

CAREER OPPORTUNITIES

National Research Foundation – South African Institute for Aquatic Biodiversity

ABOUT US

The South African Institute for Aquatic Biodiversity (NRF-SAIAB) is a national research facility supported by the National Research Foundation (NRF). We study the full range of aquatic environments, from deep ocean waters to inland freshwater systems.

Our research focuses on ecology and conservation, exploring how biodiversity at the genetic and species levels connects with the environment. The NRF-SAIAB also contributes to South Africa's *Operation Phakisa* programs, which aim to grow the country's Biodiversity Economy and Blue Economy.

Strong support from the Department of Science, Technology and Innovation and the NRF has enabled NRF-SAIAB to develop advanced research platforms that allow us to work in a wide range of environments and made us a leader in aquatic biodiversity research.

'All our work supports High Education in training and development of the next generation of aquatic scientists and environmental managers

Centre for Biological Control – Aquatic Weeds Program



WHAT IT IS AND WHY IT MATTERS

The **Aquatic Weeds Program**, led by Prof. Julie Coetzee (Deputy Director and NRF-SAIAB SARCHI Chair), focuses on managing invasive freshwater plants like Water Hyacinth, Giant Salvinia, Water Lettuce, and Brazilian Waterweed, using biological control rather than herbicides.

These plants are foreign to South Africa and become a significant problem because they have no natural enemies—such as insects or diseases—to keep them under control. Using a process called biological control, scientists at the Centre for Biological Control (CBC) work to reintroduce these natural enemies to restore the balance in the ecosystem.

One of the scientists' research in this program aims to strengthen freshwater ecosystems against the effects of climate change and invasive species by building strong food webs and using nature-based solutions like biological control. By studying how invasive plants grow and interact with other organisms, researchers can find safe, effective ways to manage them without harming the environment.

This work is important because healthy freshwater systems support fish, plants, and people who rely on them every day.

QUALIFICATIONS

If you're interested in aquatic ecology and biological control, here's how to get started:

In High School:

- Focus on Life Sciences, Geography, and Physical Sciences.

At University:

Study for a BSc degree in one of the following:

- Plant Science (Botany)
- Environmental Science
- Zoology (Animal Sciences)
- Entomology (Insects)
- Ecology

To specialize further, consider doing Honours and Master's degrees.

Useful Skills:

- Data analysis (e.g., R programming)
- Geographic Information Systems (GIS)
- Field research and sampling techniques

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- Research scientist (studying freshwater ecosystems)
 - Conservation biologist (protecting rivers and lakes)
 - Aquatic ecologist (understanding how water species interact)
 - Biological control specialist (using natural enemies to manage invasive species)
 - Environmental consultant (advising on conservation and water use)
- Many students from this program go on to work at universities, in conservation organisations, and government agencies focused on protecting South Africa's unique aquatic biodiversity.

If you enjoy nature, solving problems, and working outdoors, a career in aquatic science could be the perfect fit for you!





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