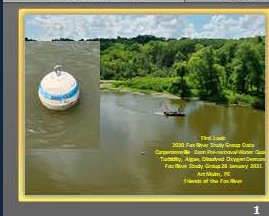
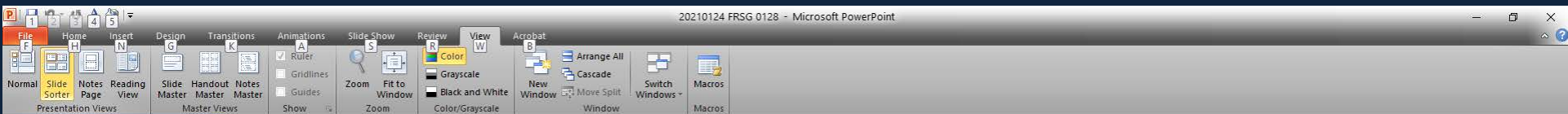
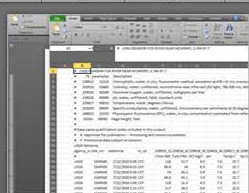




First Look
2020 Fox River Study Group Data
Carpentersville Dam Pre-removal Water Quality
Turbidity, Algae, Dissolved Oxygen Demand
Fox River Study Group 28 January 2021
Art Malm, PE
Friends of the Fox River



1



2



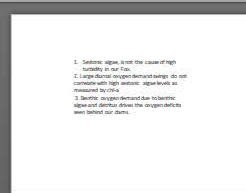
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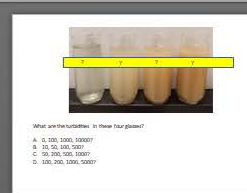
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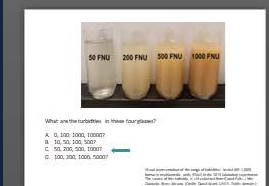
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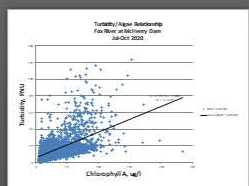
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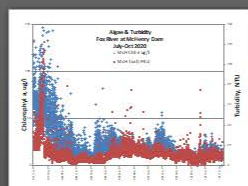
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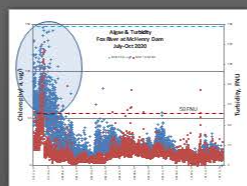
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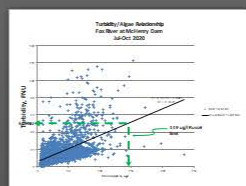
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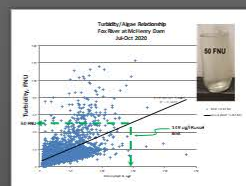
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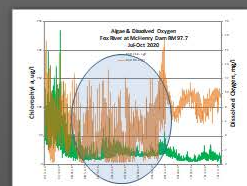
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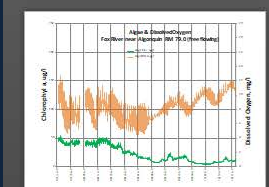
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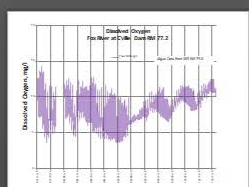
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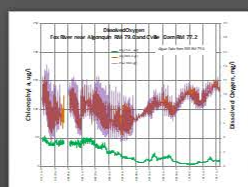
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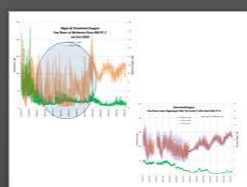
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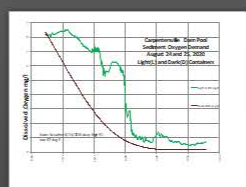
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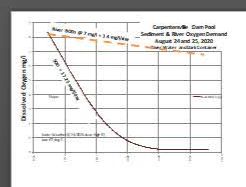
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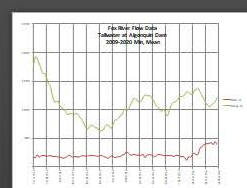
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28

	B1			#	USGS 05549500 FOX RIVER NEAR MCHENRY, IL RM 97.7					
	A	B	C	D	E	F	G	H	I	J
1		#	USGS 05549500 FOX RIVER NEAR MCHENRY, IL RM 97.7							
2		#	TS	parameter	Description					
3		#	239015	32318	Chlorophylls, water, in situ, fluorometric method, excitation at 470 +15 nm, emiss					
4		#	239016	63680	Turbidity, water, unfiltered, monochrome near infra-red LED light, 780-900 nm, de					
5		#	239018	00300	Dissolved oxygen, water, unfiltered, milligrams per liter					
6		#	239026	00400	pH, water, unfiltered, field, standard units					
7		#	239027	00010	Temperature, water, degrees Celsius					
8		#	239029	00095	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degre					
9		#	248653	32319	Phycocyanin fluorescence (fPC), water, in situ, concentration estimated from refe					
10		#	50583	00065	Gage height, feet					
11		#								
12		# Data-value qualification codes included in this output:								
13		# A Approved for publication -- Processing and review completed.								
14		# P Provisional data subject to revision.								
15		USGS McHenry								
16		agency_cd	site_no	datetime	tz_cd	239015_32	239016_63	239018_00	239026_00	239027_00
17		#				Chlor 685	Turb FNU	DO mg/l	pH	Temp C
18		USGS	5549500	7/22/2020 0:00	CST	118	33.7	8.9	7.8	25.7
19		USGS	5549500	7/22/2020 0:15	CST	89.4	34	6.9	7.6	25.7
20		USGS	5549500	7/22/2020 0:30	CST	74	45.2	5.8	7.4	25.7
21		USGS	5549500	7/22/2020 0:45	CST	69.8	45.1	7.4	7.6	25.7
22		USGS	5549500	7/22/2020 1:00	CST	118	21.3	4.3	7.3	25.7
23		USGS	5549500	7/22/2020 1:15	CST	117	26.2	8.6	7.7	25.6
24		USGS	5549500	7/22/2020 1:30	CST	96.4	24.2	7.8	7.6	25.6



