



# BENTHIC MONITORING

Collecting and identifying aquatic macroinvertebrates from local streams to determine water quality.

## PROJECT NUMBER

**P010203**

Initiated in 2001

Reviewed 7/31/2020

## LOCATION

City of Denton

## ORGANIZATIONAL AFFILIATE

City of Denton, Watershed Monitoring Program

## PROJECT MANAGERS

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## MAIN PURPOSE

Monitor, conserve, improve natural resources

## ACTIVITIES

### Field Research

Citizen Science  
Monitoring water quality

## SUBJECT MATTER

### Entomology

Dragonflies and damselflies  
Macroinvertebrates

Freshwater benthic macroinvertebrates are organisms without backbones that live on rocks, logs, sediment, debris, and aquatic plants for at least part of their life cycle and are visible to the naked eye. They include insect larvae, annelids (leeches), Oligochaetes (worms), crustaceans (crayfish), mollusks (clams) and gastropods (snails).

As benthic macroinvertebrates tend to remain in their original habitat, they are affected by local changes in water quality. Some are able to tolerate greater loads of pollution than others. Thus, if the pollution is severe, or is moderate but sustained over time, the whole community structure may simplify in favor of tolerant species. Although the abundance of certain species may increase, the diversity and number of species in a given area decreases. By determining the indicator species, diversity, and functional groups of the benthic macroinvertebrate community, it is possible to determine water quality.

This project is part of the City of Denton's Watershed Monitoring Program and the City provides all the supplies needed. Assessing the water quality is important as the streams that flow through Denton all flow into Lewisville Lake, which is the drinking source for the City of Denton.

## VOLUNTEER PARTICIPATION AND SERVICE

<b>Recruitment status</b>	Not actively recruiting new volunteers this year
<b>Work environment</b>	Indoor, conditioned air Outdoor, uncovered, subject to range of weather
<b>Strength</b>	No strength requirement Light, exerting up to 20 lbs of force
<b>Use of tools/equipment</b>	None
<b>Motion</b>	Standing for sustained periods of time Stooping, kneeling, crouching, reaching

## PROJECT WORK STRUCTURE

### Project work schedule

Project has year-round regularly scheduled workdays:

- First Fridays—water collection at four sites; approximately 5 hours
- Second Friday—identification; approximately 3-4 hours
- Note: If there has been a heavy rain event during the five to seven days preceding the first Friday of the month, collection may be postponed to the following week.

### Work location

Water samples are collected from a pool, a riffle, and the side of a bank at the following sites:

- Cooper Creek at Burning Tree Lane
- Lower Pecan Creek at Woodrow Lane
- Upper Pecan at Gay Street
- Hickory Creek at Jackson Street near Krum

Identification occurs at the City of Denton Laboratory adjacent to the Wastewater Treatment Plant off Mayhill Road.

## HOW TO VOLUNTEER FOR THIS PROJECT

### Where to find information

Contact Project Manager

### How to volunteer

Contact Project Manager

If you plan to volunteer for this project, please contact the Project Manager to be added to the email list. An email is sent out on the Tuesday prior to the first Friday of each month to confirm the collection date and time. *We do sometimes have to cancel at short notice.*

### Other

For collection workdays, wear rubber or hiking boots and clothes suitable for working near muddy stream banks. Also bring water/drinks and snacks.