

Harmful Algae Report

All data between 5/28/2015 and 6/17/2015

University of Delaware Citizen Monitoring Program

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Broadkill River							
<u>Broadkill River</u>							
BR01: Broadkill river @ PEL dock.							
	6/4/2015	8:50	Net	<i>Ceratium pentagonum (B)</i>			
	6/4/2015	8:50	Net	<i>Dinophysis acuminata (T)</i>			
	6/4/2015	8:50	Net	<i>Karlodinium veneficum (T)</i>			
	6/4/2015	8:50	Net	<i>Prorocentrum minimum (T)</i>			
	6/4/2015	8:50	Net	<i>Prorocentrum scutellum (B)</i>			
	6/4/2015	8:50	Net	<i>Rhizosolenia spp. (T)</i>			
	6/4/2015	8:50	Surfc	<i>Dinophysis acuminata (T)</i>		Rare	0.008
	6/4/2015	8:50	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/4/2015	8:50	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/4/2015	8:50	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/4/2015	8:50	Surfc	<i>Prorocentrum micans (B)</i>		Rare	
	6/4/2015	8:50	Surfc	<i>Prorocentrum scutellum (B)</i>		Present	
	6/4/2015	8:50	Surfc	<i>Prorocentrum triestinum (B)</i>		Rare	
	6/4/2015	8:50	Surfc	<i>Pseudo-nitzschia spp. (T)</i>		Present	0.014
	6/4/2015	8:50	Surfc	<i>Rhizosolenia spp. (T)</i>		Present	
	6/10/2015	8:50	Net	<i>Chaetoceros spp. (B)</i>			
	6/10/2015	8:50	Net	<i>Heterocapsa rotundata (B)</i>			
	6/10/2015	8:50	Net	<i>Heterosigma akashiwo (T)</i>			
	6/10/2015	8:50	Net	<i>Karlodinium veneficum (T)</i>			
	6/10/2015	8:50	Net	<i>Prorocentrum scutellum (B)</i>			
	6/10/2015	8:50	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/17/2015	8:50	Net	<i>Ceratium pentagonum (B)</i>			
	6/17/2015	8:50	Net	<i>Dinophysis acuminata (T)</i>			
	6/17/2015	8:50	Net	<i>Heterocapsa rotundata (B)</i>			
	6/17/2015	8:50	Net	<i>Karlodinium veneficum (T)</i>			
	6/17/2015	8:50	Net	<i>Prorocentrum scutellum (B)</i>			
	6/17/2015	8:50	Surfc	"Gymnodinioid" sp. (S)	25-40 um Grn	Present	
	6/17/2015	8:50	Surfc	<i>Ceratium pentagonum (B)</i>		Rare	
	6/17/2015	8:50	Surfc	<i>Dinophysis acuminata (T)</i>		Rare	
	6/17/2015	8:50	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/17/2015	8:50	Surfc	<i>Heterosigma akashiwo (T)</i>		Rare	
	6/17/2015	8:50	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/17/2015	8:50	Surfc	<i>Prorocentrum scutellum (B)</i>		Rare	
	BR20: Broadkill River at Milton tidal pond						
	6/10/2015	5:55	Surfc		No HABs found		
<u>Diamond Pond</u>							
	BR48: Diamond Pond at Spillway						
	6/10/2015	10:30	Surfc		No HABs found		
<u>Old Mill Creek</u>							
	BR21: Old Mill Creek downstream from Red Mill Pond						
	6/10/2015	11:45	Surfc	"Euglenoids" (B*)		Abundant	33.000
	6/10/2015	11:45	Surfc	<i>Kryptoperidinium foliaceum (B)</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.

