NSW

LAND & WATER CONSERVATION

LOCAL GOVERNMENT & SHIRES ASSOCIATIONS OF NSW

1999/00 NSW Water Supply and Sewerage

Performance Comparisons

1999/00 NSW WATER SUPPLY AND SEWERAGE

PERFORMANCE COMPARISONS

S Samra
Manager
Water Utility Performance

C Essery
General Manager
Town Water Treatment & Recycling

© CROWN COPYRIGHT 2001
NEW SOUTH WALES

ISSN 1327-6425

DISCLAIMER

Whilst the Department of Land and Water Conservation has taken due care in preparation of this report, it accepts no liability for any errors or omissions, nor for any use of the report by any person.

FOREWORD

The NSW Government aims to improve the quality and efficiency of services to all residents. To facilitate achieving continuous improvement, it provides information through which organisations can compare their performance with similar organisations. The Minister for Land and Water Conservation provides copies of this NSW Annual Water Supply and Sewerage Performance Comparisons report to all 126 NSW water utilities. The report has been produced since 1986 and summarises the performance of these utilities for the last 5 years. It has been prepared by the Town Water Treatment and Recycling Branch of the Department of Land and Water Conservation.

The performance comparisons provide information to everyone with an interest in the performance of NSW water utilities (eg. management, customers, regulators and other utilities). In particular, they enable each utility to compare both trends in its performance indicators and its relative performance. Utilities can thus identify and rectify any areas of under-performance. Table 1 (Water Supply) and Table 2 (Sewerage) on pages xxvi and xxvii facilitate yardstick comparisons by showing the top 20%, Statewide median and the lower 20% for each NSW performance indicator.

Comparison of reported performance should take account of the wide range of factors which can impact on a water utility's performance and on the typical residential bill, which is the annual bill paid by a typical residential customer and is the principal indicator of the overall cost of a water supply or sewerage system. Such factors can produce a fundamental difference in performance. For example, in the case of water supply, a utility which provides the full water supply system will perform differently to one which only provides components of the system (eg. reticulation or bulk supply).

Each water utility can improve its performance by taking account of such factors and comparing its performance with utilities having similar characteristics. Factors which can significantly increase the typical residential bill are the need for significant storage, remoteness from the water source and the need for fully filtering the water supply. In the case of sewerage, a significant impactor on the typical residential bill is whether the utility is operating phosphorus and nitrogen removal facilities at its treatment works. Other important factors include the properties served per km of main, climate, rainfall, topgraphy, the age and condition of the infrastructure and the size of the water utility.

Performance comparisons and benchmarking are required under National Competition Policy, are important for public accountability to the community and have been strongly endorsed by the Independent Pricing and Regulatory Tribunal[1]. The NSW Performance Comparisons also provide valuable data for determining the present position and assessing future water supply and sewerage needs for non-metropolitan NSW. This ensures an appropriate focus and targeting of programs to assist the NSW utilities.

The Department of Land and Water Conservation/Local Government and Shires Associations (DLWC/LGSA) syndicate benchmarking pilot project on water supply and sewerage by a group of 7 large NSW councils has resulted in Council strategies for significant cost savings and indicates that such process benchmarking should be highly cost-effective for all non-metropolitan councils. The present report therefore provides disaggregated cost data to facilitate such benchmarking.

[1] Pricing Principles for Local Water Authorities, Independent Pricing and Regulatory Tribunal, NSW, September 1996

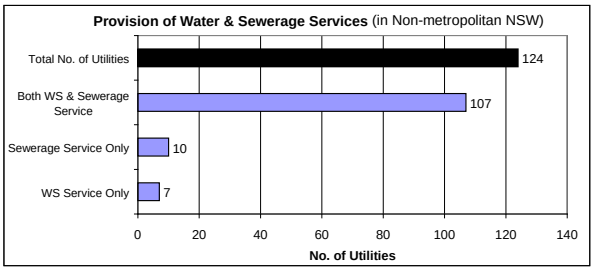
ACKNOWLEDGMENTS

The strong support of the Local Government and Shires Associations for the NSW annual water supply and sewerage performance reporting system since its commencement in 1986 is acknowledged.

As the success of the NSW performance reporting system is contingent on full participation by all NSW councils, the continuing participation of each council in the reporting system and each council's significant efforts in providing current, accurate and timely data on its performance are particularly acknowledged.

TABLE OF CONTENTS

EXECUTIVE SUMMARY



Provision of Services **-** 1.7 million people were provided with a reticulated water supply in non-metropolitan NSW in 1999/00. The number of water supply assessments was 738,000 and the total water consumption was 315,000 ML. 124 water utilities provided the water supply and sewerage services for non-metropolitan NSW (107 utilities provided both water supply and sewerage, 7 utilities provided water supply only, and 10 utilities provided sewerage only). 1999/00 was a relatively wet year with 70% of the utilities receiving above average rainfalls.

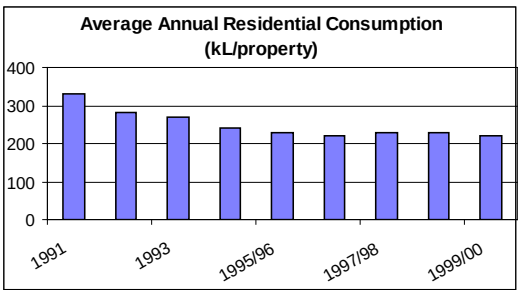
The total turnover for the 124 utilities was $650M and the current replacement cost of their water supply and sewerage assets was $9,100M. 41 of the NSW utilities were Category 1 businesses under National Competition Policy, having an annual turnover of over $2M for their water or sewerage businesses (29 utilities had such a turnover for both water and sewerage, 10 utilities had such a turnover for water supply only, and 2 utilities had such a turnover for sewerage only).

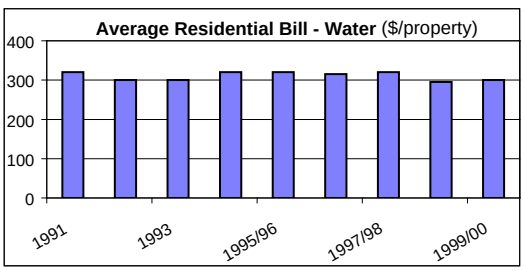
Drinking Water Quality **–** 95% of the samples tested complied with the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines for physical and chemical water quality and 93% of the samples tested complied for microbiological water quality. 97% of the samples tested contained no faecal coliforms. Over the last 5 years, physical and chemical compliance ranged from 91% to 95% and microbiological compliance ranged from 90% to 95%.

Sewage Effluent Quality **–** 97% of the sampling days complied with the 90-percentile limits of the EPA licences for Biochemical Oxygen Demand (BOD) and 86% of the sampling days complied for Suspended Solids (SS). Compliance over the last 5 years has ranged from 95% to 97% for BOD and from 86% to 93% for SS.

Statewide medians for non-metropolitan NSW in 1999/00 were:

- *Average residential water consumption* **–** 220 kL/connected residential property. Average residential consumption per property has fallen from 330 kL/a to 220 kL/a over the last 9 years.
- *Typical 2000/01 developer charge* **–** $4650/equivalent tenement for water supply and sewerage.
- *Typical residential bill* **–** $650/assessment for water supply and sewerage in 2000/01. The average residential bills for water supply and sewerage have remained at about $300 and $350 respectively over the last 9 years (Jan 2000$).





- *Number of employees* – 2.7 per 1000 connected properties for water supply and sewerage, a reduction of 20% over the last 9 years. The number of employees per 1000 connected properties for water supply has fallen from a maximum of 1.7 to 1.3 and for sewerage has fallen from a maximum of 1.8 to 1.4.
- *Economic real rate of return* – 3.0% for water supply and sewerage. 79 utilities had a positive real rate of return. The real rate of return has increased from 2.6% to 3% over the last 5 years.
- *Debt/equity* – 7% for water supply and sewerage, falling from 11% to 7% over the last 5 years.
- *Water quality complaints* and *water service complaints* – 5 and 13 per 1000 connected properties. Water quality complaints have remained constant and service complaints have increased from 7 to 13 over the last 5 years.
- *Sewage odour complaints* and *sewerage service complaints* – 0.6 and 14 per 1000 connected properties. Odour complaints have remained constant and service complaints have fallen from 20 to 14 over the last 5 years.
- *Sewer main chokes and collapses* and *sewer overflows to the environment* – 35 and 4 per 100 km of main. These have fallen from 75 to 35 and 7 to 4 respectively over the last 5 years.
- *Operation, maintenance and administration (OMA) cost* – OMA cost for water supply and sewerage is $425 per property; this has increased by 20% in real terms over the last 9 years, mostly due to more stringent standards for sewage treatment, water treatment, and higher management costs.
- *Management cost* – $150/connected property for water supply and sewerage. The management cost per property has increased by 40% in real terms over the last 9 years.

Pay-for-use water supply tariff – 50% of the utilities had a two-part tariff (with an access charge and a usage charge for all water usage), or an inclining block tariff in July 2000. These utilities complied with the Independent Pricing and Regulatory Tribunal's (IPART) Pricing Principles for Local Water Authorities and with the Council of Australian Governments' (COAG) Strategic Framework for Water Reform.

Tariffs independent of land value – 80% of the utilities had residential water supply tariffs independent of land value, and 70% of the utilities had residential sewerage tariffs independent of land value. These utilities complied with the IPART Principles and the COAG Reforms.

Business Plans – 35% of the utilities have completed Strategic Business Plans and have demonstrated the long-term financial sustainability of their water supply and sewerage businesses to comply with National Competition Policy. A further 45% of the utilities have prepared draft Strategic Business Plans for these businesses, but further development of these draft business plans is required.

SUMMARY OF RESULTS

1 OVERVIEW

The performance indicators in this report are for each NSW utility's water supply and sewerage businesses and have been grouped under the following categories:

- Business Characteristics
- Charges
- Bills
- Financial
- Levels of Service
- Efficiency

To facilitate comparisons, the performance indicators have been prepared for each utility's aggregated water supply businesses and aggregated sewerage businesses, rather than for individual water supply and sewerage systems.

Statewide performance indicators are reported in the Summary. These have been calculated on a *'percentage of connected properties basis'* as this best indicates Statewide performance by giving due weight to larger councils and reducing the effect of smaller councils on Statewide performance.

Table 5 on page xxxii shows the key water supply and sewerage performance indicators for each of the 126 NSW water utilities to provide an overview of each utility's performance.

Most of the figures in this report show the results for each water utility for each of the last 5 years to enable review of trends and to facilitate benchmarking and 'yardstick' comparisons. These figures have been arranged into the following 4 size ranges to enable each utility to compare its performance against similar sized utilities (eg. Figure 22 on page 74):

- >10,001 connected properties,
- 2,001 to 10,000 connected properties,
- 801 to 2,000 connected properties, and
- 200 to 800 connected properties.

Tables 6 to 12 on pages 5 to 39 show key data for each utility's water supply and sewerage businesses over the last 4 years:

- Table 6 1999/00 Water Consumptions in Non-Metropolitan NSW
- Table 6A 1999/00 Non-Metropolitan Water Consumptions from Source Catchments
- Table 7 Water Supply – Business Characteristics, Financial
- Table 8 Water Supply – Residential Charges, Bills
- Table 8A Water Supply – 2000/01 Residential Inclining Block or Multiple Tariffs
- Table 8B Water Supply – 2000/01 Non-Residential Tariffs
- Table 9 Water Supply – Levels of Service, Efficiency
- Table 10 Sewerage – Business Characteristics, Financial
- Table 11 Sewerage – Residential Charges, Bills
- Table 11A Sewerage – 2000/01 Residential Multiple Tariffs
- Table 11B Sewerage – 2000/01 Non-Residential Tariffs
- Table 12 Sewerage – Levels of Service, Efficiency

A draft of Tables 5 to 12 and Appendices D1 and D2 were circulated to each council's water supply and sewerage manager for review and any corrections advised have been incorporated in this report.

These tables can be used to view trends and compare key performance indicators for all councils. This allows each council to review its performance against councils with similar businesses. Council can then improve its performance by appropriate benchmarking as indicated on page xxiii.

2 STATEWIDE PERFORMANCE

Top 20% of Performance

Non-metropolitan NSW performance indicators for the top 20% of performance, Statewide median (50%) values and the bottom 20% of performance, calculated on a percentage of connected properties basis are shown on Table 1 (Water Supply, page xxvi), Table 2 (Sewerage, page xxvii).

To facilitate comparisons with other forms of reporting of indicators, Table 3 on page xxviii shows the top 20%, median values, and the bottom 20% for 14 key performance indicators for each of percentage of connected properties; percentage of population; and percentage of councils bases for non-metropolitan NSW.

Trends in Statewide Performance

Trends in Statewide performance over the period 1991 to 1999/00 are shown in Table 4 on page xxx for 11 key performance indicators.

Table 4 shows that over the last 9 years:

- *Water Consumption* – Average annual residential water consumption per connected property has fallen from 330 kL/a to 220 kL/a.
- *Typical residential bill 2000/01* – The typical residential bill for water supply and sewerage has remained at about $650/assessment (Table 5).
- *Average residential bill per connected property* has remained at about $300 for water supply and $350 for sewerage (Jan 2000$).
- *Number of employees –* 2.7 per 1000 connected properties for water supply and sewerage, a reduction of 20% over the last 9 years. The number of employees per 1000 connected properties for water supply has fallen from a maximum of 1.7 to 1.3 and for sewerage has fallen from a maximum of 1.8 to 1.4.
- *Economic real rate of return* - This has increased from 2.6% to 3% for water supply and sewerage over the last 5 years.
- *Debt/equity* has fallen from 11% to 7% for water supply & sewerage over the last 5 years.
- *Microbiological* - Compliance with the 1996 Australian Drinking Water Guidelines has remained at about 93% of samples over the last 5 years. 97% of the samples tested in 1999/00 contained no faecal coliforms.
- *Water quality complaints* have increased slightly to 5, water service complaints have increased from 7 to 13 per 1000 connected properties over the last 5 years.
- *Sewage odour complaints* have increased slightly to 0.6, sewerage service complaints have fallen from 20 to 14 per 1000 connected properties over the last 5 years.
- *Sewer main chokes and collapses* and *sewer overflows to the environment* have fallen from 75 to 35 and 7 to 4 per 100 km of main respectively over the last 5 years.
- *Operating (OMA) cost* per connected property has remained at about $180 for water supply and has increased from $170 to $220 for sewerage (Jan 2000$) due to more stringent standards for sewage treatment and to increasing management costs.

- *Management cost* per connected property has increased from $55 to $75 for water supply and from $53 to $70 for sewerage (Jan 2000$).

Interstate Comparisons

To provide an overall assessment of the performance of NSW utilities in providing water supply and sewerage in non-metropolitan NSW, the results of the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) *Water Industry Performance Review* are shown in Appendix A. The NSW annual operating cost (OMA*) for water supply is $180 per connected property, which is significantly lower than Sydney Water, and is also significantly lower than SA country and WA country utilities. The operating cost (OMA) for sewerage is $220 per connected property, which is lower than Sydney Water and similar to other Australian utilities. The economic real rate of return for non-metropolitan NSW water supply and sewerage is 3% which is slightly lower than Sydney Water and Hunter Water, and similar to other Australian utilities.

The compliance with microbiological water quality guidelines and the water main breaks per 100 km of main in non-metropolitan NSW are similar to the median for Australian capital city utilities and are significantly better than Victoria. Although all sewage treatment works in non-metropolitan NSW provide at least secondary treatment, Sydney Water provides secondary treatment for only 20% of its sewage.

3 STATEWIDE MEDIAN PERFORMANCE INDICATORS

The 1999/00 Statewide median performance indicators for the non-metropolitan NSW water utilities have been calculated on a ***percentage of connected properties basis,*** as shown in Tables 1 and 2 on pages xxvi and xxvii and summarised below.

