CEPF Grantee Pest Management Plan

1. **Date of plan:**
   Friday 21th February 2012

Grant Summary

2. **Grantee organization**
   WESSA (Wildlife and Environment Society of South Africa)

3. **Grant title**
   Nelson Mandela Bay Urban Conservation Programme

4. **GEM number**
   59053

5. **Grant amount (US dollars)**
   186 702 US dollars

6. **Active dates of grant**
   1st June 2011 – 31 May 2013

7. **Countries or territories where pesticides will be applied**
   Baakens Valley, Port Elizabeth, Eastern Cape (South Africa)

8. **Full name, title, telephone numbers, and electronic mail address of Grantee personnel responsible for the Pest Management Plan.**
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9. Summary of the project.

The global objective of the NMBUCP is to expand and better protect biodiversity conservation estate in the Port Elizabeth Complex, though the development of local stewardship and urban-conservation practices. These practices will contribute to the development of the Eastern Cape Provincial stewardship and landcare programmes.

The NMBUCP aims to capacitate Civil society to assist the NMBM in the development and implementation of an urban biodiversity stewardship and community conservation programme and ensure their effective institutionalisation of these programmes within the Nelson Mandela Bay Municipality. Community, civil society and the NMBM will be brought together to work towards ensuring the persistence of biodiversity in critical biodiversity areas (CBAs) in the hands of private landowners (The Nelson Mandela Bay biodiversity Stewardship Programme; and builds the practice of growing the Baakens Valley (BV) as a safe community resource, well-managed and functional ecological corridor (The Baakens Valley Community Partnership Programme).

Our expected impacts include:

* Stewardship practice, materials and tools have been developed, piloted and refined.
* Engagement with landowners has led to them preparing to sign biodiversity stewardship agreements with the NMBM (target of 4 agreements)
* Public perception and utilization of the BV is improved, promoted by institutionalised security, conservation, recreational and environmental education programmes and events.
* NGO and NMBM staff, as well as other stakeholders and communities, have developed capacity to be able implement urban stewardship and community conservation activities at other CBAs in the Nelson Mandela Bay.

An important aspect of the Baakens Valley Community Partnership is involving communities in the Baakens Valley through mechanisms such as our Adopt-A-Plot volunteer projects and small job creation projects. Many of these involve alien invasive plant (AIPs) removal. Due to the invasive nature of the AIPs, herbicides need to be applied to limit re-growth.

<u>Pest Management Approach</u>

10. Current and anticipated pest problems relevant to the project.

The Baakens Valley unfortunately has been invaded by the following speices: *Cestrum Laevgatum Schtdl* (Inkberry), *Acacia Saligna* (Port Jackson), *Accia longifollia* (Long-leafed Wattle), *Acacia Mearnsii* (Black Wattle), *Pinus* spp., *Eucalyptus* spp. *Sesbania*, Castor Oil plant, Prickly Pear spp. and many more. These AIP species out-compete native flora for water and light, with resultant impacts on native faunal species. The acacia and eucalyptus species are particularly aggressive invaders and are making inroads into large sections of the Baakens Valley, and also contribute to a very high fire danger to the native plants and residential areas along the valley.

11. Current and proposed pest management practices.

WESSA follows the best practices policy set out by the Best Practices Forum which is attended by specialists in the field of invasive alien plant control throughout the country. The correct herbicide is chosen according to plant species which are identified in each area, we strive to use the most environmentally friendly herbicides such as Plenum 160 ME or Garlon 480 EC. The methods of plant removal will be one of the following: Cut stump; Ring bark; Frill bark; Basel stem and wherever possible mechanical hand removal. Herbicide will only be applied by hand sprayer for spot spraying or paintbrush application, no foliar spraying will take place. We also generally refrain from mixing these herbicides with diesel, but rather with water at higher herbicide concentrations, which results in a lower overall environmental impact, even though it is more expensive this way.

