CEPF FINAL PROJECT COMPLETION REPORT

I. BASIC DATA

Organization Legal Name: Indigo Development and Change

Project Title (as stated in the grant agreement): *Restoration of the Nieuwoudtville Wild Flower Reserve*

Implementation Partners for this Project: Simon Todd, Hantam National Botanical Garden (SANBI), Hantam Municipality, Environmental Monitoring Group

Project Dates (as stated in the grant agreement): September 1, 2007 - December 31, 2008

Date of Report (month/year): April 09

II. OPENING REMARKS

The Nieuwoudtville Wild Flower Reserve is home to many rare and endangered species, especially bulbs. However in the past decade an increasing abundance of alien grasses has been observed in the Wild Flower Reserve raising concerns about the sustainable management of the Wild Flower Reserve.

Photo 1: *Brunsvigia boesmaniae* in rare display in the western part of the Flower Reserve

It was thus decided to jointly investigate management options for Nieuwoudtville Dolerite Renosterveld and to determine best practice in term of effect and economical viability to conserve the biodiversity and reduce alien species.


Photo 2: *Bulbinella latifolia var doleritica* and *Sparaxis elegans* are endemic species found in the Wild Flower Reserve

Trial Layout

An area of approximately 20 ha was identified on the dolerite plains within the Nieuwoudtville Wildflower Reserve for this experiment. The area is heavily invaded by alien grasses, in particular Wild Oats, *Avena fatua*, but ryegrass *Lolium rigidum*, Wild Barley *Hordeum murinum*, and Brome *Bromus diandrus* are also common.

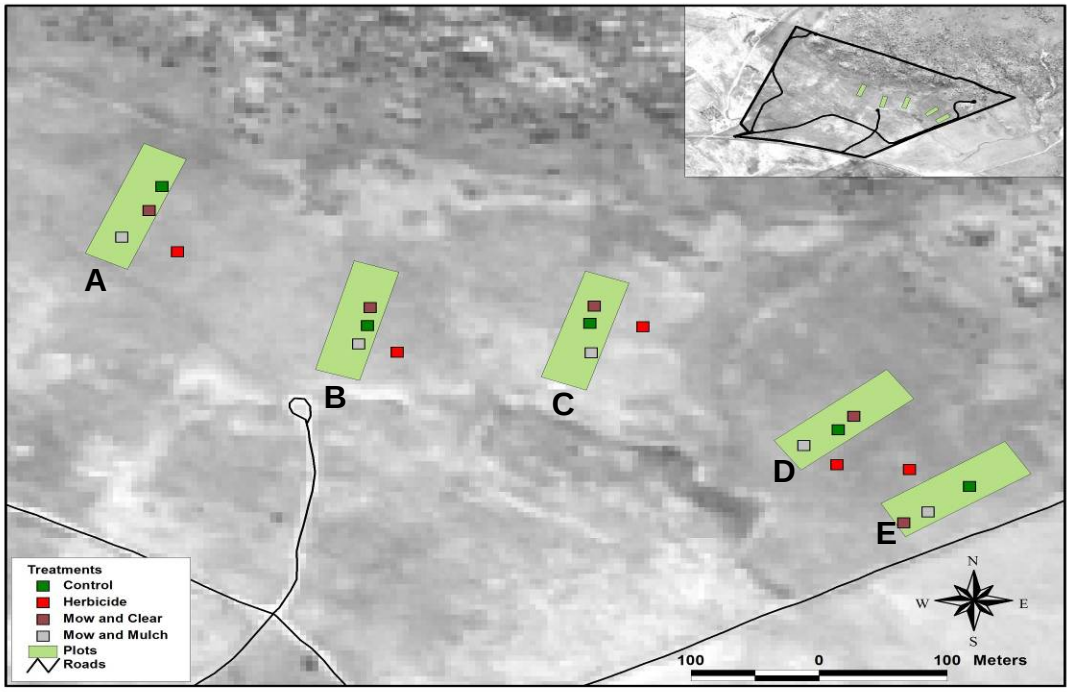
Within the area identified for the experiment, five 30x100m treatment areas were laid out in 2007. Within each of these treatment areas three 10x10m plots were marked out and randomly assigned to one of three treatments as follows: Mow and Clear; Mow and Mulch, Control.

In the Mow and Clear treatment, the 10x10m plots are mowed using a handheld 'weedeater' and the plant residue raked up and removed from the plot.

