The Blanchard River Watershed Partnership (BRWP) started a Water Quality Monitoring Program in the fall of 2007. The BRWP used the Ohio Scenic Rivers Stream Quality Assessment Form for the basis of collecting the data. Starting 2008 the BRWP starting doing monitoring in the spring and in the fall. The monitoring involves identifying the macroinvertebrates found at each sites. Macroinvertebrates are under rocks and debris in stream riffle areas. The macroinvertebrates are grouped into three categories based on the tolerance of the macroinvertebrate to pollution.

The species in the first group (1) are ***very sensitive*** to any pollution. This group includes Water Penny larvae, Mayfly nymphs, Stonefly nymphs, Dobsonfly larvae, Caddisfly larvae, Riffle beetle adult, and Gilled snails. The species in the second group (2) are ***somewhat sensitive*** to any pollution. This group includes Damselfly nymphs, Dragonfly nymphs, Crane fly larvae, Beetle larvae, Crayfish, Scuds, Clams, Sowbugs (isopods). The species in the third group (3) are ***pollution tolerant.*** This groups includes Blackfly larvae, Aquatic worms, Midge larvae, Pouch snails, and Leech. At each site the number of each species identified was counted and recorded on the assessment form.

To determine the overall water quality, the number of taxa in each group was determined. The number of group 1 taxa was multiplied by three; group 2 by 2; and group 3 by 1. The product of each group was added together to determine the Cumulative Index Value. ***Stream Quality Assessment (SQA)*** was based on the following basis: Excellent (>22), Good (17-22), Fair (11-16), and Poor (<11).

Spring Summary 2012 Macroinvertebrate Monitoring

Twenty one sites were monitored during the spring 2012 on the Blanchard River (9), Lye Creek(4), Riley Creek(6), and Little Riley Creek(3). Again in 2012 only rock grabs were used at every site. Unlike in the spring of 2010 and 2011 where high water levels in the spring forced the monitoring to be delayed until late June, spring 2012 found very little precipitation (6.43 inches during April-June). There were no "flush outs" during the spring of 2012. The water level was lower than normal at all sites for the spring. Site LR 2 on the Little Riley Creek did not have enough water to monitor. This site is located east of Bentley Rd. on Campus Drive. The site (LR 3) located on Phillips Rd. on the Little Creek was disrupted due to a bridge repair occurring on the golf course.

Monitoring on The Outlet has been stopped due to the loss of habitat at the sites. Site LC2a on Lye Creek will no longer be monitoring due to a change in ownership. Site 050-3 on Riley Creek will no longer be monitored due to a loss of riffles.

The data was entered into the Stream Quality form described above. Individual Assessment forms for each side can be obtained by contacting the BRWP.

Blanchard River

Of the nine sites on the Blanchard River, 7 sites showed a Stream Quality Assessment of good and 2 sites were fair. The largest number of taxa (45.5%) were from the ***most sensitive*** and ***somewhat sensitive*** groups to pollution. The low water levels were probably responsible for the lower number of crayfish found in the river compared to previous years. Although taxa richness, prevented all of the sites from ranking excellent, the fact that each of the sites had the most taxa in the ***most sensitive*** and ***somewhat sensitive*** groups bolds well for the water quality of the river. The substrate of the Blanchard River is mainly bedrock. The lack diversity in the type of macroinvertebrates could be attributed to the lack of specific habitat that some of the macroinvertebrates need.

Lye Creek

All four sites on Lye Creek had a Stream Quality Assessment rank of good. Again, most of the taxa were species from the ***most sensitive*** to pollution (50.0%). The second largest number of taxa were from the ***somewhat sensitive*** group. Still with 80% of the taxa being found in the ***most sensitive*** and ***somewhat sensitive*** groups, bolds well for the water quality of Lye Creek.

Riley Creek

Four of the sites on Riley Creek had a Stream Quality Assessment rank of good while the other two sites were fair. Again, most of the taxa were species from the ***most sensitive*** to pollution (41.7%). The second largest number of taxa were from the ***somewhat sensitive*** group. Still with 75% of the taxa being found in the ***most sensitive*** and ***somewhat sensitive*** groups, bolds well for the water quality of Lye Creek.

