

## Mad River

Effluent is discharged into Mad River at a point approximately six-tenths of a mile downstream from the confluence of Mad River and Buck Creek. The plant does testing upstream on Mad River, Buck Creek and downstream testing on Mad River.



### Plant Effluent at Mad River

Mad River is a cold-water stream flowing from Logan County, to downtown Dayton, where it meets the Great Miami River. Buck Creek flows from west side of Springfield and takes flow from Clarence J Brown Reservoir. It then flows through the center of Springfield and joins with Mad River about a mile upstream of the plant. Both rivers have very different loading on them and the plant samples before the confluence of the two rivers. Below is the annual average for 2007.

#### Annual Average 2007

	Mad River	Buck Creek	Plant Effluent	Downstream
Fecal Coliform	2244	14961	419	11786
Total Phosphorus	0.07	0.1	1.99	0.18
Nitrite / Nitrate	3.59	2.08	9.1	3.34

Ammonia	0.01	0.13	0.08	0.24
DO	10.15	10.23	6.72	9.18
pH	8.23	8.25	6.99	8.15
Water Temp (C)	12.22	13.07	17.61	13.18

The plant's final effluent limits are set by the Ohio EPA to protect the receiving stream from pollutants of raw wastewater. The Dissolved Oxygen yearly limit is 5.0 mg/L. The plant monitors the effluent DO continuous and will run post air blowers as needed. The plant also has yearly limits on Oil & Grease, max limit of 10 mg/L, pH, max of 9.0 min of 6.5. We have seasonal limits for concentration and loading for TSS, Ammonia, and CBOD. There are summer limits for Fecal Coliform and total chlorine residual. We also report the following but have no limits for: Water Temperature, Flow, Total Nitrogen Kjeldahl, Total Nitrite Plus Nitrate, Total Phosphorus, Free Cyanide, Nickel, Silver, Zinc, Cadmium, Lead, Chromium, Copper, Dissolved Hexavalent Chromium, and Mercury. The operator does a good job at keeping this plant within the NPDES limits. The times when the plant violates its permit is usually from mechanical breakdowns. Any violations have been for short durations with a total of six violations for 2006, 2007, and 2008. There was one for TSS, three for low DO, and two for high total chlorine residual.

Permit limits

	Concentration				Loadings	
	Maximum	Minimum	Weekly	Monthly	Weekly	Monthly
DO		5.0				
TSS Winter			45	30	4258	2839
TSS Summer			30	20	2839	1893
Oil & Grease	10					
Ammonia Winter			15	10	1419	946
Ammonia Summer			4.5	3	426	284
Fecal Coliform Summer			2000	1000		
Chlorine Residual Summer	0.038					
pH	9.0	6.5				
CBOD Winter			33	22	3123	2082
CBOD Summer			23	15	2176	1419