

Harmful Algae Report

All data between 5/29/2013 and 6/13/2013

University of Delaware Citizen Monitoring Program

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Broadkill River							
BR01: Broadkill river @ PEL dock.							
	5/29/2013	8:52	Net	<i>Amphidinium spp. (T)</i>			
	5/29/2013	8:52	Net	<i>Prorocentrum micans (B)</i>			
	5/29/2013	8:52	Net	<i>Rhizosolenia spp. (T)</i>			
	5/29/2013	8:52	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	5/29/2013	8:52	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	5/29/2013	8:52	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
	6/5/2013	8:50	Net	<i>Ceratium pentagonum (B)</i>			
	6/5/2013	8:50	Net	<i>Chaetoceros spp. (T)</i>			
	6/5/2013	8:50	Net	<i>Dinophysis acuminata (T)</i>			
	6/5/2013	8:50	Net	<i>Ditylum spp. (T)</i>			
	6/5/2013	8:50	Net	<i>Heterocapsa rotundata (B)</i>			
	6/5/2013	8:50	Net	<i>Heterocapsa triquetra (B)</i>			
	6/5/2013	8:50	Net	<i>Prorocentrum micans (B)</i>			
	6/5/2013	8:50	Net	<i>Prorocentrum minimum (T)</i>			
	6/5/2013	8:50	Net	<i>Prorocentrum scutellum (B)</i>			
	6/5/2013	8:50	Net	<i>Rhizosolenia spp. (T)</i>			
	6/5/2013	8:50	Net	<i>Scrippsiella sp. (B)</i>			
	6/5/2013	8:50	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/5/2013	8:50	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/5/2013	8:50	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/5/2013	8:50	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
	6/5/2013	8:50	Surfc	<i>Rhizosolenia spp. (T)</i>		Present	
	6/12/2013	8:47	Net	<i>Ceratium pentagonum (B)</i>			
	6/12/2013	8:47	Net	<i>Dinophysis acuminata (T)</i>			
	6/12/2013	8:47	Net	<i>Heterosigma akashiwo (T)</i>			
	6/12/2013	8:47	Net	<i>Prorocentrum micans (B)</i>			
	6/12/2013	8:47	Net	<i>Prorocentrum triestinum (B)</i>			
	6/12/2013	8:47	Net	<i>Rhizosolenia spp. (T)</i>			
	6/12/2013	8:47	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/12/2013	8:47	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/12/2013	8:47	Surfc	<i>Prorocentrum triestinum (B)</i>		Present	
BR20: Broadkill River at Milton tidal pond							
	6/5/2013	7:20	Surfc		No HABs found		
<u>Diamond Pond</u>							
BR48: Diamond Pond							
	6/5/2013	11:00	Surfc		No HABs found		
<u>Prime Hook Creek</u>							

