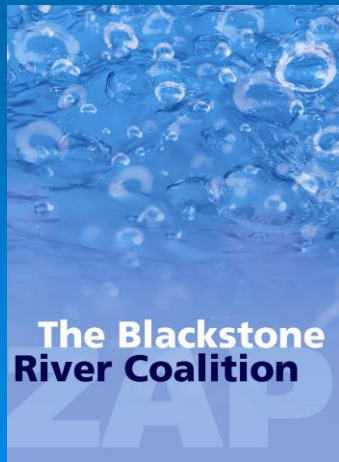


# Blackstone River Coalition Watershed-wide Volunteer Water Quality Monitoring Program

9<sup>th</sup> WQ Summit and Volunteer  
Appreciation Breakfast

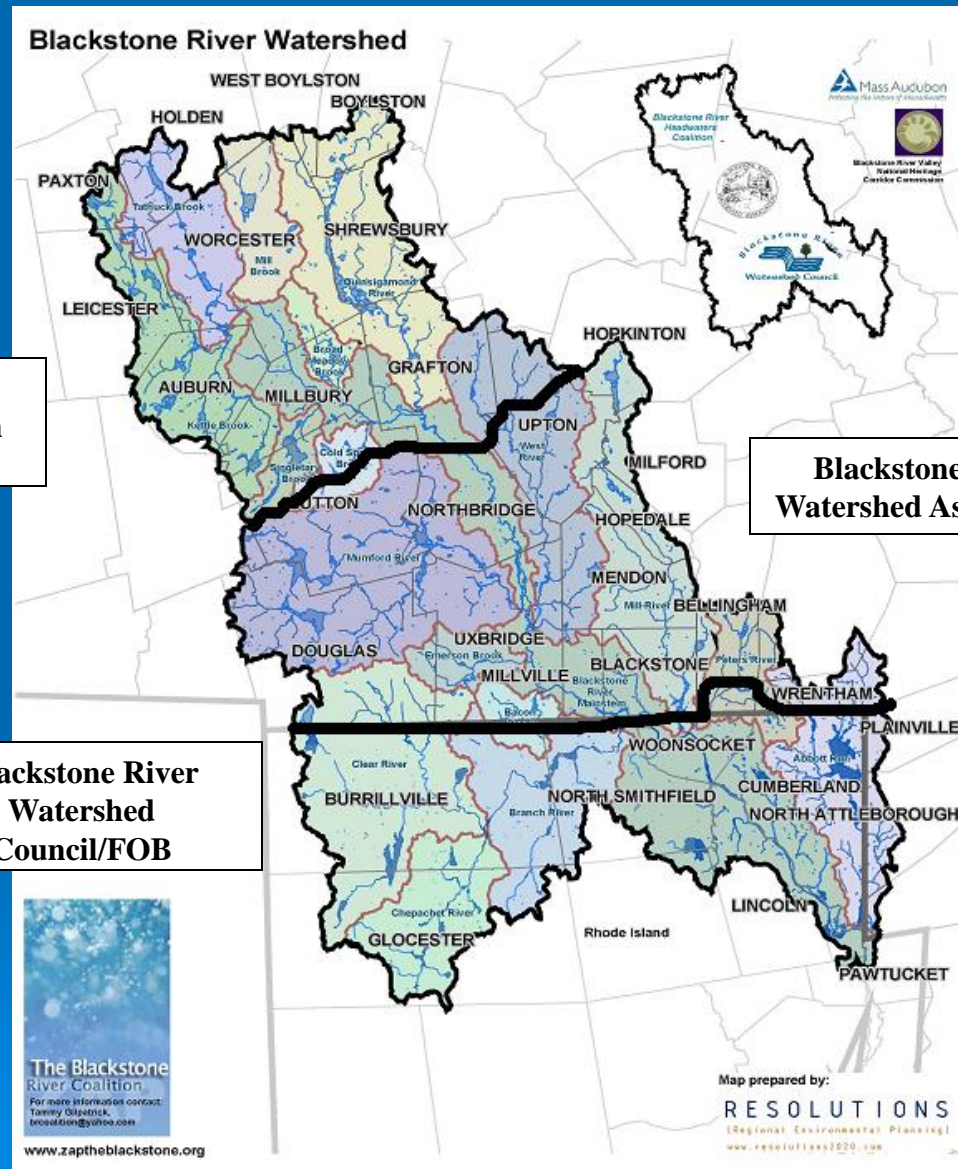
March 1, 2014



# AGENDA

- 9:15 am Sign-in – coffee and pastry
- 9:30 am Welcome and Introductions by Donna Williams, Vice President, BRC
- 9:45 – 10:30 am Overview of 2013 Report Card by Susan Thomas and Volunteer Thank You
- 10:30 – 11:00 am The Value of Monitors to Environmental Agency Programs – Therese Beaudoin, Watershed Coordinator, Mass DEP
