

## Appendix A

### Additional Data Characterization

**Table A-1.** Total number of samples in the analysis database, by station and parameter.

**Table A-2.** Percentages of measurements below minimum detection limits (MDL), by station and parameter.

**Table A-3.** The assigned data type for each station and parameter combination.

**Figure A-1.** Location of AWQM stations and proximal USGS gages in the Potomac River basin.

**Figure A-2.** Location of AWQM stations and proximal USGS gages in the Kanawha River basin.

**Figure A-3.** Location of AWQM stations and proximal USGS gages in the Monongahela River basin.

**Figure A-4.** Location of AWQM stations and proximal USGS gages in the Upper Ohio River basin.

**Figure A-5.** Location of AWQM stations and proximal USGS gages in the Middle Ohio, Big Sandy, and Guyandotte river basins.

**Figure A-6.** West Virginia's Level III and IV ecoregions.

**Table A-1.** Total number of samples in the analysis database, by station and parameter.

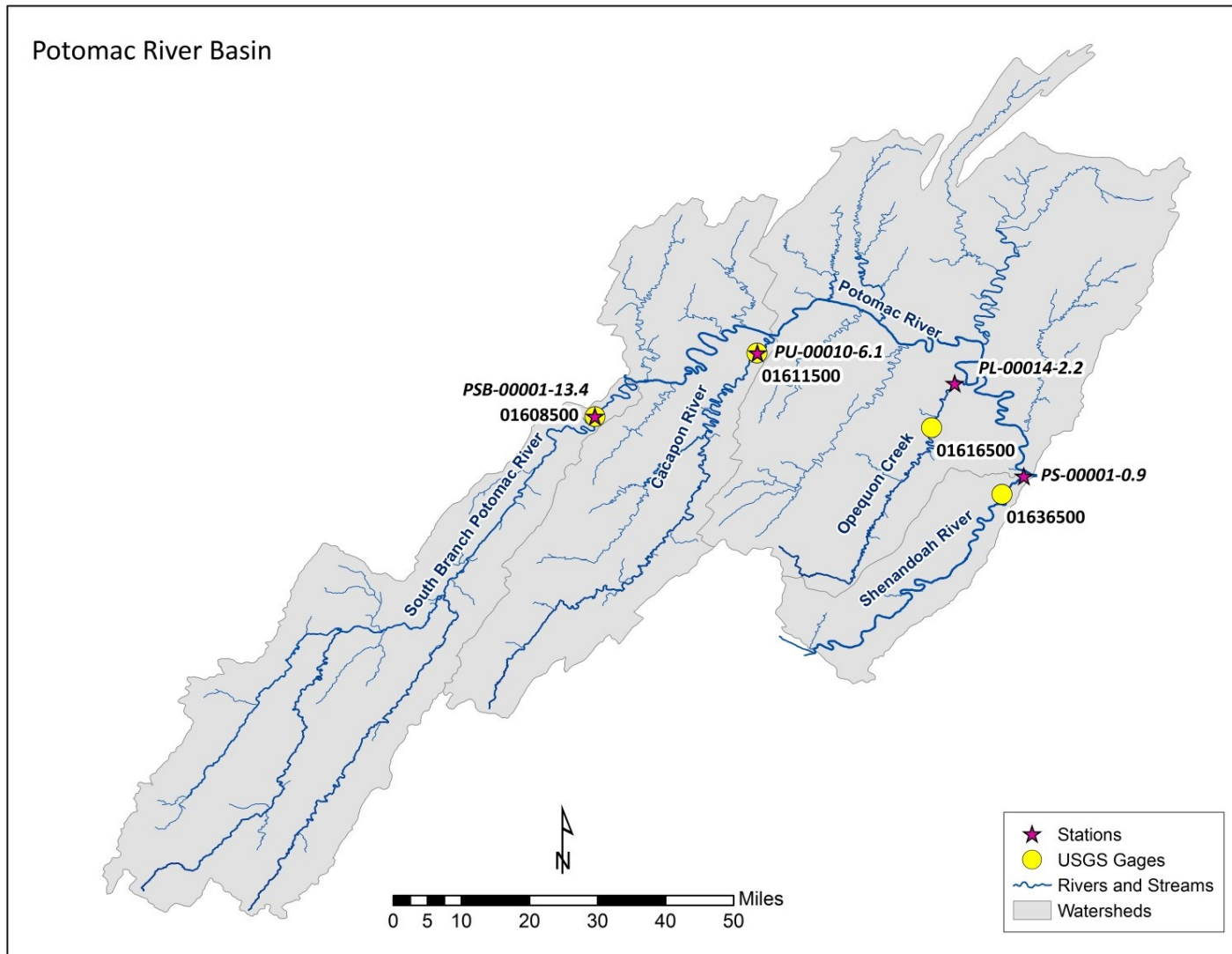
Station Code	Al Total	Alkalinity	Chloride Total	DO	Fe Total	Fecal Coliform	Hardness	Hot Acidity	K Total	Mg Total	Mn Total	Na Total	NO2-NO3-N	P Total	Pb Dissolved	Pb Total	pH	Se Total	Specific Conductance	Sulfate	Total Dissolved Solids (TDS)	Total Suspended Solids (TSS)	Zn Dissolved	Zn Total
BST-00001-0.15	284	356	228	348	310	346	230	301	67	29	310	77	316	328	76	155	320	81	304	359	170	357	70	84
KC-00001-11.6	286	359	230	375	314	357	235	317	70	30	310	81	316	326	90	161	343	84	333	358	174	359	71	83
KE-00001-4.3	245	300	176	296	258	296	188	279	35	36	251	45	291	295	105	105	299	68	285	300	109	308	86	42
KG-00001-8.25	259	363	239	356	283	347	244	272	69	34	283	80	320	334	98	164	328	84	315	366	176	364	75	84
KL-00001-31.7	255	347	221	330	281	333	226	270	66	27	281	72	308	316	92	148	295	72	286	347	158	344	72	74
KNG-00001-1.6	249	354	232	350	275	347	238	266	65	34	274	74	322	339	93	160	325	83	312	352	173	364	75	81
