NATIONAL MUSEUMS OF KENYA
WHERE HERITAGE LIVES ON

ADVANCES IN FRESHWATER ASSESSMENT USING INVERTEBRATES




3rd to 7th June 2026

Course contacts: Lnjoroge@museums.or.ke

Brief course introduction:

Kenya is a water scarce country. As such, any available clean water is precious. There is need to constantly monitor the health status of our rivers and streams which are our main source our water for domestic and industrial use. The main purpose of monitoring is to maintain the status of the clean rivers, restore the polluted ones or even identify the sources and kinds of pollution.

Aim of the course:

- Basic taxonomy of macro-invertebrates (**Virtual lecture**)
- Introduction to river health assessments using macro invertebrates (**Virtual lecture**)
- A practical assessment and comparison integrity of two rivers of varying pollution levels using macro-invertebrates (**Hands-on experience**)

What to do and bring:

- Read the provided SASS paper
- You may print and bring a copy of the field guide for macro-invertebrate identifications (Gerber & Gabriel). **However 3 copies will be available for use by the 3 groups**
- Bring a pair of gumboots
- A laptop (**Optional**)

*** All sampling equipment will be provided during the workshop**

How?

- We will be visiting and sampling for macro-invertebrates in two different rivers within the city of Nairobi.
- From the samples, we will calculate a commonly used biotic or biological index; Stream Assessment Scoring System (SASS)
- We will work in 3 groups of 5 (Not individually)

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Provisional Course Outline:

The 5 training days will be split between brief lectures and field activities as follows:

Date	Morning	Afternoon
Day 1	• Introduction to macro invertebrates	• Basic macro invertebrates taxonomy • Q&A
Day2	• Basic macro invertebrates taxonomy	• Basic macro invertebrates taxonomy • Q&A
Day 3	• Introduction to river health assessment	• Hypothetical calculation of the SASS Scores
Day 4	• Field sampling of macro invertebrates in Nairobi river within the Museum grounds	• Field sampling in Oloolua river within the KIPRE grounds in Karen or Karura river inside Karura forest
Day 5	• Calculation and comparison of the SASS Scores from the two rivers • Discussions	• Training evaluation and closing • **A visit to the Invertebrates Zoology Museum Collection**

Students will:
1. Be expected to fill a simple training survey
2. Do a brief training report at the end as per the provided template

FACILITATOR PROFILES:

Mr. Laban Njoroge

Mr. Laban Njoroge is a Research Scientist at the Section of Invertebrates Zoology at the National Museums of Kenya. He is both a conservation and medical entomologist with a big passion also for commercial and forensic entomology. He has a BSc. in Botany and Zoology and MSc. in Medical Entomology and Parasitology. He is a former curator of invertebrates at the Museums in Nairobi. He has extensive knowledge and experience accumulated for over 15 years working with invertebrates and especially the aquatic invertebrates. Within conservation, he is very keen about insects as bio-indicators of ecosystem health while within the medical arena, his main interest is the mosquitoes.

Mr. Juan Tedder

Juan is an ecologist with over 17 years' experience in the environment and water sector in aquatic ecosystem functioning and water resource and quality management. He was fortunate in his early career to discover a passion for aquatic ecology and has not looked back since. He is a jack of all trades, with experience in water quality assessments, wetland assessments and delineation, riparian assessments and delineation, chemical spills, GIS, etc. However, his main role has been related to the application of biological monitoring techniques, using fish, benthic diatoms, dragonflies and aquatic invertebrates to assess river health and functioning as well as the application of the South African River Eco-Classification, tools for eco-status determination. In this role he has had the privilege of being part of the teams involved in the 2015 and 2021 multinational Joint Basins Surveys assessing the health and functioning of the Orange River basin across South Africa, Lesotho, Namibia and Botswana and had the opportunity to do the first aquatic macroinvertebrate assessment of the Azraq Wetland Reserve in Jordan. Juan plays a major role in running SASS5 and citizen sciences training courses. Juan is an accredited SASS5 regional auditor, and member of the South African Society of Aquatic Scientists.

A brief introduction of National Museums of Kenya

NMK is a State Cooperation established by the Museums and Heritage Act. It is a registered Multidisciplinary Research Institution and a center of excellence in heritage research, conservation and management. The Directorate of National Repository and Research (DNRR) coordinates research at NMK and manages the National Scientific Reference Collections. DNRR collaborates with National and International institutions in implementing its mandate, and has a mission to collect, preserve, study, document and present Kenya's past and present cultural and natural heritage. The vision of DNRR is to be a center of excellence in heritage management and research for posterity. The directorate has various departments whose mandate is research dissemination through publications, exhibitions, industrial attachments and trainings. The Section of Invertebrates Zoology serves as the National Repository for invertebrates. With over 3 million terrestrial and aquatic specimens, it is the second largest collection of invertebrates in the African continent. This resource, the sufficiently equipped facilities as well as the skilled personnel, make the Section well prepared to offer the 'Advances in freshwater assessment using invertebrates' course.