# Volunteer Stream Monitoring Program
# Macroinvertebrate Collection
## Paw Paw River & Black River Watersheds

Sunday, October 2, 2016 Sampling

Monday, October 3, 2016 Identification

**Partners:**

Michigan Clean Water Corps

Two Rivers Coalition

Great Lakes Commission
des Grands Lacs

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Van Buren Conservation District

# Volunteer Stream Monitoring Program Morning Training & Collection

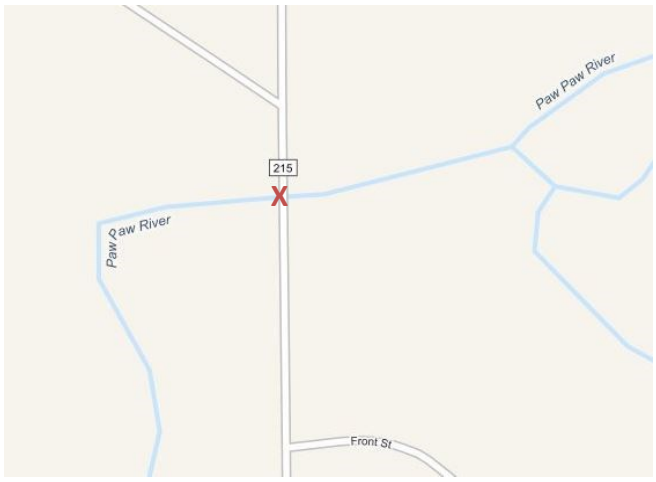
## Sunday, October 2

*Lawrence River Park,*

*Van Buren County*

Volunteers gathered together at 9am to learn about the Volunteer Steam Monitoring  Program and Insect Collections in the Paw Paw and Black River Watershed, Van Buren County. Two Rivers Coalition and Van Buren Conservation District introduced their board members and staff and gave a short update of their organization.

Individuals were divided into six teams, assigned a team leader and sent off to their designated locations with the proper equipment.

# Team 1; Site A:

## CR 384/12th Ave., Geneva Township, Michigan
## South Branch, Black River-Section 19 T1S.R16W

**Identification and Assessment**

**Group 1: Sensitive**

0-Caddisfly larvae
0-Hellgrammites
C-Mayfly nymphs
0-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
R-Beetle adults
0-Beetle larvae
R-Black fly larvae
R-Clams
0-Crane fly larvae
R-Crayfish
R-Damselfly nymphs
R-Dragonfly nymphs
R-Net-spinning caddisfly larvae
R-Scuds
R-Sowbugs

**Group 3: Tolerant**

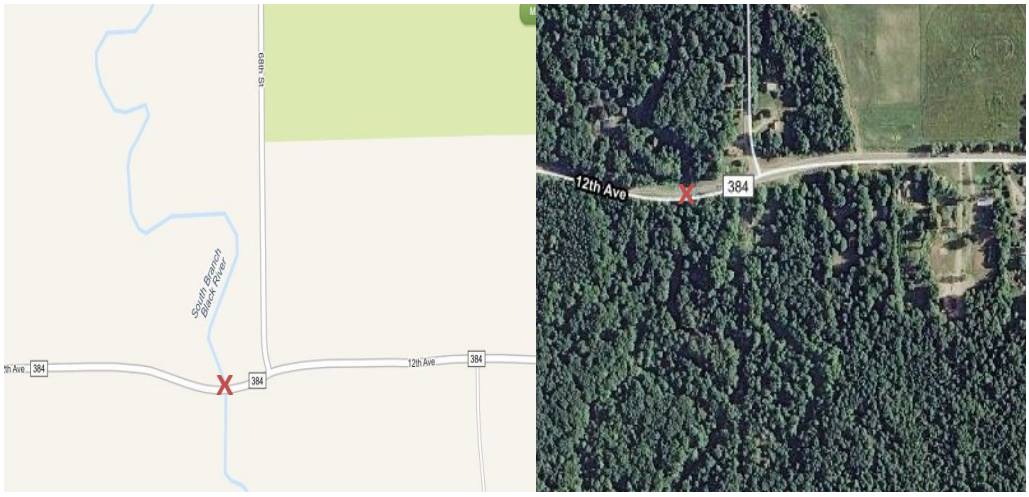
0-Aquatic worms
0-Leeches
0-Midge larvae
0-Pouch snails
0-True bugs
0-Other true flies