KNL-00001-1.2	237	330	204	335	251	323	210	267	45	25	250	55	314	322	87	144	333	76	321	331	145	330	67	80
KNU-00001-67.4	130	233	230	243	157	232	235	148	68	29	155	76	196	216	82	155	213	78	209	235	173	235	68	88
KNU-00001-96.2	102	203	203	198	122	194	207	114	67	26	122	73	162	178	62	159	165	72	163	204	168	200	44	81
KU-00001-74.1	249	354	228	343	276	344	232	265	67	26	274	78	310	324	87	161	319	75	306	352	173	353	65	83
LK-00001-28.9	213	240	115	228	235	236	116	199	37	25	236	51	205	210	70	43	201	60	203	235	61	236	65	30
LK-00025-1.5	94	107	106	105	108	104	107	102	28	28	107	37	100	107	70	36	104	62	105	107	51	108	70	24
MC-00001-3.5	85	85	85	80	85	84	84	85	27	29	85	28	79	85	73	10	84	52	82	85	30	83	71	12
MC-00001-30	284	371	231	347	325	356	217	339	103	38	324	85	315	324	82	136	312	90	304	359	164	364	79	71
ML-00001-20.6	153	193	197	249	191	184	178	160	95	46	192	96	149	157	93	74	217	97	213	197	124	191	91	52
MT-00001-6.2	257	314	181	290	270	300	179	314	54	50	270	54	297	303	96	84	305	79	299	305	115	306	95	32
MU-00001-99.4	278	367	243	346	319	358	238	337	108	41	319	91	324	333	89	139	317	88	308	356	182	365	86	70
MW-00001-12	292	381	248	367	334	375	241	350	110	43	326	95	322	334	89	141	333	90	328	370	200	381	87	70
OGL-00001-2.8	246	330	201	327	263	322	210	270	43	26	252	54	315	323	69	133	318	78	317	328	145	337	68	77
OGL-00001-74.1	88	80	79	83	88	76	87	81	14	29	80	23	72	80	70	9	85	48	84	80	24	88	68	12
OMN-00006-12.3	112	148	147	155	155	149	147	105	51	31	145	65	116	123	80	61	129	79	127	147	94	156	76	43
OT-00001-8.8	83	83	83	80	83	80	83	83	16	29	83	24	76	83	71	10	80	50	83	83	26	84	72	13
PL-00014-2.2	120	234	232	224	160	219	223	147	75	33	183	80	186	199	81	140	176	80	134	231	175	231	76	70
PS-00001-0.9	238	363	230	334	280	334	233	268	76	39	302	81	306	323	79	142	291	75	250	343	172	360	74	69
PSB-00001-13.4	255	368	240	344	296	346	228	277	89	34	314	82	309	324	80	148	288	78	250	355	180	364	75	79
PU-00010-6.1	230	244	122	231	242	221	118	231	50	34	241	51	229	238	73	46	235	79	221	233	65	245	73	36

