

Harmful Algae Report

All data between 7/3/2012 and 7/27/2012

University of Delaware Citizen Monitoring Program

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Assawoman Bay							
<u>Roy Creek</u>							
BA01: Keenwick on Bay, Roy Creek							
	7/10/2012	8:57	Surfc	<i>Heterocapsa rotundata</i> (B)		Common	0.110
	7/24/2012	8:42	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/24/2012	8:42	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/24/2012	8:42	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/24/2012	8:42	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
Atlantic Ocean							
RWPM14: Tower Rd Ocean, Delaware Seashore State Park							
	7/12/2012	9:00	Surfc	<i>Akashiwo sanguinea</i> (T)		Very Rare	
	7/12/2012	9:00	Surfc	<i>Heterocapsa rotundata</i> (B)		Rare	0.001
	7/12/2012	9:00	Surfc	<i>Karenia papilionacea</i> (T)		Rare	0.001
	7/12/2012	9:00	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Rare	0.001
	7/12/2012	9:00	Surfc	<i>Prorocentrum sp.</i> (T)		Very Rare	
	7/12/2012	9:00	Surfc	<i>Prorocentrum triestinum</i> (B)		Present	0.035
	7/12/2012	9:00	Surfc	<i>Scrippsiella sp.</i> (B)		Rare	0.001
	7/26/2012	8:46	Surfc	<i>Ceratium pentagonum</i> (B)		Very Rare	
	7/26/2012	8:46	Surfc	<i>Chaetoceros spp.</i> (T)		Present	0.018
	7/26/2012	8:46	Surfc	<i>Heterocapsa rotundata</i> (B)		Rare	0.001
	7/26/2012	8:46	Surfc	<i>Karenia papilionacea</i> (T)		Very Rare	
	7/26/2012	8:46	Surfc	<i>Prorocentrum scutellum</i> (B)		Very Rare	
	7/26/2012	8:46	Surfc	<i>Prorocentrum triestinum</i> (B)		Very Rare	
	7/26/2012	8:46	Surfc	<i>Pseudo-nitzschia spp.</i> (T)		Present	0.021
	7/26/2012	8:46	Surfc	<i>Rhizosolenia spp.</i> (T)		Very Rare	
	7/26/2012	8:46	Surfc	<i>Scrippsiella sp.</i> (B)		Very Rare	
RWPM8: Cape Henlopen State Park Beach (2)							
	7/19/2012	9:10	Surfc	<i>Chaetoceros spp.</i> (T)		Present	0.022
	7/19/2012	9:10	Surfc	<i>Ditylum spp.</i> (T)		Very Rare	
	7/19/2012	9:10	Surfc	<i>Prorocentrum minimum</i> (T)		Very Rare	
	7/19/2012	9:10	Surfc	<i>Prorocentrum scutellum</i> (B)		Very Rare	
	7/19/2012	9:10	Surfc	<i>Prorocentrum triestinum</i> (B)		Rare	0.009
	7/19/2012	9:10	Surfc	<i>Rhizosolenia spp.</i> (T)		Very Rare	
RWPMVIII: Town of Fenwick							
	7/12/2012	8:13	Surfc	<i>Anabaena spp.</i> (T)		Present	0.040
	7/12/2012	8:13	Surfc	<i>Chaetoceros spp.</i> (T)		Rare	0.002
	7/12/2012	8:13	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Rare	0.001
	7/12/2012	8:13	Surfc	<i>Chattonella subsalsa</i> (T)		Rare	0.003
	7/12/2012	8:13	Surfc	<i>Heterocapsa rotundata</i> (B)		Rare	0.002

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
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Atlantic Ocean

