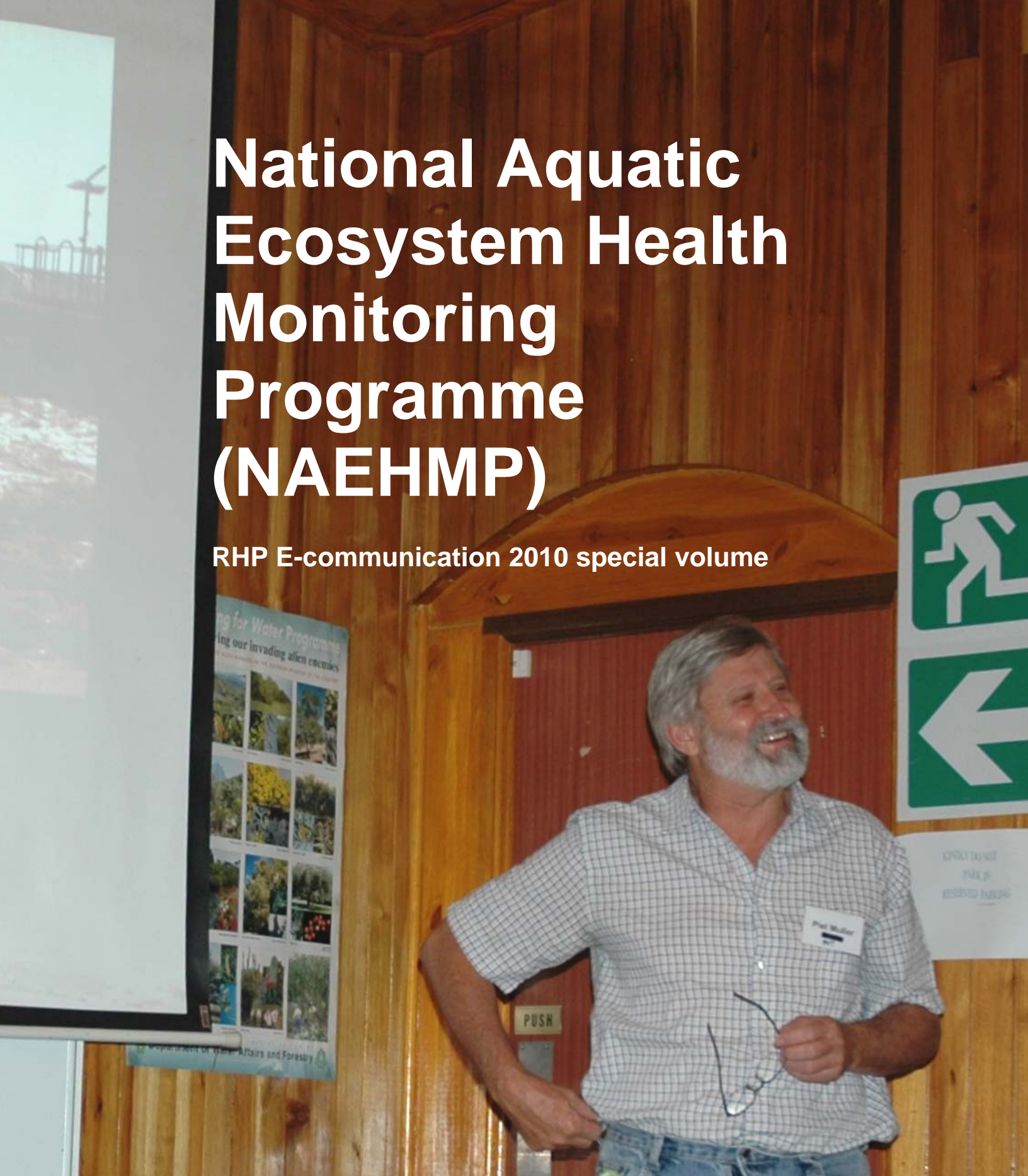


# National Aquatic Ecosystem Health Monitoring Programme (NAEHMP)

RHP E-communication 2010 special volume



Water Affairs  
Environmental Affairs



### *From the RHP desk*

#### **Special words of thanks and progress**

Although 2010 has been a hugely exciting year for South Africa, it proved to be a challenging year for the River Health Programme. The movement or resignation of various provincial champions caused a huge dent in our capacity to successfully implement the programme, while severe budget constraints within all government departments did not help the process. But in spite of this, a wide spectrum of activities did still happen, and these success stories are captured in this special edition of the RHP e-comm. For this, and for the continued passion when things seem a bit dark, the Department of Water Affairs, and specifically the RHP team at Resource Quality Services, wants to extend our sincere thanks to you.