**Table A-2.** Percent (%) of measurements below minimum detection limits (MDL), by station and parameter.

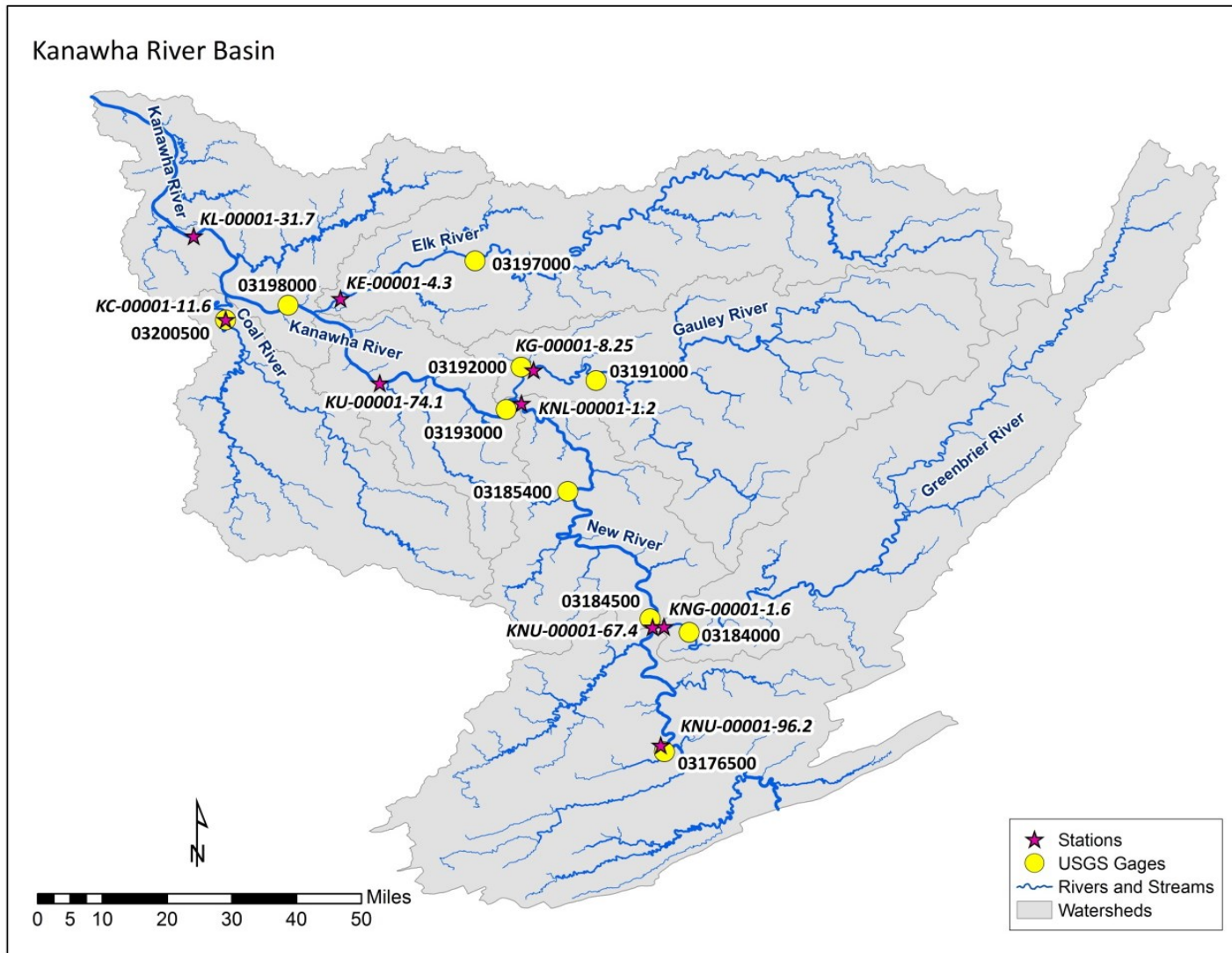
Station Code	Al Total	Alkalinity	Chloride Total	DO	Fe Total	Fecal Coliform	Hardness	Hot Acidity	K Total	Mg Total	Mn Total	Na Total	NO2-NO3-N	P Total	Pb Dissolved	Pb Total	PH	Se Total	Specific Conductance	Sulfate	Total Dissolved Solids (TDS)	Total Suspended Solids (TSS)	Zn Dissolved	Zn Total
BST-00001-0.15	1.1	0.0	0.0	0.0	0.6	10.4	0.0	95.7	0.0	0.0	1.9	0.0	3.5	2.7	96.1	30.3	0.0	29.6	0.0	0.0	0.0	2.5	97.1	7.1
KC-00001-11.6	3.5	0.0	0.0	0.0	1.0	11.2	0.0	94.3	0.0	0.0	1.6	0.0	0.3	9.2	95.6	45.3	0.0	23.8	0.0	0.0	0.0	9.7	94.4	9.6
KE-00001-4.3	5.3	0.0	1.7	0.0	0.8	1.7	0.0	82.8	0.0	0.0	4.0	0.0	1.0	8.8	93.3	81.9	0.0	85.3	0.0	0.0	0.0	8.4	84.9	21.4
KG-00001-8.25	7.7	0.3	2.5	0.0	0.7	25.6	0.0	71.3	0.0	0.0	4.6	0.0	0.9	11.4	82.7	64.0	0.0	81.0	0.3	0.8	0.0	15.7	86.7	9.5
KL-00001-31.7	2.0	0.0	0.9	0.0	0.7	11.7	0.0	97.0	0.0	0.0	1.1	0.0	0.0	1.9	91.3	57.4	0.0	68.1	0.0	0.3	0.0	3.5	93.1	6.8
KNG-00001-1.6	11.6	0.0	0.9	0.0	1.5	30.0	0.0	97.7	0.0	0.0	16.4	1.4	8.4	10.9	86.0	61.9	0.0	83.1	0.0	0.6	0.0	15.1	90.7	11.1
KNL-00001-1.2	5.9	0.0	0.5	0.0	0.4	26.3	0.5	100	0.0	4.0	4.0	0.0	0.3	6.5	88.5	63.9	0.0	80.3	0.0	0.9	0.0	9.1	83.6	10.0
KNU-00001-67.4	6.2	0.0	0.4	0.0	0.6	43.1	0.4	100	0.0	0.0	3.9	0.0	0.5	11.6	90.2	64.5	0.0	75.6	0.5	1.7	0.0	8.9	89.7	12.5
KNU-00001-96.2	6.9	1.0	0.5	0.0	2.5	25.8	0.5	97.4	0.0	0.0	7.4	0.0	1.2	1.7	88.7	50.3	0.0	75.0	0.0	0.5	0.0	13.0	90.9	9.9
KU-00001-74.1	4.0	0.0	1.3	0.0	0.7	9.0	0.0	98.1	0.0	0.0	4.0	0.0	0.6	6.8	82.8	42.9	0.0	77.3	0.0	0.0	0.0	6.2	84.6	3.6
LK-00001-28.9	1.9	0.0	1.7	0.0	0.0	15.7	0.0	87.4	0.0	0.0	2.5	0.0	14.1	3.3	91.4	44.2	0.0	76.7	0.0	0.0	0.0	3.0	92.3	30.0
