

Harmful Algae Report

All data between 8/17/2019 and 8/30/2019

University of Delaware Citizen Monitoring Program

Water Body Tributary Site	Date	Time	Sample Depth	Name	Comment if ID uncertain	Abundance	MC/L
Broadkill River							
<u>Broadkill River</u>							
BR01: Broadkill river @ PEL dock.							
	8/21/2019	8:45	Net	<i>Chaetoceros spp. (T)</i>			
				<i>Karlodinium veneficum (T)</i>			
			Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.150
	8/28/2019		Net	<i>Chaetoceros spp. (T)</i>			
				<i>Ditylum spp. (T)</i>			
				<i>Heterocapsa rotundata (B)</i>			
				<i>Karlodinium veneficum (T)</i>			
				<i>Prorocentrum minimum (T)</i>			
				<i>Rhizosolenia spp. (T)</i>			
			Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterocapsa sp. (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
BR20: Broadkill River at Milton tidal pond							
	8/21/2019	6:32	Surfc	<i>Anabaena spp. (T)</i>		Many	
<u>Canary Creek</u>							
BR19: Canary Creek at New Road							
	8/27/2019	10:40	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
BR40: Canary Creek at Pilottown Rd							
	8/27/2019	6:42	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
<u>Diamond Pond</u>							
BR48: Diamond Pond at Spillway							
	8/21/2019	7:15	Surfc	<i>Anabaena spp. (T)</i>		Many	
				<i>Microcystis spp. (T)</i>		Many	
<u>Old Mill Creek</u>							
BR21: Old Mill Creek downstream from Red Mill Pond							
	8/21/2019	10:30	Surfc	<i>Anabaena spp. (T)</i>		Many	
				<i>Aphanizomenon spp. (T)</i>		Common	
				<i>Microcystis spp. (T)</i>		Abundant	
<u>Prime Hook Creek</u>							
BR03: Prime Hook Creek at Boat Ramp at Refuge Headquarters							
	8/27/2019	10:40	Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.338
				<i>Chloromorun toxicum (T)</i>		Common	0.125
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Common	0.163
				<i>Protoperidinium quinquecorne (B)</i>		Present	
<u>Red Mill Pond</u>							
BR54: Red Mill Pond outlet at Rt 1							
	8/21/2019	11:45	Surfc	<i>(Unknown) (B*)</i>	Thin cyano coiled	Abundant	52.800
				<i>(Unknown) (B*)</i>	Thin cyano straight	Abundant	96.800

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>Red Mill Pond</u>							
BR54: Red Mill Pond outlet at Rt 1							
	8/21/2019	11:45	Surfc	<i>Anabaena spp. (T)</i>		Abundant	44.000
				<i>Aphanizomenon spp. (T)</i>		Many	
				<i>Microcystis spp. (T)</i>		Very Abundant	264.000
<u>Wagamon's Pond</u>							
BR44: Wagamon's Pond on Northern Shoreline, Milton							
	8/22/2019	10:00	Surfc	<i>Lyngbya (T)</i>		Present	
Delaware Bay							
<u>Delaware Bay</u>							
DB01: End of Cape Shores pier							
	8/20/2019	9:01	Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.400
				<i>Pseudo-nitzschia spp. (T)</i>		Present	
	8/27/2019	9:10		<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
Indian River							
<u>Indian River</u>							
IR02a: Rosedale crabbing pier							
	8/19/2019	9:05	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Common	0.100
				<i>V. small, <5 um centrics (B*)</i>		Abundant	35.200
IR05: Millsboro Dam							
	8/20/2019	9:30	Surfc	<i>V. small, <5 um centrics (B*)</i>		Abundant	55.000
IR11: Pot Nets Seaside Pier							
	8/19/2019	9:48	Surfc	<i>"Gymnodinioid" sp. (S)</i>	25-40 um Grn	Present	
				<i>Chaetoceros spp. (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Rhizosolenia spp. (T)</i>		Present	
IR24: Iron Branch - County road 331 at bridge							
	8/19/2019	8:38	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
				<i>V. small, <5 um centrics (B*)</i>		Abundant	52.800
IR36: James Farm, base of Pasture Point Knee deep 150 yds from shore							
	8/20/2019	7:30	Surfc	<i>Chloromorom toxicum (T)</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.							
	8/29/2019	8:28	Surfc	<i>"Gymnodinioid" sp. (S)</i>	10-15 um Grn	Present	
				<i>Ceratium pentagonum (B)</i>		Rare	
				<i>Chaetoceros spp. (T)</i>		Common	0.119
				<i>Dinophysis acuminata (T)</i>		Present	
				<i>Ditylum spp. (T)</i>		Rare	
				<i>Heterocapsa rotundata (B)</i>		Rare	
				<i>Heterocapsa sp. (B)</i>		Rare	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum micans (B)</i>		Rare	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	

