<table>
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<th>WORKING PROJECT TITLE</th>
<th>Distribution of woody invasive alien species in small towns in the Eastern Cape</th>
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<tr>
<td>CORE TEAM MEMBER</td>
<td>Sheunesu Ruwanza</td>
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The presence of invasive alien species (IAS) in regions where they were previously absent results in several social, economic and ecological effects at varying spatial and temporal scales. Given the concern of IAS impacts on ecosystem services, most research and control programmes have been in rural areas, where provisioning and supporting ecosystem services occur at a larger scale. In comparison, understanding of patterns and process of IAS in urban settings is relatively weakly developed, both internationally and in South Africa (Shackleton & Shackleton 2016, Gaertner et al. 2017). This needs to be addressed because (1) many IAS can be found in urban settings, (2) urban settings may thus act as nodes for expansion or secondary introductions into neighbouring rural areas and (3) urban settings are very different in terms of tenure arrangements, the number of people and landowners involved, as well as ecological and social profiles.

A logical starting point would be to determine the diversity and location of IAS in towns and cities, and how that differs within and between towns and cities and why. For example, are most IAS located on private land or public lands in urban settings. This is vital knowledge in determining possible control strategies and stakeholders. Is IAS distribution determined mostly by ecological factors or social factors, or some combination of both? This will
determine whether control strategies need to be more socially or ecologically based. And lastly, attitudes to IAS will vary depending where they are found in the landscape and consequently the ecosystem services they most influence (Shackleton et al. 2018).

Within the context of the above, this project would seek to determine the distribution and abundance of selected woody plant IAS in 4 - 6 small towns in the Eastern Cape. The following key questions would be posed:

1. What is the distribution and abundance of selected woody plant IAS of interest within each town?
2. How does land tenure and land management influence the diversity, distribution and abundance of the selected woody plant IAS?
3. Is the distribution of selected woody plant IAS in each town influenced mostly by ecological or by social factors?

The general approach will be to select 4 - 6 towns from different parts of the province to maximise the diversity of biophysical settings, or to arrange them in two more-or-less parallel transects from the coast inland. Thereafter we would conduct a survey of selected woody plant IAS in stratified random samples to include the full spectrum of land uses, tenures and affluence. The precise methods remain to be finalised in conjunction with the postgraduate student doing the work, but the approach of Mclean et al. (2017, 2018) would serve as a default. This would potentially allow merging of datasets from the McLean et al. work and this work for an analysis over a large geographic area. The ecological data will be augmented by interviews with (1) relevant key informants, such as WfW personnel, environmental NGOs, (2) municipal officials, and (3) perhaps a sample of residents (this will depend on how many towns sampled,
which influences how much time is available for data collection within each town).

Requirements: The project requires a student with strong botanical training/background, to assist in identifying plant species.

FURTHER READING


KEY CONTACTS
Sheunesu Ruwanza c: 046 603 7009 e: s.ruwanza@ru.ac.za
Charlie Shackleton c: 046 603 7001 e: c.shackleton@ru.ac.za
CONTACT DETAILS OF CORE TEAM MEMBER

Sheunesu Ruwanza c: 046 603 7009 e: s.ruwanza@ru.ac.za