

Appendix A-2

Region 2

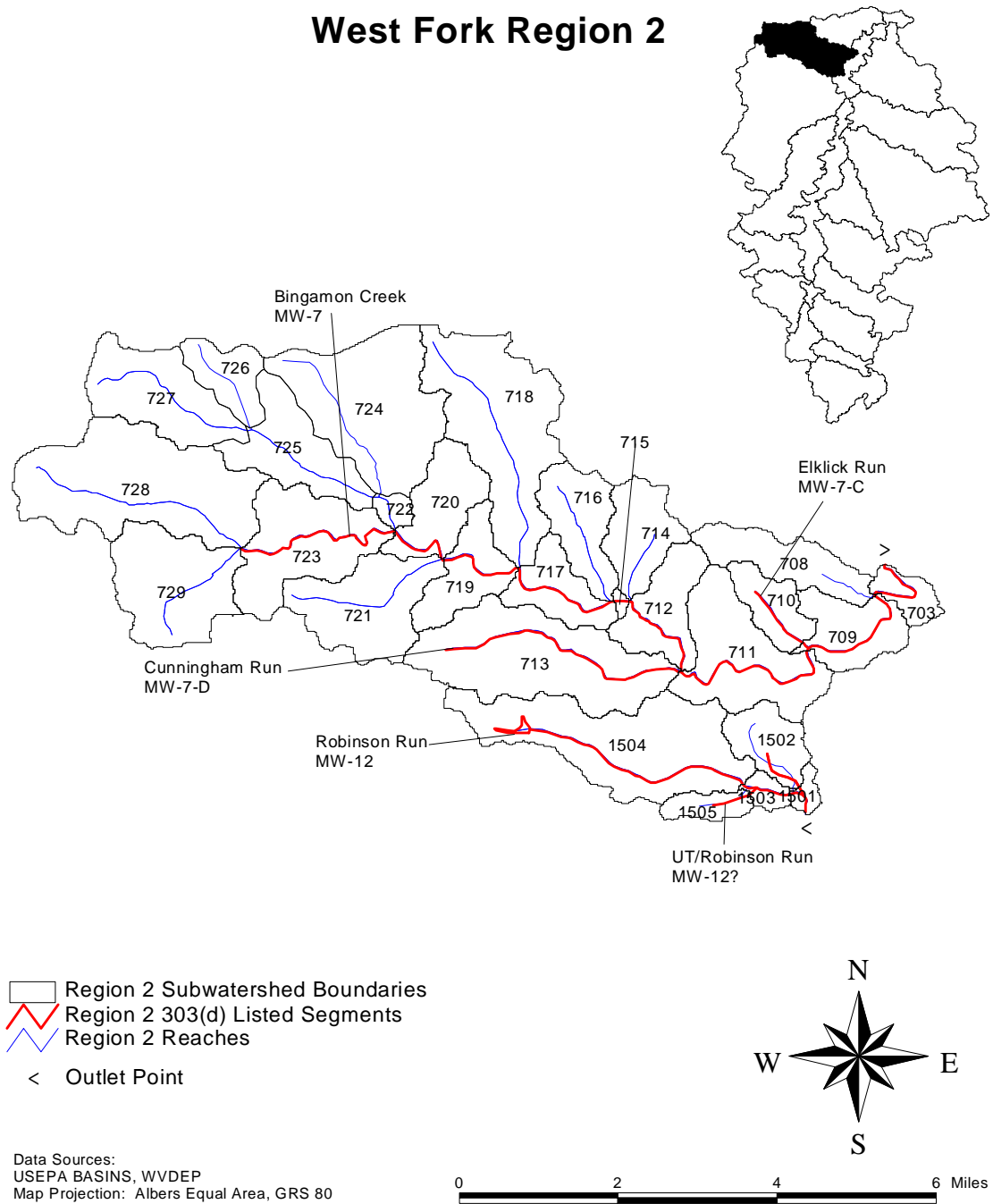


Figure 1. Region 2 -West Fork watershed

Metals and pH TMDLs for the West Fork River Watershed

Table 1. Impaired waterbodies in Region 2

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Aquatic Life
Elk Lick Run	MW-7-C	Metals	710		Aquatic Life
Cunningham	MW-7-D	Al, Fe	713		Aquatic Life
Robinson Run	MW-12	Metals	1501, 1502,		Aquatic Life
Pigotts Run	MW-12-A	Metals	1502		Aquatic Life
Robinson Run:	MW-12?	Metals	1505		Aquatic Life