Little Riley Creek

Due to low water level at site LR-2 and construction at LR-3, only site LR-1 was monitored. The water level at this site was very low. Only the taxa Gilled Snail and Leech were found. The Gilled Snail is found in the ***most sensitive group.*** The presence of the Gilled Snail taxa at least indicates that the water quality was in a not polluted state. No additional conclusions could be drawn based on the lack of data.

Fall Summary 2012 Macroinvertebrate Monitoring

Twenty two sites were monitored during the fall 2012 on the Blanchard River (9), Lye Creek(4), Riley Creek(6), and Little Riley Creek(3). Only rock grabs were used at every site. There was very little precipitation between July and October. The water level was much lower than normal at all sites for the fall. Site LC-1 on the Lye Creek did not have enough water to monitor. This site is located south of East Main Cross St. bridge over Lye Creek.

Monitoring on The Outlet has been stopped due to the loss of habitat at the sites. Site LC2a on Lye Creek will no longer be monitoring due to a change in ownership. Site 050-3 on Riley Creek will no longer be monitored due to a loss of riffles.

The data was entered into the Stream Quality form described above. Individual Assessment forms for each side can be obtained by contacting the BRWP.

Blanchard River

Of the nine sites on the Blanchard River, 3 sites showed a Stream Quality Assessment of good, 4 sites were fair and 2 sites were fair. The largest number of taxa (75%) were from the ***most sensitive*** and ***somewhat sensitive*** groups to pollution. The low water levels were probably responsible for the lower number of crayfish found in the river compared to previous years. Although taxa richness, prevented all of the sites from ranking excellent, the fact that each of the sites had the most taxa in the ***most sensitive*** and ***somewhat sensitive*** groups bolds well for the water quality of the river. The substrate of the Blanchard River is mainly bedrock. The lack diversity in the type of macroinvertebrates could be attributed to the lack of specific habitat that some of the macroinvertebrates need.

Lye Creek

All four sites on Lye Creek had a Stream Quality Assessment rank of good. Again, most of the taxa were species from the ***most sensitive*** to pollution (55.6%). The second largest number of taxa were from the ***somewhat sensitive*** group. Still with 77.8% of the taxa being found in the ***most sensitive*** and ***somewhat sensitive*** groups, bolds well for the water quality of Lye Creek.

Riley Creek

Three of the sites on Riley Creek had a Stream Quality Assessment rank of good, one site was fair, and two sites were good. Again, most of the taxa were species from the ***most sensitive*** to pollution (50.0%). The second largest number of taxa were from the ***somewhat sensitive*** group. Still with 83.3% of the taxa being found in the ***most sensitive*** and ***somewhat sensitive*** groups, bolds well for the water quality of Riley Creek.

Little Riley Creek

The water level was very low at each site. All three sites has a Stream Quality Assessment rank of poor. The cause of the low rank was the lack of water and habitat at each site. Again, most of the taxa were species from the ***most sensitive*** to pollution (60.0%). There were no taxa from the ***somewhat sensitive*** group. With 3 taxa from the ***most sensitive*** group bolds well for the water quality of Little Riley Creek.

