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SUMMARY  
REPORT

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SUMMARY REPORT

# BREEDE CATCHMENT WATER STEWARDSHIP PROGRAMME

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# Contents

<b>ABBREVIATIONS AND ACRONYMS</b>	<b>2</b>
<b>EXECUTIVE SUMMARY</b>	<b>3</b>
<b>INTRODUCTION</b>	<b>5</b>
<b>COLLECTIVE ACTION - WATER QUALITY AROUND URBAN AREAS</b>	<b>8</b>
Introduction	8
Assessing water quality around Prince Alfred Hamlet and Nduli	9
Assessing wetland status around Prince Alfred Hamlet	10
Forming the ‘Witzenberg Water Savers’	12
Continuation of Breede work by existing and future partners	24
Key lessons	25
Key partners	25
<b>COLLECTIVE ACTION - ALIEN PLANT CLEARING</b>	<b>27</b>
The importance of alien plant clearing in South Africa	27
Facilitating an alien-clearing initiative near Wolseley	28
Continuation of Breede work	30
Key lessons	31
Key partners	31
<b>WATER STEWARDSHIP PRACTICES IN AGRICULTURE</b>	<b>33</b>
Water stewardship webtool making information accessible	33
Water stewardship progress by volunteer farms 2013–2016	37
<b>THE AWS STANDARD AND ITS PLACE IN AGRICULTURE</b>	<b>44</b>
Overview	44
Frequently raised concerns	45
Water stewardship integration into existing standards for agriculture	46
<b>CONCLUSION - SCALING UP WATER STEWARDSHIP</b>	<b>48</b>
Connecting local water stewardship initiatives in the upper Breede	48
Connecting Breede-Gouritz CMA stakeholders	49
Water stewardship and governance in South Africa	50
Contributing to harmonisation – the AWS and other standards for agriculture	52
Retailers – scaling up water stewardship beyond the Breede	52

# ABBREVIATIONS AND ACRONYMS

<b>APO</b>	Annual Plan of Operation
<b>AWS</b>	Alliance for Water Stewardship
<b>BGCMA</b>	Breede-Gouritz Catchment Management Agency
<b>BWI</b>	Biodiversity and Wine Initiative
<b>CBNRM</b>	Community-Based Natural Resource Management
<b>CSIR</b>	Council for Scientific and Industrial Research
<b>CMA</b>	Catchment Management Agency
<b>DHI</b>	(Former) Danish Hydraulics Institute
<b>DUCT</b>	Duzi Umgeni Conservation Trust
<b>DWS</b>	Department of Water and Sanitation
<b>EPWP</b>	Expanded Public Works Programme
<b>FFF</b>	Farming for the Future
<b>FSC</b>	Forest Stewardship Council
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit
<b>IAPs</b>	invasive alien plants
<b>IB</b>	Irrigation Board
<b>ICT</b>	Information and Communication Technology
<b>IWaSP</b>	International Water Stewardship Programme
<b>LEAF</b>	Linking Environment and Farming
<b>M&amp;E</b>	monitoring and evaluation
<b>M&amp;S</b>	Marks & Spencer
<b>MoU</b>	Memorandum of Understanding
<b>MPO</b>	Milk Producers Organisation
<b>NBI</b>	National Business Initiative
<b>NRM</b>	Natural Resource Management
<b>PAH</b>	Prince Alfred Hamlet
<b>RMMP</b>	River Maintenance Management Plan
<b>SANBI</b>	South African National Biodiversity Institute
<b>SIZA</b>	Sustainability Initiative of South Africa
<b>SWPN</b>	Strategic Water Partners Network
<b>UBCEG</b>	Upper Breede Collaborative Extension Group
<b>WBCSD</b>	World Business Council for Sustainable Development
<b>WESSA</b>	Wildlife and Environment Society of South Africa
<b>WRF</b>	Water Risk Filter
<b>WSI</b>	Water Stewardship and Incentive
<b>WUA</b>	Water User Association
<b>WWF</b>	World Wide Fund for Nature

# EXECUTIVE SUMMARY

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## Introduction

This report provides an account of the water stewardship initiatives for the second phase of the Breede Water Stewardship Project in the Western Cape.

The report aims to share lessons in water stewardship, particularly the collective action that was started by this project in the upper Breede catchment between 2015 and 2016. These initiatives fall under the term 'water stewardship', which means that they are actions that have at their core the responsible use of water in socially equitable, environmentally sustainable and economically beneficial ways. A key to success is a stakeholder-inclusive process that involves site- and catchment-based activities.

This project is a partnership between Woolworths, M&S, GIZ, the Alliance for Water Stewardship (AWS) and the Breede-Gouritz Catchment Management Agency. All have partnered with WWF-SA, who acts as the leading implementing agent.

The first phase of this project started with water risk identification in the M&S supply chain. Stone-fruit production in the Breede catchment of the Western Cape, South Africa, emerged as a water risk hotspot and water stewardship activities were initiated with farmers and local authorities. The promising on-farm results of Phase 1 motivated the continuation of the project. Phase 2 focused on initiating collective action on key water issues identified in the area. These included urban water-quality problems, invasive alien plant clearing and the provision of more water-related information to farmers.

## Addressing urban water quality

The formation of the 'Witzenberg Water Savers', consisting of volunteers from the Prince Alfred Hamlet and Nduli townships, has been an important step in building a bottom-up initiative to involve urban residents in pressing water-quality issues in the upper Breede catchment. A key to the success of this initiative has been the project's cooperation with other partners like Emerging Leaders and the Duzi Umgeni Conservation Trust (DUCT).

## Collective action with landowners

The project facilitated an initiative by Wolseley farmers to clear alien invasive plants in the mountainous areas around Wolseley. This has culminated in the creation of an alien plant clearing project manager position for the area. The incumbent will be mentored by WWF and the Western Cape Department of Agriculture and the position will be funded by Woolworths.

### **Tools to enable water stewardship beyond the project**

A webtool was developed in Phase 1, linking farmers to necessary supporting information and guidance on the AWS Standard (see <https://aws.wwf.org.za/aws/home/%20%20-www.allianceforwaterstewardship.org>). During Phase 2 the webtool did not receive the anticipated uptake. Given past experiences with agricultural sustainability initiatives, the investigation of a collaborative extension model within South African agriculture is advised. At international scale, the AWS has incorporated this project's experience with the webtool into the long term AWS IT needs for collecting, storing, managing and displaying information gathered during the application of the AWS Standard.

### **Assessing against the AWS Standard**

An evaluation of the water stewardship progress of seven farms against the AWS Standard (2013–2016) showed that the Standard was a good tool to evaluate water stewardship. Farmers did not reach the Core AWS certification level, but some scored highly on outcomes such as water-use efficiency. Most farmers showed interest in AWS certification and the option of Group Certification. It is important to look into alternative mechanisms to drive the Standard in the sector. Incentive creation by retailers will be an important step to consider.

### **Influence of the project beyond the Breede catchment**

In influencing the spread of water stewardship and knowledge of the AWS Standard, the Breede Water Stewardship Project has extended beyond the Breede Valley.

Findings of the Breede project work inform WWF-SA's work on water principles in agriculture standards, as well as the continuing promotion of the AWS Standard and the water stewardship guidelines it contains.

Joint engagement of the private and public sectors and civil society in water stewardship matters is a concept inherently supported by the South African water sector. Since 2015, multiple steps have been taken to include the concept of water stewardship at governance level.

The Breede Water Stewardship Project has initiated this process through the signing of an MoU between the project partners. The Department of Water and Sanitation has chosen water stewardship to go through an evidence-informed policy development programme and the AWS and WWF have been invited to contribute.

An important component is the ongoing thinking about linking water stewardship initiatives throughout South Africa. It is important to consider how lessons of existing stakeholders can inform strategies and policies for water governance bodies such as the catchment management agencies (CMAs).

# INTRODUCTION

## Water stewardship initiatives in the upper Breede catchment area of South Africa's Western Cape province commenced in October 2013.

### Phase 1: 2013–2014

The first year – or Phase 1 – started as a one-year collaboration between Marks and Spencer (M&S), Woolworths, WWF-SA, WWF-UK and the Alliance for Water Stewardship (AWS). Each of the stakeholders had a different reason for cooperating in the project.<sup>1</sup> The two retailers, M&S and Woolworths, sought to reduce water risks in their stone-fruit supply chain, based on results from the WWF Water Risk Filter. The aim of the AWS was to test the final version of the AWS Standard in an agricultural setting. The WWF offices, as the drivers of water stewardship with strong local connections, became the implementing and communication agents in the process.

Detailed orchard-scale water use (for plums and peaches) was determined by the CSIR. Nine volunteer farmers participated in the first steps of planning their water stewardship journey, based on the recommendations that arose from the AWS Standard. The first year's work focused on on-site water stewardship actions and data generation. A key finding was that participating farmers were quite progressive in their practices, and that their water footprint for fruit production lay between two and seven times below that of the internationally available water footprint figures for peaches and plums. Nevertheless, the engagement still helped farms to generate a focused water stewardship action plan for the future.

After October 2014, WWF's active engagement with the volunteer farmers was reduced to occasional check-in and feedback sessions in order for farms to implement on-farm water stewardship steps on their own. The steps followed in the Breede Water Stewardship Project can be summarised by the water stewardship ladder, as outlined in Figure 1.

The **Water Risk Filter** tool helps companies and investors ask the right questions about water. It allows you to assess risks and offers guidance on what to do in response.

**Water stewardship** can be defined as the use of water that is socially equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site- and catchment-based actions. Good water stewards understand their own water use, catchment context and shared risk in terms of water governance, water balance, water quality and important water-related areas; and then engage in meaningful individual and collective actions that benefit people and nature.

<sup>1</sup> Dzikiti, S. and Schachtschneider, K. 2015. Water stewardship for stone fruit farmers. WWF Technical Report. Available at [www.wwf.org.za/freshwater](http://www.wwf.org.za/freshwater).

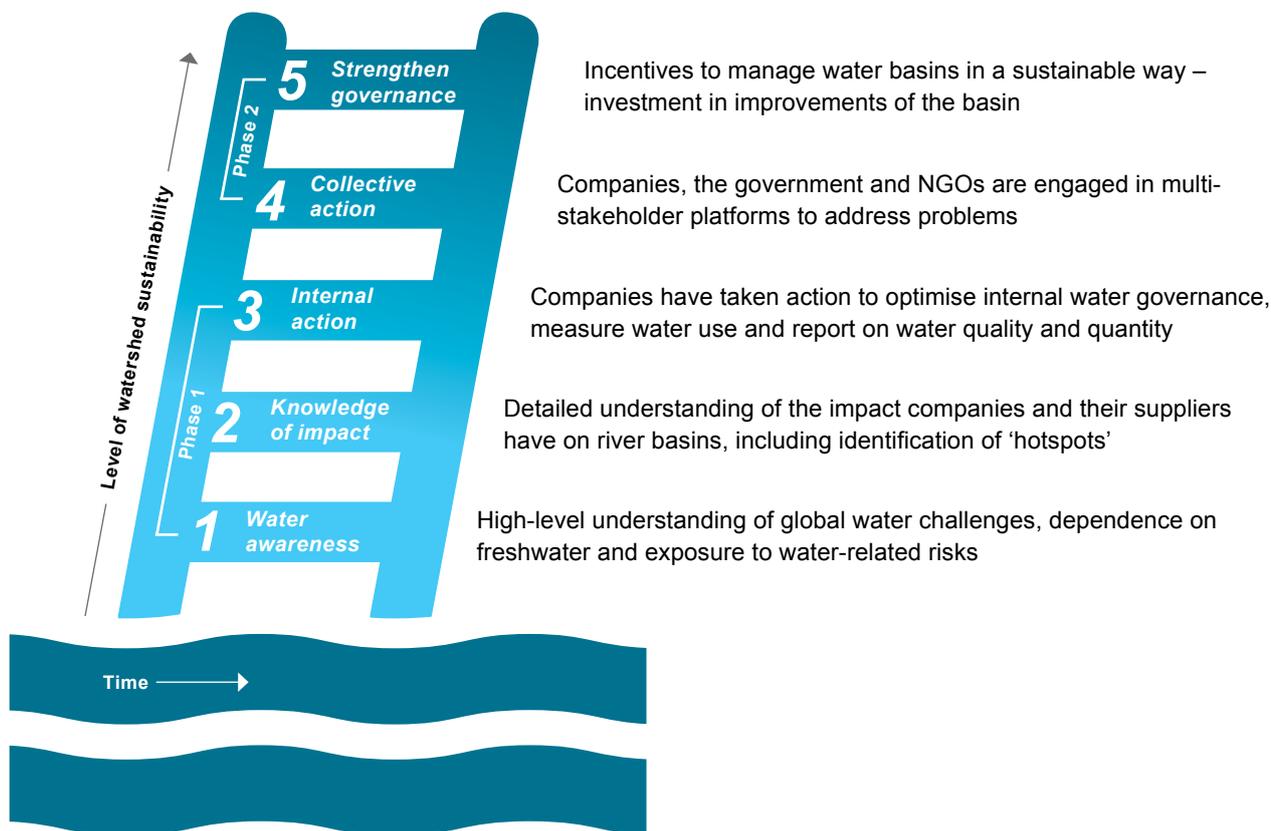


Figure 1: The 5-step water stewardship ladder

The on-farm activities of Phase 1 represented the first three steps on the water stewardship ladder in Figure 1, namely water awareness, knowledge of impact and internal action. The success of Phase 1 led to a continuation of the water stewardship project, using the steps of the water stewardship ladder as a progressive guideline.

### Phase 2: 2015–2016

Phase 2 continued to be supported by M&S and Woolworths, as well as GIZ through their International Water Stewardship Programme (IWaSP). WWF-SA and the AWS continued to be the implementing agents of the project. Cooperation was formalised through the signing of a legally non-binding Memorandum of Understanding (MoU) with the Breede-Gouritz Catchment Management Agency (BGCMA). This represents the first water stewardship partnership to include a catchment management agency (CMA) as an official collaborator. As the second-oldest CMA in South Africa, the BGCMA will provide invaluable lessons and clarity about the role that a CMA can play in future water stewardship partnerships across South Africa.

