

# IMPACT OF MONOCULTURE ON CITY OF JOHANNESBURG URBAN FOREST IERM

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# INTRODUCTION



- Largest man made forest
- City of Johannesburg is savannah grassland
- Tree planting started to boom during gold rush
- Parks department was formed in 1904
- Settlers brought seeds and seedlings
- Some of the trees were used in mining e.g Eucalyptus spp
- Exotic trees older suburbs





# WHAT IS MONOCULTURE

- What is Monoculture?
- single species, same species variety, same genotype in an urban forest
- E.g. entire suburb planted with *Platanus* spp
- There is lack of species diversity



# MONOCULTURE?



## OVER INDULGENCE?

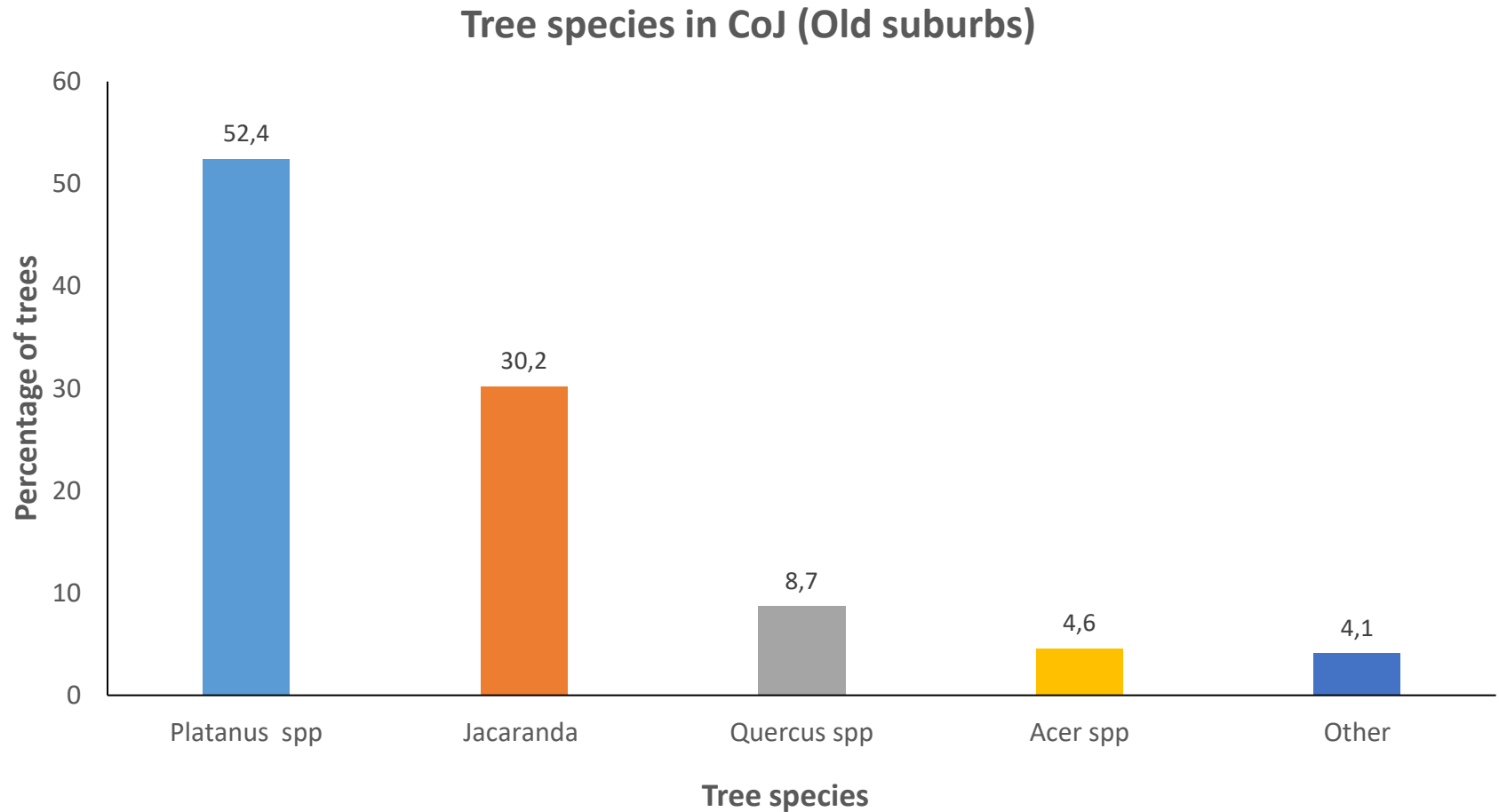
- Too much of good things can be dangerous
- Monoculture can create environmental dessert
- Trees may be wiped out by outbreak of pest attack (e.g. PSHB, Emerald ash borer)
- Trees may be wiped out by diseases (e.g. Oak wilt diseases).
- Climatic condition may wipe out