***Stream Quality Score: Fair***

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: Yes (slightly silty)
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Riffles, Stream Margins, Undercut banks/ Overhanging Vegetation, Submerged Wood
Average Stream Depth: 1.75 ft.
Fish or Wildlife: Yes; clams, crayfish




*Team Leader: Sam Ewbank*
*Collectors/Pickers: Heather Colburn, John & Sally DeCardy*

# Team 1; Site B:

## 62nd Street, Geneva Township, Michigan
## Eastman Creek, Black River-Section 14/15 T1S.R16W

**Identification and Assessment**

**Group 1: Sensitive**

0-Caddisfly larvae
0-Hellgrammites
R-Mayfly nymphs
0-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
0-Beetle adults
0-Beetle larvae
0-Black fly larvae
0-Clams
C-Crane fly larvae
R-Crayfish
R-Damselfly nymphs
R-Dragonfly nymphs
0-Net-spinning caddisfly larvae
R-Scuds
0-Sowbugs

**Group 3: Tolerant**

R-Aquatic worms
0-Leeches
R-Midge larvae
0-Pouch snails
R-True bugs
0-Other true flies

***Stream Quality Score: Fair***

KEY:

0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 25-50%
Macroinvertebrate Collection habitats: Riffles, Runs, Stream Margins, Leaf Packs, Pools, Undercut Banks/Overhanging Vegetation, Submerged Wood
Average Stream Width: 25-50 ft.
Average Stream Depth: 6-8”
Wildlife: Yes; fish, frog, crayfish, snails



*Team Leader: Sam Ewbank*
*Collectors/Pickers: Heather Colburn, John & Sally DeCardy*

# Team 2; Site A:

## Hay's Park, Watervliet, Berrien County, Michigan
## Paw Paw River-Section 23 T3S.R17W

**Identification and Assessment**

**Group 1: Sensitive**

R-Caddisfly larvae
0-Hellgrammites
C-Mayfly nymphs
0-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
R-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
R-Beetle adults
0-Beetle larvae
R-Black fly larvae
0-Clams
0-Crane fly larvae
0-Crayfish
C-Damselfly nymphs
R-Dragonfly nymphs
C-Net-spinning caddisfly larvae
C-Scuds
0-Sowbugs

**Group 3: Tolerant**

0-Aquatic worms
R-Leeches
R-Midge larvae
R-Pouch snails
C-True bugs
0-Other true flies

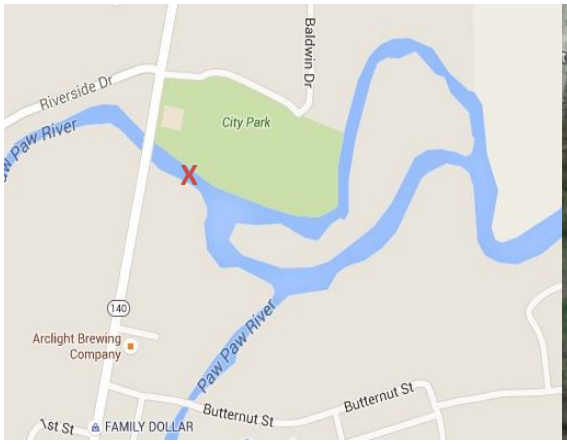
***Stream Quality Score: Good***

KEY:

0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 25-50%
Macroinvertebrate Collection habitats: Riffles, Cobbles, Aquatic Plants, Leaf Packs, Undercut banks/Overhanging Vegetation, Submerged Wood, Large Rocks
Average Stream Depth: 2-4 ft.
Wildlife: Yes; fish, birds





*Team Leader: AJ Brucks*
*Collectors/Pickers: Kenny Freehling, Will Brucks, Bette Pierman*

# Team 2; Site B:

## North Branch Road, Bainbridge Township, Michigan
## Mill Creek, Paw Paw River - Section 12 T4S.R17W

**Identification and Assessment**

**Group 1: Sensitive**

C-Caddisfly larvae
0-Hellgrammites
C-Mayfly nymphs
0-Gilled (right handed) snails
R-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

R-Alderfly larvae
R-Beetle adults
R-Beetle larvae
C-Black fly larvae
0-Clams
R-Crane fly larvae
R-Crayfish
C-Damselfly nymphs
C-Dragonfly nymphs
C-Net-spinning caddisfly larvae
C-Scuds
0-Sowbugs