A **catchment management agency** is intended to be an institution that manages water resources and coordinates all water management bodies at a catchment level. Importantly, stakeholders from the catchment serve on its board, and part of its mandate is to ensure that all voices in the catchment are reflected in its catchment management strategy and operations. These responsibilities, assigned to a CMA in terms of the 1998 National Water Act, make it a body that can truly promote and even help coordinate water stewardship at a catchment scale.

Phase 2 of the project, which commenced in January 2015, saw a change in focus to the last two steps on the water stewardship ladder in Figure 1, namely engaging stakeholders in broader water issues through collective action and influencing water governance. The project-specific objectives of Phase 2 were:

1. Initiating collective action projects to support better water stewardship in the upper Breede Overberg catchment and thus reduce water risks to farmers, catchment stakeholders and sourcing retailers. Two focus areas were identified with the help of the participating volunteer farmers:
  - a. collective action to address water quality concerns around nearby urban areas
  - b. collective action to address alien plant clearing in key areas.
2. Creating an AWS online tool to establish ongoing support for water stewardship activities in the Breede catchment, and expanding the application of this tool to other regions of South Africa.
3. Scaling up of water stewardship in other parts of South Africa and beyond.
4. Leading voluntarily participating farmers to a water stewardship practice level, where they would conform to the AWS Standard and can be recognised for meeting international best practice.

This report summarises the project progress for Phase 2, from January 2015 until April 2016, based on the above-mentioned objectives. Additional feedback is also given for the on-farm progress of water stewardship, and the readiness of farmers to comply with the AWS Standard.



A farm dam at Romansrivier.

# COLLECTIVE ACTION - WATER QUALITY AROUND URBAN AREAS

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## Introduction

The recent economic and human population growth in the Ceres Valley corresponds directly to increased water resource availability. Groundwater in large parts of the valley is saline and unsuitable for fruit growth. Hence, piped surface water transported from multiple storage dams is the only viable source of water. Prior to 1998, the Koekedouw Dam had suffered structural damage during the 1969 earthquake and held a mere 0.4 million m<sup>3</sup>.<sup>2</sup> The dam was rebuilt in 1998 and was increased in size to hold 17 million m<sup>3</sup>.<sup>2</sup> This added water availability brought with it agricultural expansion, mainly in the pome and stone-fruit sector. Agriculture also stimulated the labour market and consequently significant growth occurred in the nearby urban areas like Prince Alfred Hamlet and Nduli, which house the seasonal influx of work seekers.<sup>3</sup> Many people chose to stay, resulting in rapid urban growth and added responsibility for Witzenberg Municipality to provide basic services, including water and sanitation.

The speed of urban growth has brought to the fore challenges linked to sanitation and high-density livestock keeping in areas that are not safely designated for these purposes. Water of poor quality, emanating from the poorer urban centres, flows back into the catchment along the canals and tributaries that criss-cross the landscape. Deteriorating water quality is a real risk to the agricultural sector. Should the sector ever lose a market due to a water-quality scare, it will impact on the labour market and the well-being of the urban Ceres Valley residents. This highlights the interconnectedness of stakeholders when it comes to water quality: farmers, the municipality and the urban community are completely interlinked.

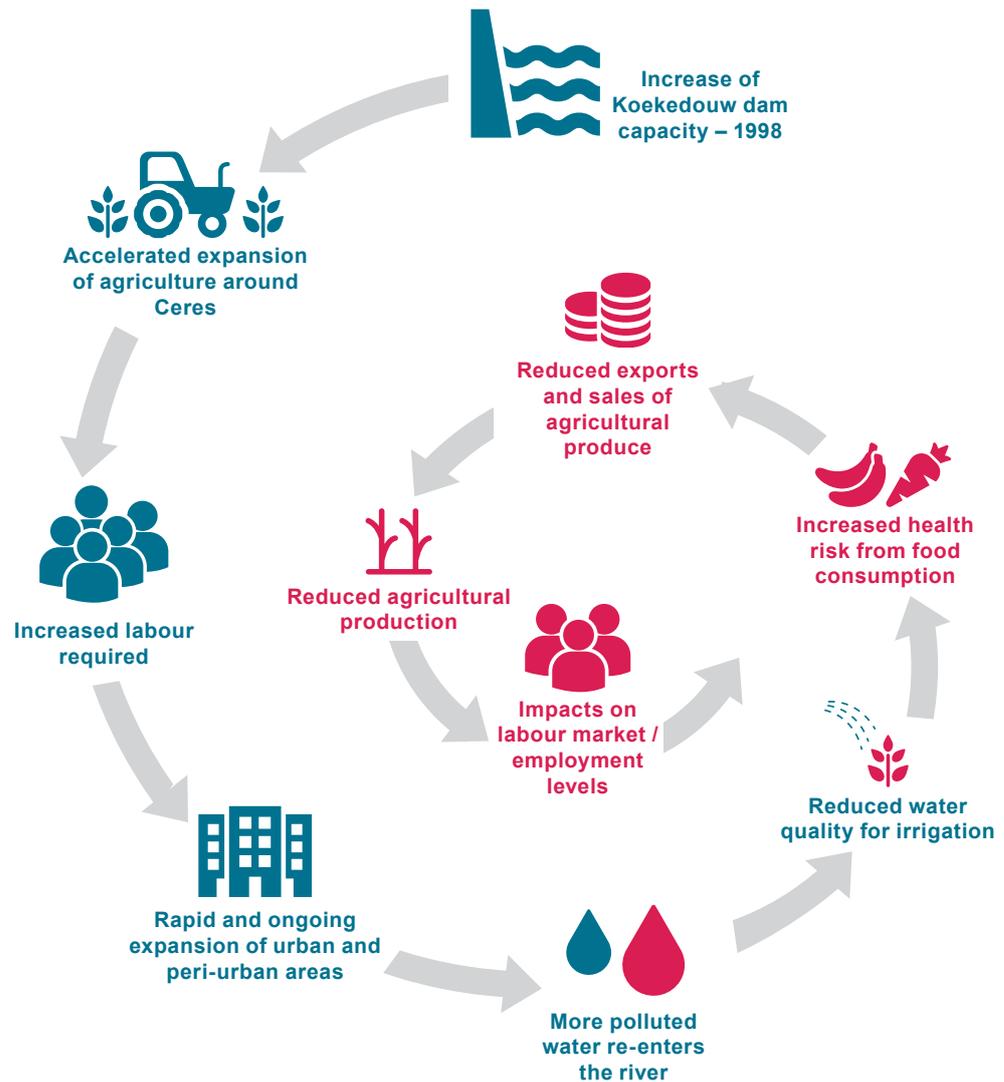
The following activities were planned to initiate collective action (step 4 in Figure 1) with members of the urban communities in Prince Alfred Hamlet and Nduli:

1. Assessing water quality and wetland status around Prince Alfred Hamlet and Nduli.
2. Supporting representatives from Prince Alfred Hamlet and Nduli to participate in a water-quality colloquium.
3. Co-designing interventions and an implementation plan to prevent pollution, with local stakeholders.
4. Initiating and solidifying the plan.

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<sup>2</sup> [http://www.geotech-sa.co.za/projects/ceres\\_dam.html](http://www.geotech-sa.co.za/projects/ceres_dam.html)

<sup>3</sup> [http://www.statssa.gov.za/?page\\_id=4286&id=77](http://www.statssa.gov.za/?page_id=4286&id=77)



**Figure 2: The intricate link between growth and water quality – real risks that require collective action**

## Assessing water quality around Prince Alfred Hamlet and Nduli

Collecting water-quality information and determining the wetland status were the first steps in understanding and directing the collective action on water quality in Prince Alfred Hamlet and Nduli. A water-quality assessment for both areas was concluded by Isidima, in close cooperation with Witzenberg Municipality.<sup>4</sup> The work validated that both settlements lie adjacent to local rivers and drainage channels that are tributaries of the Breede River. These channels feed local farm dams, which are used to irrigate stone-fruit and other local produce. For these reasons the potential impact of the settlements on the water quality and pollution of the rivers is a concern. Furthermore, many farm workers live in these settlements and their welfare is a priority. The Isidima report outlined that residents were well serviced with basic water and sanitation facilities and that Witzenberg Municipality had effective measures in place to manage the water resources and prevent the discharge of sewage into the adjacent rivers. However, there remains room for improvement:

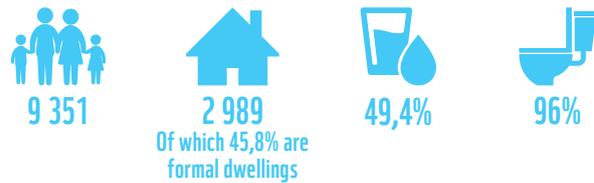
<sup>4</sup> Isidima, 2015. Technical Evaluation of the Water Quality related issues at Prince Alfred Hamlet and Nduli. Technical report for WWF-SA.

1. High levels of faecal contamination in the Wabooms River (Prince Alfred Hamlet) arising from uncontrolled storm-water (grey-water) discharge, informal agricultural activities and pump-station overflows (especially during load-shedding by the local electricity provider, Eskom).
2. An extremely high level of faecal contamination in the Nduli storm-water channel arising from uncontrolled grey-water discharge and possibly open defecation and the disposal of 'nightsoil'. This is exacerbated by regular manhole overflows caused by blockages when inappropriate items are disposed of in the flush toilets (e.g. cloth and newspaper).
3. Large quantities of trash entering the storm-water channels despite otherwise good solid-waste management practices. This is especially relevant in Prince Alfred Hamlet.

#### Prince Alfred Hamlet



#### Nduli



Source: Statistics South Africa Census 2011

The Isidima report made two sets of recommendations. One set of recommendations was tailored for the municipality and is not mentioned further, as these recommendations do not cover community initiatives. However, the following recommendations are potentially community inclusive:

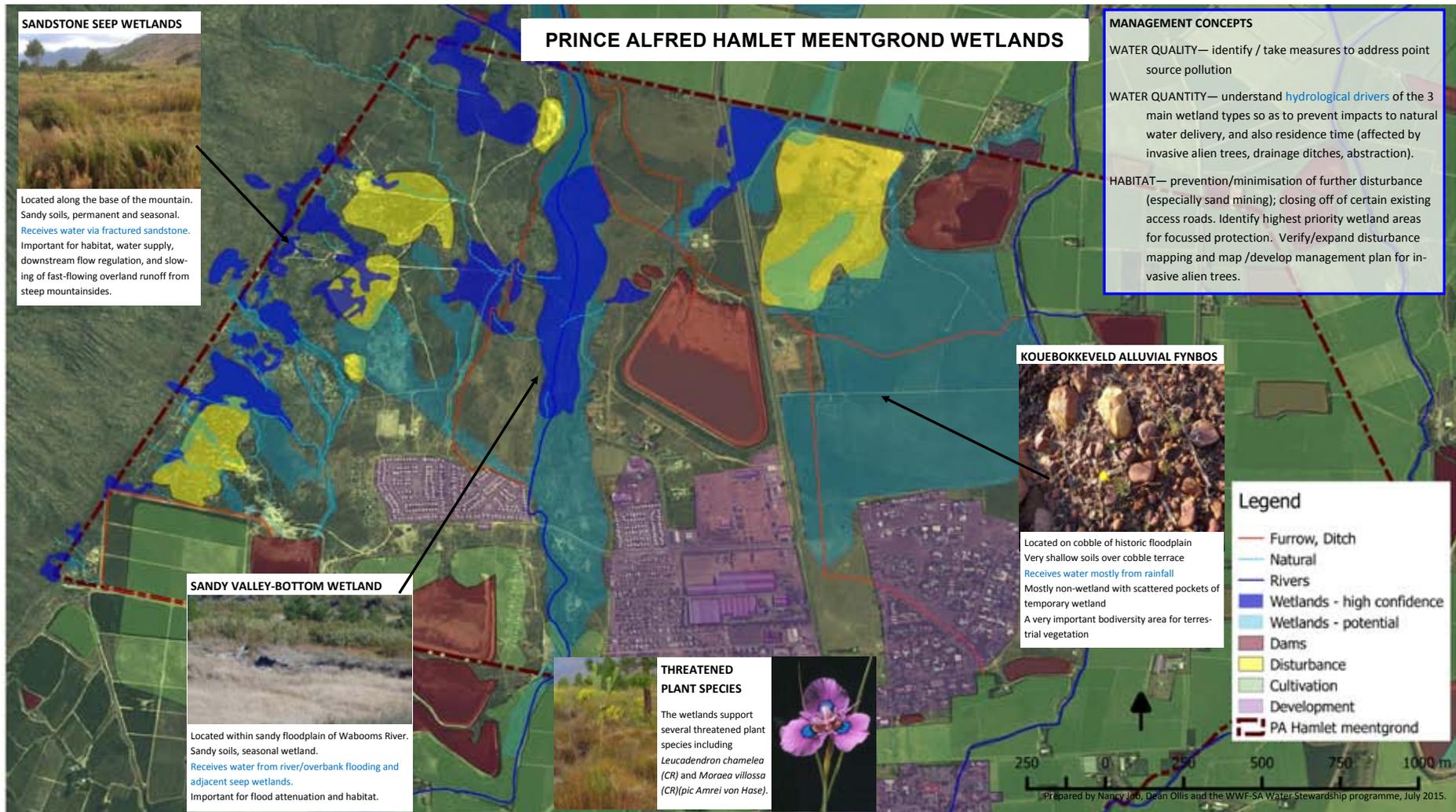
- Develop an awareness campaign with the community and its leadership.
- Promote sustainable agriculture practices among informal farmers to protect the biodiversity of the Prince Alfred Hamlet Commonage.
- Consider additional solid-waste management practices to reduce littering.
- Commence a regular water-monitoring programme to observe the seasonal changes in water quality and the effectiveness of proposed interventions.
- Complete more detailed water-quality monitoring samples upstream of Prince Alfred Hamlet to identify the point-source pollution for the Wabooms River and Verdun farm.