RWPMVIII: Town of Fenwick

7/12/2012	8:13	Surfc		<i>Karenia papilionacea (T)</i>		Rare	0.003
7/12/2012	8:13	Surfc		<i>Kryptoperidinium foliaceum (B)</i>		Present	0.013
7/12/2012	8:13	Surfc		<i>Prorocentrum micans (B)</i>		Rare	0.001
7/12/2012	8:13	Surfc		<i>Prorocentrum scutellum (B)</i>		Very Rare	
7/12/2012	8:13	Surfc		<i>Prorocentrum triestinum (B)</i>		Present	0.011
7/12/2012	8:13	Surfc		<i>Scrippsiella sp. (B)</i>		Rare	0.004
7/26/2012	8:02	Surfc		<i>Ceratium pentagonum (B)</i>		Very Rare	
7/26/2012	8:02	Surfc		<i>Chaetoceros spp. (T)</i>		Present	0.011
7/26/2012	8:02	Surfc		<i>Dinophysis acuminata (T)</i>		Rare	0.001
7/26/2012	8:02	Surfc		<i>Prorocentrum scutellum (B)</i>		Very Rare	
7/26/2012	8:02	Surfc		<i>Prorocentrum triestinum (B)</i>		Very Rare	
7/26/2012	8:02	Surfc		<i>Rhizosolenia spp. (T)</i>		Very Rare	
7/26/2012	8:02	Surfc		<i>Scrippsiella sp. (B)</i>		Very Rare	

Broadkill River

BR01: Broadkill river @ PEL dock.

7/5/2012	8:55	Net		<i>Chaetoceros spp. (T)</i>			
7/5/2012	8:55	Net		<i>Heterocapsa rotundata (B)</i>			
7/5/2012	8:55	Net		<i>Karlodinium veneficum (T)</i>			
7/5/2012	8:55	Net		<i>Prorocentrum scutellum (B)</i>			
7/5/2012	8:55	Surfc		<i>Heterocapsa rotundata (B)</i>		Present	
7/11/2012	8:55	Net		<i>Chaetoceros spp. (T)</i>			
7/11/2012	8:55	Net		<i>Chattonella cf. verruculosa (T)</i>			
7/11/2012	8:55	Net		<i>Chattonella subsalsa (T)</i>			
7/11/2012	8:55	Net		<i>Cochlodinium sp. (T)</i>			
7/11/2012	8:55	Net		<i>Kryptoperidinium foliaceum (B)</i>			
7/11/2012	8:55	Net		<i>Scrippsiella sp. (B)</i>			
7/11/2012	8:55	Surfc		<i>Chattonella subsalsa (T)</i>		Present	
7/18/2012	8:50	Net		<i>Chaetoceros spp. (T)</i>			
7/18/2012	8:50	Net		<i>Ditylum spp. (T)</i>			
7/18/2012	8:50	Net		<i>Gonyaulax polygramma (B)</i>			
7/18/2012	8:50	Net		<i>Prorocentrum scutellum (B)</i>			
7/18/2012	8:50	Net		<i>Prorocentrum triestinum (B)</i>			
7/18/2012	8:50	Net		<i>Rhizosolenia spp. (T)</i>			
7/18/2012	8:50	Net		<i>Scrippsiella sp. (B)</i>			
7/18/2012	8:50	Surfc		<i>Chaetoceros spp. (T)</i>		Common	
7/18/2012	8:50	Surfc		<i>Ditylum spp. (T)</i>		Present	
7/18/2012	8:50	Surfc		<i>Heterocapsa rotundata (B)</i>		Present	
7/18/2012	8:50	Surfc		<i>Karlodinium veneficum (T)</i>		Present	
7/26/2012	9:30	Net		<i>Anabaena spp. (T)</i>			
7/26/2012	9:30	Net		<i>Chaetoceros spp. (T)</i>			
7/26/2012	9:30	Net		<i>Gyrodinium instriatum (B)</i>			
7/26/2012	9:30	Net		<i>Heterocapsa rotundata (B)</i>			