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>Prime Hook Creek</u>							
BR03: Prime Hook Creek at Boat Ramp at Refuge Headquarters							
	6/5/2013	12:05	Surfc	<i>(Unknown) sp. (B*)</i>	5-15 um grn trdrp flag	Abundant	22.200
	6/5/2013	12:05	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/5/2013	12:05	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Common	0.110
	6/5/2013	12:05	Surfc	<i>Rhizosolenia spp. (T)</i>		Present	
<u>Wagamon's Pond</u>							
BR44: Wagamon's Pond, Milton							
	6/11/2013	11:00	Surfc		No HABs found		
Delaware Bay							
DB01: End of Cape Shores pier							
	6/4/2013	10:05	Surfc	<i>Fibrocapsa japonica (T)</i>		Present	
	6/4/2013	10:05	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/4/2013	10:05	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/4/2013	10:05	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
	6/4/2013	10:05	Surfc	<i>Prorocentrum scutellum (B)</i>		Present	
<u>Canary Creek</u>							
BR40: Canary Creek at Pilottown Rd							
	6/4/2013	6:40	Surfc	<i>Fibrocapsa japonica (T)</i>		Present	
	6/4/2013	6:40	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/4/2013	6:40	Surfc	<i>Heterocapsa triquetra (B)</i>		Present	
	6/4/2013	6:40	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/4/2013	6:40	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
Indian River							
<u>Assawoman Canal</u>							
IR50: Assawoman Canal at N end, Ocean View Marina							
	6/4/2013	7:45	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/4/2013	7:45	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/4/2013	7:45	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
<u>Bethany Loop Canal</u>							
IR62: Loop Canal, Pa Ave terminus, Bethany Beach							
	6/3/2013	7:20	Surfc	<i>Amphidinium spp. (T)</i>		Present	
	6/3/2013	7:20	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Many	5.700
	6/3/2013	7:20	Surfc	<i>Gyrodinium instriatum (B)</i>		Common	0.200
	6/3/2013	7:20	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/3/2013	7:20	Surfc	<i>Heterosigma akashiwo (T)</i>		Common	0.250
	6/3/2013	7:20	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Common	0.470
	6/3/2013	7:20	Surfc	<i>Protoperidinium quinquecorne (B)</i>		Present	
<u>Indian River</u>							
IR04: Warwick Cove							
	6/4/2013	10:10	Surfc	<i>Centric diatom 5-10 um (B*)</i>		Abundant	
	6/4/2013	10:10	Surfc	<i>Heterocapsa rotundata (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
Indian River							
<u>Indian River</u>							
IR04: Warwick Cove	6/4/2013	10:10	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
IR11: Pot Nets Seaside Pier	6/4/2013	11:15	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
IR20: Bay Colony	6/4/2013	7:45	Surfc	<i>Centric diatom 5-10 um</i> (B*)		Abundant	
	6/4/2013	7:45	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
IR36: James Farm, base of Pasture Point	6/3/2013	7:00	Surfc	Knee deep 150 yds from shore	No HABs found		
IR39: North side of Inlet at Wheelchair fishing platform under new bridge.	6/6/2013	7:40	Surfc	<i>Ceratium pentagonum</i> (B)		Rare	0.007
	6/6/2013	7:40	Surfc	<i>Ceratium spp.</i> (T)		Very Rare	
	6/6/2013	7:40	Surfc	<i>Dinophysis acuminata</i> (T)		Very Rare	
	6/6/2013	7:40	Surfc	<i>Heterocapsa rotundata</i> (B)		Rare	0.001
	6/6/2013	7:40	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Very Rare	
	6/6/2013	7:40	Surfc	<i>Prorocentrum micans</i> (B)		Present	0.048
	6/6/2013	7:40	Surfc	<i>Prorocentrum minimum</i> (T)		Rare	0.001
	6/6/2013	7:40	Surfc	<i>Prorocentrum scutellum</i> (B)		Very Rare	
	6/6/2013	7:40	Surfc	<i>Prorocentrum sp.</i> (T)		Very Rare	
	6/6/2013	7:40	Surfc	<i>Prorocentrum triestinum</i> (B)		Very Rare	
	6/6/2013	7:40	Surfc	<i>Rhizosolenia spp.</i> (T)		Rare	0.005
	6/6/2013	7:40	Surfc	<i>Scrippsiella sp.</i> (B)		Very Rare	
<u>Vines Creek</u>							
IR38: Vines Lane	6/4/2013	7:00	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	6/4/2013	7:00	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	6/4/2013	7:00	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	6/4/2013	7:00	Surfc	<i>Prorocentrum minimum</i> (T)		Present	
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek	5/29/2013	8:25	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
	5/29/2013	8:25	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
	5/29/2013	8:25	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	5/29/2013	8:25	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	5/29/2013	8:25	Surfc	<i>Heterosigma akashiwo</i> (T)		Common	0.950
	5/29/2013	8:25	Surfc	<i>Karlodinium veneficum</i> (T)		Common	0.300
	5/29/2013	8:25	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	5/29/2013	8:25	Surfc	<i>Prorocentrum minimum</i> (T)		Present	
	5/29/2013	8:25	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
	6/3/2013	7:35	Surfc	<i>Gyrodinium instriatum</i> (B)		Common	0.170
	6/3/2013	7:35	Surfc	<i>Heterosigma akashiwo</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
Indian River							
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	6/3/2013	7:35	Surfc	<i>Karlodinium veneficum</i> (T)		Common	0.640
	6/3/2013	7:35	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Common	0.200
	6/3/2013	7:35	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
	6/3/2013	7:35	Surfc	<i>Scrippsiella sp.</i> (B)		Common	0.140
	6/10/2013	9:00	Surfc	<i>Gyrodinium instriatum</i> (B)		Many	1.400
	6/10/2013	9:00	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	6/10/2013	9:00	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Common	0.200
	6/10/2013	9:00	Surfc	<i>Scrippsiella sp.</i> (B)		Common	0.110
Little Assawoman Bay							
LA45: Fenwick Island Bayside							
	6/4/2013	9:05	Surfc		No HABs found		
<u>Assawoman Canal</u>							
LA10: Assawoman Canal S end, Kent Ave Bridge							
	6/3/2013	7:00	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	6/3/2013	7:00	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	6/3/2013	7:00	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
<u>Dirickson Creek</u>							
LA03: Mulberry Landing							
	6/10/2013	8:20	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	6/10/2013	8:20	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
LA09: Dirickson Creek at Road 381 bridge.							
	6/4/2013	7:58	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	6/4/2013	7:58	Surfc	<i>Heterosigma akashiwo</i> (T)		Many	4.400
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	6/4/2013	8:11	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	6/4/2013	8:11	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	6/11/2013	8:00	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
	6/11/2013	8:00	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	6/11/2013	8:00	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	6/11/2013	8:00	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	6/11/2013	8:00	Surfc	<i>Karlodinium veneficum</i> (T)		Common	0.250
	6/11/2013	8:00	Surfc	<i>Prorocentrum minimum</i> (T)		Present	
SB10W: Russell Canal west dead end							
	6/4/2013	8:32	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	6/11/2013	8:10	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	6/11/2013	8:10	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	6/11/2013	8:10	Surfc	<i>Heterosigma akashiwo</i> (T)		Common	0.120
	6/11/2013	8:10	Surfc	<i>Karlodinium veneficum</i> (T)		Common	0.100

