

Rose Creek (RC)**Before Livestock***

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cattle Presence
1)	5/4/10	110	4	4	1.40	High	Not Present
2)	5/5/10	14	<2	<2	1.36	High	Not Present
3)	5/7/10	8	<2	<2	1.41	High	Not Present

* We had planned to collect 5 "before cow presence" samples at this site. However, the cattle were released early into this allotment and we were only able to collect 3 "before cow" samples.

After Livestock Arrival

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow
1)	5/12/10	30	7	7	1.61	High Present
2)	5/14/10	130	130	130	2.40	High Present
3)	5/20/10	130	130	130	1.20	High Not Present
4)	6/1/10	110	80	50	1.23	High Not Present
5)	6/9/10	80	50	50	0.84	Med/High Not Present
6)	6/16/10	22	22	22	4.10	Med/High Present
7)	6/23/10	240	240	240	3.41	Med Present
split	6/23/10	240	240	240	-	Med Present
8)	6/25/10	220	220	220	0.73	Med Nearby
9)	6/30/10	80	80	80	0.62	Med Not Present
10)	7/6/10	>1600	>1600	>1600	50.0	Med/Low Present
11)	7/12/10	80	22	22	0.76	Low Present
12)	7/19/10	900	900	900	0.80	Low Nearby
13)	7/19/10	1600	1600	900	0.89	Low Nearby
14)	7/26/10	>1600	>1600	>1600	11.0	Low Present
15)	7/29/10	1600	280	170	1.71	Low Present
16)	8/5/10	1600	1600	1600	0.82	Low Nearby
split	8/5/10	900	900	500	0.86	Low Nearby
17)	8/13/10	900	900	900	1.1	Low Nearby

Field Blank	6/16/10		<2	<2	<2	
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This sample was taken from Rose Creek, accessed by Forest Service Road 3N59Y which spurs off of 4N16. Rose Creek is entirely within the Stanislaus River watershed and flows into the Lower Middle Fork of the Stanislaus River.

Lower Wolfin Meadow (LWM)**Before Livestock**

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cattle Presence
1)	5/24/10	23	13	13	1.1	Med/High	Not Present
split	5/24/10	30	30	23	1.2	Med/High	Not Present
2)*	5/28/10	130	80	80	4.68	High	Not Present
3)	6/1/10	4	<2	<2	1.2	Med/High	Not Present
4)	6/2/10	50	4	4	1.1	Med	Not Present
5)	6/8/10	30	30	30	0.53	Med	Not Present
6)	6/9/10	30	11	11	0.52	Med	Not Present
7)	6/18/10	4	2	2	0.43	Med/Low	Not Present
8)	6/24/10	8	2	2	0.43	Med/Low	Not Present
9)	6/29/10	23	8	4	0.43	Low	Nearby

*Scattered rain storms 5/26 and 5/27/10

After Livestock Arrival

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cattle Presence
1)	7/7/10	240	240	240	0.53	Low	Present
2)	7/8/10	240	240	240	0.58	Low	Not Present
3)	7/15/10	110	110	110	0.56	Low	Not Present
split	7/15/10	70	50	30	NA	Low	Not Present
4)	7/21/10	80	80	50	0.58	Low	Nearby
5)	7/28/10	110	80	80	0.67	Low	Not Present
6)	8/4/10	30	30	30	0.86	Very Low/Low	Not Present
7)	8/5/10	80	80	80	0.70	Very Low/Low	Not Present
8)	8/10/10	70	50	21	0.87	Very Low/Low	Not Present
9)	8/18/10	170	30	8	0.76	Very Low/Low	Not Present

The sample was taken from a tributary stream of Reed Creek, where it flows through LWM (which is within the Jawbone Rangeland Allotment). Reed Creek is entirely within the Tuolumne River watershed, and flows into the Tuolumne River via the Clavey River.