A special word of thanks to "Oom" Piet Muller who contributed so much to the programme, and who will be missed in his active role – luckily he will still be available for input and advice. We would also like to thank the Integrated Water Resources Management Support office for coming on board and assisting us with creating tangible plans for regional implementation and co-ordination. We are still working with them to try and implement the proposed expanded structure in all regions.

The main activities that will take us forward in 2011 will be the long-overdue Ecstatus training (to be scheduled at the University of the Free State in the first half of 2011), the application of RHAM in all regions, and the ongoing discussions with Regional Co-ordination on changed structures. Lastly, but certainly not the least, is the extensive use of the Rivers Database by all regions or provision of "hard copy" data to RQS.

It also seems as if "out of the box" methods will be way of the future. The potential use of RHAM and modelling based on expert knowledge suggests that we can do a lot more with a lot less, and we need to support and grow this thinking. At RQS (and with a lot of other stakeholders supporting us), we have made great progress in the last year with the development of these models, and will hopefully be able to share some of the tangible results with you at the next Symposium. There is also the possibility of a pilot study to investigate the use of "real time" satellite data for predictions on ecosystem health status with the minimum of information.

We trust that 2011 will be the year that we take the programme forward by injecting new thinking into the process and purposefully sharing resources and knowledge. We believe that we will manage to make a success of the programme and implement it as it was intended, through utilising the resources we have in a more efficient manner, through continuing to make use of existing partnerships and expertise, and through establishing new partnerships.

And, as always, your hard work, advice and support are the cement we build this dream on!

*by Dr. Nadene Slabbert (SlabbertN@dwa.gov.za)*

The **River Health Champions Symposium** was held on the 07 & 08 September 2010 and it was very successful with attendees from various organisations and even more encouraging, representatives from all the Department of Water



Affairs (DWA) Regional Offices. This was the result of following active involvement from the national Integrated Water Resource Management Support (WRMS) office at National which ensured alignment of specific departmental



programmes with implementation. This has been lacking in the past. Proceedings of the Symposium will be available by the end of January 2011 for more details.

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Long delays in setting up formal support structures in DWA for the **National Rivers Database** were eventually resolved when a training session for five DWA officials from RQS and DWA: Bellville took place. Helen Dallas of the Freshwater Consulting Group and Fabian Jacobs of Soft Craft presented a course on the Administrative and Technical aspects of the Database on 01 & 02 December 2010. The training was well received by the trainees and the presenters structured the course so that the trainees would be able to provide a high level of support to users. DWA will now take over administration and technical issues, with support from Softcraft and the Freshwater Consulting Group. Rivers Database users are encouraged to contact Mike Silberbauer and the other members of the RQS team if they require assistance: the general

E-mail address for Rivers Database queries is now [rivers@dwa.gov.za](mailto:rivers@dwa.gov.za). The DWA RHP would like to thank Helen Dallas and Pierre Janssens for their kind support and good will, going beyond the call of duty to ensure the continuing operation of the Rivers Database and Biobase. Additional information can also be obtained from: <http://www.dwa.gov.za/iwqs/rhp/database.html>

Another exciting project that happened is that DWA with other organisations in Botswana, Lesotho, Namibia and South



Africa joined the Orange-Senqu River Commission (ORASECOM) in a survey of the state of the water resources of the Orange-Senqu River System during October and November 2010. **The Joint Baseline Survey 1 (JBS1)**, as it is called, was the first such comprehensive survey of a large river system anywhere in Africa – including a wide variety of water quality parameters as well as different assessments of aquatic ecosystem health. The survey was very successful and was coupled with five public events that took place in

