South Fork Palouse River Bacteria TMDL Updates

- Colfax bacteria source location
- Daily load estimates

Colfax Bacteria Source Location

- Colfax has performed preliminary sampling
  - Locations in Spring Flat Creek
  - Indicated high counts but loads unknown
- Requested assistance from Environmental Assessment Program to sample to locate potential sources
  - Will sample several locations in the SFPR, Spring Flat Creek and several storm outfalls that discharge year round.
  - Sample August and September (TMDL loads consistent year round)
  - Will collect flows so loads can be calculated for comparison
  - Colfax WWTP lab will process samples

Typical outfall

Sump pump under courthouse and jail

Outfall from stream/ditch along Hwy 272

Suspicious drain under Courtyard Apartments

Natural drainage + stormwater outfall to Spring Flat Creek

Daily Load Estimates

- EPA requires a “daily load” in all TMDLs
- For a concentration based standard a daily load presents some complications
  - The loading capacity is dependant on flow
  - Higher flows can have higher daily loads
  - Lower flows require lower daily loads
- For the TMDL we used the average seasonal load to calculate the daily load
- Several tables in the report were changed to include the daily loads

Table 24. Load allocations expressed as target percent reductions and loading capacity for sites on the SF Palouse River and its tributaries.

Station ID	Dry season target % reduction	Wet season target % reduction	Loading capacity (cfu/day) based on average seasonal flow	
			Dry season	Wet season
South Fork Palouse River and tributary mouths				
34SFPR33.8	86%	41%[1]	4.3E+09	1.4E+11
34SFPR31.3	0%	0%[2]	2.7E+09	1.6E+11
34SFPR26.6	0%	61%	5.5E+09	1.7E+11
34Stal00.1	80%	87%	8.6E+08	1.6E+10
34Sun00.0	0%	6%	3.8E+06	3.2E+09
34SFPR24.7	0%	70%	8.5E+09	1.9E+11
34SFPR24.3	40%	53%	7.6E+09	1.9E+11
34Para00.1	59%	37%	1.7E+10	1.1E+11
34SFPR23.6	83%	55%	2.9E+10	3.2E+11
34SFPR22.9	84%	58%	2.9E+10	3.2E+11
34Dry00.0	89%	91%	9.5E+08	1.6E+10
34SFPR22.8	86%	39%	3.0E+10	3.4E+11
34Miss00.1	81%	62%	2.7E+09	7.2E+10
34SFPR22.0	68%	40%	3.1E+10	4.2E+11
34PullPOTW	15%[3]	0%	see permit limits	see permit limits
34HADL00.0	NC	50%	NC	1.8E+09
34SFPR21.5	49%	63%	5.6E+10	4.5E+11
34SFPR19.2	56%	54%	5.6E+10	4.5E+11
34UnkSFPR(17.3)	0%	0%	1.5E+08	5.5E+09
34SFPR15.8	33%	35%	5.7E+10	4.6E+11
34AlbPOTW	NC	0%	see permit limits	see permit limits
34SFPR11.5	48%	64%	5.9E+10	4.7E+11
34Four00.3	43%	4%	6.1E+09	1.3E+11
34Parv00.1	0%	0%	6.3E+07	4.2E+09
34SFPR09.2	0%	55%	6.9E+10	6.5E+11
34SFPR05.4	0%[2]	0%[2]	7.1E+10	6.6E+11
34SFPR01.2	0%	0%	7.4E+10	6.7E+11
34Spri00.5	0%	66%	7.0E+08	2.0E+10
34SFPR00.1	96%	83%	7.6E+10	6.9E+11

Shaded cells are estimates due to insufficient # of samples.
[1]using the Idaho DEQ TMDL % reduction for wet season
[2]site had too many seasonal high counts
[3]reduction was needed in 2006 dry season to meet permit limit
NC – not calculated due to no measureable flow during season

Table 25. Load allocations expressed as target percent reductions and loading capacity for tributaries to the SF Palouse River.

