

# IMPLEMENTATION TARGETED FOR DECEMBER 1999

**The River Health Programme (RHP) is on track towards national implementation, with an interim aim of including one priority river per province by the end of 1999.**

***The Programme's organisational and functional structures are in place, several provinces have started pilot and other projects and, country-wide, stakeholders are becoming aware of and participating in the Programme.***

The National Coordinating Committee (NCC) is well established and has been very active over the past few months, strategising for the way ahead.

## **Implementation manual**

An implementation manual, for use by those wanting to implement the RHP, will be available soon.

## **Stakeholder involvement**

An important reason for the progress shown by the *River Health Programme* is the involvement of a wide range of stakeholders. Apart from government, others - industry in particular - are becoming involved in the RHP.

In Gauteng, provincial champion of the RHP, Candice Haskins of Gauteng Nature Conservation, recently convened a stakeholder workshop to formally launch activities in the province, thus following the lead of similar launches in KwaZulu-Natal and the Northern Province last year. The Northern Province launch had attracted participants from several other SADC countries.

In the Western Cape, provincial champion Jannie van Staden of the Department of Water Affairs and Forestry recently arranged a practical demonstration for reserve managers interested in implementing biomonitoring in the streams that run through their reserves. The Western Cape biomonitoring team has also established strong links with the *Working for Water* Programme in the Province.

In Mpumalanga, the results of the first biomonitoring pilot study - launched in early 1997 - have been published in a full-colour brochure for wide dissemination to water resource managers and stakeholders.

## **Helicopter surveys**

Video footage - taken during helicopter surveys to produce habitat integrity assessments for both instream and riparian requirements - has proven most useful in identifying sampling sites, the Free State Province RHP implementation team found during its recent helicopter surveys of the Vet, Modder and Sand Rivers.

The Northern Province implementation team has also used helicopter surveys in order to produce habitat integrity assessments of the Olifants River system, says Mick Angliss, provincial champion. The flights were undertaken as part of the ongoing Instream Flow Requirement Study (IFR), but also formed an essential component of the biomonitoring study.

## **Community participation**

In addition, special pilot efforts are underway to involve grassroots communities in the RHP (more on page 5).

## **Fundraising**

A formal fundraising process has also been initiated. Although each of the participating provinces is already contributing funding, human resources and equipment for the *River Health Programme*, a formal process has now been initiated to seek additional funding for provincial implementation initiatives and relevant research and development needs in particular.

***This issue of River Health focuses on some of these success stories.***



Dr Henk van Vliet (Department of Water Affairs and Forestry), Mr Geoff Cowan (Department of Environmental Affairs and Tourism) and Dr Steve Mitchell (Water Research Commission), custodians of the RHP.

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WATER AFFAIRS  
AND FORESTRY**  
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## **HOW YOU CAN CONTRIBUTE**

The success of the *River Health Programme* depends upon the involvement of as many stakeholders in water resource management as possible. If you or your organisation would like to know more about the programme and how you can become involved, please contact:

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## FREE STATE STARTS TRAINING AND CAPACITY BUILDING



Provincial Champions of the Free State and Northern Cape initiative, Maitland Seaman (University of the Free State) and Pierre de Villiers (Department of Environmental Affairs and Tourism, Free State).

**Maitland Seaman and Pierre de Villiers, Provincial Champions of the Free State and Northern Cape, report that the Provinces have begun developing many areas of the *River Health Programme* so that implementation will be realised by the year 2000.**

The RHP aims to develop locally applicable biomonitoring methods, to identify aquatic regions and monitoring and reference sites, and to identify local agencies to take responsibility for catchments and sub-catchments.

### Capacity for biomonitoring

Rand Water has developed capacity for biomonitoring on the Vaal River system, says Maitland. However, a great need for capacity building still exists within the various agencies working on the other rivers in the province. To facilitate the process of capacity building, Maitland adds, several people in the province have already attended the biomonitoring course hosted by the CSIR and DWAF.