T = Aquatic Life Trout Waters

W = Warm Water Fishery

Table 2. Locations of abandoned mines (seep, deep mine, and/or leachate)

SWS
708
709
710
711
712
713
1501
1502
1503
1504
1505

Metals and pH TMDLs for the West Fork River Watershed

Table 3a. Water quality data for aluminum

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
703	MW-007-0002	130.0	130	130	1	08/01/00	08/01/00
703	WVMW-7_STA3	1490.0	1490	1490	1	03/22/01	03/22/01
703	WVMW-7_STA4	130.0	130	130	1	08/01/00	08/01/00
703	WVMW-7-A_STA12	160.0	160	160	1	08/01/00	08/01/00
708	WVMW-7-B_STA16	483.0	483	483	1	03/22/01	03/22/01
709	MW-007-0007	410.0	410	410	1	08/02/00	08/02/00
709	MW-007-0008	50.0	50	50	1	08/02/00	08/02/00
709	WVMW-7-B_STA15	410.0	410	410	1	08/02/00	08/02/00
709	WVMW-7-C_STA17	50.0	50	50	1	08/02/00	08/02/00
709	WVMW-7-C_STA18	149.0	149	149	1	03/22/01	03/22/01
711	MW-007-0003	510.0	490	530	2	07/20/00	07/20/00
711	WVMW-7_STA1	510.0	490	530	2	07/20/00	07/20/00
713	MW-007-0009	50.0	50	50	1	08/02/00	08/02/00
713	WV0093505_DCR-6	658.0	40	2560	15	04/22/98	10/04/01
713	WV0093505_UCR-5	538.8	130	1340	8	04/22/98	04/04/01
713	WVMW-7-D_STA19	718.0	718	718	1	03/22/01	03/22/01
713	WVMW-7-D_STA20	50.0	50	50	1	08/02/00	08/02/00
714	WV0093505_DUBC-2	194.0	40	530	15	04/22/98	10/03/01
714	WV0093505_UUBC-1	198.3	30	590	12	04/22/98	10/03/01
720	MW-007-0004	120.0	120	120	1	08/02/00	08/02/00
720	MW-007-0005	180.0	180	180	1	07/19/00	07/19/00
720	WVMW-7_STA7	435.0	435	435	1	03/21/01	03/21/01
720	WVMW-7_STA8	120.0	120	120	1	08/02/00	08/02/00
720	WVMW-7_STA9	180.0	180	180	1	07/19/00	07/19/00
722	MW-007-0010	180.0	180	180	1	08/02/00	08/02/00
722	WVMW-7-F_STA21	466.0	466	466	1	03/22/01	03/22/01
722	WVMW-7-F_STA22	180.0	180	180	1	08/02/00	08/02/00
724	MW-007-0011	100.0	100	100	1	07/19/00	07/19/00
724	WV0093505_DNR-9	386.4	90	1840	14	08/04/98	10/04/01
724	WV0093505_DRF-8	282.7	40	630	15	04/22/98	10/02/01
724	WV0093505_URF-7	986.7	40	10000	12	04/22/98	10/02/01
724	WVMW-7-F_STA23	100.0	100	100	1	07/19/00	07/19/00
729	WV0093505_DHF-4	188.7	50	440	15	04/22/98	10/02/01
729	WV0093505_UHF-3	202.0	50	690	15	04/22/98	10/02/01
1501	MW-012-0001	340.0	340	340	1	08/02/00	08/02/00
1501	MW-012-0003	460.0	460	460	1	8/2/2000	8/2/2000
1501	WVMW-12_STA2	340.0	340	340	1	8/2/2000	8/2/2000
1501	WVMW-12_STA3	423.0	423	423	1	3/20/2001	3/20/2001
1501	WVMW-12-A_STA5	1400.0	1400	1400	1	3/20/2001	3/20/2001
1501	WVMW-12-A_STA6	460.0	460	460	1	8/2/2000	8/2/2000
1504	MW-012-0002	220.0	220	220	1	8/1/2000	8/1/2000
1504	MW-012-0004	250.0	250	250	1	8/1/2000	8/1/2000
1504	WV0093505_DRR-11	268.6	80	560	14	8/4/1998	10/4/2001
1504	WVMW-12_STA4	220.0	220	220	1	8/1/2000	8/1/2000
1504	WVMW-12-B_STA7	128.0	128	128	1	3/20/2001	3/20/2001
1504	WVMW-12-B_STA8	250.0	250	250	1	8/1/2000	8/1/2000