Water Quality Monitoring Results 2012 Blanchard River Watershed

Blanchard River Sites	Spring 2012	Fall 2012
BR 020-1 Riffle Dam east Blanchard Ave.	Good-17	Fair-15
BR 020-2 North of Intersection TR208/TR234	Good-17	Fair-14
BR 020-3 Riverbend 2000' East of TR241	Good-18	Poor-10
BR 020-4 South of the Bridge on TR 207	Good-20	Good-19
BR 020-5 Private Dam at the Curve TR 173	Good-20	Good-20
BR 020-6 TR 166 just West Rieck Center	Good-18	Good-19
BR 020-7 SR 37 1/4 South of Bridge	Good-20	Fair-16
BR 030-1 Riffle Dam east of Cory St. bridge	Fair-15	Poor-10
BR 030-2 Liberty Street Riffle Dam	Fair-13	Fair-13
Lye Creek Sites		
LC-1 200 yds. South of East Main Cross St.	Good-17	No water
LC-2 West Bridge Hancock Co. Fairgrounds	Good-18	Good-18
LC-3 Elm Grove Cemetery SR 37/TR 234	Good-17	Fair-15
LC-4 TR 172 on north side of bridge	Poor-10	Poor-4
Riley Creek		
RC 050-1 Road 6 east of Road L	Good-20	Good-17
RC 050-2 Road 6 south of Road M	Good-21	Good-22
RC 050-4 Road R east of Road 5	Good-19	Good-18
RC 050-5 Phillips Rd. south of Bixel Rd.	Good-17	Fair-15
RC 050-6 Spring St. just east of Riley St.	Fair-14	Poor-7
RC 050-7 College Ave. just north of stadium	Fair-13	Poor-10
Little Riley Creek		
LR 1 East of Elm Street bridge	Poor-4	Poor-1
LR 2 East of bridgebat Bentley Rd. and Campus Dr.	NR*	Poor-7
L2 3 Bridge on Phillips Rd. 1/4 mile north of Hillville	NR**	Poor-2

KEY to Information

Green - Water Quality Excellent (>22)

Red - Water Quality is Good (17-22)

Blue - Water Quality is Fair (11-16)

Brown - Water Quality is Poor (<11)

NR* Water level was too low none to monitor

NR** Construction prevented be able to monitor

Macroinvertebrate Seasonal Frequency **2012 Blanchard River - Spring**

	Spring			Fall			
	Frequency/Percentage			Frequency/Percentage			
Pollution Sensitive	**F**	**S**	**P**	**F**	**S**	**P**	**2012 Avg.**
Water Penny Larvae	4	9	44.4	4	9	44.4	44.4
Mayfly Nymph	9	9	100	8	9	88.9	94.4
Stonefly Nymph	0	9	0	0	9	0	0
Dobsonfly Nymph	0	9	0	0	9	0	0
Caddisfly Nymph	9	9	100	9	9	100	100
Riffle Beetle Adult	9	9	100	4	9	11.4	68.4
Gilled Snail	9	9	100	8	9	88.9	94.4
Pollution Intermediate							
Damselfly Nymph	2	9	22.2	4	9	44.4	33.3
Dragonfly Nymph	0	9	0	0	9	0	0
Cranefly Nymph	0	9	0	0	9	0	0
Bettle Larvae	1	9	11.1	0	9	0	0
Crayfish	8	9	88.9	1	9	11.1	50
Scuds	0	9	0	0	9	0	0
Clam	3	9	33.3	1	9	11.1	22.2
Sowbug (Isopods)	1	9	11.1	1	9	11.1	11.1
Pollution Tolerant							
Blackfly Larvae	0	9	0	0	9	0	0
Aquatic Worms	0	9	0	0	9	0	0
Midge Larvae	0	9	0	1	9	11.1	5.5
Pouch Snail	0	9	0	4	9	44.4	22.2
Leech	8	9	88.9	8	9	88.9	88.9

