

Harmful Algae Report

All data between 7/20/2019 and 8/2/2019

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							
RWPM14: Tower Rd Ocean, Delaware Seashore State Park							
	7/25/2019	9:10	Surfc	"Gymnodinioid" sp. (S)	25-40 um Grn	Rare	0.003
				<i>Alexandrium</i> sp. (T)		Rare	0.001
				<i>Amphidinium</i> spp. (T)		Rare	0.001
				<i>Chaetoceros</i> spp. (T)		Common	0.250
				<i>Heterocapsa lanceolata</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Common	0.113
				<i>Heterocapsa triquetra</i> (B)		Rare	
				<i>Karenia</i> sp. (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Rare	
				<i>Prorocentrum triestinum</i> (B)		Present	
				<i>Rhizosolenia</i> spp. (T)		Rare	
				<i>Scrippsiella</i> sp. (B)		Rare	0.009
Broadkill River							
<u>Broadkill River</u>							
BR01: Broadkill river @ PEL dock.							
	7/24/2019	8:50	Net	<i>Chaetoceros</i> spp. (T)			
			Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/31/2019		Net	<i>Chaetoceros</i> spp. (T)			
				<i>Ditylum</i> spp. (T)			
				<i>Heterosigma akashiwo</i> (T)			
				<i>Karlodinium veneficum</i> (T)			
				<i>Prorocentrum triestinum</i> (B)			
				<i>Scrippsiella</i> sp. (B)			
			Surfc	<i>Amphidinium</i> spp. (T)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
BR20: Broadkill River at Milton tidal pond							
	7/24/2019	6:28	Surfc		No HABs found		
<u>Canary Creek</u>							
BR19: Canary Creek at New Road							
	7/24/2019	12:15	Surfc	<i>Heterosigma akashiwo</i> (T)		Many	1.100
				<i>Protoperidinium quinquecorne</i> (B)		Present	
BR40: Canary Creek at Pilottown Rd							
	7/23/2019	7:06	Surfc	<i>Chaetoceros</i> spp. (T)		Common	0.275
				<i>Heterocapsa rotundata</i> (B)		Present	
<u>Diamond Pond</u>							
BR48: Diamond Pond at Spillway							
	7/24/2019	8:30	Surfc	<i>Aphanizomenon</i> spp. (T)		Many	3.000
<u>Old Mill Creek</u>							
BR21: Old Mill Creek downstream from Red Mill Pond							
	7/24/2019	10:15	Surfc	(Unknown) (B*)	Thin cyano coiled	Abundant	26.400
				(Unknown) (B*)	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>Old Mill Creek</u>							
BR21: Old Mill Creek downstream from Red Mill Pond							
	7/24/2019	10:15	Surfc	<i>Anabaena spp. (T)</i>		Many	3.000
				<i>Aphanizomenon spp. (T)</i>		Abundant	79.200
				<i>Microcystis spp. (T)</i>		Abundant	44.000
<u>Prime Hook Creek</u>							
BR03: Prime Hook Creek at Boat Ramp at Refuge Headquarters							
	7/24/2019	10:44	Surfc	<i>(Unknown flagellate) sp. (B*)</i>	10 um Grn Oval	Very Abundant	176.000
				<i>Anabaena spp. (T)</i>		Common	
				<i>Chaetoceros spp. (T)</i>		Common	
				<i>Cryptomonad (an Order) spp. (B*)</i>		Very Abundant	176.000
				<i>Scrippsiella sp. (B)</i>		Present	
<u>Red Mill Pond</u>							
BR54: Red Mill Pond outlet at Rt 1							
	7/24/2019	11:53	Surfc	<i>(Unknown) (B*)</i>	Thin cyano straight	Very Abundant	220.000
				<i>(Unknown) (B*)</i>	Thin cyano coiled	Abundant	20.000
				<i>Anabaena spp. (T)</i>		Many	5.000
				<i>Aphanizomenon spp. (T)</i>		Very Abundant	141.000
				<i>Microcystis spp. (T)</i>		Abundant	99.000
Delaware Bay							
<u>Delaware Bay</u>							
DB01: End of Cape Shores pier							
	7/22/2019	9:23	Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.250
				<i>Heterocapsa lanceolata (B)</i>		Present	
Indian River							
<u>Indian River</u>							
IR02a: Rosedale crabbing pier							
	7/22/2019	9:43	Surfc	<i>Akashiwo sanguinea (T)</i>		Common	0.178
				<i>Gyrodinium striatum (B)</i>		Common	0.188
				<i>Heterocapsa rotundata (B)</i>		Common	0.100
				<i>Karlodinium veneticum (T)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Common	0.213
IR11: Pot Nets Seaside Pier							
	7/22/2019	10:21	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
				<i>Chaetoceros spp. (T)</i>		Common	0.113
				<i>Karlodinium veneticum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
IR24: Iron Branch - County road 331 at bridge							
	7/22/2019	9:15	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
				<i>Chattonella subsalsa (T)</i>		Present	
				<i>Chloromorom toxicum (T)</i>		Present	
				<i>Gyrodinium striatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneticum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Common	0.250
IR36: James Farm, base of Pasture Point Knee deep 150 yds from shore							
	7/23/2019	7:43	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
				<i>Chaetoceros spp. (T)</i>		Present	