Metals and pH TMDLs for the West Fork River Watershed

Table 3b. Water quality data for iron

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
703	MW-007-0002	620.00	620	620	1	08/01/00	08/01/00
703	WVMW-7_STA3	1910.00	1910	1910	1	03/22/01	03/22/01
703	WVMW-7_STA4	620.00	620	620	1	08/01/00	08/01/00
703	WVMW-7-A_STA12	210.00	210	210	1	08/01/00	08/01/00
708	WVMW-7-B_STA16	445.00	445	445	1	03/22/01	03/22/01
709	MW-007-0007	180.00	180	180	1	08/02/00	08/02/00
709	MW-007-0008	7760.00	7760	7760	1	08/02/00	08/02/00
709	WVMW-7-B_STA15	180.00	180	180	1	08/02/00	08/02/00
709	WVMW-7-C_STA17	7760.00	7760	7760	1	08/02/00	08/02/00
709	WVMW-7-C_STA18	732.00	732	732	1	03/22/01	03/22/01
711	112WRD_392457080192939	2142.00	810	6200	5	05/03/79	07/22/81
711	MW-007-0003	1740.00	1540	1940	2	07/20/00	07/20/00
711	WVMW-7_STA1	1740.00	1540	1940	2	07/20/00	07/20/00
713	MW-007-0009	140.00	140	140	1	08/02/00	08/02/00
713	WV0093505_DCR-6	382.50	50	1160	24	02/02/96	10/04/01
713	WV0093505_UCR-5	1107.65	200	3390	17	02/02/96	04/04/01
713	WVMW-7-D_STA19	895.00	895	895	1	03/22/01	03/22/01
713	WVMW-7-D_STA20	140.00	140	140	1	08/02/00	08/02/00
714	WV0093505_DUBC-2	303.75	50	1010	24	02/02/96	10/03/01
714	WV0093505_UUBC-1	292.86	70	1170	21	02/02/96	10/03/01
720	MW-007-0004	280.00	280	280	1	08/02/00	08/02/00
720	MW-007-0005	270.00	270	270	1	07/19/00	07/19/00
720	WVMW-7_STA7	534.00	534	534	1	03/21/01	03/21/01
720	WVMW-7_STA8	280.00	280	280	1	08/02/00	08/02/00
720	WVMW-7_STA9	270.00	270	270	1	07/19/00	07/19/00
722	MW-007-0010	270.00	270	270	1	08/02/00	08/02/00
722	WVMW-7-F_STA21	595.00	595	595	1	03/22/01	03/22/01
722	WVMW-7-F_STA22	270.00	270	270	1	08/02/00	08/02/00
724	MW-007-0011	200.00	200	200	1	07/19/00	07/19/00
724	WV0093505_DNR-9	1157.39	150	4390	23	02/02/96	10/04/01
724	WV0093505_DRF-8	323.75	50	1280	24	02/01/96	10/02/01
724	WV0093505_URF-7	1146.19	110	8200	21	02/01/96	10/02/01
724	WVMW-7-F_STA23	200.00	200	200	1	07/19/00	07/19/00
729	WV0093505_DHF-4	383.33	60	1740	24	02/01/96	10/02/01
729	WV0093505_UHF-3	587.92	170	2090	24	02/01/96	10/02/01
1501	MW-012-0001	5060.00	5060	5060	1	08/02/00	08/02/00
1501	MW-012-0003	27700.00	27700	27700	1	08/02/00	08/02/00
1501	WVMW-12_STA2	5060.00	5060	5060	1	08/02/00	08/02/00
1501	WVMW-12_STA3	5750.00	5750	5750	1	03/20/01	03/20/01
1501	WVMW-12-A_STA5	48000.00	48000	48000	1	03/20/01	03/20/01
1501	WVMW-12-A_STA6	27700.00	27700	27700	1	08/02/00	08/02/00
1504	MW-012-0002	2170.00	2170	2170	1	08/01/00	08/01/00
1504	MW-012-0004	520.00	520	520	1	08/01/00	08/01/00
1504	WV0093505_DRR-11	3026.67	1010	7960	24	02/02/96	10/04/01
1504	WVMW-12_STA4	2170.00	2170	2170	1	08/01/00	08/01/00
1504	WVMW-12-B_STA7	170.00	170	170	1	03/20/01	03/20/01
1504	WVMW-12-B_STA8	520.00	520	520	1	08/01/00	08/01/00