LK-00025-1.5	5.3	0.0	0.0	0.0	0.0	9.6	0.0	100	0.0	0.0	0.9	2.7	32.0	12.1	97.1	44.4	0.0	91.9	0.0	0.9	0.0	20.4	95.7	25.0
MC-00001-3.5	7.1	1.2	3.5	0.0	0.0	32.1	0.0	87.1	11.1	0.0	0.0	0.0	0.0	32.9	100	90.0	0.0	98.1	0.0	0.0	0.0	50.6	63.4	33.3
MC-00001-30	1.8	0.0	2.2	0.0	0.3	49.7	0.0	45.4	11.7	0.0	0.9	0.0	1.0	10.8	93.9	69.9	0.0	95.6	0.0	0.0	0.0	20.9	72.2	7.0
ML-00001-20.6	3.9	0.0	0.0	0.0	0.0	8.2	0.0	90.6	0.0	0.0	1.0	0.0	12.8	12.7	94.6	68.9	0.0	81.4	0.0	0.0	0.0	13.6	90.1	15.4
MT-00001-6.2	5.1	0.0	1.7	0.0	1.9	21.7	0.6	68.5	1.9	2.0	0.4	0.0	0.0	9.9	97.9	67.9	0.0	89.9	0.0	0.0	0.0	27.5	77.9	12.5
MU-00001-99.4	1.8	0.3	0.4	0.3	0.6	14.8	0.0	86.4	0.0	0.0	0.0	1.1	0.3	4.8	92.1	59.7	0.0	89.8	0.0	0.0	0.0	10.1	68.6	2.9
MW-00001-12	1.7	0.3	0.0	0.0	0.0	6.9	0.0	92.6	0.0	0.0	0.3	0.0	1.2	3.6	93.3	49.6	0.0	82.2	0.0	0.0	0.0	2.9	23.0	1.4
OGL-00001-2.8	2.8	0.0	0.5	0.0	0.0	2.2	0.0	96.7	0.0	0.0	1.6	0.0	0.6	1.2	98.6	36.1	0.0	37.2	0.0	0.0	0.0	1.8	88.2	7.8
OGL-00001-74.1	0.0	0.0	0.0	0.0	1.1	0.0	0.0	100.0	0.0	0.0	0.0	0.0	2.8	23.8	95.7	55.6	0.0	20.8	0.0	0.0	0.0	12.5	97.1	41.7
OMN-00006-12.3	3.6	0.0	0.7	0.0	0.6	12.8	0.0	99.0	0.0	0.0	0.0	0.0	21.6	12.2	93.8	60.7	0.0	77.2	0.0	0.0	0.0	11.5	96.1	18.6
OT-00001-8.8	4.8	0.0	1.2	0.0	1.2	1.3	0.0	100	0.0	0.0	0.0	0.0	11.8	12.0	98.6	50.0	0.0	92.0	0.0	0.0	0.0	13.1	94.4	46.2
PL-00014-2.2	5.0	0.0	0.0	0.0	3.8	15.1	0.0	100	0.0	0.0	7.1	0.0	0.0	5.0	90.1	71.4	0.0	91.3	0.0	0.0	0.0	11.3	81.6	14.3
PS-00001-0.9	5.9	0.0	0.0	0.0	0.7	28.1	0.0	99.6	0.0	0.0	16.9	0.0	0.0	5.6	87.3	76.1	0.0	93.3	0.0	0.3	0.0	14.7	89.2	14.5
PSB-00001-13.4	10.2	0.3	1.3	0.0	2.0	31.2	0.0	96.8	0.0	0.0	27.1	0.0	6.5	8.6	90.0	79.1	0.0	96.2	0.0	0.3	0.0	25.8	89.3	12.7
PU-00010-6.1	11.7	0.0	2.5	0.0	0.0	33.9	0.0	99.1	0.0	0.0	29.0	0.0	21.0	13.9	94.5	78.3	0.0	89.9	0.0	0.9	0.0	43.3	94.5	22.2