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Indian River							
<u>Indian River</u>							
IR36: James Farm, base of Pasture Point Knee deep 150 yds from shore							
	7/23/2019	7:43	Surfc	<i>Heterocapsa rotundata</i> (B)		Common	0.150
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
IR39: North side of Inlet at Wheelchair fishing platform under new bridge.							
	7/31/2019	8:26	Surfc	" <i>Gymnodinioid</i> " sp. (S)	10-15 um Grn	Rare	
				<i>Chaetoceros</i> spp. (T)		Present	
				<i>Heterocapsa</i> sp. (B)		Rare	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karenia</i> sp. (T)		Rare	0.002
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Prorocentrum micans</i> (B)		Present	
				<i>Prorocentrum triestinum</i> (B)		Rare	
				<i>Scrippsiella</i> sp. (B)		Rare	
<u>Pepper Creek</u>							
IR51: Pepper Creek, Creekside							
	7/23/2019	8:00	Surfc	<i>Chloromorun toxicum</i> (T)		Present	
				<i>Cylindrotheca closterium</i> (B*)		Abundant	13.200
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
<u>Vines Creek</u>							
IR38: Vines Lane							
	7/23/2019	7:30	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
				<i>Chaetoceros</i> spp. (T)		Common	0.250
				<i>Chloromorun toxicum</i> (T)		Common	0.338
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	7/22/2019	8:41	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.375
				<i>Gyrodinium instriatum</i> (B)		Common	0.313
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Peridinium</i> sp. (B)	25um flat green	Present	
				<i>Prorocentrum minimum</i> (T)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
		8:47		<i>Alexandrium</i> sp. (T)		Present	
				<i>Chattonella subsalsa</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Common	0.375
				<i>Heterocapsa rotundata</i> (B)		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)		Present	
				<i>Protoperidinium quinquecorne</i> (B)		Present	