The community initiatives, which commenced after this report, have used these findings as a guideline.

## Assessing wetland status around Prince Alfred Hamlet

Additional attention was given to the wetland area directly upstream of Prince Alfred Hamlet. This area is called the Prince Alfred Hamlet Commonage (Afr. 'Meentgrond'), an undeveloped piece of wetland that is owned by Witzenberg Municipality. Farmers up- and downstream of the Commonage have an interest in water stewardship and biodiversity conservation. The interest of WWF is to see if collective action between farmers, the municipality and the community can be facilitated to establish sound water and environmental practices for this piece of land. A wetland map of the Prince Alfred Hamlet Commonage was generated in order to define the area of the wetland, evaluate its current ecological state and rate the key impacts on the wetland (Figure 3).

The map findings guided the Prince Alfred Hamlet community initiatives that were identified in consultation with the community later in the year.



**KEY PRESSURES** (in decreasing order from high to moderate impact) → other impacts include woodcutting of woody fynbos shrubs, water quality issues.



**Figure 3: Map of Prince Alfred Hamlet Commonage**

## Forming the 'Witzenberg Water Savers'

After having gathered all the background evidence, the next step was to commence the actual community engagement process. This process was scheduled over 12 months and included three distinct activities:

1. Supporting representatives from Prince Alfred Hamlet and Nduli to participate in a water-quality colloquium.
2. Co-designing interventions and an implementation plan with local stakeholders to prevent pollution.
3. Implementing volunteer initiatives for water activities.

The overall aim was to involve township residents from Prince Alfred Hamlet and Nduli in an initiative that would educate the participants about key water issues and lead to improved sanitation. In this way residents would help to reduce pollution in the catchment area, municipal support could be obtained where possible and opportunities could be created for better water-quality monitoring in both areas, which is also highlighted as a key goal for the Breede-Gouritz CMA.

The meeting and engagement of residents were facilitated by relevant Prince Alfred Hamlet and Nduli ward councillors and the Emerging Leaders programme. The latter is an international NGO operating in the area,<sup>5</sup> which emphasises personal development and the changing of poverty mindsets to leadership thinking in poor communities. WWF and Emerging Leaders agreed on a joint workshop initiative, pairing leadership principles and community engagement on water issues. The aim was to overlap the visions of both organisations and spark community-led water initiatives beyond the farm working environment. A four-day Emerging Water Leaders workshop was held in August 2015.

## Participation in a water-quality colloquium

The Emerging Water Leaders workshop was held over the course of four days in English, Afrikaans and Xhosa, with 15 community members each from Prince Alfred Hamlet and Nduli attending. Every morning, the Emerging Leaders facilitator addressed a new topic on leadership: leading yourself, leading a team, leading one's finances and leading a project. Every day, various workshop observers joined the proceedings: representatives from Witzenberg Municipality, the Stellenbosch Enkanini and Kayamandi informal settlement communities, funders, and Living Lands and Isidima, who specialise in community engagement and water issues. The observers were invited as potential future partners – to understand where and how they could support upcoming community initiatives arising from this workshop.

Four community members of Mpophomeni in KwaZulu-Natal were also invited to the workshop, to use the afternoons to share their success stories on water initiatives started in their area of residence in 2008. The Enviro Champs group was started through the Duzi Umgeni Conservation Trust (DUCT)<sup>6</sup> and the Wildlife and Environment Society of South Africa (WESSA). The four participating Enviro Champs played a pivotal role in sharing their stories, insights, skills and experiences

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<sup>5</sup> <http://www.emerging-leaders.net/>

<sup>6</sup> <http://www.duct.org.za/files/DUCT%20Story.pdf>

during the workshop. It was very valuable to pair the Emerging Leaders material with the Enviro Champs' examples as a practical demonstration of how communities can work together to improve water quality. The exchange of experiences happened effortlessly between participants as they recognised similar and related challenges in their own living environments. The Enviro Champs were able to place in perspective the expectations of community members about personal growth opportunities when one participates in a volunteer initiative, and shared their experiences of challenges with uncooperative community members and municipality staff. By the end of the workshop, the workshop participants were able to identify the water issues pertinent to Prince Alfred Hamlet and Nduli.

The Enviro Champs example also inspired a vision and activity chart for planning the Prince Alfred Hamlet and Nduli volunteer initiatives.



YASSER BOOLEY

Participants took part in leadership workshops to identify water-related problems in Prince Alfred Hamlet and Nduli.



KLAUDIA SCHACHTSCHNEIDER

An overflowing manhole in Nduli.



Ayanda Lipheyana, centre, during a training workshop in Prince Alfred Hamlet.

The Emerging Water Leaders workshop was concluded with two post-workshop ‘feedback cafes’ for the participants. Here are some comments from participants, given at one of the feedback cafes in October 2015.

**Modiei Fizikolo, Nduli resident:**

“ I am getting ladies organised in my area to do communal toilet cleaning – on top of the municipal cleaning service, which is often not enough. It is something we want to do for the community, for dignity, health and especially our children. ”

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**Nomfuduko Hlazo, Nduli resident:**

“ The programme has taught me that if you stay focused on a goal you can achieve it. I would like to know if our volunteer activities could be bound into the government’s Expanded Public Works Programme (EPWP).\* It would ensure daily payment for the things we are planning. ”

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**Ntombizanele Mbotshwa, Nduli resident:**

“ The programme has taught me to be proud of myself. As a family we organised a litter pick-up and a lot of the lessons we learnt I would like to pass on to our school children. ”

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**Yandiswa Galamaane Nduli resident:**

“ I have always been afraid to talk to people, especially if it is about something of a confrontational nature. I was able to talk to a neighbour who spills washwater onto our streets to look for another solution. ”

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**Andries Smit, Prince Alfred Hamlet ward councillor:**

“ The Prince Alfred Hamlet group organised weekly litter pick-up campaigns in the first two months after the workshop. As a ward councillor it was possible for me to obtain equipment from the municipality and to organise the litter pick-up. We’d need to streamline the pick-up and litter collection better in the future and we have received challenging comments from the community, who struggled to see the value in volunteer work and who believed that such efforts require remuneration. ”

\*The EPWP is a temporary governmental employment initiative that fosters skills development and some employment in specific social, environmental and infrastructure sectors.



Workshop delegates engaged in a planning activity workshop in Prince Alfred Hamlet.

These comments show that considerable insights, personal growth and initiatives were gained and created during the August 2015 Emerging Water Leaders workshop.<sup>7</sup> The content of the Emerging Leaders work was pivotal to solidify the insight that personal action for the sake of greater communal good had intrinsic value – beyond immediate remuneration. In fact, when they commenced their first litter pick-up campaign, the workshop participants encountered opposition from community members who adhere to ‘remuneration thinking’. The **values of personal growth, dignity and leaving a better environment for the next generation** continue to be mentioned as key motivations for participating in the ongoing volunteer initiative. The Enviro Champs’ guidance laid the foundation for the next project-planning process, which took place in November 2015.

## Designing interventions and an implementation plan

### Planning workshop

A planning workshop for the Prince Alfred Hamlet and Nduli volunteers was facilitated by WWF in November 2015. Its particular outcome was to create overall guidelines for a volunteer initiative (Figure 4 – *This is where I want to be*), and to plan and co-design the first volunteer activities for each area (Figure 4 – *This is what I focus on*). Figure 4 summarises the entire volunteer project-planning process according to five steps.

The first two planning steps (*This is where I am; This is where I want to be*) were clarified in the August 2015 workshop and required no further engagement. The third planning step (*These are the people I partner with*) is summarised under ‘Key Partners’ at the end of this section of the report.

Step four (*This is what I focus on*) received detailed attention in November 2015. The litter and communal toilet cleaning campaigns, the street drama education and the sewage, leak and toilet monitoring initiatives were planned first (see Table 1).

<sup>7</sup> Schachtschneider, K. 2015. Emerging water leaders – a community workshop held at Prince Alfred Hamlet, South Africa. Internal project report for WWF.

## THIS IS WHERE I AM



- Litter issues (Prince Alfred Hamlet )
- Dirty communal toilets (Nduli)
- Overflowing sewers (Nduli)
- Leaks (both)
- The river is a stranger (Prince Alfred Hamlet)

## THIS IS WHERE I WANT TO BE



- Fewer leaks, more rands in my pocket
- Cleaner rivers to enjoy
- A clean and healthy place to live
- Well-fed school children

## THESE ARE THE PEOPLE I PARTNER WITH



- Nduli and Prince Alfred Hamlet community
- WWF
- Witzenberg Municipality
- Enviro Champs (KZN)
- CapeNature
- Emerging Leaders

## THIS IS WHAT I FOCUS ON\*



- **Litter and communal toilet cleaning campaigns**
- **Street drama education**
- **Sewage, leak and toilet monitoring**
- **Vegetable gardens**
- Leak education and fixing
- River monitoring (MiniSASS)

## THESE ARE THE STEPS FROM HERE TO THERE



- Emerging Water Leaders workshop (August 2015)
- Feedback cafes (September–October 2015)
- Plan project activities and learn about structure (November 2015)
- Elect structure (January 2016)
- Training weekend – drama and manhole, leak and litter monitoring (February 2016).
- Community surveys (March 2016)
- Plan budget (May 2016)
- Get funds (June 2016)
- Run the projects (March 2016 – ongoing)
- Training: MiniSASS once it has rained; leaks to be determined
- Community surveys (2017)

\*The activities in **bold** have been planned in detail to date

**Figure 4: The Emerging Leaders principles for doing strategic action planning**

**Table 1: Planning summary for three identified activities**

DESCRIPTION OF ACTIVITY	RESOURCES	PARTNERS	PROJECT SITE	RESPONSIBLE/ LEAD PERSON	IMPLEMENTATION DATE AND FREQUENCY
Litter and communal toilet cleaning campaigns	Gloves, rakes, black bags, masks, wheelbarrow, T-shirt, cleaning agent, gumboots	WWF CapeNature Witzenberg Municipality Community services	Nduli Prince Alfred Hamlet Commonage and Wabooms River PAH Phase 4	Gloria	January 2016  Weekly
Street drama education	Props – toilet, costumes; schools – contact protocol; competitions – prizes; transport fee cover	WWF CapeNature Community Enviro Champs Carishma Basday	Nduli	Thuliswa	Training in February  As opportunity arises
Monitoring of sewage (manholes), leaks and toilets	Monitoring forms; T-shirts; airtime to call	Community Witzenberg Municipality WWF Groundtruth	Prince Alfred Hamlet Nduli	Quinton	Training in February  Weekly

The Nduli community made use of the planning lessons to design their own activities for starting a vegetable garden that could be irrigated from an existing rain-collection tank. While this activity is not directly relevant to water quality, it is a water-use activity that links directly into the strong agricultural land-use focus in the area. It was integrated into this initiative, owing to the enthusiasm of the community members and because they are taking sole responsibility for its implementation.

A citizen science approach to river-health monitoring (MiniSASS)<sup>8</sup> and plans to receive training on leak fixing were postponed. The MiniSASS method scores the presence and absence of aquatic fauna and relates this directly to river health or the level of human impact. It is a solid, yet simple method that allows the average citizen to contribute to data collection on river health. An initial demonstration of MiniSASS was completed at the first workshop in August 2015, but a more detailed training weekend is planned on the Prince Alfred Hamlet Commonage wetland. MiniSASS training is only possible once it has rained and dry rivers start flowing again, in this case in the wet winter months of 2016 (June to August). This training idea is supported by Witzenberg Municipality and CapeNature, who champion the involvement of nearby residents in conserving the Commonage (see Figure 3).

To date it has not yet been possible to determine all the local connections and institutional support that would be required to initiate leak-fixing activities. Links to the government-driven War on Leaks campaign have not yet been established.

Step 5 (*These are the steps from here to there*) marks the multiple activities that have either occurred, or are still planned as part of the development of the volunteer initiative.

<sup>8</sup> <http://www.minisass.org/en/>

## Election and naming

The volunteers of both Prince Alfred Hamlet and Nduli have jointly given themselves the name **Witzenberg Water Savers**. They operate separately in each area but share a common vision (see Figure 4).

Following the November 2015 planning, an **election was held in January 2016**, where the Prince Alfred Hamlet and Nduli volunteer members elected their respective group structures, consisting of a chairperson, a secretary, a treasurer and deputy positions for each of the two residential areas. This was the first in a long line of steps to help the group become organised, share responsibilities and be able to execute their project activities without on-site project supervision from an outside organisation.

For the sake of transparency and efficient execution, overall project running and management are traditionally conducted by a lead institution. Funds are sourced from donors and financial accountability is assured through the involvement of the lead institution. This structure is the tried-and-tested method for donor accountability, but it also has a severe drawback. The projects never outgrow their temporary nature and hence they always have a limited lifespan and only partial ownership from the side of the community. Previous projects like DUCT's Mpophomeni Enviro Champs have noted this structural limitation and emphasised the necessity to move beyond it if full community ownership and long-term financial sustainability are to be achieved.<sup>9</sup>

The aim of WWF, who has no residing officer in the Ceres Valley, is to enable the volunteers in Prince Alfred Hamlet and Nduli to be self-sufficient, giving them an organisational structure and skills to run their own budget for cost-recovery purposes. In that way the long-term sustainability of the project would be possible, especially if surrounding stakeholders (including industry, farmers and the municipality) support the initiative conceptually and financially. The philosophy of project ownership was brought across in the Emerging Water Leaders workshop, where it was made clear that no project has staying power unless one's heart is in it.

The practical execution of community-driven and community-owned initiatives is closely related to a community wildlife management approach, called the Community-Based Natural Resource Management (CBNRM) approach.<sup>10</sup> This methodology allows remote and often illiterate communities to manage and own their own wildlife in their living areas. It has been successfully implemented in community wildlife management across southern Africa, with great successes in Namibia and Botswana. In the case of the Witzenberg Water Savers a lot of the background training can be adopted from CBNRM, although it is imperative to adapt some of the methods to an urban setting and a water resource – something that is a basic human right in South Africa, and not a tradable commodity. In Prince Alfred Hamlet and Nduli, the CBNRM training is run by WWF as a collaborative exercise between the WWF-SA Rhino and Freshwater programmes.

