**Featured “Nunu”**

**Aquatic Earthworm**

**Kingdom:** Animalia  
**Phylum:** Annelida  
**Class:** Oligochaeta

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**Interesting facts:**

**Physical Features**
Aquatic earthworms have tube-like bodies with no defined head, legs or tentacles. Their thin body wall is a see-through pink skin revealing their intestines.

**Habitat & habits**
Unlike their terrestrial counterparts they live permanently in freshwater. They are bottom dwellers living in the mud or on the river bed, also known as the benthic zone. They are usually found crawling in the mud while feeding or in a coiled-up position when resting.

**Food**
Their diet consists predominantly of dead organic matter and algae.

**Tolerance to pollution**
Their muddy habitat provides them with very little oxygen. To survive these conditions earthworms have developed an adaptation to breathe through their skin. Their adaptation to live in oxygen-depleted water gives them a tolerance score of 1, making them highly tolerant to polluted conditions.

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**New data entries on the miniSASS website!**

When entering results onto the miniSASS website, take a look at the new river and stream parameters that can now be recorded! These include water clarity, electrical conductivity, pH, dissolved oxygen, and temperature.

<table>
<thead>
<tr>
<th>Measured Parameters</th>
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<tbody>
<tr>
<td>Water Clarity:</td>
<td>cm</td>
</tr>
<tr>
<td>Water Temperature:</td>
<td>°C</td>
</tr>
<tr>
<td>pH:</td>
<td>pH units</td>
</tr>
<tr>
<td>Dissolved Oxygen:</td>
<td>mg/l</td>
</tr>
<tr>
<td>Electrical Conductivity:</td>
<td>µS/cm</td>
</tr>
</tbody>
</table>

By measuring a few or all of these parameters, you will be able to gain a better understanding of the health or condition of the stream/river you are trying to assess.

**We are currently developing tools for the WRC Citizen Science project, these tools will expand the miniSASS experience.**

**So keep your eyes open!!!**
Recently GroundTruth was at the Albany Museum in Grahamstown, running a SASS5 course for an enthusiastic group of students, government officials and consultants. As part of the course the attendees were introduced to miniSASS. We spent a few wonderful, sunny afternoons on the Palmiet and Bloukrans Rivers around Grahamstown, practicing our SASS5 sampling techniques and identification skills. On our final day of the course we decided to do a comparison of the SASS5 and miniSASS scores achieved from our combined sampling efforts at the rivers.

On the Palmiet River the SASS5 sampling found a wide diversity of macroinvertebrate families and an ASPT score of 6.9 (good condition) was obtained. The miniSASS sample also had a wide variety of groups and the ASPT obtained was 6.7 (indicating moderately modified conditions) The miniSASS score of 6.7 is very close to 6.9 which would have made the miniSASS score also largely natural so the miniSASS and SASS5 were very close for this site.

Great fun was had by all participants during this learning opportunity and the miniSASS and SASS5 scores showed similar health classes for the various sites sampled.
It was a crisp, clear morning at Champagne Sport Resort on 2nd July as delegates from the 2015 SASAqS (Southern African Society of Aquatic Scientists) conference gathered to take part in the Citizen Science fieldtrip. The group of about 20 delegates was made up of aquatic scientists, academics, students, consultants and people working in the water and sanitation industry. Although most delegates were from South Africa, there were representatives from Zimbabwe, Zambia and Laos. Once gathered on the banks of the Sterkspruit River, Dr Mark Graham introduced the water resource monitoring tools delegates would investigate. The group split into three teams, looking at water clarity; stream velocity and discharge; and miniSASS.

The stream was clear, and a final water clarity reading of 78 cm was obtained using a clarity tube (a Citizen Science tool designed to measure water turbidity).

The “engineering team” measured the cross section of the river, and then used the Transparent Velocity Head Rod to measure depth and velocity at 50 cm intervals. This information could be used to calculate stream discharge. However, they did provide the team with excellent feedback on how to improve the tool for future use.

While the clarity tube & TVHR were being put to the test, the third group was investigating what invertebrates the miniSASS nets had managed to catch. It was exciting times, with a wide range of different invertebrates to identify, including stoneflies, damselflies, dragonflies and caddisflies, to mention a few. The site obtained a score of 7, placing it in a “Good” condition.

Delegates had a lot of fun testing the tools, and for a change of pace the scientists became the citizens, applying tools that everyday people can use to monitor their precious water resources. Throughout the morning delegates provided excellent feedback on the tools; to be integrated into the tool protocols in the coming weeks.
Mandela Day is a day full of inspiration where individuals are inspired to share and contribute their time, knowledge, money and their hearts in building a better community and honouring Mr Nelson Mandela.

On this Day the miniSASS team was inspired to share their knowledge and educate others. The team decided to sample sites which have never been sampled before using miniSASS. The sampling took place in Rietspruit and Gwenspruit located near Hilton in Pietermaritzburg. The samples presented a score of 5.6 and 4.3 placing the two streams into poor and fair health conditions respectively. The results were shared on the miniSASS website [www.minisass.org](http://www.minisass.org).

The team was joined by enthusiastic individuals some of whom had never used miniSASS before and expressed their excitement about the knowledge they have gained on this day.

Although we did not reach our target of 67 new sites and 67 observations, every site and observation we have received thus far makes a huge difference and we would like to thank the miniSASS community for their devoted enthusiasm.
In July 2014 the Water Research Commission (WRC) launched the Eco-School miniSASS Challenge. The challenge required participating schools to show evidence that learners can innovatively solve the water problems in their own communities by integrating a simple citizen science water quality testing tool, popularly known as miniSASS, into their environmental projects.

While concluding the National Youth Water and Sanitation Summit on Thursday 2 July 2015 at Birchwood Hotel in Boksburg, the Deputy Minister of Water and Sanitation, Mrs Pamela Tshwete, handed over the prizes to the national winners of the miniSASS Challenge. First prize, with prize money of R35 000, went to Ennis Thabong Primary School, North West Province, 2nd prize of R25 000 went to Stirling High School, Eastern Cape, and the 3rd prize of R20 000 went to Muntuza Primary School, KwaZulu-Natal.

Meet our shining stars!

**1st Prize winners!!!**
**Ennis Thabong Primary**

Their Eco-code “Stop polluting our world. Communicate and participate!!!
This is a primary school from Madibeng Municipality in the Northwest Province. They presented a well planned scientific method and used miniSASS to monitor the health condition of Swartspruit.

**2nd prize winners!!!**
**Stirling High School**

Adopted the Inhlaza River in the Eastern Cape. The level of impact compelled the learners to do river clean-ups and miniSASS testing.

**3rd prize winners!!!**
**Muntuza Primary School**

Adopted the Kleinbosmans River that flows near their school in Escourt, near Drakensburg.

Well done to our young ambassadors and keep up the good work!!!

**Winners of the Eco-School miniSASS Challenge!!!**
What's new?

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Community Page!!!

In our future newsletter issues we would like to dedicate a special page to our miniSASS community where you can share your miniSASS experiences and knowledge!!!

So if you have been out and about getting your feet wet using miniSASS send us your story accompanied with photos to info@minisass.org and see if your story makes it to our community page!!!

The miniSASS logo is getting a makeover, lookout for the fresh new look!!!

Coming soon...

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