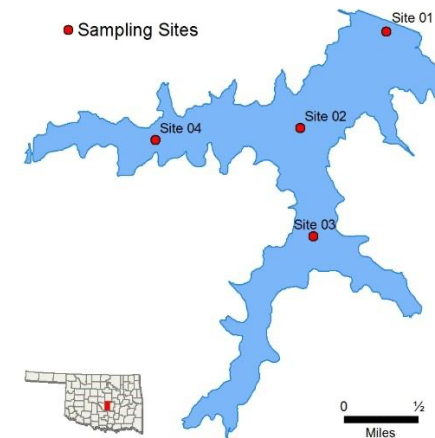


# Shawnee Twin No. 1

Sample Period		Times Visited	Sampling Sites
November 2018–September 2019		4	4
General	Location	Pottawatomie County	
	Impoundment	1935	
	Area	1,336 acres	
	Capacity	22,600 acre-feet	
	Purposes	Water supply, recreation	



Parameters	Parameter		Result	Notes/Comments
	In-Situ	Average Turbidity	12 NTU	100% of values < OWQS of 25 NTU
		Average Secchi Disk Depth	74.2 cm	
		Water Clarity Rating	Good	
		Chlorophyll-a	8.93 mg/m <sup>3</sup>	
		Trophic State Index	52	Previous value = 47
		Trophic Class	Eutrophic	
Profile	Salinity		0.09–0.13 ppt	
	Specific Conductivity		195.2–277.1 µS/cm	
	pH		7.10–8.27 pH units	Neutral to slightly alkaline
	Oxidation-Reduction Potential		45.1 to 468.0 mV	
	Dissolved Oxygen		Up to 30% of water column < 2 mg/L in September	

Nutrients	Surface Total Nitrogen	0.375 mg/L to 0.765 mg/L			
	Surface Total Phosphorus	0.012 mg/L to 0.026 mg/L			
	Nitrogen to Phosphorus Ratio	31:1		Phosphorus limited	

Beneficial Uses		Turbidity	pH	Dissolved Oxygen	Metals	TSI	True Color	Sulfates	Chlorides	Total Dissolved Solids	Enterro. & E. coli	Chlor-a
	Fish & Wildlife Propagation	NS	S	NEI	S							
	Aesthetics					S	*					
	Agriculture							S	S	S		
	Primary Body Contact Recreation										S	
	Public & Private Water Supply											
	S = Fully Supporting NS = Not Supporting NEI = Not Enough Information		Notes	*Standards revision, true color is for permitting purposes only								

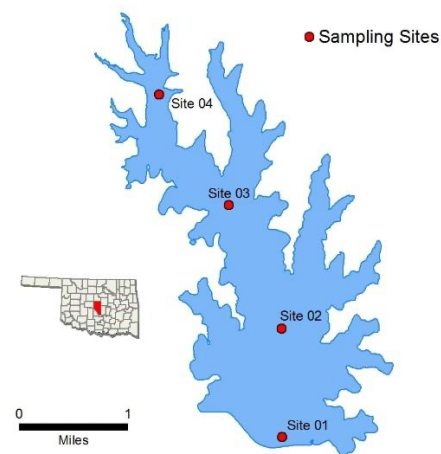
NTU = nephelometric turbidity units    OWQS = Oklahoma Water Quality Standards    mg/L = milligrams per liter    ppt = parts per thousand    μS/cm = microsiemens per centimeter  
mV = millivolts    μS/cm = microsiemens/cm    En = Enterococci E. coli = Escherichia coli    Chlor-a = Chlorophyll-a

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – <http://www.owrb.ok.gov>

# Stanley Draper

Sample Period	Times Visited	Sampling Sites
October 2015–August 2016	4	5

General	Location	Cleveland County
	Impoundment	1962
	Area	2,900 acres
	Capacity	100,000 acre-feet
	Purposes	Water supply, recreation