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<sup>9</sup> Ward, M. 2016. Review of the Envirochamps project in Mpophomeni. Groundtruth Report, Nedbank Green Trust.

<sup>10</sup> Shackelton, S. and Campbell, B. 2000, Empowering Communities to Manage Natural Resources: Case Studies from Southern Africa, USAID SADC NRM Project No. 690-0251.12.

In line with securing long-term support and funding for the Witzenberg Water Savers initiative from local stakeholders, **WWF has been actively communicating the initiative to relevant stakeholders** in the area. These include the top management of the Breede-Gouritz CMA; members of the water, waste and environmental divisions of Witzenberg Municipality; CapeNature; the Upper Breede Collaborative Extension Group (UBCEG); and farmers whose farms lie adjacent to the settlements of Prince Alfred Hamlet and Nduli.

### Community survey

A situation analysis survey was conducted in Prince Alfred Hamlet and Nduli in April 2016, with set questions to determine general community attitudes and perceptions about the Witzenberg Water Savers initiative. Community members were also asked about water issues in the area and their willingness to address water-related problems to improve their quality of life. The volunteer group personally completed this door-to-door campaign in their living areas. A total of 60 households (30 in each living area) were introduced to the Witzenberg Water Savers and answered several questions about water and litter problems in the area.

At the time of writing this report, the Prince Alfred Hamlet questionnaires had been completed and could be analysed. The findings indicate that 34% of respondents are employed on a farm. Of these respondents, 25% do not believe that sewage can affect their jobs and consistently state that placing litter in a bin is not important; that throwing litter on the ground creates jobs; and that it is the duty of the municipality alone to ensure that rivers and dams are clean.

On the other hand, 56% of respondents do not work on a farm. Of these respondents, 92% believe throwing litter on the ground creates jobs, yet they strongly agree that placing litter in a bin is important. Furthermore, they do not believe that rivers and dams are important, and 38% of these respondents state that it is the duty of the municipality to keep rivers and dams clean. In both groups, 92% agree that improperly managed sewage affects the health of their families and that sewage pollutes rivers and dams.

Overall, 77% of respondents are highly satisfied with the Witzenberg Water Savers initiative in their community and would encourage others to join. The findings indicate that there are significant education gaps in the community. Often, perceptions are misdirected to assume that pollution creates jobs and that it is acceptable to disregard the greater threats to their health and their current employment on the farms. Their willingness to address these issues is subject to financial benefits because they believe that pollution creates jobs. These findings are consistent with the retaliation experienced by the Witzenberg Water Savers during their first litter pick-up campaigns in September 2015.

## Initiating and solidifying the plan

The Nduli group, which consists entirely of mothers with school-going children, find group communication easy and have created their own WhatsApp group to communicate with one another. The Prince Alfred Hamlet group still depends on WWF facilitation at this stage and their cohesion is less apparent, possibly because their group has an age, race, language and gender span. Irrespective of these obstacles, it is noteworthy how dedicated key group members are to contribute to the Witzenberg Water Savers in their own area.

## Litter pick-up and communal toilet cleaning

The very first **litter pick-up initiatives** were organised in Prince Alfred Hamlet by one of the Witzenberg Municipality ward councillors, immediately after the first workshop in August 2015. The municipality provided bags and gloves for the pick-up actions and afterwards collected the full bags. The initiative stalled after the volunteers encountered the following challenges:

- The time interval between clean-ups and pick-ups would require better coordination, as any delays cause stray dogs to rip open the bags, making pick-ups futile.
- The litter reappeared as fast as it was cleared away – meaning that the community as a whole needs to change its behaviour in order for the project to have a lasting effect.
- The initiative was met with resistance from the community, owing to a lack of understanding why people would work without payment. Volunteers were mocked and insulted. A door-to-door survey and situation analysis was completed after the experience to gain a better insight into community attitudes before resuming further litter pick-ups in Prince Alfred Hamlet.



Witzenberg Water Savers cleaning up litter around communal toilets.

In Nduli, only 46% of the population resides in formal dwellings. The rest of the people live in informal structures, sharing communal water and toilet facilities. For this reason the communal toilet cleaning activity is particular to the Nduli informal settlement area. This initiative includes cleaning the toilets, as well as picking up litter around the toilet facilities. The Witzenberg Water Savers in Nduli have re-established the community toilet committees who will oversee cleaning and the overall management of litter around the facilities. They are also communicating with a local official from the municipality who has assisted them with black litter bags, gloves and garden rakes to remove the illegally dumped rubbish around the toilets. The committee is responsible for cleaning the toilets twice a week while the municipality does so once a week. This initiative commenced in March 2016 and volunteers are not encountering the same level of animosity as the litter pick-up volunteers in Prince Alfred Hamlet.

### Street drama education

The first street drama training was completed in August 2015, giving an insight into the content of and approach to street drama. The content focuses on teaching an audience about appropriate items that may be disposed of in a waterborne sewage system. The inappropriate disposal of items into the waterborne sewage system is a typical problem for municipalities throughout South Africa. Educational street drama focusing on this matter provides a humorous way of approaching the subject and is a highly suitable medium for school education.

On 27 and 28 February 2016 a two-day street drama training workshop was offered to interested community members. The training was offered by Thandanani Luvuno, the Enviro Champ who coordinates street drama in Mphohomeni in KwaZulu-Natal. He was joined and supported by local actress, Carishma Basday, who volunteered her time to assist in the drama training. Six volunteer members from Nduli participated in the training.

The group has not yet staged a play. Witzenberg Municipality and the Breede-Gouritz CMA have both expressed interest in making use of the drama skills in the area, but payment logistics (even cost recovery) are complicated and need to be clarified to make the street drama a fully functioning initiative.



Actress Carishma Basday and Enviro Champ Thandanani Luvuno during a street drama training session.

**Monitoring of sewage (manholes), leaks and communal toilets**

Simultaneously to the street drama training, Enviro Champ Ayanda Lipheyana, supported by DUCT and Groundtruth staff, led the training on manhole monitoring on 27 and 28 February 2016. The training included a full explanation of the Mpophomeni manhole-monitoring process. A field visit was conducted to Prince Alfred Hamlet and Nduli to identify the first problem areas that could be monitored. The Prince Alfred Hamlet monitoring points cover litter hotspots in storm-water drains as well as sewage manholes (see Figure 5). The Nduli points are either sewage manholes or communal toilet blocks that are known to be problem areas (see Figure 6).

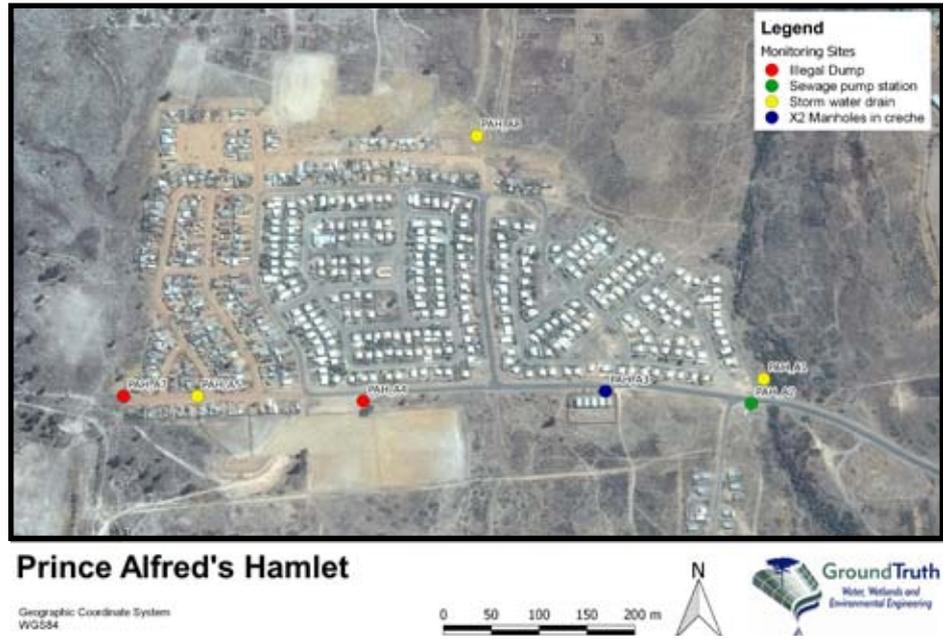


Figure 5: Map of Prince Alfred Hamlet Phase 4 with highlighted monitoring points



Figure 6: Partial aerial map of Nduli with highlighted monitoring points

The manhole-monitoring sheets were handed out to community members in March 2016. Initial monitoring will be coordinated via WWF and further electronic data-capture training is planned for one of the volunteer members. The full development of the manhole-monitoring process will continue over the next 14 months, with the support of a Nedbank Green Trust project that aims to expand the Mpophomeni successes to three other communities in South Africa, namely Ceres, Stellenbosch and Pongola.

### Vegetable gardens

The Nduli vegetable garden project, which was initiated by the community, is not a water-quality-related activity, but it does fit into the broader focus of water stewardship. The Witzenberg Water Savers of Nduli obtained seeds, gardening space and tools at the local Ingingazethu Senior Secondary School. Planting vegetable gardens is an activity that has been locally supported by the Western Cape Department of Agriculture for several years. It forms part of the development of emerging farmers to help address past racial inequalities in the farming sector. The school vegetable garden is equipped with a rain-collection tank through the department of Agriculture, to provide irrigation water. The vegetable garden initiative is an unexpected but positive example of how sustainability initiatives involving agriculture, water and social development can link up.



Nthobeka Rasmeni planting turnips in a vegetable garden started at a local high school in Nduli.

## River monitoring and MiniSASS

An initial exposure to MiniSASS was possible during the August 2015 workshop. However, the 2016 drought has made it impossible to complete further in-depth training. Once the winter rains set in and river flow resumes, this point will be taken up with the training assistance of the Enviro Champs. The training will be conducted on the Prince Alfred Hamlet Commonage (see the wetland map in Figure 3). The environmental division of Witzenberg Municipality and CapeNature have already committed to being part of the training process. As the custodians of the Commonage, Witzenberg Municipality is interested in initiating conservation of this piece of land with its high biodiversity, and community involvement would be possible through the involvement of the Witzenberg Water Savers.



Councillor Andries Smit, left, and Enviro Champ Kholosa Magudu sampling for a MiniSASS in a river tributary, Prince Alfred Hamlet.

## Continuation of Breede work by existing and future partners

The Witzenberg Water Savers have had a very successful start and a degree of self-sufficiency has already been reached. In order for the volunteer group to reach their full potential it is important to have a longer hand-over period than initially planned. The following have either been finalised or is still under consideration.

- The securing of the Nedbank Green Trust project, which will expand the Enviro Champs Mpophomeni work to Ceres, provides the opportunity for ongoing training and community support until July 2017, to get the project entrenched as a long-term activity. The project is managed by GroundTruth.
- The secured training period also provides a longer time period in which to engage in greater depth with relevant stakeholders like neighbouring farmers, Witzenberg Municipality and local industry, in order to scope long-term support structures for the initiative.
- Training in administrative matters, as per the CBNRM structure, is being continued until September 2016. This is run through the WWF Rhino intern, who will train and test both the Prince Alfred Hamlet and the Nduli groups to run small cost-recovery budgets on their own. If administrative self-sufficiency can be shown, it will be possible to motivate that they run their own affairs as self-sufficient groups in which other stakeholders like neighbouring farmers, local industries and the municipality can invest to ensure community involvement in water stewardship matters.

- WWF is currently employing a Breede project manager to focus specifically on engaging with the community, and to ensure their growing self-sufficiency. Given the lack of a local overseer, such a position is considered essential for the success of this community initiative.
- GIZ and Woolworths are currently considering giving further support to the Witzenberg Water Savers.
- Local industries, in collaboration with Witzenberg Municipality, are considering becoming involved in local environmental projects, including invasive alien plant clearing. The Witzenberg Water Savers initiative could be put forward as a local environmental project worthy of support.

## Key lessons

- Entering a community as an outsider requires allies and persistence.
- Be mindful of local situations that may influence engagement success (e.g. an election).
- Linking up with several partners provides a reliable support network during the engagement process.
- Water, the environment, human dignity and leadership are closely linked.
- Each group will encounter its own challenges and strengths. It is important to allow time to work through these.
- Other initiatives in the area may link well into ongoing activities and should be welcomed in the context of collective action.
- Community volunteer work is often challenged by misdirected belief systems that volunteer work counteracts job creation. In an area where unemployment is rife, voluntary work is met with distrust and sometimes even animosity.
- Both the Emerging Leaders and the CBNRM approaches have at their core the building of bottom-up community initiatives. Both have played a crucial role in setting up the core morals and values of the Witzenberg Water Savers.

## Key partners

The **Prince Alfred Hamlet and Nduli community** members are key partners. Numbers fluctuate and new faces appear at every engagement, but core members have committed themselves and have shown consistence.

**Witzenberg Municipality** played a pivotal role in supporting the data-collection process and validating the results. The municipality has continually remained informed of all ongoing activities since the data-collection process and there is a growing engagement in managing the environmental health of the Prince Alfred Hamlet Commonage. Active municipal support of manhole monitoring, the use of street theatre to educate the public and litter pick-up campaigns is still sought.

The **Prince Alfred Hamlet and Nduli ward councillors**, Cllr Smit, Cllr Saula and Cllr Badela, played a key role in communicating the project to the community and selecting participants for the initial Emerging Water Leaders workshop. Their support of the initiative has continued.