**Table A-3.** The assigned data type for each station and parameter combination.

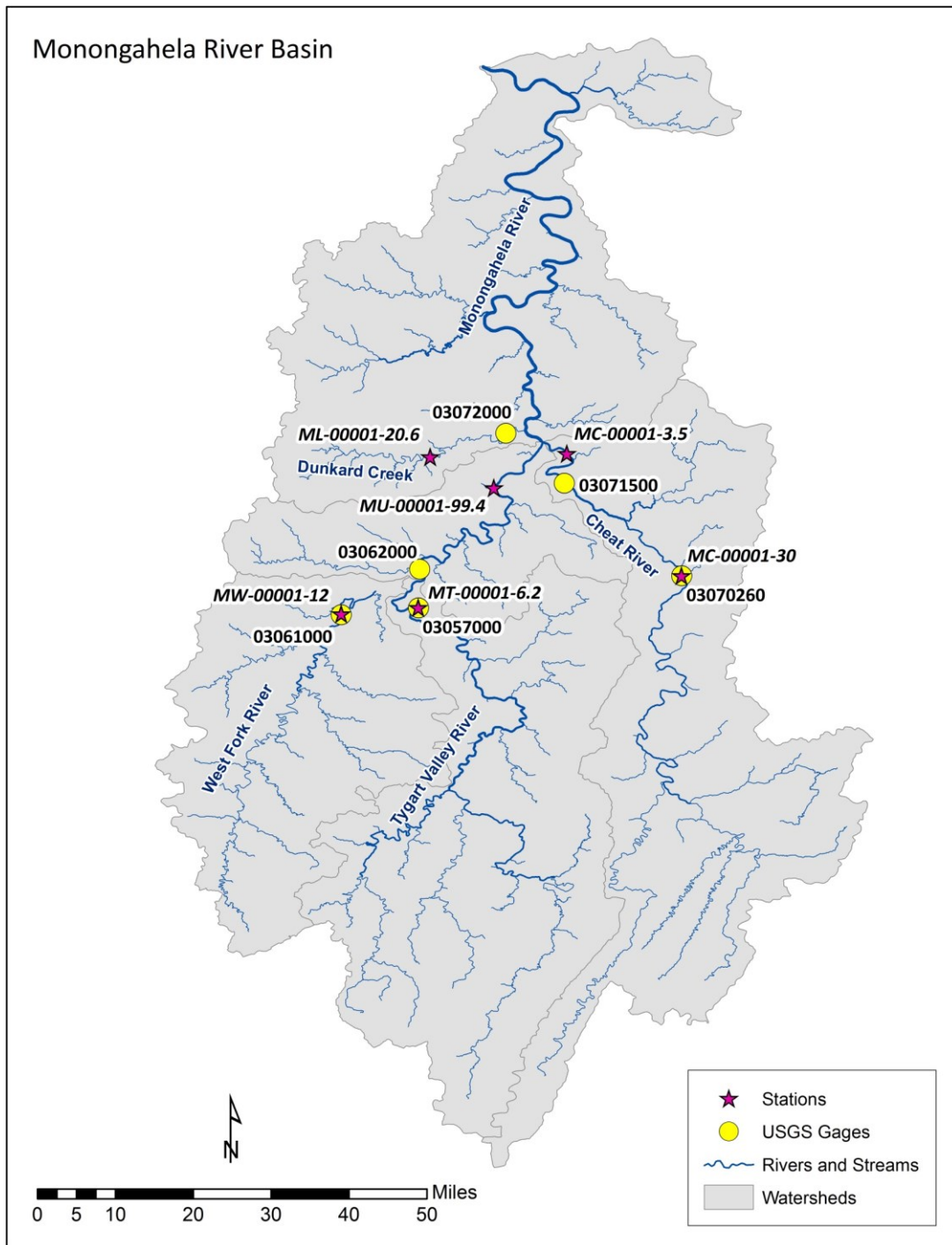
Station	Al Total	Alkalinity	Chloride Total	DO	Fe Total	Fecal Coliform	Hardness	Hot Acidity	K Total	Mg Total	Mn Total	Na Total	NO2-NO3-N	P Total	Pb Dissolved	Pb Total	pH	Se Total	Specific Conductivity	Sulfate	Total Dissolved Solids (TDS)	Total Suspended Solids (TSS)	Zn Dissolved	Zn Total
BST-00001-0.15	Ia	Ia	IIa	Ia	Ia	Ib	IIa	IIIc	IVa	IVa	Ia	IVa	Ib	Ib	IIIc	IVb	Ia	IVb	Ia	Ia	IVa	Ia	IIIc	IVb
KC-00001-11.6	Ib	Ia	IIa	Ia	Ia	Ib	IIa	Ic	IVa	IVa	Ia	IVa	Ia	Ib	IIIc	IVc	Ia	IVb	Ia	Ia	IVa	Ib	IIIc	IVb
KE-00001-4.3	IIIb	IIIa	IIIa	IIIa	IIIa	IIIa	IIIa	IIIc	IVa	IVa	IIIa	IVa	IIIa	IIIb	IIIc	IVc	IIIa	IVc	IIIa	IIIa	IVa	IIIb	IIIc	IVb
KG-00001-8.25	Ib	Ia	IIa	Ia	Ia	Ib	IIa	IIIc	IVa	IVa	Ib	IVa	Ia	Ib	IIIc	IVc	Ia	IVc	Ia	Ia	IVa	Ib	IIIc	IVb
KL-00001-31.7	IIIa	Ia	IIa	Ia	Ia	Ib	IIa	IIIc	IVa	IVa	Ia	IVa	IIIa	Ia	IIIc	IVc	IIIa	IVc	IIIa	Ia	IVa	Ib	IIIc	IVb
KNG-00001-1.6	IIIb	Ia	IIa	Ia	Ia	Ib	IIa	IIIc	IVa	IVa	Ib	IVa	Ib	Ib	IIIc	IVc	Ia	IVc	Ia	Ia	IVa	Ib	IIIc	IVc
KNL-00001-1.2	IIIb	Ia	IIa	Ia	Ia	Ib	IIa	IIIc	IVa	IVa	Ia	IVa	Ia	Ib	IIIc	IVb	Ia	IVc	Ia	Ia	IVa	Ib	IIIc	IVc
KNU-00001-67.4	IIIb	IIa	IIa	IIa	IIa	IIb	IIa	IIIc	IVa	IVa	IIa	IVa	IIa	IIb	IIIc	IVb	IIa	IVc	IIa	IIa	IVa	IIb	IIIc	IVb
KNU-00001-96.2	IIIb	IIa	IIa	IIa	IIa	IIb	IIa	IIIc	IVa	IVa	IIb	IVa	IVa	IIa	IIIc	IVc	IIa	IVc	IIa	IIa	IVa	IIb	IVc	IVb
KU-00001-74.1	Ib	Ia	IIa	Ia	Ia	Ib	IIa	IIIc	IVa	IVa	Ia	IVa	Ia	Ib	IIIc	IVc	Ia	IVc	Ia	Ia	IVa	Ib	IIIc	IVb
LK-00001-28.9	IIIa	IIIa	IIIa	IIIa	IIIa	IIIb	IIIa	IIIc	IVa	IVa	IIIa	IVa	IIIb	IIIb	IIIc	IVb	IIIa	IVc	IIIa	IIIa	IVa	IIIb	IIIc	IVc
LK-00025-1.5	IIIb	IIIa	IIIa	IIIa	IIIa	IIIb	IIIa	IIIc	IVa	IVa	IIIa	IVa	IIIb	IIIb	IIIc	IVb	IIIa	IVc	IIIa	IIIa	IVa	IIIb	IIIc	IVc