BUSINESS CHARACTERISTICS

Population Served (Figures 16, 68)

- 75% of water councils and 80% of sewerage councils serve a population of under 20 000.
- 45% of water councils and 55% of sewerage councils serve a population of under 5 000.
- 20% of water councils and 25% of sewerage councils serve a population of under 2 000.

Unserved Urban Population (Figures 17, 69)

Median urban population without a reticulated service:

- water supply is *0.7 %* of the existing population
- sewerage service is *2.8 %* of the existing population.

New Residential Dwellings (Figures 18, 70)

Median new residential dwellings as a percent of the existing residential properties was:

- *1.4%* connected to water supply
- *1.5%* connected to sewerage

Properties Served per km of Main (Figures 19, 71, Tables 7, 10)

The median number of properties served per km of main was:

- *33* for water supply
- *41* for sewerage

* OMA – operation, maintenance and administration

Rainfall (Figure 15A)

The rainfall for 1999/00 as a percentage of average annual rainfall is shown together with the average annual rainfall and the average maximum temperature for the year. This figure shows that 1999/00 was a relatively wet year with 70% of councils receiving above average rainfalls. Moree (135%), Leeton , Muswellbrook, Dungog, Dubbo, Broken Hill, Murrumbidgee, Warren, Cobar, Carrathool, Bogan and Bourke (240%) received over 135% of their average annual rainfall. However, Coffs Harbour (85%), Culcairn, Kempsey, Hastings, Eurobodalla, Wingecarribee, Shoalhaven and Grafton (63%) received under 85% of their average annual rainfall.

Average Annual Residential Consumption (Figures 20, 22, Table 7)

The median average annual residential water consumption was *220* kL/connected property.

Consumption by Sector (Figure 21, Tables 6 and 6A)

Annual water consumption by sector (residential, industrial, commercial, other) is shown on Figure 21 and Table 6. Table 6A shows the consumption per source catchment.

Employees (Figures 27, 78)

The median number of employees per 1000 connected properties was:

- *1.3* for water supply and
- *1.4* for sewerage.

CHARGES (1999/00)

Water Usage Charge (Figure 2, Table 8)

- The median water usage charge was *60*c/kL.
- 20% of councils had a usage charge of over 95c/kL, and 80% of councils had a charge of over 45c/kL. Many councils are under-estimating the true cost of their water supply.

Annual Water Allowance (Figure 2, Table 8)

The median annual water allowance was *0* kL.

Access Charge (Figure 2, 5, Table 8, 11)

The median access charge per assessment was:

- *$195* for water supply and
- *$340* for sewerage.

Developer Charges (Figures 1, 4, 6, Tables 5, 8, 11)

The median typical developer charge was:

- *$2500* per equivalent tenement (ET) for water supply and
- *$1900* per ET for sewerage.

Trade Waste Charges - (Table 11)

Columns (10b) and (10c) of Table 11 show the trade waste charges as a percentage of annual rates and charges revenue and the volume of trade waste as a percentage of the sewage collected. Perusal of these figures indicates that often the trade waste charges do not reflect the true cost of trade waste collection and treatment. *Councils should aim to achieve full cost recovery for trade waste.*

DLWC is currently developing software to assist councils in developing appropriate water supply and sewerage tariffs and trade waste charges. This software should be available in late 2001.

BILLS

Typical Residential Bill (Figures 3, 5, 7, Tables 5, 8, 11)
The median 2000/01 typical residential bill per assessment was:

- *$290* for water supply and
- *$340* for sewerage.

Average Residential Bill (Figures 8, 28, 80, Tables 8, 11)
The median 1999/00 average residential bill per connected property was:

- *$300* for water supply and
- *$350* for sewerage.

FINANCIAL

Turnover (revenue less grants for capital works) (Figures 10, 14, 31, 36, 82, 87, Tables 5, 7, 10)

The total turnover was *$340M* for water supply and *$310M* for sewerage.

Economic Real Rate of Return (Figures 11, 32, 83, Tables 5, 7, 10)
The median economic real rate of return was:

- *2.5%* for water supply and
- *2.8%* for sewerage.

Operating Sales Margin (Figures 12, 33, 84)
The median operating sales margin was *23%* for water supply and *9%* for sewerage**.** Many councils had a negative economic real rate of return and operating sales margin for sewerage (Figures 83 and 84). *These councils should review their strategic business plans and charges to ensure the long-term financial sustainability of their businesses* (refer also to page xvii).

Debt to Equity (Figures 13, 34, 85, Tables 5, 7, 10)
The median debt to equity was:

- *3%* for water supply and
- *8%* for sewerage.

Loan Payment (Figures 14, 35, 86)
The median loan payment per connected property was:

- *$60* for water supply and
- *$90* for sewerage.

LEVELS OF SERVICE

For water utilities with a number of separate water supply or sewage treatment works, the 1999/00 compliance with drinking water quality guidelines and EPA licence conditions have been pro-rated based on the number of samples tested for each treatment works (refer final pages of Appendix B).

Compliance with Drinking Water Quality Guidelines (Figures 38, 39, 40, 41, Tables 5, 9)

- **Physical & Chemical** - *95%* of the samples tested complied with the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines, and
- **Microbiological water quality -** *93%* of the samples tested complied with the guidelines. Most non-compliance was due to the presence of total coliforms which may not be of faecal origin and is therefore of lesser significance. 97% of samples contained no faecal coliforms.

Over the last 5 years, physical and chemical compliance ranged from 91% to 95% and microbiological compliance ranged from 90% to 95%.

50% of the non-metropolitan NSW water utilities complied with the above microbiological water quality guidelines. *54%* of these utilities complied with physical water quality guidelines and *42%* with chemical water quality guidelines. 11% of utilities did not report on this important item. *All utilities should carry out the necessary water quality sampling and report thereon in future.*

Chlorination System Malfunction - (Figure 51)
The chlorination system failed to operate on at least one (1) day in 1999/00 for *14%* of utilities. 4% of utilities reported failure of the chlorination system for over 3 days in 1999/00.

Compliance with EPA Licence Conditions - (Figures 88, 89, 90, 91, 92, Tables 5, 12)

- **BOD** - *97%* of the sampling days complied with the 90-percentile limits of the Environment Protection Authority (EPA) licences for Biochemical Oxygen Demand (BOD), and
- **SS** - *86%* of the sampling days complied for Suspended Solids (SS).

Compliance over the last 5 years has ranged from 95% to 97% for BOD and 86% to 93% for SS.

56% of the non-metropolitan NSW water utilities complied with their BOD 90-percentile licence limits. *44%* of non-metropolitan NSW water utilities complied with their SS licence limits. The major cause of non-compliance is due to the growth of algae in maturation ponds, being measured as BOD and SS. Most treatment works in non-metropolitan NSW have maturation ponds due to previous EPA preference for ponding over chlorination. Negotiations with the EPA to develop an appropriate licensing method when maturation ponds are used for disinfection have favoured an option to test for SS prior to the maturation ponds. For new installations and major augmentations, Ultra Violet (UV) disinfection is being used as an alternative to maturation ponds to overcome this problem. *7%* of utilities did not report on their BOD and SS compliance. *All utilities should carry out the necessary sampling of effluent quality and report thereon in future.*

Sewer Main Chokes and Collapses (Figure 93, Table 12)
The Statewide median was *35* sewer main chokes and collapses per 100 km of sewer mains. 12% of utilities did not report on this item. *These utilities should institute a system to record and report thereon in future.*

Sewer Overflows to the Environment (Figure 96, Table 12)
The Statewide median was *4* sewer overflows to the environment per 100 km of sewer mains. Some 24 % of utilities reported no sewer overflows. 34% of utilities did not report on this item. *These utilities should institute a system to record and report thereon in future.*

Recycled Water (Figure 73, Table 6)
Re-use of recycled water was carried out by *49%* of utilities, mostly for agriculture. In total, for all treatment works, about *13%* of effluent was recycled. Orange and Muswellbrook councils sold 3,900 ML of recycled water to mining companies. 19 utilities recycled over 50% of their effluent.

Customer Complaints (Figures 43, 44, 48, 97, 98, 99, Tables 9, 12)
The median for complaints per 1000 connected properties was *5* for water quality and *0.6* for sewage odour. *Utilities unable to report on customer complaints should institute a system to record and report complaints. Utilities with high levels of complaints should examine their operations.*

Customer Interruption Frequency (Figures 45, 100)
The median customer interruption frequency was *20* per 1000 connected properties for water supply and *7* per 1000 connected properties for sewerage.

During 1999/00, only ***one utility*** needed to apply ***water restrictions***. No NSW utilities had restrictions in place for over 50% of the time in 1999/00 (Figure 50).

Trade Waste (Figure 79)
Details of trade waste discharges to sewerage systems are shown on Figure 79.

EFFICIENCY

Operating Cost (OMA) (Figures 15, 53, 54, 55, 56, 105, 106, 107, 108, Tables 5, 9, 12)
The operating cost (OMA - operation, maintenance and administration) was:

- For water supply**,** ***$180*** per connected property or $610 000 per 100 km of mains.
- For sewerage, ***$220*** per connected property or $820 000 per 100 km of mains.

Water utilities with higher operating costs should examine their operations to determine whether they can improve their cost-effectiveness (refer to pages xx to xxii).

Management Cost (Figures 15, 57, 58, 109, 110, Tables 5, 9, 12)
The median management cost per connected property was:

- *$75* for water supply and
- *$70* for sewerage.

Utilities with higher management costs should examine their operations to determine whether they can improve their cost-effectiveness (refer to page xx).

Treatment Cost (Figures 61, 62, 113, 114)
The median operation and maintenance cost for treatment per connected property was:

- *$25* for water treatment (only councils with a water treatment works involving at least filtration and disinfection for over 50% of their supply have been considered) and
- *$55* for sewage treatment (including chemical, energy and effluent management costs)

Pumping Cost (Figures 63, 64, 115, 116)
The median O and M cost for pumping per connected property (including energy cost) was:

- *$20* for water supply and
- *$40* for sewage.

Water Main and Sewer Main Cost (Figures 65, 117)
The median water main, sewer main operation and maintenance cost per connected property was:

- *$40* for water mains and
- *$25* for sewer mains.

Energy Consumption (Figures 24, 25, 75, 76)
Only 50% of utilities reported on their energy consumption. *All utilities should report on this item.*

APPENDICES D1 AND D2 - PERFORMANCE OF TREATMENT WORKS

These appendices report the detailed performance for each water treatment and sewage treatment works in non-metropolitan NSW to facilitate benchmarking and performance improvement.

PERFORMANCE REPORTS FOR EACH COUNCIL

In response to the Independent Pricing and Regulatory Tribunal's (IPART) recommendations[1], DLWC will continue to provide each council and IPART with an annual Performance Report for the council's water supply and sewerage businesses (sample reports in Appendix C). Most of the data in this performance report is based on Tables 5 to 12 which have been reviewed by Council's water supply and sewerage manager.

The 1999/00 Performance Report indicates the status of Council's strategic business plan and financial plan. Councils which have completed these plans have demonstrated long-term financial sustainability of their water supply and sewerage businesses and comply with National Competition Policy[2,3]. Further information on business planning is provided on the facing page.

The status of Council's compliance with the IPART Pricing Principles can be obtained from Council's 1999/00 Performance Report. Refer to pages xviii to xx which also indicate the recommended action by councils.

To assist Council to gain a quick appreciation of its performance relative to ***similar sized councils,*** the 1999/00 Council Performance Report provides a ranking of Council's performance for each performance indicator (***second shaded column***) in Appendix C. These rankings are based on the top 20% of councils for each indicator being ranked 1 and the bottom 20% being ranked 5 (councils in the range 40% to 60% are ranked 3). In addition, rankings are provided for Council's performance relative to ***all councils*** (***third shaded column***) of Appendix C.

Councils will appreciate that each of the performance indicators is a "partial" indicator only and therefore cannot be interpreted in isolation. In addition, the rankings are indicative only and do not take account of the wide range of factors which can impact on a council's performance, as discussed in the Foreword and pages xxi and xxii. The aim of ranking each council's performance is to assist the council in identifying areas where its performance appears to be lower than that of similar sized councils. Further suggestions for reviewing Council's performance indicators and comparing them with similar councils and Statewide values are provided in pages xix to xxii.

Council can improve its performance in apparent areas of under-performance by benchmarking[4] its key work processes in these areas with the work processes of 1 or 2 high performing councils having similar characteristics (refer to page xxi) and implementing the best practices thus identified (refer to page xxii).

WHAT SHOULD COUNCIL DO NOW?

[2] NSW Government Policy Statement on the Application of National Competition Policy to Local Government, NSW Government, June 1996

[3] Pricing & Costing for Council Businesses, *A Guide to Competitive Neutrality*, Dept of Local Government, July 1997

[4] Syndicate Benchmarking: Water Supply and Sewerage, Department of Land and Water Conservation, NSW and Local Government and Shires Associations of NSW, June 1997

1 STRATEGIC BUSINESS PLANS

Council's strategic business plans[5,6] for water supply and sewerage are its principal planning documents for these businesses and will focus Council's attention on identifying appropriate levels of service and developing a cost-effective capital works program and operation and maintenance plan. 35% of councils have completed strategic business plans and financial plans for their water supply and sewerage businesses (column (20) of Table 5). Those councils have *demonstrated long-term financial sustainability of their water supply and sewerage businesses to comply with National Competition Policy* and now need to annually review the key projections and actions in their strategic plans and annually update their financial plans.

A further 45% of councils have prepared draft strategic business plans for these businesses, but further development of the plans is required, including preparing a robust long-term financial plan. These councils should aim to finalise their business plans by June 2002.

Councils which have not yet prepared a strategic business plan should do so as these plans provide an overarching framework for the council's water supply and sewerage planning. Financial assistance of up to $10,000 towards the cost of preparation of a council's first strategic business plan for each of water supply and sewerage is available from the Minister for Land and Water Conservation under the Country Towns Water Supply and Sewerage program.

To comply with National Competition Policy[2,3], each council needs to prepare a strategic business plan and financial plan to demonstrate the long-term financial sustainability of its water supply and sewerage businesses. Such plans are also a pre-requisite for eligibility for financial assistance under the Country Towns Water Supply and Sewerage program. Whilst a positive economic real rate of return (column (15) of Table 5) indicates that a council is recovering the operating cost and current cost depreciation for its businesses, it provides no indication on the financial sustainability of the business as it takes no account of future expenditure requirements nor their impact on the future typical residential bill.

2 COMPLIANCE WITH IPART PRICING PRINCIPLES

2.1 IPART Pricing Principles

The IPART Pricing Principles for Local Water Authorities[1] are consistent with the Council of Australian Governments' (COAG) Strategic Framework for Water Reform[7] and include:

(1) *Cost- reflective pricing* of water supply and sewerage services.

(2) *Use of a two-part tariff or an inclining block tariff* for water supply where this is cost-effective. 50% of the 112 non-metropolitan utilities responsible for reticulating water supply now have such a tariff in place (column (5) of Table 5). A two-part tariff has an access charge and a charge per kL for all water usage. An inclining block tariff has three parts: an access charge, a low charge per kL for usage up to say 200 kL/a and a higher charge per kL for greater usage.

Non-residential tariffs for water supply and sewerage are shown in Table 8B and 11B respectively. In order to be cost-reflective, access charges for both water supply and sewerage

[5] Strategic Business Plans for Water Supply and Sewerage: Guidelines for Preparation, Public Works, NSW, Nov 1993
[6] NSW Financial Planning Model: Overview of Financial Planning, How Model Works, User Manual, Department of Land and Water Conservation, NSW (Advance Copy, October 2000)
[7] Strategic Framework for Water Reform: *Communique, Report of the Working Group on Water Resources Policy*, Council of Australian Governments, February 1994

should be independent of land value and should be based on the square of the size of the water service connection. Gosford, Lismore, Narrabri and Wyong councils have such tariffs in place for water supply; Gosford and Wyong also have such tariffs in place for sewerage. A further 12 councils have similar tariffs for water supply, but are based on the meter size rather than the service connection size. 71 councils have uniform access charges for water supply and 26 councils have access charges based on land value. Both these groups should move to set non-residential access charges on the basis of the square of the service connection size and independently of land value.

