

# **Upper and Lower Rapidan River Source Assessment**

**Table 1. Subwatersheds draining to impairments.**

<b>Impairment</b>	<b>Model Region</b>	<b>Subwatersheds Draining to Impairment</b>
Rapidan River (VAN-E13R-02)	Upper Rapidan	URR-1 through URR-19
UT to Rapidan River (VAN-E13R-04)	Upper Rapidan	URR-18
Blue Run (VAN-E13R-01)	Upper Rapidan	URR-11 through URR-14
Marsh Run (VAN-E13R-03)	Upper Rapidan	URR-7 through URR-8
Cedar Run (VAN-E16R-01)	Lower Rapidan	LRR-3 through LRR-6
Rapidan River (VAN-E18R-01)	Lower Rapidan	LRR-1 through LRR-14*

\* Upper Rapidan River subwatersheds and the Robison River watershed drain to Lower Rapidan River watershed.

**Table 2. Permitted point sources discharging in the Upper Rapidan River watershed.**

<b>Sub-shed</b>	<b>Permit #</b>	<b>Facility Name</b>	<b>Receiving Stream</b>	<b>Facility Type</b>	<b>Design Flow (MGD)</b>
URR-05	VA0090948	Rapidan STP	Rapidan River	Municipal	0.600
URR-05	VA0051144	Greene County WTP	Rapidan River	Industrial	0.026
URR-09	VA0060879	Rapidan Baptist Camp and Conference Center	Rapidan River, UT	Municipal	0.020
URR-15	VA0053121	Orange Town Water Treatment Plant	Poplar Run	Industrial	0.204
URR-16	VA0021385	Orange Town Sewage Treatment Plant	Rapidan River	Municipal	1.500
URR-19	VA0027839	Woodberry Forest School	Rapidan River; Rapidan River, UT	Municipal	0.039

**Table 3. Permitted point sources discharging in the Lower Rapidan River watershed.**

Sub-shed	Permit #	Facility Name	Receiving Stream	Facility Type	Design Flow (MGD)
LRR-01	VAG406382	Residence	Rapidan River, UT	General	0.001
LRR-01	VAG406306	Residence	Rapidan River, UT	General	0.001
LRR-01	VAG406331	Residence	Rapidan River	General	0.001
LRR-01	VAG406213	Residence	Rapidan River, UT	General	0.001
LRR-01	VAG406266	Residence	Rapidan River, UT	General	0.001
LRR-03	VAG406337	Residence	Cedar Run, UT	General	0.001
LRR-03	VAG406186	Residence	Cedar Run, UT	General	0.001
LRR-03	VAG406214	Residence	Cedar Run, UT	General	0.001
LRR-03	VAG406414	Residence	Cedar Run, UT	General	0.001
LRR-04	VAG406381	Residence	Cedar Run, UT	General	0.001
LRR-04	VAG406362	Residence	Cedar Run, UT	General	0.001
LRR-04	VA0087718	DOC - Coffeewood Correctional Center	Cabin Branch	Industrial	0.200
LRR-04	VAG406154	Residence	Cedar Run, UT	General	0.001
LRR-04	VAG406041	Residence	Cedar Run	General	0.001
LRR-04	VAG406305	Residence	Cabin Branch	General	0.001
LRR-06	VAG406010	Residence	Cedar Run	General	0.001
LRR-08	VAG406287	Residence	Dry Run	General	0.001
LRR-08	VAG406294	Residence	Potato Run	General	0.001
LRR-08	VAG406318	Residence	Brook Run, UT	General	0.001
LRR-08	VAG406407	Residence	Sumerduck Run	General	0.001
LRR-08	VAG406335	Residence	Rapidan River, UT	General	0.001
LRR-08	VAG406336	Residence	Rapidan River, UT	General	0.001
LRR-08	VAG406349	Residence	Dry Run	General	0.001
LRR-08	VAG406350	Residence	Potato Run, UT	General	0.001
LRR-08	VAG406290	Residence	Potato Run, UT	General	0.001
LRR-08	VAG406286	Residence	Dry Run	General	0.001
LRR-08	VAG406309	Residence	Sumerduck Run, UT	General	0.001