Botswana (Tsabong), Lesotho (Maseru), Namibia (Rosh Pinah) and South Africa (Parys & Upington) where miniSASS and turbidity assessment were done by school children. In the Tsabong area a ground water assessment instead of miniSASS was done because there was no nearby surface water within the basin. Details of this survey and ORASECOM can be found on the following website: [www.orasecom.org](http://www.orasecom.org)



*Nepid Consultants* together with DWA will be presenting the **SASS5 training** at Sabie, Mpumalanga, RSA from 22-24 March 2011. Please go to the website for more details: <http://www.dwaf.gov.za/iwqs/rhp/training.html>

Let us all welcome **Ms. Fulufelo Mafelatshuma** on the National RHP Team as the Production Scientist who will be focusing mostly on wetlands in addition to rivers. Fulu is joining the team from the Western Cape Regional office where she was also in the RHP team. We wish you a wonderful stay in RQS and we look forward to you taking us forward from where we last left off.

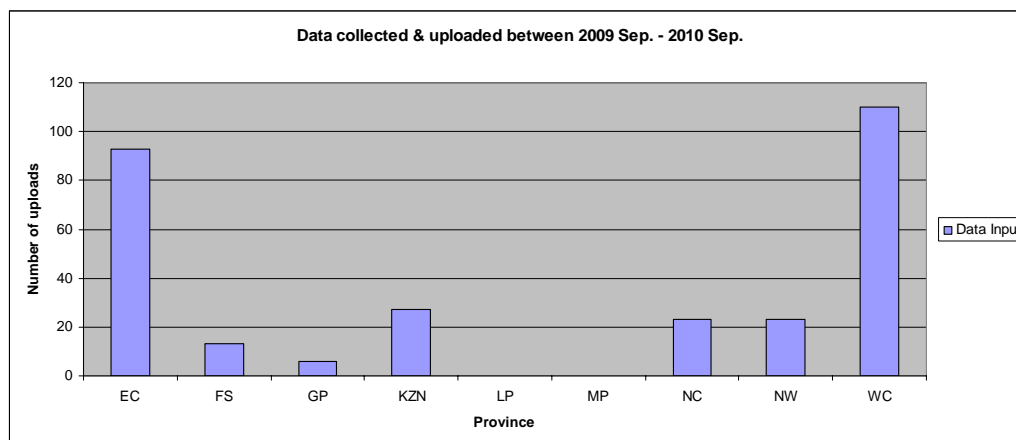
### Readers' column

#### The National Rivers Database data record for the period September 2009 to September 2010

After the 2009 RHP Champions Symposium, appeals were made to those with data to either send it to RQS for capturing or capture it themselves. The responses have been variable and all data provided to RQS was captured and is now ready for use. Other Provinces have done well in capturing the data themselves while others have done little or no loading at all. The statistics of such are depicted in the graph below and with all systems running now, we hope all challenges which led to the lack of data will be addressed. We look forward to a more populated Database that can be utilised for the resource management.

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by Ramogale Sekwele & Zinzi Mboweni (DWA: RQS)

### Provincial Activities

#### Eastern Cape

Monitoring of rivers and estuaries in WMA 12 & 15 continues and information is also continuously captured onto the National Rivers Database with minor issues. Technical reports were produced and are available. Other activities included support to CME unit, inputs to Section 21 (c) and (i) water uses, mapping of certain coastal rivers, in-house training, and the reestablishment of PT2 & PT3. External capacity building through AAR where several schools and general public have been involved took place. Kabega Primary School won gold medals in two Science competitions for adopting the Baakens Rivers.

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#### Free State

The Free State PTT is well constituted and had most of its planned meetings where all issues relating to the Programme were addressed. Bloem Water has contracted the University of Free State (CEM) to do biomonitoring for them in their area of operation and all is going well. An RHP implementation plan for the Province was also done through a consultant.

Awarding of the tender for implementation of the RHP is still pending due to the donor funds which have not been made available yet. Awareness was raised on AAR at the Biodiversity Exhibition after the Programme was launched by the Premier. DWA has entered into Public Private Partnership with Mafube Municipality and River Conservation Trust to ensure that the AAR is supported in the Province.