In the Mow and Mulch treatment, the plots are similarly mowed, but the residue left where it falls. In the control treatment, the vegetation is left undisturbed.


Photo 3: *Havena fatua* (Wild oats) at the right stage for spraying

In order to prevent edge effects, the area treated was larger than the 10x10m plots, and usually consisted of a 30x30m block centred on the sample plot. In the area adjacent to each of the 30x100m blocks, an additional 10x10m plot was also laid out. These plots as well as the rest of the area surrounding the five treatment areas constituted the final treatment and were treated with selective herbicide (Co-Pilot). The mowing treatments were conducted in late September 2007 while the herbicide application was conducted in July 2008.



The project also examined control of other invasive plants in the Wild Flower Reserve and documented successful methods in the farmers guide.

Photo 2: Donna Kotze (Indigo development & change) demonstrates the eradication of Prosopis in the Wild Flower Reserve with help of the “tree-popper”.

III. ACHIEVEMENT OF PROJECT PURPOSE

***Project Purpose**: The Hantam Municipality / SANBI manages the Nieuwoudtville Wild Flower Reserve in a manner that effectively conserves endangered and endemic species.*

Planned vs. Actual Performance

Indicator	Actual at Completion
Purpose-level:	
***1.** Populations of rare and endemic species in the Nieuwoudtville Wild Flower Reserve will remain stable or increase.*	It is obvious that the actual abundance of alien grasses is strongly dependent on the actual weather patterns (especially regular rainfall events in winter). However this project made a significant contribution towards more sustainable land management on dolerite Renosterveld and pointed out areas where more research is required.
***2.** The management of the Nieuwoudtville Wild Flower Reserve (Hantam Municipality or SANBI) are implementing recommendation from the guidelines developed for control of alien species.*	The Hantam Municipality and especially the staff of the Hantam National Botanical Garden as well as some Nieuwoudtville Farmers expressed interest in engaging and following the recommendations developed in the course of this project. The Hantam National Botanical Garden is actively implementing the guidelines developed together and is conducting further research into the sustainable management of Nieuwoudtville Dolerite Renosterveld and other soil types.

Describe the success of the project in terms of achieving its intended impact objective and performance indicators.

During the project the experiment was implemented as planned and the results were documented in various papers (see project outputs).

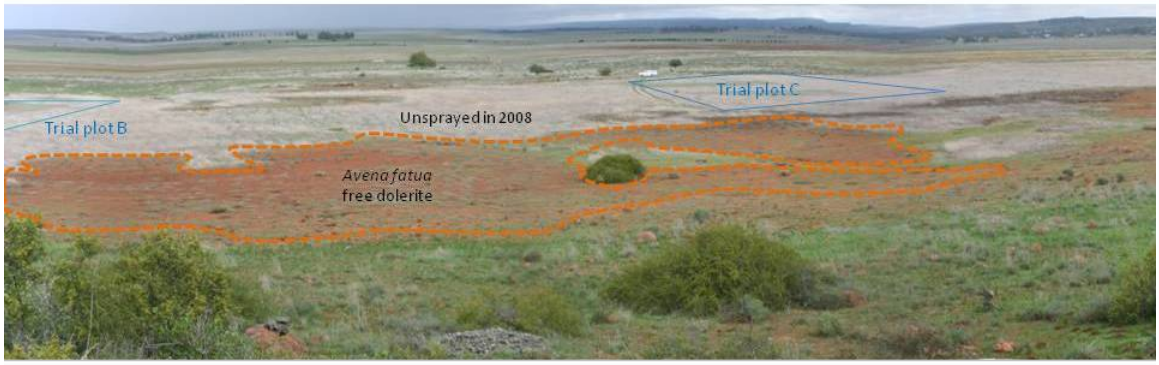
The interaction between the various stakeholders (SANBI, Hantam Municipality, DTEC, EMG and interested land users) was good and inspirational and various joint field trips ensured that we reflected on sustainable management for Biodiversity Conservation while also raising awareness on alien invasive plant control.

The fixed point photography started has been used in the development of the farmers guidelines and will be continued by Indigo development & change in the years to come to document change in veld conditions over the years and under improved management (see photographs below).

