

Annual Water Report 2022 – Peter Pyke

Water supply in Bitou is complex. Bitou runs four separate water supply systems; Plettenberg Bay (including Plett town, Kwanokuthula, New Horizons, Keurboomstrand, Wittedrift and Kranshoek), Harkerville, Kurland, and Natures Valley. The various components are briefly outlined below.

Main Plett Supply area



Roodefontein Dam. Photo – DWS

This is supplied with water from four sources, namely the Keurbooms River, the Roodefontein Dam, desalination and groundwater abstraction.

Raw water from the abstraction point in the Keurbooms River is pumped through a 17,3 km long 500 mm diameter pipeline to Plettenberg Bay where it is treated to potable standard at the water treatment plant (WTP). Surplus water from this source can be transferred to the Roodefontein dam. However, abstraction from the Keurbooms River is curtailed (and even stopped) during times of low flow to preserve the ecological health of the important Keurbooms Estuary, one of Plett's greatest natural assets.

The small Roodefontein dam which receives its water from the Piesang River was originally constructed to supply water for irrigation for the Griqua community under the Tricameral political dispensation. The dam was later raised to provide additional storage capacity for municipal water supply. The municipal allocation is 55% of the dam's capacity, with the remainder for the irrigators. In the dryer summer months when there is a shortage from the Keurbooms River source, water is supplemented from the Roodefontein dam. The water from the Roodefontein dam gravitates then is pumped through a 3,9 km pipeline to the WTP. The treatment capacity of the Plettenberg Bay WTP is 27,0 Megalitres/day (ML/d). This capacity appears adequate for the immediate future.

During peak demand conditions water supply can be augmented from groundwater abstraction and through desalination. Water from the boreholes is pumped directly to the treatment plant or to the existing reservoirs where water is treated. The Bitou desalination plant (located next to the Beacon Isle hotel) has a treatment capacity of 2,0 ML/d. Due to higher operating costs, the desalination plant is only operated during higher demand periods.

From the WTP, water is then distributed through 25 zones supplied from 22 reservoirs and 7 towers into greater Plettenberg Bay through some 259 km of pipes to residents. A large portion of the old distribution pipes have exceeded their design life with frequent breakages and need urgent replacement to help minimize losses. Adequate budgets for this work have not been provided and should be prioritized. However prompt repairs by the municipal water repair team have limited water losses and their actions are to be commended. However municipal reports show high unaccounted water losses which may be due to unbilled water and billing errors. A full water loss analysis is recommended to pin-point where these losses are actually occurring.

Harkerville Supply area

Harkerville is supplied with water from boreholes.

Kurland Supply area

Kurland's source of bulk water is the Wit River where water abstracted is pumped to the Kurland WTP where it is purified. Raw water supply is augmented from 2 boreholes close to the Kurland WTP. The treatment capacity of the Kurland WTP is 0,6 ML/d. A network of some 8,4 km of pipes distributes water to residents.

Nature's Valley supply area

Nature's Valley receives raw water from the Groot River. The Nature's Valley WTP has a treatment capacity of 1,0 ML/d and is located next to the abstraction point in the Groot River. This pipe distribution network is some 10,9 km in total

Quality of Water

The Department of Water and Sanitation recently reintroduced their Blue Drop programme which monitors compliance with drinking water standards throughout the country. In the 2022 Blue Drop Assessment, Bitou continues to achieve excellent compliance (within top 5) results over a range of criteria chosen to assess the overall risk to communities served. This means that it is quite safe to drink tap water in Bitou.

Adequacy of Supply

The population of Plett is steadily increasing with many new developments planned and being executed placing an increasing load on our bulk water supply infrastructure which has yet to be augmented to meet the new demands.

Although Plett has various sources of water, the major portion of the water is pumped from the Keurbooms River. During times of low flow, when we are not permitted to abstract Keurbooms water, we must then abstract from our limited storage portion of the small Roodefontein Dam, the desalination plant and boreholes. This leaves us vulnerable to stringent water restrictions during any significant drought. Due to long implementation lead times, investigations into augmenting the bulk water supplies need to be vigorously pursued.

Staff changes

We welcome the recent appointment of Mr Victor Felton as Director of Engineering Services. The appointment of properly qualified professionals in these important posts can only improve the provision of services in Bitou. Recruitment of a new engineer in the Water Division to replace Franclyn Samuel is currently under way.

SUMMARY

1

Plett enjoys good quality drinking water.

2

An adequate budget is required for maintenance and for planned replacement of aging pipe networks.

3

A proper analysis of unaccounted water is required.

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While our resources appear adequate in the short term, the high rate of expansion of new development coupled with high population growth in the greater Plett area creates vulnerability during low flow and drought events requiring urgent attention be given to augmentation of the water resources. The regular, lengthy load shedding is creating operational constraints to keeping adequate levels in the supply reservoirs, something not provided for in the original system design.

5

Users be encouraged to use water wisely.