Contact person: Gerda Venter ([VenterG@dwa.gov.za](mailto:VenterG@dwa.gov.za))

#### Gauteng

Very little was done in 2010 as the then Provincial Champion Mr. Piet Muller retired from public service. He also focused on working with RQS in ensuring that the data on his disposal is captured in the National Rivers Database. This was all completed and is now available on the database. DWA: Gauteng was approached for championship of the Programme and as soon as a decision is made plans will be put in place to take the process with all other role players. Let us all thank "Oom" Piet Muller for his endless passion of seeing RHP through since inception through to his retirement. He indicated he will still assist where he can in this work. DWA would also like to thank GDARD for devoting resources to the

Programme and we look forward for continued support by GDARD.

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#### **Kruger National Park**

Surveying of all perennial rivers in the Kruger National Park continues and RHAM is being applied as well. Wetlands monitoring was implemented at Marakele National Park. The old problem of the use of the National Rivers Database is still persisting and all data collected has still not been made available for national sharing. The RQS will work hand in hand with the region to resolve the problem. Other work done included but not limited to, Orange River EIS, Crocodile & Sabie EWR, and the Olifants River PES.

*Contact person: Dr. Andrew Deacon*  
([AndrewD@sanparks.org](mailto:AndrewD@sanparks.org))

#### **KwaZulu Natal**

The KZN team has been quite involved in outreach activities where rivers are affected, reserve studies & building working relations with other organisations involved in water resources management in the Province. Capacity still remains a challenge for the Programme but despite this, the team is still continuing with river clean-ups and has also managed to run a SASS5 training course through *Ground Truth Consultants*, which it is anticipated to continue annually. Terms of References to outsource the implementation of RHP in the Province were also approved in DWA.

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#### **Limpopo**

The Limpopo PTT focused on the Levuvhu and Mogalakwena River systems in the past year and two separate reports were produced. Some team members were sent on SASS5 training will still be

tested for accreditation purposes. Members are hard at work and practising for competency testing. The team at this point is made up of DWA: Regional office and LEDET. Guidance is mostly given from LEDET colleagues who have been involved in the Programme for a long time. The team will focus on building further capacity & acquiring other resources while collecting data on 10 more rivers in the next year. Adopt-A-River (AAR) was launched in the Province where 100



women were temporarily employed. Work by the ladies has already shown good results and the PTT is thankful for the support given from National office on the AAR projects.

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#### **Mpumalanga**

The team is focusing on revival of the PTT with an initial meeting scheduled for early 2011. There is also a focus on capacity building as most of the people who were involved in the past have left the public sector. To date, DWA, MTPA and Inkomati CMA are taking the lead with many other organisations involved as stakeholders. The team will also facilitate compilation of the Inkomati SoR and will finalise the MoU which has been pending since 2008. The Bergvlam River system was adopted by the nearby schools as part of the AAR and is supported by DWA and other environmental organizations. The Regional Office is filling vacant positions as well, and is involved in several capacity building exercises to train new

officials for the successful implementation of the Programme.

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([DlaminiM@dwa.gov.za](mailto:DlaminiM@dwa.gov.za))

#### **Northern Cape**

The Northern Cape region still remains with the challenges of not having a dedicated Champion as a result of the transfer of Mr. Sam Dywilli to the DWA Bloemfontein office. Work is however continuing with great enthusiasm from Mr. Peter Ramollo from DECNC and colleagues from DWA: Kimberley and they have been sharing all data collected through the National Rivers Database. They also participated in the ORASECOM JBS1 undertaken.

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([ramollopp@gmail.com](mailto:ramollopp@gmail.com))

#### **North West**

The North West has done pretty well, with 178 sites monitored and with 291 data entries on the National Rivers Database, despite limitations such as staff composition, kilometre restrictions in DACERD, and limited organisations involved. RQS also requested a co-champion to be appointed in the Regional office. The North West Champion, Ms. Hermien Roux, is still one of the Gauteng SASS5 Auditors and she will continue in this role. Some of the other achievements included input into the scientific and technical report to Orange-Sengu River Basin, support to national site

monitoring on the Crocodile West and Marico, collaboration with Working for Water to focus on actions in conservation priority areas, and participation in a SANBI project on ecological status and sensitivity.