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Broadkill River							
BR01: Broadkill river @ PEL dock.							
	7/26/2012	9:30	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
BR20: Broadkill River at Milton tidal pond							
	7/11/2012	6:45	Surfc	<i>Anabaena</i> spp. (T)		Many	5.500
	7/11/2012	6:45	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/11/2012	6:45	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/11/2012	6:45	Surfc	<i>Microcystis</i> spp. (T)		Common	0.620
	7/25/2012	6:30	Surfc	<i>Anabaena</i> spp. (T)		Abundant	27.900
	7/25/2012	6:30	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Common	0.500
	7/25/2012	6:30	Surfc	<i>Microcystis</i> spp. (T)		Abundant	10.000
<u>Diamond Pond</u>							
BR48: Diamond Pond							
	7/11/2012	10:56	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/25/2012	11:06	Surfc		No HABs found		
<u>Old Mill Creek</u>							
BR21: Old Mill Creek downstream from Red Mill Pond							
	7/11/2012	13:05	Surfc	<i>Chattonella</i> cf. <i>verruculosa</i> (T)		Present	
	7/11/2012	13:05	Surfc	<i>Cylindrotheca closterium</i> (B*)		Abundant	17.600
	7/11/2012	13:05	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/11/2012	13:05	Surfc	<i>Navicula</i> (small) (B*)		Abundant	17.600
	7/11/2012	13:05	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Common	0.280
	7/25/2012	12:51	Surfc		No HABs found		
<u>Prime Hook Creek</u>							
BR03: Prime Hook Creek at Boat Ramp at Refuge Headquarters							
	7/11/2012	12:26	Surfc	<i>Chattonella</i> cf. <i>verruculosa</i> (T)		Abundant	18.900
	7/11/2012	12:26	Surfc	<i>Chattonella subsalsa</i> (T)		Abundant	31.900
	7/11/2012	12:26	Surfc	<i>Heterosigma akashiwo</i> (T)		Many	1.100
	7/11/2012	12:26	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/11/2012	12:26	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Many	2.900
	7/25/2012	12:02	Surfc	<i>Amphidinium</i> spp. (T)		Present	
	7/25/2012	12:02	Surfc	<i>Anabaena</i> spp. (T)		Many	9.600
	7/25/2012	12:02	Surfc	<i>Chaetoceros</i> spp. (T)		Common	0.160
	7/25/2012	12:02	Surfc	<i>Chattonella</i> cf. <i>verruculosa</i> (T)		Abundant	21.800
	7/25/2012	12:02	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
	7/25/2012	12:02	Surfc	<i>Gyrodinium instriatum</i> (B)		Common	0.120
	7/25/2012	12:02	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/25/2012	12:02	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	7/25/2012	12:02	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Common	0.690
	7/25/2012	12:02	Surfc	<i>Microcystis</i> spp. (T)		Common	
	7/25/2012	12:02	Surfc	<i>Snowella</i> spp. (B)		Abundant	18.000
<u>Wagamon's Pond</u>							
BR44: Wagamon's Pond, Milton							

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Broadkill River							
<u>Wagamon's Pond</u>							
BR44: Wagamon's Pond, Milton							
	7/11/2012	11:30	Surfc	<i>Anabaena spp. (T)</i>		Abundant	15.000
	7/11/2012	11:30	Surfc	<i>Aphanizomenon spp. (T)</i>		Many	1.100
	7/11/2012	11:30	Surfc	<i>Lyngbya (T)</i>		Present	
	7/11/2012	11:30	Surfc	<i>Microcystis spp. (T)</i>		Many	2.500
	7/11/2012	11:30	Surfc	<i>Oscillatoria spp. (B)</i>		Present	
	7/26/2012	11:00	Surfc	<i>Anabaena spp. (T)</i>		Abundant	38.000
	7/26/2012	11:00	Surfc	<i>Aphanizomenon spp. (T)</i>		Common	
	7/26/2012	11:00	Surfc	<i>Lyngbya (T)</i>		Present	
	7/26/2012	11:00	Surfc	<i>Microcystis spp. (T)</i>		Abundant	13.800
	7/26/2012	11:00	Surfc	<i>Oscillatoria spp. (B)</i>		Common	
	7/26/2012	11:00	Surfc	<i>Snowella spp. (B)</i>		Abundant	12.500
Delaware Bay							
DB01: End of Cape Shores pier							
	7/11/2012	8:10	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/11/2012	8:10	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/25/2012	8:55	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
	7/25/2012	8:55	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
<u>Canary Creek</u>							
BR19: Canary Creek at New Road							
	7/25/2012	10:06	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
	7/25/2012	10:06	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/25/2012	10:06	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/25/2012	10:06	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	7/25/2012	10:06	Surfc	<i>Protoperdinium quinquecorne (B)</i>		Present	
BR40: Canary Creek at Pilottown Rd							
	7/11/2012	7:47	Surfc		No HABs found		
	7/24/2012	8:07	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
Dirickson Pond							
LA38: The Hamlet at Dirickson Pond							
	7/10/2012	8:31	Surfc	<i>Microcystis v small spp (T)</i>		Common	0.500
	7/24/2012	7:40	Surfc	<i>Microcystis spp. (T)</i>		Common	0.150
	7/24/2012	7:40	Surfc	<i>Planktolynbya sp. (B*)</i>		Abundant	30.800
	7/24/2012	7:40	Surfc	<i>Snowella spp. (B)</i>		Abundant	15.400
Indian River							
<u>Assawoman Canal</u>							
IR50: Assawoman Canal at N end, Ocean View Marina							
	7/10/2012	7:40	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Common	0.440
	7/10/2012	7:40	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/10/2012	7:40	Surfc	<i>Heterocapsa rotundata (B)</i>		Many	3.300
	7/10/2012	7:40	Surfc	<i>Karlodinium veneficum (T)</i>		Present	