Metals and pH TMDLs for the West Fork River Watershed

Table 3c. Water quality data for manganese

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
703	MW-007-0002	60	60	60	1	8/1/2000	8/1/2000
703	WVMW-7_STA3	107	107	107	1	3/22/2001	3/22/2001
703	WVMW-7_STA4	60	60	60	1	8/1/2000	8/1/2000
703	WVMW-7-A_STA12	20	20	20	1	8/1/2000	8/1/2000
708	WVMW-7-B_STA16	41	41	41	1	3/22/2001	3/22/2001
709	MW-007-0007	80	80	80	1	8/2/2000	8/2/2000
709	MW-007-0008	540	540	540	1	8/2/2000	8/2/2000
709	WVMW-7-B_STA15	80	80	80	1	8/2/2000	8/2/2000
709	WVMW-7-C_STA17	540	540	540	1	8/2/2000	8/2/2000
709	WVMW-7-C_STA18	13	13	13	1	3/22/2001	3/22/2001
711	112WRD_392457080192939	334	150	500	5	5/3/1979	7/22/1981
711	MW-007-0003	85	80	90	2	7/20/2000	7/20/2000
711	WVMW-7_STA1	85	80	90	2	7/20/2000	7/20/2000
713	MW-007-0009	40	40	40	1	8/2/2000	8/2/2000
713	WV0093505_DCR-6	162.91667	20	480	24	2/2/1996	10/4/2001
713	WV0093505_UCR-5	230.58824	50	610	17	2/2/1996	4/4/2001
713	WVMW-7-D_STA19	76	76	76	1	3/22/2001	3/22/2001
713	WVMW-7-D_STA20	40	40	40	1	8/2/2000	8/2/2000
714	WV0093505_DUBC-2	63.75	20	300	24	2/2/1996	10/3/2001
714	WV0093505_UUBC-1	49.52381	10	140	21	2/2/1996	10/3/2001
720	MW-007-0004	60	60	60	1	8/2/2000	8/2/2000
720	MW-007-0005	100	100	100	1	7/19/2000	7/19/2000
720	WVMW-7_STA7	51	51	51	1	3/21/2001	3/21/2001
720	WVMW-7_STA8	60	60	60	1	8/2/2000	8/2/2000
720	WVMW-7_STA9	100	100	100	1	7/19/2000	7/19/2000
722	MW-007-0010	40	40	40	1	8/2/2000	8/2/2000
722	WVMW-7-F_STA21	66	66	66	1	3/22/2001	3/22/2001
722	WVMW-7-F_STA22	40	40	40	1	8/2/2000	8/2/2000
724	MW-007-0011	70	70	70	1	7/19/2000	7/19/2000
724	WV0093505_DNR-9	263.47826	40	490	23	2/2/1996	10/4/2001
724	WV0093505_DRF-8	62.916667	10	110	24	2/1/1996	10/2/2001
724	WV0093505_URF-7	190	20	720	21	2/1/1996	10/2/2001
724	WVMW-7-F_STA23	70	70	70	1	7/19/2000	7/19/2000
729	WV0093505_DHF-4	117.08333	20	520	24	2/1/1996	10/2/2001
729	WV0093505_UHF-3	357.5	40	1680	24	2/1/1996	10/2/2001
1501	MW-012-0001	300	300	300	1	8/2/2000	8/2/2000
1501	MW-012-0003	710	710	710	1	8/2/2000	8/2/2000
1501	WVMW-12_STA2	300	300	300	1	8/2/2000	8/2/2000
1501	WVMW-12_STA3	590	590	590	1	3/20/2001	3/20/2001
1501	WVMW-12-A_STA5	655	655	655	1	3/20/2001	3/20/2001
1501	WVMW-12-A_STA6	710	710	710	1	8/2/2000	8/2/2000
1504	MW-012-0002	360	360	360	1	8/1/2000	8/1/2000
1504	MW-012-0004	1460	1460	1460	1	8/1/2000	8/1/2000
1504	WV0093505_DRR-11	570	210	1010	24	2/2/1996	10/4/2001
1504	WVMW-12_STA4	360	360	360	1	8/1/2000	8/1/2000
1504	WVMW-12-B_STA7	197	197	197	1	3/20/2001	3/20/2001
1504	WVMW-12-B_STA8	1460	1460	1460	1	8/1/2000	8/1/2000