(3) *The removal of land value* from water supply and sewerage access charges is required to eliminate significant cross-subsidies. 80% of councils have their residential water supply tariff independent of land value and 70% of councils have their residential sewerage tariff independent of land value (columns (6) and (10) of Table 5).

(4) *Cost-reflective Developer Charges* – Developer charges for water supply and sewerage are shown in Table 5 (column (14)). It is evident that many councils' developer charges are not achieving full cost recovery. *Developer charges guidelines[8] for councils are proposed for release in 2001; an advance copy is available on request from DLWC (Fax: 9895 5968).*

(5) *Demand management* - Council should implement cost-effective demand management. Each council's average annual residential consumption per property is shown in Table 5 (col (3)).

The status of Council's compliance with the IPART Pricing Principles can be obtained from Council's 1999/00 Performance Report by reviewing the indicators shown under Charges. The Report shows the residential tariff structure, indicating whether the access charge is independent of land value and whether a two-part or inclining block tariff has been adopted for water supply. The Report also shows the non-residential tariff which should be independent of land value and should be a two-part tariff for non-residential sewerage. Average annual residential water consumption is shown under Business Characteristics.

2.2 Recommended Action

(1) Councils which have not yet adopted a two-part or an inclining block tariff should aim to do so not later than July 2002 where this is cost-effective. However, it is expected that implementation of such a tariff may not be cost-effective for small towns (with a population of say under 2,000) which are not facing augmentation of the capacity of their water supply. Guidance on implementing such tariffs is provided in the Water Demand Management Manual[9] provided to Council by the Minister for Land and Water Conservation (refer to appendices 3.1, 3.2 and 3.3 of the manual).

(2) As recommended in IPART's Pricing Principles[1], all councils should adopt two-part tariffs for non-residential sewerage. As for water supply, for non-residential customers, the sewerage access charge should be based on the size of the water supply service connection and a uniform charge per kL should apply for all sewage discharged. In most cases, the volume of sewage can be estimated as the metered water supply volume times a sewage discharge factor.

To facilitate development of appropriate water supply and sewerage tariff structures for both residential and non-residential customers, DLWC is arranging development of software to assist councils in the analysis of options. The software will also facilitate development of appropriate trade waste charges and should be available in late 2001.

[8] Developer Charges Guidelines for Water Supply, Sewerage and Stormwater, Department of Land and Water Conservation, NSW (Advance Copy, May 2001)

[9] Wise Water Management - *A Demand Management Manual for Water Utilities*, Water Services Association of Australia, November 1998

(3) Councils which have not yet done so should remove land values from their water supply and sewerage access charges. The software in (2) above will assist councils.

(4) Councils should prepare Development Servicing Plans[8] (DSPs) and set cost-reflective developer charges as far as possible. However, if Council elects to set lower developer charges, the resulting cross-subsidy should be disclosed in the DSP and Council's annual report.

Similarly, Council should move to set cost-reflective trade waste charges[10] as far as possible and should disclose any cross-subsidies in Council's annual report.

(5) Councils should implement cost-effective demand management[9].

3 IMPROVING COUNCIL'S PERFORMANCE

Council's overall aim for its water supply and sewerage businesses should be to provide the levels of service negotiated with its community at the lowest sustainable cost ie. after setting cost-reflective developer charges and trade waste charges, Council should minimise its typical residential bill in current dollars on a sustainable basis.

In practice this means reviewing whether Council's performance indicators under "Levels of Service" are satisfactory. If they are not, Council would need to develop options to raise its levels of service and consult its community to establish the option which provides the best value for money. In some cases this may require increased maintenance costs eg. quicker response times to sewer chokes, complaints or repairs of main breaks. However, often it would require investment in capital works eg. providing a new water treatment works, upgrading an existing sewage treatment works or renewing old failing sewer mains.

The typical residential bill is the principal indicator of the overall cost of a water supply or sewerage system and is the annual bill paid by a typical residential customer. A critical element in minimising the typical residential bill and providing value for money for the community is to ensure Council's operating cost (OMA) is efficient as indicated in section 3.1 (4) overleaf.

3.1 Performance Review

To assess its performance, Council should:

(1) *Review its performance indicators* using Council's 1999/00 Performance Report for each of water and sewerage (sample reports in Appendix C). As indicated on page xvi, Council's 1999/00 Performance Report provides a ranking of Council's performance relative to similar sized councils (second shaded column) and relative to all councils (third shaded column).

(2) *Identify any trends* in Council's performance indicators over the last 6 years using the second page of Council's 1999/00 Performance Report, and compare Council's performance indicators with the Statewide median values and the top 20% (Appendix C).

(3) *Compare selected performance indicators* with those of other councils with similar sized water supply or sewerage businesses using the Figures showing performance trends for 4 size of council ranges over the last 5 years (eg. Figure 22). These Figures report the performance of all the 126 NSW water utilities, including Sydney and Hunter Water Corporations, Broken Hill Water Board and the Fish River government business enterprise. The values for Sydney and Hunter have been obtained from WSAA Facts 2000[11].

(4) *Review Operating Cost* - the operating cost (OMA – operation, maintenance and administration) per property is a prime indicator of the performance of a water utility and

[10] Model Policy for Discharge of Trade Waste to Sewers, Department of Land and Water Conservation, NSW, 1995
[11] The Australian Urban Water Industry, WSAA Facts 2000, Water Services Association of Australia, 2000

should be reviewed carefully by each utility to ensure it has an efficient operating cost. The components of operating cost are listed below:

- Management cost,
- Treatment cost,
- Pumping cost,
- Energy cost and
- Water or Sewer mains operation and maintenance (O&M) cost.

Each of the above components should be examined and compared with those of similar councils, bearing in mind possible economies of scale (refer to section 3.2 (7) on facing page).

(4a) Management cost – this includes administration, engineering and supervision and is a significant proportion of the total operating cost. Council should compare its management cost with similar businesses (section 3.2 (7) and Figures 57, 109).

(4b) Treatment cost (water) – this is dependent on the type and quality of the water source and whether a fully filtered water supply is required. In addition, there are great economies of scale for the operation of water treatment works (ie. facilities involving at least filtration and disinfection) (section 3.2 (7) and Figure 61).

(4c) Treatment cost (sewage) – this is dependent on the type of treatment and the discharge requirements. Where the discharge licence conditions are stringent, involving for example a low level of phosphorus, treatment costs will be high. There are significant economies of scale for operation of treatment works (section 3.2 (7), and Figure 113).

(4d) Pumping cost (water) – this is dependent on topography and, for water supply, the location of the water source. For example, Broken Hill has a high pumping cost due to the distance required to pump from the water source, while Fish River is almost a fully gravitational supply, with negligible pumping costs. For water supply, there are significant economies of scale for pumping (section 3.2 (7) and Figure 63).

(4e) Energy cost – this is mainly a consequence of pumping requirements and is a component of pumping cost for water supply (Figure 64). Energy cost may be reduced by maximising pumping in off-peak periods or by negotiating a favourable rate from the energy supplier (*eg. maximising off-peak pumping has provided annual savings in energy costs of over $200,000 for a number of large water supplies).*

For sewerage, energy cost is a component of pumping and treatment costs and significant cost savings may be available by optimising energy use in the treatment process (Figure 116) *(eg. such optimising of energy use has provided annual savings of over $100,000 for a number of large sewage treatment works).*

(4f) Water and Sewerage mains O & M – this is dependent on the age and condition of the mains, the ground conditions and the number of connected properties per km of mains (section 3.2 (7) and Figures 65, 117).

(5) *Undertake process benchmarking for selected indicators* for areas of apparent under-performance, eg. where Council has a ranking of 3 to 5 relative to councils with similar characteristics (refer to section 3.2 on the facing page and section 3.3 on page xxii).

3.2 Impact of Council's Characteristics

As discussed in the Foreword, a number of factors such as the extent of the services provided by Council, properties served per km of main, climate etc. will impact on the level of Council's performance indicators. Council should take account of these factors by comparing its performance with councils having similar characteristics. For example, in the case of a *water supply* system, Council should take account of factors such as:

(1) Properties served per km of main - geographically dispersed systems have fewer connected properties served per km of main. This tends to increase the typical residential bill and the operating (OMA) cost per property (refer col (3) of Tables 7 and 10, Figures 19 and 71).

(2) Whether bulk storage is provided – utilities providing bulk storage dams and/or long transfer systems from their water sources to the area served will incur significant capital and operating costs for these facilities, resulting in a higher typical residential bill. Such costs would be avoided by utilities relying on groundwater or receiving a regulated supply from a DLWC dam (refer to Note 16 on page 4).

(3) Whether supply is filtered – the need to fully filter a water supply will significantly increase capital and operating costs and the typical residential bill over an unfiltered surface supply or a good quality groundwater (refer to Note 17 on page 4 – councils without *'unfiltered'* or *'groundwater'* after their name have water treatment involving at least filtration and disinfection for over 50% of their water supply).

(4) High residential consumption per property - for utilities with a high residential consumption per property, a high level of annual and peak day water volumes would be delivered to customers. This is likely to result in a relatively high typical residential bill and operating cost per property. Such utilities should examine opportunities for reducing consumption through water demand management and implementation of a two-part or inclining block tariff (refer to col (5) of Table 7 and Figure 22).

(5) Loan payment per property - a high value for this item would indicate a relatively high capital cost per property, recent construction of significant capital works or use of short-term loans (refer to Figures 35 and 86).

(6) High pumping cost - this is influenced mainly by topography and geography. A high pumping operation and maintenance cost will also increase the typical residential bill and the operating cost per property. As noted in section 3.1 (4e) on the facing page, Council may be able to achieve significant savings in energy cost (refer to Figures 63, 64, 115 and 116).

(7) Size of Utility – there are significant economies of scale for some components, particularly the capital cost of most components and the operating cost for treatment and pumping. The tables below and overleaf highlight the median operating costs for 4 sizes of utilities.

Median Performance Indicators for 4 Sizes of Utilities – Water Supply 1999/00

Size of Utility / *Performance Indicator*	*> 10,000 Connected Properties (24 utilities)*	*2,001 to 10,000 Connected Properties (36 utilities)*	*801 to 2,000 Connected Properties (36 utilities)*	*200 to 800 Connected Properties (18 utilities)*
Operating Cost/property ($)	170	230	250	230
Operating Cost/ML ($)	490	500	580	620
Operating Cost/ 100 km ($'000)	660	580	600	380
Management Cost/property ($)	75	80	70	50
Treatment Cost[1]/property ($)	30	75	85	110
Pumping Cost/property ($)	20	30	45	43
Energy Cost[2]/property ($)	14	16	21	25
Water Main O&M Cost/property ($)	37	40	42	54
No. of Employees/1000 properties	1.2	1.7	2.3	3.3

Notes: 1. Only councils with a treatment works with at least filtration & disinfection for over 50% of supply have been considered.
2. A component of pumping cost.

Median Performance Indicators for 4 Sizes of Utilities – Sewerage 1999/00

Size of Utility / *Performance Indicator*	*> 10,000 Connected Properties (17 utilities)*	*2,001 to 10,000 Connected Properties (37 utilities)*	*801 to 2,000 Connected Properties (38 utilities)*	*200 to 800 Connected Properties (25 utilities)*
Operating Cost/property ($)	220	200	200	200
Operating Cost/ML ($)	780	790	790	630
Operating Cost/ 100 km ($'000)	860	730	620	520
Management Cost/property ($)	80	65	55	32
Treatment Cost/property ($)	53	55	70	100
Pumping Cost/property ($)	40	33	30	25
Energy Cost[1]/property ($)	20	12	12	13
Sewer Main O&M Cost/property ($)	22	23	16	18
No. of Employees/1000 properties	1.2	1.7	1.7	2.7

Note: 1. A component of pumping and treatment costs.

For water utilities which outsource little of their operation, maintenance and administration work, (which is presently the case for the vast majority of NSW utilities), there is a strong correlation between the operating cost (OMA) and the number of employees per 1000 properties. Figures 27 and 78 show the number of employees per 1000 properties. Col (23) of Table 7, col (22) of Table 10, Figure 57 and Figure 109 show management cost per property.

Similar considerations to (1), (5), (6) and (7) on the previous page apply to ***sewerage***. In addition, a significant cost impactor is whether Council is operating nutrient removal facilities at its treatment works (Figures 90 and 91). In 1999/00, Albury, Bathurst, Bellingen, Cooma-Monaro, Cootamundra, Hastings, Lismore, Murrurundi, Orange, Queanbeyan, Uralla, Wagga Wagga, Wingecarribee and Yarrowlumla councils operated such facilities for over 50% of their treatment works capacity. In addition, significant such nutrient removal was carried out by Byron, Coffs Harbour, Kempsey, MidCoast, Shoalhaven, Tumut and Tweed councils.

3.3 Benchmarking

As indicated in page xvi, Council can improve its performance in apparent areas of under-performance by benchmarking[4] its key work processes in these areas with the work processes of 1 or 2 high-performing similar councils and implementing the best practices thus identified.

An essential first step for Council would be to record its present work practices and work processes in these areas, eg. for sewage pumping stations, how frequently stations are visited by Council's operators, the number of staff at each visit, how are stations monitored (eg. manual, customer advice of malfunction or telemetry), how frequently the stations are cleaned and whether cleaning is carried out by non-trades personnel.

In addition, Council should undertake "Syndicate Benchmarking" with a group of councils with similar characteristics in order to determine current best practice and to identify existing practices which Council can improve. *The results of the syndicate benchmarking pilot project indicate that such process benchmarking should be highly cost-effective for all NSW councils.* Over 40 NSW councils have advised they wish to proceed with syndicate benchmarking of their water supply and sewerage businesses. DLWC is now working with these councils to facilitate appropriate syndicate benchmarking projects and will disseminate the results.

4 REVIEW OF PERFORMANCE - Example WATER SUPPLY BUSINESS

EXAMPLE – NORTH COAST REGIONAL COUNCIL

1. Strategic Business Plans

An example water supply 1999/00 Performance Report is shown on the facing page for a north coast regional council with an unfiltered water supply. The example council has prepared a satisfactory strategic business plan but needs to update and finalise its financial plan to demonstrate long-term financial sustainability of this business. Council's cash and investments were $12M and debt was $25M. As the council is not facing major capital expenditure over the next few years, the council's financial planning should examine significantly reducing its cash and investments over the next few years which should enable the council to reduce its typical residential bill by about 20%.

2. Compliance with IPART Pricing Principles

Council complies with most of IPART's Pricing Principles (implementation of a two-part tariff (item 13), removal of land value from access charges (item 13) and implementation of demand management (item 6)). However, it appears that the developer charges (item 15b) involve a cross-subsidy of about 50% and Council's present uniform access charges for non-residential customers (Note 6) also involve a significant cross-subsidy.

3. Improving Council's Performance

Although 1999/00 was relatively dry in this council's area, with only 85% of the average annual rainfall (item 4a), the average annual residential consumption (item 6) was 190 kL/a. This has a ranking of 1 (1), indicating it is within the top 20% of councils with over 10,000 connected properties (the ranking relative to similar sized utilities is shown first, followed by the ranking relative to all councils within brackets. The final column shows the Statewide median – for item 6 this is 220 kL/a).

The typical residential bill (item 15a) was $370 with a ranking of 5 (3) indicating it is relatively high compared to similar sized utilities and is significantly higher than the Statewide median of $290. However, Council provides bulk storage sourced from local streams for its water supply (refer to section 3.2(2) on page xxi).

