

# Harmful Algae Report

All data between 8/5/2015 and 8/20/2015

University of Delaware Citizen Monitoring Program

Water Body Tributary Site	Date	Time	Sample Depth	Name	Comment if ID uncertain	Abundance	MC/L
<b>Atlantic Ocean</b>							
RWPM14: Tower Rd Ocean, Delaware Seashore State Park							
	8/5/2015	8:15	Surfc	<i>Ceratium pentagonum (B)</i>		Very Rare	
				<i>Chaetoceros spp. (B)</i>		Rare	0.006
				<i>Dinophysis norvegica (T)</i>		Very Rare	
				<i>Ditylum spp. (T)</i>		Very Rare	
				<i>Karenia papilionacea (T)</i>		Very Rare	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum scutellum (B)</i>		Very Rare	
				<i>Prorocentrum triestinum (B)</i>		Present	
	8/20/2015	8:50		<i>Ditylum spp. (T)</i>		Very Rare	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karenia papilionacea (T)</i>		Very Rare	
				<i>Prorocentrum scutellum (B)</i>		Very Rare	
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Rhizosolenia spp. (T)</i>		Very Rare	
				<i>Scrippsiella sp. (B)</i>		Very Rare	
RWPM8: Cape Henlopen State Park Beach (2)							
	8/13/2015	9:30	Surfc	<i>Ceratium pentagonum (B)</i>		Very Rare	
				<i>Chaetoceros spp. (B)</i>		Common	0.588
				<i>Dinophysis acuminata (T)</i>		Rare	0.001
				<i>Ditylum spp. (T)</i>		Rare	0.003
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterocapsa triquetra (B)</i>		Rare	0.002
				<i>Karenia papilionacea (T)</i>		Very Rare	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum micans (B)</i>		Very Rare	
				<i>Prorocentrum scutellum (B)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Pseudo-nitzschia spp. (T)</i>		Rare	0.004
				<i>Rhizosolenia spp. (T)</i>		Rare	0.009
				<i>Scrippsiella sp. (B)</i>		Present	
RWPMVIII: Town of Fenwick							
	8/5/2015	8:10	Surfc	<i>"Gymnodinioid" sp. (S)</i>	25-40 um Grn	Common	0.163
				<i>Ceratium fusus (B)</i>		Very Rare	
				<i>Ceratium pentagonum (B)</i>		Rare	0.002
				<i>Chaetoceros spp. (B)</i>		Present	
				<i>Dinophysis acuminata (T)</i>		Very Rare	
				<i>Dinophysis norvegica (T)</i>		Very Rare	
				<i>Ditylum spp. (T)</i>		Very Rare	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karenia papilionacea (T)</i>		Very Rare	
				<i>Prorocentrum scutellum (B)</i>		Rare	0.002
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Rhizosolenia spp. (T)</i>		Rare	0.002
				<i>Scrippsiella sp. (B)</i>		Rare	0.002
	8/20/2015	8:20		<i>Chaetoceros spp. (B)</i>		Very Rare	

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.

