

Harmful Algae Report

All data between 7/6/2019 and 7/19/2019

University of Delaware Citizen Monitoring Program

Water Body <u>Tributary</u> Site	Date	Time	Sample Depth	Name	Comment if ID uncertain	Abundance	MC/L
Atlantic Ocean							
RWPMIII: South Inlet, Indian River							
	7/11/2019	9:10	Surfc	<i>Amphidinium spp. (T)</i>		Present	
				<i>Ceratium pentagonum (B)</i>		Present	
				<i>Ceratium spp. (T)</i>		Present	
				<i>Chaetoceros spp. (T)</i>		Present	
				<i>Dinophysis acuminata (T)</i>		Rare	0.003
				<i>Heterocapsa lanceolata (B)</i>		Present	
				<i>Prorocentrum micans (B)</i>		Rare	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Prorocentrum scutellum (B)</i>		Rare	
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Rare	
Broadkill River							
<u>Broadkill River</u>							
BR01: Broadkill river @ PEL dock.							
	7/10/2019	8:50	Net	<i>"Gymnodinioid" sp. (S)</i>	25-40 um Grn		
				<i>Chaetoceros spp. (T)</i>			
				<i>Heterocapsa lanceolata (B)</i>			
				<i>Heterocapsa rotundata (B)</i>			
			Surfc	<i>Chaetoceros spp. (T)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
	7/17/2019		Net	<i>Alexandrium sp. (T)</i>			
				<i>Chaetoceros spp. (T)</i>			
				<i>Heterocapsa lanceolata (B)</i>			
				<i>Heterosigma akashiwo (T)</i>			
				<i>Karenia sp. (T)</i>			
				<i>Karlodinium veneficum (T)</i>			
				<i>Prorocentrum minimum (T)</i>			
			Surfc	<i>Heterocapsa lanceolata (B)</i>		Present	
				<i>Heterocapsa sp. (B)</i>		Rare	
				<i>Heterocapsa triquetra (B)</i>		Rare	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karenia sp. (T)</i>		Rare	0.004
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum micans (B)</i>		Rare	
				<i>Prorocentrum minimum (T)</i>		Rare	
				<i>Prorocentrum triestinum (B)</i>		Rare	
BR20: Broadkill River at Milton tidal pond							
	7/10/2019	6:30	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
<u>Canary Creek</u>							
BR19: Canary Creek at New Road							
	7/10/2019	12:10	Surfc	<i>Chaetoceros spp. (T)</i>		Common	
				<i>Heterosigma akashiwo (T)</i>		Present	

Name subsripts: (B) - nontoxic bloom former; (B*) - nontoxic bloom former reported only at levels > 10 MC/L; (S) - cell similar to a known toxic cell; (T) - potentially toxic cell. MC/L - Million Cells per Liter.

Abundance Levels: Not Found: Looked for, but no cells found; Very Rare: < 0.001 MC/L; Rare 0.001 - 0.01 MC/L; Present: 0.01 - 0.1 MC/L; Common: 0.1 - 1 MC/L; Many: 1 - 10 MC/L; Abundant: 10 - 100 MC/L; Very Abundant: > 100 MC/L.