Ranking for item 25 for physical and chemical drinking water quality compliance was 3 (3) and microbiological compliance (item 26) was 4 (4). The physical and chemical compliance was 99% which is satisfactory. Although the microbiological compliance was 89%, all the samples tested contained no faecal coliforms. This council had consulted its community on the need for water treatment – the overwhelming community response was that water quality was good or excellent. As there are no health-related issues for investing in water treatment, Council has resolved not to invest in water treatment and to review this issue in about 5 years.

Water quality complaints (item 27)were low with a ranking of 2 (2), customer interruption frequency (item 28) had a ranking of 1 (3), average duration of interruptions (item 29) had a ranking of 1 (1), average customer outage time (item 30) had a ranking of 2 (1) and main breaks (item 31) had a ranking of 2 (2), which are consistent with Council's relatively new asset base. There were no water restrictions (item 32), ranking 1 (1).

The operating cost per property (operation, maintenance and administration OMA – item 33) was moderate with a ranking of 3 (2), indicating it is within the top 60% of similar sized councils. This is not unexpected as the supply is unfiltered, however the management cost (item 34a) of $87 per property was relatively high and has a ranking of 4 (4). All operation and maintenance costs (items 34b, 34c, 34d and 34e) are relatively low. Council should then review its operating costs relative to councils with similar characteristics - unfiltered supply, providing significant storage (section 3.2 on page xxi).

Performance Trends

The graphs on page 2 of the council's Performance Report show trends in performance over the last 6 years. These graphs indicate a higher than average rate of development (Fig 3a), a consistently low average residential consumption (Fig 8) and a typical residential bill that is trending higher than the Statewide median (Fig 15a).

The graphs also show microbiological water quality compliance (Fig 26), water quality complaints (Fig 27), and main breaks (Fig 31) were good, although customer interruption frequency (Fig 28) was higher than the Statewide median. Operating (Fig 33), treatment (Fig 34b) and pumping costs (Fig 34c) were all consistently below the Statewide median. However, management cost (Fig 34a) has been consistently higher than the Statewide median and the percentage of days lost (Fig 34f) in 1999/00 was higher than the Statewide median.

Action Plan

This council should review its management cost (Fig 34a), percentage of days lost (Fig 34f) and customer interruptions (Fig 28) with a view to improving performance. In order to obtain cost-reflective non-residential access charges, Council should revise its non-residential tariff to base access charges on the square of the water supply service connection size. Council should also prepare a Development Servicing Plan (DSP) and set cost-reflective developer charges, reduce its cash and investments over the next few years and finalise its financial plan to adopt the lowest sustainable 5-year price path for its typical residential bill (current dollars).

Example Performance Report – Page 1

North Coast Regional Council — Water Supply Performance — 1999/00

Water is drawn from Big River to supply Council. Council has 2 dams with a total storage capacity of 10,000 ML. The system comprises lime/CO2 dosing (61 ML/d), 20 service reservoirs (90 ML), 10 pumping stations, 60 ML/d delivery capacity into the reticulation, 150 km of trunk mains and 400 km of reticulation. The water supply is unfiltered (chlorinated). The number of microbiological test samples was 300 and the number of physical/chemical samples was 50. There was 89% compliance with microbiological water quality of the 1996 Australian Drinking Water Guidelines and 99% compliance with physical/chemical water quality. All the samples tested contained no faecal coliforms. There were no failures of the chlorination system or treatment system. Current replacement costs of system assets was $150M and turnover was $12 M (excluding capital works grants). Cash and investments was $12M and debt was $25M.

Business Planning

Strategic Business Plan (SBP)	*Year Prepared*	1997/98	*Year Updated:*	1999/00	*Is Further Development Required[4]?*	NO
Financial Sustainability of Business	*Demonstrated?*	Yes	*Year Updated:*	-	*Is Further Development Required[4]?*	Update

Performance Indicators

			Result	Ranking[1] >10,000 Properties	All Councils Ranking[2]	Statewide Median[3]
Business Characteristics	1	*Population Served:* 54,800 (0.94 connected properties per assessment)				
	2	*Number of Assessments:* 21,200 *Number of Connected Properties* 20,000				
	2a	*Urban Population without Reticulated Public Water Supply* (%)	0.0	1	1	0.7
	3	*Residential Assessments* (% of total)	94		5	93
	3a	*New Residential Dwellings Connected to Water Supply* (%)	2.9	1	1	1.4
	4	*Properties Served per km* (properties/km of main)	35		1	33
	4a	*Rainfall* (% of average annual rainfall)	85	4	5	100
	5	*Annual Total Consumption* (at Master Meters - ML)	5600		1	6600
	6	*Average Annual Residential Consumption* (kL/property)	190	1	1	220
	7	*Peak Week to Average Consumption* (%)	115		1	220
	8	*Unaccounted for water* (including leakage) (%)	10		1	11
	9	*Energy Consumption* (kWh/ML)				400
	10	*Energy Consumption* (kWh/property)				160
	11	*Renewals Expenditure* (% of current replacement cost of system assets)	0.0		2	0.0
	12	*Employees* (employees/1000 properties)	1.3	3	2	1.3
Charges/Bills	13	*Description of Residential[6] Tariff Structure 2000/01:* Two-part tariff; Independent of land value				
	14	*Water Usage Charge 2000/01* (c/kL) All usage kL/a	109		1	60
	15	*Access Charge 2000/01* ($/assessment)	163		1	195
	15a	*Typical Residential Bill 2000/01* ($/assessment)	370	5	3	290
	15b	*Typical Developer Charge 2000/01* ($/equivalent tenement)	2900		2	2500
	16	*Average Residential Bill 1999/00* ($/connected property)	295	3	1	300
	17	*Bill for Residential Customer using 200kL/a (1999/00)* ($/assessment)	337	5	4	270
	18	*Real increase over previous year's Bill for Residential Customer using 200kL/a* (%)	-3	1	1	-2
Financial	19	*Revenue from Usage Charges* (% of total)	47		1	25
	20	*Revenue from Access Charges* (% of total)	27		1	43
	21	*Revenue from Other* (% of total)	27		4	24
	22	*Economic Real Rate of Return* (%)	3.9	1	1	2.5
	23	*Return on Assets* (%)	3.0		2	2.6
	23a	*Debt to Equity* (%)	24	1	1	3
	23b	*Interest Cover* (%)	>500		1	500
	23c	*Loan Payment* ($/property)	93	2	2	60
Levels of Service	24	*Water Quality Compliance on basis of 1996 NHMRC/ARMCANZ Guidelines*				
	25	*Physical and Chemical Water Quality Compliance* (%)	99	3	3	99
	26	*Microbiological Water Quality Compliance* (%)	89	5	4	100
	27	*Water Quality Complaints* (per 1000 properties)	3	2	2	5
	27a	*Water Service Complaints* (per 1000 properties)	21	3	4	13
	28	*Customer Interruption Frequency* (per 1000 properties)	21	1	3	20
	29	*Average duration of Interruptions* (hr)	2	1	1	2
	30	*Average customer outage time* (min)	3		3	3
	31	*Number of Main breaks* (per 100km)	8	1	2	15
	32	*Drought Water Restrictions* (% of time)	0	1	1	0
Efficiency	32a	*Operating Cost (OMA) per 100km of Main* ($'000)	572	2[5]	3[5]	610
	33	*Operating Cost (OMA) per property* ($/property)	167	3[5]	2[5]	180
	34	*Operating Cost (OMA) per ML* ($/ML)	581	4[5]	4[5]	500
	34a	*Management Cost* ($/property)	82	4	4	75
	34b	*Treatment Operation & Maintenance Cost* ($/property)	11	1[5]	1[5]	25
	34c	*Pumping Operation & Maintenance Cost* ($/property)	13	2	1	20
	34d	*Energy Cost* ($/property)	9	3	1	20
	34e	*Water Main Operation & Maintenance Cost* ($/property)	37	3	2	40
	34f	*Total Days Lost* (%)	3	1	4	2

Notes:

1 Ranking for each performance indicator is based on dividing the results for councils in the >10,000 connected properties group into 5 equal divisions of 20%, ie:
- *a ranking of 1 indicates the Council is in the top 20% of Councils*
- *a ranking of 5 indicates the Council is in the bottom 20% of Councils*

2 Ranking (1 to 5) for all councils.
3 The Statewide median is on a percentage of connected properties basis as indicated in Tables 1 and 2 of the 1999/00 NSW Performance Comparisons Report.
4 Annual review of the key projections and actions in Council's SBP are required, together with annual updating of Council's financial plan.
5 Council has an unfiltered water supply.
6 Non-residential: Two-part tariff, uniform access charge.

Example Performance Report – Page 2

Table 1 : 1999/00 NSW Water Supply Performance Indicators

	20%	Median (50%)	80%
BUSINESS CHARACTERISTICS			
Urban Population without Reticulated Public Water Supply (%)	0.0	0.7	3.2
Residential Assessments (% of total)	90	93	95
New Residential Dwellings Connected to Water Supply (%)	2.2	1.4	0.6
Properties Served per km of Main	47	33	23
Rainfall (% of average annual rainfall)	128	100	86
Annual Total Consumption (at Master Meters - ML)	15000	6600	2600
Average Annual Residential Consumption (kL/property)	190	220	320
Peak Week to Average Consumption (%)	175	220	265
Unaccounted for Water (including leakage %)	10	11	17
Energy Consumption (kWh/ML)	50	400	620
Energy Consumption (kWh/property)	20	160	280
Renewals Expenditure (% of current replacement cost of system assets)	0.4	0.0	0.0
Employees (employees per 1000 properties)	1.0	1.3	2.5
2000/01 CHARGES/BILLS			
Water Usage Charge (c/kL)	85	60	50
Annual Water Allowance (kL/assessment)	0	0	250
Access Charge ($/assessment)	80	195	250
Typical Residential Bill ($/assessment)	210	290	370
Typical Developer Charge ($/equivalent tenement)	3300	2500	1300
1999/99 BILLS			
Average Residential Bill ($/connected property)	235	300	375
Bill for Residential Customer using 200 kL/a ($/assessment)	180	270	330
Real Increase over Previous Year's Bill for Residential Customer using 200 kL/a (%)	-2	-2	1
FINANCIAL			
Revenue from Usage Charges (% of total)	44	25	18
Revenue from Access Charges (% of total)	28	43	54
Revenue from Other (% of total)	14	24	35
Economic Real Rate of Return (%)	4.1	2.5	1.3
Return on Assets (%)	3.6	2.6	1.5
Debt to Equity (%)	9	3	0.3
Interest Cover (%)	>500	500	250
Loan Payment ($/property)	100	60	5
LEVELS OF SERVICE			
Physical and Chemical Water Quality Compliance (%)	100	99	85
Microbiological Water Quality Compliance (%)	100	100	92
Water Quality Complaints (per 1000 properties)	2	5	14
Service Complaints (per 1000 properties)	3	13	30
Customer Interruption Frequency (per 1000 properties)	1	20	120
Average Duration of Interruption (hr)	2	2	3
Average Customer Outage Time (min)	1	3	15
Number of Main Breaks (per 100 km of main)	5	15	25
Drought Water Restrictions (% of time)	0	0	0
EFFICIENCY			
Operating Cost (OMA) per 100 km of Main ($'000)	420	610	910
Operating Cost (OMA) ($/property)	155	180	250
Operating Cost (OMA) ($/ML)	390	500	620
Management Cost ($/property)	45	75	95
Treatment Operation & Maintenance Cost ($/property)	10	25	70
Pumping Operation & Maintenance Cost ($/property)	10	20	30
Energy Cost ($/property)	0	20	30
Water Main Operation & Maintenance Cost ($/property)	25	40	50
Total Days Lost (%)	0	2	4

Notes:

1. ***20%*** ***top 20% of properties***
   Median (50%) median of properties (Statewide)
   80% bottom 20% of properties

2. The above non-metropolitan NSW performance indicators are on a percentage of connected properties basis which is the most appropriate basis for judging Statewide performance by giving due weight to larger councils and reducing the effect of smaller councils (refer also to Notes 1 to 3 on page xxix).

3. The performance indicators in this table and their grouping are consistent with the the body of the present report and the reports for each council in Appendix C.

Table 2 : 1999/00 NSW Sewerage Performance Indicators

	20%	Median (50%)	80%
BUSINESS CHARACTERISTICS			
Urban Properties without Reticulated Sewerage Service (%)	0.7	2.8	9
Residential Connections (% of total)	90	93	95
New Residential Dwellings Connected to Sewerage (%)	2.9	1.5	0.5
Properties Served per km of Main	45	41	36
Volume of Sewage Treated per property (kL/a)	230	270	320
Energy Consumption (kWh/ML)	380	540	770
Energy Consumption (kWh/property)	90	130	230
Reclaimed Water (% of effluent reclaimed)	30	1	0
Biosolids Reuse (%)	100	100	0
Renewals Expenditure (% of current replacement cost of system assets)	2.7	0.8	0.1
Employees (per 1000 properties)	1.1	1.4	1.8
2000/01 CHARGES/BILLS			
Access Charge ($/assessment)	270	340	425
Typical Residential Bill ($/assessment)	270	340	430
Typical Developer Charge ($/equivalent tenement)	2800	1900	1350
1999/00 BILLS			
Average Residential Bill ($/connected property)	280	350	410
Real Increase over Previous Year's Average Residential Bill (%)	-8	2	8
FINANCIAL			
Revenue from Access Charges (% of total)	83	77	70
Revenue from Trade Waste Charges (% of total)	7	0.3	0
Revenue from Other (% of total)	14	21	30
Economic Real Rate of Return (%)	5	2.8	0.8
Return on Assets (%)	5.3	2.8	0.7
Debt to Equity (%)	17	8	1
Interest Cover (%)	>500	400	200
Loan Payment ($/property)	230	90	20
LEVELS OF SERVICE			
Compliance with BOD in Licence (%)	100	100	95
Compliance with SS in Licence (%)	100	99	80
Sewer Main Chokes and Collapses (per 100 km of main)	25	35	90
Sewer Overflows to the Environment (per 100 km of main)	1	4	16
Odour Complaints (per 1000 properties)	0	0.6	1
Service Complaints (per 1000 properties)	7	14	45
Customer Interruption Frequency (per 1000 properties)	0	7	30
Average Duration of Interruptions (hr)	1	2	2.5
Average Customer Outage Time (min)	0	1	2
EFFICIENCY			
Operating Cost (OMA) per 100 km of Main ($'000)	650	820	1000
Operating Cost (OMA) ($/property)	180	220	250
Operating Cost (OMA) ($/ML)	630	790	920
Management Cost ($/property)	50	70	90
Treatment Cost ($/property)	45	55	65
Pumping Cost ($/property)	20	40	55
Energy Cost ($/property)	10	15	20
Sewer Main Cost ($/property)	15	25	40
Total Days Lost (%)	0.5	1.1	2

Notes:

1. ***20%*** ***top 20% of properties***
   Median (50%) median of properties (Statewide)
   80% bottom 20% of properties

2. The above non-metropolitan NSW performance indicators are on a percentage of connected properties basis which is the most appropriate basis for judging Statewide performance by giving due weight to larger councils and reducing the effect of smaller councils (refer also to Notes 1 to 3 on page xxix).

3. The performance indicators in this table and their grouping are consistent with the body of the present report and the reports for each council in Appendix C.