Rehoboth Bay

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							
RB07: West Bay Park	6/4/2013	9:15	Surfc		No HABs found		
RB53: White Oak Road	6/5/2013	13:55	Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.150
	6/5/2013	13:55	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/5/2013	13:55	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/5/2013	13:55	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	6/5/2013	13:55	Surfc	<i>Rhizosolenia spp. (T)</i>		Present	
	6/5/2013	13:56	Surfc	<i>Chaetoceros spp. (T)</i>		Many	1.600
	6/5/2013	13:56	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/5/2013	13:56	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	6/6/2013	10:00	Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.340
	6/6/2013	10:00	Surfc	<i>Gyrodinium instriatum (B)</i>		Rare	0.002
	6/6/2013	10:00	Surfc	<i>Heterocapsa rotundata (B)</i>		Very Rare	
	6/6/2013	10:00	Surfc	<i>Prorocentrum minimum (T)</i>		Very Rare	
	6/6/2013	10:00	Surfc	<i>Rhizosolenia spp. (T)</i>		Rare	0.002
	6/6/2013	10:00	Surfc	<i>Scrippsiella sp. (B)</i>		Rare	0.001
Bald Eagle Creek							
RB64: Torquay Canal, west side of Land's End near UD Site #1	5/29/2013	7:40	Surfc	<i>Dinophysis acuminata (T)</i>		Present	0.025
	5/29/2013	7:40	Surfc	<i>Heterosigma akashiwo (T)</i>		Common	0.340
	5/29/2013	7:40	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	5/29/2013	7:40	Surfc	<i>Prorocentrum minimum (T)</i>		Common	0.100
	5/29/2013	7:40	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
	6/3/2013	8:20	Surfc	<i>Dinophysis acuminata (T)</i>		Present	0.012
	6/3/2013	8:20	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/3/2013	8:20	Surfc	<i>Prorocentrum minimum (T)</i>		Present	
	6/10/2013	7:30	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	6/10/2013	7:30	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/10/2013	7:30	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Common	0.160
Guinea Creek							
RB05: Mouth of Guinea Creek (Pot Nets Creekside)	6/4/2013	11:38	Surfc		No HABs found		
RB06: Guinea Creek (Winding Creek Village)	6/3/2013	8:00	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
Herring Creek							
RB04: Herring Creek, Mid-Section	6/3/2013	7:15	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
Love Creek							
RB34: Love Creek at Rt 24 Bridge	6/3/2013	8:50	Surfc	<i>Chaetoceros spp. (T)</i>		Common	0.220
	6/3/2013	8:50	Surfc	<i>Chattonella cf. verruculosa (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

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Rehoboth Bay							
<u>Love Creek</u>							
RB34: Love Creek at Rt 24 Bridge							
	6/3/2013	8:50	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	6/3/2013	8:50	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	6/3/2013	8:50	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	6/3/2013	8:50	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	6/3/2013	8:50	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	

Name subscripts: (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