**Table 3 (Continued). Permitted point sources discharging in the Lower Rapidan River watershed.**

Sub-shed	Permit #	Facility Name	Receiving Stream	Facility Type	Design Flow (MGD)
LRR-08	VAG406257	Residence	Mud Branch	General	0.001
LRR-08	VAG406268	Residence	Potato Creek	General	0.001
LRR-08	VAG406021	Residence	Potato Run	General	0.001
LRR-08	VAG406112	Residence	Potato Run	General	0.001
LRR-08	VAG406127	Residence	Potato Run	General	0.001
LRR-08	VAG406140	Residence	Potato Run	General	0.001
LRR-08	VAG406182	Residence	Potato Run	General	0.001
LRR-08	VAG406200	Residence	Potato Run	General	0.001
LRR-08	VAG406167	Residence	Potato Run, UT	General	0.001
LRR-08	VAG406070	Residence	Potato Run, UT	General	0.001
LRR-08	VAG406117	Residence	Potato Run, UT	General	0.001
LRR-08	VAG406261	Residence	Potato Run, UT	General	0.001
LRR-08	VAG406081	Residence	Summerduck Run	General	0.001
LRR-08	VAG406163	Residence	Summerduck Run	General	0.001
LRR-08	VAG406219	Residence	Summerduck Run, UT	General	0.001
LRR-10	VAG406384	Residence	Mine Run, UT	General	0.001
LRR-11	VA0083411	Wilderness Wastewater Treatment Plant	Rapidan River	Municipal	2.000
LRR-12	VA0078131	Locust Grove Elementary School	Cormack Run, UT	Municipal	0.014
LRR-12	VAG406044	Lake Wilderness	Wilderness Run	General	0.001
LRR-12	VA0081621	Lake Wilderness Public Water Systems	Grant Lake, UT; North Wilderness Run, UT	Industrial	0.008
LRR-13	VA0074381	Camp Happyland	Hazel Run, UT	Municipal	0.026

**Table 4. Population, housing units, straight pipes, failing septic systems, and biosolids per subwatershed in the Upper Rapidan River watershed.**

Source	URR-1 (#)	URR-2 (#)	URR-3 (#)	URR-4 (#)	URR-5 (#)	URR-6 (#)	URR-7 (#)	URR-8 (#)	URR-9 (#)	URR-10 (#)
Human	311	129	437	1,065	3,648	1,593	546	619	888	493
Housing Unit	139	57	196	472	1,324	525	206	243	318	182
Straight Pipes	8	5	22	15	9	3	4	7	12	2
Failing Septic Systems	28	25	72	130	298	142	62	74	105	52
Dog	74	30	104	250	702	278	109	129	168	97
Cat	83	34	117	283	795	315	124	146	191	109
Biosolids	42	200	405	396	1,791	615	122	259	726	421
Beef	44	223	460	348	1756	567	122	271	765	456
Dairy	0	0	0	0	60	435	0	0	1,335	275
Horses	10	51	104	43	202	47	19	51	160	98
Sheep	2	10	21	5	22	2	0	0	27	14
Turkey	0	0	0	0	12,000	0	0	0	26,000	0
Chicken	0	0	0	0	0	0	0	0	0	0
Deer	476	194	560	825	1,207	325	170	274	375	143
Raccoon	248	155	409	553	985	301	196	252	407	166
Muskrat	102	392	857	597	2,551	840	204	544	1,128	566
Beaver	28	18	47	62	110	33	22	29	45	20
Geese	54	24	58	112	152	45	28	38	60	27
Wood Duck	28	11	35	39	70	16	10	13	21	10
Wild Turkey	47	16	33	106	86	25	23	29	30	9
Bear	39	11	36	63	66	14	4	0	16	4

**Table 4 (Continued). Population, housing units, straight pipes, failing septic systems, and biosolids per subwatershed in the Upper Rapidan River watershed.**

