

# NMMP NEWS

**NMMP NEWS** is a newsletter about the development and implementation of a national water quality monitoring programme to assess and report the potential health risk associated with faecal pollution of our surface water resources.

**Monitoring faecal pollution in surface waters.**



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## Cholera scourge continues

Statistics released on April 12 indicated that the total number of cholera cases to that date was 85 516 and the number of deaths was 178. The rate at which the disease was still spreading is indicated by fact that there were 358 new cases in the previous 24 hours.

Cholera is endemic to the eastern seaboard of southern Africa. The possibility of an outbreak in areas without clean water supplies and with inadequate sanitation is very real. In such areas people are often forced to make use of natural waters (both surface and ground waters). If sanitation is inadequate these waters can become faecally polluted. If such contamination was caused by a person with cholera, all other users of the water are put at risk if the water is not treated.

It is estimated that some 8 million people in South Africa rely on raw water sources. This is a significant proportion of our population. The National Microbial Monitoring Programme (NMMP) has been implemented in a phased way nationwide since January 2000. It uses the presence of faecal coliforms in water to indicate that the water has been recently contaminated. Setting up local monitoring programmes that regularly monitor waters that are at risk allows the authorities to react quickly when increased contamination occurs. In this way outbreaks of waterborne diseases (of which cholera is but one example) can potentially be prevented.



## Dept. of Health committed to NMMP

**Ms Qaphile Ntsele** is Deputy Director: Medical Natural Sciences in the Department of Health (DOH) head office in Pretoria. She is intimately involved in facilitating the phased implementation of the NMMP.

She recently visited the Giyani area in the Levuvhu-Letaba Water Management Area (Northern Province) with the Harold van Niekerk (the National Coordinator from IWQS (DWAF)) and Martella du Preez (Environmentek, CSIR). They met with local DWAF and DOH representatives, chose sampling sites for the local NMMP monitoring programme and identified the necessary role players.

Ms Ntsele can be reached at the DOH at the following

*New areas being monitored ...*

## New areas being monitored

### Levuvhu and Letaba Water Management Area

John Maseiya (DWAf regional office at Giyani) will be the Area Monitor. GZ Mashaba and DM Maluleke are the local DOH representatives. DOH and DWAf will be sharing the weekly sampling responsibilities for the three sampling sites chosen. The DWAf lab at Giyani will perform the necessary analyses.

### Usutu to Mhlathuze Water Management Area

The Area Monitor will be Malan Naudé, head of Scientific Services of Mhlathuze Water. Four sampling points will be sampled on a weekly basis. Mr C Mathenjwa of Richards Bay Transitional Local Council will be sampling one point. DOH (represented by WB Mncube & AM Mlaba) and Mhlathuze Water will sample the others. Mhlathuze Water will do the analyses.

### IWQS (DWAf) to finance NMMP analyses

Harold van Niekerk (the NMMP National Coordinator) has confirmed that limited funding is available specifically for covering the costs of analysing samples, at least for 2001. Typically, analyses include faecal coliforms, turbidity temperature and pH. The data are stored on the IWQS Water Management System database.



The high turbidity in this stream in the Giyane area in the Northern Province is obvious.

(Photo: B Genthe, Environmentek, CSIR)

### Clearly turbid

Turbidity is strictly the light-scattering ability of water. It indicates the concentration of tiny suspended solids in the water. It often increases after rain since runoff from the catchment picks up small particles from the land and carries them into local surface water resources. Runoff can also become faecally contaminated in the same way. Such contamination of water is often associated with increased turbidity. Exposure of faecal coliform cells to sunlight facilitates their decay. However, suspended particles can protect these cells from sunlight and hence allow them to survive longer. The particles can also adsorb nutrients onto their surfaces which the faecal coliform cells can use for growth. So, although, increased turbidity is a natural

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