Metals and pH TMDLs for the West Fork River Watershed

Table 3d. Water quality data for Total Nonfilterable Residue

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
703	WVMW-7_STA4	2.00	2	2	1	08/01/00	08/01/00
708	WVMW-7-B_STA16	12.80	12.8	12.8	1	03/22/01	03/22/01
709	MW-007-0007	1.00	1	1	1	08/02/00	08/02/00
711	WVMW-7_STA1	3.00	3	3	2	07/20/00	07/20/00
713	WVMW-7-D_STA20	1.00	1	1	1	08/02/00	08/02/00
720	WVMW-7_STA9	3.00	3	3	1	07/19/00	07/19/00
722	MW-007-0010	1.00	1	1	1	08/02/00	08/02/00
1501	WVMW-12_STA2	10.00	10	10	1	08/02/00	08/02/00
1504	WVMW-12_STA4	12.00	12	12	1	08/01/00	08/01/00

Table 3e. Water quality data for pH

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
703	WVMW-7_STA4	8.04	8.04	8.04	1	8/1/2000	8/1/2000
708	WVMW-7-B_STA16	7.78	7.78	7.78	1	3/22/2001	3/22/2001
709	MW-007-0007	8.155	8.1	8.21	2	8/2/2000	8/2/2000
711	WVMW-7_STA1	7.73	7.73	7.73	2	7/20/2000	7/20/2000
713	WVMW-7-D_STA20	8.09	8.09	8.09	1	8/2/2000	8/2/2000
714	WV0093505_UUBC-1	8.057143	7.3	9.3	21	1/16/2001	8/4/1998
720	WVMW-7_STA9	8.1	8.1	8.1	1	7/19/2000	7/19/2000
722	MW-007-0010	8.77	8.74	8.8	2	8/2/2000	8/2/2000
724	WV0093505_URF-7	8.028571	7.3	8.7	21	1/6/2000	1/6/1998
729	WV0093505_UHF-3	7.979167	6.8	8.8	24	1/6/1998	4/4/1996
1501	WVMW-12_STA2	7.14	7.14	7.14	1	8/2/2000	8/2/2000
1504	WVMW-12_STA4	7.41	7.41	7.41	1	8/1/2000	8/1/2000

Table 3f. Water quality data for dissolved zinc

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
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(not applicable to this region)

Metals and pH TMDLs for the West Fork River Watershed

Table 4a. Aluminum baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	NPDES Permit ID	Baseline (lb/yr)	Allocation (lb/yr)	Allocation (mg/L)	% Reduction
711	WV0067733	115	115	4.60	0
713	WV0093505	615	615	4.60	0
714	WV0093505	307	307	4.60	0
718	WV0093505	307	307	4.60	0
720	WV0093505	615	615	4.60	0
723	WV0093505	307	307	4.60	0
724	WV0093505	615	615	4.60	0
728	WV0093505	615	615	4.60	0
729	WV0093505	307	307	4.60	0
1504	WV0061662	1,230	615	2.42	50
1504	WV0093505	1,537	769	2.42	50

Table 4b. Iron baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	NPDES Permit ID	Baseline (lb/yr)	Allocation (lb/yr)	Allocation (mg/L)	% Reduction
711	WV0067733	79	79	3.20	0
713	WV0093505	422	422	3.20	0
714	WV0093505	211	211	3.20	0
718	WV0093505	211	211	3.20	0
720	WV0093505	422	422	3.20	0
723	WV0093505	211	211	3.20	0
724	WV0093505	422	422	3.20	0
728	WV0093505	422	422	3.20	0
729	WV0093505	211	211	3.20	0
1504	WV0061662	845	845	3.20	0
1504	WV0093505	1,056	1,056	3.20	0

Table 4c. Manganese baseline conditions and allocations (WLAs) for permitted mining point sources