<b>Source</b>	<b>URR-11</b>	<b>URR-12</b>	<b>URR-13</b>	<b>URR-14</b>	<b>URR-15</b>	<b>URR-16</b>	<b>URR-17</b>	<b>URR-18</b>	<b>URR-19</b>
	<b>(#)</b>	<b>(#)</b>	<b>(#)</b>	<b>(#)</b>	<b>(#)</b>	<b>(#)</b>	<b>(#)</b>	<b>(#)</b>	<b>(#)</b>
Human	748	601	452	946	3,561	446	216	354	339
Housing Unit	279	285	198	361	1,262	162	81	143	128
Straight Pipes	27	6	4	1	38	2	1	4	0
Failing Septic Systems	66	45	43	60	242	35	10	17	26
Dog	148	151	105	191	669	86	43	76	68
Cat	167	171	119	216	757	97	49	86	77
Biosolids	241	389	363	224	1,731	263	99	120	185
Beef	336	417	363	237	1,887	256	104	131	203
Dairy	0	0	0	0	350	125	0	0	0
Horses	105	80	69	45	409	56	22	25	42
Sheep	14	0	0	0	61	8	2	0	4
Turkey	0	0	0	0	17,000	0	0	0	0
Chicken	0	0	0	0	0	0	0	0	0
Deer	268	220	144	173	984	123	45	68	103
Raccoon	328	210	158	150	854	112	37	56	99
Muskrat	1,480	554	325	2,565	395	118	157	280	0
Beaver	37	23	18	17	94	13	5	6	12
Geese	46	32	25	24	138	17	7	10	14
Wood Duck	17	12	9	9	48	6	3	4	5
Wild Turkey	32	17	9	15	65	6	3	5	7
Bear	5	0	0	0	26	2	1	0	2

**Table 5. Population, housing units, straight pipes, failing septic systems, and biosolids per subwatershed in the Lower Rapidan River watershed.**

<b>Source</b>	<b>LRR-1 (#)</b>	<b>LRR-2 (#)</b>	<b>LRR-3 (#)</b>	<b>LRR-4 (#)</b>	<b>LRR-5 (#)</b>	<b>LRR-6 (#)</b>	<b>LRR-7 (#)</b>	<b>LRR-8 (#)</b>	<b>LRR-9 (#)</b>	<b>LRR-10 (#)</b>
Human	1,827	24	1,298	607	136	24	145	1,746	1,480	1,943
Housing Unit	559	4	361	87	19	4	46	578	482	619
Straight Pipes	9	0	3	3	0	0	2	11	6	6
Failing Septic Systems	129	2	79	33	8	1	15	166	169	196
Dog	296	2	191	46	10	2	24	306	255	328
Cat	335	3	216	52	12	2	28	347	289	371
Biosolids	1,333	37	782	646	60	4	110	2,262	1,364	790
Beef	1,223	29	490	440	39	3	97	1,546	1,395	832
Dairy	0	0	695	0	0	0	0	925	250	225
Horses	267	8	151	136	12	1	19	438	267	159
Sheep	26	2	46	41	4	0	0	114	0	0
Turkey	28,500	0	0	0	0	0	0	0	25,000	0
Chicken	0	0	0	0	0	0	0	0	0	0
Deer	798	14	416	317	71	14	81	1,344	795	779
Raccoon	584	9	304	193	44	14	101	1,028	814	1,009
Muskrat	1,925	33	1,052	775	80	3	155	2,979	1,911	1,198
Beaver	64	1	34	22	5	2	12	115	91	115
Geese	92	2	43	44	9	2	13	182	125	144
Wood Duck	46	1	27	16	4	1	5	64	44	50
Wild Turkey	38	1	13	16	7	2	9	95	73	111
Bear	6	0	8	6	3	1	0	29	0	0

**Table 5 (Continued). Population, housing units, straight pipes, failing septic systems, and biosolids per subwatershed in the Lower Rapidan River watershed.**

<b>Source</b>	<b>LRR-11 (#)</b>	<b>LRR-12 (#)</b>	<b>LRR-13 (#)</b>	<b>LRR-14 (#)</b>	<b>LRR-15 (#)</b>
Human	6,286	5,689	137	478	2,289
Housing Unit	2,429	1,663	39	106	486
Straight Pipes	9	0	0	1	3
Failing Septic Systems	167	170	11	24	106
Dog	1,288	882	21	56	257
Cat	1,458	998	24	64	291
Biosolids	707	263	36	59	147
Beef	618	231	25	43	111
Dairy	0	540	0	0	0
Horses	141	76	8	18	51
Sheep	18	0	2	2	3
Turkey	0	0	0	0	0
Chicken	0	0	0	0	0
Deer	911	436	75	118	407
Raccoon	1,011	460	86	108	403
Muskrat	859	420	50	70	270
Beaver	108	51	10	12	45
Geese	156	64	13	16	56
Wood Duck	55	23	5	6	20
Wild Turkey	122	51	12	15	51
Bear	19	0	4	3	5