**Group 3: Tolerant**

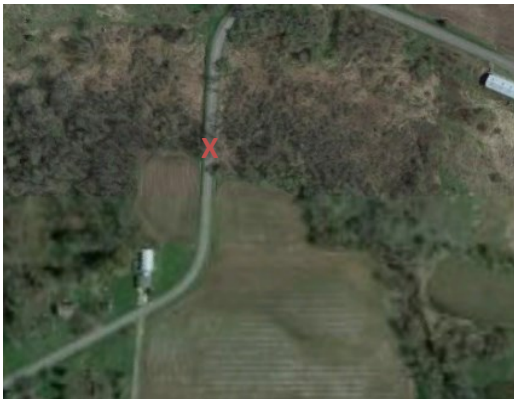
0-Aquatic worms
0-Leeches
0-Midge larvae
R-Pouch snails
R-True bugs
0-Other true flies

***Stream Quality Score: Excellent***

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Aquatic Plants, Runs, Stream Margins, Leaf Packs, Pools, Undercut banks/Overhanging Vegetation, Submerged Wood
Average Stream Depth: 3 ft.
Wildlife: Yes; frogs, birds




*Team Leader: AJ Brucks*
*Collectors/Pickers: Kenny Freehling, Will Brucks, Bette Pierman*

# Team 3 Site A:

## 59 1/2 Street, Hartford Township, Michigan
## Paw Paw River - Section 12 T3S.R16W

**Identification and Assessment**

**Group 1: Sensitive**

0-Caddisfly larvae
R-Hellgrammites
R-Mayfly nymphs
0-Gilled (right handed) snails
R-Stonefly nymphs
0-Water penny
R-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
0-Beetle adults
0-Beetle larvae
0-Black fly larvae
0-Clams
R-Crane fly larvae
R-Crayfish
R-Damselfly nymphs
R-Dragonfly nymphs
0-Net-spinning caddisfly larvae
C-Scuds
R-Sowbugs

**Group 3: Tolerant**

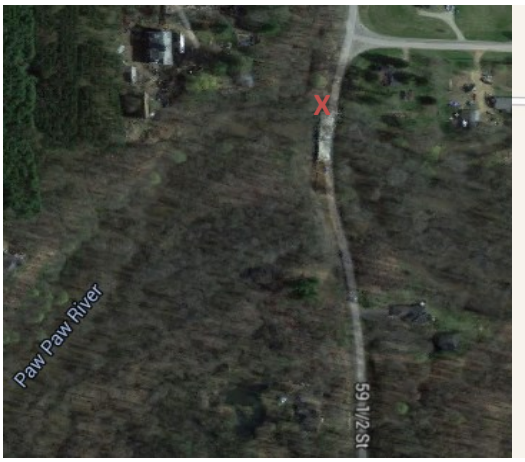
0-Aquatic worms
0-Leeches
0-Midge larvae
0-Pouch snails
R-True bugs
R-Other true flies

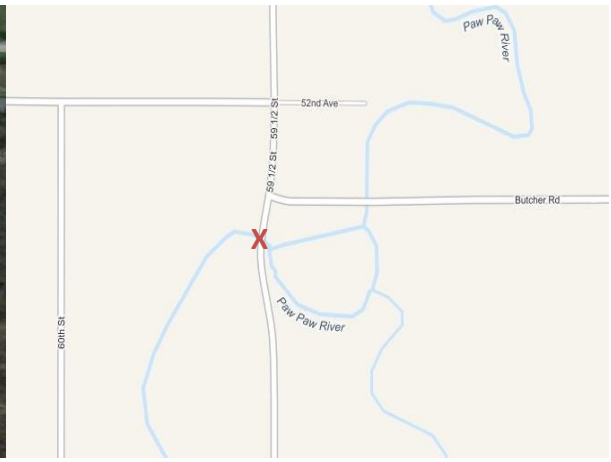
**Stream Quality Score: Good**

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Cobbles, Stream Margins, Leaf Packs, Pools, Undercut banks/Overhanging vegetation, Submerged Wood
Average Stream Depth: 2-4 ft.
Wildlife: No




*Team Leader: Kevin Haight*
*Collectors/Pickers: Nate Strong, Connie Sellas, Mary Johnson*

