

**WATER QUALITY IN THE  
RUSTENBURG DORPSPRUIT**

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SHORT DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT  
OF THE DEGREE

MAGISTER ARTIUM

IN

**ENVIRONMENTAL MANAGEMENT**

IN THE FACULTY OF ARTS

AT THE

**RAND AFRIKAANSE UNIVERSITY**

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NOVEMBER 2002

## **ACKNOWLEDGEMENTS**

1. To the Lord for his guidance and faithfulness (Ps. 1).
2. To my wife and children for their unselfish support and encouragement.
3. To Professor J.T.Harmse for his guidance and support.
4. To Rustenburg Local Municipality for the use of data.



## **ABSTRACT**

The goal of this study is to determine the water quality of the Rustenburg Dorpspruit over a six-year period, from 1995 to 2000. The Dorpspruit falls within the sub-catchment of the Elands River within the Hex River catchment and runs through the city of Rustenburg. The Rustenburg Dorpspruit consists of two branches, the main perennial branch and a seasonal branch from the Ananda area. The study focuses on the perennial branch, which originates in the Magalies Mountains and eventually flows into the Hex River some 10 km down stream.

Intense urbanisation has taken place in this area around the Dorpspruit over the past ten years and the study specifically focuses on the seasonal and long term trends of a selective number of water quality parameters. The physical, chemical and microbiological water quality parameters of the Rustenburg Dorpspruit are examined and compared to the Department of Water Affairs and Forestry water quality guidelines for Domestic use, Livestock watering and Aquatic ecosystems. The results show that the water quality in the upper part of the Dorpspruit is good, but that further down stream at sampling point D-Spr 7 the quality deteriorates drastically. This is mainly due to the impacts of the Tlhabane and industrial area on the Dorpspruit at this point.

## **OPSOMMING**

Die doelstelling van hierdie studie om die water kwaliteit van die Rustenburg Dorpspruit te bepaal vir die ses jaar periode vanaf 1995 tot 2000. Die Dorpspruit val binne die Elandsrivier sub-opvangsgebied binne die Hexrivier opvangsgebied en vloei deur die

Rustenburgstadsgebied. Die Rustenburg Dorpspruit bestaan uit twee sytakke, die hoof standhoudende stroom en 'n seisonale sytak van die Ananda omgewing. Die studie fokus op die standhoudende vertakking wat sy oorsprong in die Magaliesberg het en wat ongeveer 10 km verder stroom af in die Hexrivier inloop.

Intensiewe verstedeliking het die laaste 10 jaar in die gebied langs die spruit plaas gevind en die studie fokus spesifiek op die seisonale en langtermyn tendense van selektiewe water kwaliteit veranderlikes. Die fisiese, chemiese en bakteriologiese waterkwaliteit elemente van die Rustenburg Dorpspruit word ondersoek en vergelyk met die Departement van Waterwese en Bosbou se water kwaliteits riglyne vir Huishoudelike gebruik, Lewendehawe drinkwater en Water ekosisteme. Die resultate wys dat die water kwaliteit in die bloop van die spruit goed is, maar verder spruit af, by D-Spr 7 verswak die kwaliteit drasties. Dit word veroorsaak deur die impakte van Tlhabane en die industriële nywerheids gebied op die Dorpspruit by hierdie punt.



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