

BETTY'S BAY RATEPAYRS ASSOCIATION

SEWAGE AND WATER COMMITTEE.

The Mayor and Councillors

Overstrand Municipality,

Hermanus.

The Sewage and Water Committee

Betty's Bay.

nunnaj@telkomsa.net,

Box 41, Betty's Bay.

2012/2/20

Dear Madam Mayor,

I have read the Annual Report of the Municipality. Thank you, the Councillors and the Officials of the Municipality for the hard work which has gone into the report, and thank you for the work which has achieved progress.

Our Committee thanks you too, for all agreeing at the last OMAF meeting that the inhabitants of the Municipal are integral parts of the successful operation of the next Five (5) years RDP, and have asked for our comments.

Our comments can only be made when we know what the Municipal plans are. We thus assume we may comment if we know what the plans are for our area.

Comment 1: On page 25 Of the Report , the water resources are summarised.

In each case the plans for that area are stated, except for the Buffels River and Kleinmond ,

Under that heading we are told that a detailed investigation has been carried out, and the recommendations will be implemented. Unless we have some idea of what these are, and how they may be implemented, it is impossible to give the most helpful comments. May we please know what these are, so that our comments can be more helpful.? Thank you.

Our Water and Sewage committee has been working with our officials as partners, for many years. We should appreciate being able to continue to help with our experience, and training, which will complement that of our Engineering Department .

We assume that the term 'non revenue water means water which has to be paid for, probably purified, cannot be charged for, so is paid for by the whole of the Overstrand community. It is horrifying to see that the worst offenders here are by far the Buffels dam water users.

We do understand that some citizens have far worse conditions of delivery of these services, and must have money spent on them, however we are losing a great deal of purified water

I have already written about the potentially dangerous situation of our potable water, On behalf of our committee. I feel we must again reiterate our considerable concern.

THERE IS ONE VERY OLD ASBESTOS PIPE LEADING FROM THE Buffels dam, to our water filtration plant. Our asbestos cement pipes have been dissolving due to acid rain and ground water. They have been responsible for many bursts entailing necessary replacement

In the Hangklip area. If this pipe should burst, there would be no drinking water in Hangklip, until a new pipe was installed. This would cause great expense to the Municipality, especially as I do not think that we have sufficient clean tankers for potable water.

There is also no sensor to show whether water is flowing only to the water works, or also leaking away.

I may be duplicating my information, as we do not yet know whether this is on the plans for ++hopefully a reasonably rapid resolution of this problem.

I have here a magazine informing people of methods of replacing pipes without digging up roads, I am sure our engineers know of this, but will send the document to our Engineering Department.

We know that our previous Councillor had obtained money for a new bridge to Otter Close. These people have only one access path which could wash away if we were lucky to have heavy rains. We do not know why this has not yet started. Their water supply too is one inadequate pipe, which could not support them if they were marooned. When the bridge is being built, may another pipeline for potable water be installed too.

We know that the green slime which appears on dams and lakes, such as Bass Lake. The green algae gives rise to a poison in the water. We have now found a scientific report, which can deal with and destroy this algal slime for quite long periods, using a very dilute solution of hydrogen peroxide.

We have recently been made aware of dangerous substances which are now being found in many drinking sources due to the chemicals in soaps, detergents etc., which react with some of the chemicals used for cleansing and purifying our water and produce in our drinking water. This will become a problem for many water sources, and countries, but is not for this comment. This is merely a warning for the moment.

Yours faithfully

Avril Nunn.

Chair, Water and Sewage Committee,

Rate Payers Committee.

[Water Research](#)

[Volume 46, Issue 5](#), 1 April 2012, Pages 1460–1472

Selective suppression of harmful cyanobacteria in an entire lake with hydrogen peroxide

Hans C.P. Matthijs^{[a](#), [1](#)}, Petra M. Visser^{[a](#)}, Bart Reeze^{[b](#)}, Jeroen Meeuse^{[c](#)}, Pieter C. Slot^{[a](#)}, Geert Wijn^{[b](#)}, Renée Talens^{[b](#)}, Jef Huisman^{[a](#)}

^a Aquatic Microbiology, Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam, P.O. Box 94248, 1090 GE Amsterdam, The Netherlands

^b ARCADIS Nederland BV, P.O. Box 673, 7300 AR Apeldoorn, The Netherlands

Abstract

Although harmful cyanobacteria form a major threat to water quality, few methods exist for the rapid suppression of cyanobacterial blooms. Since laboratory studies indicated that cyanobacteria are more sensitive to hydrogen peroxide (H₂O₂) than eukaryotic phytoplankton, we tested the application of H₂O₂ in natural waters. First, we exposed water samples from a recreational

lake dominated by the toxic cyanobacterium *Planktothrix agardhii* to dilute H₂O₂. This reduced the photosynthetic vitality by more than 70% within a few hours. Next, we installed experimental enclosures in the lake, which revealed that H₂O₂ selectively killed the cyanobacteria without major impacts on eukaryotic phytoplankton, zooplankton, or macrofauna. Based on these tests, we introduced 2 mg L⁻¹ (60 µM) of H₂O₂ homogeneously into the entire water volume of the lake with a special dispersal device, called the water harrow.

The cyanobacterial population as well as the microcystin concentration collapsed by 99% within a few days.

Eukaryotic phytoplankton (including green algae, cryptophytes, chrysophytes and diatoms), zooplankton and macrofauna remained largely unaffected.

Following the treatment, cyanobacterial abundances remained low for 7 weeks. Based on these results, we propose the use of dilute H₂O₂ for the selective elimination of harmful cyanobacteria from recreational lakes and drinking water reservoirs, especially when immediate action is urgent and/or cyanobacterial control by reduction of eutrophication is currently not feasible. A key advantage of this method is that the added H₂O₂ degrades to water and oxygen within a few days, and thus leaves no long-term chemical traces in the environment.