# Team 3 Site B:

## 67 1/2 Street, Hartford Township, Michigan
## Pine Creek, Paw Paw River - Section 17 T3S.R16W

**Identification and Assessment**

**Group 1: Sensitive**

0-Caddisfly larvae
0-Hellgrammites
R-Mayfly nymphs
0-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
R-Beetle adults
0-Beetle larvae
R-Black fly larvae
0-Clams
R-Crane fly larvae
R-Crayfish
C-Damselfly nymphs
R-Dragonfly nymphs
R-Net-spinning caddisfly larvae
R-Scuds
R-Sowbugs

**Group 3: Tolerant**

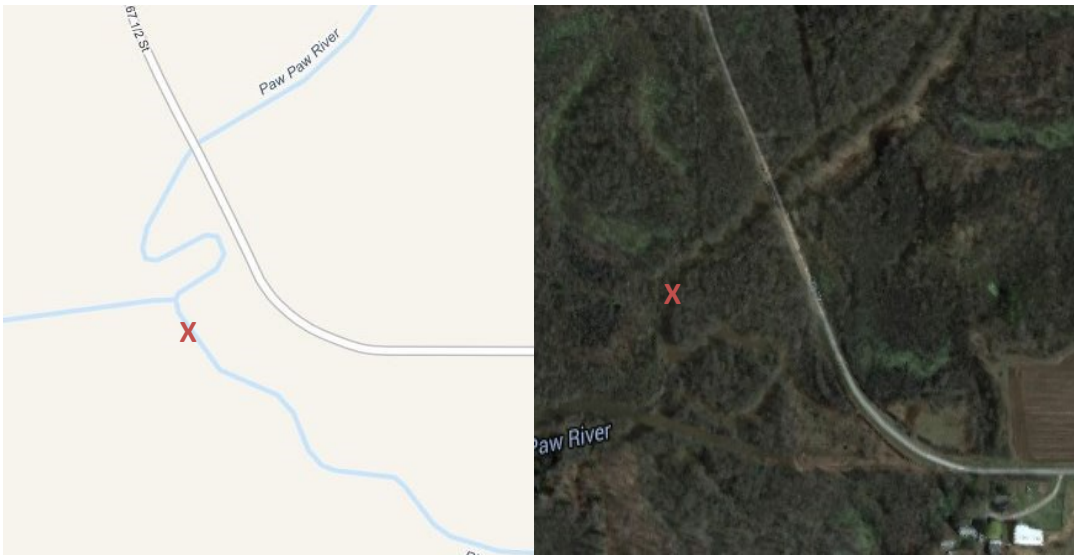
R-Aquatic worms
0-Leeches
R-Midge larvae
R-Pouch snails
R-True bugs
0-Other true flies

**Stream Quality Score: Good**

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: Yes
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Stream Margins, Leaf Packs, Undercut Banks/Overhanging Vegetation, Submerged Wood
Average Stream Depth: 1 ft.
Wildlife: Yes; fish, crayfish




*Team Leader: Kevin Haight*
*Collectors/Pickers: Nate Strong, Connie Sellas, Mary Johnson*

# Team 4 Site A:

## 48th Ave., Lawrence Township, Michigan
## Paw Paw River - Section 1 & 2 T3S.R15W

**Identification and Assessment**

**Group 1: Sensitive**

0-Caddisfly larvae
0-Hellgrammites
0-Mayfly nymphs
R-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

R-Alderfly larvae
R-Beetle adults
0-Beetle larvae
R-Black fly larvae
0-Clams
R-Crane fly larvae
R-Crayfish
R-Damselfly nymphs
0-Dragonfly nymphs
0-Net-spinning caddisfly larvae
C-Scuds
R-Sowbugs