MC-00001-3.5	IIIb	IIIa	IIIa	IIIa	IIIa	IIIb	IIIa	IIIc	IVb	IVa	IIIa	IVa	IIIa	IIIb	IIIc	IVc	IIIa	IVc	IIIa	IIIa	IVa	IIIc	IIIc	IVb
MC-00001-30	IIIa	Ia	IIa	Ia	Ia	Ib	IIa	Ic	IVb	IVa	Ia	IVa	Ia	Ib	IIIc	IVb	IIIa	IVc	IIIa	Ia	IVa	Ib	IIIc	IVb
ML-00001-20.6	IIIa	IIa	IIa	IIa	IIa	IIb	IIa	IIc	IVa	IVa	IIa	IVa	IIIb	IIIb	IIIc	IVc	IIIa	IVc	IIIa	IIa	IVa	IIb	IIIc	IVb
MT-00001-6.2	IIIb	IIIa	IIIa	IIIa	IIIa	IIIb	IIIa	IIIc	IVa	IVa	IIIa	IVa	IIIa	IIIb	IIIc	IVc	IIIa	IVc	IIIa	IIIa	IVa	IIIb	IIIc	IVb
MU-00001-99.4	IIIa	Ia	IIa	Ia	Ia	Ib	IIa	Ic	IVa	IVa	Ia	IVa	Ia	Ib	IIIc	IVc	IIIa	IVc	IIIa	Ia	IVa	Ib	IIIc	IVb
MW-00001-12	IIIa	Ia	IIa	Ia	Ia	Ib	IIa	Ic	IVa	IVa	Ia	IVa	Ia	Ib	IIIc	IVc	IIIa	IVc	IIIa	Ia	IVa	Ia	IIIb	IVb
OGL-00001-2.8	IIIb	Ia	IIa	Ia	Ia	Ia	IIa	IIIc	IVa	IVa	Ia	IVa	Ia	Ia	IIIc	IVb	Ia	IVb	Ia	Ia	IVa	Ia	IIIc	IVb
OGL-00001-74.1	IIIa	IIIa	IIIa	IIIa	IIIa	IIIa	IIIa	IIIc	IVa	IVa	IIIa	IVa	IIIa	IIIb	IIIc	IVc	IIIa	IVb	IIIa	IIIa	IVa	IIIb	IIIc	IVb
OMN-00006-12.3	IIIa	IIa	IIa	IIa	IIa	IIb	IIa	IIIc	IVa	IVa	IIa	IVa	IIIb	IIIb	IIIc	IVb	IIIa	IVc	IIIa	IIa	IVa	IIb	IIIc	IVc
OT-00001-8.8	IIIb	IIIa	IIIa	IIIa	IIIa	IIIa	IIIa	IIIc	IVa	IVa	IIIa	IVa	IIIb	IIIb	IIIc	IVc	IIIa	IVc	IIIa	IIIa	IVa	IIIb	IIIc	IVb
PL-00014-2.2	IIIb	IIa	IIa	IIa	IIa	IIb	IIa	IIIc	IVa	IVa	IIb	IVa	IIa	IIb	IIIc	IVc	IIIa	IVc	IIIa	IIa	IVa	IIb	IIIc	IVb
PS-00001-0.9	IIIb	Ia	IIa	Ia	Ia	Ib	IIa	IIIc	IVa	IVa	Ib	IVa	Ia	Ib	IIIc	IVc	IIIa	IVc	IIIa	Ia	IVa	Ib	IIIc	IVc
PSB-00001-13.4	IIIb	Ia	IIa	Ia	Ia	Ib	IIa	IIIc	IVa	IVa	Ib	IVa	Ib	Ib	IIIc	IVc	IIIa	IVc	IIIa	Ia	IVa	Ib	IIIc	IVc
PU-00010-6.1	IIIb	IIIa	IIIa	IIIa	IIIa	IIIb	IIIa	IIIc	IVa	IVa	IIIb	IVa	IIIb	IIIb	IIIc	IVc	IIIa	IVc	IIIa	IIIa	IVa	IIIc	IIIc	IVc