Station ID	Dry season target % reduction	Wet season target % reduction	Loading capacity (cfu/day) based on average seasonal flow	
			Dry season	Wet season
Staley Creek				
34Stal03.9	14%	64%	1.7E+08	8.4E+09
34Stal00.1	80%	87%	8.6E+08	1.6E+10
Paradise Creek				
34Para06.6	91%	85%	1.4E+10	9.3E+10
34UnkPara(06.3)	NC	0%[1]	NC	6.2E+09
34Para03.8	84%	39%	1.5E+10	9.9E+10
34Air00.0	93%	84%	4.4E+08	9.6E+09
34Para01.1	74%	38%	1.6E+10	1.0E+11
34Para00.1	59%	37%	1.7E+10	1.1E+11
Dry Fork Creek				
34Dry02.2	99%	67%	1.1E+08	8.3E+09
34Dry00.9	14%	7%	4.9E+08	1.3E+10
34Dry00.4	79%	75%	7.6E+08	1.4E+10
34Dry00.0	89%	91%	9.5E+08	1.6E+10
Missouri Flat Creek				
34Miss07.5	0%	56%	2.1E+06	3.6E+10
34Miss03.9	0%	0%	8.7E+08	6.1E+10
34Miss01.7	94%	60%	9.7E+08	6.6E+10
34Miss00.8	80%	38%	1.5E+09	7.1E+10
34Miss00.1	81%	62%	2.7E+09	7.2E+10
Fourmile Creek				
34Rose00.1	0%	0%	3.9E+08	1.8E+10
34Four03.3	91%	66%	4.7E+09	1.0E+11
34Four00.3	43%	4%	6.1E+09	1.3E+11

Shaded cells are estimates due to insufficient # of samples.
[1]site had too many seasonal high counts
NC – not calculated due to no measureable flow during season

Table 28. Wasteload allocations and target FC percent reductions needed to meet the water quality standards for selected stormwater outfalls.

Station ID	Dry season		Wet season		Storm event	
	Target % reduction	Load capacity (cfu/day)	Target % reduction	Load capacity (cfu/day)	Target % reduction	Load capacity (cfu/day)
South Fork Palouse River stormwater outfalls						
34SFPR-SD360	0%	3.1E+07	0%	1.4E+08	91%	9.1E+08
34SFPR-SD320	0%	9.8E+06	0%	1.4E+08	87%	4.4E+08
34SFPRWSU1	91%	1.8E+09	72%	1.7E+09	96%	9.1E+09
34SFPR-SD260	91%	1.1E+07	23%	6.3E+07	97%	1.3E+08
34SFPRWSU2	63%	1.2E+08	61%	5.9E+08	94%	2.2E+09
34SFPR-SD180	33%	1.1E+08	84%	2.2E+06	97%	5.9E+08
34SFPR-SD170	NC	NC	29%	2.5E+07	72%	3.2E+07
34SFPR-SD140	NC	NC	NC	NC	97%	6.5E+08
34SFPR-SD120	72%	2.2E+06	99%	4.5E+07	94%	5.0E+08
Paradise Creek stormwater outfalls						
34ParaWSU3	0%	2.5E+07	0%	1.7E+08	0%	1.5E+08
Missouri Flat Creek stormwater outfalls						
34MissSD60	95%	4.7E+07	0%	2.2E+08	97%	5.4E+08
34MissSD120	92%	9.9E+08	92%	2.1E+09	93%	1.7E+10
34MissSD200	NC	NC	NC	NC	94%	1.5E+08
34MissSD210	95%	3.8E+05	83%	1.5E+07	94%	2.9E+08
City of Pullman and WSU stormwater outfalls						
Combined outfalls	----	----	----	----	78%	2.0E+11

Shaded cells are estimates due to insufficient # of samples.
NC – not calculated due to no measureable flow during season