**Group 3: Tolerant**

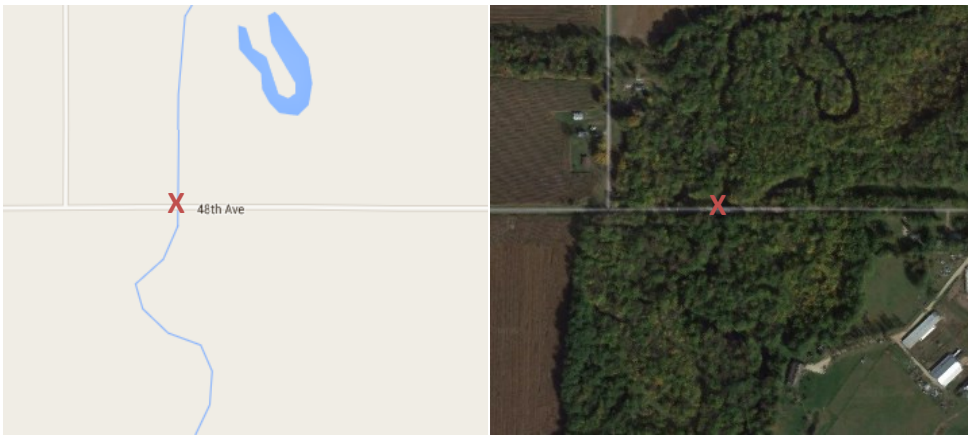
0-Aquatic worms
0-Leeches
0-Midge larvae
0-Pouch snails
C-True bugs
0-Other true flies

**Stream Quality Score: Fair**

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 25-50%
Macroinvertebrate Collection habitats: Aquatic Plants, Stream Margins, Leaf Packs, Undercut Banks/Overhanging Vegetation, Submerged Wood
Average Stream Depth: 4 ft.
Wildlife: No




*Team Leader/Collector: Daniel Kowalski*
*Pickers: Kenneth Nesbitt, Dekota Diez, Annabelle Hernandez*

# Team 4 Site B:

## Red Arrow Hwy., Lawrence, Michigan
## Brush Creek - Section 10 T3S.R15W

**Identification and Assessment**

**Group 1: Sensitive**

0-Caddisfly larvae
0-Hellgrammites
R-Mayfly nymphs
0-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
0-Beetle adults
0-Beetle larvae
0-Black fly larvae
R-Clams
R-Crane fly larvae
R-Crayfish
R-Damselfly nymphs
R-Dragonfly nymphs
R-Net-spinning caddisfly larvae
C-Scuds
0-Sowbugs

**Group 3: Tolerant**

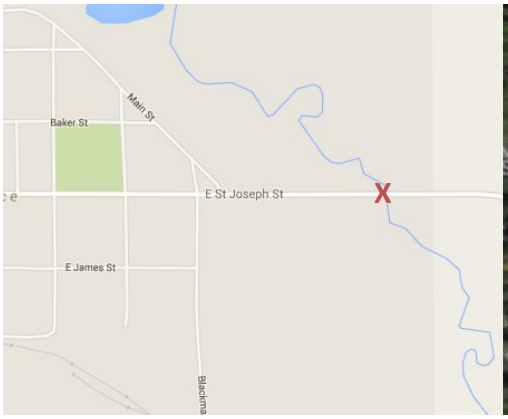
C-Aquatic worms
0-Leeches
C-Midge larvae
0-Pouch snails
0-True bugs
0-Other true flies

**Stream Quality Score: Fair**

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Runs, Stream Margins, Leaf Packs, Pools, Undercut Banks/Overhanging Vegetation, Submerged Wood
Average Stream Depth: 2 ft.
Wildlife: Yes; fish, crayfish





*Team Leader/Collector: Daniel Kowalski*
*Pickers: Kenneth Nesbitt, Dekota Diez, Annabelle Hernandez*

# Team 5 Site A:

## 35 1/2 Street, Waverly Township, Michigan
## North Branch - Section 25 T2S.R14W

**Identification and Assessment**

**Group 1: Sensitive**

0-Caddisfly larvae
0-Hellgrammites
R-Mayfly nymphs
R-Gilled (right handed) snails
R-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

R-Alderfly larvae
R-Beetle adults
0-Beetle larvae
R-Black fly larvae
R-Clams
0-Crane fly larvae
0-Crayfish
C-Damselfly nymphs
C-Dragonfly nymphs
R-Net-spinning caddisfly larvae
C-Scuds
0-Sowbugs

**Group 3: Tolerant**

R-Aquatic worms
R-Leeches
R-Midge larvae
0-Pouch snails
R-True bugs
R-Other true flies

**Stream Quality Score: Good**

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: Yes (edges of River)
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Riffles, Leaf Packs, Submerged Wood
Average Stream Depth: 3-4 ft.
Wildlife: Yes; water snake, frog


*Team Leader/Collector: Colleen Forestieri*
*Pickers: Chris Forestieri, Caroline White, Jody Haines*

