

Appendix A-10

Region 10

Guyandotte Region 10

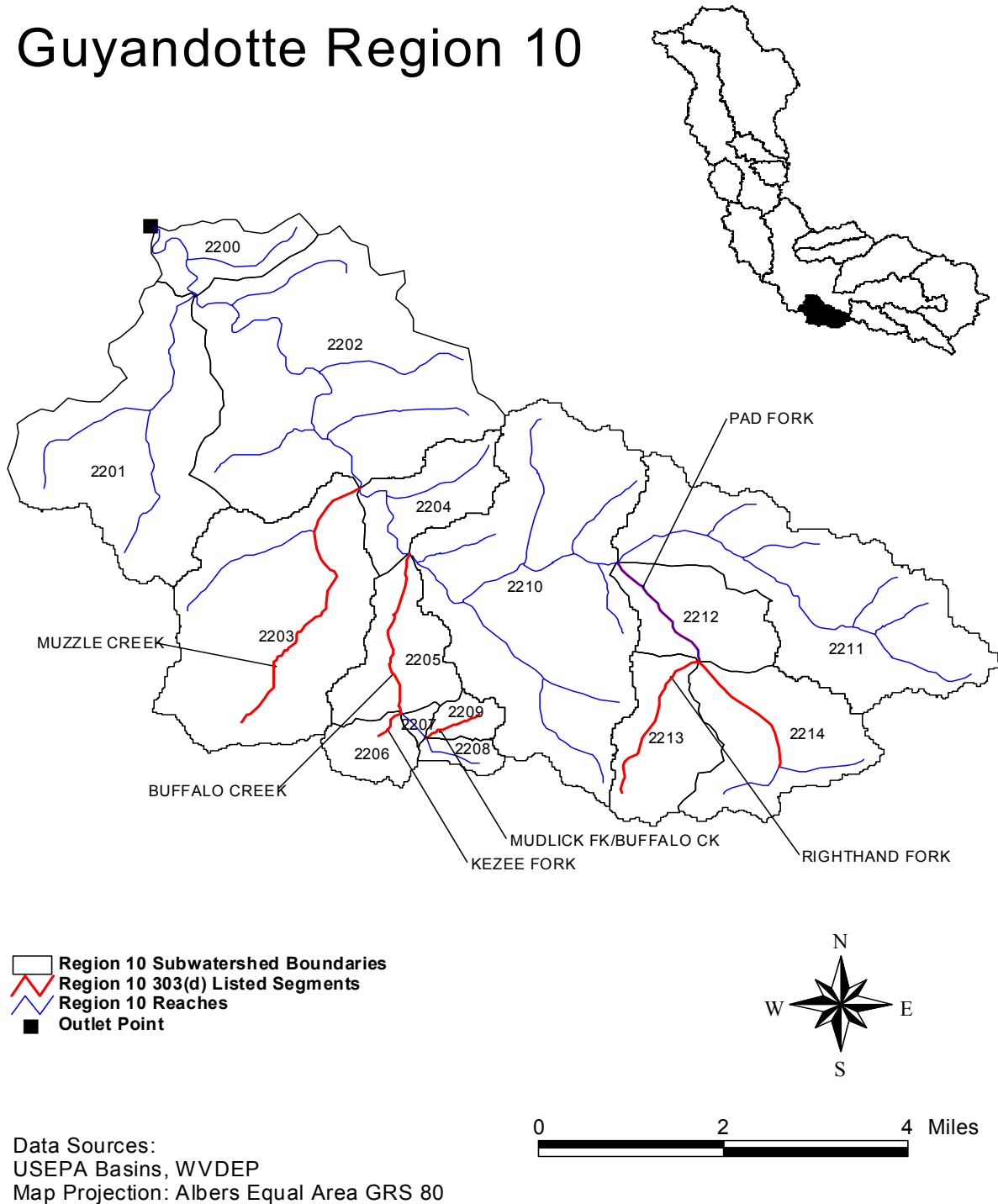


Figure 1. Region 10 - Guyandotte Watershed

Metals, pH and Fecal Coliform TMDLs for the Guyandotte Watershed

Table 1. Impaired waterbodies in Region 10

Stream Name	Stream Code	Pollutant	Contributing SWS	Contributing Regions	Affected Use
Buffalo Creek	OG-92-K	Metals, pH	2205, 2206, 2207, 2208, 2209		Aquatic Life, Human Health
Kezee Fork	OG-93-K-1	Metals	2206		Aquatic Life, Human Health
Mudlick Fork of Buffalo Creek	OG-92-K-2	Metals	2209		Aquatic Life, Human Health
Muzzle Creek	OG-92-I	Metals	2203		Aquatic Life, Human Health
Pad Fork	OG-92-Q	Metals	2212, 2213, 2214		Aquatic Life, Human Health
Righthand Fork of Pad Fork	OG-92-Q-1	Metals	2213		Aquatic Life, Human Health

T = Aquatic Life Trout Waters

W = Warm Water Fishery

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

SWS
2200
2202
2203
2205
2211
2212
2213
2214

Metals, pH and Fecal Coliform TMDLs for the Guyandotte Watershed

Table 3a. Water quality data for dissolved aluminum

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
2201	OG-92-Bm1.2	100.00	100	100	1	08/30/00	08/30/00
2202	22	136.10	21	600	10	10/11/02	07/01/03
2203	OG-92-lm	100.00	100	100	1	08/28/00	08/28/00
2205	OG-92-Km0	100.00	100	100	1	08/28/00	08/28/00
2205	OG-92-Km1.8	100.00	100	100	1	09/12/00	09/12/00
2206	OG-092-0007	53.00	53	53	1	09/11/00	09/11/00
