

## MR (Major) *Acacia mearnsii*

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| <b>Date assessed</b>                      | 2020-09-27  |
| <b>Year published</b>                     | 2023  |
| <b>Eicat category</b>                     | MR (Major)  |
| <b>Justification for EICAT assessment</b> | A. mearnsii caused a decline in grass species diversity and richness, but it returned after restoration took place (Vundla, 2018). A. mearnsii invasion reduced bacterial diversity (Slabbert et al., 2014). Native species diversity is lower in A. mearnsii invaded regions, possibly due to its allelopathic effects (Tassin et al., 2009). A. mearnsii invaded regions showed lower invertebrate species richness and diversity than uninvaded regions (Samways et al., 1996). A. mearnsii invaded soils generally had lower rhizobial diversity and were more homogenous compared to uninvaded soils (Le Roux et al., 2018). Native plant species richness decreased on all slopes invaded by A. mearnsii and soil became more acidic and nutrient rich (van der Waal, 2009). Soil moisture content was higher in invaded soils and diversity indices were higher in cleared and natural sites than in invaded sites (Ruwanza and Tshililo, 2019). A. mearnsii invaded sites had significantly lower species richness and taxonomic distinctiveness than cleared and uninvaded sites (Samways and Sharratt, 2010). |
| <b>Confidence rating</b>                  | Low   |
| <b>Mechanism(s) of maximum impact</b>     | Structural Impact on ecosystem; Physical Impact on ecosystem; Chemical impact on ecosystems; Poisoning/ toxicity; Competition   |
| <b>Countries of most severe impact</b>    | South Africa; Mascarene Archipelago   |
| <b>Description of impact</b>              | Impact categories ranged from minimal concern to major. A. mearnsii physically changed the natural environment through reducing the native species diversity and richness. A. mearnsii outcompeted natives and natives declined. A. mearnsii has chemical impacts by changing the soil properties of the natural ecosystem. A. mearnsii has poisoning/toxic impact through its allelopathic effect on other plants, which suppresses their growth. A. mearnsii has structural impacts through changes in native communities, such as arthropod community composition.   |
| <b>Assessor</b>                           | Cally Jansen  |
| <b>Contributors</b>                       |   |
| <b>Reviewers</b>                          | EICAT authority   |
| <b>Recommended citation</b>               | Cally Jansen. (2024). <i>Acacia mearnsii</i> . <a href="https://iucngisd.org/gisd/species.php?sc=51">IUCN Environmental Impact Classification for Alien Taxa (EICAT)</a> .  |

