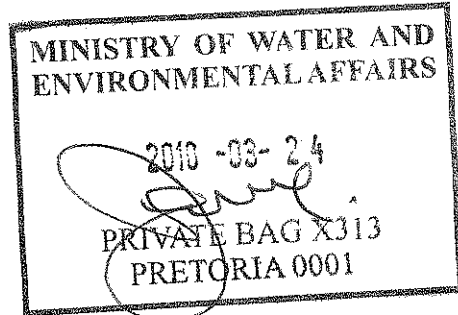




water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA



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Reference: 2/1/5/1

MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

NATIONAL ASSEMBLY: QUESTION 551 FOR WRITTEN REPLY

A draft reply to the above-mentioned question asked by Dr L L Bosman (DA); is attached for your consideration.


DIRECTOR-GENERAL (Acting)

DATE:

23/3/2010

DRAFT REPLY APPROVED/AMENDED


MS B P SONJICA, MP
MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

DATE:

29.03.2010

NATIONAL ASSEMBLY

FOR WRITTEN REPLY

QUESTION NO 551

DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 05 MARCH 2010
(INTERNAL QUESTION PAPER NO. 6)

551. Dr L L Bosman (DA) to ask the Minister of Water and Environmental Affairs:

- (1) Whether the 1mg^{-1} ortho-phosphate standard promulgated by her department for determination of eutrophication in dams remains relevant today; if not, what will be done to review this measure; if so, what are the relevant details;
- (2) when were these measures (a) initially introduced and (b) last reviewed;
- (3) (a) what are the (i) names and (ii) locations of all dams that are deemed (aa) eutrophic and (bb) incipient eutrophic and (b)(i) what is the acceptable phosphorous loading threshold and (ii) by how much is the acceptable loading standard exceeded in each case;
- (4) whether any action is being taken to remedy the situation in each case; if not, why not; if so, what are the relevant details?NW665E

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REPLY:

- (1) Yes, any relevant means to reduce effectively nutrient (phosphorus and nitrogen compounds) enrichment in dams is highly recommended that include the 1 mg/l orthophosphate standard promulgated by My Department about (twenty two) 22 years ago.
- (2)(a) My Department promulgated the standard on the 1 August 1980 as the first step in a long term eutrophication management. The implementation of the standard started in 1988 following a request by local authorities for more time to upgrade effluent treatment plants to comply with the standard.
- (2)(b) My Department is currently reviewing Water Quality Guidelines that include phosphate standard.
- (3)(a)(i)
and
(3)(a)(ii)(aa)
and
(3)(a)(ii)(bb)

Crocodile West-Marico Water Management Area: most of the dams are hyper-eutrophic
Hartebeespoort dam (eutrophic)
Roodeplaat dam (eutrophic)
Bospoort dam (incipient)
Bon Accord dam (incipient)
Rietvlei dam (eutrophic)
Klipvoor dam (eutrophic)
Moroka dam (incipient)

Middle Vaal water management area

Erfenis dam (incipient)
Allemanskraal dam (incipient)
Koppies dam (incipient)

Lower Vaal water management area

Spitskop dam (eutrophic)
Krugersdrift dam (Incipient)

Mvoti to Umzimkulu water management area

Nagle dam (incipient)
Inanda dam (incipient)
Shongweni dam (eutrophic)

Mzimvubu to Keiskamma water management area

Laing dam (incipient)
Kariver dam (incipient)
Nahoon dam (incipient)
Bridledrift dam (incipient)

- (3)(b)(i) Phosphorus Management Objective (PMO) or end-point of maintaining mean total phosphorus in dams is $130\mu\text{g/l}$ (0.130mg/l) P or lower. The PMO was suggested to maintain mean chlorophyll concentrations in the dams at such levels to inhibit occurrence of severe nuisance conditions for more than 20% of the time.
- (3)(b)(ii) Most of the hypertrophic dams have their PMO relatively higher by several magnitudes.
- (4) Yes, a number of initiatives are in place to develop management of in-lake eutrophication / nutrient enrichment such as:
- My Department is already investigating and researching the possibilities to implement in-lake management options with the Harties Metsi-a Me Project (Hartebeespoort dam).
In the Rietvlei Dam the installation of Solar-Bee's, a long distance circulation pump system, by Tshwane Metropolitan Council is a step towards finding solutions to in-lake eutrophication.
 - The DWA/WRC projects provide with insight in the latest research techniques and methods, namely:
 1. Biomanipulation Project to determine the potential impact of fish-harvesting on improving eutrophication conditions
 2. Removal of Phosphorus from Soaps, investigating the positive and negative consequences of the introduction of low-phosphate detergents
 3. The WRC is financing several cyanobacterial-focused projects. The aim of these projects is to generate information on the extent to which cyanobacteria and their toxins affect biodiversity.