**Emerging Leaders** is an international NGO that operates in 10 southern African countries. Emerging Leaders is partially funded by M&S and the programme has a broad footprint in the Witzenberg region, where numerous farms have invested in the training of their labour force. Their initial involvement has been pivotal to gaining access to members of the Prince Alfred Hamlet and Nduli communities and to setting the tone that WWF is aiming for in this collective-action effort. Too often projects like these are dominated by the need to pay people to engage in the project. This project is run on the premise that efforts should be funded for cost recovery and that the pay-off is the benefit to the community and personal leadership. Long-term training and experiential and even employment opportunities are an option, but not a promise. A WWF water stewardship network visit to South Africa from over 20 offices made it possible to introduce the Emerging Leaders concepts to other water stewards in the WWF network. The visit has sparked engagement between WWF and Emerging Leaders in other developing countries (e.g. Kenya).

The **Duzi Umgeni Conservation Trust** (DUCT)<sup>11</sup> initiated the Enviro Champs work in Mpophomeni in KwaZulu-Natal in 2011. The project has gained success and recognition over the years. Its model for water-related citizen science is now being tried with three other community groups, including the Witzenberg Water Savers.

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<sup>11</sup> <http://www.duct.org.za/>

# COLLECTIVE ACTION - ALIEN PLANT CLEARING

## The importance of alien plant clearing in South Africa

Invasive alien plant (IAP) clearing is a hot topic in South Africa, with over 200 declared invasive species that have invaded over 20 million hectares of land nationwide. Invasive alien plants are particularly prominent in and along watercourses and proliferate due to a lack of natural enemies. Their dense growth results in the loss of local species and biodiversity, increased biomass and fire risks, and the clogging of waterways, increasing the risk of floods and soil erosion. The dense invasions degrade land and often render it unsuitable for other land uses. Comprehensive research has also shown that invasive alien plants in South Africa, especially in dense stands along rivers, use more water than indigenous vegetation. This translates into a 4% reduction in water availability, which could escalate to around 16% if these plants are left to spread uncontrolled. Nationwide efforts to eradicate and control invasive alien plants are thus essential to safeguard South Africa's limited water resources.<sup>12</sup>

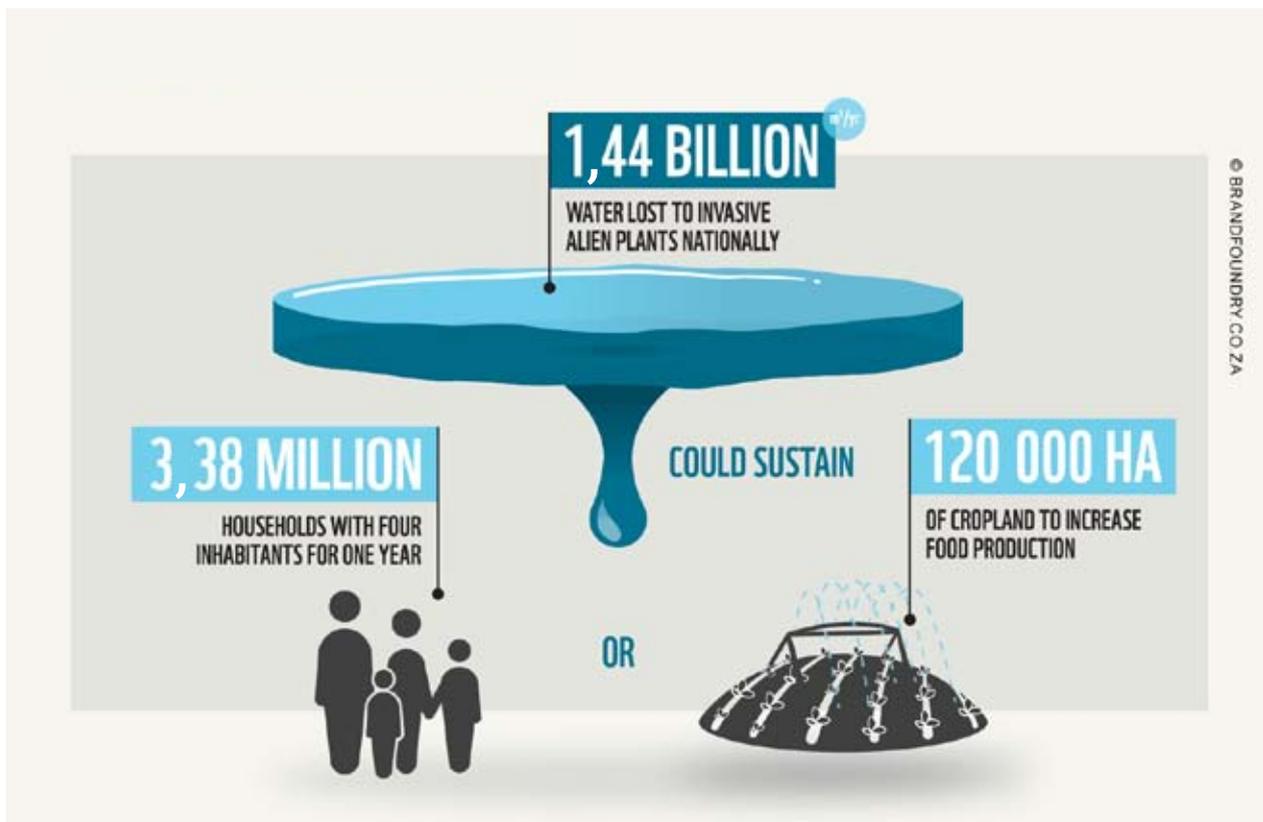


Figure 7: Water lost to invasive plants in South Africa

<sup>12</sup> Hoy, L., Stelli, S., Donnelly, M., Schmidt, W., Montgomery, K., Haworth, G., Van Wilgen, B., Ballard-Tremeer, B., Ivey, P. and Klein, H. 2015. Understanding the impact of invasive plants on water. Rand Water and Environmental Programmes Nurseries Partnership Programme.

The Working for Water programme is a government effort that has been eradicating invasive alien plants since 1995. Its focus on job creation and environmental improvement has brought it world-wide recognition. The programme has a large footprint in terms of the control of invasive alien plants in South Africa, but it is not enough. Landowner clearing initiatives are needed to support the control and spread of invasive alien plants.<sup>13</sup>

The recently passed Alien and Invasive Species Regulations (2014) legally force private landowners to halt the spread of several invasive species that are considered a major threat. There are clearly defined fines and penalties for non-compliance, but the key aim of the regulations is to bring about cooperation from landowners.<sup>14</sup>

Support for private clearing initiatives can come from various sources. The most common and largest are Natural Resource Management funds from the Department of Environmental Affairs. In the Breede catchment, some clearing initiatives have been made possible with funding from the Breede-Gouritz CMA and the administrative support of the Western Cape Department of Agriculture's LandCare programme, which focuses on the sustainable management and use of natural resources in agriculture. Smaller sources of funding can be sought, like the Table Mountain Fund (TMF), but these come with conditions and often only cover part of the costs. WWF has brought in private organisations to support clearing initiatives, for example Woolworths, Nedbank, Sanlam and South African Breweries (SAB).

## Facilitating an alien-clearing initiative near Wolseley

Invasive alien plant control was a key issue raised by farmers – especially on mountainous farmland just north and east of Wolseley. These areas form part of the key water-source areas for the Breede River but are vast, steep and hard to access. In order to maximise water availability in the Breede catchment, these areas need to remain clear of invasive alien plants. The area is also known to be a biodiversity corridor, which adds impetus to the urgency of clearing. Nearly a decade ago the area was cleared once with the assistance of the Department of Agriculture. Cleared land requires regular upkeep in order to deal with new seedlings that enter the area through dispersal from nearby invaded areas or that germinate from the extensive seedbank in the soil. Those farmers actively clearing were very interested in reigniting the collective clearing initiative, but they lacked critical mass. The main aim of the WWF-led Water Stewardship Phase 2 initiative was to foster and facilitate another private collective clearing initiative.

It is not without irony that the farmers' greatest motivation for clearing came in the form of a fire, which swept through the mountain ranges around Wolseley in January 2015. The fire provided proof that farms cleared of invasive alien plants suffered less fire damage than those where no clearing had been done.

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<sup>13</sup> <https://www.environment.gov.za/projectsprogrammes/wfw>

<sup>14</sup> National Environmental Management: Biodiversity Act 10 of 2004: Alien and Invasive Species Regulations, 2014.

On 13 August 2015, members of the Wolseley Fire Protection Agency attended an Open Day that was initiated by WWF and supported by CapeNature and the Western Cape Department of Agriculture: LandCare. The aim of the day was to provide access to information on alien plant-clearing methods, but more importantly, to discuss the options of initiating a multiple stakeholder clearing process along the mountain slopes in the area. The workshop provided the following insights:

1. There was **general interest** among farmers to explore a collective clearing approach.
2. A **mapping process after the fire** would be a critical first step for any further farm-confined or collective clearing.
3. A lot of private clearing is ongoing, with some herbicide assistance provided in the past. However, many of the farms against the mountain are very large and **financial support for clearing would be necessary**.
4. There is no time available for lengthy administration and coordination among farmers – a **‘project manager’ would need to be employed** to drive the process. Such a project manager would need to be identified and funded.
5. There is a need for a good and **trusted contractor** to do the clearing.

A mapping exercise was conducted between 7 and 11 September 2015. The objective was to determine a broad-scale estimate of species and densities of invasive alien plants on select privately owned farms.<sup>15</sup> The mapping report guided small-scale clearing with leftover LandCare funds, while an example Annual Plan of Operation (APO) was drafted by WWF, covering the broad-scale clearing strategy.

The LandCare-funded clearing consisted of a nine-week clearing operation on two farms with a 13-member clearing team. By the end of 2015 a total of 31 hectares had been cleared at the cost of R100 000, 17% of which had come from private contributions.



Farmers gather to discuss alien plant clearing near Wolseley.

<sup>15</sup> February, R. and Madolo, L. 2015. Report on the Alien Invasive Mapping Exercise conducted in the Upper Breede River Valley September 7th to 11th 2015, WWF South Africa.

## Continuation of Breede work

### Clearing project manager

Through the Water Balance Programme's significant experience in engaging in alien plant-clearing projects, WWF has identified the elements that are crucial to achieving success and the sustainability of interventions of this nature. One important principle is that of project ownership: to ensure that interventions continue beyond the project's lifespan, it is vital that project ownership rests with the stakeholders based in the landscape or project area, as opposed to the project being driven by outside organisations.

With this principle in mind, and taking the findings of the August 2015 Emerging Water Leaders workshop into account, it was proposed that, instead of prematurely developing an alien-clearing initiative on behalf of the stakeholders, Woolworths, GIZ and WWF would enable the stakeholders to develop this initiative themselves. Woolworths' willingness to fund a project manager embedded in the landscape to drive this process, displays Woolworths' intent to create a sustainable intervention instead of just achieving quick wins.

Administrative support and further funding are needed for this alien-clearing initiative to be successful in the farming community. While the project manager will be appointed by the Wolseley Water User Association, he or she will also receive mentoring support from LandCare (on clearing, restoration and the development and implementation of a River Maintenance Management Plan) and from WWF (on writing proposals to National Resource Management (NRM) and basic NRM administration).

The project manager will be responsible for three key tasks:

1. Stakeholder engagement and relationship building among stakeholders who are engaged in alien clearing and river restoration in the designated area (farmers, associations, clearing and restoration contractors and associated government bodies like the Western Cape Department of Agriculture: LandCare, and the Upper Breede Collaborative Extension Group (UBCEG)).
2. The administration of the clearing and restoration projects and bringing the River Maintenance Management Plan (RMMP) into action.
3. The management of clearing and restoration teams.

The project manager will undergo an introductory training period (especially with LandCare), which will include putting together an NRM funding proposal for the area (supported by WWF). Once the funding is secured, it will be the responsibility of the project manager to fully administer and implement the clearing of invasive alien plants. The Wolseley Water User Association has agreed to house such a position and to become an implementing agent for a private clearing initiative, with the support of the project manager.

It is the first time that a private funder (Woolworths) is funding the position of a project manager who is housed in a stakeholder organisation like the Wolseley Water User Association, while programmes like LandCare and institutions like WWF take on mentorship and support roles. This format strongly supports the national aim of

involving private landowners in clearing responsibilities, without placing an undue local administrative burden on collaborators like WWF and LandCare, who should play the role of facilitators and overseers and encourage the wider uptake of private clearing initiatives.

## Greater collaboration among multiple clearing initiatives

Both the Western Cape Department of Agriculture's LandCare programme and the Breede-Gouritz CMA have already set aside further funding for clearing in the Wolseley area, with the potential of moving into the Ceres Valley. It will still be important to secure the commitment of Witzenberg Municipality to do clearing on the land they own, including Mitchells Pass and the Prince Alfred Hamlet Commonage. Although the Breede-Gouritz CMA and LandCare funding has been secured independently of the Woolworths funding for a project manager in the mountainous areas around Wolseley, the appointed person can play a pivotal role to coordinate the mountain-clearing efforts near Wolseley with broader ongoing invasive alien plant-clearing efforts.

### Key lessons

- The 2015 fire brought home the importance of invasive alien plant clearing and made collective re-engagement on clearing approaches possible.
- The 2016 drought once more brought home the importance of keeping invasions by invasive alien plants under control in order to maximise streamflow.
- Farmers hesitate to enter private clearing initiatives if government funds are sought, primarily because of the associated administrative burden.
- The willingness of the private sector (e.g. Woolworths) to invest in alien-clearing initiatives often stimulates further funding from other sources.

### Key partners

**CapeNature**, the provincial conservation agency, supported the running of the August 2015 information workshop in Wolseley. They also support the clearing in the Wolseley mountain area because the area overlaps a biodiversity corridor.