2209	OG-92-K-2m	100.00	100	100	1	09/11/00	09/11/00
2212	OG-92-Q-1m	100.00	100	100	1	09/07/00	09/07/00
2212	OG-92-Qm0.4	100.00	100	100	1	09/07/00	09/07/00

Table 3b. Water quality data for total aluminum

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
2201	OG-92-Bm1.2	100.00	100	100	1	08/30/00	08/30/00
2202	22	399.90	63	2300	10	10/11/02	07/01/03
2203	OG-92-lm	100.00	100	100	1	08/28/00	08/28/00
2205	OG-92-Km0	200.00	200	200	1	08/28/00	08/28/00
2205	OG-92-Km1.8	100.00	100	100	1	09/12/00	09/12/00
2206	OG-092-0007	76.00	76	76	1	09/11/00	09/11/00
2209	OG-092-0008	230.00	230	230	1	09/12/00	09/12/00
2209	OG-92-K-2m	230.00	230	230	1	09/11/00	09/11/00
2212	OG-92-Qm0.4	100.00	100	100	1	09/07/00	09/07/00
2213	OG-092-0011	110.00	110	110	1	09/07/00	09/07/00
	OG-092-0009	1100.00	1100	1100	1	09/11/00	09/11/00

Table 3c. Water quality data for dissolved iron

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
2201	OG-92-Bm1.2	20.00	20	20	1	08/30/00	08/30/00
2202	22	207.50	60	610	4	10/11/02	07/01/03
2203	OG-92-lm	20.00	20	20	1	08/28/00	08/28/00
2205	OG-092-0006	120.00	120	120	1	09/12/00	09/12/00
2205	OG-92-Km0	20.00	20	20	1	08/28/00	08/28/00
2206	OG-092-0007	25.00	24	26	2	09/11/00	09/12/00
2209	OG-092-0008	24.00	24	24	1	09/12/00	09/12/00
2209	OG-92-K-2m	24.00	24	24	1	09/11/00	09/11/00
2212	OG-092-0010	75	75	75	1	07-Sep-00	07-Sep-00
2213	OG-092-0011	51	51	51	1	07-Sep-00	07-Sep-00