Parameters		Parameter	Result	Notes/Comments
	In Situ	Average Turbidity	8 NTU	100% of values < OWQS of 25 NTU
		Average Secchi Disk Depth	104 cm	
		Water Clarity Rating	Excellent	
		Chlorophyll-a	2.7 mg/m3	
		Trophic State Index	40	Previous value = 36
		Trophic Class	Oligotrophic	
	Profile	Salinity	0.05–0.06 ppt	
		Specific Conductivity	108.7–132.7 $\mu$ S/cm	
		pH	6.81–8.34 pH units	
		Oxidation-Reduction Potential	176.1–463.7 mV	
		Dissolved Oxygen	Up to 62% of water column < 2 mg/L in August	

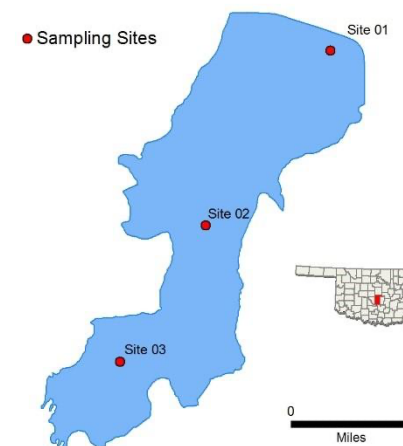
Nutrients	Surface Total Nitrogen	0.26 mg/L to 0.55 mg/L											
	Surface Total Phosphorus	0.010 mg/L to 0.015 mg/L											
	Nitrogen to Phosphorus Ratio	31:1		Phosphorus limited									
Beneficial Uses			Turbidity	pH	Dissolved Oxygen	Metals	TSI	True Color	Sulfates	Chlorides	Total Dissolved Solids	Enterro. & E. coli	Chlor-a
	Fish & Wildlife Propagation		NS	S	S	S							
	Aesthetics						S	*					
	Agriculture								S	S	S		
	Primary Body Contact Recreation											S	
	Public & Private Water Supply												
	<div>S = Fully Supporting</div> <div>NS = Not Supporting</div> <div>NEI = Not Enough Information</div>		Notes		*Standards revision, true color is for permitting purposes only								
	<div>NTU = nephelometric turbidity units    OWQS = Oklahoma Water Quality Standards    mg/L = milligrams per liter    ppt = parts per thousand    μS/cm = microsiemens per centimeter</div> <div>mV = millivolts    μS/cm = microsiemens/cm    En = Enterococci E. coli = Escherichia coli    Chlor-a = Chlorophyll-a</div>												

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – <http://www.owrb.ok.gov>

# Tecumseh

Sample Period	Times Visited	Sampling Sites
October 2007–July 2008	4	5

General	Location	Pottawatomie County
	Impoundment	1934
	Area	127 acres
	Capacity	1,118 acre feet
	Purposes	Water supply, recreation



Parameters		Parameter	Result	Notes/Comments
	In Situ	Average Turbidity	132 NTU	All values > 25 NTU
		Average Secchi Disk Depth	11 cm	All values > OWQS of 70
		Water Clarity Rating	poor	
		Chlorophyll-a	6.52 mg/m3	
		Trophic State Index	49	Previous value = 57
		Trophic Class	mesotrophic	
	Profile	Salinity	0.00–0.10 ppt	
		Specific Conductivity	105.6–141 µS/cm	
		pH	7.08–7.60 pH units	Neutral
		Oxidation-Reduction Potential	337 to 537 mV	
		Dissolved Oxygen		D.O. always > 5.0 mg/L

Nutrients	Surface Total Nitrogen	1.01 mg/L to 1.55 mg/L												
	Surface Total Phosphorus	0.066 mg/L to 0.131 mg/L												
	Nitrogen to Phosphorus Ratio	12:1	Phosphorus limited											
Beneficial Uses			Turbidity	pH	Dissolved Oxygen	Metals	TSI	True Color	Sulfates	Chlorides	Total Dissolved Solids	Enteroc. & E. coli	Chlor-a	
	Fish & Wildlife Propagation		NS	S	S	S								
	Aesthetics						S	*						
	Agriculture								S	S	S			
	Primary Body Contact Recreation											S		
	Public & Private Water Supply													
	<div>S = Fully Supporting</div> <div>NS = Not Supporting</div> <div>NEI = Not Enough Information</div>		Notes	*Standards revision, true color is for permitting purposes only										
	<div>NTU = nephelometric turbidity units    OWQS = Oklahoma Water Quality Standards    mg/L = milligrams per liter    ppt = parts per thousand    μS/cm = microsiemens per centimeter</div> <div>mV = millivolts    μS/cm = microsiemens/cm    En = Enterococci E. coli = Escherichia coli    Chlor-a = Chlorophyll-a</div>													

