

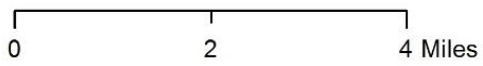
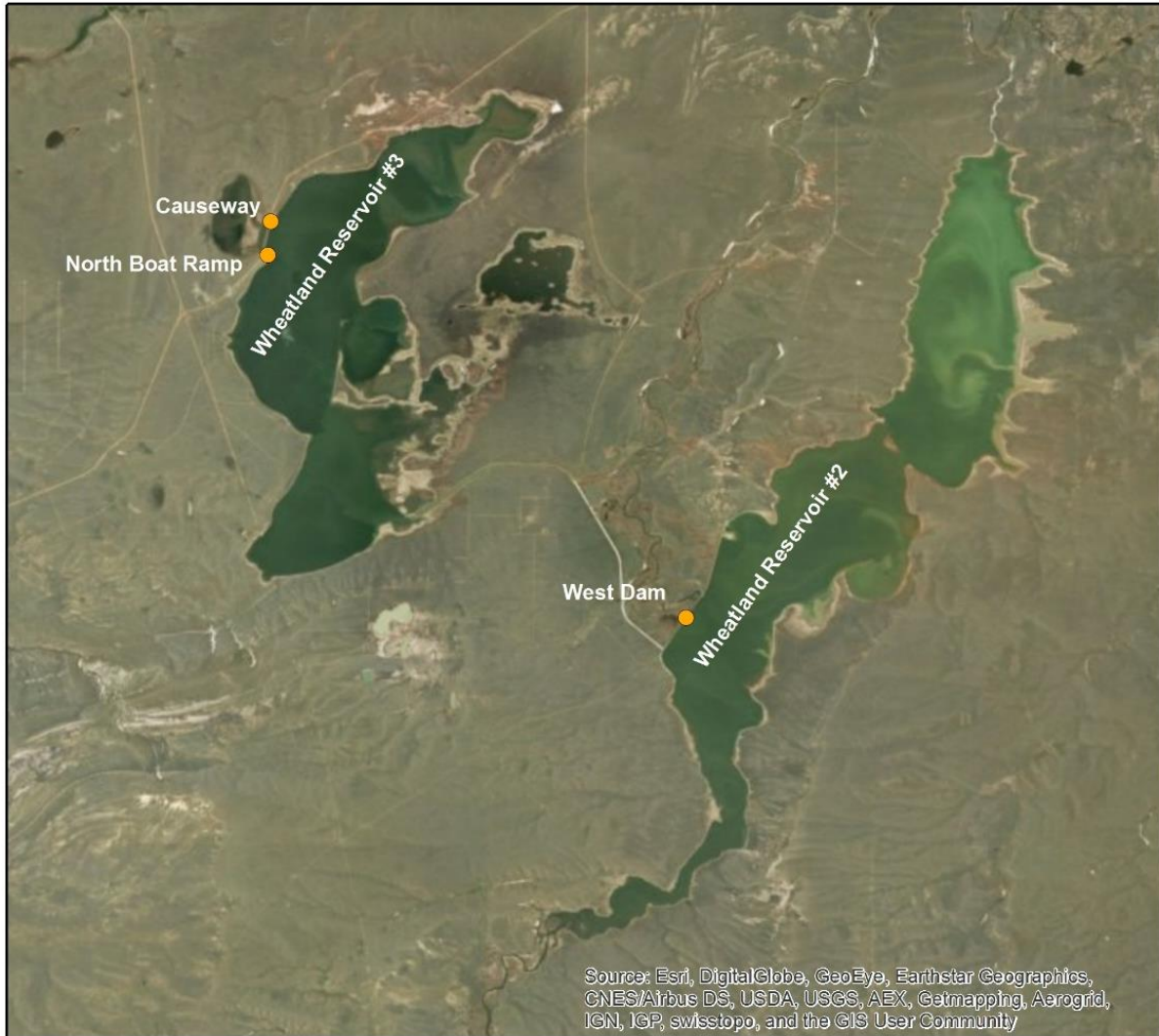
Wheatland Reservoir #3 Harmful Algal Bloom Investigation 2018