Table 3: 1999/00 Performance Indicator Comparison - Percentage of Properties, Population, Councils Bases

WATER SUPPLY	*% of Connected Properties (per Connected Property)*			*% of Population (per Head)*			*% of Councils (per Connected Property)*		
	20%	*50%*	*80%*	*20%*	*50%*	*80%*	*20%*	*50%*	*80%*
BUSINESS CHARACTERISTICS									
Urban Properties without Reticulated Public Water Supply (%)	0.0	0.7	3.2	0.0	0.6	3.1	0	4	10
New Residential Dwellings Connected (%)	2.2	1.4	0.6	2.2	1.4	0.6	1.8	0.6	0.2
Rainfall (% of average annual rainfall)	128	100	86	128	101	88	131	109	94
Annual Residential Consumption (kL/a)	190	220	320	80	90	130	200	270	420
Employees (per 1000)	1.0	1.3	2.5	0.4	0.5	0.8	1.0	1.9	2.9
BILLS									
Average Residential Bill ($)	235	300	375	95	125	155	300	360	450
FINANCIAL									
Economic Real Rate of Return (%)	4.1	2.5	1.3	4.2	2.5	1.3	3.8	1.6	-0.5
LEVELS OF SERVICE									
Compliance with 1996 Microbiological Drinking Water Quality Guidelines (%)	100	100	92	100	100	91	100	100	89
Physical and Chemical Water Quality Compliance (%)	100	99	85	100	99	85	100	98	60
Customer Interruption Frequency (per 1000)	1	20	120	0	9	50	3	12	70
Water Quality Complaints (per 1000)	2	5	14	1	2	8	2	4	14
Service Complaints (per 1000)	3	13	30	1	5	13	2	12	35
EFFICIENCY									
Operating Cost (OMA) ($)	155	180	250	65	75	100	160	225	290
Operating Cost (OMA) per 100 km of Main ($'000)	420	610	910	420	640	920	350	550	790
Management Cost ($)	45	75	95	20	30	40	45	70	100

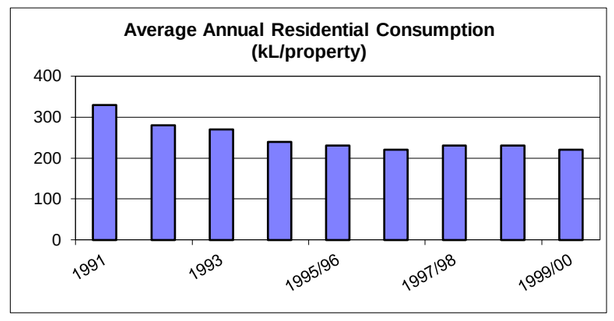
SEWERAGE	*% of Connected Properties (per Connected Property)*			*% of Population (per Head)*			*% of Councils (per Connected Property)*		
	20%	*50%*	*80%*	*20%*	*50%*	*80%*	*20%*	*50%*	*80%*
BUSINESS CHARACTERISTICS									
Urban Properties without Reticulated Sewerage (%)	0.7	2.8	9	0.7	2.7	9	2	8	18
New Residential Dwellings Connected (%)	2.9	1.5	0.5	2.9	1.5	0.5	2.1	0.7	0.3
Employees (per 1000)	1.1	1.4	1.8	0.4	0.6	0.7	1.1	1.7	2.6
BILLS									
Average Residential Bill ($)	280	350	410	105	140	165	230	340	400
FINANCIAL									
Economic Real Rate of Return (%)	5.0	2.8	0.8	5.0	2.8	0.8	3.9	1.0	-1.1
LEVELS OF SERVICE									
Compliance with BOD in Licence (%)	100	100	95	100	100	95	100	100	92
Compliance with SS in Licence (%)	100	99	80	100	99	80	100	99	75
Sewer Main Chokes and Collapses (per 100 km of main)	25	35	90	20	30	80	25	55	130
Sewer Overflows to the Environment (per 100 km of main)	1	4	16	0	2	6	0	3	15
Odour Complaints (per 1000)	0	0.6	1	0	0.3	0.4	0	0.2	2
Service Complaints (per 1000)	7	14	45	3	5	15	8	23	50
EFFICIENCY									
Operating Cost (OMA) ($)	180	220	250	70	85	95	150	200	250
Operating Cost (OMA) per 100 km of Main ($'000)	650	820	1000	600	820	1000	460	700	940
Management Cost ($)	50	70	90	19	30	40	30	55	90

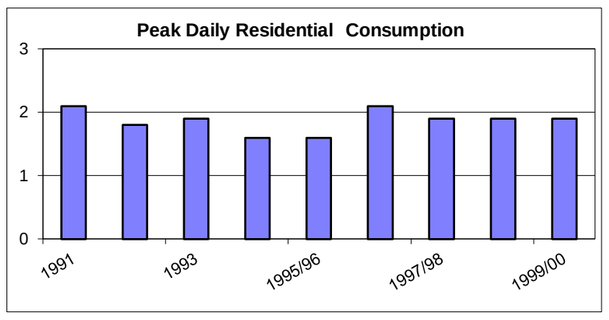
Notes

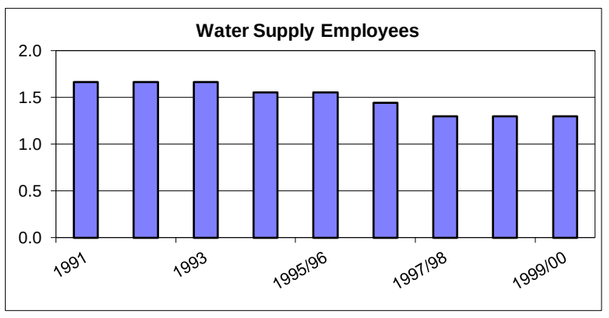
1. This table compares 14 key performance indicators for non-metropolitan NSW for each of water supply and sewerage on a 'percentage of connected properties' basis, 'percentage of population' basis, and 'percentage of councils' basis. The table has been provided to facilitate comparisons with other Australian and overseas data.
2. The ***percentage of connected properties*** basis is the most appropriate for judging Statewide performance by giving due weight to larger councils and reducing the effect of smaller councils. It is used in Tables 1 and 2 and throughout this report.
3. The ***percentage of councils*** basis is relevant for ***comparing*** the performance of one ***council*** with other councils (refer to Appendix C).
4. The ***top 20%*** are shown under '20%'. Median values are provided under '50%'. The bottom 20% are shown under '80%'.
5. Although it is unlikely that any council would be able to meet the 20% level for all performance indicators, these indicators provide broad targets that councils might aspire to achieve.

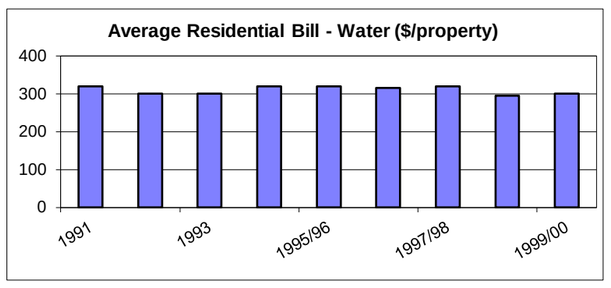
Table 4 - Trends in Statewide Performance Indicators - 1991 to 1999/00

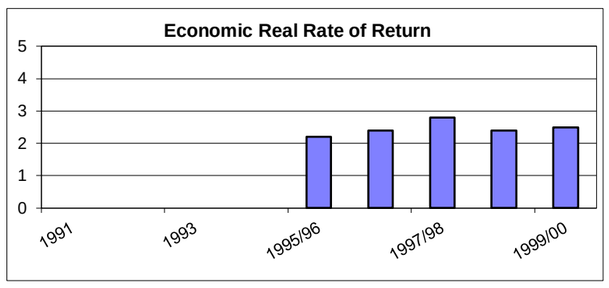
	1991	1992	1993	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00
WATER SUPPLY									
BUSINESS CHARACTERISTICS									
Annual Residential Consumption (kL/a/Connected Property)	330	280	270	240	230	220	230	230	220
Peak Daily Residential Consumption (kL/d/ Connected Property)	2.1	1.8	1.9	1.6	1.6	2.1	1.9	1.9	1.9
Employees (Employees/1000 Connected Properties)	1.7	1.7	1.7	1.6	1.6	1.4	1.3	1.3	1.3
BILLS									
Average Residential Bill ($/ Connected Property)	320	300	300	320	320	315	320	295	300
FINANCIAL									
Economic Real Rate of Return (%)					2.2	2.4	2.8	2.4	2.5
LEVELS OF SERVICE									
Compliance with 1996 Microbiological Australian Drinking Water Guidelines (% of samples complying)	91	91	91	92	90	93	93	95	93
Number of Main Breaks (per 100km of main)		16	19	15	14	14	15	15	15
EFFICIENCY									
Operating (OMA) Cost ($/Connected Property)	180	175	180	170	175	175	180	185	180
Management Cost ($/Connected Property)	55	55	65	62	60	65	70	80	75

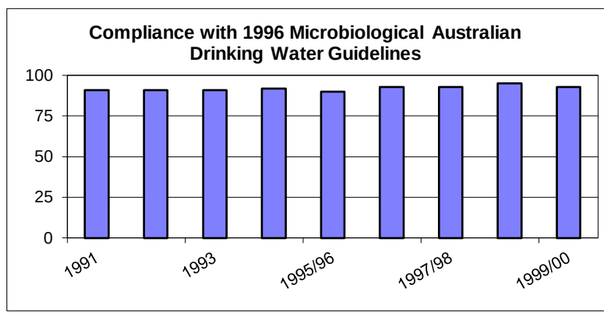


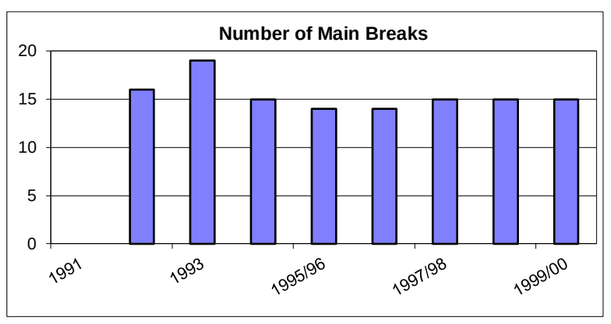


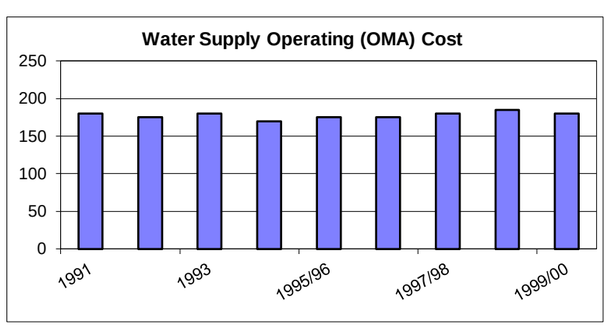


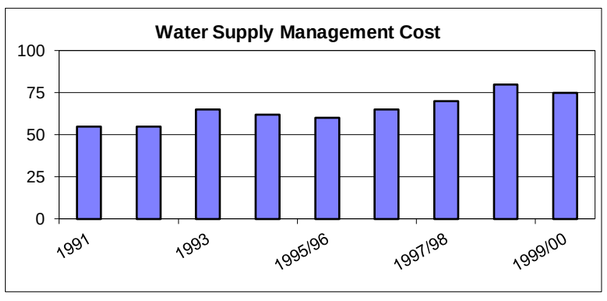










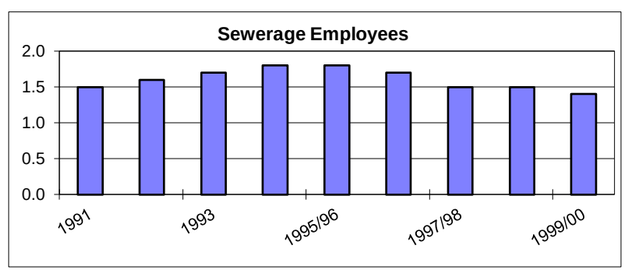


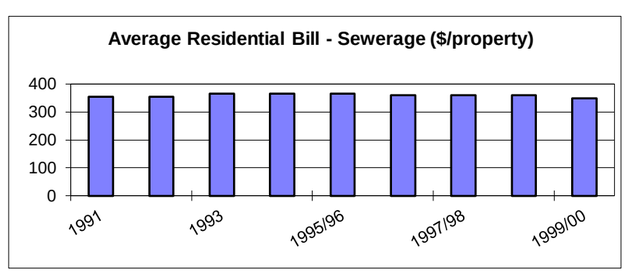
Notes:

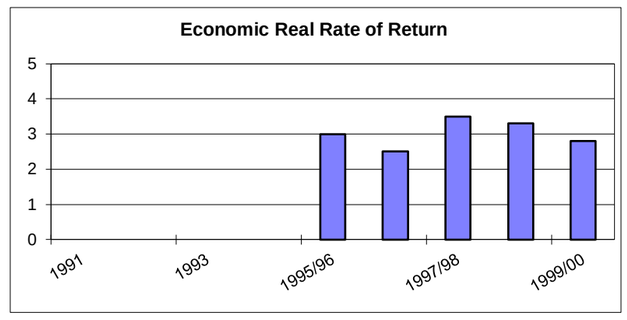
1. The values shown are Statewide medians on a percentage of connected properties basis from 1991 to 1999/00, except for microbiological compliance which is the percentage of samples complying.
2. Costs are in January 2000$.

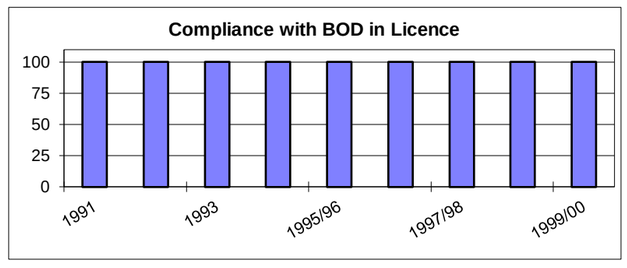
Table 4 - Trends in Statewide Performance Indicators - 1991 to 1999/00

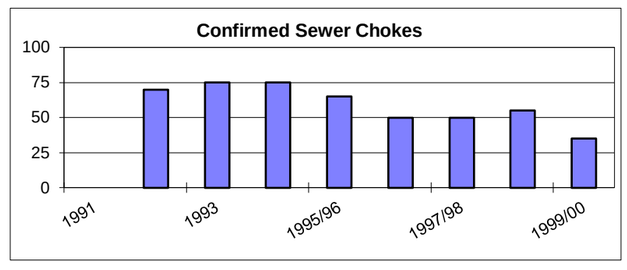
SEWERAGE	1991	1992	1993	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00
BUSINESS CHARACTERISTICS									
Employees (Employees/1000 Connected Properties)	1.5	1.6	1.7	1.8	1.8	1.7	1.5	1.5	1.4
BILLS									
Average Residential Bill ($/Connected Property)	355	355	365	365	365	360	360	360	350
FINANCIAL									
Economic Real Rate of Return (%)					3.0	2.5	3.5	3.3	2.8
LEVELS OF SERVICE									
Compliance with BOD in Licence (%)	100	100	100	100	100	100	100	100	100
Confirmed Sewer Chokes (per 100 km of Main)		70	75	75	65	50	50	55	35
Sewage Overflows (per 100 km of Main)					8	6	3	3	4
EFFICIENCY									
Operating (OMA) Cost ($/Connected Property)	170	170	180	180	180	190	210	210	220
Management Cost ($/Connected Property)	53	50	55	55	60	70	70	70	70