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Indian River							
<u>Assawoman Canal</u>							
IR50: Assawoman Canal at N end, Ocean View Marina							
	7/10/2012	7:40	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/10/2012	7:40	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
	7/24/2012	7:25	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
	7/24/2012	7:25	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/24/2012	7:25	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	7/24/2012	7:25	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/24/2012	7:25	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	7/24/2012	7:25	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/24/2012	7:25	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/24/2012	7:25	Surfc	<i>Protopteridinium quinquecorne</i> (B)		Present	
<u>Bethany Loop Canal</u>							
IR62: Loop Canal, Pa Ave terminus, Bethany Beach							
	7/9/2012	7:50	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	7/23/2012	8:00	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Common	0.110
	7/23/2012	8:00	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.450
	7/23/2012	8:00	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/23/2012	8:00	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Common	0.100
	7/23/2012	8:00	Surfc	<i>Protopteridinium quinquecorne</i> (B)		Common	0.100
<u>Indian River</u>							
IR04: Warwick Cove							
	7/9/2012	9:52	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Common	0.110
	7/9/2012	9:52	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/23/2012	9:55	Surfc	<i>Centric diatom 5-10 um</i> (B*)		Abundant	35.200
	7/23/2012	9:55	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/23/2012	9:55	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/23/2012	9:55	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	7/23/2012	9:55	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
IR07: Holt's Landing State Park							
	7/10/2012	7:20	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/10/2012	7:20	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/10/2012	7:20	Surfc	<i>Protopteridinium quinquecorne</i> (B)		Present	
	7/24/2012	7:55	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/24/2012	7:55	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/24/2012	7:55	Surfc	<i>Protopteridinium quinquecorne</i> (B)		Present	
IR11: Pot Nets Seaside Pier							
	7/9/2012	10:37	Surfc	<i>Chaetoceros spp.</i> (T)		Present	
	7/9/2012	10:37	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/9/2012	10:37	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	7/9/2012	10:37	Surfc	<i>Karlodinium veneficum</i> (T)		Common	0.150
	7/9/2012	10:37	Surfc	<i>Scrippsiella sp.</i> (B)		Present	