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Table 3d. Water quality data for total iron

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
2201	OG-092-0003	990.00	990	990	1	08/30/00	08/30/00
2202	22	633.00	90	4360	10	10/11/02	07/01/03
2203	OG-092-0004	490.00	490	490	1	08/28/00	08/28/00
2205	OG-092-0005	340.00	340	340	1	08/28/00	08/28/00
2205	OG-092-0006	450.00	450	450	1	09/12/00	09/12/00
2206	OG-092-0007	170.00	140	200	2	09/11/00	09/12/00
2209	OG-092-0008	290.00	290	290	1	09/12/00	09/12/00
2209	OG-92-K-2m	290.00	290	290	1	09/11/00	09/11/00
2212	OG-092-0010	240.00	240	240	1	09/07/00	09/07/00
2213	OG-092-0011	280.00	280	280	1	09/07/00	09/07/00

Table 3e. Water quality data for dissolved manganese

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
2202	22	50.00	30	70.0	7	10/11/02	07/01/03

Table 3f. Water quality data for total manganese

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
2201	OG-092-0003	280.0	280.00	280.0	1	8/30/2000	8/30/2000
2202	22	83.8	30.00	300.0	8	10/11/2002	7/1/2003
2203	OG-092-0004	75.0	75.00	75.0	1	8/28/2000	8/28/2000
2205	OG-092-0005	250.0	250.00	250.0	1	8/28/2000	8/28/2000
2205	OG-092-0006	150.0	150.00	150.0	1	9/12/2000	9/12/2000
2206	OG-092-0007	68.0	68.00	68.0	1	9/11/2000	9/11/2000
2209	OG-092-0008	21.0	21.00	21.0	1	9/12/2000	9/12/2000
2209	OG-92-K-2m	21.0	21.00	21.0	1	9/11/2000	9/11/2000
2212	OG-092-0010	33.0	33.00	33.0	1	9/7/2000	9/7/2000
2213	OG-092-0011	22.0	22.00	22.0	1	9/7/2000	9/7/2000

Table 3g. Water quality data for total selenium

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
No Data Available							

Metals, pH and Fecal Coliform TMDLs for the Guyandotte Watershed

Table 3h. Water quality data for pH

SWS	WQ Station	Avg (ug/L)	Min (ug/L)	Max (ug/L)	Count	Start Date	End Date
2200	OG-92m0.2	7.3	7.3	7.3	1	8/30/2000	8/30/2000
2201	OG-92-Bm1.2	7.2	7.2	7.2	1	8/30/2000	8/30/2000
2202	22	7.5	6.6	8.2	10	10/11/2002	7/1/2003
2203	OG-92-lm	7.2	7.2	7.2	1	8/28/2000	8/28/2000
2204	OG-92m6.6	7.2	7.2	7.2	1	8/28/2000	8/28/2000
2205	OG-92-Km0	7.2	7.2	7.2	1	8/28/2000	8/28/2000
2205	OG-92-Km1.8	7.2	7.2	7.2	1	9/12/2000	9/12/2000
2206	OG-092-0007	7.7	7.7	7.7	1	9/11/2000	9/11/2000
2206	OG-92-K-1m	7.2	7.2	7.2	1	9/11/2000	9/11/2000
2209	OG-92-K-2m	7.2	7.2	7.2	1	9/11/2000	9/11/2000
2210	OG-92-Mm	7.2	7.2	7.2	1	9/11/2000	9/11/2000
2212	OG-92-Q-1m	7.2	7.2	7.2	1	9/7/2000	9/7/2000
2212	OG-92-Qm0.4	7.2	7.2	7.2	1	9/7/2000	9/7/2000