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Indian River							
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	7/22/2019	8:47	Surfc	<i>Scrippsiella sp. (B)</i>		Common	0.250
	7/29/2019	8:45		<i>Chattonella subsalsa (T)</i>		Abundant	12.100
				<i>Chloromorun toxicum (T)</i>		Abundant	12.800
				<i>Gyrodinium instriatum (B)</i>		Many	3.080
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Present	
Little Assawoman Bay							
<u>Dirickson Creek</u>							
LA03: Mulberry Landing							
	7/23/2019	7:03	Surfc	<i>Chloromorun toxicum (T)</i>		Common	0.150
				<i>Heterocapsa rotundata (B)</i>		Common	0.238
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Present	
LA09: Dirickson Creek at Road 381 bridge.							
	7/23/2019	7:50	Surfc	<i>Chattonella subsalsa (T)</i>		Common	0.163
				<i>Chloromorun toxicum (T)</i>		Common	0.325
				<i>Gyrodinium instriatum (B)</i>		Common	0.213
				<i>Heterocapsa rotundata (B)</i>		Many	1.230
				<i>Heterocapsa sp. (B)</i>		Common	0.113
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
				<i>Protoperidinium quinquecorne (B)</i>		Present	
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	7/23/2019	7:09	Surfc	<i>Chattonella subsalsa (T)</i>		Common	0.188
				<i>Chloromorun toxicum (T)</i>		Common	0.200
				<i>Fibrocapsa japonica (T)</i>		Common	0.434
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Common	0.100
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
	7/30/2019	7:56		<i>Amphidinium spp. (T)</i>		Present	
				<i>Chattonella subsalsa (T)</i>		Common	0.275
				<i>Chloromorun toxicum (T)</i>		Many	1.313
				<i>Fibrocapsa japonica (T)</i>		Present	
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Common	0.313
				<i>Heterocapsa sp. (B)</i>		Common	0.100
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
SB10W: Russell Canal west dead end							
	7/23/2019	7:25	Surfc	<i>Chloromorun toxicum (T)</i>		Common	0.238
				<i>Fibrocapsa japonica (T)</i>		Common	0.713
				<i>Heterocapsa rotundata (B)</i>		Common	0.113
				<i>Karlodinium veneficum (T)</i>		Present	

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Little Assawoman Bay							
<u>Jefferson Creek</u>							
SB10W: Russell Canal west dead end							
	7/23/2019	7:25	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	7/30/2019	8:13		<i>Akashiwo sanguinea (T)</i>		Present	
				<i>Chattonella subsalsa (T)</i>		Common	0.838
				<i>Chloromorun toxicum (T)</i>		Common	0.538
				<i>Fibrocapsa japonica (T)</i>		Common	0.213
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Common	0.313
				<i>Heterocapsa sp. (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Present	
<u>Little Assawoman Bay</u>							
LA46: Fenwick Island Tide Gauge							
	7/23/2019	8:25	Surfc	<i>Chloromorun toxicum (T)</i>		Common	0.100
				<i>Heterocapsa rotundata (B)</i>		Common	0.225
				<i>Heterocapsa sp. (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							
	7/22/2019	9:22	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
				<i>Chloromorun toxicum (T)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Protoperidinium quinquecorne (B)</i>		Present	
	7/29/2019			<i>Chattonella subsalsa (T)</i>		Common	0.325
				<i>Chloromorun toxicum (T)</i>		Common	0.100
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
<u>Guinea Creek</u>							
RB06: Guinea Creek (Winding Creek Village)							
	7/22/2019	8:02	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
<u>Love Creek</u>							
RB34: Love Creek at Rt 24 Bridge							
	7/25/2019	9:02	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
				<i>Chattonella subsalsa (T)</i>		Present	
				<i>Chloromorun toxicum (T)</i>		Common	0.488
				<i>Gyrodinium instriatum (B)</i>		Many	4.400
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum minimum (T)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Present	
Rehoboth Beach							
<u>Silver Lake</u>							
RL04: Silver Lake, outlet to ocean							

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

Rehoboth Beach

Silver Lake

RL04: Silver Lake, outlet to ocean

7/24/2019	9:44	Surfc	(Unknown) (B*)	Thin cyano straight	Very Abundant	132.000
			Anabaena spp. (T)		Many	1.000
			Aphanizomenon spp. (T)		Abundant	52.800
7/31/2019	8:48		(Unknown) (B*)	Thin cyano straight	Very Abundant	215.600
			(Unknown) (B*)	Thin cyano coiled	Abundant	83.600
			Anabaena spp. (T)		Many	
			Aphanizomenon spp. (T)		Very Abundant	123.200
			Microcystis spp. (T)		Many	

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