12. Relevant integrated pest management experience within the project area, country or region.

WESSA, as an organization, has managed AIP clearing projects across similar projects South Africa: either under contracts to various funding agencies or under volunteer efforts. In eThekwini on WESSA has been/is working on four sites totalling approximately 740 hectares. Members of the team of individuals and experts that lead this grant, including the grant contact person, Morgan Griffiths, have personally been involved in various AIP clearing efforts. The lead WESSA national experts, Wayne Stead, David Lindley and Lynne Thompson, provide advice on best pest management practices. Wayne Stead has 4 years of experience in this field and is certified in application of all Working for Water-approved herbicides (see supporting documents submitted with the WESSA Nsubane Forest Programme PMPlan)

13. Assessment of proposed or current pest management approach and recommendations for adjustment where necessary.

The status quo is no pest management. Indigenous sub-tropical thicket, afro-montane forest and fynbos regeneration will not occur without removal of the AIPs. The proposed approach is in adherence with the national Working for Water policy, which itself was developed through expert and community consultation. The NMBM is currently negotiating with the National Working for Wetlands Programme to undertake a massive AIP clearing programme down through the Valley.

<u>Pesticide Selection and Use</u>

14. Description of present, proposed and/or envisaged pesticide use, and assessment of whether such use is in line with best management practices.

We are currently using Garlon 480 EC as it is highly effective against Acacia and Eucalyptus species in the Baakens Valley. As stated above, we currently use water as the wetting agent, rather than adding diesel into the environment.

We may use Plenum 160 ME, depending on a supplier becoming available in Port Elizabeth. Plenum 160 ME is used for the majority of the AIP removal projects that WESSA is involved. This is due to the smaller percentage of mixture needed to perform the function of other similar herbicides causing less active ingredients going into the environment. It also uses a natural oil as a carrier instead of diesel. The type of herbicide used may change depending on the plant species identified.

15. **Indication of type and quantity of pesticides envisaged to be financed by the project (in volume and dollar value) and/or assessment of increase in pesticide use resulting from the project.**
    The quantity is determined by the density levels of the area to be cleared at R150/$23 a litre, actipron at R30/$5 a litre and dye at R165/$25 a litre.

16. **Chemical, trade, and common name of pesticide to be used.**

    Manufacturer: Dow AgroScience
    Chemical: Picloram TIPA
    Fluroxypyr MHE
    Trade Name: Plenum 160 ME
    Common name: Plenum 160 ME

    Chemical: Actipron Supra (carrier/wetting agent)
    Chemical: Red Dye (management aid)

    Manufacturer: Dow AgroScience
    Chemical: Triclopyr-2-butoxyethyl ester
    Trade Name: Garlon 480 EC
    Common name: Garlon 480 EC

    Chemical: Diesel (carrier/wetting agent)

17. **Form in which pesticide will be used (e.g., pellet, spray).**
    Liquid hand spray or painted on with paint-brushes.

18. **Specific geographic description of where the pesticide will be applied: name of province, district, municipality, land owners, or map coordinates (if available); and the total area (hectares) to which the pesticide will be applied.**
    Baakens Valley, Port Elizabeth, Nelson Mandela Bay, Eastern Province, South Africa. The valley is about 2000 ha in extent, with this programme only likely to affect 60 ha.

19. **Assessment of environmental, occupational, and public health risks associated with the transport, storage, handling, and use of the proposed products under local circumstances, and the disposal of empty containers.**
    Health risks are very low on the herbicides to be used as can be seen in the data sheets attached. Storage, handling, and disposal of empty containers will be done as per legal requirements. PPE will be used at all times while handling the products. Empty containers will be washed 3 times, pierced to prevent usage and disposed at a suitable waste disposal area. Likewise the manufacturer can be presented with the empty containers to dispose them appropriately.

20. **Pre-requisites and/or measures required to reduce specific risks associated with envisaged pesticide use under the project (e.g., protective gear, training, upgrading of storage facilities, etc.).**
PPE will be issued to all staff and undergo training in correct use and handling of herbicides. Storage facilities will meet requirements to prevent spillage within the storage area escaping into the environment. A maximum of 50 litres of herbicide will be permitted to be stored at the facility at any one time.

