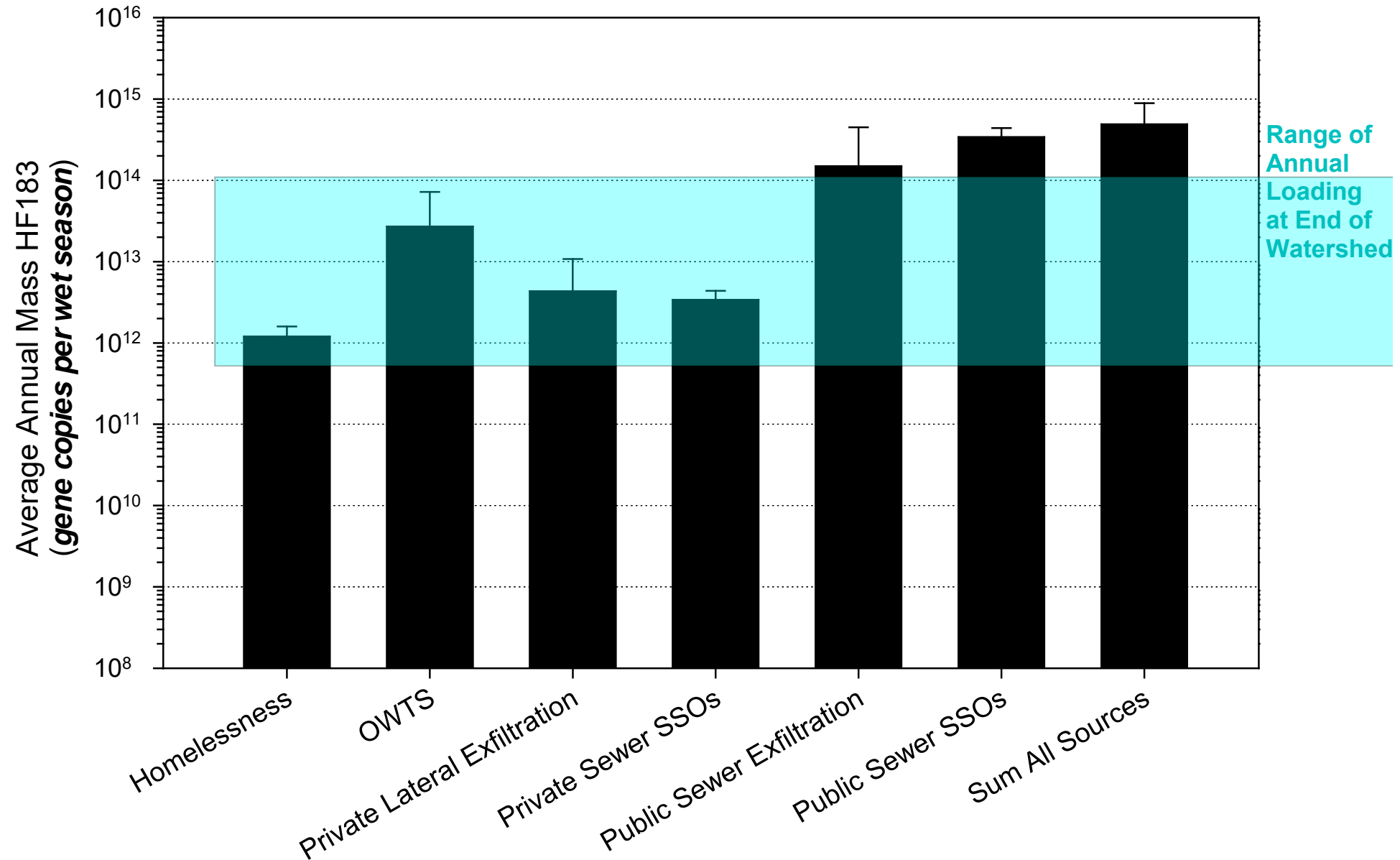
Guiding Philosophies

- HF183 is the “currency” for human fecal loading
- Average annual watershed-wide loading to capture all sources
- Invest in quantifying uncertainty as well as average loads
- What the study does not do:
 - Does not identify hot spots or conduct site-specific source tracking
 - Does not quantify health risk

It's Taken Us 5 Years to Get Here

- Quantifying each source was a research project unto itself
 - Some more than one project
- Steering Committee has been involved every step of the way
 - Named parties developed good communication and trust
- Technical Review Committee has been crucial to success
 - ensuring scientific robustness and objectivity

Comparison of Annual Wet Season HF183 Mass Emissions



Limitations/Recommendations

- Public sewer exfiltration measurements and subsurface transport
 - Used a prototype sampler
 - How exfiltrated volume gets mobilized to surface waters during wet weather
- Highly variable nature of wet weather SSOs
 - Interpreting low frequency but large volume spills
- Representativeness of sampled OWTS catchments
 - Actual number and location of faulty systems is not known

What's Left To Do?

- Technical work to satisfy the IO is virtually complete, due June 12th
 - Synthesis Report approved by Technical Review Committee
 - Synthesis Report approved by Steering Committee
- SCCWRP has been conducting outreach to non-participants who might be affected
 - CASA, So Cal Clean Water, CASQA
- A Management Response Report is due at the same time
 - Focused on the effectiveness of current programs for controlling each source
 - Not a SCCWRP product