

APPENDIX 5

TEMPLATE FOR A FARM-LEVEL ALIEN CONTROL PLAN*

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* Based on a document compiled by the City of Cape Town

Invasive Species Control Plan
for

**in compliance with the National Environmental
Management Biodiversity Act 10 of 2004**

and

Invasive Species Regulations (October 2014)

Prepared by:

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Approval:

DEPARTMENT OF ENVIRONMENTAL AFFAIRS
BIOSECURITY – COMPLIANCE

.....

Date:

1. INTRODUCTION

Property name..... Erf/Farm/ number.....

Street address.....

INSERT MAP showing the location of the property within administrative boundaries of local or district municipality & province; (delete after inserting map).

Figure 1: Map showing locality of the property

Land use, e.g. residential or agricultural.....

Property size in hectares

Name and contact details of the landowner(s):

.....

.....

The purpose of the control plan is to

.....

.....

(e.g. to be compliant with the Biodiversity Act by bringing all invasive plants on the property under control by 2023)

2. LISTED SPECIES PRESENT ON THE PROPERTY

The invasive alien species (IAS) detected on the property during the survey are listed in Table 1.

Table 1: Biodiversity Act-listed (Oct 2014) IAS present on the property

Species	Common name	Biodiversity Act Category

3. EXTENT AND DISTRIBUTION OF THE INVASIVE ALIEN SPECIES ON THE PROPERTY

The extent and distribution of invasive alien species for each management unit is captured in Table 2.

Table 2: Total IAS infestation per management unit

Management unit	Hectares	Extent of overall invasion (%)	Comment	Priority
Total				

INSERT MAP indicating the different management units

Figure 2: Map showing different management units

4. OBJECTIVES AND ACTIONS

Objective 1: Control invasive plant infestation

To bring the invasive plant infestation on the property under control by (e.g. 2023).

Table 3: Desired state for invasive plants on the property

Category	Desired state – by 2023
Category 1b trees	All mature trees are removed; follow- up control programme in place. All the management units are in maintenance. Overall infestation does not exceed 10% of the property. (These will include seedlings and re-sprouting trees, mainly gums and poplars. Acacia species will be under control with the correct control methods and pines and hakea will be under control as they do not re-sprout following correct clearing methods.)
Category 1b herbaceous species	Less than 2%
Category 1b annual species	Less than 2%
Category 2 species	Permit application will be submitted for all Category 2 species on the property

Management Unit 1: Description

Example:

Management unit 1 is _____ hectares in extent and is situated on the _____ boundary of the property. The site has a steep gradient; with difficult underfoot conditions which will slow down control efforts. The Fynbos on this site is in a good condition with high potential for recovery.

Indications of previous attempts to control the invasion exist. The dry plant material (biomass) left scattered across cleared portions of the site increases the risk of runaway wildfires. A runaway wildfire on _____ poses a risk to the vineyard and can spread to neighbouring properties.

Management Unit 1: Clearing objective

Example:

Desired State: Restored Fynbos vegetation

Management Unit 1 will be in maintenance by 2023.

Due to the restoration potential of the site, control operations will be conducted in such a way that Fynbos recovery is enhanced. Clearing methods will include cutting, felling and treating the stumps with registered herbicides by appropriately skilled herbicide applicators. The follow-up methods include a combination of manual and herbicide control.

Management Unit 1: Species, description and extent

Example:

Table 4: Management Unit 1: Species distribution

Species	Seedling	Young	Mature	Extent
		DBH < 1 m	DBH > 1 m	
		Diameter < 60 cm	Diameter > 60 cm	
<i>Pinus pinaster</i>	x	x	x	50%
Cluster pine				
<i>Acacia saligna</i>	x	x	x	20%
Port Jackson willow				
<i>Acacia longifolia</i>	x	x		5%
Long-leaved wattle				
<i>Hakea drupacaea</i>	x	x		5%
Sweet hakea				
Overall density				80%

Management Unit 1: Biomass

Example:

Stack in “teepees” for burning (the smaller the piles, the better, it also means fewer piles, leave 70 m between stacks, the minimum distance between the stacks and the vineyard is 100 m. Include dry material left after previous control to minimise fire risk.

Prepare 20 m wide firebreak along vineyard and along the site boundaries.

Burn stacks during spring/early winter. Obtain a burning permit and fire-fighting support.

(Repeat for each of the management units.)

Objective 2: Prevention

To put measures in place to prevent the introduction of new Biodiversity Act-listed IAS onto the property, and from spreading from the property to neighbouring properties.

Preventative actions

- No listed invasive and alien plant species will be planted.
- Areas bordering onto neighbouring land will be prioritised for control to prevent existing invasive plants from spreading beyond the boundaries of the property.
- No listed invader animal species will be introduced on the property.
- These prevention measures will be communicated to all users of the property (where applicable).