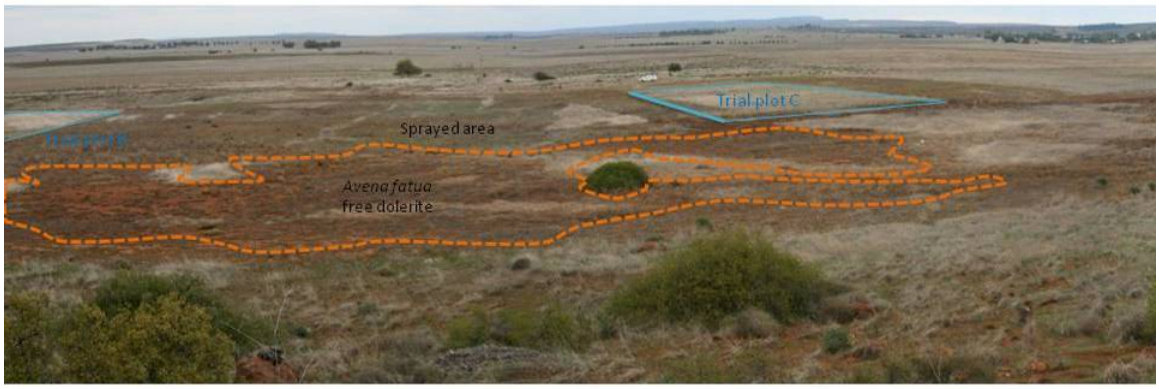
Nieuwoudtville Wild Flower Reserve

Fixed Point Photography No1

May 2008



May 2009



Were there any unexpected impacts (positive or negative)?

The process of implementation was strongly supported by the team of the Hantam National Botanical Garden – and thus was enriched by practical experience, joint efforts and creative thinking on these levels.

We also experienced the challenges of early onset of heavy rains in 2007 that prevented us from spraying our test sites due to extremely soft soils.

The management responsibility is at this stage still resting with the Hantam Municipality. While hopefully the management responsibility is soon to be transferred to SANBI (Hantam NBG) the management is at the point of finalizing this report still with the municipality. Implementation of guidelines provided is therefore depending on capacity of staff responsible and municipal resources. The Nieuwoudtville Biodiversity Support Group has offered to manage the Nieuwoudtville Wild Flower Reserve in the interim and is in negotiations with the Hantam municipality.

IV. PROJECT OUTPUTS

***Project Outputs**:*

Planned vs. Actual Performance

Indicator	Actual at Completion
Output 1: A scientific paper on control of alien grasses in the Dolerite Renosterveld.	The paper has been compiled, discussed with partners and published.
***1.1.** Scientific findings are published in a report and are publicly available to scientists and land users.*	A scientific paper with the title: Todd, Simon: The Abundance and Impact of Alien Annual Grasses on Hantam-Roggeveld Dolerite Renosterveld Vegetation at Nieuwoudtville, Northern Cape, South Africa. Is published on the Nieuwoudtville Website.
Output 2: Strategies of alien plant removal have been tested and a guideline brochure for land users for effective management of alien species and conservation of rare and endemic species in the Nieuwoudtville Dolerite Renosterveld has been published.	Various strategies have been tested in the field and literature research was done to explore different management strategies for Nieuwoudtville Dolerite Renosterveld. Additional trials are currently conducted by the Hantam NBG (SANBI).
***2.1.** There is a clear strategy in place to control alien invasive species in the Wild flower reserve.*	The management guideline document gives clear guidelines and points out further need for research.
***2.2.** The guideline document has been published and distributed.*	The guideline document has been printed and is also available on the Indigo website
Output 3: A Memorandum of Understanding has been drawn up between Indigo development & change, the Hantam Municipality and SANBI regarding the trials for alien plant control and the commitment to implement results as far as possible in the management of the Wild Flower Reserve.	The Hantam Municipality and SANBI endorsed and supported the trails in the Flower Reserve and are committed to implement the recommended results.
***3.1.** The MoU has been drawn up and is signed by all parties.*	All parties agreed to collaborate on the management of the Nieuwoudtville Wild Flower Reserve as part of this project and to collaborate in implementation of the results.
Output 4: Regular Action Research processes are conducted at least twice a year to discuss the applied treatments with municipal / SANBI staff and to discuss results. At these meetings the input of the managers will be sought and their feedback will be integrated in the final suggested strategy to control alien plants in the Wlld Flower Reserve.	Various workshops have been conducted to report back on progress, challenges and to plan next steps. Joint field trips also were initiated and discussion of possible management options was discussed during these field trips as well as options of management of alien invasive species for the conservation of the Nieuwoudtville Dolerite Renosterveld.
***4.1.** The Action Research Events are well attended by Municipal / SANBI staff and the methodology and progress is discussed at these events.*	Yes, the action research events were well attended, and lively discussions took place informing the way forward in this project.
***4.2.** The manager (SANBI or Hantam Municipality) of the Nieuwoudtville Wild Flower Reserve uses the results of the research and integrates developed approaches into their management plan.*	The management responsibility is to date unclear. It is hoped that SANBI (Hantam NBG) will take the official mandate to manage the Flower Reserve before the end of 2009, and there is commitment to implement the guidelines developed from both parties.

