

Harmful Algae Report

All data between 8/3/2019 and 8/16/2019

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							
RWPM: Dagsworthy, Dewey Beach							
	8/14/2019	12:40	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
				<i>Karenia mikimotoi (T)</i>		Present	
RWPM11: Rehoboth Rehoboth Ave (2)							
	8/14/2019	10:50	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
				<i>Heterocapsa sp. (B)</i>		Present	
RWPM14: Tower Rd Ocean, Delaware Seashore State Park							
	8/7/2019	9:35	Surfc	<i>"Gymnodinioid" sp. (S)</i>	25-40 um Grn	Present	
				<i>Ceratium pentagonum (B)</i>		Rare	0.001
				<i>Chaetoceros spp. (B)</i>		Present	
				<i>Dinophysis acuminata (T)</i>		Rare	0.001
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karenia sp. (T)</i>		Rare	0.003
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Rhizosolenia spp. (T)</i>		Rare	
				<i>Scrippsiella sp. (B)</i>		Rare	
Broadkill River							
<u>Broadkill River</u>							
BR01: Broadkill river @ PEL dock.							
	8/6/2019	8:45	Net	<i>Chaetoceros spp. (T)</i>			
				<i>Heterocapsa rotundata (B)</i>			
			Surfc	<i>Chaetoceros spp. (T)</i>		Present	
	8/14/2019	8:50	Net	<i>"Gymnodinioid" sp. (S)</i>	25-40 um Grn		
				<i>Chaetoceros spp. (B)</i>			
				<i>Prorocentrum minimum (T)</i>			
				<i>Scrippsiella sp. (B)</i>			
			Surfc	<i>Chaetoceros spp. (B)</i>		Common	0.313
				<i>Heterocapsa lanceolata (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
BR20: Broadkill River at Milton tidal pond							
	8/7/2019	6:30	Surfc	<i>Microcystis v small spp (T)</i>		Many	4.380
<u>Canary Creek</u>							
BR19: Canary Creek at New Road							
	8/7/2019	12:48	Surfc	<i>Chaetoceros spp. (B)</i>		Common	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Common	
				<i>Protoperdinium quinquecorne (B)</i>		Present	
BR40: Canary Creek at Pilottown Rd							
	8/7/2019	7:03	Surfc	<i>Chaetoceros spp. (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
<u>Diamond Pond</u>							
BR48: Diamond Pond at Spillway							
	8/7/2019	7:20	Surfc	<i>Aphanizomenon spp. (T)</i>		Many	8.500

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>Diamond Pond</u>							
BR48: Diamond Pond at Spillway							
	8/7/2019	7:20	Surfc	<i>Microcystis spp. (T)</i>		Many	9.380
<u>Old Mill Creek</u>							
BR21: Old Mill Creek downstream from Red Mill Pond							
	8/7/2019	10:57	Surfc	<i>Anabaena spp. (T)</i>		Many	5.000
				<i>Aphanizomenon spp. (T)</i>		Many	
				<i>Heterosigma akashiwo (T)</i>		Many	2.500
				<i>Kryptoperidinium foliaceum (B)</i>		Common	
				<i>Microcystis spp. (T)</i>		Abundant	28.800
				<i>Protoperidinium quinquecorne (B)</i>		Present	
<u>Prime Hook Creek</u>							
BR03: Prime Hook Creek at Boat Ramp at Refuge Headquarters							
	8/7/2019	11:29	Surfc	<i>Anabaena spp. (T)</i>		Many	7.000
				<i>Chaetoceros spp. (T)</i>		Abundant	36.100
				<i>Chloromorun toxicum (T)</i>		Present	
<u>Red Mill Pond</u>							
BR54: Red Mill Pond outlet at Rt 1							
	8/7/2019	12:25	Surfc	<i>(Unknown) (B*)</i>	Thin cyano straight	Very Abundant	150.000
				<i>(Unknown) (B*)</i>	Thin cyano coiled	Abundant	79.200
				<i>Anabaena spp. (T)</i>		Abundant	37.800
				<i>Aphanizomenon spp. (T)</i>		Abundant	39.600
				<i>Microcystis spp. (T)</i>		Many	7.700
Delaware Bay							
<u>Delaware Bay</u>							
DB01: End of Cape Shores pier							
	8/15/2019	8:52	Surfc	<i>"Gymnodinioid" sp. (S)</i>	25-40 um Grn	Present	
				<i>Chaetoceros spp. (B)</i>		Common	0.350
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneticum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
Indian River							
<u>Indian River</u>							
IR02a: Rosedale crabbing pier							
	8/5/2019	10:05	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
				<i>Alexandrium sp. (T)</i>		Present	
				<i>Chaetoceros spp. (T)</i>		Present	
				<i>Chattonella subsalsa (T)</i>		Present	
				<i>Chloromorun toxicum (T)</i>		Present	
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa lanceolata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Present	
IR11: Pot Nets Seaside Pier							
	8/5/2019	10:50	Surfc	<i>Amphidinium spp. (T)</i>		Present	