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([HRoux@nwpg.gov.za](mailto:HRoux@nwpg.gov.za))

#### **Western Cape**

The monitoring contractual obligation between DWA: Bellville and Cape Nature as an implementing agent came to an end in 2010. Both the Breede & Berg WMAs were surveyed and Technical Reports will be produced. Data being collected is continuously captured onto the National Rivers Database. A good working relation with the long-time experts through the PTT is having good results and there has seen increased number of SASS accreditations happening in the Province. A National AAR launch was done in the Eerste River by the Deputy Minister Rejoice Mabudafhasi on the 17<sup>th</sup> of March 2010 where both Local and District Municipalities have signed a pledge to foster the initiative going forward within the area and their other operational areas.

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### ***NAEHMP developments, events and related***

#### ***National Estuarine Monitoring Programme***

Resource Quality Services, the Directorate of the Department of Water Affairs that manages the NAEHMP, has identified a need for a national estuarine monitoring programme in order to report on the state of South Africa's estuaries as mandated in Section 14 of the National Water Act (Act No 36 of 1998). The management of estuaries does however also fall within the mandate of the Department of Environmental Affairs (DEA). A draft monitoring programme has been produced after wide consultation with relevant stakeholders.

A three-tiered approach will be followed in this monitoring programme. The first tier will collect the most basic abiotic data for long term trend analysis and development of further understanding of estuarine functioning. The second tier will collect biotic and abiotic data as per the estuarine reserve determination protocol, whilst the third tier will collect tailored data for aspects such as conservation planning, and understanding specific natural or anthropogenically induced environmental perturbations.

The programme is to be managed on a national level by DWA in collaboration with DEA. On a regional level, it will be managed by three management bodies each operating in the sub-tropical, warm temperate and cold temperate zones of the South African coast. It should be implemented on a local, estuary specific level through the estuarine management forums, currently being established. Once all the comments have been consolidated, final approval for the project will be requested whereafter the programme will be tested in certain estuaries.

by Gerhard Cilliers ([CilliersG@dwa.gov.za](mailto:CilliersG@dwa.gov.za)) – DWA: RQS

### **SASS Accreditation**

During 2010 thirty-three SASS practitioners were accredited, bringing the total number of accredited SASS practitioners to seventy-seven. SASS audits were done in Gauteng, the Kruger National Park, Kwa-Zulu Natal, Limpopo, Mpumalanga and the Western Cape. The severe drought in the Eastern Cape made it impossible to do a provincial audit and a number of the Eastern Cape SASS practitioners came to other provinces to be audited. Another 20 accredited SASS practitioners are due to be re-assessed in 2011. The table below indicates where the accredited practitioners are based.



| Province       | Number of accredited SASS practitioners |
|----------------|---|
| Eastern Cape   | 4                                       |
| Free State     | 3                                       |
| Gauteng        | 39                                      |
| Kwa-Zulu Natal | 4                                       |
| Limpopo        | 3                                       |
| Mpumalanga     | 5                                       |
| Northern Cape  | 0                                       |
| North West     | 1                                       |
| Western Cape   | 17                                      |
| Namibia        | 1                                       |

Provisional dates for SASS accreditation in Gauteng are 19 May, 18 August and 3 November. The SASS accreditation in Mpumalanga will take place on the last day of the SASS5 course (24 March) in Sabie. SASS practitioners requiring accreditation should please contact their provincial SASS auditor, contact details available at: <http://www.dwa.gov.za/iwqs/rhp/contact.html> to make arrangements.

by Christa Thirion ([ThirionC@dwa.gov.za](mailto:ThirionC@dwa.gov.za)) - DWA: RQS