### The Northern Cape

There are currently no biomonitoring activities on the section of the Orange River which dominates the Northern Cape. Maitland explains that, because this part of the river is merely an extension of the upper Orange River - which falls within the Free State - the Northern Cape initiative will consider implementation of biomonitoring in close collaboration with the Free State. Pierre says that, at present, there is little or no capacity to carry out biomonitoring in the Northern Cape, but that moves are afoot to address this state of affairs.

### Future needs

The Free State Province must still find suitable monitoring and reference sites in the Modder and Sand/Vet catchments. Existing methods of identification of such sites also need to be customised. The Provincial Implementation Team will be working towards developing new techniques for sampling seasonally dry rivers.

### Priority sub-catchments in the Free State Province

PRIORITY AGENCY SUB-CATCHMENT	RESPONSIBLE
The Sand/Vet	Goudveld Water
Modder/Riet	Bloem Water
Liebenbergvlei/Wilge	DWAF
Caledon/Orange	DEAT ( Free State ) and
Bloem	Water
Renoster/Vals	DWAF
Vaal and Rand	DWAF, DEAT (Free State) Water

Only the Modder and Sand/Vet serve large urban communities. It is these two areas, therefore, that are of the greatest priority.

### Training and education

Training and education are of fundamental importance and will lead to the upgrading of skills in the local community - as well as to promoting acceptance of the Programme.

Pierre explains that the DWAF and CSIR host biomonitoring courses twice a year. These have proved to be popular and informative. The University of the Free State is planning to run biomonitoring courses during 1999, while field trips on the Sand, Vet and Crocodile Rivers provide individuals with hands-on training.

### Video recordings

In November 1997, the Ash and Liebenbergsvlei Rivers were surveyed by helicopter to assess their instream and riparian habitat conditions. Dr Neels Kleynhans of the Department of Water Affairs and Forestry took this opportunity to train members of the Free State Provincial Implementation Team to undertake their own aerial surveys.

During March 1998, Pierre, accompanied by Dana Grobler (Institute for Water Quality Studies) and staff from the Free State regional office of Water Affairs, conducted similar surveys of the Sand, Vet and Modder Rivers. The video recordings were analysed and preliminary sampling sites were selected.

Pierre says that, although suitable monitoring sites were found, the reduction in flow during the winter months will play a significant role in final site selection. Monitoring to determine the baseline conditions in these rivers will be carried out from 27 July and 28 September 1998. Training will form part of these monitoring visits.





Pierre de Villiers (Free State Department of Environmental Affairs and Tourism), Dana Grobler (Institute for Water Quality Studies), Althea Dowling and Annelise Gerber (staff from the Free State regional office of Water Affairs) conducting helicopter surveys of the Sand, Vet and Modder Rivers.

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## Biomonitoring course as part of Masters degree

The University of the Free State is offering a Master's degree in Environmental Management. In the first year of the Master's Programme, introductory courses deal with earth sciences, ecology, aquatic sciences, computer literacy, business management, environmental law, communication skills, socio-economics and others.

During the second year, a six-month specialisation course and mini-thesis in a field of particular interest is offered.

One of the specialisation courses - which should be of interest to those involved in aquatic sciences - is *Aquatic Biomonitoring and Biodiversity*.

Applications for the Master's Program close on 15 October each year.

#### Enquiries

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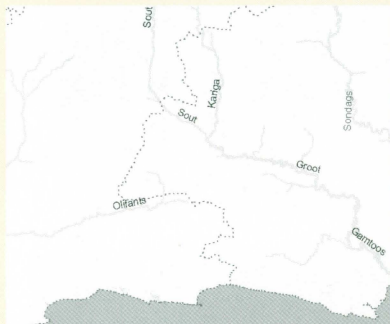
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## BIOMONITORING GOES TO THE KLEIN KAROO



Tom Barry of Cape Conservation and Jannie van Staden (Department of Water Affairs and Forestry), provincial champion for the Western Cape, arranged a two-day information session at the Gamkaberg Nature Reserve in July 1998.