Table 3i. Water quality data for fecal coliforms

SWS	WQ Station	Avg (#/100 mL)	Min (#/100 mL)	Max (#/100 mL)	Count	Start Date	End Date
2200	OG-092-0001	480.0	480.0	480.0	1	8/30/2000	8/30/2000
2201	OG-092-0003	2100.0	2100.0	2100.0	1	8/30/2000	8/30/2000
2203	OG-092-0004	2600.0	2600.0	2600.0	1	8/28/2000	8/28/2000
2204	OG-092-0002	1700.0	1700.0	1700.0	1	8/28/2000	8/28/2000
2205	OG-092-0005	1100.0	1100.0	1100.0	1	8/28/2000	8/28/2000
2205	OG-092-0006	110.0	110.0	110.0	1	9/12/2000	9/12/2000
2206	OG-092-0007	108.0	16.0	200.0	2	9/11/2000	9/12/2000
2209	OG-092-0008	130.0	130.0	130.0	1	9/12/2000	9/12/2000
2212	OG-092-0010	11.0	11.0	11.0	1	9/7/2000	9/7/2000
2213	OG-092-0011	60.0	60.0	60.0	1	9/7/2000	9/7/2000
2209	OG-92-K-2m	130.0	130.0	130.0	1	9/11/2000	9/11/2000

Metals, pH and Fecal Coliform TMDLs for the Guyandotte Watershed

Table 4a. 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
2205	WV0097969	65	65	3.20	0
2205	WV1006291	47	47	3.20	0
2213	WV0061409	67	67	3.20	0
2213	WV0061417	67	67	3.20	0
2213	WV0061441	55	55	3.20	0
2213	WV0061450	30	30	3.20	0
2213	WV1016539	161	161	3.20	0
2214	WV0061522	126	126	3.20	0
2200*	WVG640014	11.27	11.27	3.70	0

* Denotes actual Office of Water Resources Permit

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

SWS	NPDES Permit ID	Baseline (lb/yr)	Allocation (lb/yr)	Allocation (mg/L)	% Reduction
2205	WV0097969	40	40	2.00	0
2205	WV1006291	28	28	2.00	0
2213	WV0061409	36	36	2.00	0
2213	WV0061417	36	36	2.00	0
2213	WV0061441	29	29	2.00	0
2213	WV0061450	16	16	2.00	0
2213	WV1016539	86	86	2.00	0
2214	WV0061522	77	77	2.00	0

Table 4c. 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
2205	WV0097969	67	67	3.27	0
2205	WV1006291	48	48	3.27	0
2213	WV0061409	68	68	3.27	0
2213	WV0061417	69	69	3.27	0
2213	WV0061441	56	56	3.27	0
2213	WV0061450	30	30	3.27	0
2213	WV1016539	165	165	3.27	0
2214	WV0061522	129	129	3.27	0

Metals, pH and Fecal Coliform TMDLs for the Guyandotte Watershed

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

* Other Nonpoint Sources include: Forest, Wetland, Agriculture, Pasture, and Urban)

SWS	AML		Revoked Mines		Roads		Oil and Gas Wells		Harvested Forest		Barren Land		Other Non-Point Sources		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)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	
2200	83	83	0	0	51	51	0	0	0	0	3	3	225	225	
2201	0	0	0	0	59	59	16	16	0	0	465	465	171	171	
2202	659	659	134	134	264	264	3	3	11	11	45	45	1,444	1,444	
2203	432	26	0	0	176	176	3	3	0	0	43	43	1,095	1,095	x
2204	0	0	0	0	11	11	5	5	0	0	853	853	45	45	
2205	893	89	0	0	20	20	1	1	0	0	0	0	319	319	x
2206	0	0	0	0	0	0	3	3	0	0	37	37	24	24	
2207	0	0	0	0	4	4	1	1	0	0	0	0	4	4	
2208	0	0	0	0	5	5	0	0	0	0	0	0	11	11	
2209	0	0	0	0	1	1	1	1	0	0	0	0	13	13	
2210	0	0	0	0	54	54	14	14	15	15	536	536	274	274	
2211	2,258	135	0	0	89	89	1	1	7	7	31	31	1,084	1,084	x
2212	138	8	0	0	17	17	0	0	0	0	36	36	323	323	x
2213	520	31	0	0	4	4	0	0	0	0	12	12	337	337	x
2214	2,334	140	70	70	3	3	0	0	0	0	0	0	515	515	x