# Team 5 Site B:

## 37 1/2 Street, Waverly Township, Michigan
## Brandywine Creek - Section 23 T2S.R14W

**Identification and Assessment**

**Group 1: Sensitive**

0-Caddisfly larvae
R-Hellgrammites
C-Mayfly nymphs
0-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
R-Beetle adults
R-Beetle larvae
R-Black fly larvae
R-Clams
R-Crane fly larvae
R-Crayfish
R-Damselfly nymphs
R-Dragonfly nymphs
C-Net-spinning caddisfly larvae
C-Scuds
0-Sowbugs

**Group 3: Tolerant**

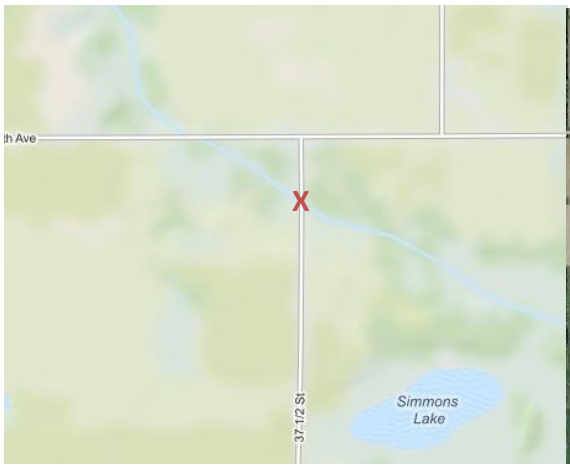
0-Aquatic worms
0-Leeches
R-Midge larvae
R-Pouch snails
R-True bugs
0-Other true flies

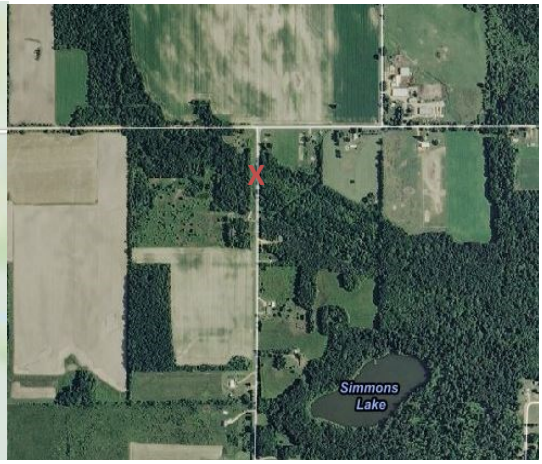
**Stream Quality Score: Good**

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Leaf Packs, undercut banks/ Overhanging Vegetation, Submerged Wood
Average Stream Depth: 1-3 ft.
Wildlife: No




*Team Leader/Collector: Colleen Forestieri*
*Pickers: Chris Forestieri, Caroline White, Jody Haines*

# Team 6 Site A:

## 72nd Ave., Decatur Township, Michigan
## South Branch of Paw Paw River - Section 2 T4S.R14W

**Identification and Assessment**

**Group 1: Sensitive**

R-Caddisfly larvae
R-Hellgrammites
C-Mayfly nymphs
0-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
C-Beetle adults
R-Beetle larvae
R-Black fly larvae
0-Clams
R-Crane fly larvae
R-Crayfish
C-Damselfly nymphs
C-Dragonfly nymphs
R-Net-spinning caddisfly larvae
C-Scuds
0-Sowbugs

**Group 3: Tolerant**

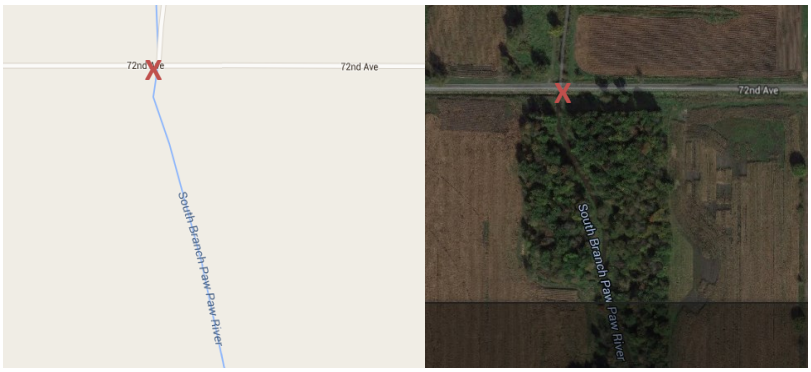
0-Aquatic worms
0-Leeches
R-Midge larvae
R-Pouch snails
R-True bugs
0-Other true flies