21. **Basis of selection of pesticides authorized for procurement under the project, taking into consideration WHO and World Bank standards, the above hazards and risks, and availability of newer and less hazardous products and techniques (e.g. bio-pesticides, traps).**
Selection of herbicides is made with environmental impacts in mind, i.e. as mild mixtures as possible; and the least amount of active ingredient's going into the environment with the application method used. Only herbicides which pose a low occupational health risk are used as per MSDS.

22. **Name and address of source of selected pesticides.**
Dow AgroScience
Private Bag x160
Bryanston
2021

23. **Name and address of vendor of selected pesticides.**
We currently use Builders Express located in Walmer, Port Elizabeth.

Policy, Regulatory Framework, and Institutional Capacity

24. **Policies on plant/animal protection, integrated pest management, and humane treatment of animals.**
The Baakens Valley is a nature reserve (zoned Public Open Space, with parts in process of being declared as protected areas under the National Environmental Management Protected Areas Act 1998 (Act 57 of 2003). As such it falls under the restrictions of this act as well as the National Environmental Management Biodiversity Act 2004 (Act 10 of 2004). The NMBM, as custodians of this estate has to approve any AIP clearing prior to commencement. AIP clearing teams are trained in appropriate behaviour while operating in this reserve.

25. **Description and assessment of capacity to develop and implement ecologically-based invasive and alien species control mechanisms.**
As ecologically-based control mechanisms as possible will be applied. The NMBM is currently developing an AIP management plan for the city, which will inform AIP clearing projects after its completion. The nature of this NMBUCP is to involve and capacitate local communities to assist in conservation management, hence an emphasis in best-practice training in AIP clearing methods.

26. Description and assessment of the country's regulatory framework and institutional capacity for control of the distribution and use of pesticides.

Only legal and commonly available chemicals will be used at a small scale. Various pieces of labour legislation require that workers using chemicals are provide with adequate training and protective gear. NMBM and WESSA conservation officers have provided training in the practice of AIP clearing and appropriate use and storage of any herbicides being applied.

27. Proposed project (sub)components to strengthen capacity to engage in integrated pest management activities, where necessary.

Each AIP clearing team will undertake the following training:

- General environmental training
- Plant identification (AIPs and any species requiring special protection)
- IAPS removal and use of herbicides
- Fire awareness training
- Basic first aid

The training will be conducted by NMBM, WESSA or other expert in the field.

<u>Monitoring and Evaluation</u>

28. Description of activities that require local monitoring during implementation.

WESSA and the NMBM monitor all AIP clearing activities in the valley. In the past this has included posting one or more of our Baakens Valley Ranger with the AIP clearing teams, to provide direct oversight and guidance.

29. Per item 27 above, description of plans and results for tracking of deaths of non-target species prior to pesticide application and subsequent to pesticide application.

All AIP clearing sites, irrespective of whether herbicides are used or not, are subject to ad-hoc and arranged checks prior to, during and post clearing. Post clearing checks are vitally important to monitor for re-growth of AIPs and planning for follow-up operations.

30. Description of activities that require monitoring during supervision visits.

Health and Safety procedures will be monitored by IAPs team supervisors, project supervisor and project manager. See section 28.

31. Monitoring and supervision plan, implementation responsibilities, required expertise, and costs (if applicable).

As per section 29.

Consultation

32. Plans [for], dates, and results of expert consultations (if necessary).

As the AIP clearing are ad-hoc events and subjects to when donations are made, we are unable to supply dates for when they will occur, apart from a proposed project to clear 2.5 hectares in the Dodds farm are of the Valley. This is through a proposed sponsorship by a neighbouring golfcourse, using a local environmental community-based organisation, sometime in early March. This CBO has already satisfactorily undertaken a 4.6 ha AIP clearing project in the Baakens Valley last year, and has shown competence in doing so. It also created some desperately needed employment for 8 youths.

Expert consultations occur when the WESSA and/or NMBM conservation officers detect some issue beyond the knowledge or experience to deal with, including local, regional or national botanists or AIP programme leaders. There is considerable botanical expertise in Port Elizabeth to draw on, for the many different vegetation types in the Baakens Valley.

33. Plans [for], dates, and results of consultations with affected communities.

These occur through our various partnerships and stakeholder meetings that form part of the Baakens Valley Community Partnership programme.