SWS	NPDES Permit ID	Baseline (lb/yr)	Allocation (lb/yr)	Allocation (mg/L)	% Reduction
711	WV0067733	51	51	2.00	0
713	WV0093505	275	275	2.00	0
714	WV0093505	138	138	2.00	0
718	WV0093505	138	138	2.00	0
720	WV0093505	275	275	2.00	0
723	WV0093505	138	138	2.00	0
724	WV0093505	275	275	2.00	0
728	WV0093505	275	275	2.00	0
729	WV0093505	138	138	2.00	0
1504	WV0061662	551	551	2.00	0
1504	WV0093505	689	689	2.00	0

Metals and pH TMDLs for the West Fork River Watershed

Table 5a. Aluminum baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Revoked Mines		Nonpoint Source		Requires Reduction
	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	
703	0	0	0	0	105	105	
708	65	65	0	0	309	309	
709	2,294	2,294	0	0	252	252	
710	664	133	0	0	185	185	x
711	1,214	1,214	0	0	562	562	
712	278	278	0	0	299	299	
713	2,395	359	97	15	783	783	x
714	0	0	0	0	255	255	
715	0	0	0	0	15	15	
716	0	0	0	0	299	299	
717	0	0	0	0	240	240	
718	0	0	0	0	811	811	
719	0	0	0	0	275	275	
720	0	0	0	0	264	264	
721	0	0	0	0	479	479	x
722	0	0	0	0	47	47	
723	0	0	0	0	515	515	
724	0	0	0	0	741	741	
725	0	0	0	0	388	388	
726	0	0	0	0	193	193	
727	0	0	0	0	458	458	
728	0	0	0	0	909	909	
729	0	0	0	0	506	506	
1501	709	177	0	0	34	34	x
1502	493	49	0	0	247	247	x
1503	203	122	0	0	55	55	x
1504	1,057	21	0	0	702	702	x
1505	1,300	91	0	0	88	88	x

Metals and pH TMDLs for the West Fork River Watershed

Table 5b. Iron baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Revoked Mines		Nonpoint Source		Requires Reduction
	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	
703	0	0	0	0	218	218	
708	223	223	0	0	614	614	
709	7,931	4,759	0	0	513	513	x
710	2,297	276	0	0	365	365	x
711	4,197	4,197	0	0	1,066	1,066	
712	963	963	0	0	597	597	
713	8,280	1,242	67	10	1,545	1,545	x
714	0	0	0	0	513	513	
715	0	0	0	0	28	28	
716	0	0	0	0	616	616	
717	0	0	0	0	481	481	
718	0	0	0	0	1,679	1,679	
719	0	0	0	0	562	562	
720	0	0	0	0	543	543	
721	0	0	0	0	996	996	
722	0	0	0	0	97	97	
723	0	0	0	0	1,071	1,071	
724	0	0	0	0	1,535	1,535	
725	0	0	0	0	806	806	
726	0	0	0	0	402	402	
727	0	0	0	0	951	951	
728	0	0	0	0	1,878	1,878	
729	0	0	0	0	1,049	1,049	
1501	2,450	123	0	0	55	55	x
1502	1,703	256	0	0	382	382	x
1503	702	140	0	0	96	96	x
1504	3,654	548	0	0	1,314	1,314	x
1505	4,494	180	0	0	170	170	x

Metals and pH TMDLs for the West Fork River Watershed

Table 5c. Manganese baseline conditions and allocations (LAs) for nonpoint sources

SWS	AML		Revoked Mines		Nonpoint Source		Requires Reduction
	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	
703	0	0	0	0	83	83	
708	39	39	0	0	253	253	
709	1,376	1,376	0	0	202	202	
710	398	319	0	0	152	152	x
711	728	728	0	0	474	474	
712	167	167	0	0	242	242	x
713	1,436	1,436	43	43	642	642	
714	0	0	0	0	206	206	
715	0	0	0	0	12	12	
716	0	0	0	0	237	237	
717	0	0	0	0	195	195	
718	0	0	0	0	642	642	
719	0	0	0	0	220	220	x
720	0	0	0	0	211	211	
721	0	0	0	0	377	377	x
722	0	0	0	0	37	37	
723	0	0	0	0	406	406	
724	0	0	0	0	586	586	
725	0	0	0	0	307	307	
726	0	0	0	0	153	153	
727	0	0	0	0	361	361	
728	0	0	0	0	720	720	x
729	0	0	0	0	401	401	
1501	425	425	0	0	32	32	
1502	295	118	0	0	236	236	x
1503	122	122	0	0	48	48	
1504	634	634	0	0	598	598	x
1505	779	78	0	0	73	73	x