- 11:00 – 11:30 pm An Overview to the Narragansett Bay Estuary Program – Thomas Borden, Dir.
- 11:30 - 12:00 pm Remarks by Peter Coffin, BRC Coordinator

# Watershed-wide



**Blackstone River  
Headwaters Coalition**

**Blackstone River  
Watershed Association**

**Blackstone River  
Watershed  
Council/FOB**

**The Blackstone  
River Coalition**  
For more information contact:  
Tammy O'Connell  
tconn@zaphtheblackstone.org

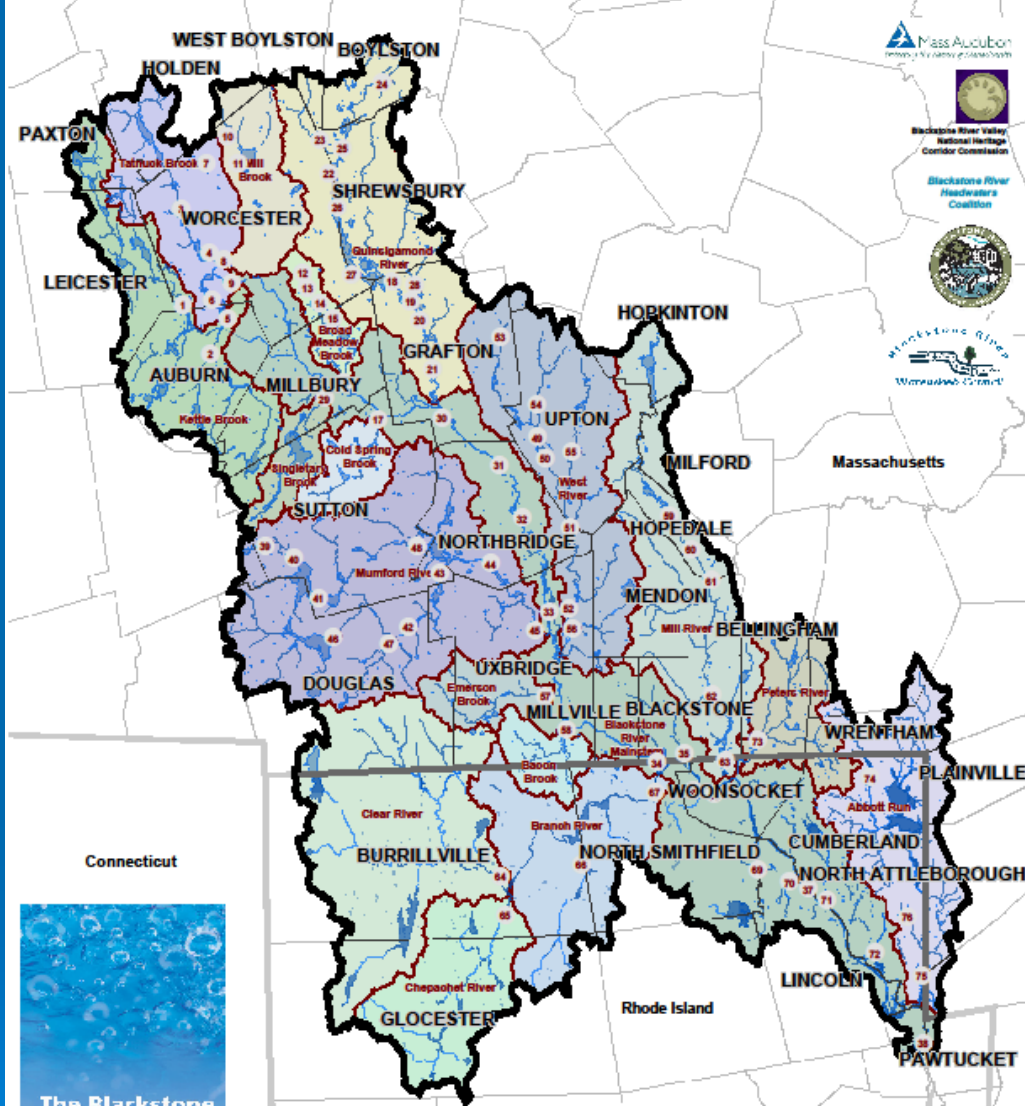
[www.zaphtheblackstone.org](http://www.zaphtheblackstone.org)