Sixteen reserve managers, students and workers attended, and showed much enthusiasm and a great need to learn more about biomonitoring. Methods such as the SASS4 (South African Scoring System) index, used for aquatic invertebrate monitoring techniques, were specifically required.

During the first day's session, Dana Grobler and Annalise Gerber, both from the Institute for Water Quality Studies in Pretoria, conducted in an informative and participatory fashion, sessions on biomonitoring and the use of the SASS 4 index.

On the second day, Annalise demonstrated biomonitoring techniques in a nearby stream. It became evident to reserve managers that many of the biomonitoring techniques were simple and easy to implement, and that biomonitoring could play an important part in how reserve managers monitor and manage the rivers that flow through their reserves.

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Jannie van Staden (Provincial Champion of the Western Cape RHP initiative) (far right) and interested reserve managers watch the demonstration by Annalise Gerber (Institute for Water Quality Studies).



# GAUTENG LAUNCHES RIVER HEALTH PROGRAMME

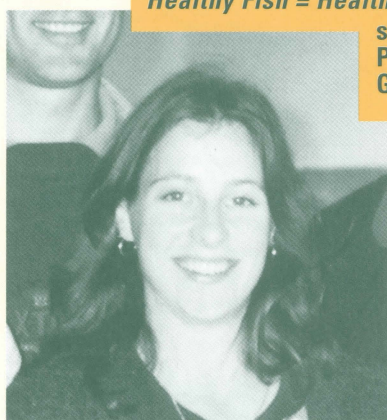


The *Gauteng River Health Programme* held a stakeholder workshop on 11 and 12 June 1998 at the Roodeplaat Nature Reserve. It was attended by 75 delegates and marked the official launch of Gauteng's RHP initiative.

## Basic principles

To bring delegates up to date with some important aspects of the *River Health Programme*, invited speakers outlined basic principles of the Programme such as habitat integrity (Liesl Hill, Institute for Water Quality Studies), fish monitoring, (Pieter Kotze, Rand Afrikaans University), and invertebrate monitoring (Nigel Kemper, IWR Environmental). Riana Munnik (DWAF) presented an overview of the status of rivers in Gauteng in terms of water quality and surrounding land-use practices.

**Healthy Fish = Healthy water = Healthy people,**  
says Candice Haskins,  
Provincial Champion,  
Gauteng Province.

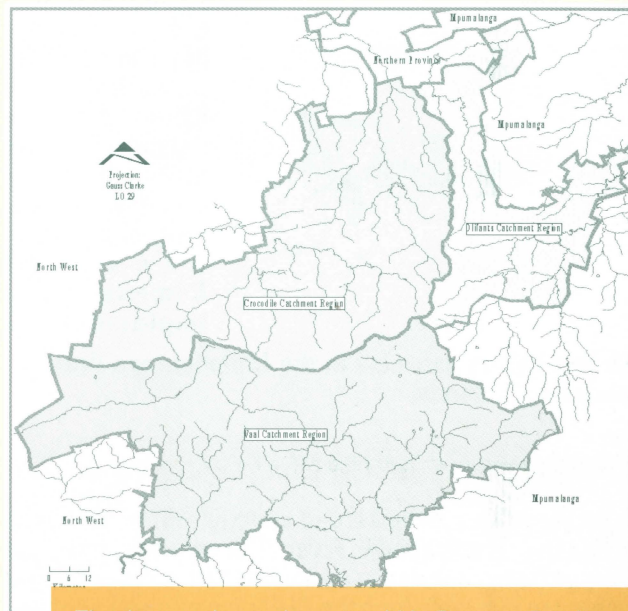


## Framework for implementation

Presenting a proposed framework for implementation, Gauteng Provincial Champion, Candice Haskins, suggested that the province be divided at regional level into three priority regions: the Vaal, Crocodile and Olifants catchments. She also proposed that biomonitoring be initiated in as many rivers as possible in each region over a three-year period. This would provide valuable baseline information to which a long-term biomonitoring programme could refer.