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Broadkill River							
<u>Canary Creek</u>							
BR19: Canary Creek at New Road	7/10/2019	12:10	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
BR40: Canary Creek at Pilottown Rd	7/9/2019	10:01	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
<u>Diamond Pond</u>							
BR48: Diamond Pond at Spillway	7/10/2019	11:25	Surfc	<i>Anabaena spp. (T)</i>		Common	0.750
<u>Old Mill Creek</u>							
BR21: Old Mill Creek downstream from Red Mill Pond	7/10/2019	10:17	Surfc	<i>(Unknown) (B*)</i>	Thin cyano straight	Abundant	83.600
				<i>(Unknown) (B*)</i>	Thin cyano coiled	Abundant	17.600
				<i>Aphanizomenon spp. (T)</i>		Abundant	39.600
				<i>Cylindrospermopsis (T)</i>		Common	
				<i>Microcystis spp. (T)</i>		Abundant	77.000
<u>Prime Hook Creek</u>							
BR03: Prime Hook Creek at Boat Ramp at Refuge Headquarters	7/10/2019	10:40	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Many	4.400
	7/15/2019	8:16		<i>Chaetoceros spp. (T)</i>		Abundant	14.100
				<i>Chloromorom toxicum (T)</i>		Common	0.313
				<i>Protoperidinium quinquecorne (B)</i>		Present	
<u>Red Mill Pond</u>							
BR54: Red Mill Pond outlet at Rt 1	7/10/2019	11:55	Surfc	<i>(Unknown) (B*)</i>	Thin cyano coiled	Abundant	35.200
				<i>(Unknown) (B*)</i>	Thin cyano straight	Very Abundant	127.600
				<i>Anabaena spp. (T)</i>		Many	8.800
				<i>Aphanizomenon spp. (T)</i>		Abundant	52.800
				<i>Microcystis spp. (T)</i>		Abundant	99.000
<u>Wagamon's Pond</u>							
BR44: Wagamon's Pond on Northern Shoreline, Milton	7/10/2019	12:00	Surfc	<i>Lyngbya (T)</i>		Present	
Delaware Bay							
RWPM4: Slaughter Beach (3)	7/8/2019	10:51	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
Indian River							
<u>Indian River</u>							
IR02a: Rosedale crabbing pier	7/8/2019	9:10	Surfc	<i>Akashiwo sanguinea (T)</i>		Common	0.138
				<i>Chaetoceros spp. (T)</i>		Common	0.150
				<i>Heterocapsa lanceolata (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
IR11: Pot Nets Seaside Pier	7/8/2019	10:10	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
				<i>Chaetoceros spp. (T)</i>		Common	0.188
				<i>Karlodinium veneficum (T)</i>		Present	

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Indian River							
<u>Indian River</u>							
IR11: Pot Nets Seaside Pier	7/8/2019	10:10	Surfc	<i>Prorocentrum minimum</i> (T)		Present	
IR24: Iron Branch - County road 331 at bridge	7/8/2019	8:42	Surfc	<i>Chloromorom toxicum</i> (T)		Present	
				<i>Heterocapsa lanceolata</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Abundant	19.800
				<i>Kryptoperidinium foliaceum</i> (B)		Common	0.238
				<i>Scrippsiella sp.</i> (B)		Present	
IR36: James Farm, base of Pasture Point Knee deep 150 yds from shore	7/9/2019	7:38	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
IR39: North side of Inlet at Wheelchair fishing platform under new bridge.	7/16/2019	8:50	Surfc	<i>Amphidinium spp.</i> (T)		Present	
				<i>Ceratium pentagonum</i> (B)		Rare	
				<i>Heterocapsa lanceolata</i> (B)		Rare	
				<i>Karenia papilionacea</i> (T)		Rare	0.002
				<i>Karenia sp.</i> (T)		Rare	0.001
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Prorocentrum micans</i> (B)		Rare	
				<i>Prorocentrum minimum</i> (T)		Rare	
				<i>Prorocentrum triestinum</i> (B)		Present	
				<i>Scrippsiella sp.</i> (B)		Rare	
<u>Pepper Creek</u>							
IR51: Pepper Creek, Creekside	7/9/2019	8:00	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
				<i>Centric diatom 5-10 um</i> (B*)		Abundant	13.200
				<i>Chaetoceros spp.</i> (T)		Common	0.388
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
<u>Vines Creek</u>							
IR38: Vines Lane	7/9/2019	8:00	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
				<i>Chaetoceros spp.</i> (T)		Common	0.213
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek	7/8/2019	7:20	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
				<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorom toxicum</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Many	2.200
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Common	0.125
				<i>Peridinium sp.</i> (B)	25um flat green	Present	
				<i>Prorocentrum minimum</i> (T)		Common	0.250
				<i>Prorocentrum triestinum</i> (B)		Present	
				<i>Proto-peridinium quinquecorne</i> (B)		Many	1.100
	7/15/2019	8:46		<i>Akashiwo sanguinea</i> (T)		Present	