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Indian River							
<u>Indian River</u>							
IR11: Pot Nets Seaside Pier	7/23/2012	11:01	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
IR20: Bay Colony	7/9/2012	8:00	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/23/2012	8:00	Surfc		No HABs found		
IR36: James Farm, base of Pasture Point	Knee deep 150 yds from shore						
	7/10/2012	9:15	Surfc	<i>Chaetoceros spp.</i> (T)		Common	0.360
	7/10/2012	9:15	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/10/2012	9:15	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/10/2012	9:15	Surfc	<i>Prorocentrum triestinum</i> (B)		Present	
	7/10/2012	9:15	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
	7/24/2012	9:20	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
	7/24/2012	9:20	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
	7/24/2012	9:20	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/24/2012	9:20	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/24/2012	9:20	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/24/2012	9:20	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
IR39: North side of Inlet at Wheelchair fishing platform under new bridge.							
	7/5/2012	9:25	Surfc	<i>Amphidinium spp.</i> (T)		Very Rare	
	7/5/2012	9:25	Surfc	<i>Chaetoceros spp.</i> (T)		Present	0.052
	7/5/2012	9:25	Surfc	<i>Dinophysis acuminata</i> (T)		Very Rare	
	7/5/2012	9:25	Surfc	<i>Heterocapsa rotundata</i> (B)		Rare	0.001
	7/5/2012	9:25	Surfc	<i>Karenia papilionacea</i> (T)		Rare	0.001
	7/5/2012	9:25	Surfc	<i>Prorocentrum micans</i> (B)		Very Rare	
	7/5/2012	9:25	Surfc	<i>Prorocentrum scutellum</i> (B)		Rare	0.001
	7/5/2012	9:25	Surfc	<i>Prorocentrum triestinum</i> (B)		Very Rare	
	7/5/2012	9:25	Surfc	<i>Rhizosolenia spp.</i> (T)		Very Rare	
	7/5/2012	9:25	Surfc	<i>Scrippsiella sp.</i> (B)		Rare	0.003
	7/19/2012	8:55	Surfc	<i>Chaetoceros spp.</i> (T)		Present	0.027
	7/19/2012	8:55	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Rare	0.001
	7/19/2012	8:55	Surfc	<i>Ditylum spp.</i> (T)		Rare	0.002
	7/19/2012	8:55	Surfc	<i>Fibrocapsa japonica</i> (T)		Rare	0.003
	7/19/2012	8:55	Surfc	<i>Heterocapsa triquetra</i> (B)		Rare	0.002
	7/19/2012	8:55	Surfc	<i>Karenia papilionacea</i> (T)		Rare	0.007
	7/19/2012	8:55	Surfc	<i>Karlodinium veneficum</i> (T)		Very Rare	
	7/19/2012	8:55	Surfc	<i>Prorocentrum minimum</i> (T)		Rare	0.003
	7/19/2012	8:55	Surfc	<i>Prorocentrum scutellum</i> (B)		Rare	0.005
	7/19/2012	8:55	Surfc	<i>Prorocentrum triestinum</i> (B)		Rare	0.005
	7/19/2012	8:55	Surfc	<i>Scrippsiella sp.</i> (B)		Rare	0.006

Vines Creek

IR38: Vines Lane

7/10/2012 7:15 Surfc *Chattonella cf. verruculosa* (T) Common 0.150

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

Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Indian River							
<u>Vines Creek</u>							
IR38: Vines Lane							
	7/10/2012	7:15	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	7/10/2012	7:15	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	7/10/2012	7:15	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/10/2012	7:15	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
	7/24/2012	7:15	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
<u>White Creek</u>							
IR32: Holly Terrace Acres Canal Dead End, White Creek							
	7/3/2012	7:40	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Many	2.900
	7/3/2012	7:40	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.560
	7/3/2012	7:40	Surfc	<i>Gyrodinium instriatum</i> (B)		Common	0.390
	7/3/2012	7:40	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/3/2012	7:40	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Common	0.420
	7/3/2012	7:40	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Common	0.360
	7/3/2012	7:40	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
	7/9/2012	8:31	Surfc	<i>Gyrodinium instriatum</i> (B)		Common	0.110
	7/9/2012	8:31	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/9/2012	8:31	Surfc	<i>Heterosigma akashiwo</i> (T)		Common	0.110
	7/9/2012	8:31	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/9/2012	8:31	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Common	0.290
	7/9/2012	8:31	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
	7/16/2012	8:07	Surfc	<i>Akashiwo sanguinea</i> (T)		Present	
	7/16/2012	8:07	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/16/2012	8:07	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.188
	7/16/2012	8:07	Surfc	<i>Gyrodinium instriatum</i> (B)		Many	1.125
	7/16/2012	8:07	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/16/2012	8:07	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/16/2012	8:07	Surfc	<i>Prorocentrum triestinum</i> (B)		Present	
	7/16/2012	8:07	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
	7/16/2012	8:07	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
	7/23/2012	9:04	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
	7/23/2012	9:04	Surfc	<i>Fibrocapsa japonica</i> (T)		Present	
	7/23/2012	9:04	Surfc	<i>Gyrodinium instriatum</i> (B)		Common	0.730
	7/23/2012	9:04	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	7/23/2012	9:04	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Common	0.210
	7/23/2012	9:04	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
	7/23/2012	9:04	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
Little Assawoman Bay							
LA45: Fenwick Island Bayside							
	7/10/2012	7:32	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	7/10/2012	7:32	Surfc	<i>Heterocapsa rotundata</i> (B)		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.