Waterbody Information	
Waterbody Name	Wheatland Reservoir #3
Waterbody Type	Lake/Reservoir
Waterbody Size	2,664 acres
County	Albany
Management Agency	Wyoming Game and Fish Department
Irrigation District	Wheatland Irrigation District
Drinking Water Intake	No
HCB Advisory Information	
Date Issued by WDH	August 10, 2018
Date Lifted by WDH	October 16, 2018
Cyanobacteria Threshold	20,000 cells/mL
Cyanotoxin Threshold(s)	10.0 µg/L total microcystins
Sample Data	
Sample Date	August 8, 2018
Sample Location	Causeway (41.89393, -105.72715)
Cyanobacteria Density	16,231,501 cells/mL
Dominant Taxon	<i>Gloeotrichia echinulata</i>
Total Microcystins	39.3 µg/L
Initial Complainant	Concerned citizens

Summary

In early August 2018, the Wyoming Department of Environmental Quality (DEQ) received several calls from concerned citizens about potential cyanobacterial blooms in Wheatland Reservoir #3. On August 8th, DEQ visited the reservoir and observed cyanobacteria at the Causeway and Boat Ramp on the western shore. Samples were collected for cyanobacteria and cyanotoxin analysis at both locations. On August 10th, DEQ received results that average cyanobacteria cell densities exceeded the 20,000 cells/mL recreational use threshold identified in the [Wyoming Harmful Algal Bloom Action Plan](#) (Action Plan). DEQ notified the Wyoming Department of Health (WDH) and WDH issued a recreational use advisory for Wheatland Reservoir #3. On August 15th, DEQ received cyanotoxin results that average total microcystins at the Causeway exceeded the 10 µg/L recreational use threshold; the Boat Ramp cyanotoxin sample was damaged during processing and could not be analyzed. On October 16th, DEQ reviewed visual evidence provided by the Wyoming Game and Fish Department (WGFD) and confirmed that the bloom had dissipated in Wheatland Reservoirs #3. DEQ relayed this information to WDH and WDH lifted the recreational use advisories.

Map 1. Sample sites at the Wheatland Reservoir #2 and #3 complex.



● Sample Location(s)

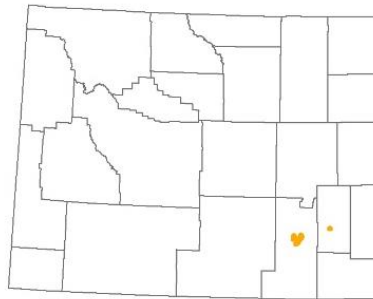




Figure 1. Wheatland Reservoir #3 - August sampling



Figure 2. Wheatland Reservoir #3 - August sampling (areal extent)

Table 1. Cyanobacteria Identification and Enumeration Results

Location	Date	Taxon	Average Density (cells/mL)	Total Average Density (cells/mL)
Causeway	8/8/2018	<i>Gloeotrichia echinulata</i>	14,826,010	16,227,244
		<i>Aphanizomenon flos-aquae</i>	1,276,262	
		<i>Microcystis</i>	120,714	
		<i>Dolichospermum</i>	4,258	
North Boat Ramp	8/8/2018	<i>Gloeotrichia echinulata</i>	330,764	448,400
		<i>Aphanizomenon flos-aquae</i>	80,671	
		<i>Microcystis</i>	36,214	
		<i>Dolichospermum</i>	751	

Table 2. Cyanotoxin Enzyme-Linked Immunosorbent Assay (ELISA) Results

Location	Date	Total Microcystins (µg/L)
Causeway	8/8/2018	39.3