McHenry Lock and Dam
RM 97.7



FRSG South Algonqu
RM 79.0



**FRSG Carpentersville Dam Pool
RM 77.2**



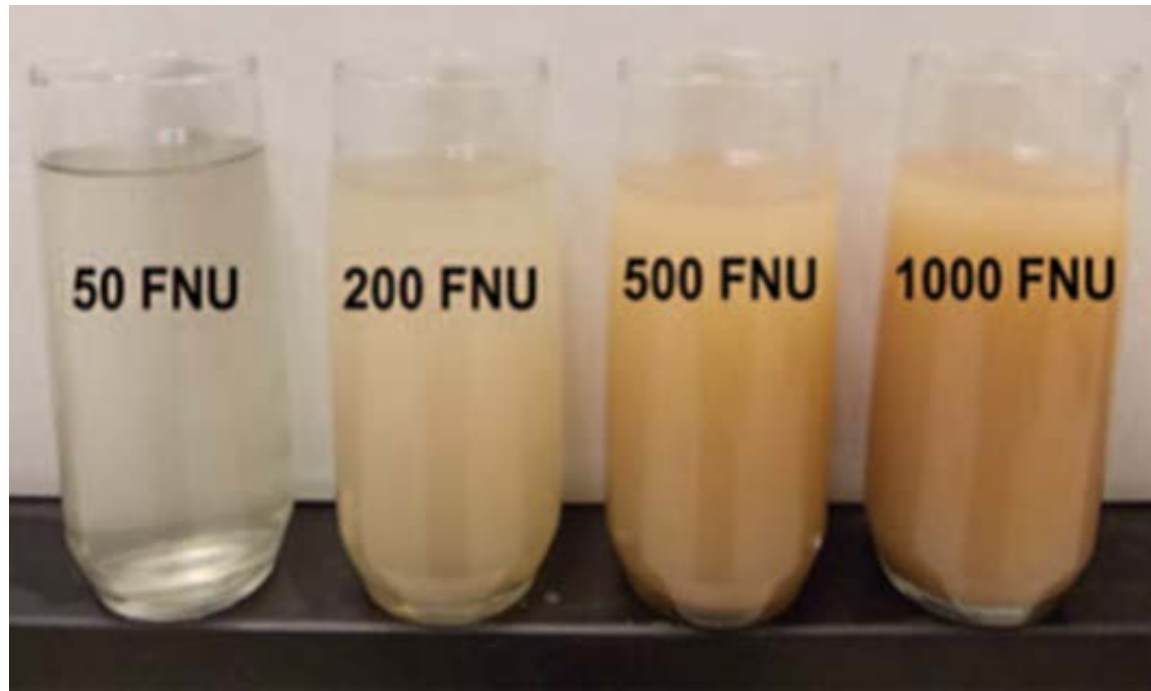
Data Supported Hypotheses:

1. Sestonic algae is not the cause of high turbidity in our Fox.
2. Large diurnal oxygen demand swings do not correlate with high sestonic algae levels as measured by chl-a.
3. Benthic oxygen demand due to benthic algae and detritus drives the oxygen deficits seen behind our dams.



What are the turbidities in these four glasses?

- A. 0, 100, 1000, 10000?
- B. 10, 50, 100, 500?
- C. 50, 200, 500, 1000?
- D. 100, 200, 1000, 5000?



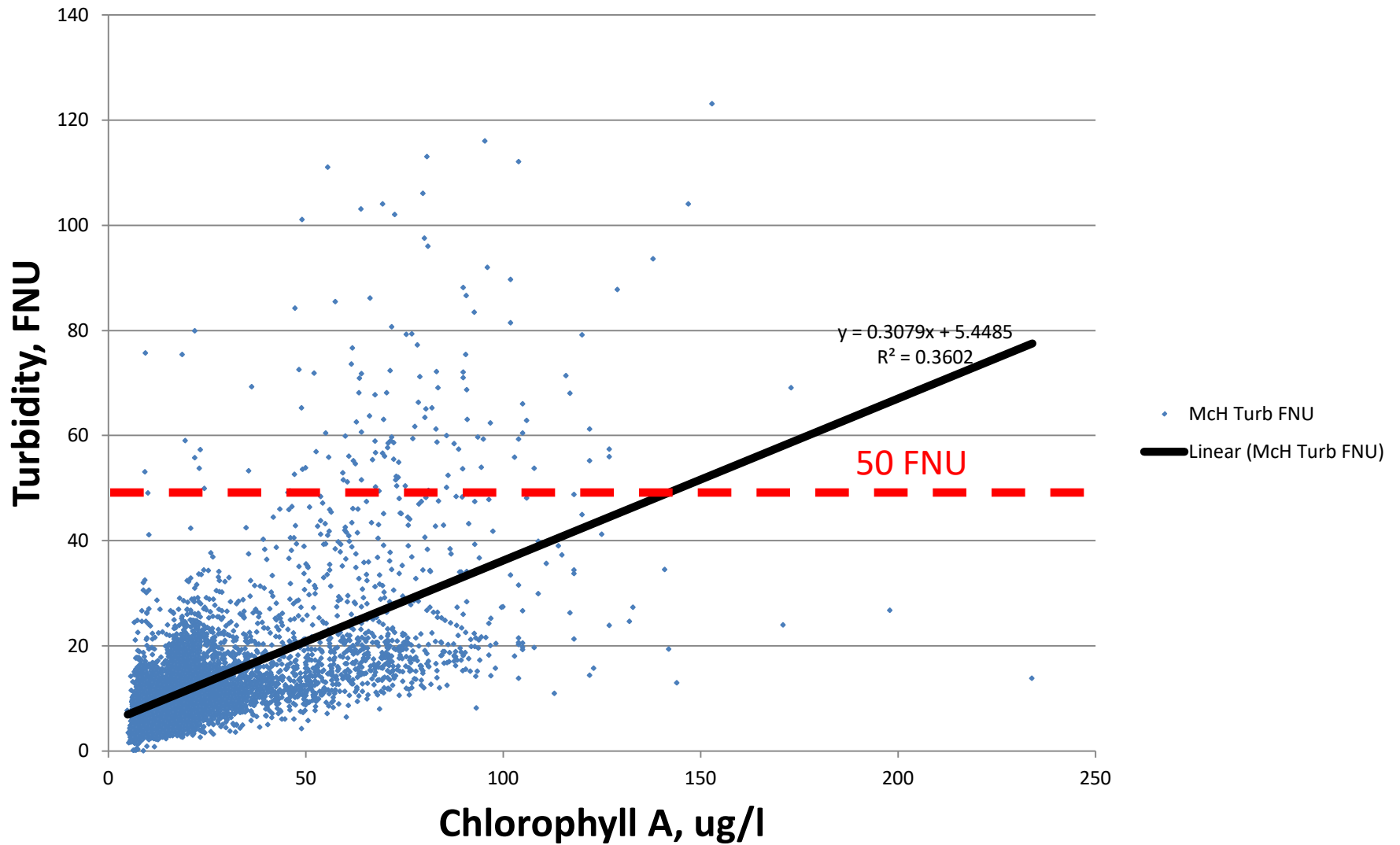
What are the turbidities in these four glasses?

