

**WATER QUALITY IN THE
RUSTENBURG DORPSPRUIT**

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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 boploop 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.



<u>CONTENTS</u>	PAGE NO
1 INTRODUCTION	1
2 THE PROBLEM STATEMENT	1
3 STUDY AREA	2
3.1 Demarcation of study area	
3.2 Characterization of the Dorpspruit	3
3.3 Physical factors in the study area which may have an influence on the water quality	5
3.3.1 <u>Geology</u>	5
3.3.2 <u>Relief</u>	5
3.3.3 Soils	5
3.3.4 <u>Climate</u>	6
4 WATER QUALITY AND WATER QUALITY PARAMETERS	7
4.1 Water quality parameters	8
4.1.1 <u>Physical Parameters</u>	8
4.1.1.1 Electrical Conductivity and Total Dissolved Solids	8
4.1.1.2 Chemical Oxygen Demand	11
4.1.1.3 PH	11
4.1.2 <u>Chemical Water Quality Parameters</u>	14
4.1.2.1 Ammonia	14
4.1.2.2 Calcium	17
4.1.2.3 Chloride	18
4.1.2.4 Fluoride	20
4.1.2.5 Magnesium	23
4.1.2.6 Nitrates	25
4.1.2.7 Orthophosphates	27
4.1.2.8 Sulphate	28
4.1.2.9 Sodium	30
4.1.3 <u>Microbiological Water Quality</u>	31

4.1.3.1	Faecal coliforms	32
4.1.3.2	Total coliforms	33
5	DATA	34
5.1	Data collection	34
5.2	Location of sampling sites	34
5.3	Collection and Analysis of data	37
5.4	Shortcomings of data	37
6	DISCUSSIONS OF RESULTS	38
6.1	Physical Parameters	38
6.1.1	<u>Total dissolved substances</u>	38
6.1.2	<u>Chemical oxygen demand</u>	39
6.1.3	<u>PH</u>	44
6.2.	Chemical parameters	47
6.1.1	<u>Ammonia</u>	47
6.1.2	<u>Calcium</u>	47
6.1.3	<u>Chloride</u>	52
6.1.4	<u>Fluoride</u>	52
6.1.5	<u>Magnesium</u>	57
6.1.6	<u>Nitrates</u>	60
6.1.7	<u>Orthophosphate</u>	60
6.1.8	<u>Sulphate</u>	61
6.1.9	<u>Sodium</u>	68
6.2	Microbiological parameters	68
6.2.1	<u>Faecal coliforms</u>	68
6.2.2	<u>Total coliforms</u>	73



7	POINT - AND NON-POINT SOURCE POLLUTION	76
8	CONCLUSION	76
9	RECOMMENDATIONS	78



LIST OF FIGURES

PAGE NO

Figure 1: Average Monthly Rainfall for Rustenburg (Weather Bureau)	6
Figure 2: Average Monthly Minimum Temperatures for Rustenburg (Weather Bureau)	7
Figure 3: Average Monthly Maximum Temperature for Rustenburg (Weather Bureau)	7
Figure 4: Positions of Monitoring Points in the Rustenburg Dorpspruit	35
Figure 5: Total Dissolved Solids Seasonal Periods	40
Figure 6: Total Dissolved Solids Long Term Trends	41
Figure 7: Chemical Oxygen Demand Seasonal Flow	42
Figure 8: Chemical Oxygen Demand Long Term Trends	43
Figure 9: pH Seasonal Flow	45
Figure 10: pH Long Term Trends	46
Figure 11: Ammonia Seasonal Flow	48
Figure 12: Ammonia Long Term Trends	49
Figure 13: Calcium Seasonal Flow	50
Figure 14: Calcium Long Term Trends	51
Figure 15: Chloride Seasonal Flow	53
Figure 16: Chloride Long Term Trends	54
Figure 17: Fluoride Seasonal Flow	55
Figure 18: Fluoride Long Term trends	56
Figure 19: Magnesium Seasonal Flow	58
Figure 20: Magnesium Long Term Trend	59
Figure 21: Nitrates Seasonal Flow	62
Figure 22: Nitrates Long Term Trend	63
Figure 23: Orthophosphates Seasonal Flow	64
Figure 24: Orthophosphates Long Term Trend	65
Figure 25: Sulphate Seasonal Flow	66
Figure 26: Sulphate Long Term Trend	67
Figure 27: Sodium Seasonal Flow	69

Figure 28: Sodium Long Term Trend	70
Figure 29: Faecal Coliform Seasonal flow	71
Figure 30: Faecal Long Term Trend	72
Figure 31: Faecal Total Coliform Seasonal Flow	74
Figure 32: Faecal Total Coliform Long Term Trend	75



LIST OF TABLES	PAGE NO
Table 1: Target Water Quality Range for Aquatic Ecosystems	11
Table 2: The Effects of pH on Aesthetics and Human Health	13
Table 3: Criteria for pH in Aquatic Ecosystems	14
Table 4: Effects of Ammonia on Aesthetics and Human Health	16
Table 5: Criteria for Un-ionised Ammonia in Aquatic Ecosystems	17
Table 6: Effects of Calcium on Health of Livestock	18
Table 7: Effects of Chloride on the Health of Livestock	19
Table 8: Effects of Fluoride on Aesthetics and Human Health	21
Table 9: Effects of Fluoride on Livestock Health	22
Table 10: TWQR Criteria for Dissolved Fluoride in Aquatic Ecosystems	23
Table 11: Effects of Magnesium on Aesthetics on Human Health	24
Table 12: Effects of Magnesium on Health of Livestock	25
Table 13: Effects of Nitrate/Nitrite on Human Health	26
Table 14: Effects of Nitrate on the Health of Livestock	27
Table 15: Effects of Inorganic Phosphorous on Aquatic Systems	28
Table 16: Effects of Sulphate on the Health of Livestock	29
Table 17: Effects of Sodium on Aesthetics and Human Health	30
Table 18: Effects of Sodium on the Health of Livestock	31
Table 19: Effects of Faecal Coliform on Human Health	32
Table 20: Effects of Total Coliform on Human Health	33