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Indian River							
<u>Indian River</u>							
IR11: Pot Nets Seaside Pier							
	8/5/2019	10:50	Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.225
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
IR36: James Farm, base of Pasture Point Knee deep 150 yds from shore							
	8/6/2019	7:45	Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.263
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa lanceolata (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
IR39: North side of Inlet at Wheelchair fishing platform under new bridge.							
	8/14/2019	8:31	Surfc	<i>Amphidinium spp. (T)</i>		Rare	
				<i>Chaetoceros spp. (T)</i>		Many	1.550
				<i>Heterocapsa sp. (B)</i>		Rare	
				<i>Karenia papilionacea (T)</i>		Rare	0.001
				<i>Karenia sp. (T)</i>		Rare	0.001
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Peridinium sp. (B)</i>	25um flat green	Present	
				<i>Prorocentrum scutellum (B)</i>		Rare	
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Rhizosolenia spp. (T)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Rare	
<u>Pepper Creek</u>							
IR51: Pepper Creek, Creekside							
	8/7/2019	9:05	Surfc	<i>Chattonella subsalsa (T)</i>		Common	0.150
				<i>Chloromorun toxicum (T)</i>		Many	1.125
				<i>Cochlodinium sp. (T)</i>		Present	
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Gyrodinium uncatenum (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
<u>Vines Creek</u>							
IR38: Vines Lane							
	8/7/2019	8:00	Surfc	<i>Chaetoceros spp. (B)</i>		Common	0.175
				<i>Chloromorun toxicum (T)</i>		Common	0.325
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterocapsa sp. (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Common	0.100
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	8/5/2019	8:32	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
				<i>Chloromorun toxicum (T)</i>		Present	

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Indian River							
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	8/5/2019	8:32	Surfc	<i>Gyrodinium instriatum</i> (B)		Common	0.375
				<i>Heterocapsa rotundata</i> (B)		Common	0.163
				<i>Heterosigma akashiwo</i> (T)		Common	0.175
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Peridinium</i> sp. (B)	25um flat green	Present	
				<i>Prorocentrum minimum</i> (T)		Common	0.163
				<i>Protoperidinium quinquecorne</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Common	0.100
	8/12/2019	8:37		<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorun toxicum</i> (T)		Abundant	11.200
				<i>Gyrodinium instriatum</i> (B)		Common	0.338
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Common	0.200
				<i>Prorocentrum minimum</i> (T)		Present	
				<i>Prorocentrum triestinum</i> (B)		Present	
				<i>Protoperidinium quinquecorne</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Common	0.188
Little Assawoman Bay							
<u>Dirickson Creek</u>							
LA03: Mulberry Landing							
	8/5/2019	7:12	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
				<i>Chloromorun toxicum</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Common	0.138
				<i>Karlodinium veneficum</i> (T)		Common	0.175
LA09: Dirickson Creek at Road 381 bridge.							
	8/5/2019	8:10	Surfc	<i>Chattonella subsalsa</i> (T)		Many	1.225
				<i>Chloromorun toxicum</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Common	0.200
				<i>Heterocapsa</i> sp. (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
<u>Jefferson Creek</u>							
SB01: Anchorage Canal @ Rt 1							
	8/14/2019	12:00	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Present	
SB10E: Russell Canal east dead end							
	8/6/2019	8:09	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.238
				<i>Chloromorun toxicum</i> (T)		Many	3.080
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Prorocentrum minimum</i> (T)		Present	
	8/13/2019	7:55		<i>Chloromorun toxicum</i> (T)		Present	
				<i>Fibrocapsa japonica</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Present	

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Little Assawoman Bay							
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	8/13/2019	7:55	Surfc	<i>Heterocapsa sp. (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
SB10W: Russell Canal west dead end							
	8/6/2019	8:23	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
				<i>Chloromorom toxicum (T)</i>		Common	0.363
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
	8/13/2019	8:12		<i>Chloromorom toxicum (T)</i>		Present	
				<i>Fibrocapsa japonica (T)</i>		Present	
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa sp. (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
<u>Little Assawoman Bay</u>							
LA46: Fenwick Island Tide Gauge							
	8/6/2019	7:00	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
Rehoboth Bay							
<u>Bald Eagle Creek</u>							
RB64: Torquay Canal, west side of Land's End near UD Site #1							
	8/5/2019	10:18	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
				<i>Chloromorom toxicum (T)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
	8/12/2019	9:15		<i>Chattonella subsalsa (T)</i>		Common	0.263
				<i>Chloromorom toxicum (T)</i>		Common	0.138
				<i>Fibrocapsa japonica (T)</i>		Present	
				<i>Heterocapsa sp. (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Common	0.425
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Common	0.313
<u>Guinea Creek</u>							
RB06: Guinea Creek (Winding Creek Village)							
	8/5/2019	7:22	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
<u>Love Creek</u>							
RB34: Love Creek at Rt 24 Bridge							
	8/7/2019	9:50	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
				<i>Chloromorom toxicum (T)</i>		Common	0.225
				<i>Gyrodinium instriatum (B)</i>		Many	1.063
				<i>Heterosigma akashiwo (T)</i>		Common	0.738
				<i>Kryptoperidinium foliaceum (B)</i>		Present	

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<u>Tributary</u>			Depth		ID uncertain		
<u>Site</u>							

Rehoboth Bay

Love Creek

RB34: Love Creek at Rt 24 Bridge

8/7/2019	9:50	Surfc	<i>Protoperidinium quinquecorne (B)</i>		Present	
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Rehoboth Beach

Silver Lake

RL04: Silver Lake, outlet to ocean

8/14/2019	12:55	Surfc	<i>(Unknown) (B*)</i>	Thin cyano straight	Very Abundant	211.000
			<i>(Unknown) (B*)</i>	Thin cyano coiled	Very Abundant	130.000
			<i>Anabaena spp. (T)</i>		Many	2.000
			<i>Aphanizomenon spp. (T)</i>		Very Abundant	277.000
			<i>Cylindrospermopsis (T)</i>		Abundant	44.000

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