



**Water Research Group**  
**Unit for Environmental Sciences and Management**  
**Faculty of Natural and Agricultural Sciences**  
**North-West University, Potchefstroom**

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## Short course in aquatic ectothermic vertebrates handling and ethics hosted at NWU

In the last week of August, the WRG promoted the Short course in aquatic ectothermic vertebrates handling and ethics at the National Aquatic Bioassay Facility in the Potchefstroom campus of NWU. It included a total of 12 participants from different fields of Biology, including researchers from NWU, from Limpopo and the industry.

At present, there is only one aquatic veterinarian specialised on fishes within South Africa, Dr David Huchzermeyer, making it almost impossible to perform research with a veterinarian present. To address this dilemma, this short course was developed for people involved in ectothermic animal research to better understand and appreciate these organisms as well as the ecosystems they inhabit. An attendance certificate for this type of course is required when applying for ethical clearance, necessary for undertaking animal research in this country.

Extraordinary Prof Paul Fouche developed this course at NWU and is currently part of the team that is presenting it. Nowadays the course is organised by Dr Wynand Malherbe. The first objective of the course is to introduce the cross-cutting principles of animal welfare and the ethics involved followed by a practical experience in performing standard operating procedures (SOPs) which form a vital part of the research involving fish, amphibians and reptiles. The course included collection sampling techniques, animal transport protocols, anaesthesia, biopsies, drawing blood and the methods for humane euthanasia.



Prof Fouche (in blue), Dr Huchzermeyer (with gloves) and the group in a practical session

In the first day, Prof Paul Fouche introduced ethics and talked about safety, security and linking Standard Operating Procedures to ethics. Attendees also had a practical session in the National Aquatic Bioassay Facility with Dr Tarryn Lee Botha, after her explanation about keeping fish in labs, quarantine, and acclimatisation.



Dr Tarryn Lee Botha (left) and the class working in a practical session

The second course day began at the Mooi river banks, where Dr Wynand Malherbe showed the group how to handle some fishing equipment, to collect fish in the field, and also to handle and transport the animals. After this excursion, Dr David Huchzermeyer talked about animal welfare and ethics and many topics concerning general SOPs involved in the general handling of aquatic ectothermic vertebrates. Some of them were restraint and anaesthesia of teleost fishes, euthanasia of aquatic ectotherm vertebrates, minor procedures, and surgical interventions in fishes, among others. The lesson included a practical demonstration as well.



Dr Wynand Malherbe (center) explaining the electrical fishing equipment at the Mooi river



Dr David Huchzermeyer operating a catfish

The last day was about amphibians and reptiles! Prof Ché Weldon talked about methods of restraint and sampling in frogs, Prof Louis du Preez with Ph.D. candidate Edward C. Netherlands demonstrated how to collect blood samples from amphibians, and Dr Courtney Cook gave the last lecture on ethics of reptiles and terrapins.



PhD candidate Edward C. Netherlands (center) and Prof. Louis du Preez (right, in blue) demonstrating how to take a blood sample from a frog



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Participants practising on a frog

However, the attendees had one more task! An assessment of the course in the form of a theoretical test is mandatory to obtain the certificate. All the group did a good job and got the required score to pass!

**Congratulations to the attendees and thanks to the group of scientists that made this course a success by sharing their experience!**