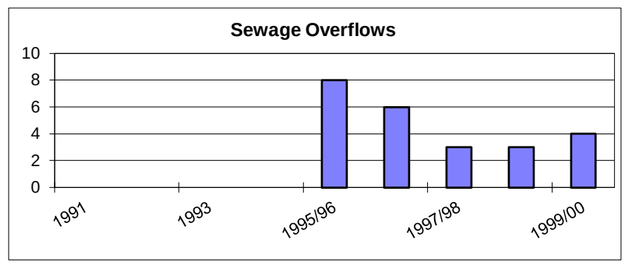


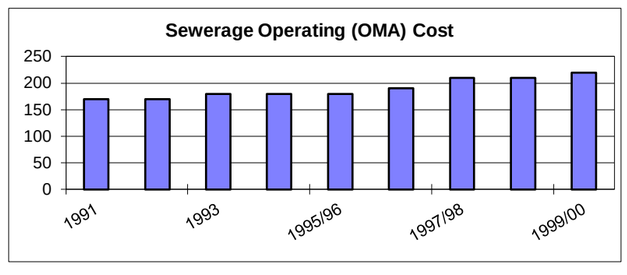












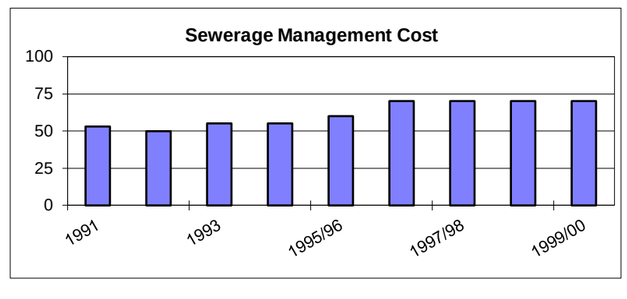


Table 5 - 1999/00 NSW Water Utility Performance Summary

	Water Utility	Water Supply								Sewerage				Water Supply and Sewerage							
		1999/00 Water Supply Assessments (No.)	1999/00 Annual Water Consumption (ML)	1999/00 Average Annual Residential Water Consumption (kL/connected property)	1999/00 Turnover ($M)	2000/01 Tariff Pay-for-Use ?	2000/01 Residential Tariff Independent of Land Value ?	1999/00 Water Quality Compliance (1996 NHMRC/ARMCANZ Guidelines)		1999/00 Turnover ($M)	2000/01 Residential Tariff Independent of Land Value ?	1999/00 EPA Licence Compliance		2000/01 Typical Residential Bill ($/assessment)	2000/01 Typical Developer Charge ($/ET)	1999/00 Economic Real Rate of Return (%)	1999/00 Debt to Equity (%)	1999/00 OMA cost ($/connected property)	1999/00 Management Cost ($/connected property)	Current Replacement Cost of System Assets ($M)	Strategic Business Plans Prepared ?
								Physical and Chemical (%)	Microbiological (%)			BOD (%)	SS (%)								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1	Albury	18100	9240	308	**5.9**	Yes[9]	Yes[10]	40	89	**7.1**	Yes[10]	100	79	439	3,000	1.0	15	435	229	213	Yes[15]
2	Armidale Dumaresq	9310	3390	241	**3.0**	Yes	Yes	100	100	**2.1**	Yes	100	100	500	4,860	-1.9	1	482	234	159	Yes
3	Ballina (Reticulator)	12200	3770	215	**4.0**		No	100	97	**7.3**	Yes	97	92	570	5,550	2.8	1	357	144	132	
4	Balranald (Dual Supply)	750	***1350***	***260***	***0.4***		No			***0.4***	No	NL[13]	NL[14]	588		***1.9***	***2***	***408***	***63***	***18***	Yes
5	Barraba	768	281	265	0.4		Yes			0.2	Yes	100	100	670		1.7	15	394	120	7	Yes*
6	Bathurst	11400	6070	281	**7.8**		No	100	100	**5.3**	No	96	100	635	2,700	2.0	2	449	191	192	Yes
7	Bega Valley (Unfiltered)	12300	3120	162	**5.9**	Yes	Yes	83	96	**5.0**	Yes	100	92	726	4,760	1.4	0	524	288	168	Yes
8	Bellingen (Unfiltered)	3840	1320	222	***1.5***	Yes	Yes	100	100	***1.3***	Yes	94	94	732	11,000	***1.0***	***1***	***392***	***113***	***57***	Yes*
9	Berrigan (Dual Supply)	2,990	2,270	369	1.5		Yes	100	100	1.0	Yes	100	100	763		0.3	10	430	181	44	Yes
10	Bingara	726	374	304	0.3		Yes			0.2	Yes	100	100	595		-0.6	13	383	125	12	
11	Bland	1,818[5]	NO WS[2]							0.6	No	100	100	320[7]	1,000[7]	0.1	0	201[7]	71[7]	8	
12	Blayney	1,230	NO WS							0.6	Yes	100	100	360	1,020	3.4	0	179	85	5	Yes*
13	Bogan	1,040	999	317	0.7		No	96	100	0.4	No	NL	NL	801		-0.2	8	700	351	23	
14	Bombala	909	430	447	0.4		Yes	38	87	0.3	Yes	83	100	855	2,720	2.5	15	533	114	12	Yes*
15	Boorowa	650	***190***	***210***	0.3	Yes	No			0.1	No	100	100	580	900	-1.71	14	326	51	9	
16	Bourke (Dual Supply)	1,760	899	378	0.8		Yes	50	40	0.5	Yes	NL	NL	939	800	-2.9	18	665	157	20	
17	Brewarrina	615	1,130	279	0.3		No	60	100	***0.2***	No	100	100	822		-0.6	3	637	109	7	
18	Broken Hill WB	10,200	7,120	325	**10.5**		Yes	91	100	2.5	Yes	100	100	488		0.1	0	967	266	95	Yes*
19	Byron (Reticulator)	10,000	2,550	157	**4.5**	Yes	Yes	93	100	**8.5**	Yes	100	100	758	10,700	6.9	5	544	220	87	Yes*
20	Cabonne	1,120	402	168	0.7		No	70	88	1.1	No	90	79	850		2.6	10	473	137	36	Yes
21	Carrathool	982	870	422	0.8		Yes	100	100	0.1	Yes	NL	NL	450	1,300	-0.1	4	683	259	16	Yes
22	Central Darling	728	122	79	0.3		Yes	93	95	0.1	Yes	NL	NL	501		-2.2	1	589	102	16	
23	Central Tablelands	4,910	2,430	272	**2.4**	Yes	Yes	12	100	NO SGE				381		-1.5	0	310	150	58	Yes*
24	Cobar (Dual Supply)	2,020	1,140	359	1.1		Yes	100	100	0.4	Yes	NL	NL	685	2,120	-0.8	0	572	144	29	Yes*
25	Coffs Harbour (Unfiltered)	21,200	5,600	190	**11.7**	Yes	Yes	99	89	**13.6**	Yes	100	100	854	5,290	3.2	24	424	166	275	Yes*
26	Coolah	1,070	461	280	0.4		Yes	63	91	0.2	Yes	50	50	535		2.1	0	421	75	8	Yes*
27	Coolamon	908	NO WS							0.3	Yes	100	83	210	3,000	0.5	13	203	62	4	Yes
28	Cooma-Monaro	3,610	1,410	253	1.8	Yes	Yes	38	85	1.4	Yes	100	100	849	3,620	3.0	11	440	142	39	Yes
29	Coonabarabran	1,870	781	395	1.1	Yes	No	73	76	0.7	No	100	100	570	1,820	-0.7	3	590	358	46	Yes*
30	Coonamble (Groundwater)	1,470	927	528	0.6		No	60	90	0.5	No	95	95	416		-1.0	2	392	***41***	21	
31	Cootamundra (Reticulator)	2,700	928	243	1.2		No			0.6	No	86	100	450	2,700	-1.2	3	221	83	11	Yes*
32	Copmanhurst (Unfiltered)	152	33	217	0.2		Yes	50	89	0.4	Yes	90	100	954	4,380	11.3	0	744	310	4	Yes*
33	Corowa	3,470	3,250	664	1.5		Yes	100	93	1.0	Yes	92	69	535		1.3	2	379	146	43	Yes*
34	Cowra	5,020	3,100	389	**2.6**		Yes			1.0	Yes			641	4,500	0.4	2	421	154	43	Yes*
35	Crookwell	1,040	333	175	0.6		No	50	85	0.4	No	100	100	954	1,190	-0.5	23	643	85	15	Yes*
36	Culcairn (Groundwater)	536	179	208	0.1		Yes	100	80	0.3	Yes	100	95	408	3,910	-1.1	8	317	69	10	
37	Deniliquin	3,600	3,440	450	1.7		Yes	99	100	1.1	Yes	100	40	799	965	-0.3	4	506	220	44	Yes
38	Dubbo	12,700	6,390	297	7.0	Yes	Yes	99	100	**7.6**	No	67	71	788	5,750	3.6	0	442	194	199	Yes*
39	Dungog (Unfiltered)	2,130	864	262	0.8	Yes	Yes			0.4	Yes	NL	NL	538	5,190	0.4	9	336	84	18	Yes
40	Eurobodalla (Unfiltered)	17,800	5,170	188	7.4	Yes	Yes	89	100	**7.7**	Yes	100	100	754	3,640	1.8	11	489	190	249	Yes
41	Fish River WS (Unfiltered, Bulk Supplier)	23,000	11,100		**6.4**		Yes	84	100	NO SGE						1.3	9	85	54	152	Yes
42	Forbes	3,190	3,000	554	1.5		No	50	92	1.3	No	75	83	703	1,110	4.9	10	406	***79***	26	Yes*
43	Gilgandra	1,290	667	388	0.5	Yes	Yes	100	100	0.2	Yes	95	100	546		-1.9	8	317	63	22	Yes*

Table 5 - 1999/00 NSW Water Utility Performance Summary

	Water Utility	Water Supply								Sewerage				Water Supply and Sewerage							
		1999/00 Water Supply Assessments (No.)	1999/00 Annual Water Consumption (ML)	1999/00 Average Annual Residential Water Consumption (kL/connected property)	1999/00 Turnover ($M)	2000/01 Tariff Pay-for-Use ?	2000/01 Residential Tariff Independent of Land Value ?	1999/00 Water Quality Compliance (1996 NHMRC/ARMCANZ Guidelines)		1999/00 Turnover ($M)	2000/01 Residential Tariff Independent of Land Value ?	1999/00 EPA Licence Compliance		2000/01 Typical Residential Bill ($/assessment)	2000/01 Typical Developer Charge ($/ET)	1999/00 Economic Real Rate of Return (%)	1999/00 Debt to Equity (%)	1999/00 OMA cost ($/connected property)	1999/00 Management Cost ($/connected property)	Current Replacement Cost of System Assets ($M)	Strategic Business Plans Prepared ?
								Physical and Chemical (%)	Microbiological (%)			BOD (%)	SS (%)								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
44	Glen Innes	2,810	681	199	1.0		Yes	100	100	0.6	Yes	100	100	495		2.0	5	279	80	35	Yes*
45	Gloucester	1,630	718	338	0.7		Yes	100	93	0.5	No	100	100	686	3,010	1.1	9	460	73	19	Yes*
46	Goldenfields (Bulk Supplier)	18,800	6,800		6.9		Yes	99	100	NO SGE					2,000	2.8		159	36	108	Yes
47	Goldenfields (Reticulator)	10,900	4,490	225	6.1	Yes	Yes	98	95	NO SGE				419	2,000	-2.9		243	78	136	
48	Goldenfields (Combined)	18,800	7,340		**13.0**			99	96	NO SGE					2,000	0.0	5			244	
49	Gosford	63,200	17,000	216	**19.8**	Yes	Yes	100	94	**30.7**	Yes	100	100	551	4,910	3.5	10	342	153	703	
50	Goulburn	8,910	4,140	331	**4.7**	Yes	Yes	100	93	**3.4**	No	50	41	669	2,170	5.6	14	462	190	46	Yes*
51	Grafton	6,710	2,350	197	**2.0**	Yes	Yes	100	95	**3.1**	Yes	99	93	614		2.2	1	379	160	68	Yes*
52	Griffith	8,760	9,000	795	**4.7**		No	100	100	**4.7**	No	100	100	560	3,630	2.6	0	648	237	113	Yes*
53	Gundagai	935	664	471	0.4		No	92	100	0.2	No	95	95	506		2.1	7	432	104	5	
54	Gunnedah (Groundwater)	4,130	2,840	418	1.7		No			0.9	Yes			430	4,250	2.1	7	277	66	44	Yes
55	Gunning	359	86	153	0.1		No	50	84	0.1	No	75	75	318		1.8	2	308	76	6	Yes*
56	Guyra	1,170	290	275	0.4	Yes	Yes			0.4	Yes	100	100	771		0.3	20	463	194	15	Yes
57	Harden (Reticulator)	1,510	805	420	0.9		Yes	100	100	0.2	Yes	92	75	674		-5.2	1	333	107	19	Yes*
58	Hastings (Unfiltered)	24,900	6,630	190	**13.3**	Yes	Yes	39	100	**14.8**	Yes	81	99	753	5,380	4.3	4	346	108	304	Yes
59	Hay (Dual Supply)	1,290	3,200	897	0.6		Yes	100	100	0.5	Yes	100	100	1146		-0.4	0	463	126	13	Yes*
60	Holbrook	687	NO WS							0.3	No			168		-0.2	5	288	147	4	Yes
61	Hume	2,000	964	321	0.8		No	100		0.4	Yes			400	3,060	-0.9	0	563	149	16	
62	Hunter Water	196,000	80,100	196	71.7	Yes	Yes	100	100	73.0	Yes	100	100	453	2,800	4.3	5	291		1,920	
63	Inverell	4,850	2,070	279	**2.1**	Yes	Yes	100	100	1.2	Yes	96	88	664		-0.8	2	426	120	71	
64	Jerilderie (Dual Supply)	457	334	143	0.2		No	100	100	0.3	No	100	100	811		3.6	11	480	146	5	
65	Junee	1,400	NO WS							0.4	Yes	100	100	255	500	1.4	0	195	67	6	
66	Kempsey (Groundwater)	10,400	7,790	434	**4.8**		Yes	88	100	**4.6**	Yes	100	100	898	6,620	2.7	17	437	136	164	Yes*
67	Kyogle	1,700	483	195	0.6	Yes	Yes	100	88	0.5	Yes	87	33	612	2,000	-2.2	5	412	177	24	Yes*
68	Lachlan	2,410	915	264	1.5	Yes	Yes	82	67	0.7	Yes	100	100	654		0.5	0	498	179	42	Yes*
69	Leeton	3,560	2,330	511	1.9	Yes	Yes	100	100	1.5	No	100	100	755	7,770	2.3	6	565	154	48	Yes
70	Lismore (Reticulator)	12,400	3,590	193	**4.4**	Yes	Yes	100	100	**4.9**	Yes	100	100	557	6,700	1.0	5	343	87	123	Yes
71	Lithgow	7,070	2,280	259	**2.8**	Yes	Yes			**2.0**	No	75		621	4,020	-3.5	0	***407***	***148***	73	
72	Lockhart	688	NO WS							0.3	No	100	100	111		0.0	2	176	32	10	Yes
73	Lower Clarence (Unfiltered)	10,300	3,790	213	**13.4**	Yes	Yes	45	64	NO SGE				327	3,200	14.1	4	170	123	97	Yes
74	Maclean	4,740	NO WS							2.9	Yes	77	92	300	3,030	6.9	7	163	36	29	Yes
75	Manilla	1,120	640	495	0.4		Yes	99	100	0.5	Yes	100	100	714	2,300	1.7	26	476	164	13	Yes*
76	Merriwa	602	293	371	0.3	Yes	Yes	100	100	0.1	Yes	100	75	715	1,000	-4.5	0	502	165	8	Yes*
77	MidCoast (Manning - Unfiltered)	20,400				Yes	Yes				Yes	100	99	672	4,500						Yes*
78	MidCoast (Great Lakes - Unfiltered, Reticulator)	12,800				Yes	Yes				Yes	97	95	784	6,800						Yes*
79	MidCoast (Combined - Unfiltered)	33,200	9,540	213	**14.8**					**17.5**		99	97			2.4	18	442	93	347	
80	Moree Plains	5,000	2,340	379	***1.3***	Yes	Yes	98	100	***1.8***	Yes	98	95	708	3,970	***5.5***	***9***	***465***	***114***	55	Yes*
81	Mudgee (Unfiltered)	4,600	1,720	235	**2.7**	Yes	Yes	30	100	1.8	No	100	90	795	4,780	2.8	5	492	187	59	Yes*
82	Mulwaree	499	141	229	0.3	Yes	Yes	100	96	0.2	No	100	100	740	5,000	0.7	24	490	61	9	Yes
83	Murray	2,010	1,580	491	1.1		Yes	100		1.0	Yes	NL	NL	723	1,400	5.1	41	388	154	19	Yes*
84	Murrumbidgee	725	801	661	0.3		No	75	83	0.4	No	50	50	629	2,000	4.5	3	169	42	8	Yes*
85	Murrurundi (Unfiltered)	628	183	264	0.3		Yes		88	0.2	Yes	100	100	730	1,250	0.9	2	320	37	13	
86	Muswellbrook	4,910	2,390	327	1.9	Yes	Yes	75	86	1.6	Yes	100	100	567	6,660	-0.9	0	529	104	54	Yes