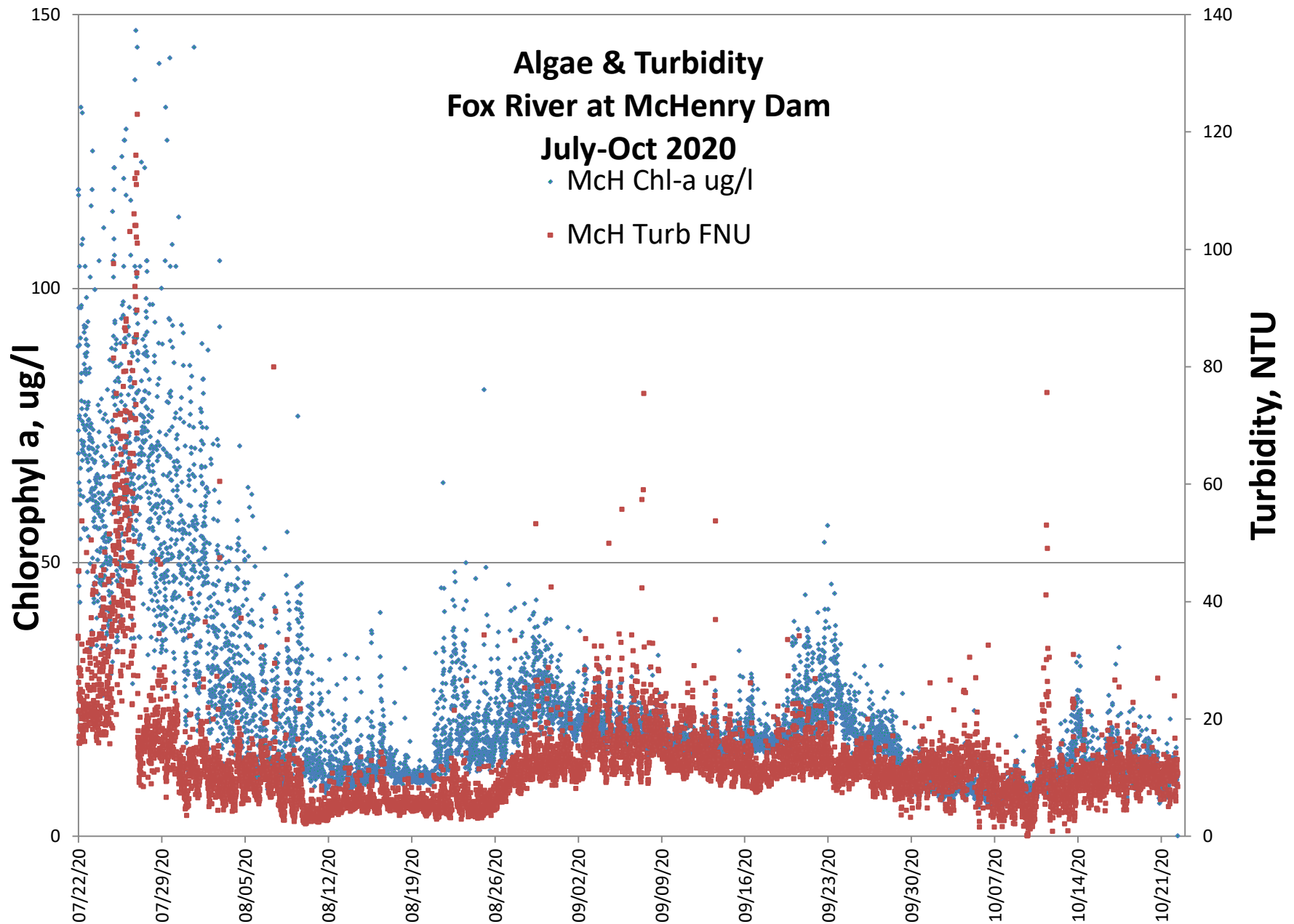
- A. 0, 100, 1000, 10000?
- B. 10, 50, 100, 500?
- C. 50, 200, 500, 1000?**
- D. 100, 200, 1000, 5000?

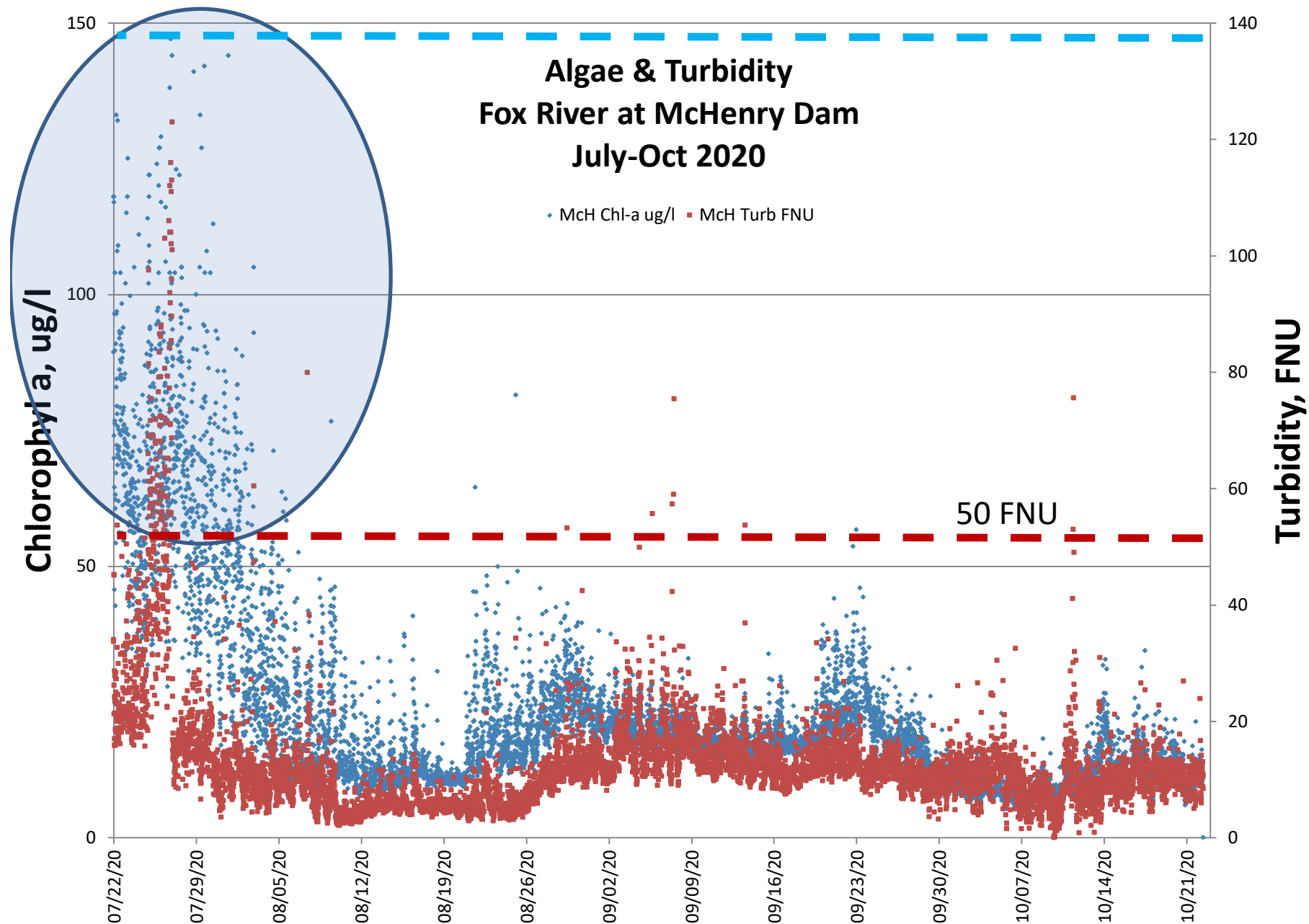
Visual representation of the range of turbidities tested (50–1,000) formazin nephelometric units (FNU) in the 2013 laboratory experiment. The source of this turbidity is silt collected from Grand Falls, Little Colorado River, Arizona. (Credit: David Ward, USGS. Public domain.)