Objective 3: Early detection and rapid response (EDRR) and eradication

To detect emerging IAS through regular surveys and remove them before they become established, produce seeds or offspring and start spreading.

Early detection and rapid response and eradication actions

- Regularly survey the property to detect any new or emerging listed invasive plant species.
- Regularly survey the property to detect any new or emerging listed invasive animal species.
- Learn more about the SANBI/City of Cape Town/eThekweni EDRR programmes and register as a spotter where applicable.
- Report Category 1a species immediately to the Department of Environment, Forestry and Fisheries/Provincial Conservation Agency/Local Municipality/South African National Biodiversity Institute (SANBI) EDRR programme and ask for assistance with the control of the species.
- Do not allow emerging or new species to produce seeds or offspring, or start growing vegetatively. Act immediately by removing them.
- Update the species list by including these species and indicate where on the property they were located.
- Increase surveillance in the areas after the species were controlled to quickly remove re-sprouting plants or seedlings.

5. MONITORING

Table 5: Monitoring framework

WHAT	FREQUENCY	HOW	RESPONSE
How effective are the control methods?	4–6 months after every operation	<p>Survey the cleared areas and look for regrowth. Before and after pictures are very effective.</p> <p>Look out for non-target effects of herbicide application.</p>	<p>If the survey reveals that the control methods are effective, e.g. low levels of re-sprouting, continue following the herbicide mixtures and control methods. If non-target plants are dying off where herbicides were applied, ensure appropriate training for herbicide applicators, demonstrate the off-target effects to herbicide applicators to ensure they are using the correct methods and herbicides. (Gums are difficult to control and re-sprouting often occurs, therefore shorter follow-up interventions may be required.) If the results show that the control methods are not effective, adapt by e.g. cutting lower above ground or changing herbicides or timing of herbicide application.</p>
Do the infestation levels decrease?	Annually	<p>Survey the cleared areas and record species, densities and size. Before and after pictures are very effective.</p>	<p>If the infestation levels are not decreasing, reconsider clearing intervals and look at clearing methods. If infestation levels are decreasing, continue clearing, you are doing well!</p>
How much herbicide was used?	<p>During every operation (if Working for Water provides the herbicides, a landowner agreement will be signed and the records are to be submitted to WfW)</p>	<p>Keep track of cost and ensure no wastage. Record herbicide usage – see 8. Herbicide control sheet.</p>	<p>Track usage over time, it will reveal a certain trend in quantities for different infestation levels. Less herbicide should be used when the infestation levels are lower. Record herbicide cost.</p>
Does the indigenous vegetation recover in the cleared areas?	Annually	<p>Survey the cleared areas and look out for indigenous species variety and presence. Before and after pictures are very effective.</p>	<p>If it does – you are doing well; if not, look at clearing methods, clearing intervals or consult an expert.</p>
How many jobs were created?	After every operation	Timesheets	<p>Job creation figures are useful when asking for landowner assistance from WfW or to demonstrate contributions to jobs and socio-economic conditions.</p>
How many person days (PD) were spent per operation?	After every operation	Timesheets	<p>Keep track of cost and assist with planning and budgeting. Determine cost per person day (PD).</p>

6. PLANNING AND BUDGET

Management unit	Hectares	YEAR 1				YEAR 2			
		PD planned	PD rate	Control cost	R/ha	PD planned	PD rate	Control cost	R/ha

7. CLEARING SCHEDULE

Legend:

I = Initial clearing
 F1 = First follow-up
 F2 = Second follow-up
 F3 = Third follow-up
 DS = Desired state

YEAR 1	Management unit	ha	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	WSB001			I						F1				
WSB002				I						F1				
WSB003							I						F1	

YEAR 2	Management unit	Ha	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	WSB001			F2						F3				
WSB002				F2						F3				
WSB003							F2						F3	

YEAR 3	Management unit	Ha	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	WSB001			DS										
WSB002				DS										
WSB003							DS							

8. HERBICIDE CONTROL SHEET

HERBICIDE CONTROL SHEET							
Site name						Hectares	
Day	Herbicide (name)	Herbicide (name)	Herbicide (name)	Herbicide (name)	Herbicide (name)	Actipron	Dye
1							
2							
3							
4							

9. USEFUL IAP CONTROL CHECKLISTS FOR LANDOWNERS

Wildfires

Implement measures to prevent the starting of wildfires, including spreading to neighbouring land and to be ready and able to combat fires on the farm should they occur.

Should landowners fail to adhere to the provisions of the **National Veld and Forest Act 101 of 1998 (NVFA)**, e.g. fail to prepare a fire break, to notify the relevant parties of their intention to conduct a burn on their land, or to meet the standards, penalties are involved (NVFA, section 19).