University of Delaware Citizen Monitoring Program

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<b>Atlantic Ocean</b>							
RWPMVIII: Town of Fenwick							
	8/20/2015	8:20	Surfc	<i>Dinophysis acuminata</i> (T)		Rare	0.001
				<i>Heterocapsa rotundata</i> (B)		Very Rare	
				<i>Prorocentrum micans</i> (B)		Very Rare	
				<i>Prorocentrum triestinum</i> (B)		Present	
<b>Broadkill River</b>							
<u>Broadkill River</u>							
BR01: Broadkill river @ PEL dock.							
	8/5/2015	8:50	Net	<i>Akashiwo sanguinea</i> (T)			
				<i>Chaetoceros</i> spp. (B)			
				<i>Heterocapsa rotundata</i> (B)			
				<i>Scrippsiella</i> sp. (B)			
			Surfc	<i>Scrippsiella</i> sp. (B)		Present	
	8/12/2015	8:45	Net	<i>Chaetoceros</i> spp. (B)			
				<i>Karlodinium veneficum</i> (T)			
				<i>Prorocentrum scutellum</i> (B)			
				<i>Rhizosolenia</i> spp. (T)			
			Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
	8/19/2015	8:50	Net	<i>Chaetoceros</i> spp. (B)			
				<i>Ditylum</i> spp. (T)			
				<i>Heterocapsa rotundata</i> (B)			
				<i>Karlodinium veneficum</i> (T)			
				<i>Prorocentrum scutellum</i> (B)			
				<i>Prorocentrum triestinum</i> (B)			
			Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Prorocentrum triestinum</i> (B)		Present	
BR20: Broadkill River at Milton tidal pond							
	8/12/2015	6:10	Surfc	<i>Aphanizomenon</i> spp. (T)		Common	0.625
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
<u>Diamond Pond</u>							
BR48: Diamond Pond at Spillway							
	8/12/2015	7:30	Surfc	<i>Aphanizomenon</i> spp. (T)		Abundant	14.380
				<i>Microcystis</i> spp. (T)		Abundant	17.130
<u>Old Mill Creek</u>							
BR21: Old Mill Creek downstream from Red Mill Pond							
	8/12/2015	11:20	Surfc	<i>Aphanizomenon</i> spp. (T)		Common	0.375
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
<u>Prime Hook Creek</u>							
BR03: Prime Hook Creek at Boat Ramp at Refuge Headquarters							
	8/12/2015	10:47	Surfc	<i>Anabaena</i> spp. (T)		Very Abundant	800.000
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Many	3.740
				<i>Peridinium</i> sp. (B)	40 um olive green	Abundant	21.560
BR04A: Prime Hook NMR - Impoundment #4 (South side of Broadkill Rd)							
	8/19/2015	15:30	Surfc	<i>Anabaena</i> spp. (T)		Very Abundant	633.000

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**University of Delaware Citizen Monitoring Program**

Water Body Tributary Site	Date	Time	Sample Depth	Name	Comment if ID uncertain	Abundance	MC/L
<b>Broadkill River</b>							
<u>Prime Hook Creek</u>							
Br04A: Prime Hook NMR - Impoundment #4 (South side of Broadkill Rd)							
	8/19/2015	15:30	Surfc	<i>Aphanizomenon spp. (T)</i>		Common	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Oscillatoria spp. (B)</i>		Many	
<u>Red Mill Pond</u>							
BR54: Red Mill Pond outlet at Rt 1							
	8/12/2015	10:00	Surfc	<i>(Unknown) (B*)</i>	Thin cyano coiled	Abundant	44.000
				<i>(Unknown) (B*)</i>	Thin cyano straight	Very Abundant	1518.000
				<i>Anabaena spp. (T)</i>		Many	4.400
				<i>Aphanizomenon spp. (T)</i>		Abundant	50.600
				<i>Cylindrospermopsis (T)</i>		Many	6.600
				<i>Microcystis spp. (T)</i>		Abundant	30.800
				<i>Snowella spp. (T)</i>		Many	4.125
<u>Wagamon's Pond</u>							
BR44: Wagamon's Pond on Northern Shoreline, Milton							
	8/12/2015	9:30	Surfc	<i>Aphanizomenon spp. (T)</i>		Present	
				<i>Lyngbya (T)</i>		Present	
				<i>Microcystis spp. (T)</i>		Present	
<b>Delaware Bay</b>							
<u>Canary Creek</u>							
BR40: Canary Creek at Pilottown Rd							
	8/13/2015	7:04	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Rhizosolenia spp. (T)</i>		Present	
<u>Delaware Bay</u>							
DB01: End of Cape Shores pier							
	8/20/2015	8:53	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Common	0.113
				<i>Rhizosolenia spp. (T)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Present	
<b>Indian River</b>							
<u>Indian River</u>							
IR04: Warwick Cove							
	8/10/2015	9:55	Surfc	<i>Heterocapsa rotundata (B)</i>		Common	0.138
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
IR11: Pot Nets Seaside Pier							
	8/10/2015	10:28	Surfc	<i>"Gymnodinioid" sp. (S)</i>	10-15 um Grn	Present	
				<i>Chaetoceros spp. (B)</i>		Common	0.288
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Prorocentrum triestinum (B)</i>		Present	
IR24: Iron Branch - County road 331 at bridge							
	8/10/2015	9:25	Surfc	<i>Gyrodinium instriatum (B)</i>		Common	0.238
				<i>Heterocapsa rotundata (B)</i>		Present	