Turbidity/Algae Relationship Fox River at McHenry Dam Jul-Oct 2020

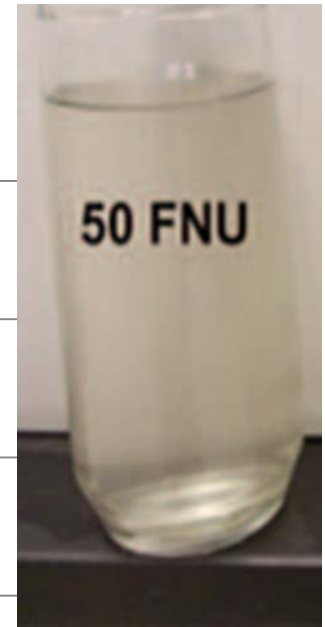
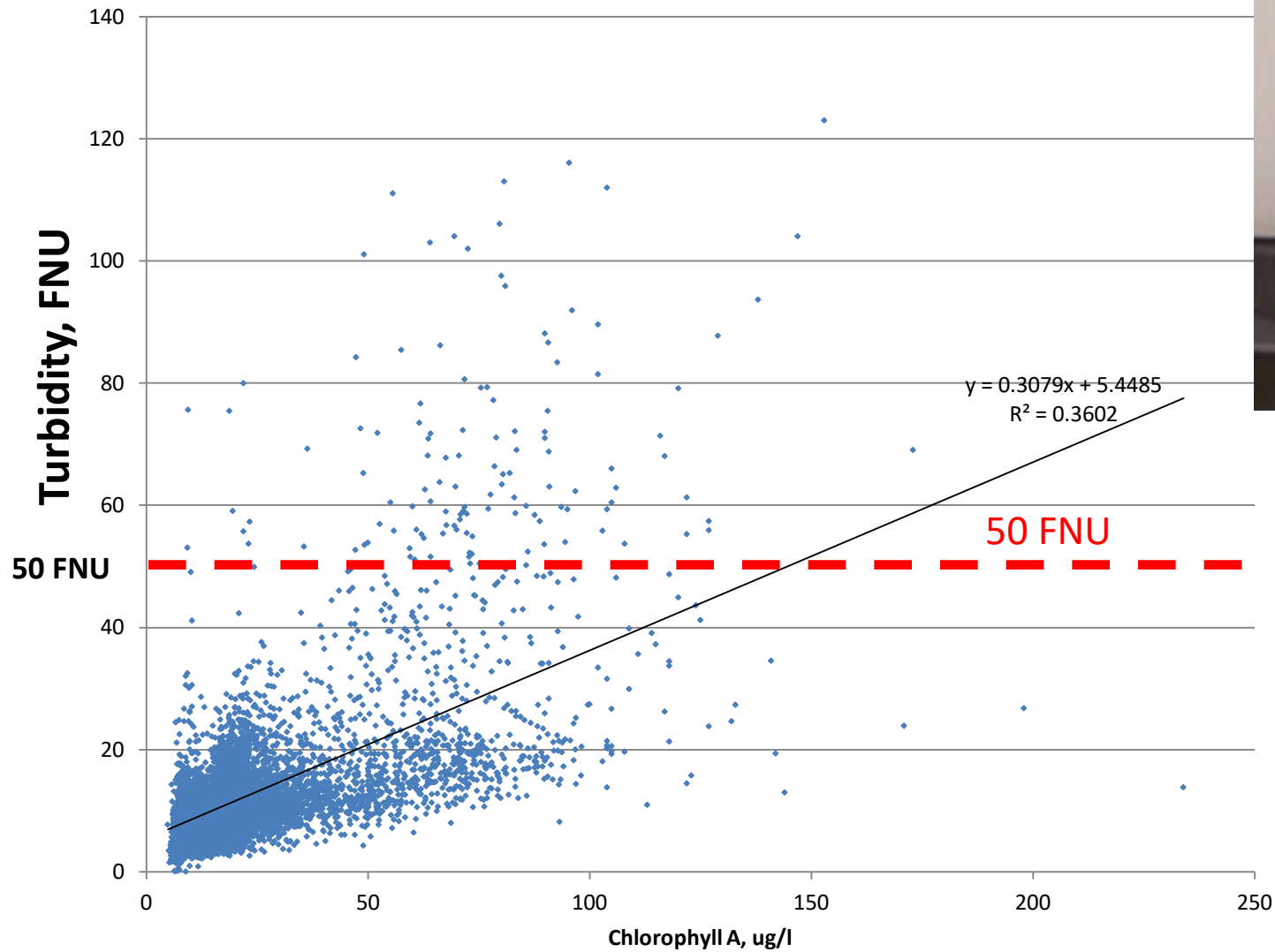