University of Delaware Citizen Monitoring Program

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Broadkill River							
<u>Old Mill Creek</u>							
BR21: Old Mill Creek downstream from Red Mill Pond							
	6/10/2015	11:45	Surfc	<i>Microcystis spp. (T)</i>		Common	
<u>Prime Hook Creek</u>							
BR03: Prime Hook Creek at Boat Ramp at Refuge Headquarters							
	6/10/2015	11:05	Surfc	<i>Anabaena spp. (T)</i>		Common	
	6/10/2015	11:05	Surfc	<i>Heterosigma akashiwo (T)</i>		Abundant	99.400
	6/10/2015	11:05	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Many	1.650
<u>Wagamon's Pond</u>							
BR44: Wagamon's Pond on Northern Shoreline, Milton							
	6/10/2015	11:30	Surfc	<i>Lyngbya (T)</i>		Present	
Delaware Bay							
<u>Canary Creek</u>							
BR40: Canary Creek at Pilottown Rd							
	6/10/2015	6:56	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/10/2015	6:56	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/10/2015	6:56	Surfc	<i>Prorocentrum scutellum (B)</i>		Present	
<u>Delaware Bay</u>							
DB01: End of Cape Shores pier							
	6/2/2015	8:14	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/2/2015	8:14	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/9/2015	9:24	Surfc	<i>Dinophysis acuminata (T)</i>		Rare	
	6/9/2015	9:24	Surfc	<i>Ditylum spp. (T)</i>		Rare	
	6/9/2015	9:24	Surfc	<i>Fibrocapsa japonica (T)</i>		Present	
	6/9/2015	9:24	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/9/2015	9:24	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/9/2015	9:24	Surfc	<i>Karlodinium veneficum (T)</i>		Common	0.175
	6/9/2015	9:24	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
	6/9/2015	9:24	Surfc	<i>Prorocentrum scutellum (B)</i>		Present	
	6/9/2015	9:24	Surfc	<i>Pseudo-nitzschia spp. (T)</i>		Rare	
	6/9/2015	9:24	Surfc	<i>Rhizosolenia spp. (T)</i>		Rare	
	6/16/2015	7:36	Surfc	<i>Chattonella subsalsa (T)</i>		Rare	0.001
	6/16/2015	7:36	Surfc	<i>Dinophysis acuminata (T)</i>		Rare	0.006
	6/16/2015	7:36	Surfc	<i>Heterocapsa rotundata (B)</i>		Rare	0.001
	6/16/2015	7:36	Surfc	<i>Heterosigma akashiwo (T)</i>		Rare	0.005
	6/16/2015	7:36	Surfc	<i>Prorocentrum micans (B)</i>		Rare	0.002
	6/16/2015	7:36	Surfc	<i>Prorocentrum minimum (T)</i>		Rare	0.001
	6/16/2015	7:36	Surfc	<i>Prorocentrum scutellum (B)</i>		Present	0.057
	6/16/2015	7:36	Surfc	<i>Rhizosolenia spp. (T)</i>		Rare	0.005
Indian River							
<u>Indian River</u>							
IR04: Warwick Cove							
	6/8/2015	9:50	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/8/2015	9:50	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
IR11: Pot Nets Seaside Pier							
	6/8/2015	10:30	Surfc	<i>Heterocapsa rotundata (B)</i>		Common	0.588
	6/8/2015	10:30	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
IR24: Iron Branch - County road 331 at bridge							

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

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Indian River							
<u>Indian River</u>							
IR24: Iron Branch - County road 331 at bridge							
	6/8/2015	9:30	Surfc		No HABs found		
IR39: North side of Inlet at Wheelchair fishing platform under new bridge.							
	6/1/2015	8:40	Surfc	<i>Ceratium pentagonum (B)</i>		Rare	
	6/1/2015	8:40	Surfc	<i>Dinophysis acuminata (T)</i>		Present	0.024
	6/1/2015	8:40	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/1/2015	8:40	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/1/2015	8:40	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/1/2015	8:40	Surfc	<i>Prorocentrum micans (B)</i>		Rare	
	6/1/2015	8:40	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
	6/1/2015	8:40	Surfc	<i>Prorocentrum scutellum (B)</i>		Rare	
	6/1/2015	8:40	Surfc	<i>Prorocentrum triestinum (B)</i>		Very Rare	
	6/1/2015	8:40	Surfc	<i>Pseudo-nitzschia spp. (T)</i>		Present	0.050
	6/1/2015	8:40	Surfc	<i>Rhizosolenia spp. (T)</i>		Present	
	6/15/2015	8:35	Surfc	<i>Ceratium pentagonum (B)</i>		Present	0.027
	6/15/2015	8:35	Surfc	<i>Dinophysis acuminata (T)</i>		Rare	0.008
	6/15/2015	8:35	Surfc	<i>Dinophysis norvegica (T)</i>		Very Rare	
	6/15/2015	8:35	Surfc	<i>Prorocentrum micans (B)</i>		Rare	0.006
	6/15/2015	8:35	Surfc	<i>Prorocentrum scutellum (B)</i>		Present	0.042
	6/15/2015	8:35	Surfc	<i>Rhizosolenia spp. (T)</i>		Rare	0.003
<u>Vines Creek</u>							
IR38: Vines Lane							
	6/9/2015	7:15	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	6/9/2015	7:15	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/9/2015	7:15	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/9/2015	7:15	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Common	0.100
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	6/1/2015	7:00	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
	6/1/2015	7:00	Surfc	<i>Chaetoceros spp. (B)</i>		Common	0.300
	6/1/2015	7:00	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	6/1/2015	7:00	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	6/1/2015	7:00	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/1/2015	7:00	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Common	0.200
	6/1/2015	7:00	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
	6/1/2015	7:00	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
	6/8/2015	6:45	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/8/2015	6:45	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/8/2015	6:45	Surfc	<i>Karlodinium veneficum (T)</i>		Common	0.125
	6/8/2015	6:45	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	6/8/2015	6:45	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
	6/8/2015	6:45	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
	6/15/2015	7:00	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
	6/15/2015	7:00	Surfc	<i>Chloromorom toxicum (T)</i>		Common	0.125
	6/15/2015	7:00	Surfc	<i>Gyrodinium instriatum (B)</i>		Common	0.663
	6/15/2015	7:00	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/15/2015	7:00	Surfc	<i>Heterosigma akashiwo (T)</i>		Common	0.125