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<b>Indian River</b>							
<u>Indian River</u>							
IR24: Iron Branch - County road 331 at bridge							
	8/10/2015	9:25	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
IR36: James Farm, base of Pasture Point Knee deep 150 yds from shore							
	8/11/2015	7:40	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
				<i>Chaetoceros spp. (B)</i>		Common	0.175
				<i>Prorocentrum triestinum (B)</i>		Present	
IR39: North side of Inlet at Wheelchair fishing platform under new bridge.							
	8/13/2015	8:37	Surfc	" <i>Gymnodinoid</i> " <i>sp. (S)</i>	25-40 um Grn	Present	
				" <i>Gymnodinoid</i> " <i>sp. (S)</i>	10-15 um Grn	Present	
				<i>Ceratium pentagonum (B)</i>		Very Rare	
				<i>Dinophysis acuminata (T)</i>		Very Rare	
				<i>Ditylum spp. (T)</i>		Rare	0.001
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterocapsa triquetra (B)</i>		Very Rare	
				<i>Heterosigma akashiwo (T)</i>		Present	
				<i>Karenia papilionacea (T)</i>		Very Rare	
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Rhizosolenia spp. (T)</i>		Rare	0.002
				<i>Scrippsiella sp. (B)</i>		Present	
<u>Vines Creek</u>							
IR38: Vines Lane							
	8/11/2015	8:15	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	8/10/2015	7:00	Surfc	<i>Chattonella subsalsa (T)</i>		Common	0.325
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Present	
				<i>Heterosigma akashiwo (T)</i>		Common	0.600
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Peridinium sp. (B)</i>	25um flat green	Present	
				<i>Protoperidinium quinquecorne (B)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Present	
	8/17/2015			" <i>Gymnodinoid</i> " <i>sp. (S)</i>	25-40 um Grn	Present	
				<i>Chattonella subsalsa (T)</i>		Common	0.625
				<i>Chloromorom toxicum (T)</i>		Many	8.140
				<i>Eutreptiella sp. (B)</i>		Many	6.820
				<i>Gyrodinium instriatum (B)</i>		Present	
				<i>Heterocapsa rotundata (B)</i>		Many	1.320
				<i>Heterosigma akashiwo (T)</i>		Many	8.140
				<i>Karlodinium veneficum (T)</i>		Present	
				<i>Kryptoperidinium foliaceum (B)</i>		Common	0.438
				<i>Peridinium sp. (B)</i>	25um flat green	Common	0.313
				<i>Prorocentrum triestinum (B)</i>		Present	
				<i>Protoperidinium quinquecorne (B)</i>		Present	
				<i>Scrippsiella sp. (B)</i>		Many	5.940
<b>Little Assawoman Bay</b>							
<u>Dirickson Creek</u>							
LA03: Mulberry Landing							
	8/10/2015	7:07	Surfc	<i>Karlodinium veneficum (T)</i>		Present	

