

Macroinvertebrates

What are they?

Macroinvertebrates are animals that have no backbone and you can see them with the naked eye.

Why are they used for biomonitoring?

- Different macroinvertebrates have different sensitivities to water quality conditions. More sensitive “nusus” will disappear from a river system where water quality has declined. On the score sheet, the higher the score, the more sensitive the “nusus” are.
- They are generally easy to collect and identify.
- They are relatively sedentary which allows the source of pollution to be detected.
- They indicate the water quality conditions at a site, providing an overall measure of the “health” of a river.
- They provide a picture of recent events affecting water quality at a site.

Why is water quality monitoring & management important in South Africa?

Fresh water is essential for life on earth. Water is also used in all spheres of human life, namely agriculture, industry, biodiversity conservation, sanitation and hydration.

However due to the amount of rainfall South Africa receives, it is classified as a water-stressed country. This means that if we do not monitor, manage and conserve our current water resources, we will be placing them and the population under tremendous stress in the future!



Get ready to put your crab on the map!

Load your site at: www.minisass.org

What can you do?

As the general public, we play a part in making a difference to managing freshwater resources in our communities. miniSASS has the potential to be a powerful ‘red flag’ indicator to identify aquatic pollution sources. By using miniSASS we can actively take an interest in the management of the health of freshwater bodies in our community.

Your interest and knowledge can be enhanced by adopting a local river in your community and monitoring it over time, identifying sources of pollution and taking local action to make a difference. You could also encourage more members of the community to take positive action towards monitoring and conserving water.

Contribute to the picture of river quality in South Africa

Download miniSASS resources and upload data at

www.minisass.org or use the miniSASS App

For queries, comments or assistance email info@minisass.org

Also available from Share-Net: www.sharenet.org.za Tel (033) 3303931

History of the miniSASS tool

South Africa is a world leader in biomonitoring techniques using macro-invertebrates. The most successful of these is the South African Scoring System version 5 (SASS5). miniSASS is based on SASS and uses the presence of macro-invertebrates to indicate “river health”. Where SASS5 contains over 90 different macroinvertebrate taxa, miniSASS uses 13 taxa, allowing for simpler identification and understanding. miniSASS provides similar indications of “river health” status as the more comprehensive SASS5 assessment, providing a good method to generate useful biomonitoring data. miniSASS Version 1 was developed using roughly 2 000 SASS4 data records. miniSASS Version 2 was based on over 6 000 SASS5 records, making it more robust & more widely applicable in Southern Africa. Version 3 has updated Ecological Categories to be more closely aligned with SASS5 results.

Glossary

Biomonitoring: the monitoring of biodiversity using biological organisms

Biodiversity: diversity within species, between species and of ecosystems

Conservation: the maintenance of environmental quality and functioning

Ecosystem: a complete community of living organisms and the non-living materials of their surroundings

Sedentary: inactive, motionless, not moving

River safety

Take special care in polluted waters. Beware of dangerous animals (crocs/hippos!) and fast flowing waters. Wear protective gear when necessary and wash your hands regularly with soap and clean water wherever possible!!

Key words for further reading

macroinvertebrate, benthic, water quality, conservation, biodiversity, river health, aquatic pollution, SASS, taxa, invertebrate classification, ecological monitoring

Additional resources and partners