**Stream Quality Score: Good**

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Aquatic Plants, Stream Margins, Leaf Packs, Pools, Undercut Banks/Overhanging Vegetation, Submerged Wood
Average Stream Depth: 2-3 ft.
Wildlife: Yes; fish, crayfish




*Team Leader: Dan Burton*
*Collectors/Pickers:: Lauren & Mekenna Cox, Thomas & Noah Nondorf*

# Team 6 Site B:

## 39th Street, Paw Paw Township, Michigan
## Eagle Lake Drain - Section 34 T3S.R14W

**Identification and Assessment**

**Group 1: Sensitive**

R-Caddisfly larvae
0-Hellgrammites
0-Mayfly nymphs
C-Gilled (right handed) snails
0-Stonefly nymphs
0-Water penny
0-Water snipe fly

**Group 2: Somewhat-Sensitive**

0-Alderfly larvae
0-Beetle adults
0-Beetle larvae
R-Black fly larvae
0-Clams
R-Crane fly larvae
0-Crayfish
C-Damselfly nymphs
C-Dragonfly nymphs
R-Net-spinning caddisfly larvae
R-Scuds
0-Sowbugs

**Group 3: Tolerant**

0-Aquatic worms
0-Leeches
R-Midge larvae
0-Pouch snails
R-True bugs
0-Other true flies

**Stream Quality Score: Fair**

KEY:
0= Not any species found
R=Rare (1-10 species found)
C= Common (11 or more species found)

**Stream Conditions:**

Excessive Silt: No
Substrate Embeddedness in Riffles: 0-25%
Macroinvertebrate Collection habitats: Cobbles, Aquatic Plants, Stream Margins, Leaf Packs, Undercut Banks/Overhanging Vegetation, Submerged Wood
Width: 10-25 ft.
Average Stream Depth: 2-3 ft.
Wildlife: Yes; frogs, fish


*Team Leader: Dan Burton*
*Collectors/Pickers:: Lauren & Mekenna Cox, Thomas & Noah Nondorf*

# Volunteer Stream Monitoring Program
# Macroinvertebrate Identification

## **Monday, October 4th -** *Van Buren Conservation District*

The following day, volunteers met at the Van Buren Conservation District office to sort and identify species from each collected site. Each Team had a table with tools and equipment to help sort, identify and assess the quantity of the species found at that specific site. Photos were taken of specimens and water quality was assessed by counting the sensitive, somewhat sensitive and tolerant species found.

# Volunteer Stream Monitoring Program
# Identified Macroinvertebrate Specimens

**Group 1: Sensitive**

Species need high quality of water to survive and thrive

Caddisfly

Caddisfly

Caddisfly

Mayfly

Mayfly

Water Penny

Stonefly

Gilled Snail

# Volunteer Stream Monitoring Program
# Macroinvertebrate Identification

**Group 2: Somewhat-Sensitive**

Species need medium-high quality of water to survive and thrive.

Giant Water Beetle

Clams

Crayfish

Damselfly

Dragonfly

Dragonfly

Scud

Sowbugs

# Volunteer Stream Monitoring Program
# Macroinvertebrate Identification

**Group 3: Tolerant**

Species can survive and thrive in low water quality

Water boatman

Aquatic worms

Aquatic worms

# Volunteer Stream Monitoring Program

*A special thank you to...*

**Village of Lawrence for allowing us to host the training at the Lawrence River Park*

**Team leaders for each site from Two Rivers Coalition, Pokagon Band, Cardno and VBCD*

**Pokagon Band/TRC member Grant Poole for his expertise with identification*

**Many dedicated volunteers give time to help with the collecting and identifying of the specimens*


Van Buren Conservation District and Two Rivers Coalition look forward to furthering our MiCorps Volunteer Stream Monitoring Program in Van Buren County. We are thankful for our dedicated volunteers that make it possible, donate precious time and care about water quality.

Two Rivers Coalition

Michigan Clean Water Corps

DEQ

Great Lakes Commission des Grands Lacs

Van Buren Conservation District