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<b>Little Assawoman Bay</b>							
<u>Dirickson Creek</u>							
LA03: Mulberry Landing							
	8/10/2015	7:07	Surfc	<i>Prorocentrum triestinum</i> (B)		Present	
LA09: Dirickson Creek at Road 381 bridge.							
	8/10/2015	8:01	Surfc	<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)		Present	
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	8/11/2015	8:00	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Many	2.200
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
	8/18/2015	7:18		<i>Aphanizomenon</i> spp. (T)		Many	1.250
				<i>Chattonella subsalsa</i> (T)		Common	0.250
				<i>Chloromorom toxicum</i> (T)		Many	7.700
				<i>Fibrocapsa japonica</i> (T)		Common	0.178
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Common	0.563
				<i>Heterosigma akashiwo</i> (T)		Common	0.178
				<i>Karlodinium veneficum</i> (T)		Common	0.200
SB10W: Russell Canal west dead end							
	8/11/2015	8:16	Surfc	<i>Heterocapsa rotundata</i> (B)		Many	4.400
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
	8/18/2015	7:11		<i>Chattonella subsalsa</i> (T)		Present	
				<i>Chloromorom toxicum</i> (T)		Many	5.500
				<i>Fibrocapsa japonica</i> (T)		Common	0.125
				<i>Heterocapsa rotundata</i> (B)		Common	0.613
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Common	0.313
<u>Little Assawoman Bay</u>							
LA46: Fenwick Island Tide Gauge							
	8/11/2015	8:55	Surfc	<i>Chloromorom toxicum</i> (T)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Protoperidinium quinquecorne</i> (B)		Present	
<b>Rehoboth Bay</b>							
ML: Massey's Landing							
	8/5/2015	11:55	Surfc	" <i>Gymnodinioid</i> " sp. (S)	25-40 um Grn	Common	0.113
				<i>Chaetoceros</i> spp. (B)		Common	0.475
				<i>Fibrocapsa japonica</i> (T)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Prorocentrum scutellum</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
	8/19/2015	9:15		" <i>Gymnodinioid</i> " sp. (S)	25-40 um Grn	Present	
				<i>Akashiwo sanguinea</i> (T)		Present	

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Water Body Tributary Site	Date	Time	Sample Depth	Name	Comment if ID uncertain	Abundance	MC/L
<b>Rehoboth Bay</b>							
ML: Massey's Landing							
	8/19/2015	9:15	Surfc	<i>Chaetoceros</i> spp. (B)		Common	0.100
				<i>Prorocentrum triestinum</i> (B)		Present	
<b>Bald Eagle Creek</b>							
RB64: Torquay Canal, west side of Land's End near UD Site #1							
	8/10/2015	9:15	Surfc	" <i>Gymnodinioid</i> " sp. (S)	25-40 um Grn	Present	
				<i>Chloromorom toxicum</i> (T)		Common	0.688
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Common	0.125
				<i>Scrippsiella</i> sp. (B)		Common	0.100
	8/17/2015	9:25		<i>Chloromorom toxicum</i> (T)		Common	0.563
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Prorocentrum triestinum</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
<b>Guinea Creek</b>							
RB06: Guinea Creek (Winding Creek Village)							
	8/10/2015	8:00	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>Prorocentrum triestinum</i> (B)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
<b>Love Creek</b>							
RB34: Love Creek at Rt 24 Bridge							
	8/11/2015	10:30	Surfc	<i>Chloromorom toxicum</i> (T)		Present	
				<i>Gyrodinium instriatum</i> (B)		Common	0.800
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Kryptoperidinium foliaceum</i> (B)		Present	
				<i>Protoperdinium quinquecorne</i> (B)		Present	
RB80: Upper Love Creek at Webb Landing							
	8/14/2015	12:10	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
				<i>V. small, &lt;5 um centrics</i> (B*)		Abundant	44.000
	8/19/2015	12:30		<i>Chloromorom toxicum</i> (T)		Present	
				<i>Cylindrotheca closterium</i> (B*)		Abundant	73.700
				<i>Gyrodinium instriatum</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Present	
				<i>Scrippsiella</i> sp. (B)		Present	
				<i>V. small, &lt;5 um centrics</i> (B*)		Abundant	48.400
RB92: Upper Love Creek at Layton Landing Rd.							
	8/14/2015	11:40	Surfc	<i>Cylindrotheca closterium</i> (B*)		Abundant	13.420
				<i>Heterocapsa rotundata</i> (B)		Present	
				<i>Heterosigma akashiwo</i> (T)		Many	4.400
				<i>Karlodinium veneficum</i> (T)		Present	
				<i>V. small, &lt;5 um centrics</i> (B*)		Abundant	62.480

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.

**University of Delaware Citizen Monitoring Program**