Participatory, local-level planning of invasive plant species management to protect biodiversity and secure ecosystem services

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Natural Resources and the Environment,
Introduction

- National programme to deal with (plant) invasions
  - Substantial progress but not enough
- Success requires a coordinated & concerted effort
  - Government, non-government & private sector
- New regulations
  - IAS plans
Regulatory requirements

- NEM:BA Regulations require plans
  - Section 76 - all organs of state are required to have an invasive species monitoring, control and eradication plan
  - Section 73 – Duty of care for any landowner
- Guideline documents are available for planning and monitoring:
  - Content of the plan
  - Execution of the plan
  - Resourcing?
Content of the management plan

- Covers an entire area
- The plan for an area must include (legally):
  - A list, and description, of any listed invasive species
  - A description of the areas that are invaded
  - An assessment of their extent
  - Status report on the efficacy of previous measures
  - Current measures to monitor, control and eradicate
  - Measurable indicators of progress and success & a completion date
Participatory planning

- Starts somewhere with some champions
- Identify:
  - the area of interest
  - Interested and affected parties
- Convene an inception workshop
  - Stress the need for a:
    - Coordinated approach
    - Systematic approach focusing on outcomes
- Must be participant led (facilitated)
Critical components

- Establish a mutually agreed objective
- Agree on why you want to act – set priorities
  - Important environmental, social or economic assets
  - Threats, risks or impacts you want to reduce
  - How you will measure progress & success
- Understand what you are dealing with:
  - Extent, density and species composition of invasions
  - Information on historical management actions
  - The resources you will require to achieve success
Greater Simonsberg Conservancy
Greater Simonsberg Conservancy
Example of objective & priorities

- **Goal:** To clear IAPS from the mountain and the water source areas on the farms by 2020
  - **Water security (L: .3397 G: .3397)**
    - High rainfall and mist belts (L: .6121 G: .2079)
    - Seepage zones (L: .2147 G: .0729)
    - Remaining natural areas (L: .1139 G: .0387)
    - Riparian zones (L: .0593 G: .0201)
  - **Erosion (L: .2397 G: .2397)**
    - Sheet erosion (L: .8750 G: .2098)
    - Siltation (L: .1250 G: .0300)
  - **Biodiversity (L: .2010 G: .2010)**
    - River flow (L: .6370 G: .1280)
    - Threaten plant communities (L: .2583 G: .0519)
    - Soil properties (L: .1047 G: .0211)
  - **Fire management (L: .1464 G: .1464)**
    - Fire intensity (L: .8333 G: .1220)
    - Fire suppression (L: .1667 G: .0244)
  - **Vista (L: .0368 G: .0368)**
  - **Tourism potential (L: .0364 G: .0364)**
The planning tool

- Any area with logical boundaries
- Strategic planning
  - 20 year plan with scheduled treatments
  - Based on priorities and invasion characteristics
  - Budget scenarios
- Annual plan of operations
  - Detailed annual scheduling of treatments
Input data

- Four spatial datasets
  - Map of compartments
    - Basic management units
    - Boundaries: “permanent” features, can be relocated
    - Units to be prioritised
  - Map & associated data for:
    - All existing invasions
    - All past treatments
    - Land ownership
- WfW norms:
  - Treatment requirements for different species
  - A system for calculating resource requirements
Setting priorities

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<th>Weighting</th>
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Overall Weighting: 1.00
Invaded areas, treated and untreated
Compartments
### Prioritization Model: Post-fire

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#### Total Costs

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### Annual Costing

#### Average Density Reduction
Conclusions

- All organs of state and large landowners are required to produce invasive species management plans
- Plans work:
  - When they have clear and realistic goals
  - When progress can be assessed against targets
- The MUCP planning tool:
  - Can help scope the problem
  - Flexible, easily updated
  - Options can be explored
  - Still under development
Thank you for your attention, to Natural Resource Management, DEA for support, and to Anthony Robinson (Handspring Connections) for programming it.