Map prepared by:  
**RESOLUTIONS**  
[Regional Environmental Planning]  
[www.resolutions2020.com](http://www.resolutions2020.com)

# Volunteers & Sites

- 75 Sites/ 76 Volunteers
- Blackstone Headwaters Coalition
  - 30 Sites
  - 32 Field and Lab Volunteers
- Blackstone River Watershed Association
  - 28 Sites
  - 27 Field and Lab Volunteers
- Blackstone River Watershed Council
  - 17 Sites
  - 16 Field and Lab Volunteers

# Blackstone River Watershed 2012 Water Quality Monitoring Sites



Blackstone River Valley National Heritage Corridor Commission

Blackstone River Headwaters Coalition



Worcester County Watershed Council



For more information email [info@zaptheblackstone.org](mailto:info@zaptheblackstone.org)

[www.zaptheblackstone.org](http://www.zaptheblackstone.org)


This program is funded in part by the Upper Blackstone Water Pollution Abatement District and Mass Audubon.

# Parameters

- Water temperature
- Air temperature
- Dissolved oxygen
- Turbidity
- Orthophosphate
- Nitrate
- Conductivity



# Report Card Development

- Raw data color coded by parameter according to water quality index
  - Six categories established
    - Aesthetics – turbidity, water appearance, water odor and visual assessment of turbidity
    - Water Temperature
    - Dissolved Oxygen
    - DO % Saturation
    - Nutrients – nitrate and orthophosphate
- 
- The background of the slide features several concentric, light blue circular ripples that resemble water droplets or raindrops, scattered across the lower half of the page.