Macroinvertebrate Seasonal Frequency **2012 Lye Creek - Spring**

	Spring			Fall			
	Frequency/Percentage			Frequency/Percentage			
Pollution Sensitive	**F**	**S**	**P**	**F**	**S**	**P**	**2012 Avg.**
Water Penny Larvae	1	4	25	1	3	33.3	28.6
Mayfly Nymph	2	4	50	2	3	66.7	57.1
Stonefly Nymph	0	4	0	0	3	0	0
Dobsonfly Nymph	0	4	0	0	3	0	0
Caddisfly Nymph	4	4	100	3	3	100	100
Riffle Beetle Adult	4	4	100	2	3	66.7	85.7
Gilled Snail	3	4	75	1	3	33.3	57.1
Pollution Intermediate							
Damselfly Nymph	3	4	75	2	3	66.7	71.4
Dragonfly Nymph	0	4	0	0	3	0	0
Cranefly Nymph	0	4	0	0	3	0	0
Bettle Larvae	0	4	0	0	3	0	0
Crayfish	1	4	25	1	3	33.3	28.6
Scuds	0	4	0	0	3	0	0
Clam	2	4	50	0	3	0	28.6
Sowbug (Isopods)	0	4	0	0	3	0	0
Pollution Tolerant							
Blackfly Larvae	0	4	0	0	3	0	0
Aquatic Worms	0	4	0	0	3	0	0
Midge Larvae	0	4	0	0	3	0	0
Pouch Snail	1	4	25	1	3	33.3	28.6
Leech	3	4	75	2	3	66.7	71.4

Macroinvertebrate Seasonal Frequency **2012 Riley Creek - Spring**

	Spring			Fall			
	Frequency/Percentage			Frequency/Percentage			
Pollution Sensitive	**F**	**S**	**P**	**F**	**S**	**P**	**2012 Avg.**
Water Penny Larvae	4	6	66.7	3	6	50	58.3
Mayfly Nymph	6	6	100	6	6	100	100
Stonefly Nymph	0	6	0	0	6	0	0
Dobsonfly Nymph	0	6	0	1	6	16.7	8.3
Caddisfly Nymph	4	6	66.7	3	6	50	58.3
Riffle Beetle Adult	4	6	66.7	3	6	50	58.3
Gilled Snail	6	6	100	4	6	66.7	83.3
Pollution Intermediate							
Damselfly Nymph	4	6	66.7	6	6	100	83.3
Dragonfly Nymph	0	6	0	0	6	0	0
Cranefly Nymph	0	6	0	0	6	0	0
Bettle Larvae	0	6	0	0	6	0	0
Crayfish	5	6	83.3	1	6	16.7	50
Scuds	0	6	0	0	6	0	0
Clam	2	6	33.3	3	6	50	41.7
Sowbug (Isopods)	2	6	33.3	1	6	16.7	25
Pollution Tolerant							
Blackfly Larvae	0	6	0	0	6	0	0
Aquatic Worms	1	6	16.7	0	6	0	8.3
Midge Larvae	0	6	0	0	6	0	0
Pouch Snail	1	6	16.7	2	6	33.3	25
Leech	5	6	83.3	5	6	83.3	83.3

Macroinvertebrate Seasonal Frequency **Little Riley Creek 2012**

	Spring			Fall			
	Frequency/Percentage			Frequency/Percentage			
Pollution Sensitive	**F**	**S***	**P**	**F**	**S**	**P**	**2012 Avg.**
Water Penny Larvae	0	2	0	1	3	33.3	20
Mayfly Nymph	0	2	0	1	3	33.3	20
Stonefly Nymph	0	2	0	0	3	0	0
Dobsonfly Nymph	0	2	0	0	3	0	0
Caddisfly Nymph	0	2	0	0	3	0	0
Riffle Beetle Adult	0	2	0	0	3	0	0
Gilled Snail	1	2	50	1	3	33.3	40
Pollution Intermediate							
Damselfly Nymph	0	2	0	0	3	0	0
Dragonfly Nymph	0	2	0	0	3	0	0
Cranefly Nymph	0	2	0	0	3	0	0
Bettle Larvae	0	2	0	0	3	0	0
Crayfish	0	2	0	0	3	0	0
Scuds	0	2	0	0	3	0	0
Clam	0	2	0	0	3	0	0
Sowbug (Isopods)	0	2	0	0	3	0	0
Pollution Tolerant							
Blackfly Larvae	0	2	0	0	3	0	0
Aquatic Worms	0	2	0	0	3	0	0
Midge Larvae	0	2	0	0	3	0	0
Pouch Snail	0	2	0	1	3	33.3	20
Leech	1	2	50	3	3	100	80

*one site had no water, the third site had bridge construction