Table 5 - 1999/00 NSW Water Utility Performance Summary

	Water Utility	Water Supply								Sewerage				Water Supply and Sewerage							
		1999/00 Water Supply Assessments (No.)	1999/00 Annual Water Consumption (ML)	1999/00 Average Annual Residential Water Consumption (kL/connected property)	1999/00 Turnover ($M)	2000/01 Tariff Pay-for-Use ?	2000/01 Residential Tariff Independent of Land Value ?	1999/00 Water Quality Compliance (1996 NHMRC/ARMCANZ Guidelines)		1999/00 Turnover ($M)	2000/01 Residential Tariff Independent of Land Value ?	1999/00 EPA Licence Compliance		2000/01 Typical Residential Bill ($/assessment)	2000/01 Typical Developer Charge ($/ET)	1999/00 Economic Real Rate of Return (%)	1999/00 Debt to Equity (%)	1999/00 OMA cost ($/connected property)	1999/00 Management Cost ($/connected property)	Current Replacement Cost of System Assets ($M)	Strategic Business Plans Prepared ?
								Physical and Chemical (%)	Microbiological (%)			BOD (%)	SS (%)								
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
87	Nambucca	5,980	1,760	249	**2.1**	Yes	Yes	100	100	**3.1**	Yes	97	74	701	4,450	4.6	12	331	129	70	Yes
88	Narrabri (Groundwater)	4,200	3,400	475	1.6	Yes	Yes		50	1.2	Yes	100	100	608	3,920	0.4	12	315	95	63	Yes
89	Narrandera (Groundwater)	2,150	1,870	613	1.1	Yes	Yes	88	100	0.8	No	88	24	813		6.8	1	416	108	21	Yes*
90	Narromine (Groundwater)	2,080	1,370	402	0.7	Yes	Yes	100		0.8	No	NL	NL	718	1,440	-1.0	1	638	363	24	Yes
91	Nundle	220	111	495	0.1		Yes	100	100	NO SGE				470		-0.9	30	292	33	2	
92	Oberon (Unfiltered, Reticulator)	1,210	856	239	1.1	Yes	Yes			0.5	No	100	100	396	2,200	7.3	14	374	118	11	Yes*
93	Orange	13,700	5,980	263	**6.4**		No	100	100	**7.4**	No	100	98	513	7,110	3.0	0	323	85	185	Yes
94	Parkes	5,760	6,120	300	**4.1**		No		90	1.1	No	66	60	738	6,360	1.5	0	462	80	98	Yes*
95	Parry	1,860	1,020	489	0.8		Yes	58	96	0.5	Yes	71	57	979	1,000	0.6	23	382	72	32	Yes*
96	Pristine Waters (Unfiltered)	1,990	511	180	0.8	Yes	Yes		92	0.5	Yes	100	54	881	5,200	***4.0***	***27***	393	***108***	18	Yes
97	Queanbeyan (Reticulator)	13,000	4,290	275	**5.1**	Yes	Yes	100	87	**6.3**	No	100	100	588	1,860	4.17	1	310	155	83	Yes
98	Quirindi	1,600	604	312	0.5		Yes	90	100	0.3	Yes	100	42	510		0.3	1	***367***	***75***	21	
99	Richmond Valley	6,290	3,010	299	3.0	Yes	Yes	50	94	2.0	Yes	100	77	560	6,130	1.8	***0***	413	***168***	85	Yes
100	Riverina (Groundwater)	25,500	13,600	328	**11.4**	Yes	Yes	85	100	NO SGE				286	1,150	2.5	9	190	59	172	Yes*
101	Rous (Bulk Supplier)	33,500	11,600		**8.2**	Yes		100	100	NO SGE					1,260	2.9	0	95	49	108	Yes
102	Rylstone	1,270	583	344	0.6		Yes	100	100	0.4	Yes			750		-1.0	0	527	78	18	Yes
103	Scone (Unfiltered)	2,640	1,410	228	1.1	Yes	Yes	21	100	1.2	No	100	100	634	4,640	0.1	0	557	255	33	
104	Severn	195	***100***	***335***	0.1	Yes	Yes			0.1	Yes	83	75	786		4.2	10	302	171	2	
105	Shoalhaven	45,200	19,100	170	**16.2**	Yes	Yes	84	92	**22.0**	Yes	95	79	736	3,840	5.0	12	426	194	430	Yes
106	Singleton	5,150	2,600	329	**3.8**	Yes	Yes	100	100	1.6	Yes	100	100	715	3,430	2.7	5	466	145	76	Yes*
107	Snowy River (Unfiltered)	2,380	646	120	1.2	Yes	Yes			1.4	Yes	93	85	614	4,500	2.7	13	***285***	***84***	40	Yes
108	Sydney Water	1,599,000	619,800	244	690.0	Yes	Yes	96	100	725.0	Yes	100	99	590	7,700	3.9	16	480	0	11,660	
109	Tallaganda	603	220	312	0.2	Yes	Yes	100	92	0.1	Yes	75	75	673	6,040	-0.6	0	447	51	6	Yes*
110	Tamworth	15,100	8,710	265	**7.0**	Yes	Yes	100	100	**7.1**	Yes	90	72	690	4,360	2.5	3	449	135	244	Yes
111	Temora	1,950	NO WS							0.3	Yes	100	80	104		-4.1	0	147	27	8	
112	Tenterfield	1,960	590	199	0.8	Yes	Yes	79	92	0.7	Yes	97	72	627	3,000	-0.3	2	495	243	28	Yes
113	Tumbarumba	1,070	412	314	0.4		Yes		100	0.3	Yes	100	90	670		-0.6	0	359	108	17	Yes*
114	Tumut	3,890	1,740	261	1.8	Yes	Yes	75	100	1.9	Yes	100	100	755	5,630	2.2	3	387	108	67	Yes*
115	Tweed	25,800	8,500	224	**12.1**		Yes	99	100	**16.2**	Yes	98	98	650	6,240	3.8	4	403	163	345	Yes*
116	Uralla	1,260	389	195	0.5		Yes	93	100	0.4	Yes	100	100	716		-0.5	7	451	225	14	Yes*
117	Wagga Wagga	19,500	NO WS							7.1	Yes	94	89	231	1,200	3.3	1	119	***30***	117	
118	Wakool (Dual Supply)	1,850	1,320	66	0.8		Yes			0.5	Yes	NL	NL	537		4.2	12	324	49	15	Yes
119	Walcha	821	259	195	0.3	Yes	Yes		100	0.2	Yes	100	92	618		-0.9	3	485	119	16	
120	Walgett (Dual Supply)	1,740	***2,350***	***532***	1.0		Yes			0.4	Yes			716		-1.2	5	540	195	27	Yes*
121	Warren (Dual Supply)	1,030	529	153	0.6		Yes	75	100	0.4	Yes	NL	NL	677		3.7	5	438	105	11	Yes
122	Weddin	1,010	NO WS							0.1	Yes	100		138		-9.0	0	99	27	6	
123	Wellington	2,780	899	260	1.6		No	100	100	0.8	No	100	85	805	2,000	0.8	14	560	207	37	Yes
124	Wentworth (Dual Supply)	1,550	***3,070***	***350***	1.2		Yes			0.6	Yes			1259	3,070	0.5	19	652	136	35	
125	Wingecarribee	16,400	4,920	236	**9.5**	Yes	Yes	100	100	**8.6**	Yes	100	100	866	5,470	6.3	7	424	214	205	Yes
126	Wyong	53,900	15,300	207	**22.3**	Yes	Yes	100	100	**22.7**	Yes	100	100	554	4,640	3.4	7	372	98	655	
127	Yallaroi (Groundwater)	722	419	548	0.3		No			0.2	No	98	99	799		2.1	8	299	***43***	9	Yes*
128	Yarrowlumla (Unfiltered)	949	554	364	0.4		Yes			0.6	Yes	100	83	913		3.1	15	467	173	12	Yes*
129	Yass	2,530	964	238	1.3		Yes	100	100	0.8	No	100	100	718	3,130	1.5	4	541	193	26	Yes
130	Young (Reticulator)	3,390	1,350	268	1.8		Yes		90	0.7	Yes	100	100	590	2,700	3.5	3	166	41	18	Yes

Table 5 - 1999/00 NSW Water Utility Performance Summary

Water Utility	Water Supply								Sewerage				Water Supply and Sewerage							
	1999/00 Water Supply Assessments (No.) (1)	1999/00 Annual Water Consumption (ML) (2)	1999/00 Average Annual Residential Water Consumption (kL/connected property) (3)	1999/00 Turnover ($M) (4)	2000/01 Tariff Pay-for-Use ? (5)	2000/01 Residential Tariff Independent of Land Value ? (6)	1999/00 Water Quality Compliance (1996 NHMRC/ARMCANZ Guidelines) Physical and Chemical (%) (7)	1999/00 Water Quality Compliance (1996 NHMRC/ARMCANZ Guidelines) Microbiological (%) (8)	1999/00 Turnover ($M) (9)	2000/01 Residential Tariff Independent of Land Value ? (10)	1999/00 EPA Licence Compliance BOD (%) (11)	1999/00 EPA Licence Compliance SS (%) (12)	2000/01 Typical Residential Bill ($/assessment) (13)	2000/01 Typical Developer Charge ($/ET) (14)	1999/00 Economic Real Rate of Return (%) (15)	1999/00 Debt to Equity (%) (16)	1999/00 OMA cost ($/connected property) (17)	1999/00 Management Cost ($/connected property) (18)	Current Replacement Cost of System Assets ($M) (19)	Strategic Business Plans Prepared ? (20)
Totals [6]	738,000[6]	315,000[6]	Median[7] 220kL/ connected property	$338M[5]	56/114 Yes[9]	91/114 Yes[10]	40/114[11] 100% Compliance	51/114[12] 100% Compliance	$311M[8]	81/117 Yes	61/117[10] 100% Compliance	47/117[13] 100% Compliance	Median[7] $650/ assessment	Median[7] $4,650/ET	Median[7] 3% 79/124 (+)ve	Median[7] 7%	Median[7] $425/connected property	Median[7] $150/connected property	$9,100 M	45 Yes 51 Yes* 96/124

Notes:

1. **Each line of this table shows the key 1999/00 performance indicators/characteristics for one of the 126 NSW water utilities** (including Sydney and Hunter water corporations). A more detailed breakdown of performance indicators for each water utility is provided in Tables 6 to 12 as well as in Figures 1 to 119. This table enables water utilities to carry out an overall comparison of their performance with that of other NSW utilities. However, **it is important to ensure** that any such
2. **No WS** means not responsible for water supply; **No SGE** means not responsible for sewerage.
3. Of the **124 non-metropolitan NSW water utilities** in 1999/00, 114 utilities were responsible for water supply and 117 were responsible for sewerage (107 of these utilities were responsible for both water supply and sewerage, 7 were responsible for water supply only and 10 were responsible for sewerage only).
4. Where a water utility has not reported an item for 1999/00, the value previously reported by the utility has been used where available, otherwise an estimate has been used based on results for similar utilities. Such values are shown in this table in ***italics***
5. For utilities responsible for sewerage only, the number shown in column (1) is the number of sewerage assessments (shown left justified).
6. **The totals shown above are for non-metropolitan NSW and therefore exclude Sydney and Hunter.** The totals for the number of Water Supply Assessments (column (1)), Annual Water Consumption (column (2)) and Turnover (column (4)) exclude double-counting where bulk water suppliers are involved. The total **number of water supply assessments** in non-metropolitan NSW was **738,000** (column (1)). The total **annual water consumption is 315,000 ML** (column (2)). The **total turnover** for water supply and sewerage was **$650M** (column (4) + column (9)) and the **current replacement cost of assets was $9,100M** (column (19)).
7. **Columns (3), (13), (14), (15), (16), (17) and (18) show that the Statewide medians** (non-metropolitan) were:
   - **Average annual residential water consumption - 220kL/connected property** (column (3)). Refer also to Figure 22.
   - **Typical residential bill for water and sewerage - $650/assessment** (column (13)). The 1999/00 typical residential bill for water supply has been calculated on the basis of each utility's 1999/000 tariff (columns (9), (11) and (12) of Table 8) using the 1999/00 average annual residential water consumption (column (3)). The typical residential bill for sewerage is based on the utility's access charge (column (9)) of Table 11 except for 5 utilities where account was also taken of the utility's usage charges. For water supply only utilities or sewerage only utilities, the typical residential bill is shown left justified in column (13). Refer also to Figures 3, 5 and 7.
   - **Typical developer charge for water and sewerage - $4,650/equivalent tenement (ET)** (column (14)**).** For water supply only utilities or sewerage only utilities, the typical developer charge is shown left justified in column (14). Refer also to Figures 1, 4 and 6.
   - **Economic real rate of return for water and sewerage - 3.0%** (column (15)) **79** of the 124 non-metropolitan water **utilities had a positive real rate of return**.
   - **Debt/equity for water and sewerage - 7%** (column (16)). Refer also to Figures 13, 34 and 85.
   - **Operation, maintenance and administration (OMA) cost for water and sewerage - $425/connected property** (column (17)). For water supply only utilities or sewerage only utilities, the OMA cost is shown left justified in column (17). Refer also to Figures 15, 52 and 104.
   - **Management cost for water supply and sewerage - $150/connected property** (column (18)). For water supply only utilities or sewerage only utilities, the management cost is shown left justified in column (18).
8. **41 of the non-metropolitan NSW water** utilities are **Category 1 businesses** under the NSW Government's Policy Statement on Application of **National Competition Policy** to Local Government, June 1996 as they had an **annual turnover of over $2M** (shown in **bold**). **29 utilities** had an **annual turnover of over $2M for both water supply and sewerage**, **10 utilities** had such a turnover for **water supply only**, and 2 **utilities** had such a turnover for **sewerage only**. Column (4) shows there were **39** such utilities **responsible for water supply** with a turnover of over $2M (column (4)) and **29** such utiliities **responsible for sewerage** (column (9). Refer also to Figures 14, 36 and 87.
9. Column (5) shows that **56** non-metropolitan water **utilities** had a **pay-for-use water supply tariff** (ie. a two-part tariff or an inclining block tariff). Such tariffs **comply with** the recommendations of the NSW Pricing and Regulatory Tribunal **(IPART)** and the Council of Australian Governments' **(COAG)** Water Reforms. 46 of these utilities had such a tariff in place in July 1999. Refer also to Figure 2.
10. Column (6) shows there were **91** non-metropolitan **water supply utilities** with residential **tariffs independent of land value** and column (10) shows there were **81** such **sewerage utilities**. Such tariffs **comply with IPART recommendations and the COAG Water Reforms.** Refer also to Figure 2 and Table 10.
11. **Physical and chemical water quality - 95% of the 20,700 samples tested for non-metroplitan NSW achieved 100% compliance** with the 1996 NHMRC/ARMCANZ Guidelines. Column (7) shows that **40 out of 114 non-metropolitan water utilities achieved 100% physical and chemical compliance**, but many utilities tested far fewer samples than suggested in these Guidelines**.** Refer also to Figures 38 and 40 and Appendix D1.
12. **Microbiological water quality - 93% of the 11,800 samples tested for non-metroplitan NSW achieved 100% compliance** with the 1996 NHMRC/ARMCANZ Guidelines. Faecal contamination is the primary health-related indicator; 97% of the 12,200 samples tested contained no faecal coliforms. Column (8) shows that **51 out of 114 non-metropolitan water utilities achieved 100% microbiological compliance,** but many utilities tested far fewer samples than suggested in these Guidelines.
13. **BOD - 97% of the 6,700 sampling days for non-metroplitan NSW achieved 100% compliance** with the 90 percentile limit of their EPA licence for BOD (Biological Oxygen Demand). Column (11) shows that **61 out of 105 non-metropolitan water utilities licenced by the EPA achieved 100% BOD compliance** (11 water utilities had no EPA discharge licence (NL)). Refer also to Figures 88 and 92.
14. **SS - 86% of the 6,700 sampling days** for non-metroplitan NSW achieved **100% compliance** with the 90 percentile limit of their EPA licence for SS (Suspended Solids). Column (12) shows that **47 out of 105 non-metropolitan water utilities licenced by the EPA achieved 100% SS compliance** (11 water utilities had no EPA discharge licence (NL)). Refer also to Figures 89 and 92.
15. Column (20) shows that **45** water **utilities** have **completed** their water supply and sewerage **Strategic Business Plans** and have **demonstrated long term financial sustainability of their water supply and sewerage businesses to comply with National Competition Policy.** A further 51 utilities have prepared draft Strategic Business Plans for these businesses, but further development of these draft business plans is required.