# Report Card Notations

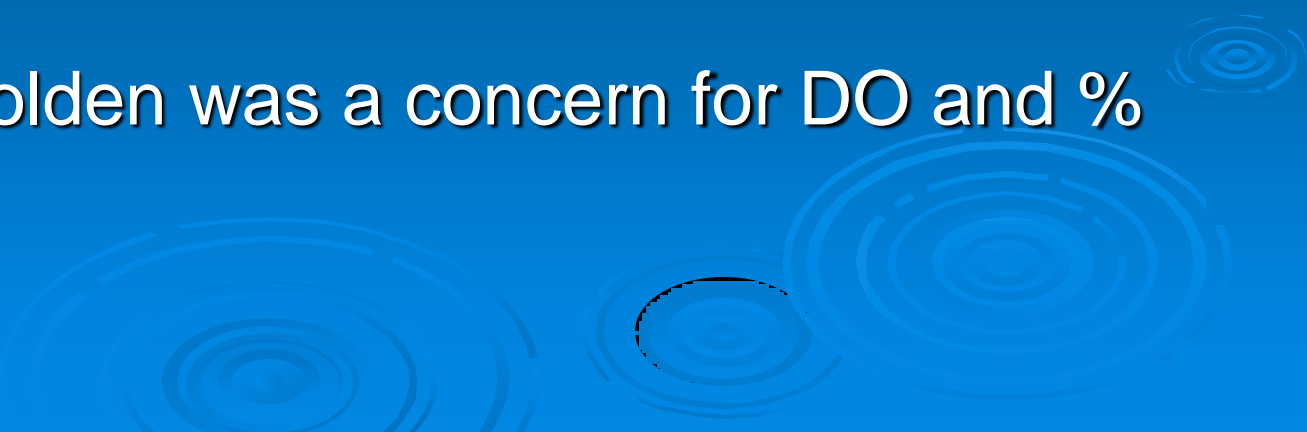
- \*cwf designated cold water fishery
- \* April, May, June, August, and September were considered wet weather events for sites in Massachusetts and Rhode Island



Blackstone River Coalition  
Watershed-wide Volunteer Water Quality Monitoring Program  
Report Card for 2013 Monitoring Season

map #	WaterBody	Site Location	Town	Aesthetics	Temp.	DO	% Sat.	Nutrients	
<b>HEADWATERS TRIBUTARIES</b>									
1	Kettle Brook	Stafford Street	Worcester						<b>KEY TO COLOR CODES</b>
2	Dark Brook	Auburn High	Auburn						
3	Tatnuck Brook <sup>cwf</sup>	VFW-south	Worcester						
4	Tatnuck Brook <sup>cwf</sup>	Park Ave.	Worcester						Excellent
5	Leesville Pond	Leesville inflow	Auburn						Good
6	Leesville Pond	Leesville outflow	Worcester						Fair
7	Beaver Brook	Jewish Community Center	Worcester						Poor
8	Beaver Brook	Park Ave. Carwash	Worcester						Not Enough Data
9	Middle River	St. John's Cemetery	Worcester						
10	Ararat Brook <sup>cwf</sup>	Ford Brook	Worcester						<b>Categories</b> (Each category is derived from the combination of the following factors)
11	Delaney Brook	Delaney Brook	Worcester						
12	Broad Meadow Brook	Dunkirk	Worcester						
13	Broad Meadow Brook	Dupuis	Worcester						
14	Broad Meadow Brook	Holdridge	Worcester						
15	Broad Meadow Brook	Knollwood	Millbury						
16	Broad Meadow Brook	Dosco	Millbury						
17	Cold Spring Brook <sup>cwf</sup>	Hatchery Road	Sutton						<b>Aesthetics</b> - turbidity, water appearance, water odor & visual assessments
18	Quinsigamond River	Outlet Flint Pond	Grafton						
19	Quinsigamond River	Rte 140	Grafton						
20	Quinsigamond River	Wheeler Road	Grafton						<b>Temp.</b> - temperature
21	Quinsigamond River	Pleasant Street	Grafton						
22	Coal Mine Brook <sup>cwf</sup>	Plantation Street	Worcester						<b>DO</b> - dissolved oxygen
23	Poor Farm Brook <sup>cwf</sup>	Roberto Clemente	Worcester						
24	Sewall Brook <sup>cwf</sup>	School Street**	Boylston						<b>% Sat.</b> - dissolved oxygen % saturation
25	Sewall Brook <sup>cwf</sup>	Holden Street	Shrewsbury						
26	Tilly Brook	Vinny Testa's	Shrewsbury						<b>Nutrients</b> - nitrate & orthophosphate
28	Bummitt Brook	Pratts Pond	Grafton						
29	Singletary Brook	Sycamore Circle	Millbury						