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Water Body Tributary Site	Date	Time	Smpl Dpth	Name	Comment if ID uncertain	Abundance	MC/L
Little Assawoman Bay							
LA45: Fenwick Island Bayside							
	7/10/2012	7:32	Surfc	<i>Protoperidinium quinquecorne (B)</i>		Present	
	7/24/2012	7:38	Surfc	<i>Akashiwo sanguinea (T)</i>		Common	0.100
	7/24/2012	7:38	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/24/2012	7:38	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
Assawoman Canal							
LA10: Assawoman Canal S end, Kent Ave Bridge							
	7/9/2012	7:30	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Present	
	7/9/2012	7:30	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/9/2012	7:30	Surfc	<i>Heterocapsa rotundata (B)</i>		Common	0.510
	7/9/2012	7:30	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/23/2012	7:30	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Present	
	7/23/2012	7:30	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/23/2012	7:30	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	7/23/2012	7:30	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/23/2012	7:30	Surfc	<i>Protoperidinium quinquecorne (B)</i>		Present	
Dirickson Creek							
LA03: Mulberry Landing							
	7/10/2012	7:52	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/10/2012	7:52	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/23/2012	7:58	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
	7/23/2012	7:58	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/23/2012	7:58	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
LA09: Dirickson Creek at Road 381 bridge.							
	7/9/2012	7:54	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Present	
	7/9/2012	7:54	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/9/2012	7:54	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	7/9/2012	7:54	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/9/2012	7:54	Surfc	<i>Karlodinium veneficum (T)</i>		Common	0.350
	7/9/2012	7:54	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	7/9/2012	7:54	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
	7/23/2012	8:32	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/23/2012	8:32	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	7/23/2012	8:32	Surfc	<i>Heterocapsa rotundata (B)</i>		Abundant	33.200
	7/23/2012	8:32	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/23/2012	8:32	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
	7/23/2012	8:32	Surfc	<i>Protoperidinium quinquecorne (B)</i>		Present	
	7/23/2012	8:32	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
Jefferson Creek							
SB10E: Russell Canal east dead end							
	7/3/2012	7:50	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Common	0.110
	7/3/2012	7:50	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	

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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
Little Assawoman Bay							
<u>Jefferson Creek</u>							
SB10E: Russell Canal east dead end							
	7/3/2012	7:50	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/10/2012	8:10	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Common	0.260
	7/10/2012	8:10	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	7/10/2012	8:10	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/10/2012	8:10	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/17/2012	8:06	Surfc	<i>Amphidinium spp. (T)</i>		Present	
	7/17/2012	8:06	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Present	
	7/17/2012	8:06	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/17/2012	8:06	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	7/17/2012	8:06	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/17/2012	8:06	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/17/2012	8:06	Surfc	<i>Scrippsiella sp. (B)</i>		Present	
	7/24/2012	8:05	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/24/2012	8:05	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	7/24/2012	8:05	Surfc	<i>Heterocapsa rotundata (B)</i>		Many	1.100
	7/24/2012	8:05	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/24/2012	8:05	Surfc	<i>Kryptoperidinium foliaceum (B)</i>		Present	
SB10W: Russell Canal west dead end							
	7/3/2012	8:05	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Present	
	7/3/2012	8:05	Surfc	<i>Fibrocapsa japonica (T)</i>		Present	
	7/3/2012	8:05	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/10/2012	8:25	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/10/2012	8:25	Surfc	<i>Heterosigma akashiwo (T)</i>		Present	
	7/17/2012	8:23	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Present	
	7/17/2012	8:23	Surfc	<i>Chattonella subsalsa (T)</i>		Common	0.150
	7/17/2012	8:23	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	7/17/2012	8:23	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/17/2012	8:23	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/24/2012	8:20	Surfc	<i>Akashiwo sanguinea (T)</i>		Present	
	7/24/2012	8:20	Surfc	<i>Chattonella cf. verruculosa (T)</i>		Present	
	7/24/2012	8:20	Surfc	<i>Chattonella subsalsa (T)</i>		Present	
	7/24/2012	8:20	Surfc	<i>Gyrodinium instriatum (B)</i>		Present	
	7/24/2012	8:20	Surfc	<i>Heterocapsa rotundata (B)</i>		Common	0.120
	7/24/2012	8:20	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
Rehoboth Bay							
ML: Massey's Landing							
	7/9/2012	10:59	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
	7/9/2012	10:59	Surfc	<i>Karlodinium veneficum (T)</i>		Present	
	7/23/2012	11:20	Surfc	<i>Chaetoceros spp. (T)</i>		Present	
	7/23/2012	11:20	Surfc	<i>Heterocapsa rotundata (B)</i>		Present	
	7/23/2012	11:20	Surfc	<i>Prorocentrum triestinum (B)</i>		Present	

