

Invasive plants and water resources in the Western Cape
province, South Africa: modelling the consequences of a
lack of management

D.C. LE MAITRE, B. W. YAN WILGEN, R.A. CHAPMAN and
D.H. MAERLY
CSTR Point of Front Source and Trobusings, Instantive Fronting Research Center, Preserv Big \$25017.

Softwards, 750', South drive

Impact of increased numbers of
prine trees on surface water runoff

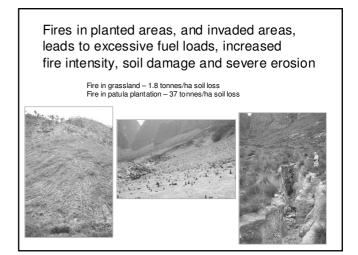
The special invasive plants and water resources in the Western Cape
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THE IMPACT OF COMMERCIAL AFFORESTATION ON BIRD POPULATIONS IN MPUMALANGA PROVINCE, SOUTH AFRICA – INSIGHTS FROM BIRD-ATLAS DATA

David G. Allan, ** James A. Harrison, ** René A. Navarro, ** Brian W. van Wilgen** & Mark W. Thompson**

Effects of afforestation	Negative	Positive
Species	90	65
Southern African endemics	26	9
South African endemics	15	2
Threatened species	10	2
Globally threatened species	25	0





IMPORTANT INVASIVE PLANT SPECIES IN GRASSLAND (> 10% OF ALL QUARTER DEGREE SQUARES IN SAPIA)

Acacia baileyana (Bailey's wattle)
Acacia dealbata (silver wattle)
Acacia decurrens (green wattle)
Acacia mearnsii (black wattle)
Acacia melanoxylon (blackwood)
Achyranthes aspera (burweed)
Agave americana (American agave)
Arundo donax (giant reed)
Chromolaena odorata (triffid weed)
Cuscuta campestris (common dodder)
Echinopsis spachiana (torch cactus)
Eucalyptus camaldulensis (red river gum)
Ipomoea indica (moming glory)
Jackaranda mimosifolia (jackaranda)
Lantana camara (lantana)

Melia azedarach (Persian Iilac)
Nicotiana glauca (wild tobacco)
Pinus elliottii (slash pine)
Pinus halepensis (Meppo pine)
Pinus halepensis (Meppo pine)
Populus alba (white poplar)
Populus canescens (grey poplar)
Psidium guajava (guava)
Pyracantha angustifolia (yellow firethorn)
Robinia pseudoacacia (black locust)
Rubus cunefolius (American bramble)
Rubus fruticosus (European blackberry)
Salix babylonica (weeping willow)
Solanum mauritianum (bugweed)
Solanum sisymbriifolium (wild tomato)
Xanthium strumanium (large cocklebur)



Criteria for prioritization of invasive alien species in grassland

Criterion	Weighting assigned (%)	Sub-criterion	Weighting assigned (%)
Impacts on ecosystem services	58.4	Impact on water resources	46.7
		Impact on harvested products	11.7
Impact on biodiversity	22	Impact on biodiversity	22
Impact on fire hazard	9.8	Impact on fire hazard	9.8
Lack of benefits	9.8	Lack of benefits	9.8



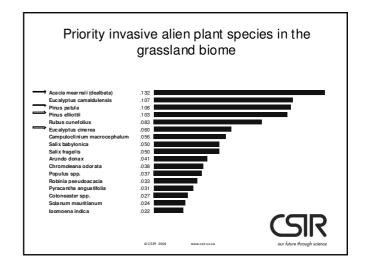
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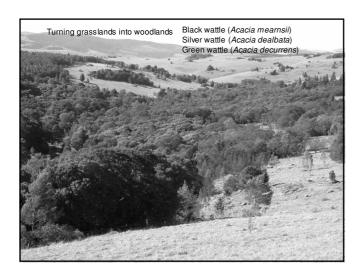
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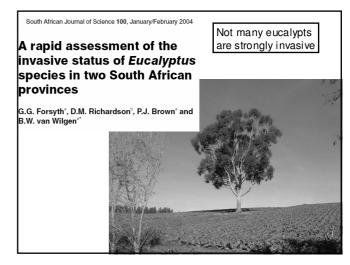
Ranking of invasive species

- Compare each species to each other species with regard to each criterion
- Is the impact with respect to that criterion bigger or smaller?
- If bigger, how much bigger?
- If smaller, how much smaller?
- 32 x 31 species x 5 criteria = 4960 cross-comparisons
- Scores for consistency (if A > B > C, then C cannot be > A)