# HW Cold Water Fisheries

- July and August were temp-stressed for most sites especially Tatnuck @ Park Ave., Cold Spring Brook and Sewell at Holden St.
  - These sites showed a concern in shoulder months as well.
  - Sewell @ Holden was a concern for DO and % saturation
- 

# Nutrients in Headwaters

- Sites were split 50/50 for total phosphorous levels of good/fair.
- Exceptions:
  - Broad Meadow Brook @ Dupuis poor
  - Sewell Brook @ Holden excellent

Blackstone River Coalition  
Watershed-wide Volunteer Water Quality Monitoring Program  
Report Card for 2013 Monitoring Season

map #	WaterBody	Site Location	Town	Aesthetics	Temp.	DO	% Sat.	Nutrients	
<b>BLACKSTONE RIVER</b>									<b>KEY TO COLOR CODES</b>
30	Blackstone River	outlet of Fisherville Pond @	Grafton						
31	Blackstone River	Sutton St. USGS flow station	Northbridge						
32	Blackstone River	Plummer's Landing	Northbridge						
33	Blackstone River	Tow path north of Stanley W	Uxbridge						
34	Blackstone River	Upstream at Gorge off Stapl	Blackstone						
35	Blackstone River	Main St. Blackstone/TKO	Blackstone						
36	Blackstone River	River Island Park	Woonsocket						
37	Blackstone River	Albion Dam	Lincoln						
38	Blackstone River	Slater Mill	Pawtucket						
<b>TRIBUTARIES</b>									<b>Categories</b> (Each category is derived from the combination of the following factors)
39	Mumford River	Hotel Pond Outlet	Sutton						
40	Mumford River	inlet of L. Manchaug	Sutton						
41	Mumford River	outlet of L. Manchaug near F	Sutton						
42	Mumford River	Gilboa Street/above WWTP	Douglas						
43	Mumford River	Lackey Dam	Uxbridge						
44	Mumford River	Northbridge Middle School	Uxbridge						
45	Mumford River	downstream @ Depot Street	Uxbridge						
46	unnamed tributary	outlet of Whitin Reservoir	Douglas						
47	Centerville Brook <sup>cwf</sup>	West Street	Douglas						
48	Cook Allen Brook <sup>cwf</sup>	upstr of bridge on Johnson F	Sutton						
49	West River <sup>cwf</sup>	Hartford Avenue	Upton						
50	West River <sup>cwf</sup>	Pleasant and Glen	Upton						
51	West River <sup>cwf</sup>	Mendon Road	Northbridge						
52	West River <sup>cwf</sup>	under Rte. 16 bridge	Uxbridge						
53	Miscoe Brook <sup>cwf</sup>	Merriam Road	Grafton						
54	Warren Brook <sup>cwf</sup>	Fowler Road Bridge	Upton						
55	Center Brook <sup>cwf</sup>	at Mendon Road	Upton						
56	Meadow Brook <sup>cwf</sup>	upstream at Blackstone St. b	Uxbridge						
57	Emerson Brook <sup>cwf</sup>	Above Quaker Highway	Uxbridge						
58	Bacon Brook <sup>cwf</sup>	Balm of Life Springs Road	Uxbridge						

# Main Stem Nutrient Levels

- Good to fair: Fisherville, Maine Street, River Island Park
- Poor early season: Gorge, Albion Dam, Slater Mill
- Poor most of season: Sutton, Plummers Landing, Stanley Woolen

# Mid Reach Cold Water Fisheries

## ➤ Ratings

- Dissolved Oxygen poor =  $< 5$  mg/L
- Water Temp. poor =  $> 24^{\circ}\text{C}/75^{\circ}\text{F}$
- % Saturation poor =  $< 50\%$