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Water Body Tributary Site	Date	Time	Sample Depth	Name	Comment if ID uncertain	Abundance	MC/L
Indian River							
<u>Indian River</u>							
IR39: North side of Inlet at Wheelchair fishing platform under new bridge.							
	8/29/2019	8:28	Surfc	<i>Pseudo-nitzschia</i> spp. (T)		Present	0.016
				<i>Rhizosolenia</i> spp. (T)		Present	
<u>Pepper Creek</u>							
IR51: Pepper Creek, Creekside							
	8/20/2019	8:30	Surfc		No HABs found		
<u>Vines Creek</u>							
IR38: Vines Lane							
	8/20/2019	8:00	Surfc	<i>Chloromorom toxicum</i> (T)		Common	0.150
				<i>Protoperidinium quinquecorne</i> (B)		Present	
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	8/19/2019	8:35	Surfc	<i>Cryptomonad</i> (an Order) spp. (B*)		Abundant	13.200
				<i>Gyrodinium instriatum</i> (B)		Common	0.375
				<i>Heterocapsa rotundata</i> (B)		Common	0.313
				<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	
				<i>Prorocentrum minimum</i> (T)		Common	0.113
				<i>Prorocentrum triestinum</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
	8/26/2019	8:40		<i>Chattonella subsalsa</i> (T)		Present	
				<i>Fibrocapsa japonica</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Common	0.438
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Peridinium</i> sp. (B)	25um flat green	Present	
				<i>Prorocentrum minimum</i> (T)		Present	
				<i>Prorocentrum triestinum</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
Little Assawoman Bay							
<u>Dirickson Creek</u>							
LA03: Mulberry Landing							
	8/20/2019	6:48	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
LA09: Dirickson Creek at Road 381 bridge.							
	8/20/2019	7:58	Surfc	<i>Gyrodinium instriatum</i> (B)		Common	0.350
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Protoperidinium quinquecorne</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	8/20/2019	8:01	Surfc	"Gymnodinioid" sp. (S)	10-15 um Grn	Present	
				<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorom toxicum</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Common	0.200

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Little Assawoman Bay							
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	8/20/2019	8:01	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
	8/27/2019	8:00		<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorun toxicum</i> (T)		Present	
				<i>Fibrocapsa japonica</i> (T)		Common	0.225
SB10W: Russell Canal west dead end							
	8/20/2019	8:15	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorun toxicum</i> (T)		Common	0.200
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
	8/27/2019	8:16		<i>Chattonella subsalsa</i> (T)		Common	0.175
				<i>Chloromorun toxicum</i> (T)		Common	0.150
				<i>Fibrocapsa japonica</i> (T)		Common	0.350
				<i>Heterocapsa rotundata</i> (B)		Present	
<u>Little Assawoman Bay</u>							
LA46: Fenwick Island Tide Gauge							
	8/20/2019	7:15	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
Nanticoke River							
NRBC: Broad Creek, below Records Pond spillway							
	8/22/2019	9:35	Surfc	<i>Anabaena</i> 2 spp. (T)		Abundant	17.600
				<i>Anabaena</i> spp. (T)		Abundant	52.800
				<i>Aphanizomenon</i> spp. (T)		Present	
				<i>Microcystis</i> spp. (T)		Very Abundant	594.000
PREC: Record's Pond							
	8/22/2019	9:30	Surfc	<i>Aphanizomenon</i> spp. (T)		Many	
				<i>Microcystis</i> spp. (T)		Many	
PTR: Trap Pond							
	8/22/2019	10:00	Surfc	<i>Anabaena</i> spp. (T)		Many	8.800
				<i>Aphanizomenon</i> spp. (T)		Abundant	17.600
				<i>Microcystis</i> spp. (T)		Abundant	55.000
		10:05		<i>Anabaena</i> spp. (T)		Many	
				<i>Aphanizomenon</i> spp. (T)		Many	
				<i>Microcystis</i> spp. (T)		Many	
Rehoboth Bay							
<u>Bald Eagle Creek</u>							
RB64: Torquay Canal, west side of Land's End near UD Site #1							
	8/19/2019	9:15	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.325
				<i>Chloromorun toxicum</i> (T)		Common	0.100
				<i>Gyrodinium instriatum</i> (B)		Common	0.188
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Prorocentrum minimum</i> (T)		Common	0.113

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Water Body	Date	Time	Sample	Name	Comment if	Abundance	MC/L
<u>Tributary</u>			<u>Depth</u>		<u>ID uncertain</u>		
<u>Site</u>							
Rehoboth Bay							
<u>Bald Eagle Creek</u>							
RB64: Torquay Canal, west side of Land's End near UD Site #1							
	8/19/2019	9:15	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
	8/26/2019			<i>Chattonella subsalsa (T)</i>		Many	1.320
				<i>Chloromorom toxicum (T)</i>		Many	1.980
				<i>Gyrodinium instriatum (B)</i>		Many	2.640
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Many	9.900
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
<u>Guinea Creek</u>							
RB06: Guinea Creek (Winding Creek Village)							
	8/19/2019	7:24	Surfc	<i>Chloromorom toxicum (T)</i>		Present	
				<i>Gyrodinium instriatum (B)</i>		Common	0.100
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
<u>Love Creek</u>							
RB34: Love Creek at Rt 24 Bridge							
	8/27/2019	10:05	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa lanceolata (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Peridinium sp. (B)</i>	25um flat green	Present	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
Rehoboth Beach							
<u>Silver Lake</u>							
RL04: Silver Lake, outlet to ocean							
	8/21/2019	9:09	Surfc	<i>(Unknown) (B*)</i>	Thin cyano coiled	Abundant	33.000
				<i>(Unknown) (B*)</i>	Thin cyano straight	Abundant	33.000
				<i>Aphanizomenon spp. (T)</i>		Abundant	99.000
				<i>Cylindrospermopsis (T)</i>		Abundant	33.000
	8/28/2019	8:13		<i>(Unknown) (B*)</i>	Thin cyano straight	Very Abundant	176.000
				<i>(Unknown) (B*)</i>	Thin cyano coiled	Abundant	88.000
				<i>Aphanizomenon spp. (T)</i>		Very Abundant	176.000
				<i>Cylindrospermopsis (T)</i>		Abundant	88.000
Silver Lake, Dover							
<u>Silver Lake, Dover</u>							
DVSL: Silver Lake, Dover							
	8/27/2019	9:00	Surfc	<i>Anabaena spp. (T)</i>		Abundant	35.200
				<i>Aphanizomenon spp. (T)</i>		Abundant	52.800
				<i>Microcystis spp. (T)</i>		Abundant	77.000

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