

Talking Conservation

Drie Valleyen

THE IMPACT OF INVADER PLANT SPECIES ON OUR RICH BIODIVERSITY IN SEDGEFIELD

by Charl van der Merwe,
Pr.Sc.Nat. On behalf of
Sedgefield Ratepayers &
Residents Association

All of us living in Sedgefield, regardless of our addresses, are extremely privileged. We live in a uniquely biodiverse environment, from the ocean, the dunes, the Swartvlei estuary to our forests and mountain fynbos. With this rich endowment comes a huge responsibility, a responsibility not only to our fellow citizens and visitors to our town, but also to the generations after us. We have a responsibility to protect and conserve it against various external threats, impacts and influences over which we all have some controls.

The Cape fynbos floristic region is an internationally recognised botanical biodiversity hotspot which is severely threatened by invasive plant species. These invasive plants are a leading cause of biodiversity loss and habitat degradation. They affect functional processes that provide ecosystem services such as water, wildflowers, ecotourism, and hiking.

Alien and invader plant species have a significant impact on our biodiversity through resource competition and habitat alteration where invasive plants indirectly impact on indigenous species by competing for resources like water, nutrients, and sunlight as well as by altering habitats. Some invasive plants,

like many of the invasive Acacia species, or wattles, burn with a higher heat intensity which destroys indigenous seedbanks. The wattles, pines and eucalypts are more flammable than fynbos, which leads to more fires. More fires also means a loss of natural diversity as the faster growing invasive plants take over. The fast-growing invasives smother the post-fire mountains and kill off fynbos, and so the situation gets worse, more fires that are hotter and burn longer with less fynbos recovery and the resultant increased spread of alien invasives.

Invasive species not only outcompete indigenous plant species by growing faster and taller, but they also transform the environment by creating a shady canopy cover and by altering soil properties through a combination of fixing nitrogen and its high input of leaf litter. These changes inhibit growth of indigenous species and alter the structure of the original vegetation, helping the spread of invasive species so common in our area. The alteration of soil properties is of great concern in the fynbos biome where much of the vegetation has adapted to grow in relatively nutrient poor soils.

As an example, Acacia species benefit from natural fires in the fynbos as the seeds that are produced in abundance can remain dormant in the soil for over 50 years. Germination occurs after the hard seed coat is damaged, for example by heat, to allow for water penetration. After the fire, seeds can successfully germinate from soil depths of up to 10 cm, quickly

outcompeting indigenous re-growth, and increasing the density of the Acacia stand. Mere removal of the invasive trees, however, does not ensure that indigenous vegetation will recover and does not address the long-lived alien seed banks remaining in the soil.

To reduce the threat to our biodiverse environment we must be aware of the threat, we must know which plants are invaders before we plant them in our gardens or give them away to friends. Plants such as yucca, periwinkle, gaura, fountain grass, the ginger lily, creeping inch and the false agave are popular garden plants but are all invaders. On the sidewalks of Sedgefield you will also note camphor trees, sesbania, Leucaena, the tree of heaven, syringa and the yellow flag lily (Iris pseudacorus) on the waters edge.

Nurseries has been identified as a primary pathway for the introduction of alien plant species into urban gardens, from where they escape and become invasive in natural habitats. This trend shows that many species introduced in the past have the potential to become invasive over time. These introductions are predicted to help the expansion of invasive plant species in the future due to climate change. A garden escaped plant is a cultivated plant that has escaped from agriculture, forestry or garden cultivation and has become naturalized in the wild and may become invasive. Some ornamental plants have characteristics which enhance their potential to escape urban gardens.

Non-indigenous plants may look good in our gardens, but they often need more attention and use more water. They also provide little or no food for honeybees, indigenous pollinators, songbirds, and other endemic wildlife, which sadly leads to the reduction of our bird and bee populations. Non-indigenous plants grow faster than indigenous species, displacing and suppressing them in your garden.

Planting indigenous plants in your garden supports our local flora and limits the number of invasive species entering our natural spaces. An indigenous garden will help to create a healthy ecosystem and support biodiversity. Invasive plants reduce overall plant diversity, degrade wildlife habitat, impact on water quality and quantity, and alter ecosystems, ultimately affecting the delicate balance upon which all species, including us, depend. We must maintain and expand this unique sense of place where we live.