## ➤ West River (4 sites)

- % Sat. = poor in May - Pleasant/Glenn

## ➤ Cook Allen Brook

- % Sat. = poor in October

Blackstone River Coalition  
Watershed-wide Volunteer Water Quality Monitoring Program  
Report Card for 2013 Monitoring Season

map #	WaterBody	Site Location	Town	Aesthetics	Temp.	DO	% Sat.	Nutrients	
	<b>TRIBUTARIES continued</b>								<b>KEY TO COLOR CODES</b>
59	Mill River	Fitzgerald Street	Hopedale						
60	Mill River	Mill Street	Hopedale						
61	Mill River	Hartford Avenue East	Hopedale						
62	Mill River	Park Street Valati Park	Blackstone						
63	Mill River	Privelege Street	Woonsocket						
64	Clear River <sup>*cwf</sup>	RI 102	Burrillville						
65	Chepachet River <sup>*cwf</sup>	Gazza Road	Burrillville						
66	Tarkiln Brook	Tarkiln Road	Burrillville						
67	Branch River	Rte. 146A/Great Road	N. Smithfield						
68	Cherry Brook	Olo Street	Woonsocket						
69	Crookfall Brook <sup>*cwf</sup>	Sayles Hill Road	Lincoln						
70	Mussey Brook	New River Road	Lincoln						
71	Sneech Brook <sup>*cwf</sup>	Albion Road	Cumberland						
72	Monastery Brook	Mendon Road	Cumberland						
73	Peters River <sup>*cwf</sup>	Paine Street	Bellingham						
74	Sylvys Brook	Grants Mill Road	Cumberland						
75	Robin Hollow Pond	Dexter Street	Cumberland						
76	Millers River <sup>*cwf</sup>	Hines Road	Cumberland						
									<b>Categories</b> <i>(Each category is derived from the combination of the following factors)</i>  <b>Aesthetics</b> - turbidity, water appearance, water odor & visual assesments <b>Temp.</b> - temperature  <b>DO</b> - dissolved oxygen <b>% Sat.</b> - dissolved oxygen % saturation <b>Nutrients</b> - nitrate & orthophospate

# Nutrients in Tributaries of Mass/R.I.

- Clear River: poor grade due to phosphate (May, July, September, November). Also poor for nitrate in September.
- Cherry Brook: poor grade due to phosphate (April, June, August).





# Sites Needing Coverage

## Headwater sites

- Cold Spring Brook
- Leesville Pond

## Midreach Sites

- Need 1 or more volunteers

## R.I. Sites

- Cherry Brook
- River Island Park
- Slater Mill
- Robin Hollow Pond

# A Million Thanks To

All the volunteers who contributed over 1,000  
volunteer hours to the program

MA DEP for technical support and advice

Mass Riverways for technical support and  
continued QA/QC assistance



# Special Recognition to long-serving volunteers (field and lab)

## ➤ 5 or more years:

- George Boardman, Rick Goodreau, Michael Gravier, Tom Crowley, Wendy Hichcock, Domenick Fabrizio, Linda Faria, Bob & Cheryl MacIndoe, Mike Sperry, Michelle Reed-Walsh, Dee Gordan, Eric & Cee Cee Fine, Ken Guertin, Joy Larrabee, Lenice Miley, Phil Nyberg, Chris Schonoff, Jane St. Denis, Jim West, Michelle Kinney, Danielle Miller, Matt Urban

## ➤ 10 years:

- Muriel Benoit, Keith Hainley, Howard Lancaster, June Egee, Theresa Beaudoin, Joanne Holahan, Gwen & Wyatt Mills, Dona Neely, Jim and Maggie Plasse, Charles Sweet, Matt Carr, Kelly Paquin, Tom Dodd, Marcia Grenier, Kim McCoy, Ron Stead

# Mass Audubon



# Tri-River



# Cumberland Hills Fire Station



# Kit Pick-up Dates

- BRWA - Saturday, March 22 – Red House, Uxbridge - 9:30 to 11:00 am
- BHC – Saturday, March 29 – Broad Meadow Brook - 9:30 to 11:00 am
- BRWC – Saturday, March 29 – Cumberland Hills Fire Station – 1:00 to 3:30 pm

First Sampling Date is  
Saturday, April 12, 2014

See you then!

