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9 Questions with WRG authors

Title of the paper: The Application of a Macroinvertebrate Indicator in Afrotropical Regions for Pesticide Pollution

Journal: Journal of Toxicology

Authors: **W. Malherbe**, J.H.J. van Vuren, V. Wepener

Read the article: https://doi.org/10.1155/2018/2581930

Dr. Wynand Malherbe

1. What previous work was integral to the new study?

Research completed by the developers of the Species-At-Risk methods from various universities in Europe.

2. Why do you care about this particular subject?

River systems in South Africa are polluted by numerous substances of which pesticides are especially important in irrigation schemes. However, many of the biomonitoring indicators are not always specific to the type of pollution. Therefore, this SPEAR index has the potential to separate pesticide impacts from other impacts such as nutrients and salinity.

3. Did any of the findings surprise you?

Not really, the results were generally consistent with other studies in Europe, Britain and Australia.

4. What are some of the limitations of this study?

One of the major limitations of the study was the lack of pesticide residue information for the study sites. Pesticide residues were analysed in sediment and fish tissue but were below the detection limits. Without this information, further evaluation of the SPEAR system was not possible.

5. Do you expect these findings to be controversial in your field?

No.

Organic contents in a canal

6. What are the broader implications of these findings?

Broader implications relate to the use of macroinvertebrate traits within freshwater ecosystems in South Africa. Not much information is available, and these findings help improve trait information and systems within South African research.

7. What do people usually get wrong about this subject?

Managers of aquatic ecosystems often misinterpret the value of macroinvertebrate indices of environmental change within aquatic ecosystems. It can be a valuable tool to determine present ecological state of a system but ideally it must be used together with components that include water quality, diatoms, algae and fish.

8. Looking back on the study, what were some of the most memorable moments for you and your colleagues?

This research emanated from my PhD research and there were many memorable moments. Especially some of our field trips to Vaalharts and the surrounding areas. One such experience was getting caught in a massive thundershower one afternoon on the Vaal River and getting completely drenched while removing fish from the gill nets.

9. What are you working on next?

Currently, my research has moved away from riverine systems and have focused on wetland macroinvertebrates within some of South Africa's Ramsar wetlands of international importance.

Thank you for your time, Wynand!