

## National-scale strategic approaches for managing introduced plants: insights from Australian acacias in South Africa

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### Abstract

**Aim** A range of approaches and philosophies underpin national-level strategies for managing invasive alien plants. This study presents a strategy for the management of taxa that both have value and do harm.

**Location** South Africa.

**Methods** Insights were derived from examining Australian *Acacia* species in South Africa (c. 70 species introduced, mostly > 150 years ago; some have commercial and other values; 14 species are invasive, causing substantial ecological and economic damage). We consider options for combining available tactics and management practices. We defined (1) categories of species based on invaded area (a surrogate for impact) and the value of benefits generated and (2) management regions based on habitat suitability and degree of invasion. For each category and region, we identified strategic goals and proposed the combinations of management practices to move the system in the desired direction.

**Results** We identified six strategic goals that in combination would apply to eight species categories. We further identified 14 management practices that could be strategically combined to achieve these goals for each category in five discrete regions. When used in appropriate combinations, the prospect of achieving the strategic goal will be maximized. As the outcomes of management cannot be accurately predicted, management must be adaptive, requiring continuous monitoring and assessment, and realignment of goals if necessary.

**Main conclusions** Invasive Australian *Acacia* species in South Africa continue to spread and cause undesirable impacts, despite a considerable investment into management. This is because the various practices have historically been uncoordinated in what can be best described as a strategy of hope. Our proposed strategy offers the best possible chance of achieving goals, and it is the first to address invasive alien species that have both positive value and negative impacts.

**Keywords:**

- Adaptive management;
- biological control;
- biological invasions;
- ecosystem services;
- invasive alien species;

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