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

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Indian River							
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	6/15/2015	7:00	Surfc	<i>Karlodinium veneficum</i> (T)		Common	0.175
	6/15/2015	7:00	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Common	0.150
	6/15/2015	7:00	Surfc	<i>Scrippsiella</i> sp. (B)		Present	
Little Assawoman Bay							
<u>Dirickson Creek</u>							
LA03: Mulberry Landing							
	6/8/2015	7:35	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
	6/8/2015	7:35	Surfc	<i>Chaetoceros</i> spp. (B)		Present	
	6/8/2015	7:35	Surfc	<i>Karlodinium veneficum</i> (T)		Common	0.138
LA09: Dirickson Creek at Road 381 bridge.							
	6/8/2015	8:05	Surfc	<i>Gyrodinium instriatum</i> (B)		Common	0.175
	6/8/2015	8:05	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	6/2/2015	7:18	Surfc	" <i>Gymnodinioid</i> " sp. (S)	25-40 um Grn	Present	
	6/2/2015	7:18	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
	6/2/2015	7:18	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	6/2/2015	7:18	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	6/2/2015	7:18	Surfc	<i>Karlodinium veneficum</i> (T)		Common	0.263
	6/9/2015	8:00	Surfc	<i>Chaetoceros</i> spp. (B)		Common	
	6/9/2015	8:00	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	6/9/2015	8:00	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	6/16/2015	8:00	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.363
	6/16/2015	8:00	Surfc	<i>Chloromorom toxicum</i> (T)		Present	
	6/16/2015	8:00	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	6/16/2015	8:00	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	6/16/2015	8:00	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
SB10W: Russell Canal west dead end							
	6/2/2015	7:13	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
	6/2/2015	7:13	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	6/2/2015	7:13	Surfc	<i>Karlodinium veneficum</i> (T)		Many	3.300
	6/2/2015	7:13	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	6/2/2015	7:13	Surfc	<i>Scrippsiella</i> sp. (B)		Present	
	6/9/2015	8:15	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
	6/9/2015	8:15	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	6/9/2015	8:15	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	6/16/2015	8:14	Surfc	<i>Chaetoceros</i> spp. (B)		Present	
	6/16/2015	8:14	Surfc	<i>Chloromorom toxicum</i> (T)		Present	
	6/16/2015	8:14	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	6/16/2015	8:14	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	6/16/2015	8:14	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
<u>Little Assawoman Bay</u>							
LA46: Fenwick Island Tide Gauge							
	6/9/2015	8:43	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	6/9/2015	8:43	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	6/9/2015	8:43	Surfc	<i>Karlodinium veneficum</i> (T)		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.

University of Delaware Citizen Monitoring Program

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Rehoboth Bay							
ML: Massey's Landing							
	6/17/2015	7:40	Surfc	<i>"Gymnodinioid" sp. (S)</i>	25-40 um Grn	Present	
	6/17/2015	7:40	Surfc	<i>Ceratium pentagonum (B)</i>		Rare	
	6/17/2015	7:40	Surfc	<i>Dinophysis acuminata (T)</i>		Rare	
	6/17/2015	7:40	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/17/2015	7:40	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/17/2015	7:40	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/17/2015	7:40	Surfc	<i>Prorocentrum scutellum (B)</i>		Present	
	6/17/2015	7:40	Surfc	<i>Rhizosolenia spp. (T)</i>		Rare	
Bald Eagle Creek							
RB64: Torquay Canal, west side of Land's End near UD Site #1							
	6/1/2015	9:12	Surfc	<i>"Gymnodinioid" sp. (S)</i>	25-40 um Grn	Common	0.175
	6/1/2015	9:12	Surfc	<i>Dinophysis acuminata (T)</i>		Common	0.390
	6/1/2015	9:12	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/1/2015	9:12	Surfc	<i>Heterosigma akashiwo (T)</i>		Common	0.175
	6/1/2015	9:12	Surfc	<i>Karlodinium veneficum (T)</i>		Common	0.113
	6/1/2015	9:12	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	6/1/2015	9:12	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
	6/8/2015	9:05	Surfc	<i>Dinophysis acuminata (T)</i>		Rare	0.001
	6/8/2015	9:05	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/8/2015	9:05	Surfc	<i>Heterosigma akashiwo (T)</i>		Many	1.090
	6/8/2015	9:05	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/8/2015	9:05	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	6/15/2015	9:15	Surfc	<i>Gyrodinium instriatum (B)</i>		Common	0.113
	6/15/2015	9:15	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/15/2015	9:15	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Common	0.200
Guinea Creek							
RB06: Guinea Creek (Winding Creek Village)							
	6/8/2015	9:00	Surfc	<i>Chaetoceros spp. (B)</i>		Present	
	6/8/2015	9:00	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
Love Creek							
RB34: Love Creek at Rt 24 Bridge							
	6/9/2015	10:42	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
Rehoboth Bay							
RB38: Joy Beach							
	6/3/2015	9:15	Surfc	<i>Chaetoceros spp. (B)</i>		Common	
	6/3/2015	9:15	Surfc	<i>Dinophysis acuminata (T)</i>		Not Found	
	6/3/2015	9:15	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/3/2015	9:15	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	6/3/2015	9:15	Surfc	<i>Prorocentrum minimum (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.

University of Delaware Citizen Monitoring Program