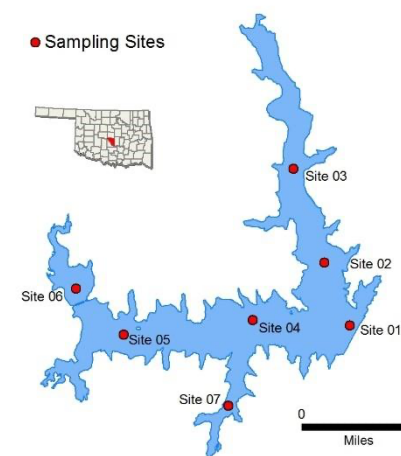
Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – <http://www.owrb.ok.gov>

Modified for "Clear as Phytoplankton: A Tale of Two Lakes." Calculated Chlorophyll-a from Trophic State Index and formula from report's parameter descriptions. Replaced "True Color value."

# Thunderbird

Sample Period	Times Visited	Sampling Sites
October 2014–July 2015	4	7

General	Location	Cleveland County
	Impoundment	1965
	Area	6,070 acres
	Capacity	119,600 acre-feet
	Purposes	Flood control, water supply, recreation, fish & wildlife



Parameters		Parameter	Result	Notes/Comments
	In Situ	Average Turbidity	14 NTU	4% of values > OWQS of 25 NTU
		Average Secchi Disk Depth	59 cm	
		Water Clarity Rating	Average	
		Chlorophyll-a	21 mg/m3	
		Trophic State Index	61	Previous value = 56
		Trophic Class	Hypereutrophic	
	Profile	Salinity	0.13–0.26 ppt	
		Specific Conductivity	281.5–530 $\mu$ S/cm	
		pH	7.14–8.68 pH units	Neutral to slightly alkaline
		Oxidation-Reduction Potential	90.2 to 454 mV	
		Dissolved Oxygen	Up to 67% of water column < 2 mg/L in July	Occurred at sites 1, the dam

Nutrients	Surface Total Nitrogen	0.80 mg/L to 1.27 mg/L											
	Surface Total Phosphorus	0.018 mg/L to 0.064 mg/L											
	Nitrogen to Phosphorus Ratio	23:1		Phosphorus limited									
Beneficial Uses			Turbidity	pH	Dissolved Oxygen	Metals	TSI	True Color	Sulfates	Chlorides	Total Dissolved Solids	Enterococci & E. coli	Chlorophyll-a
	Fish & Wildlife Propagation	NS	S	NS	S								
	Aesthetics					NEI*	S						
	Agriculture							S	S	S			
	Primary Body Contact Recreation											S	
	Public & Private Water Supply												NS
	<div><div>S = Fully Supporting</div><div>NS = Not Supporting</div><div>NEI = Not Enough Information</div></div>		Notes		*The lake is listed in the Oklahoma Water Quality Standards (WQS) as a Nutrient Limited watershed (NLW). This listing means that the lake is considered threatened from nutrients until a more intensive study can confirm the Aesthetics beneficial use non-support status.								
	<div>NTU = nephelometric turbidity units    OWQS = Oklahoma Water Quality Standards    mg/L = milligrams per liter    ppt = parts per thousand    μS/cm = microsiemens per centimeter</div> <div>mV = millivolts    μS/cm = microsiemens/cm    En = Enterococci E. coli = Escherichia coli    Chlor-a = Chlorophyll-a</div>												

Sampling and Assessment by the **Oklahoma Water Resources Board** – 3800 Classen Blvd, Oklahoma City, OK, 73118 – 405.530.8800 – <http://www.owrb.ok.gov>