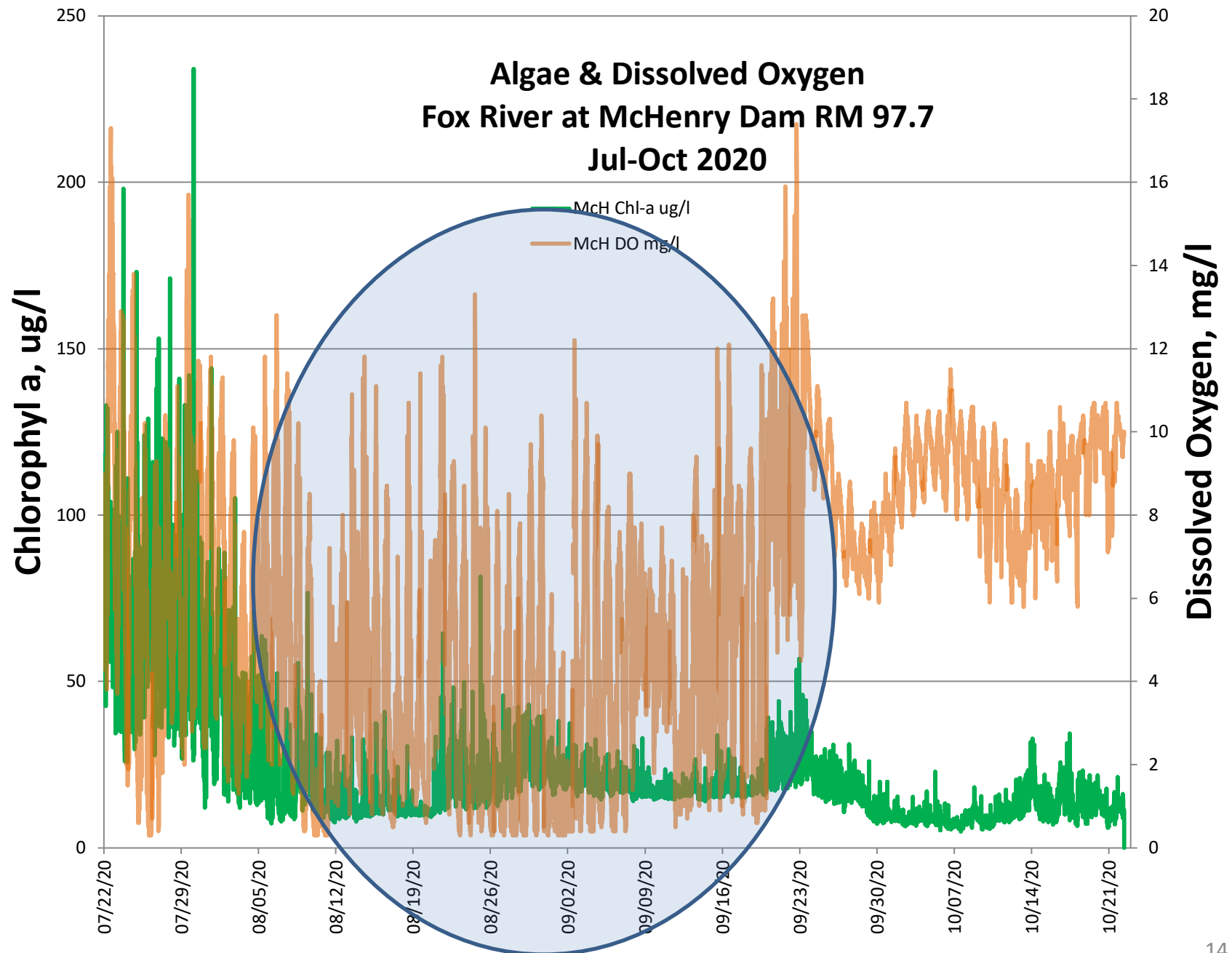


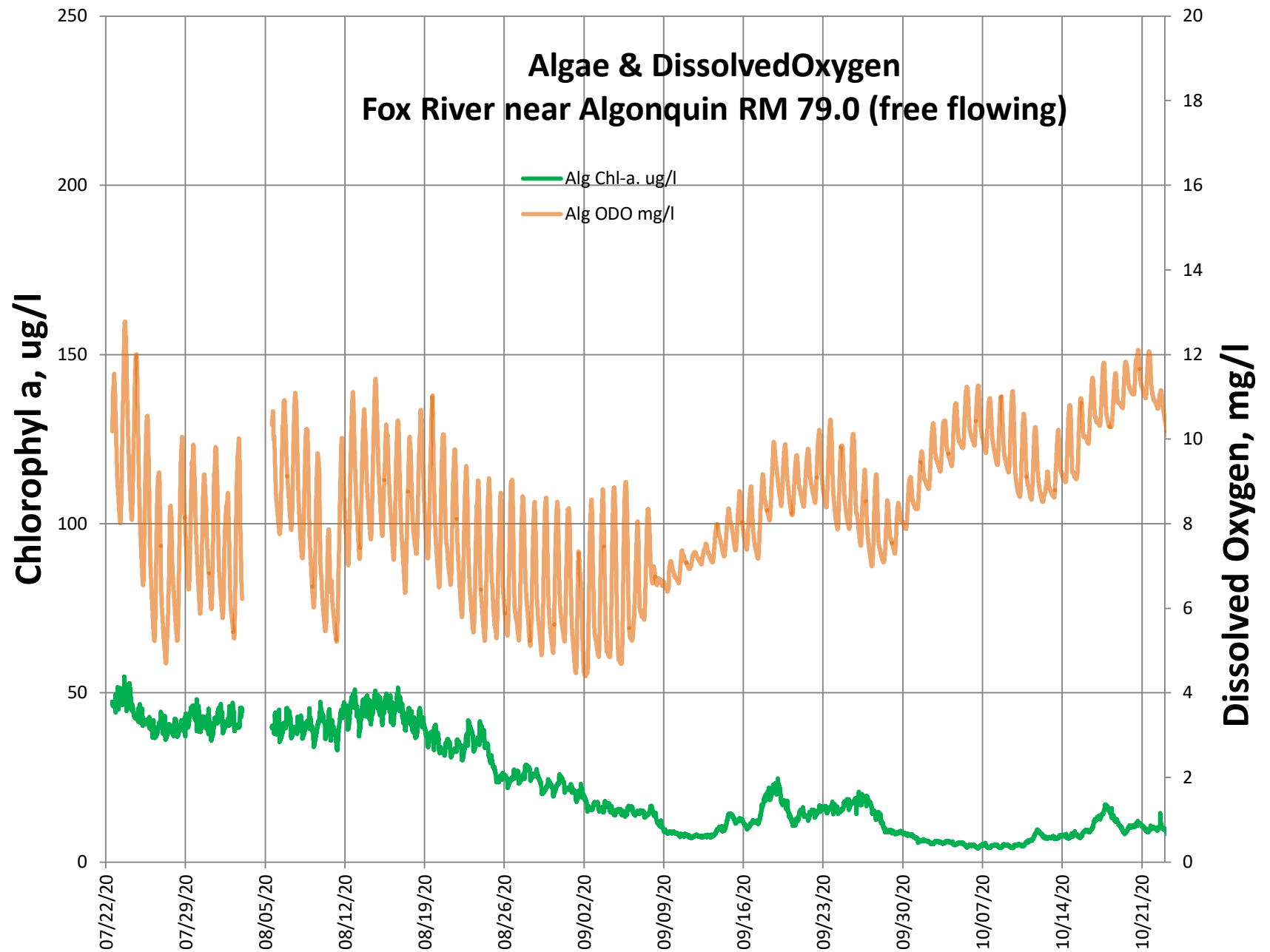


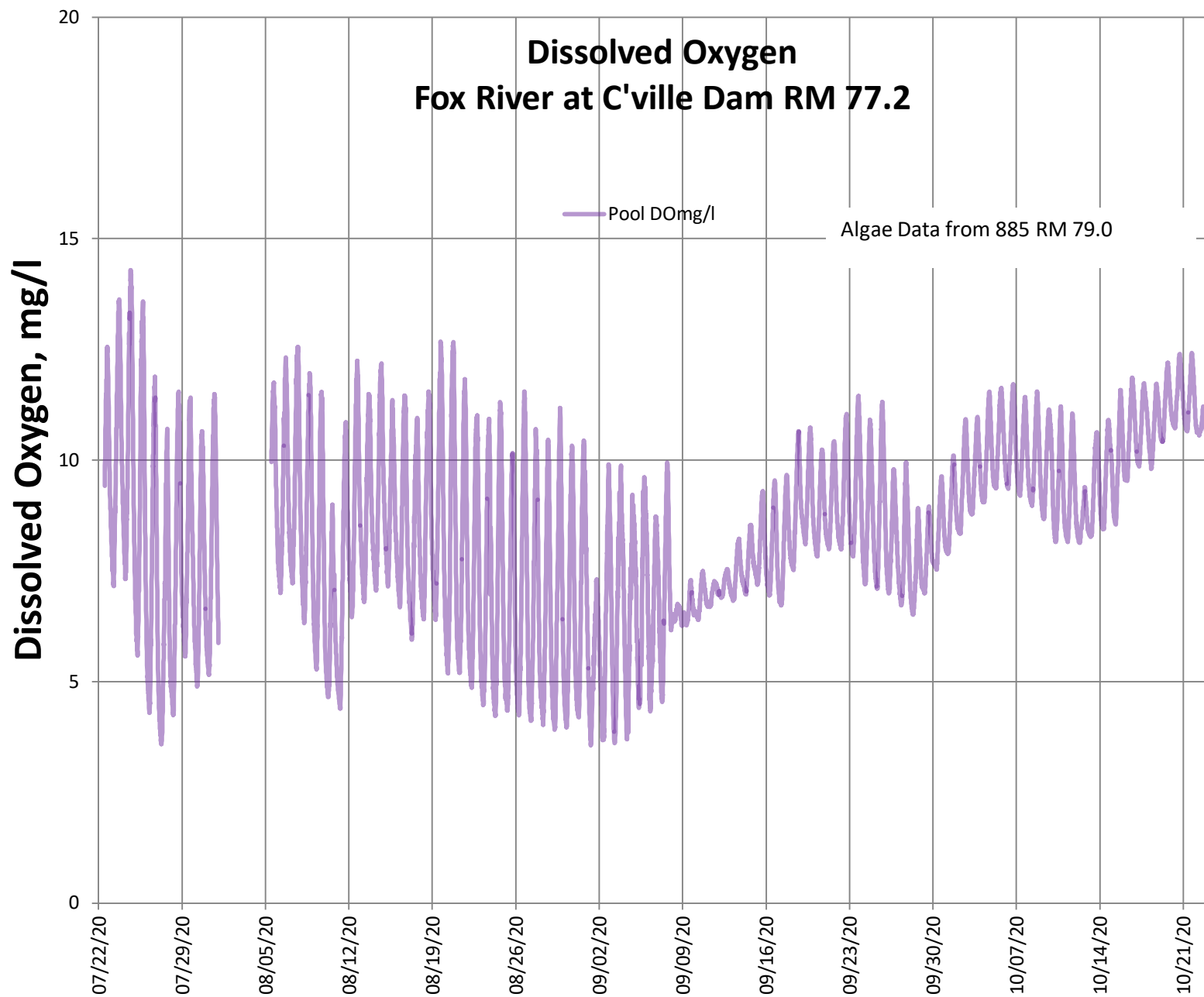
Turbidity/Algae Relationship Fox River at McHenry Dam Jul-Oct 2020