Cottonwood Meadow (CM)**Before Livestock**

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cattle Presence
1)*	5/28/10	110	<2	<2	0.20	Very High	Not present
2)	6/1/10	22	8	8	0.25	Med/High	Not present
3)	6/2/10	130	13	8	2.2	Med/High	Not present
4)	6/8/10	300	2	2	0.28	Med	Not present
5)	6/9/10	300	8	8	0.29	Med	Not present
6)	6/22/10	80	23	23	0.34	Med/Low	Not present
7)	7/7/10	14	2	2	0.55	Low	Not present

*Scattered rain storms 5/25 and 5/26/10

The stream was dry on 7/21/10

The sample was taken from a tributary stream of Cottonwood Creek where it flows out of Cottonwood Meadow (which is within the Jawbone Range Allotment). Cottonwood Creek is entirely within the Tuolumne River watershed and flows into the Cherry Lake/Reservoir. Cherry Creek flows into the Tuolumne River.

Jawbone Creek (JC)**Before Livestock**

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cow Presence
1)	6/16/10	<2	<2	<2	<2	0.16	Med/High Not Present
2)	6/18/10	<2	<2	<2	<2	0.09	Med Not Present
3)	6/22/10	8	<2	<2	<2	0.13	Med Not Present
4)	6/24/10	<2	<2	<2	<2	0.13	Med Not Present
5)	6/29/10	8	<2	<2	<2	0.11	Med/Low Not Present
6)	7/7/10	11	11	7	0.55	Med/Low	Not Present

After Livestock Arrival

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow
1)	7/21/10	130	50	50	0.09	Med/Low Not Present
2)	7/28/10	500	300	170	0.18	Low Not Present
3)	8/4/10	110	110	110	0.23	Low Present
4)	8/5/10	>1600	>1600	>1600	0.26	Low Present
5)	8/10/10	240	240	240	0.17	Low Nearby
6)	8/18/10	240	240	240	0.15	Low/Very Low Not Present
7)	8/23/10	170	130	130	0.19	Low/Very Low Not Present

Field Blank	6/24/10	<2	<2	<2
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The sample was taken from Jawbone Creek (above Jawbone Falls) where it flows adjacent to Jawbone Mdw (which is within the Rosasco Rangeland Allotment). Jawbone Creek is entirely within the Tuolumne River watershed, and flows into the Tuolumne River.

Bull Meadow Creek (BM)**Before Livestock**

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cow Presence
1)	6/16/10	>1600	>1600	>1600	NA	Med	Present
2)	6/18/10	900	500	500	NA	Med	Not Present
3)	6/22/10	>1600	>1600	>1600	NA	Med	Not Present
4)	6/24/10	900	900	900	NA	Med	Present
split	6/24/10	900	900	900	NA	Med	Present
5)	6/29/10	>1600	>1600	>1600	NA	Med/Low	Not Present
6)	7/7/10	1600	1600	1600	1.3	Low	Not Present
split	7/7/10	1600	1600	900	NA	Low	Not Present
7)	7/21/10	500	500	500	1.6	Low	Not Present

The sample was taken from Bull Meadow Creek, a short distance below Bull Meadow (which is within the Jawbone Range Allotment). Meadow Creek is entirely within the Tuolumne River watershed and flows into the Tuolumne River via the the Clavey River.

Control Site: Bourland Meadow (BoM)**Research Natural Meadow, Not Grazed**

Number	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cattle Presence
1)	6/29/10	11	2	2	0.21	Very High	Not present
2)	7/7/10	8	8	4	0.35	High	Not present
3)	7/21/10	23	<2	<2	0.37	Med/High	Not present
split	7/21/10	23	<2	<2	NA	Med/High	Not present
4)	8/4/10	9	<2	<2	0.64	Med/Low	Not present
5)	8/18/10	<2	<2	<2	0.52	Low	Not present

Field Blank	8/4/10	<2	<2	<2
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The sample is taken below Bourland Meadow from the headwaters of Bourland Creek (which is not included in a rangeland allotment and thus should not have any livestock grazing). Bourland Creek is entirely within the Tuolumne River watershed and flows in to the Tuolumne River via the Clavey River.