## Gauteng: how much biomonitoring already takes place?

Delegates were divided into three groups according to the regions in which they worked or lived (Vaal, Crocodile and Olifants Catchments). They then listed and marked on maps the known biomonitoring activities within their region. Candice explained that a GAP Analysis - or status quo - of biomonitoring activities in the province would also be done.



The three main catchments within Gauteng Province in which biomonitoring techniques are already being used at, for example, pollution monitoring points. These points would be invaluable in understanding the status of river health in the province.

## Community involvement

Community support and involvement with the *River Health Programme* was emphasised at the meeting. Links with other provincial departments, for example Gauteng Health and Gauteng Education and various community-based organisations and NGOs, would enhance community involvement.



Mrs Nomvula Mokonyane (MEC, Agriculture, Conservation and Environment) opened the workshop and invited members of the Department's Standing Committee (Gauteng Legislature) to support the Gauteng initiative.

## The way ahead

The *Gauteng River Health Programme* is to be initiated within the proposed three regions. Where possible, regional champions or teams will assist Candice with regional implementation. The provincial nature conservation departments will undertake specific biomonitoring activities such as those on the Wilge, Bronkhorstspuit and Elands Rivers.

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# MPUMALANGA PUBLISHES RESULTS OF CROCODILE SURVEY



The pooled efforts of the Mpumalanga Parks Board, the Kruger National Park, the CSIR, the Institute for Water Quality Studies and the Water Research Commission to implement the

first monitoring exercise in the Mpumalanga Province have paid dividends.

## Crocodile Catchment pilot

A pilot study was implemented in early 1997 to determine the health of the Crocodile River. The results of this study have just been captured in a beautiful, full-colour brochure (copies are available from the RHP communication office).

This catchment is one of South Africa's most economically productive, and at the same time one of the most biologically diverse. The results of the study highlight problem areas that require the attention of water managers.

## Trends

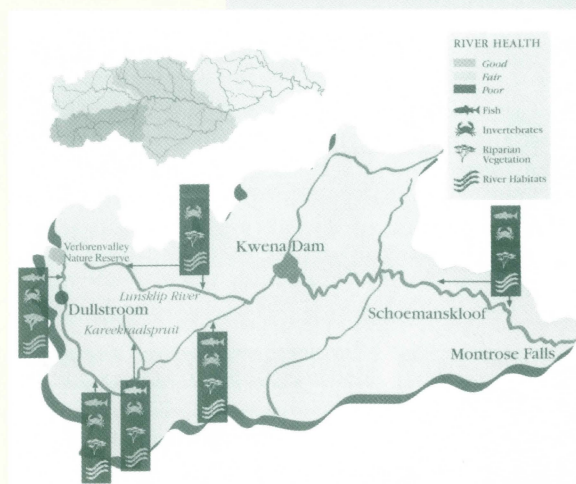
Provincial champion Dr Johan Engelbrecht of the Mpumalanga Parks Board says that for monitoring to be useful in the long term, it must take place on an on-going basis.

The Mpumalanga *River Health* Team intends to conduct a follow-up survey of the Crocodile River next year. In the meantime, their focus will be on establishing the current health of the Sabie and Olifants Rivers - the latter of which is shared between the Mpumalanga, Gauteng and Northern Provinces.

Because monitoring programmes should remain dynamic, the *River Health Programme* may introduce monitoring sites in addition to those already existing on the Crocodile River so as to provide information on important tributaries such as the Kaap, Ngodwana and Nels Rivers. Such information will provide valuable additional insight into the present condition of the Crocodile River, and will help predict future trends in the state of its health.

## Enquiries

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One of the maps in the brochure showing the results of the monitoring exercise done in the upper Crocodile River. This section of the river is in fairly good health. There is concern over the long-term influence of factors such as trout farming in the upper parts of the river and flow modifications in the part immediately downstream of Kweena Dam.