Metals, pH and Fecal Coliform TMDLs for the Guyandotte Watershed

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

SWS	AML		Revoked Mines		Roads		Oil and Gas Wells		Harvested Forest		Barren Land		Other Non-Point Sources		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)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	
2200	149	149	0	0	4	4	0	0	0	0	9	9	137	137	
2201	0	0	0	0	25	25	7	7	0	0	205	205	593	593	
2202	1,063	1,063	156	156	28	28	8	8	24	24	144	144	907	907	
2203	3,747	75	0	0	2,810	563	1,619	324	0	0	26,569	5,314	691	691	x
2204	0	0	0	0	5	5	2	2	0	0	376	376	155	155	
2205	7,189	5,032	0	0	15	15	9	9	0	0	0	0	201	201	x
2206	0	0	0	0	23	5	286	57	0	0	3,125	625	85	85	x
2207	0	0	0	0	5	5	1	1	0	0	0	0	13	13	
2208	0	0	0	0	6	6	0	0	0	0	0	0	37	37	
2209	0	0	0	0	113	113	95	95	0	0	0	0	45	45	
2210	0	0	0	0	23	23	6	6	16	16	236	236	950	950	
2211	4,018	4,018	0	0	25	25	4	4	16	16	101	101	683	683	
2212	1,247	1,247	0	0	14	14	4	4	0	0	337	337	204	204	
2213	4,702	2,586	0	0	31	31	1	1	0	0	108	108	212	212	x
2214	15,395	4,157	244	244	2	2	0	0	0	0	0	0	325	325	x

Metals, pH and Fecal Coliform TMDLs for the Guyandotte Watershed

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

SWS	AML		Revoked Mines		Roads		Oil and Gas Wells		Harvested Forest		Barren Land		Other Non-Point Sources		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)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	Baseline Load (lb/yr)	Allocated Load (lb/yr)	
2200	41	41	0	0	51	51	0	0	0	0	3	3	248	248	
2201	0	0	0	0	39	39	11	11	0	0	319	319	247	247	
2202	1,715	1,715	28	28	266	266	3	3	12	12	53	53	1,591	1,591	
2203	442	44	0	0	177	177	3	3	0	0	51	51	1,207	1,207	x
2204	0	0	0	0	7	7	3	3	0	0	585	585	65	65	
2205	1,711	171	0	0	21	21	1	1	0	0	0	0	351	351	x
2206	0	0	0	0	0	0	2	2	0	0	25	25	35	35	
2207	0	0	0	0	3	3	1	1	0	0	0	0	6	6	
2208	0	0	0	0	3	3	0	0	0	0	0	0	15	15	
2209	0	0	0	0	1	1	1	1	0	0	0	0	19	19	
2210	0	0	0	0	36	36	9	9	11	11	368	368	396	396	
2211	1,777	178	0	0	90	90	1	1	8	8	37	37	1,195	1,195	x
2212	68	7	0	0	18	18	1	1	0	0	43	43	357	357	x
2213	256	26	0	0	4	4	0	0	0	0	14	14	371	371	x
2214	1,675	168	15	15	3	3	0	0	0	0	0	0	567	567	x

Metals, pH and Fecal Coliform TMDLs for the Guyandotte Watershed

Table 6. Fecal Coliform basline and allocations

SWS	Stream	Agriculture		Natural Sources		Failing Septics		Residential	
		Baseline Load (counts)	Allocated Load (count)	Baseline Load (count)	Allocated Load (count)	Baseline Load (count)	Allocated Load (count)	Baseline Load (count)	Allocated Load (count)
2200	Little Huff Creek	1.42E+12	9.97E+11	1.32E+13	1.32E+13	2.14E+14	0.00E+00	7.15E+12	5.01E+12