Boggy Meadow**Outside fence/After livestock (Bog 1)**

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cow Presence
1)	7/8/10	50	50	50	0.81	Med	Not Present
2)	7/15/10	1600	220	140	0.37	Med	Not Present
3)	7/21/10	70	70	70	0.33	Med	Not Present
4)	7/28/10	500	500	500	0.71	Med	Not Present
5)	8/4/10	220	220	220	0.42	Med	Fresh Disturbance
6)	8/5/10	900	900	900	0.62	Med	Fresh Disturbance
7)	8/10/10	>1600	>1600	>1600	0.85	Med	Nearby
split	8/10/10	>1600	>1600	>1600	--	Med	Nearby
8)	8/18/10	>1600	>1600	>1600	0.51	Med	Not Present
9)	8/23/10	1600	1600	1600	0.55	Med/Low	Not Present

Inside fence/Before livestock (Bog 2)

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cow Presence
1)	7/8/10	9	2	<2	0.45	Med	Not Present
2)	7/15/10	140	17	17	0.53	Med	Not Present
3)	7/21/10	70	4	4	0.33	Med	Not Present
4)	7/28/10	9	4	4	0.51	Med	Not Present
5)	8/4/10	70	50	50	0.82	Med	Not Present
6)	8/5/10	110	17	17	1.2	Med	Not Present
7)	8/10/10	>1600	300	<2	0.45	Med	Not Present
8)	8/18/10	17	2	<2	0.51	Med	Not Present
split	8/18/10	11	2	2	--	Med	Not Present
9)	8/23/10	130	7	7	0.74	Med/Low	Not Present

field blank	7/21/10	<2	<2	<2
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Two samples were taken from a tributary of Jawbone Creek where it flows out of Boggy Meadow (which is within the Jawbone Range Allotment). Boggy Meadow is used as a gathering area for cattle at the end of the summer and is fenced to exclude cattle until then. The first sample (Bog 1) was taken 100 feet downstream of the fenced area where cattle have grazed (outside fence/after livestock). The second sample (Bog 2) was taken just inside the fenced area where cattle have not grazed yet (inside fence/before livestock). Jawbone Creek is entirely within the Tuolumne River watershed and flows into the Tuolumne River.

Sheep Meadow (SM2)**Below confluence with tributary seep from meadow**

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cow Presence
1)	8/2/10	130	50	50	0.51	Med/Low	Not Present
2)	8/6/10	1600	1600	900	0.42	Med/Low	Not Present
3)	8/11/10	900	900	900	0.43	Low	Not Present
4)	8/19/10	300	170	170	0.42	Low	Not Present
5)	8/20/10	110	70	70	0.41	Low	Not Present
6)	8/23/10	300	170	170	0.56	Low	Not Present

Sheep Meadow (SM3)**80' above (SM2) on main Creek / above confluence**

Sample #	Date	Total col.	Fecal col.	E.coli	NTU	Relative Flow	Cow Presence
1)	8/2/10	170	170	110	0.61	Med/Low	Not Present
2)	8/6/10	900	900	500	0.67	Med/Low	Not Present
3)	8/11/10	>1600	>1600	>1600	0.7	Low	Not Present
4)	8/19/10	300	17	17	0.6	Low/Very Low	Not Present
split	8/19/10	500	34	27	--	Low/Very Low	Not Present
5)	8/20/10	200	300	170	0.6	Low/Very Low	Not Present
6)	8/23/10	240	130	17	0.49	Low/Very Low	Not Present

Field Blank	8/20/10	<2	<2	<2
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Two samples were collected from an unnamed tributary of Elbow Creek below Sheep Meadow (which is within the Highland Lakes Range Allotment). The unnamed tributary of Elbow Creek is entirely within the North Fork Mokelumne River watershed and flows into the North Fork Mokelumne River via Elbow Creek. The unnamed tributary of Elbow Creek has several confluences with tributary seeps that drain into the stream from Sheep Meadow. The two sample sites are located 80' feet apart on the main stream below separate confluences with water flowing from Sheep Meadow located 80 feet apart.