### **PES/EIS Project Progress**

Following the promulgation of the NWA in 1998, an expert and data based assessment of the Present Ecological State (PES) and Ecological Importance (EI) and Sensitivity (ES) of Rivers was conducted for South Africa in 1999. The

purpose was mainly to provide information on ecologically sensitive and important systems for use in determining priorities for Ecological Reserve assessments, desktop evaluation relating to licence applications, as well as for use in the Water Situation Assessment Model (WSAM). The information emanating from this expert assessment was used for various purposes in the last ten years. However, it gradually became evident that there were serious limitations in the information generated by the process. The most important limitation was the fact that only the mainstem streams in quaternary catchments were assessed and no tributaries. Various surveys in our rivers and streams during the last 10 years also resulted in growth in the volume of data available to conduct such an assessment. It was therefore considered important that the PES-EI-ES be reviewed to provide a more comprehensive and potentially more reliable database. The review of the PES-EI-ES will make use of available data, local expertise knowledge to conduct assessments at a quaternary mainstem tributary level (or so-called sub-quaternary streams). The scale of the assessment will be the 1:500 000 map coverage developed by DWA and the assessment for all the WMAs will be done over the next 2 years. Direct evaluation of Water Resources for conservation purposes will not be addressed by the PES-EI-ES assessment. This aspect is addressed by SANBI and the CSIR. Information emanating from the project will, *inter alia*, contribute to:

1. Desktop assessment of licence applications.
2. Inputs into the resource classification process.
3. Inputs into the Ecological Reserve determination process.
4. Determination of monitoring priorities for the NAEHMP.
5. It is also planned that the assessment will provide highly relevant information for use in the ecological state of the rivers reporting of ROS and DWA.

The project will be managed by the RDM office assisted by RQS. Technical aspects, such as assessment models and Decision Support Systems will be dealt with by specialists from RQS. RDM has appointed 5 coordinators that will be responsible for collating relevant data in different groups of WMAs in South Africa. The first results are expected early in 2011 and are likely to involve the Olifants and Breede catchments.

by Dr. Neels Kleynhans ([KleynhansN@dwa.gov.za](mailto:KleynhansN@dwa.gov.za)) - DWA: RQS

### ***Aquatic Macroinvertebrate Guide Review Progress***

Almost 80% of the images needed to complete the guide have been photographed and edited. The major challenge is the unavailability of the families we still need to complete the guide at sampling sites where these families have been previously recorded and are expected. The last two photography trips to Eastern and Western Cape in October 2010 and to Northern and Southern KwaZulu Natal in November 2010 were not very successful. These are the families that we are still missing:



|              |             |                  |                   |                |
|--------------|-------------|------------------|-------------------|----------------|
| Coelenterata | Ephydriidae | Hydrosalpingidae | Protoneuridae     | Calopterygidae |
| Amphipoda    | Syrphidae   | Pisuliidae       | Sialidae          | Platycnemidae  |
| Palaemonidae | Hydrobiidae | Haliplidae       | Polycentropodidae | Glossomatidae  |
| Ephemeroidea | Viviparidae | Helodidae        | Psychomyiidae     | Dipseudopsidae |
| Limnichidae  | Empididae   |                  |                   |                |

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We request the RHP fraternity to assist by indicating the river name, coordinates and date where the above families have been recently recorded. Please send the information to Ms Pumza Maseti.

by Ms. Pumza Maseti ([MasetP@dwa.gov.za](mailto:MasetP@dwa.gov.za) or +27(0)12 808 9553) - DWA: RQS

### ***Adopt-a-River Programme***

The year 2010 has seen the completion of the Phase II of the Adopt-A-River (AAR) Programme and a national launch of the Programme by the Deputy Minister: Rejoice Mabudafhasi on the 17<sup>th</sup> of March. Subsequent to that, several other regional launches of the Programme went off successfully. The Deputy Minister furthermore included the Programme in her Public Participation Programme to encourage communities, especially women, to participate in caring and looking after our water resources. Three AAR flagship projects promoting the empowerment of women were identified and two were launched during the August as part of women's month celebrations. One hundred women in each of the three regions are paid stipends for the duration of the flagship projects as the Department of Water Affairs' contribution to economic empowerment and poverty alleviation initiatives. For more information contact: Ms. Helen

Moremong at:

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8916 or

+27(0)12 336

7349. Several

other South

African citizens

have since taken

the initiative to

participate in the

Programme and

all, including industries, private sector, schools, etc.,

are encouraged to be come on board. The

Department needs your assistance in dealing with

water quality and quantity issues which threaten our

livelihoods and the ecosystem as a whole if not

properly managed.



by Ramogale Sekwele & Helen Moremong (DWA: RQS & IWRMS)