Section 19(5) of the Act states that any owner, occupier of person in control of land on which a fire occurs who fails to take reasonable steps to extinguish the fire, or to confine it to that land, or to prevent it from causing damage to property on adjoining land, is guilty of an offence.

Bringing alien plant infestations under control is an important step towards preventing fires from spreading to neighbouring land as these fires burn up to 10 times hotter than fynbos fires. Fires in alien-infested land are very difficult to control, especially under windy and very hot conditions.

- Prepare and maintain a fire break around the property, but ensure that:
 - it is wide enough and long enough to have a reasonable chance of preventing a veldfire from spreading to or from neighbouring land;
 - it does not cause soil erosion;
 - it is reasonably free of inflammable material capable of carrying a veldfire across it.
- Join the Fire Protection Association (FPA).
- Be ready to fight fires by acquiring equipment and having personnel available to fight fires.
- In an emergency certain persons and officials will be given permission to enter land and fight fires.
- Notify the FPA and neighbouring landowners about fires and take the necessary steps to stop the spread of fires should they occur (for more information see section 18 of the NVFA).

Safety, Health and Environment (SHE)

It is the landowner's responsibility to ensure a safe working environment and that the teams working on the property adhere to the minimum safety requirements. This can be achieved by sourcing appropriately trained and experienced teams. The principle of "leave no trace" applies.

The landowner should liaise with the contractor to ensure that the following minimum SHE requirements are adhered to:

Toilet facilities

- The contractor is responsible for providing a mobile toilet on site for the duration of the work (it is not in all cases possible to provide a mobile toilet; where the field conditions are not suitable for a mobile toilet, human waste should be buried by digging a hole of at least 20 cm deep).
- Clean water must be made available in suitable containers for drinking and mixing herbicides.

Team's skills requirements

- Chainsaw operators must be in possession of valid certificates
- Herbicide applicators must be certified

Work methods and equipment

- Equipment must be suitable for the work and in good working condition
- Adhere to work methods stipulated in the site specification

Vehicle and driver

- The driver must be in possession of a valid PrDP
- The vehicle must be roadworthy
- Tools must be transported in the trailer, separately to the workers

Safety precautions

- A certified SHE rep must be on site
- A certified safety officer must be on site
- The SHE rep must conduct daily safety talks
- The first-aid kit must be on site

COID (Compensation for Occupational Injuries and Diseases)

- The contractor must be in possession and present proof of a valid certificate of good standing with the Compensation Commissioner
- Any incidents must be reported to the landowner

- An indemnity form must be signed stating that the contractors accept full liability for any COID-related matters and that the landowner will not be held liable should the contractor not comply with minimum standards
- The contractor and not the landowner deals with COID cases
- A register must be kept for near misses, incidents and accidents

Insurance

- The contractor must be appropriately insured for the vehicle and equipment
- The contractor must provide proof of third-party and liability insurance
- An agreement must be signed whereby the contractor accepts liability for damages in case of negligence

Storage of fuel and herbicides

- Fuel and herbicides must be left in a shady area, away from the resting/eating area
- The area must be clearly marked with bunting
- The bunting must be removed on completion of the job
- Herbicide mixing and refuelling must be conducted on a spill blanket
- A spade must be on site to cover any accidental spillage
- A serviced and functional fire extinguisher must be kept at the fuel refilling area

Preventing fires

- No smoking while working; assign a designated smoking area
- Remove cigarette butts
- No smoking during windy conditions
- Keep one fire beater for every team member within reach of the workers
- No chainsaw work during Code Red days. Fire Danger Indices (FDIs) can be obtained from the FPA.

Correct PPE is being worn at all times

- It is recommended that the requirements are stipulated in the work specifications and that the contractor accepts accountability in writing.

Item	Supervisor	Machine operator	General workers SHE rep; first-aid rep; driver	Specialised herbicide applicator
Sunhat (follow-up operations)	✓	✓	✓	✓
Hard hat (when chainsaws are being used)	✓	✓	✓	✓
Hard hat with visor and certified earmuffs (SABS or EU)	x	✓	x	x
T-shirt	✓	✓	✓	✓
Conti suit	✓	✓	✓	✓
FESA-approved chainsaw pants (11 layers) with broad belt or braces	x	✓	x	x
Whistle	✓	✓	x	x
Safety boots	✓	✓	✓	✓
Gumboots (only when working in riverine/wetland areas)	✓	✓	✓	✓
Chainsaw safety boots	x	✓	x	x
Gloves	✓	✓	✓	✓
Chainsaw operator's gloves	x	✓	x	x
Safety goggles	✓	✓	✓	✓
Cape (when using a knapsack)	x	x	x	✓
Mask (when applying herbicides)	x	x	x	✓
Rubber gloves (for mixing herbicides)	x	x	x	✓
Rubber apron (for mixing herbicides)	x	x	x	✓
Rain suit (during rainy conditions)	✓	✓	✓	✓