



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

MINISTRY OF WATER AND
ENVIRONMENTAL AFFAIRS

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MINISTER OF WATER AND ENVIRONMENTAL AFFAIRS

NATIONAL ASSEMBLY: QUESTION 2002 FOR WRITTEN REPLY

A draft reply to the above-mentioned question asked by Mrs A T Lovemore (DA); is attached for your consideration.


DIRECTOR-GENERAL (Acting)

DATE: 1/10/10

DRAFT REPLY APPROVED/~~AMENDED~~


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

DATE: 04/10/2010

NATIONAL ASSEMBLY

FOR WRITTEN REPLY

QUESTION NO 2002

DATE OF PUBLICATION IN INTERNAL QUESTION PAPER: 30 JULY 2010
(INTERNAL QUESTION PAPER NO. 18)

2002. Mrs. A T Lovemore (DA) to ask the Minister of Water and Environmental Affairs:

- (1) (a) Which dams are considered at risk or are experiencing eutrophication as a result of high phosphate loads entering the impoundments, (b) what negative effects of such eutrophication have been experienced and (c) what costs have been incurred in countering the negative effects for each affected impoundment;
- (2) whether she has taken any action with a view to make the reduction of the phosphate content of (a) soaps, (b) detergents and (c) any other pollutants compulsory; if not, why not; if so, what (i) action and (ii) impediments to reduction have been encountered;
- (3) whether she intends introducing legislation on the standards for the phosphate content of any other pollutants than soap and detergents; if not, why not; if so, when?

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REPLY:

- (1)(a) There are a number of dams in the country that are experiencing signs of eutrophication (eutrophic to hypertrophic) while others indicate serious eutrophication potential relative to other water management areas. The Water Management Areas (WMAs) affected are:
- Crocodile West-Marico Water Management Area (2 hypertrophic dams, 2 eutrophic dams and 3 dams with serious eutrophication potential)
 - Hartebeespoort dam (hypertrophic)
 - Roodeplaat dam (hypertrophic)
 - Rietvlei dam (eutrophic)
 - Klipvoor dam (eutrophic)
 - Bospoort dam (serious eutrophication potential)
 - Bon Accord dam (serious eutrophication potential)
 - Moroka dam (serious eutrophication potential)
 - Middle Vaal Water Management Area (3 dams with serious eutrophication potential)
 - Erfenis dam (serious eutrophication potential)
 - Allemanskraal dam (serious eutrophication potential)
 - Koppies dam (serious eutrophication potential)
 - Lower Vaal Water Management Area (1 eutrophic dam and 1 dam with serious eutrophication potential)
 - Spitskop dam (eutrophic)
 - Krugersdrift dam (serious eutrophication potential)
 - Mvoti to Umzimkulu water management area (1 eutrophic dam and 2 dams with serious eutrophication potential)
 - Shongweni dam (eutrophic)
 - Nagle dam (serious eutrophication potential)
 - Inanda dam (serious eutrophication potential)
 - Mzimvubu to Keiskamma water management area 4 dams with serious eutrophication potential)

- Laing dam (serious eutrophication potential)
- Katriver dam (serious eutrophication potential)
- Nahoon dam (serious eutrophication potential)
- Bridledrift dam (serious eutrophication potential)

(1)(b) The major negative effects include prolific growth of algae (algal blooms) and aquatic plants (i.e. water hyacinth). These affect the water quality and can result in unpleasant smells, as well as the production of toxins that can affect water purification processes and recreational activities.

(1)(c) A number of initiatives funded by different stakeholders including my Department have been put in place to develop in-lake eutrophication or nutrient enrichment management. Some of the best known are:

- Harties Metsi-a Me Project (Hartebeespoort dam) is an over-arching project that looks at a wide variety of short-term and long-term methods to control the eutrophication of the Hartbeespoort Dam. The main funder of this project is the Rand Water Board, which contributed R8.1 million over the last four years towards eutrophication control. Residents and other stakeholders around the dam contributed approximately R5.2 million for the last two financial years. International donors' contribution amounted to R6.2 million.
- The Tshwane Metropolitan Council funded the acquisition and installation of six (6) Solar-Bees pump stations at the Rietvlei dam (11 July 2008). A Solar-Bee is a long distance circulation pump system that will assist in finding solutions to in-lake eutrophication. The exact cost can be obtained from Tshwane Metropolitan Council, but the estimated saving on water treatment since the installation of these Solar-Bees is R590 000 per year.
- The Working for Water Programme mechanically removes water weeds from a number of impoundments. The amount spent on removal of water weeds for the 2009/10 financial is R 6, 263,965
- In addition, the Water Research Commission has funded a number of eutrophication management studies. My Department is involved on a technical and supporting basis in these projects namely;
 1. Bio-manipulation 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 (**Project K5/1768**) – cost of R689 200.
 3. Cyanobacterial-focused projects: the latest is the investigation of the toxicity of the Kruger National Park (**Project K5/1850**). The main aim of this project is to obtain information on the extent to which cyanobacteria and their toxins may affect wildlife in the National Park – cost of R395 000.

(2)(a)
and

(2)(b) Currently there are no proposals to make reduction of phosphates in soaps and detergents compulsory, although it has been investigated. Studies by the Water Research Commission have shown that 30-50% of the total phosphorus loading on Wastewater Treatment Plants comes from soaps and/or detergents. Other possible and more viable solutions to reduce phosphate loading in catchments include improved technology for phosphate removal in Wastewater Treatment Plants, incentives and/or penalties for relevant industries, as well as urine diversion.

- (2)(c) The other major source of phosphorus loading in our water resources comes from the agricultural sector due to the use of fertilizers in crop farming. Better agricultural practices need to be encouraged to prevent excess fertilizers and phosphorus-containing manure from reaching our water resources. The reduction of phosphate within the agricultural sector is not compulsory.
- (3) In the 1980s, my Department issued a special phosphorus standard of (1mg P/l) on effluent discharged into sensitive catchments in an attempt to reduce nutrient enrichment in surface water. As this standard is now generally accepted to be too high, my Department needs to develop lower phosphorus standard. A project to review the current Water Quality Guidelines is being implemented and will constitute a risk-based assessment on all pollutants and an indication of acceptable levels for different water uses. The review will take 3-5 years to complete.

In the mean time, the current phosphorus effluent standard in Wastewater Treatment Works and other related industries is being enforced more strictly. In sensitive catchments the phosphate standard is set lower than the 1mg P/l, and enforced as such.

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