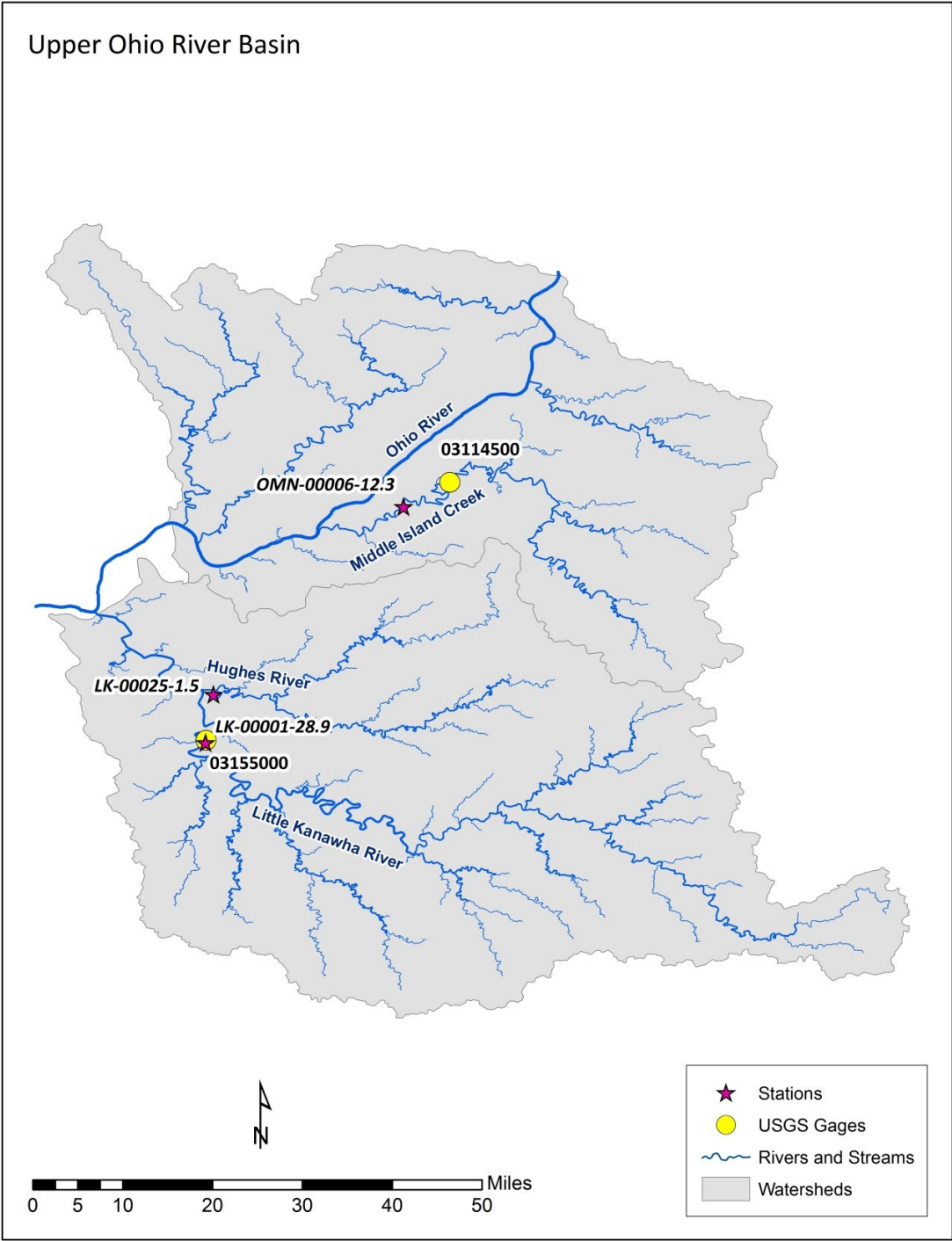
**Figure A-1.** Location of AWQM stations and proximal USGS gages in the Potomac River basin.