The **Upper Breede Collaborative Extension Group** (UBCEG) was established in 2006 as a partnership when the needs for cooperative governance in the rural areas of the region and the broadening of interdepartmental communication were recognised. One of the platforms that UBCEG provides is a forum where different departments, responsible for reviewing development applications, can discuss these applications in the context of conservation priorities. The objectives of UBCEG are defined as building capacity and providing mutual support for overlapping responsibilities. The permanent members include:

- National Department of Water Affairs (Working for Water)
- National Department of Agriculture, Forestry and Fisheries
- National Department of Environmental Affairs and Tourism
- Western Cape Department of Agriculture: LandCare
- Western Cape Department of Environment Affairs and Development Planning
- CapeNature
- Cape Winelands District Municipality
- Witzenberg Local Municipality
- Breede Valley Local Municipality
- Breedekloof Wine and Tourism (private sector)
- Biodiversity and Wine Initiative, which has been rebranded as WWF Conservation Champions
- WWF-SA
- Custodians of Rare and Endangered Wildflowers (a partnership between SANBI and the Botanical Society of South Africa (BotSoc)).
- Breede-Gouritz Catchment Management Agency.

The Western Cape Department of Agriculture's **LandCare programme** supported the August 2015 Emerging Water Leaders workshop and the development of the terms of reference for the clearing project manager's position. LandCare has extensive experience in similar initiatives in the area. From 2013 to 2015 they were pivotal in implementing the clearing of invasive alien plants along a 30 km stretch of the Breede River near Wolseley. Breede-Gouritz CMA funds were used to clear the highly invaded stretch of river that is now kept clear by members of the farming community who belong to the Wolseley Water User Association.

As a future partner, the **Wolseley Water User Association** will house the invasive alien plants clearing project manager for the farming collective. The association was promulgated in 2008 and has 50 members. Its management committee enjoys wide representation, with municipal officials and conservation agencies serving on the committee.

**Woolworths** will remain a key partner as funder of the position of a project manager who will oversee the clearing of invasive alien plants.

# WATER STEWARDSHIP PRACTICES IN AGRICULTURE

## Water stewardship webtool making information accessible

The testing of the Alliance for Water Stewardship (AWS) Standard with volunteer farmers during Phase 1 of the Breede Water Stewardship Project provided some guidance on how to bring water stewardship into the agriculture sector. Some key comments were that the Standard was very useful but not user friendly – farmers needed assistance to interpret it. At the same time its focus on information gathering was recognised as being useful for regulation and compliance requirements and for gaining a deeper understanding of the systems at play at the site and in the catchment.

This feedback was translated into a point of action for Phase 2 of the project. The content of the AWS Standard was made available electronically through a webtool. The webtool contains simplified explanations of the AWS Standard, tips and relevant South African information through website links. The aim of the webtool was to generate a pragmatic and locally relevant journey guide for water stewardship in the agriculture sector. The development process, which was managed by WWF-SA, was made possible with the funding of the Danish Embassy.<sup>16</sup>

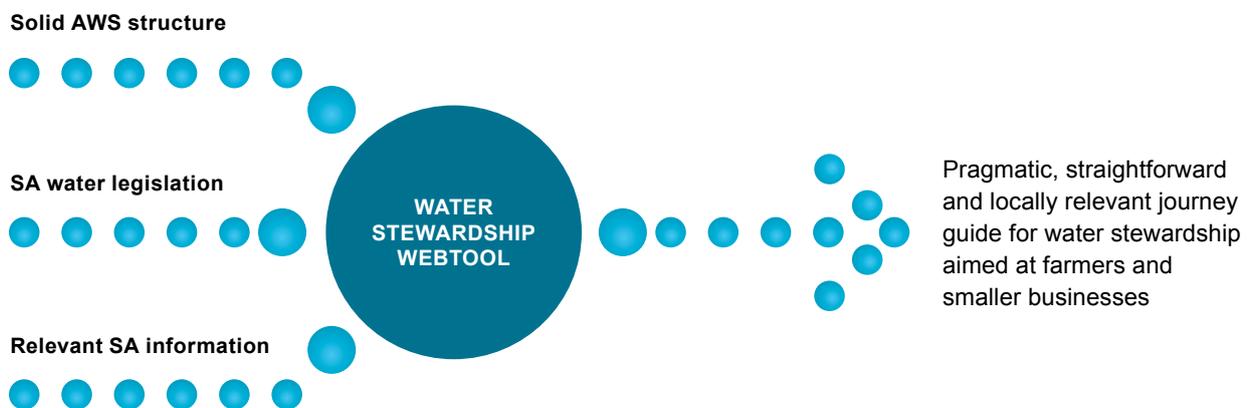


Figure 8: Description of the webtool development framework

The webtool is a checklist that follows the steps and criteria of the AWS Standard. It has been designed for users to perform a self-assessment on how far they have progressed on their water stewardship journey and how that translates into meeting the AWS Standard requirements. The webtool stores the tick-list of answers for future revision, but is not built to store information files, which would be required as proof during AWS certification itself. However, the direct alignment of the webtool with the AWS Standard provides a clear and internationally recognised gauge of water stewardship progression.

<sup>16</sup> Colvin, C. and Ras, S. 2015: Innovations in the SA Water Sector – Danish investments into the South African water sector. WWF report.

## Promotion and uptake of the webtool

The webtool was officially launched in October 2015 and its approach and design were well received by test groups within the Breede catchment area and reviewers in the water and agriculture sectors.

Since October 2015, the webtool has been introduced at various sustainable agriculture forums in the Western Cape, and at the Plan A 2020 meeting of M&S in the UK in December 2015. The WWF Sustainable Agriculture group has also supported the uptake of water stewardship in their own activities and the webtool was introduced to members of the Biodiversity and Wine Initiative (now WWF Conservation Champions). Since October 2015 over 360 farmers have attended these presentations.

The webtool was introduced to all relevant water and sustainability governance groups within the Breede catchment, through the Breede-Gouritz CMA and UBCEG. The Mondi Wetlands group within WWF also introduced the webtool to the Milk Producers Organisation (MPO) as part of their work in the uMgeni catchment in KwaZulu-Natal.

Furthermore, the webtool was introduced at the annual DHI conference (about 100 participants from water-related scientific and governance institutions), at seminars for the National Business Initiative (NBI) (30 business representatives) and at the detailed AWS training in South Africa and Tanzania (59 trainees in total).

A repeat visit to eight of the Phase 1 volunteer farmers was conducted in April 2016. The format of the visit was largely a feedback session on water stewardship progress. This time, the webtool framework was used to gauge the level of potential compliance with the AWS Standard that the farmers had achieved over time. Farmers found this process very valuable, because it gave them a quantified assessment of their progress. Those farmers who scored highly expressed interest in certification and recognition of their efforts. This interview activity is discussed in detail in the section ‘Water stewardship progress by volunteer farms 2013–2016’ below.

In order to gauge the effect of the introduction efforts, an administrative check was done on webtool subscribers. Registration details showed a total of 75 registrations, of which only six could clearly be identified as farmers. The highest interest came from retailers, consultants and public-sector employees. The registration information showed that the webtool is currently not reaching the intended farmer audience.



The WWF Water Stewardship Webtool displayed on the screen, left.

Several reasons are put forward as possible barriers:

- **Lack of publicity.** The webtool was advertised at several public forums and on social media. Print media and radio have not been used. It might still be worthwhile to create another agriculture-media event and to publish in key agricultural magazines like *Farmers Weekly*, *Winelands*, *SA Fruit Journal* and *Landbouweekblad*. The Department of Agriculture has added the webtool to their own electronic information platform called the Green Agri Portal, which is available at <http://www.greenagri.org.za/>.
- **A lack of incentive.** Farmers already comply with multiple standards and will not willingly take on additional challenging questions, spend extra time and resources, and engage in the inevitable partial duplication of reporting because standards are not streamlined at present.
- **Difficulty or resistance to manoeuvre within the webtool.** Since April 2016, tracking facilities have been added into the webtool to determine any existing barriers. Given the lack of registered farmers, the resistance to or difficulty with registration is currently of key concern.
- **Complexity of the webtool structure.** One of the farmers at the webtool launch commented on this aspect. A suggestion was made to arrange the content according to risk, rather than the six AWS Standard steps. A revision of the webtool has been considered but may be of lesser importance, as the resistance at this point seems to precede the registration procedure.
- **Incorrect medium for the information.** South African farmers have comparatively many tools and information at hand to make informed decisions. However, one-on-one visits and discussions often have better results and uptake than electronically available material. Reaching sufficient farmers at a personal level is a familiar challenge to WWF-SA. The WWF-SA Sustainable Agriculture group has received high acclaim for its success with the Biodiversity and Wine Initiative, recently rebranded WWF Conservation Champions. WWF's sustainable agriculture work over the last 20 years, with leading models in wine and sugar supporting the participation of private landowners in biodiversity stewardship, has proven that the extension model is the only approach that drives broad uptake and continual improvement.

## Key lessons

- The webtool is not receiving as much uptake by its target farmer audience as hoped. There may be many reasons for this. As a first step to finding a solution, the current drought makes it timely to consider renewed efforts to introduce the webtool more widely.
- It is necessary to evaluate if the webtool should focus on accredited AWS consultants rather than farmers directly.
- Given WWF's experience and success with personal interaction, it is apparent that farmers would prefer going through the steps and criteria of the AWS Standard with a person who is knowledgeable about water stewardship and the AWS Standard.
- As a future step it is worth investigating and understanding resourcing for a **collaborative extension model**.
- The webtool was generated at a time when water stewardship and the AWS Standard were still unfolding. Hence the webtool should be seen as a successful point of departure from which other water stewardship and AWS steps can follow.
- The AWS is already formulating its own IT needs for collecting, storing, managing and displaying the information gathered during the application of the AWS Standard, be it for the purposes of certification or simply for use as a best-practice benchmark. This call for a voluntary IT standard has come from conformity assessment bodies, consultants, trainers, implementers and from the AWS directors and management staff themselves. An IT task team has been set up within the AWS globally, including WWF. The lessons from the webtool are being incorporated into the team's deliberations.

## Key partners

**WWF** provided the terms of reference for the project and managed and controlled the project.

The **Danish Embassy** provided the grant funding.

**DHI-SA** carried out the IT work according to the terms of reference.

The **Alliance for Water Stewardship (AWS)** approved the use of the AWS Standard.

## Water stewardship progress by volunteer farms 2013–2016

On-farm water stewardship took centre stage in Phase 1 of the Breede Water Stewardship Project. During this phase, the farmers identified and planned their next water stewardship targets (Table 2). Owing to the change in focus in Phase 2, WWF kept in touch with the farmers, but left them to implement their individual water stewardship plans and self-set targets on their own. Re-engagement and progress checks were completed in April 2015.

**Table 2: Water stewardship targets set in April 2014 and progress by April 2015**

FARM	TARGETS (APRIL 2014)	IMPLEMENTED (APRIL 2015)
Denou	6	4
Esperanto	7	3
Lushof	6	3
Ou Stasie	4	4
Romansrivier	4	3
Sonskyn	2	-
Trevor's Farm	4	1
Waboonskraal	5	1
Welgemeen	3	3
<b>TOTAL</b>	<b>41</b>	<b>22</b>

As pioneers in supporting water stewardship in agriculture, retailers M&S and Woolworths wanted to understand how well their supply farmers were doing as water stewards. This is best evaluated over time and against international best-practice benchmarks. In April 2016 the project team revisited seven of the original nine farms where the owners had agreed to be assessed on the progress of their water stewardship journey, using the criteria of the Alliance for Water Stewardship (AWS) Standard as a benchmark. In summary, over both phases of the project, progress was evaluated for three time intervals, namely:

1. Pre-2013 Phase 1 engagement
2. Post-April 2015 check-up
3. Post-April 2016 drought.

It is important to note that the 2015–2016 summer season marked a very serious drought period for the farmers, who only received 47% of their normal summer rainfall at the beginning of the summer season. By the end of the harvesting season, farmers were forced to use saline groundwater, or make do with the last remnants of farm-dam water before the Cape winter rains came. The drought has forced everyone to markedly improve their water-use efficiency, which is an essential component of water stewardship. This is also reflected in the improved compliance level with the AWS Standard's Core and Advanced point scores in Table 3.

The AWS Standard is a globally consistent framework for major water users to understand their water use and impacts, and to work collaboratively and transparently for sustainable water management within a catchment context. The AWS Standard sets out world best-practice steps (6), criteria (57) and indicators (91)

for water stewardship on site and in a catchment context.<sup>17</sup> The latter requires that stewardship actions be conducted beyond the boundaries of the site.

The four key outcomes of best-practice water stewardship are:

- good water governance
- sustainable water balance
- good water quality
- healthy status of important water-related areas.

The AWS Standard has three achievement levels, namely Core, Gold and Platinum, which are awarded according to a point system.

The research into the farmers' levels of conformity with the AWS Standard followed the scoring process of the webtool. Each step, criterion and indicator was assessed briefly against a scoring system based on the judgement of both the WWF programme manager and the AWS regional manager, who undertook the interviews together. The detailed scores for each indicator were aggregated and converted to a percentage of the potential full score. These scores are presented in Table 3.



Farm dam on Romansrivier affected by the drought.

<sup>17</sup> Alliance for Water Stewardship. 2014. The AWS International Stewardship Standard, v.1. [www.allianceforwaterstewardship.org](http://www.allianceforwaterstewardship.org)

**Table 3: Water stewardship progress over time at volunteer farms**

FARM	TIME	AWS CORE CERTIFICATION REQUIRES 100%	AWS ADVANCED LEVEL POINTS
Lushof	Pre-2013	37%	11.5
	Post-April 2015	69%	24
	Post-April 2016 drought	82%	40.5
Romansrivier	Pre-2013	30%	9.5
	Post-April 2015	65%	28
	Post-April 2016 drought	81%	46.5
Denou	Pre-2013	33%	13
	Post-April 2015	68%	26.5
	Post-April 2016 drought	74%	28.5
Welgemeen	Pre-2013	27%	4
	Post-April 2015	65%	10
	Post-April 2016 drought	72%	13
Ou Stasie	Pre-2013	32%	17.5
	Post-April 2015	64%	28
	Post-April 2016 drought	70%	30
Trevor's Farm	Pre-2013	33%	10
	Post-April 2015	65%	12.5
	Post-April 2016 drought	69%	19.5
Waboonskraal	Pre-2013	27%	7
	Post-April 2015	63%	10
	Post-April 2016 drought	69%	18
Esperanto	Pre-2013	21%	4
	Post-April 2015	53%	11.5
	Post-April 2016 drought	Not visited	

Note : AWS Gold level certification requires a minimum of 40 points on the Advanced level criteria.