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Indian River							
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	7/15/2019	8:46	Surfc	<i>Chattonella subsalsa</i> (T)		Many	3.740
				<i>Chloromorom toxicum</i> (T)		Common	0.125
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Common	0.175
				<i>Peridinium</i> sp. (B)	25um flat green	Present	
				<i>Prorocentrum minimum</i> (T)		Present	
				<i>Protoperidinium quinquecorne</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
Little Assawoman Bay							
<u>Dirickson Creek</u>							
LA03: Mulberry Landing							
	7/9/2019	7:05	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
				<i>Heterocapsa rotundata</i> (B)		Common	0.200
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
LA09: Dirickson Creek at Road 381 bridge.							
	7/9/2019	7:28	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Common	0.125
				<i>Heterocapsa rotundata</i> (B)		Common	0.375
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Peridinium</i> sp. (B)	25um flat green	Present	
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	7/9/2019	7:55	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorom toxicum</i> (T)		Many	3.170
	7/16/2019	7:48		<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorom toxicum</i> (T)		Present	
				<i>Fibrocapsa japonica</i> (T)		Present	
				<i>Heterocapsa rotundata</i> (B)		Common	0.188
				<i>Karlodinium veneficum</i> (T)		Present	
SB10W: Russell Canal west dead end							
	7/9/2019	7:50	Surfc	<i>Chloromorom toxicum</i> (T)		Common	0.100
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/16/2019	8:03		"Gymnodinioid" sp. (S)	25-40 um Grn	Present	
				<i>Chattonella subsalsa</i> (T)		Common	0.300
				<i>Chloromorom toxicum</i> (T)		Present	
				<i>Fibrocapsa japonica</i> (T)		Common	0.100
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterocapsa</i> sp. (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	

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Little Assawoman Bay							
<u>Little Assawoman Bay</u>							
LA46: Fenwick Island Tide Gauge							
	7/9/2019	7:30	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
Nanticoke River							
NR02: Seaford, Rte 13 at Cock & Bull							
	7/9/2019	11:38	Surfc	<i>Anabaena</i> spp. (T)		Many	1.500
Rehoboth Bay							
<u>Bald Eagle Creek</u>							
RB64: Torquay Canal, west side of Land's End near UD Site #1							
	7/8/2019	9:05	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.113
				<i>Chloromorun toxicum</i> (T)		Common	0.575
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Peridinium</i> sp. (B)	25um flat green	Present	
	7/15/2019	9:25		<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorun toxicum</i> (T)		Common	0.263
				<i>Heterocapsa rotundata</i> (B)		Common	0.125
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Peridinium</i> sp. (B)	25um flat green	Present	
				<i>Prorocentrum minimum</i> (T)		Present	
				<i>Protoperidinium quinquecorne</i> (B)		Present	
<u>Guinea Creek</u>							
RB06: Guinea Creek (Winding Creek Village)							
	7/8/2019	7:40	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
				<i>Chattonella subsalsa</i> (T)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Prorocentrum minimum</i> (T)		Present	
<u>Love Creek</u>							
RB34: Love Creek at Rt 24 Bridge							
	7/11/2019	8:43	Surfc	<i>Chloromorun toxicum</i> (T)		Common	0.438
				<i>Gyrodinium instriatum</i> (B)		Many	1.125
				<i>Heterocapsa lanceolata</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Common	0.125
				<i>Prorocentrum minimum</i> (T)		Present	
Rehoboth Beach							
<u>Silver Lake</u>							
RL04: Silver Lake, outlet to ocean							
	7/10/2019	10:55	Surfc	(Unknown) (B*)	Thin cyano straight	Very Abundant	202.400
				(Unknown) (B*)	Thin cyano coiled	Abundant	39.600
				<i>Aphanizomenon</i> spp. (T)		Very Abundant	154.000
	7/17/2019	11:45		(Unknown) (B*)	Thin cyano straight	Very Abundant	466.000

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Water Body	Date	Time	Sample	Name	Comment if	Abundance	MC/L
<u>Tributary</u>			Depth		ID uncertain		
<u>Site</u>							

Rehoboth Beach

Silver Lake

RL04: Silver Lake, outlet to ocean

7/17/2019	11:45	Surfc	(Unknown) (B*)	Thin cyano coiled	Very Abundant	141.000
			Anabaena spp. (T)		Abundant	22.000
			Aphanizomenon spp. (T)		Very Abundant	634.000

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