**Figure A-2.** Location of AWQM stations and proximal USGS gages in the Kanawha River basin.

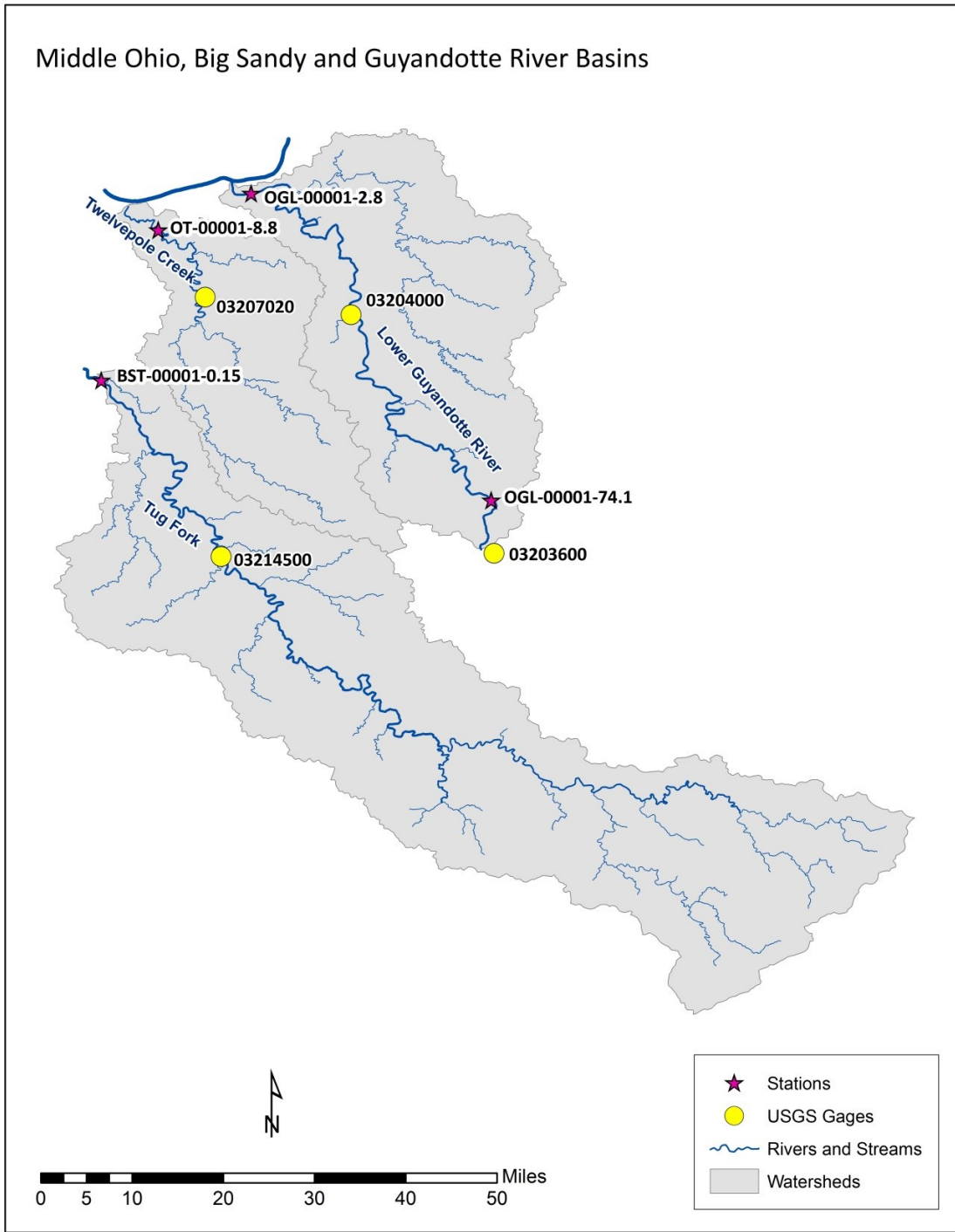


**Figure A-3.** Location of AWQM stations and proximal USGS gages in the Monongahela River basin.

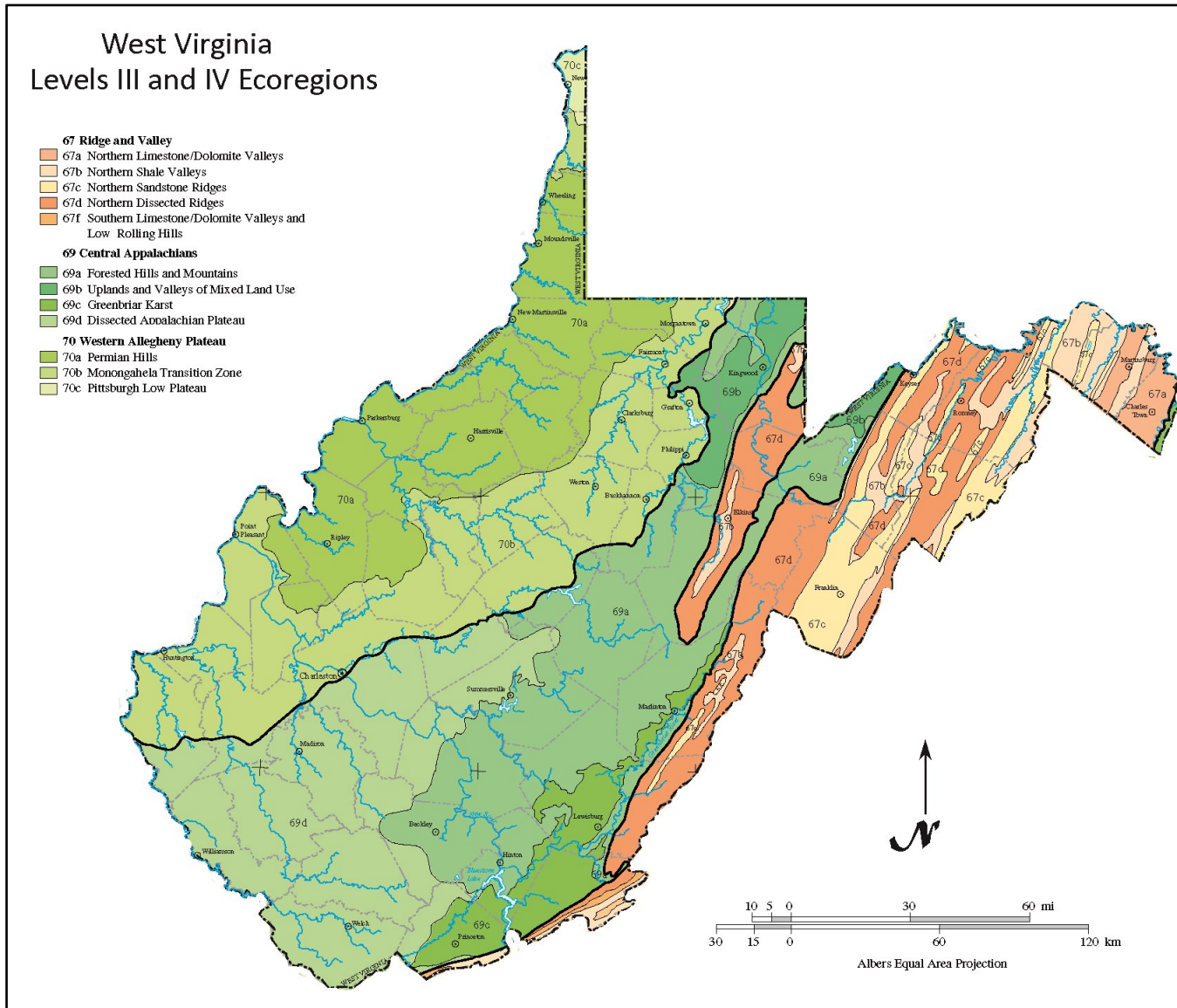


**Figure A-4.** Location of AWQM stations and proximal USGS gages in the Upper Ohio River basin.





**Figure A-5.** Location of AWQM stations and proximal USGS gages in the Middle Ohio, Big Sandy, and Guyandotte river basins.



**Figure A-6.** West Virginia’s ecoregions. Excerpted from maps available at <http://www.epa.gov/wed/pages/ecoregions/ecoregions.htm>.