The Core percentage score increased steadily for every farm between 2013, April 2015 and April 2016. All the farms started off on a low Core score (21–37%) at the start of the project. The one-on-one engagement process with WWF on water stewardship brought all to a Core compliance of between 59 and 69%. The improvements thereafter were entirely self-motivated and self-organised.

Both Lushof and Romansrivier made enormous strides in drought preparedness and increased their Core compliance to over 80%. These two farms went further to set a lot of best-practice guidelines for water-use efficiency and consequently their Advanced point score increased markedly between April 2015 and April 2016, as a direct consequence of their wise, steward-like responses to the drought. Lushof is particularly specialised in efficient water-use practices, while Romansrivier also gained points for their collective action on invasive alien plant clearing.

Denou and Ou Stasie farms were strong on collective action practices concerning alien plant clearing, data generation and stakeholder engagement processes. This is reflected in their high Advanced point score in April 2015.

Welgemeen, Waboomskraal and Trevor’s Farm all showed a similar, steady increase in water stewardship adoption over time. The improvements included water quality, stakeholder engagement and drought preparedness activities. A visit to Esperanto could not be scheduled in 2016.

The farms all varied in their strength of compliance to the four outcomes covered by the AWS Standard, namely water quality, water-use efficiency, water governance and important water-related areas. It is important to note that compliance was achieved with both on-farm and beyond-farm requirements. This shows that the catchment-scale involvement, so unique to water stewardship, is indeed feasible and reachable.

Of the 91 indicators, there were four Core ones that were consistently not addressed (2.3.3; 3.4; 5.1.3; 6.4) and seven that were consistently only half-met (2.2.2; 2.3.4; 2.6.1; 5.1.2; 6.1 to 6.3). Indicator 2.2.2 was consistently tricky for farmers to conceptualise. Three indicators required catchment-scale information (2.3.3; 2.3.4; 2.6.1) that was not entirely up to date or available, two related to translating the water stewardship efforts into financial terms (5.1.2 and 5.1.3) and the remaining five related to transparency and disclosure of information (3.4.1; 6.1 to 6.4). It is clear that these three topics – catchment information, a cost-benefit analysis and information disclosure – should be considered carefully to determine how their uptake could be facilitated. Information disclosure might be more forthcoming with greater incentives from the side of the CMA and retailers.

Out of the 91 indicators, there were four that the interviewers regularly omitted during the interview, as they had minor applicability to a primary producer site, as illustrated in Table 4.

**Table 4: AWS Standard indicator questions avoided by interviewers**

QUESTION	REASON/COMMENT
2.5.2 List of outsourced services that consume water or affect water quality and both (A) estimated annual (or better) water withdrawals listed by outsourced services (Mm <sup>3</sup> or m <sup>3</sup> ) and (B) appropriate and readily measured data to represent the physical, chemical and biological status of the outsourced annual (or better) water effluent	Not so relevant for a primary producer
4.6.1 Maintain or improve indirect water use within the catchment	Not so relevant for a primary producer
4.16 Drive reduced indirect water use throughout the site’s supply chain and outsourced water-related service providers	Not so relevant for a primary producer
6.6.1 Disclose water risks to owners (in alignment with recognized disclosure frameworks)	Often farmers are the owners

One of the objectives was to bring volunteer farmers to a level of compliance with the AWS Standard. This objective was not fully met. WWF promoted the adoption of water stewardship steps with volunteer farmers throughout the 2013–2016 period. However, farmer participation was entirely voluntary and, given the novelty of the AWS Standard, none of the supporting retailers were ready to issue incentives or requirements to comply with the Standard. The 2015–2016 drought was a year in which water-use efficiency was one of the key focus areas for all farmers, and all showed improvements in this area. However, it would not have been an appropriate time to push farmers for adoption of other water stewardship points that would not have contributed to immediate survival.

## Resilience to drought

The 2015–2016 drought in South Africa has had catastrophic effects on farming and food production throughout the country, including the Breede Valley in the Western Cape. The hardship and difficulty of such an event should be recognised, as well as the fact that the lack of water is an immense equaliser in a nation that deals with inequalities on a daily basis.<sup>18</sup> Water-efficient practices in agriculture are often catalysed during drought events. For farmers, the necessary focus on water hones water management practices, creates new insights and emphasises the importance of investing in efficient irrigation equipment.<sup>19</sup>

All volunteer farmers participating in the project had a long list of water-use efficiency mechanisms that they implemented in order to survive the 2015–2016 drought. These mechanisms differed in terms of cost, scale of implementation, effort required to implement and achievable savings. Some of these steps constitute worthwhile, long-term efforts, like the mulching practices. Other practices, like the saline groundwater use and the microjet adaptation, need to be understood as survival steps that could result in long-term damage to trees and fruit production, if not properly tested and implemented.

Over the next three months, we aim to flesh out the cost and savings details with each farmer, so that these water-saving stories can be told further afield.



Mulch piles ready for application.

Kaolin 'sunblock spray'.

A 'boomkondoom'.

<sup>18</sup> <http://www.circleofblue.org/2016/africa/south-africa-drought-draws-a-frustrated-nation-together/>

<sup>19</sup> <http://www.farmersweekly.co.za/article.aspx?id=83644&h=Reduce-losses-with-this-drought-strategy>

**Table 5: List of water saving actions taken to survive the 2015–2016 drought**

FARM	TYPE OF ACTION	LIST OF ACTIONS
Waboonskraal	Irrigation efficiency	Adapting sprinkler radius
Lushof, Romansrivier	Irrigation efficiency	Temporary adapting of microjet to drip ('boomkondoom')
Trevor's farm	Irrigation efficiency	Semi-manual irrigation with spray pump
Welgemeen	Irrigation scheduling	Reduced by 80% from start
Ou Stasie, Denou	Irrigation scheduling	Reduced amounts given over time 75% to 50%
Waboonskraal, Lushof	Irrigation scheduling	Night-time irrigation
Waboonskraal, Lushof	Reduce hectares	Take out weak orchards to reduce irrigation needs
All farms	Switch to groundwater or emergency water use	Some farms drilled new boreholes, others maintained existing boreholes. Most mix saline groundwater with leftover fresh water. One farm preferred not to mix. Two farms do not have salinity problems.
Romansrivier, Lushof	Strictest maintenance controls	Pipe and sprinkler checks and fixes
Lushof	Mulching	Apply mulch before harvest instead of after
Waboonskraal	Mulching	18 bales/ha
Welgemeen	Fruit thinning	Deliberate to reduce strain per tree
Lushof	Pruning changes	No pruning after harvest to avoid stimulation
Lushof, Romansrivier	Plant cooling	Kaolin sunblock spray used on trees to increase sunlight reflection, avoid sunburn and cut out need of pulse irrigation to avoid fruit sunburn
Ou Stasie, Denou	Drought plan	List of actions in a drought event

## Key lessons

- Droughts are key periods in which to address improved water efficiency and in which water stewardship practices are tested in a true life emergency. ‘Never waste the lessons of a drought.’
- Water stewardship best practices were employed by the farmers in the study group as part of drought management. None of them actively pursued the use of the webtool or certification. Still, their practices are reflected in their improved AWS Standard scores, showing that the AWS Standard can be related to the farming sector.
- Eleven Core indicators were consistently difficult to meet for all farmers. These indicators relate to gathering catchment-scale data, making a cost-benefit analysis of water stewardship steps, and disclosing information. It is recommended to look into methods to facilitate and encourage engagement on these indicators.
- Out of 91 indicators, a total of 87 were relevant at the primary producer level.
- On-farm and beyond-the-fence engagement were commonplace for most farmers.
- The AWS Standard outcomes cover water quality, water quantity, important water-related areas and water governance. Certification requires that all these outcomes be addressed equally. Most farms had strengths in some areas, but not others, which has kept them from reaching Core certification level so far. However, following the steps and criteria and meeting the indicators of the AWS Standard are not beyond the reach of good farmers in the area.
- The use of the webtool/AWS Standard to evaluate progress over three time periods provided solid and quantified results, making it a useful monitoring and evaluation tool for water stewardship implementation.

# THE AWS STANDARD AND ITS PLACE IN AGRICULTURE

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Over the last year – and in part as a result of Phase 1 of the Breede Water Stewardship Project – there has been considerable debate about the suitability of the Alliance for Water Stewardship (AWS) Standard in the agriculture sector. This section summarises the latest insights from Phase 2 of the Breede Water Stewardship Project on various discussion points.

## Overview

The international AWS Standard provided an important yardstick against which to assess the water stewardship practices of the Ceres farmers in the study group. The **April 2016 interview process** that went through the steps and criteria of the AWS Standard revealed that the Ceres farmers had taken on-farm and collective action steps that were closely aligned with the requirements of the AWS Standard. It needs to be noted that from 2015 to 2016, the farmers did not work through the AWS Standard list, but rather did what they had to do to cope with the drought. It means that the drought risk brought about good water stewardship (with focus on water-use efficiency), without the farmers having any intention to reach certification. This finding shows the **practicality of the AWS Standard** and the extent to which its steps and criteria are common sense that wise, knowledgeable and sensible farmers will follow anyway – especially in a pressing situation such as a drought. Serendipitously, the drought acted as a catalyst to prove the authenticity and usefulness of the AWS Standard under conditions that would otherwise have been impossible to simulate in the Breede Water Stewardship Project.

The April 2016 interviews showed that high-scoring volunteer farmers were interested in certification because the additional inputs that would be required would be relatively small. A clearer stand by retailers on **incentives for certification** may in fact motivate more farmers to apply for AWS Standard certification.

The interview process showed that farmers have a lot of water-related information available, but it is often neither written down nor stored in one place. Water is always an information subset that feeds into the food production process. The information requirements of the AWS Standard is a sound platform on which to centralise business water information and would **create common water-related insights and language** for farmers, regulating water bodies and the food industry. The AWS globally has recognised the value of a common ICT system, in which participation should be voluntary as for the AWS Standard. Accordingly, the AWS has incorporated the development of a voluntary ICT platform into its 2016 strategic and operational plans. The Ceres study is an important place of learning for the AWS's ICT team.

## Frequently raised concerns

**Is the AWS Standard more suitable for larger sites than smaller ones, like farms?** The overhead costs of completing the documentation for the AWS Standard certification are the same for large and small sites. This is a barrier for smaller sites. However, the AWS certification system anticipated this barrier and has developed a Group Certification option, which effectively distributes, over the group, the cost of gathering common information about the catchment.

**Sites require expert assistance to understand, interpret and apply the AWS Standard.** The AWS recognises this need and has capacity-building programmes and accreditation procedures in place, as is typical for the standards industry. The capacity builders could be product representatives, extension officers or consultants who could advise farmers in study groups and also individually. All farming sectors have specialists and support systems for all manner of technical, financial, marketing and labour needs. Water stewardship needs to be included in this knowledge support infrastructure. This includes support that translates AWS steps into pragmatic, sector-specific solutions, suitable to the various agriculture sectors like dairy, sugar, fruit and wine.

**The AWS requirement to collect catchment-scale data is cumbersome for small businesses.** A globally common site system that also feeds seamlessly into the ITC system for catchments is being developed by the AWS as a strategic element of their global plans for 2016. In the South African context, cooperation with the relevant catchment management agencies (CMAs) will be a key factor, but other cooperative models in the sustainable agriculture sector can also be drawn on as examples. This point speaks directly to the insufficient coverage of AWS Standard indicators 2.3.3; 2.3.4 and 2.6.1 (which required catchment-scale information) in the Ceres farm evaluation.

### Example of a business case for Group Certification and a group manager

One key water stewardship person (an expert on the AWS Standard) could be appointed to serve 50 to 100 farmers. This person could organise the farmers into several groups for certification and act as the group manager. This expert could also act as the key technical adviser in all situations requiring water and water stewardship expertise, e.g. in CMAs. In this way the farmers only pay 1% of the expert's salary. For example, say the expert's salary is R50 000 per month and a labourer's salary is R2 500 per month, the farmers will each pay only 20% of a labourer's salary to get top advice and help with certification-related administration.

If one looks at the AWS requirements for Group Certification, then it is evident that the appointed group manager will need an ITC system to ensure that records for all member sites are maintained and up to date. A globally common site system that also feeds seamlessly into the ITC system for catchments is being developed by the AWS globally as a key strategic and operational action for 2016.

**The AWS Standard is too complex for smaller sites.** This concern was raised in the context of emerging farmers and is similar to the debate that is currently surrounding the forestry FSC Standard and small-scale foresters. The April 2016 re-engagement with the volunteer farmers included a revision of the full set of 91 AWS indicator questions for each farm. Only four were found unsuitable to cover a primary producer site (see Table 4). This finding can assist future revisions of the AWS Standard, which is currently in its early stages and will undergo multiple reviews as part of its establishment.

## Water stewardship integration into existing standards for agriculture

Fruit farmers often comply with multiple agricultural standards, especially if their produce is destined for the international market. During Phase 1 of the Breede Water Stewardship Project, the concern about ‘compliance fatigue’ was already noted, highlighting that it was important to avoid duplication with other standards to encourage a new water-focused standard to enter the arena. This echoes international recognition of the need for improved coordination and consistency among standards to enhance their effectiveness.<sup>20</sup> This could be best achieved through the incorporation of AWS into **equivalence tables of criteria against other standards**, of which the ITC T4SD ‘Standards Map’ tool<sup>21</sup> is an international example.