## NEW NATIONAL WATER ACT 1988 AND BIOMONITORING

South Africa's new National Water Act, Act 36 of 1998, was signed by President Nelson Mandela in August 1998. As one of the instruments to implement the country's new water resources policy, the Act specifies in a number of places the role of monitoring in the protection and assessment of the country's water resources.

For example, it specifies in Section 137(1) that the Minister of Water Affairs and Forestry must establish national monitoring systems to monitor various aspects of water resources.

The Act further requires (Section 139(1)) that national information systems be established, such as an information system to monitor the quantity and quality of all water resources. It also specifies that the information from such systems should be generally accessible for use by water users and the general public.

Another section of the new Act (Section 145(2)) mandates the Minister to establish early warning systems for risks posed by various events, including deterioration in water quality.

The *River Health Programme* (and remember that rivers are only the first aspect to be dealt with by the National Aquatic Ecosystems Biomonitoring Programme) will contribute towards putting in place each of the aspects referred to:

- a national monitoring system
- a national information system accessible to water users
- warning of deterioration in river health so that risks may be avoided.



# WORKING FOR WATER AND THE RHP JOIN HANDS IN THE WESTERN CAPE

For many years, scientists, biologists and nature conservationists have been attempting to focus both government and public attention on the serious threat of invading alien vegetation in South Africa.

The loss of ecological diversity – one of the side effects of invading alien proliferation – is just as serious as the life-threatening loss of badly needed water resources.

The *Working for Water Programme*, established in 1995, forms an integral part of the DWAF's approach to effective catchment management.

Clearing of alien vegetation enhances water yield and supply by 14%, prevents soil erosion on riverbanks, increases the biodiversity of riparian vegetation, and reduces the risk of intense wildfires that burn hot enough to strip the soils of nutrients.

The Western Cape biomonitoring initiative has forged formal links with the *Working for Water Programme* in the province. The Western Cape Biomonitoring team will be monitoring at sites cleared by the *Working for Water* groups. In this way, the benefits of the *Working for Water Programme* will be measured and recorded.

## COMMUNITY INVOLVEMENT

Successful preservation of the country's rivers cannot be achieved without the involvement of local communities. This involvement implies that local communities should not only be the recipients of information, but should also play a role in gathering information, and in the planning and monitoring of local activities.

To be able to participate effectively and communicate meaningfully, grassroots communities need to understand what trends imply, as well as understand the mechanisms which can help them to contribute to a healthy river situation.

The Grassroots Communication and Environmental Education (GCEE) unit of the RHP was established last year to identify and promote those social processes that will enable local communities to participate in the conservation and enhancement of river health.

Actively participating in this initiative are the Mpumalanga Parks Board, the Mpumalanga Department of Environmental Affairs and Tourism, the Lydenburg and Pilgrims Rest Environmental Education Centres, the Social Ecology Section of the Development Unit of the Kruger National Park, DWAF and the Communication Office of the RHP. To date, five communities have agreed to establish pilot projects to launch this component of the RHP.

They are the Santa Farm community in Dullstroom, the Indian Community in the Lydenburg area, the Cork Trust, Madras Village and Sand River Trust, all of which are along the Sand River in the Hazyview area.

Solly Manyaka of the RHP Communication Office says that community leaders and teachers are assisted to understand the concepts involved because they, in turn, can empower pupils and others.



Grade 6 and 7 pupils from the Indian Primary School in Lydenburg learn, during National Water Week in March 1998, that even a stocking can be used as a biomonitoring net.

## "Catch-Em" Biomonitoring Nets

Should you need new biomonitoring nets, look no further! Fine quality nets are available in standard sizes or made-to-order. These nets are available in 250, 500 and 950 micron nylon mesh with smooth seams all around. The corners and seams are well protected with an easy, firm, velcro fitment to the frame (no stitching required).

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