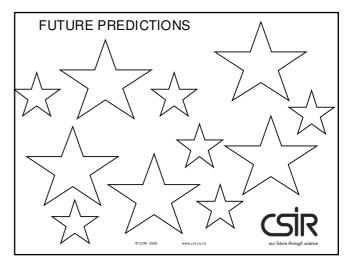


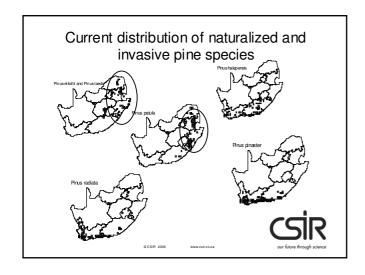


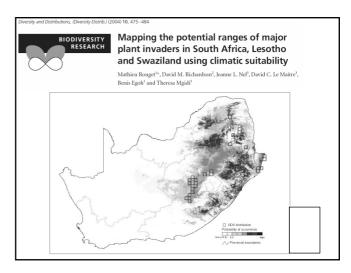


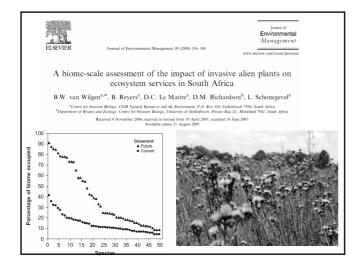


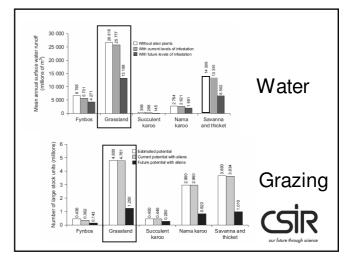


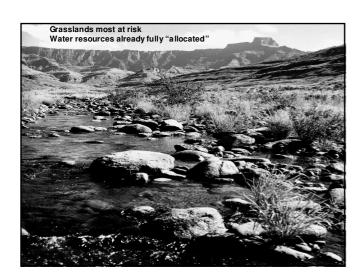


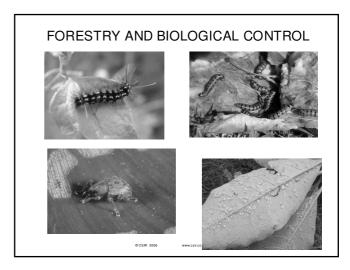












Substantial resistance to biological control for species with commercial value

Paper presented at the Second National Words Conference, held at Stellenbusch on 2nd to 4th February 1977

A.C.A.C.I.A.

J.A. Stabblings

Director: Wattle Research Institute, Potermarithming

ANTRACT

A Case Against Controlling Introduced Acadias in the Republic is presented referring particularly to black wattle General measurem 1De Wild) which is exploited commercially for back and tuber worth more than RSS million foreign exchange annually. Speculative planning and poor plantation management, aggressed by the unconsolled special of the species in limited areas Noglected plannings on the rehabilitation quotificity and used to actional advantage to orderly marketing of back, and to all controlled special of the species in limited.

An in advantage in quotificity and used to actional advantage to orderly marketing or back, and in advantage to include the supervision of the controlled special of the species in limited. The supervision of the controlled special of the species in limited presents of confidence of the special controlled special or and the special controlled special of the special controlled special or an incidence of the special particular special controlled special or the special controlled spe

South African Forestry Journa

....conflicting research and industry concern arising from the ill-defined and largely unsubstantiated status of black wattle as a weed

Much progress has been made with Acacias

- Eight Australian Acacia species have established biocontrol agents.
- Mainly seed-feeding beetles or gall-forming wasps and flies.
- Most under complete or substantial degree of control.



roceedings of the X International Symposium on Biological Control of Weeds 4-14 July 1999, Montana State University, Bozeman, Montana, USA Neal B. Spencer (ed.), pp. 941-953 (2000).

Biological Control of Alien, Invasive Pine Trees (*Pinus* species) in South Africa

V. C. $MORAN^1$, J. H. $HOFFMANN^2$, D. $DONNELLY^3$, B. W. VAN WILGEN 4 , and H. G. ZIMMERMANN 5

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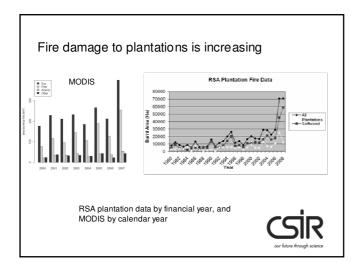
A threat of exacerbating the spread of pitch canker precludes further consideration of a cone weevil, *Pissodes validirostris*, for biological control of invasive pines in South Africa

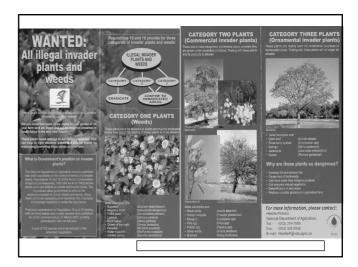
Cheryl L. Lennox ^{a,*}, John H. Hoffmann ^b, Teresa A. Coutinho ^c, Alain Roques ^d







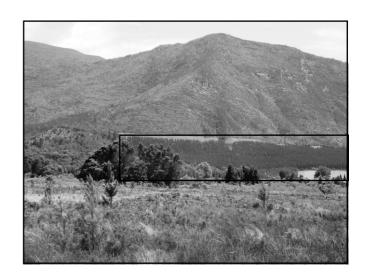




CONSERVATION OF AGRICULTURAL RESOURCES ACT (CARA)

- Most (all?) commercial forestry trees are listed as category 2 plants.
- Category 2 plants may not occur on any land other than a demarcated area or a biological control reserve.
- Water use licence for stream flow reduction activities shall be deemed to be a demarcated area.
- 'All reasonable steps are taken to curtail the spreading of propagating material plants outside the demarcated areas'





CONCLUSIONS

- In terms of forestry species, wattles and pines are the greatest threat as invasive aliens.
- Much progress has been made in terms of biological control of wattles.
- Eucalypts are not a threat as invasive aliens.
- Fire management of grasslands adjacent to plantations is needed to control pine invasions.
- Take responsibility for large areas outside of plantations not just in plantations.
- Re-consider decision to suspend research into biological control of pines.