- In South Africa, equivalence-matching of this nature is already occurring in the South African fruit and wine industries. These efforts could potentially be integrated with the Sustainability Initiative of South Africa (SIZA) programme in South Africa, in a collaborative exercise between the WWF-SA Sustainable Agriculture and Freshwater groups.
- The World Business Council for Sustainable Development (WBCSD) is busy with a top-class sustainability standards equivalence-matching system that will be in the public domain. The inputting templates and output reports that such a system generates are straightforward from an ITC systems development standpoint. What is taking time is getting agreement on the equivalence-matching criteria.
- Initial assessments of agricultural sustainability standards for the inclusion of water stewardship have been completed for key international standards.<sup>22</sup> The recommendation from that report is to consider a dual-standard approach.
- For the benefit of the two funding retailers of this project, the AWS Standard has been directly compared to the Woolworths Farming for the Future (FFF) Standard and, in the UK, M&S has completed comparisons to the Linking Environment and Farming LEAF Marque Standard and the SAI Global Standard.

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<sup>20</sup> Morgan, A. and Wenban-Smith, M. 2015: Strengthening Water Stewardship in Agricultural Sustainability Standards – Framing collaborative solutions to mitigate water risks, WWF Germany. ISBN 978-3-9813048-9-3

<sup>21</sup> <http://www.standardsmap.org/>

<sup>22</sup> [http://wwf.panda.org/wwf\\_news/?247219/Agricultural-standards-can-do-more-to-mitigate-risk-in-commodity-production](http://wwf.panda.org/wwf_news/?247219/Agricultural-standards-can-do-more-to-mitigate-risk-in-commodity-production)

These accounts highlight the urgency for a structured approach to agricultural standards, including targeting specific standard systems to enhance their water stewardship elements. The AWS Standard remains the internationally accepted best practice for water stewardship, produced in conformance with ISEAL Alliance principles, processes and practices. As such, the complete integration of the AWS Standard into other standards is likely not feasible, especially since no other standard ventures beyond the farm fence. A dual-standard approach remains the most likely solution, but final testing is still required.

### Key lessons

- The April 2016 farm interview process strongly supports the value of the AWS Standard as a reliable best-practice guide for water stewardship in agriculture.
- Most farmers showed interest in AWS certification and wanted to know more about it. The concept of Group Certification (and resource pooling for the generation of catchment information) was well received.
- There is general consensus that the standard compliance process needs to be simplified, but the coordination of efforts is crucial.

# CONCLUSION – SCALING UP WATER STEWARDSHIP

The Breede Water Stewardship Project has pioneered water stewardship in agriculture in South Africa. At a local scale, it has taken steps to create a more resilient upper Breede catchment. However, it is nearly impossible to quantify these steps, as many of them include awareness raising, the changing of mindsets and relationship building. The project has contributed towards the testing and development of various water stewardship initiatives in the Breede area, South Africa and internationally. Continued work and expansion at these various levels are summarised in this section.

## Connecting local water stewardship initiatives in the upper Breede

In terms of localised collective action, the Breede Water Stewardship Project has been successful in activating pockets of initiatives among various stakeholders, including poor communities and farmers. Some linkages were also established with governance structures like the Breede-Gouritz CMA, the Upper Breede Collaborative Extension Group (UBCEG), LandCare, CapeNature and, to a degree, Witzenberg Municipality. Other stakeholders have not yet been engaged, including the water user associations and other industries in the area, such as the fruit-processing industry and other fruit buyers. An important stabilisation period is required and foreseen until the end of 2016, in which the two collective-action initiatives – the clearing of invasive alien plants and improvement of township water quality – can solidify and gain self-sufficiency. There will be active attempts to further link existing initiatives, like the Witzenberg Water Savers and the collective invasive alien plant-clearing initiative, with local structures, including local businesses and local governance structures.



Figure 9: Map of the Breede catchment, Western Cape

## Connecting Breede–Gouritz CMA stakeholders

WWF, GIZ and the AWS are active promoters of water stewardship internationally. In South Africa, the three institutions collaborate on numerous water stewardship projects, providing an impetus to share water stewardship lessons between projects. As part of the upscaling objective, a lesson-sharing opportunity is being generated for water stewardship projects within the Breede–Gouritz CMA. The Breede–Gouritz CMA is one of nine water management areas of South Africa, operating as the local water resource authority. There are three WWF and GIZ-run water stewardship projects within the Breede–Gouritz CMA constituency and another one in the Mzimvubu-Tsitsikamma CMA.

A farmer exchange workshop is being planned for the second part of July 2016. The aim of the workshop is to bring together farmers from the upper Breede (Ceres), central Breede (Riviersonderend), the Gouritz (George) and the Langkloof (Mzimvubu-Tsitsikamma), as well as relevant government representatives and experts, to share experiences and discuss three topics:

- **Invasive alien clearing initiatives** – Most areas have clearing initiatives, and lessons can be shared.
- **On-farm water efficiency** and the implementation of water stewardship – Farmers in the Ceres project have lessons to share about testing the Alliance for Water Stewardship (AWS) Standard and how they improved water-use efficiency during the 2015–2016 drought.
- Initiating discussions on **implementing water stewardship in a catchment** – This will touch on the role the CMA, farmers and other stakeholder groupings acting through the CMA could play in catchment-wide stewardship initiatives, the collection and dissemination of information, how collaboration between actors can be improved (beyond the level of water-user associations and farmer groups, to a catchment scale), and how the AWS Standard could practically be used to support such a process.

## Water stewardship and governance in South Africa

In South Africa water is a public good, in the care and custodianship of the state.<sup>23</sup> At the local level, it is the nine CMAs that are the designated agencies for water-resource management. It is part of their responsibility to do the planning, protection, allocation, reform and management for and of water resources. All of this is done under the oversight of the Department of Water and Sanitation (DWS), where the CMAs act as agencies. Catchment management agencies are responsible for institutional engagement as well as information systems. The water stewardship ladder in Figure 1 points to the increasing involvement of the private sector in water stewardship, leading ultimately to the support of and cooperation with governance structures. In the case of South Africa, the CMA is the obvious structure to engage in water stewardship projects.

The joint engagement of the private sector, the public sector and civil society in water stewardship matters is a concept that is inherently supported by the CMAs and DWS.

Since 2015, the CMA and DWS have taken the first steps to include water stewardship in catchment management. These include:

- The August 2015 signing of the Memorandum of Understanding (MoU) and the initial Breede Water Stewardship Project presentations to the CMA are seen as introductory activities to the growing interest in water stewardship. In terms of influencing the spread of water stewardship and particularly knowledge of the AWS Standard, the Breede Water Stewardship Project has had an effect far beyond the Breede Valley.
- Members of the DWS policy division have attended AWS Standard training courses to familiarise themselves with the content of the Standard.
- IWaSP funded the CEO of the Breede-Gouritz CMA to attend a week-long AWS conference in Tanzania, which included a water stewardship leadership forum and training on the AWS Standard. As the chair of the CMA CEO committee for South Africa, the CEO of the Breede-Gouritz CMA is expected to share the insights from this trip with other CMAs.
- In December 2015, the CEO of the Breede-Gouritz CMA addressed over 70 international water stewardship experts at the Cape Town International Water Stewardship Symposium.
- The DWS drafted an initial water stewardship policy proposal at the end of 2015 and WWF contributed comments to its development.
- Both WWF and the AWS were invited to speak at the Catchment Management Agency CEO Forum in 2015, to introduce the concept of water stewardship to the CMAs at top management level.
- A Water Stewardship and Incentive (WSI) working group has been convening under the guidance of the Strategic Water Partnership Network (SWPN) since the end of 2015. WWF and GIZ have developed a joint definition statement on water stewardship to inform a clear water stewardship stance by the SWPN.
- The Department of Planning, Monitoring and Evaluation in conjunction with DWS have initiated an evidence-informed policy development programme. DWS has chosen water stewardship as the first potential policy to go through this process. Both the AWS and WWF have been invited to contribute.

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<sup>23</sup> National Water Act 1998

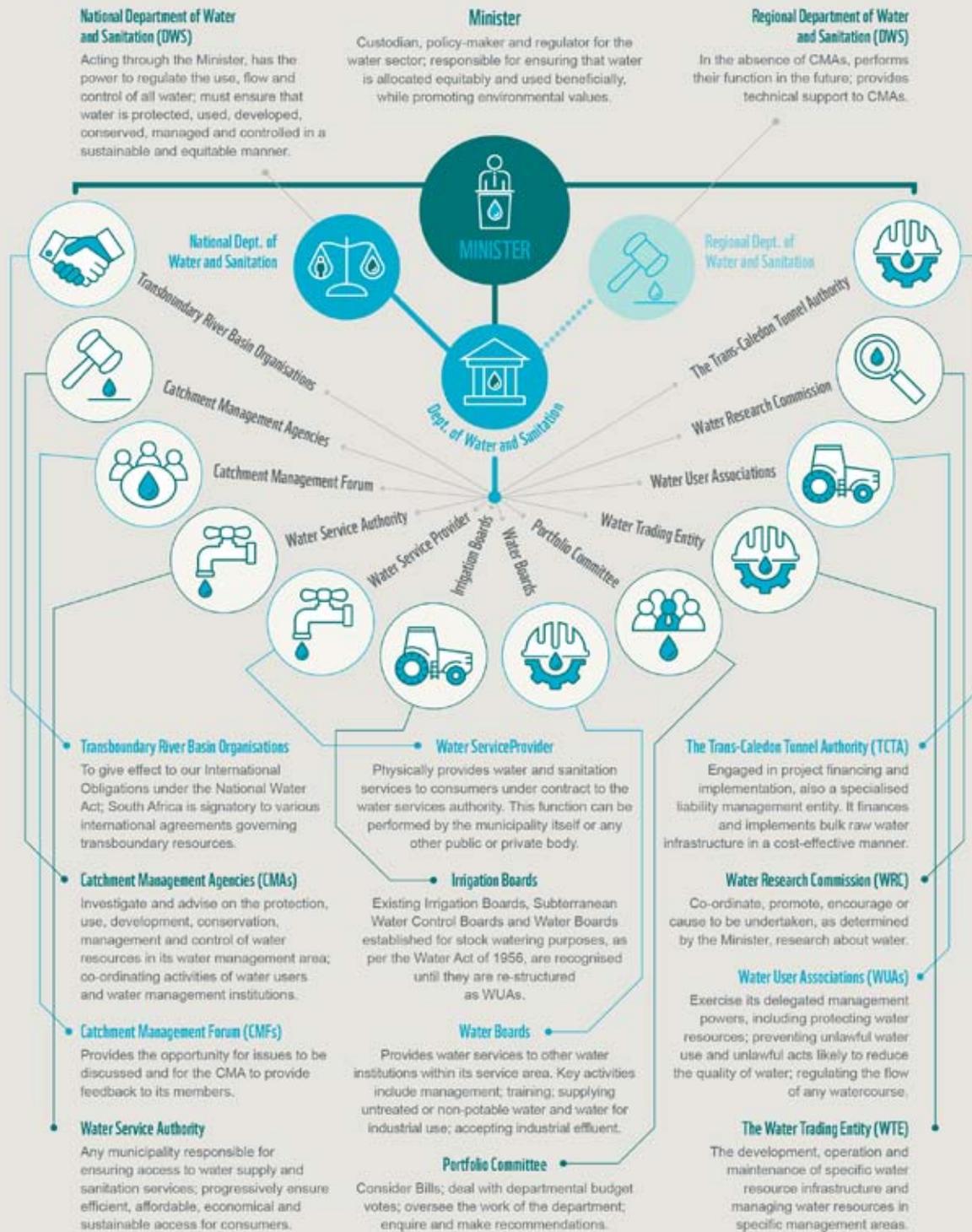


Figure 10: The South African Water Sector

Source: WWF-SA, 2016 Water: Facts and Futures

## Contributing to harmonisation – the AWS and other standards for agriculture

The Breede Water Stewardship Project has pioneered the application of the AWS Standard in agriculture. Recent farmer progress reviews, using the AWS Standard structure as a guideline, have shown the value of the Standard as a monitoring and evaluation (M&E) tool in agriculture. It will remain important to look into alternative mechanisms to drive the Standard into the sector. A possible route is through extension officers, who could become the key audience for the currently underutilised WWF webtool.

At a local and international scale, WWF will remain involved in the streamlining process between standards for agriculture, and continue to promote the AWS Standard and the water stewardship guidelines it contains. In South Africa, harmonisation of the AWS Standard content with SIZA and Farming for the Future (FFF) are the next step.

## Retailers – scaling up water stewardship beyond the Breede

The following recommendations will assist retailers to progress with particular water stewardship steps.

- **New businesses – commitment to a journey.** The concept of water risk and the approach of water stewardship should lead to a long-term organisational trend to improve water stewardship internally and within the supply chain.
- **Encourage other companies, or suppliers to your company** who source produce from the same area, to become involved in water stewardship.
- **Remain involved in the water stewardship initiatives you started.** Localised initiatives like the Witzenberg Water Savers and the collective invasive alien plant-clearing initiative require longer time periods to formalise and gain their own momentum.
- **Become part of the Standard harmonisation process.** Test how the standards you comply with (FFF, LEAF) fare against the AWS Standard. Support the process of harmonising the AWS Standard with other standards.
- Phase 2 of the Breede Water Stewardship Project has shown that the international AWS Standard is robust as an M&E tool at farm level. It will have to undergo adaptations over time, but overall it **validates the application of the AWS Standard in agriculture.** Take a definite stand on the AWS Standard and create incentives for suppliers to see value in certification.
- The concept of **AWS Standard Group Certification** has not yet been tested. Be at the forefront of this process and give thought to the kind of grouping that you could incentivise and that would maximise the number of your suppliers who adhere to certified water stewardship practices.
- Support the identification of an appropriate communication and adoption model for water stewardship, such as the **extension officer model.**
- **Support farmer exchange visits among catchments** to share the lessons of water stewardship.
- **Involve a set of top producers, or farmers in areas of top production,** in water stewardship implementation. Initial engagement could still take place through a party like WWF but stakeholders should work towards involving an extension officer, who can become the local custodian for water stewardship on farms.

# South Africa's fresh water by numbers

8%

of South Africa's land area produces half of our fresh water. This 8% comprises our Water Source Areas

66%

of all water consumption in South Africa is by farmers, who are the biggest direct users of water

2 076

kilolitres of water gained per hectare cleared of invasive alien vegetation

37%

water loss occurs in most South African municipalities



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