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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							
	7/24/2012	8:00	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/24/2012	8:00	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
Bald Eagle Creek							
RB64: Torquay Canal, west side of Land's End near UD Site #1							
	7/3/2012	8:10	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Common	0.160
	7/3/2012	8:10	Surfc	<i>Chattonella subsalsa</i> (T)		Common	0.600
	7/3/2012	8:10	Surfc	<i>Fibrocapsa japonica</i> (T)		Common	0.460
	7/3/2012	8:10	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	
	7/3/2012	8:10	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/3/2012	8:10	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/3/2012	8:10	Surfc	<i>Prorocentrum triestinum</i> (B)		Present	
	7/3/2012	8:10	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
	7/9/2012	8:26	Surfc	<i>Fibrocapsa japonica</i> (T)		Present	
	7/9/2012	8:26	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	7/9/2012	8:26	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/9/2012	8:26	Surfc	<i>Protoperidinium quinquecorne</i> (B)		Present	
	7/16/2012	8:49	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/16/2012	8:49	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
	7/16/2012	8:49	Surfc	<i>Fibrocapsa japonica</i> (T)		Common	0.112
	7/16/2012	8:49	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/16/2012	8:49	Surfc	<i>Heterosigma akashiwo</i> (T)		Common	0.150
	7/16/2012	8:49	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/16/2012	8:49	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
	7/23/2012	8:25	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Common	0.190
	7/23/2012	8:25	Surfc	<i>Chattonella subsalsa</i> (T)		Present	
	7/23/2012	8:25	Surfc	<i>Fibrocapsa japonica</i> (T)		Common	0.380
	7/23/2012	8:25	Surfc	<i>Heterocapsa rotundata</i> (B)		Common	0.110
	7/23/2012	8:25	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
Guinea Creek							
RB05: Mouth of Guinea Creek (Pot Nets Creekside)							
	7/9/2012	11:20	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/9/2012	11:20	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/23/2012	11:40	Surfc		No HABs found		
RB06: Guinea Creek (Winding Creek Village)							
	7/9/2012	8:15	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/9/2012	8:15	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
Herring Creek							
RB04: Herring Creek, Mid-Section							
	7/10/2012	8:50	Surfc		No HABs found		
	7/25/2012	8:50	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
	7/25/2012	8:50	Surfc	<i>Heterosigma akashiwo</i> (T)		Present	

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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>Herring Creek</u>							
RB04: Herring Creek, Mid-Section							
	7/25/2012	8:50	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/25/2012	8:50	Surfc	<i>Kryptoperidinium foliaceum</i> (B)		Present	
	7/25/2012	8:50	Surfc	<i>Prorocentrum triestinum</i> (B)		Present	
<u>Love Creek</u>							
RB34: Love Creek at Rt 24 Bridge							
	7/9/2012	8:47	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	7/9/2012	8:47	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/9/2012	8:47	Surfc	<i>Scrippsiella sp.</i> (B)		Present	
	7/23/2012	8:45	Surfc	<i>Chattonella cf. verruculosa</i> (T)		Present	
	7/23/2012	8:45	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	7/23/2012	8:45	Surfc	<i>Heterocapsa rotundata</i> (B)		Present	
Silver Lake							
<u>Silver Lake</u>							
RL01: Silver Lake, Lake Drive Bridge							
	7/14/2012	8:55	Surfc	<i>Aphanizomenon spp.</i> (T)		Very Abundant	2190.000
	7/23/2012	8:45	Surfc	(Unknown flagellate) sp. (B*)	15 - 20 Oval	Abundant	11.000
	7/23/2012	8:45	Surfc	<i>Aphanizomenon spp.</i> (T)		Many	2.180
	7/23/2012	8:45	Surfc	<i>Gyrodinium instriatum</i> (B)		Present	
	7/23/2012	8:45	Surfc	<i>Karlodinium veneficum</i> (T)		Present	
	7/23/2012	8:45	Surfc	<i>Prorocentrum triestinum</i> (B)		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