# MAJOR TREE SPECIES IN COJ



# TREES SPECIES IN THE NORTH OF JOBURG

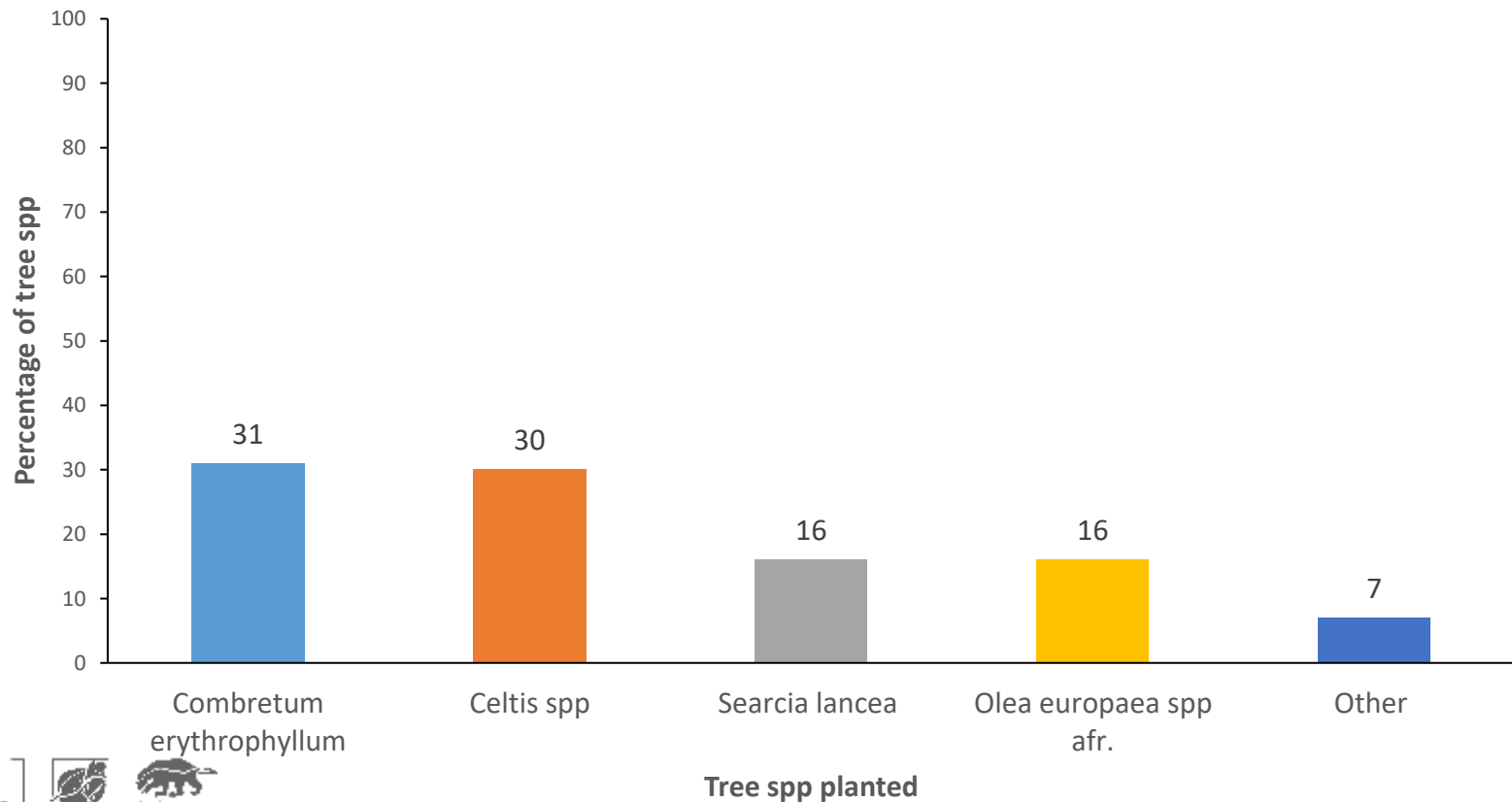




# CURRENT MONOCULTURE PLANTING TREND

■ 11 different species planted and 93% are four species on greening of Soweto.

Four main tree species planted



## CURRENT IMPACT IN COJ

- PSHB – Majority of trees are reproductive host
- Oak wilt disease and drought
- Cost associated with removal of dead trees
- Cost associated with tree planting
- Cost associated with tree maintenance
- Deforestation is eminent
- Loss of canopy cover
- Loss of environmental benefits

# PIN OAKS





# ACER SPP





# ENGLISH OAK





# PLATANUS SPP



a world class African city





# CONCLUSION

- Monoculture has an adverse impact on the future of urban forest
- Creates deforestation
- Creates vulnerability for attack by pest and diseases
- Put pressure on limited resources
- Will the newly planted trees suffer the same ?

# RECOMMENDATIONS

- South Africa rich in diverse flora
- Refrain from planting more than 10% of the same species in the same suburb
- Planting various “suitable” species
- How horticulturist respond to monoculture?
- How IERM play a role on tree planting and urban forestry?

# REFERENCE

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# THANK YOU

