Previously....

- King County’s NPDES permit requirements
- Area of work (White River)
- Approach, screening of stormwater system
  - Rationale
  - Emphasis on OSS
  - Examples of problems found, 2019-2020
- Approach, sampling of watercourses on Enumclaw plateau
  - Rationale
  - Results
Today

• Results, last wet season’s MS4 screening

• Recent WQ complaint investigations

• *E. coli* in watercourses of Enumclaw plateau – revisit

• Plans for this wet season
Acknowledgements

• Meagan Jackson and colleagues (Public Health - Seattle/KC)

• Eric Palmer, City of Enumclaw

• Michael Isensee, WSDA
Looking east from 268th Ave SE
Sewage smell

E. coli = 45000 cfu/100 mL

Hu-2, Hu-3 not detected
Graphic already shared 3/15/21

Geometric mean E. coli, Enumclaw Plateau
- >1000 cfu/100 mL
- 500-1000 cfu/100 mL
- 100-500 cfu/100 mL
- < 100 cfu/100 mL

Legend:
- White River
- Large creek
- Other watercourse
- Incorporated areas
- King County/Pierce County border
- White River watershed (KC only)
- Muckleshoot tribal reservation

1 Miles
Additional sampling events:
3/23/21
4/14/21
5/26/21
Sampling of White River watercourses

- High or very high geomeans at most watercourses
- Low geomeans at “reference” creeks
  - Each reference site with at least one result > 320 cfu/100 mL
- Hydrologic influences
  - Highest results in storms; the earlier in the wet season, more EC seen
- Rum/Cow > Human
  - Sites with highest geomeans (> 1000 cfu/100 mL) have strong evidence of presence of ruminant or cow waste (MST markers, visual evidence), weak evidence of human waste
Dashed line is approximate boundary of area draining to GLO-73514, drawn using LiDAR and stormwater asset data.

Both cattle and horses are prominent in area.

Sampling site GLO-73514 is outside of 24" concrete culvert passing underneath Mud Mountain Rd. Watercourse dries up June & Sept.

Unnamed tributary to White River

MUD MOUNTAIN RD

1,000 ft

1 Feet

SE MUD MOUNTAIN RD

280th Ave SE

252nd Ave SE

CLO-73514
Sampling site CLO-73514

Looking west. Mud Mountain Road on left of photo.
• Watercourse flows ~ late October to early June
• n = 14 (last two wet seasons)
• Geomean $EC = 1071$ cfu/100 mL
• 9 of 14 results: $EC > 320$ cfu/100 mL
• Hu-2: not detected in 7 of 7 samples analyzed
• Rum-2: detected in 6 of 7 samples analyzed
  • in 4 of 7, Rum-2 > “screening threshold”
• Cow-3: at high level in 1 of 6 samples analyzed
  • in 5 of 6, Cow-2 not detected; inhibitors detected in two samples
  • analyses on two samples pending
Upcoming wet season

• Screen MS4 for bacteria sources (described above)
  • Second Creek sites (Pussyfoot?)
  • Follow up on previous concerns

• Streams/watercourses:
  • Drop smaller watercourses from inclusion in standard round ($)  
  • Drop reference creeks; add upper Boise site as reference
  • Roughly seven events, ~once a month from Oct/Nov-April/May
  • Add “stream” sites in upper Second Creek basin (Ecology)