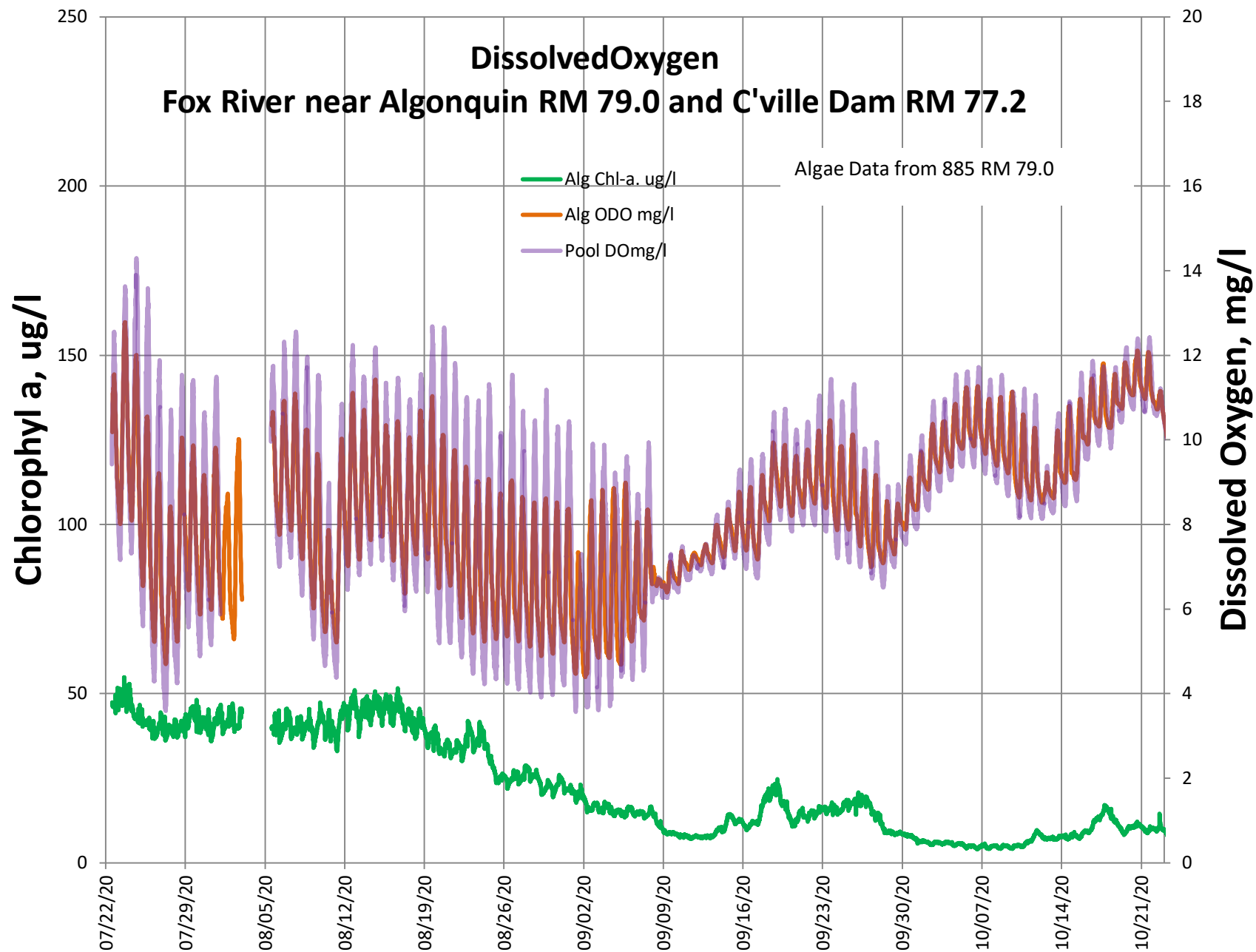


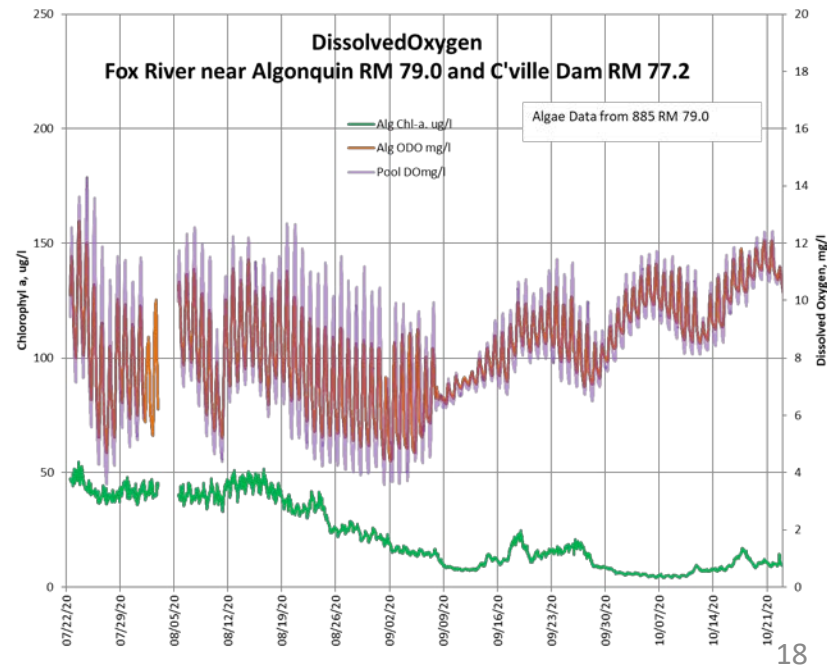
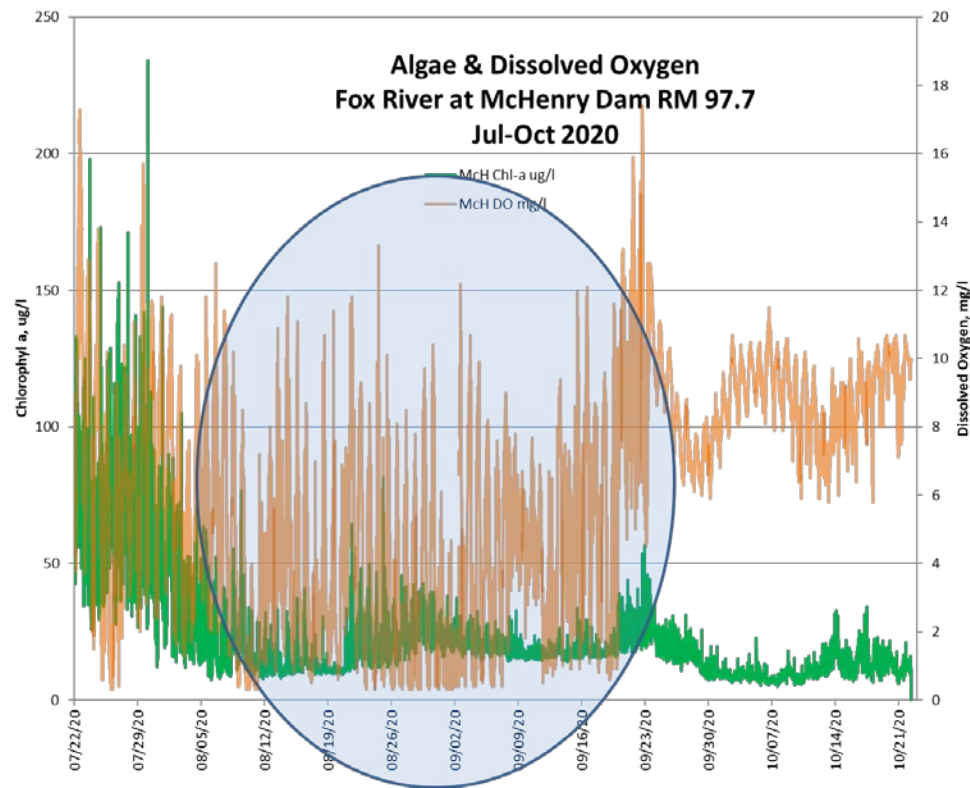
- McH Turb FNU
- Linear (McH Turb FNU)