Describe the success of the project in terms of delivering the intended outputs.

The project actively raised awareness in alien invasive plants in Nieuwoudtville Dolerite Renosterveld through workshops and interpretational signage at the Nieuwoudtville Wild Flower Reserve.

The following documents are available for free download on the Indigo website or in the Indigo offices:

- Final report on the results and analysis of the Wild Oats control experiment in the Nieuwoudtville Wildflower Reserve. (Simon Todd)
- The Abundance and Impact of Alien Annual Grasses on Hantam-Roggeveld Dolerite Renosterveld Vegetation at Nieuwoudtville, Northern Cape, South Africa. (Simon Todd)
- Options for Invasive Grass Management in the Nieuwoudtville Wildflower Reserve
- Guidelines for management of alien invasive plants on Nieuwoudtville Dolerite Renosterveld (Bettina Koelle, Donna Kotze, Simon Todd, Eugene Marinus)

Were any outputs unrealized? If so, how has this affected the overall impact of the project?

No

V. SAFEGUARD POLICY ASSESSMENTS

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

No action is required. The documents are stored on the Indigo website for further use and will also be housed in the reference library of the Hantam NBG and be stored in their digital database.

VI. LESSONS LEARNED FROM THE PROJECT

Describe any lessons learned during the various phases of the project. Consider lessons both for future projects, as well as for CEPF's future performance.

To establish the resilience of arid ecosystems and the effect of various treatments of alien species, it is crucial to ensure that these are long term trials ensuring the compounding effects of the treatments and the seasonality and variability or rainfall can be documented and thus integrated in the recommendations for management strategies.

Future trials should also consider the effect of climate change and impact on invasive plants in the ecosystem.

It is important to allow enough space and opportunity for individual stakeholders to engage with the issues - to ensure ownership of the results and implementation thereof by the stakeholders involved.

Project Design Process: (aspects of the project design that contributed to its success/failure)

The concise structure of the project allowed smooth implementation. The support of a wide variety of stakeholders in the process contributed to the results and further discussions and experiments.

Project Execution: (aspects of the project execution that contributed to its success/failure)

The implementation of the project was done through a local NGO and therefore no huge travel budget was required. Through the local positioning many informal discussions with various stakeholders (land users and other conservation agencies and researchers) could take place additionally to the more formal workshops and field trips.

VII. ADDITIONAL FUNDING

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of Funding*	Amount	Date Received	Notes

***Additional funding should be reported using the following categories:**

- ***A*** *Project co-financing (Other donors contribute to the direct costs of this CEPF project)*
- ***B*** *Complementary funding (Other donors contribute to partner organizations that are working on a project linked with this CEPF project)*
- ***C*** *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)*
- ***D*** *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Provide details of whether this project will continue in the future and if so, how any additional funding already secured or fundraising plans will help ensure its sustainability.

The monitoring of the alien invasive plants in the Wild Flower Reserve will continue in partnership with the Hantam NBG (SANBI) and also as part of activities with CREW (SANBI). Sustainable management strategies will be further tested in collaboration with EMG and Hantam NBG on the Bokkeveld Plateau.

VIII. ADDITIONAL COMMENTS AND RECOMMENDATIONS

The project provided us with the opportunity to set up a longer process of monitoring and analyzing different management strategies to control alien grasses on Nieuwoudtville Dolerite Renosterveld. It is crucial to expand this research and include climate change predictions into future scenarios and how this might influence management strategies.

VIII. INFORMATION SHARING

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned and results. One way we do this is by making programmatic project documents available on our Web site, www.cepf.net, and by marketing these in our newsletter and other communications.

These documents are accessed frequently by other CEPF grantees, potential partners, and the wider conservation community.

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