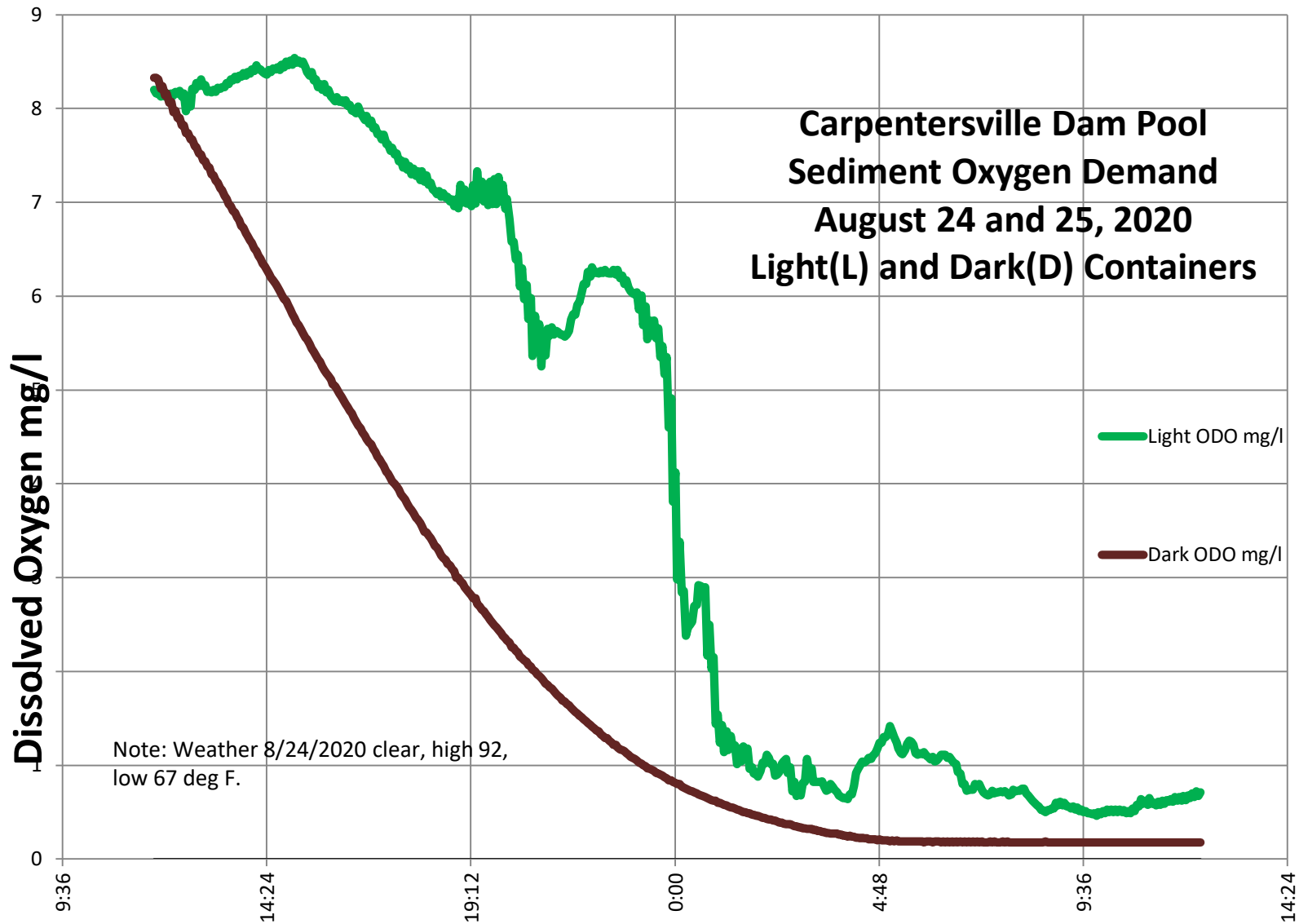


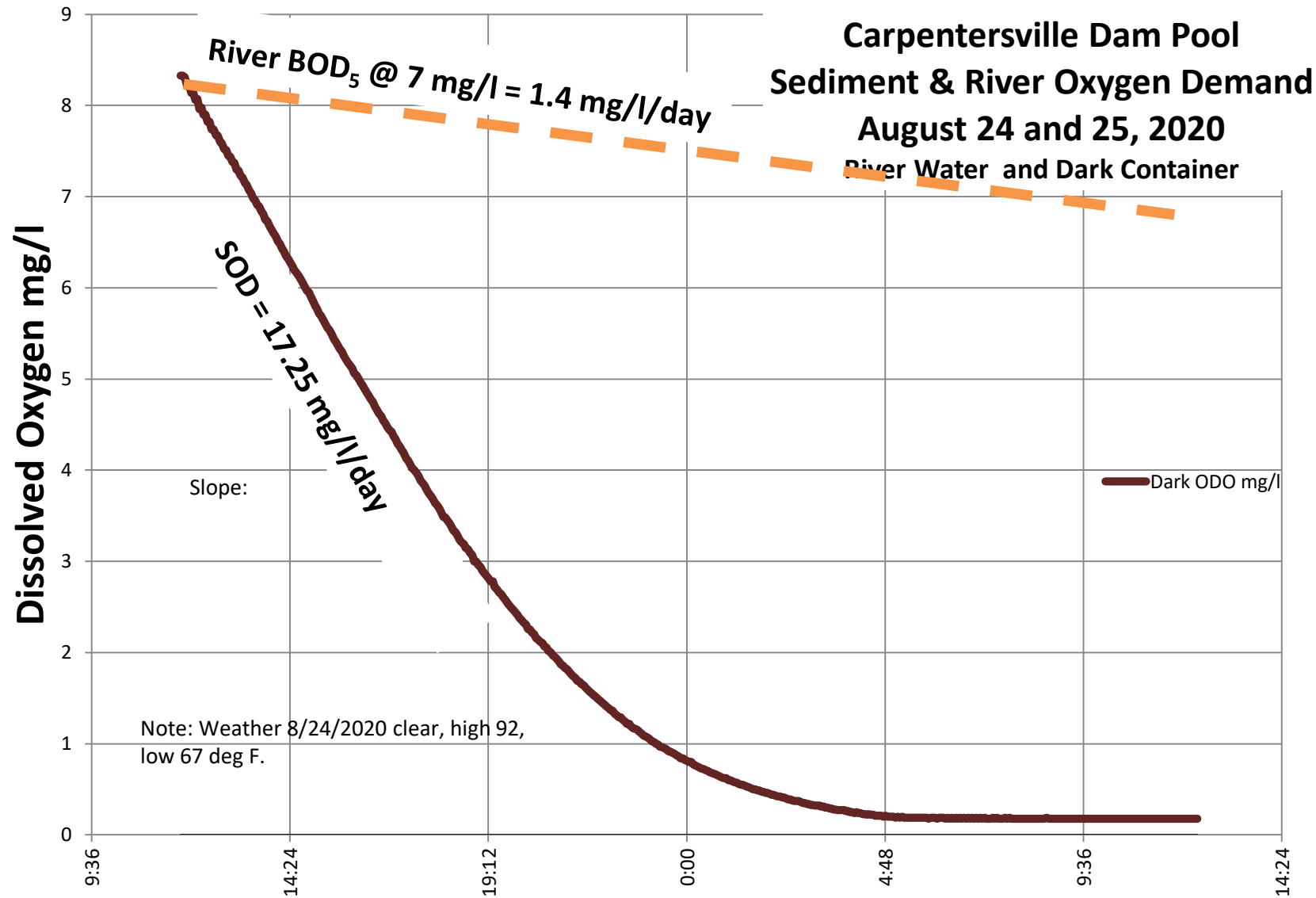














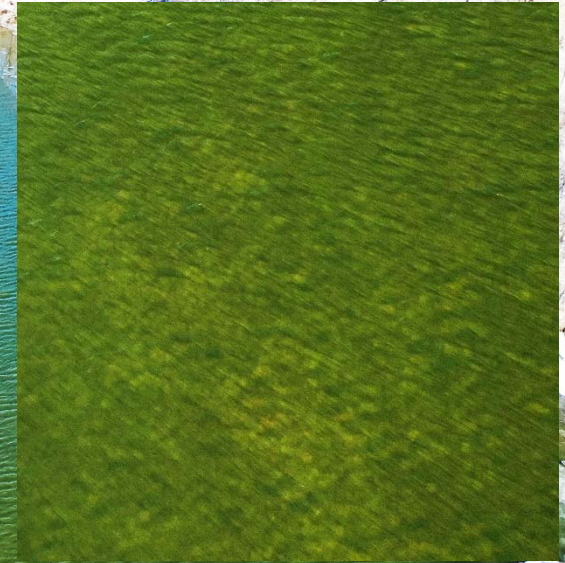
FRSG South Algonqu
RM 79.0







East Channel, C'ville Dam pool, RM~77.5





West Channel, C'ville Dam pool, RM~77.5 1/21/2021





Waters of the State shall be free from sludge or bottom deposits, floating debris, visible oil, odor, plant or algal growth, color or turbidity of other than natural origin.

Section 302.203 Offensive Conditions

1. Sestonic algae, the algae floating in the water column, is not the cause of high turbidity in our Fox.
2. Sestonic algae is not the reason for oxygen deficit in our river. The large diurnal oxygen demand swings seen in our Fox's dam pools do not correlate with high sestonic algae levels.
3. The benthic oxygen demand is responsible for oxygen deficits seen behind our dams, not sestonic algae.



*If we are but tenants in the eyes of God
then it follows when we are finished
with our purposes for the land we are to
return it in as good or better
circumstance as we received it.*

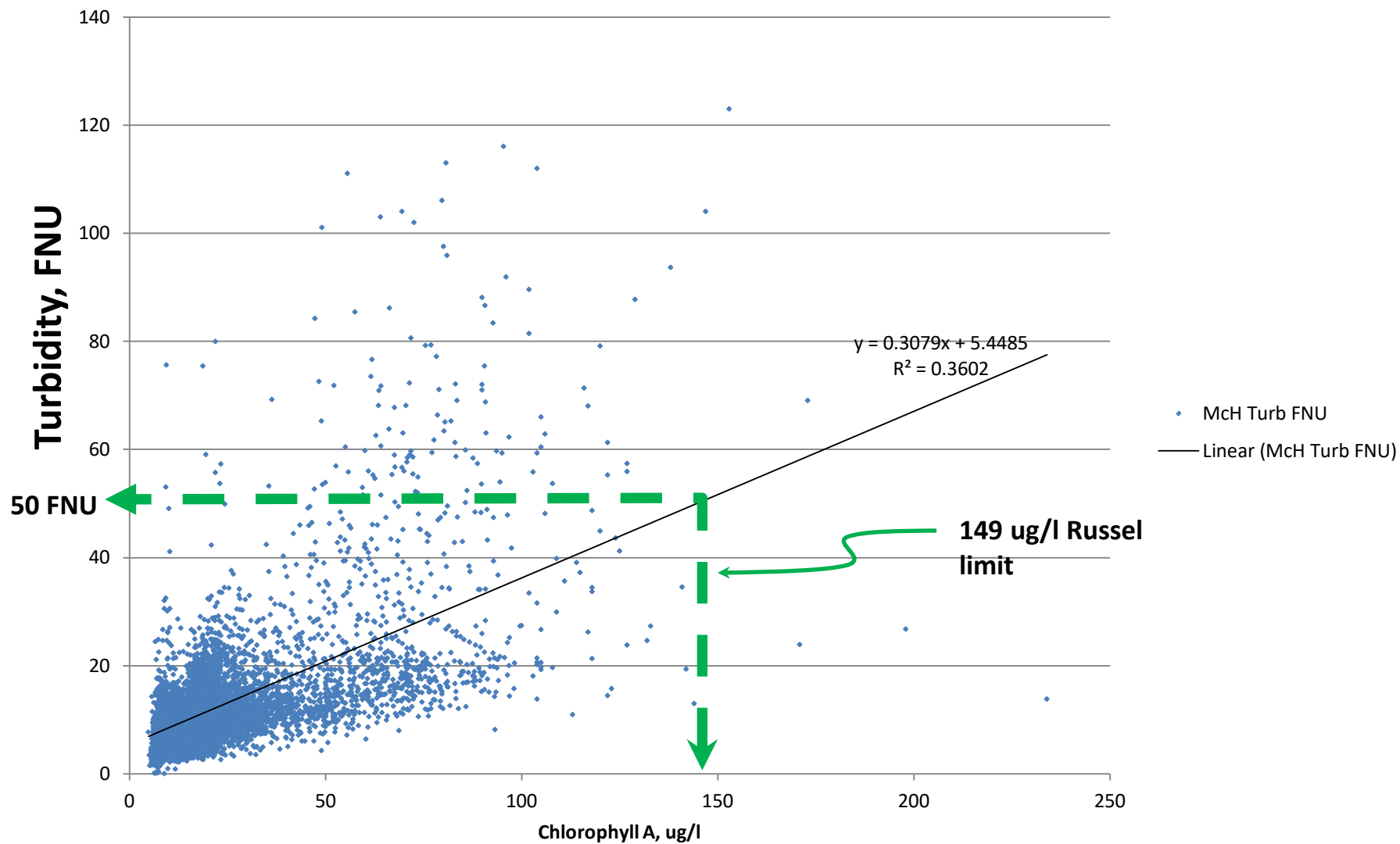
Here's what you can do:



Self starters with special interest in **teaching or STEM** and an **unrequited love** with the river, or have any other interest like just joining to help us in our work feel free to pull out your cell phones and click on this:



Turbidity/Algae Relationship Fox River at McHenry Dam Jul-Oct 2020



**Fox River Flow Data
Tailwater at Algonquin Dam
2009-2020 Min, Mean**