Blank Page

1. PARTICIPATING COUNCILS

The following 117 councils participated in the NSW Annual Water Supply and Sewerage Reporting System in 1999/00. Financial data for 115 councils was obtained from Special Schedule Nos 3 to 6 of the councils' 1999/00 financial statements and advice from councils on their charging structures. The location of participating councils is shown on the map on the final page of this report (following Appendix D).

Albury
Armidale

Ballina
Barraba
Bathurst
Bega Valley
Bellingen
Berrigan
Bingara
Bland
Blayney
Bogan
Bombala
Boorowa
Bourke
Brewarrina
Byron

Cabonne
Carrathool
Central Darling
Central Tablelands CC
Cobar
Coffs Harbour
Coolah
Coolamon
Cooma-Monaro
Coonabarabran
Coonamble
Cootamundra
Copmanhurst
Corowa
Crookwell
Culcairn

Deniliquin
Dubbo
Dungog

Eurobodalla

Forbes

Gilgandra
Glen Innes
Gloucester
Goldenfields CC
Gosford
Goulburn
Grafton
Griffith
Gundagai
Gunnedah
Gunning
Guyra

Harden
Hastings
Hay
Hume

Inverell

Jerilderie
Junee

Kempsey
Kyogle

Lachlan
Leeton
Lismore
Lithgow
Lockhart
Lower Clarence CC

Maclean
Manilla
Merriwa
Mid Coast CC
Moree Plains
Mudgee
Mulwaree
Murray
Murrumbidgee
Murrurundi
Muswellbrook

Nambucca
Narrabri
Narrandera
Narromine
Nundle

Oberon
Orange

Parkes
Parry
Pristine Waters

Queanbeyan
Quirindi

Richmond Valley
Riverina CC
Rous CC
Rylstone

Scone
Severn
Shoalhaven
Singleton
Snowy River

Tallaganda
Tamworth
Temora
Tenterfield
Tumbarumba
Tumut
Tweed

Uralla

Wagga Wagga
Wakool
Walcha
Warren
Weddin
Wellington
Wingecarribee
Wyong

Yallaroi
Yarrowlumla
Yass
Young

Although DLWC and LGSA are concerned that the following 5 councils did not provide 1999/00 water supply or sewerage performance reporting forms, it is understood that they will be doing so for the 2000/01 financial year.

Balranald
Cowra
Holbrook
Walgett
Wentworth

2. KEY DATA TABLES

This section contains the following key data tables:

- Table 6 1999/00 Water Consumptions in Non-Metropolitan NSW
- Table 6A 1999/00 Non-Metropolitan Water Consumptions from Source Catchments
- Table 7 Water Supply – Business Characteristics, Financial
- Table 8 Water Supply – Residential Charges, Bills
- Table 8A Water Supply – 2000/01 Residential Inclining Block or Multiple Tariffs
- Table 8B Water Supply – 2000/01 Non-Residential Tariffs
- Table 9 Water Supply – Levels of Service, Efficiency
- Table 10 Sewerage – Business Characteristics, Financial
- Table 11 Sewerage – Residential Charges, Bills
- Table 11A Sewerage – 2000/01 Residential Multiple Tariffs
- Table 11B Sewerage – 2000/01 Non-Residential Tariffs
- Table 12 Sewerage – Levels of Service, Efficiency

GENERAL NOTES

1. Performance indicators have been grouped in this report into Business Characteristics, Charges, Bills, Financial, Levels of Service and Efficiency.
2. Where a water utility has not reported an item for 1999/00, the value previously reported has been used where available, otherwise an estimate has been used based on results for similar utilities. Such values are shown in ***italics bold*** in Tables 5 to 12. These values are also shown in the relevant figures.
3. As for the 1998/99 NSW Water Supply and Sewerage Performance Comparisons report, this report has been prepared on a *"per connected property"* basis for consistency with national performance reporting. A connected property is a property that is connected to the system, as opposed to an assessment which is a bill issued by a water utility. Factors that influence this indicator are the number of vacant blocks (with no connection but which are billed as an assessment) and the number of multiple dwellings (eg. blocks of flats or units) with a single assessment.
4. The ratio of the number of connected properties to the number of assessments is reported to be about 0.95 for most utilities, although it ranges from 0.75 to 1.43. The data required for the calculation of this ratio was not well reported. DLWC has therefore estimated this ratio for many utilities (shown in ***italics bold*** in columns (2) and (2a) of Tables 7 and 10).
5. The formulae for calculation of the performance indicators in the tables are shown in the final pages of Appendix B.
6. The *typical residential bill* is the annual bill paid by a typical residential customer and is the principal indicator of the overall cost of a water supply or sewerage system. Pensioners pay a lower amount due to the $87.50 pensioner rebate as do owners of vacant lots as they pay no usage charges.
7. The 2000/01 typical residential bill is based on a customer of the water utility's principal water supply or sewerage system, using the utility's 1999/00 average annual residential water consumption. These tariffs are shown in Tables 8 and 8A (water supply) and Table 11 (sewerage). The typical residential bill for 1999/00 and previous years is based on the reported average annual residential water consumption for that year (these consumptions are shown in column 5 of Table 7).

8. The 1999/00 residential revenue, as a percentage of total rates and charges revenue is reported in column (7a) of Tables 7 and 10. A number of utilities did not report a breakdown of their rates and charges revenue into residential and non-residential. The percentage residential revenue for such utilities has been estimated by DLWC on the basis of reported values for similar utilities and is shown in italics bold in Tables 7 and 10. These latter values have been used for estimating the average residential bill for these utilities.
9. The average residential bill (Tables 8, 11 and Figures 8, 28, 80) comprises the water utility's revenue from residential rates and charges divided by the number of connected residential properties. Except for utilities with an inclining block tariff or an annual water allowance, and those with access charges not independent of land value, the average residential bill is less than the typical residential bill due to pensioner rebates and vacant lots.
10. The typical developer charges reported for Sydney Water Corporation and Hunter Water Corporation are for new release areas.
11. Drinking water quality guidelines have become more stringent. As for the 1998/99 NSW Water Supply and Sewerage Performance Comparisons report, this report reports compliance with the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines. The detailed performance of each water treatment works or chlorination station in Non-metropolitan NSW is reported in Appendix D1.
12. The average annual residential water consumption per connected property (Tables 5, 7 and Figure 22) refers to potable water consumption. As shown in Table 6, this comprises 96% (302,000/315,000) of the total 1999/00 water consumption for non-metropolitan NSW.
13. For consistency with national performance reporting, unaccounted for water now includes system water loss (ie. leakage).
14. A review of unaccounted for water for NSW water utilities responsible for reticulating water supply to residential customers has indicated a minimum of 10% of total potable water consumption. The values for any such utilities reporting less than 10% unaccounted for water have been increased to 10% (shown in italics, bold in column (7) of Table 6), and the reported values for total water consumption have been increased accordingly. Similarly, as minimum system water loss levels (ie. leakage) for such utilities have been found to be at least 6% of the potable water consumption, reported values of system water loss of 5% or less have been increased to 6% (shown in italics, bold in column (8) of Table 6).
15. Total annual water consumption comprises the sum of the potable water supply plus the non-potable water supply less the recycled water (column (11) of Table 6). Recycled water is a component of the non-potable supply which also includes raw water.
16. *Bulk Storage* – utilities that provide bulk storage dams for their water supply incur significant capital and operating costs for these facilities, resulting in a higher typical residential bill and operating cost per property (refer to section 3.2 (2) on page xxi). The following non-metropolitan utilities provided such bulk storage: *Armidale, Ballina, Bathurst, Bega Valley, Bourke, Brewarrina, Broken Hill WB, Cabonne, Central Tablelands, Cobar, Coffs Harbour, Coonabarabran, Crookwell, Eurobodalla, Fish River, Glen Innes, Gosford, Goulburn, Guyra, Hastings, Inverell, Kyogle, Lachlan, Lithgow, MidCoast, Moree, Mudgee, Mulwaree, Murrurundi, Orange, Parkes, Parry, Rous, Rylstone, Shoalhaven, Tallaganda, Tamworth, Tenterfield, Tweed, Uralla, Wingecarribee, Wyong, Yarrowlumla, Yass.*
17. *Unfiltered* – refers to a utility with over 50% of its supply comprising unfiltered surface water supply ie. the utility does not have a water treatment works involving at least filtration and disinfection for 50% of its supply *(Grafton, Hume, MidCoast, Tallaganda also have an unfiltered supply but the label has been inadvertently omitted).*
    Groundwater – refers to a utility with over 50% of its supply comprising good quality unfiltered groundwater (*Carrathool, Moree Plains, Nambucca, Parry also have groundwater but the label has been inadvertently omitted).*
    Reticulator – refers to a utility which purchases over 70% of its source water from a bulk supplier and reticulates water to householders in its area.
    Bulk Supplier – refers to a utility whose main task is to provide a piped bulk water supply to other utilities, rather than reticulating water to householders.
    Dual Supply – refers to a utility with a potable reticulated water supply for indoor uses and a separate non-potable supply for outdoor uses.
18. The performance indicators for Sydney Water Corporation and Hunter Water Corporation have been obtained from WSAA Facts 2000.

Table 6 - 1999/00 Water Consumptions in Non-metropolitan NSW

Consumption Per Category

	Water Utility	Source Catchment	Catchment Management Board	Water Consumption - Town Water Supply (ML)											Recycled Water	
				Residential (1)	Commercial (2)	Industrial (3)	Institutional (4)	Bulk (5)	Public (6)	Unaccounted for Water[2,5] (7)	System Water Loss[5] (8)	Total Potable Supply =(1)+(2)+(3)+(4)+(5)+(6)+(7) (9)	Non-Potable Supply (for outdoor uses or industry) (10)	Total Annual Water Consumption[6] (Potable + Non-potable) =(9)+(10)-(12) (11)	For Non-Potable Town Water Supply[8] (12)	For Agricultural use and Non-Potable Town Water Supply[9] (13)
1	Albury	Murray	Murray	4,800	1,350	963	369	576	258	***924***	***554***	9,240	NA	9,240	0	2,429
2	Armidale Dumaresq	Macleay	Mid North Coast	1,860	361		808			***339***	***203***	3,387		3,387		577
3	Ballina (Reticulator)	Tweed/Richmond	Northern Rivers	2,350	437	46	187	21	10	716	415	3,770	62	3,770	62	110
4	Balranald (Dual Supply)	Murrumbidgee	Lower Murray Darling									***300***	***1,050***	***1,350***		
5	Barraba	Namoi	Gwydir	193	26	0	0	0	30	***27***	***16***	273	8	281	0	0
6	Bathurst	Castlereagh/Macquarie	Central West	3,140	683	877	662			597	358	5,962	104	6,066		
7	Bega Valley (Unfiltered)	Bega	South East	NA	NA	NA	NA	NA	NA	0	0	3,121	NA	3,121	0	213
8	Bellingen (Unfiltered)	Bellinger	Mid North Coast									1,321		1,321		2
9	Berrigan (Dual Supply)	Murray	Murray	920	50	NA	NA	NA	NA	***108***	***65***	1,078	1,197	2,275	0	30
10	Bingara	Gwydir	Gwydir	203	26		21		85	39	22	374		374		***10***
11	Bland	**No WS**	Murrumbidgee							0	0				0	251
12	Blayney	**No WS**	Lachlan													
13	Bogan	Castlereagh/Macquarie	Central West	NA	NA	NA	NA	NA	NA	0	0	547	453	999	0	0
14	Bombala	Snowy	South East	312					75	***43***	***26***	430		430		30
15	Boorowa	Lachlan	Lachlan	NA	NA	NA	NA	NA	NA	0	0	***190***	NA	***190***	0	0
16	Bourke (Dual Supply)	Darling	Central West									710	189	899		
17	Brewarrina	Castlereagh/Macquarie	Central West	0	NA	NA	NA	NA	NA	0	0	315	816	1,131	0	190
18	Broken Hill WB	Darling	Lower Murray Darling	3,020	206	1,980	699			929	410	6,837	283	7,120		889
19	Byron (Reticulator)	Tweed/Richmond	Northern Rivers	NA	NA	NA	NA	NA	NA	0	0	2,550	0	2,550	0	0
20	Cabonne	Lachlan	Lachlan							***27***	16	273	129	402		
21	Carrathool	Murrumbidgee	Lachlan	358	116	NA	NA	NA	NA	130	29	604	267	871	0	0
22	Central Darling	Darling	Western									90	32	122		
23	Central Tablelands	Castlereagh/Macquarie	Lachlan	1,040	95	373	66	203	84	570	300	2,429	0	2,429	0	
24	Cobar (Dual Supply)	Darling	Western									1,123	20	1,143		150
25	Coffs Harbour (Unfiltered)	Bellinger	Upper North Coast	3,570	998	113	139	134	79	***560***	***336***	5,596	0	5,596	0	63
26	Coolah	Castlereagh/Macquarie	Central West		2		3	1	7	***46***	***28***	461		461		100
27	Coolamon	**No WS**	Murrumbidgee							0	0				0	0
28	Cooma-Monaro	Murrumbidgee	Murrumbidgee									1,408		1,408		
29	Coonabarabran	Castlereagh/Macquarie	Namoi	611	73	22	29	0	18	99	71	781	0	781	0	0
30	Coonamble (Groundwater)	Castlereagh/Macquarie	Central West	592	35	22	34	6	118	120	***56***	927		927		
31	Cootamundra (Reticulator)	Murrumbidgee	Murrumbidgee	587	55	68	41	NA	12	146	56	928	0	928	0	0
32	Copmanhurst (Unfiltered)	Clarence	Upper North Coast	27						6	5	33		33		
33	Corowa	Murray	Murray	1,920	100	702	NA	NA	200	***325***	***195***	3,251	NA	3,251	0	610
34	Cowra	Lachlan	Lachlan									***3,100***		***3,100***		
35	Crookwell	Lachlan	Lachlan	149	21	20	13	0	15	115	***20***	333	0	333	0	0
36	Culcairn (Groundwater)	Murray	Murrumbidgee	106	6	1	23	3	19	22	***11***	179		179		37
37	Deniliquin	Murray	Murray	NA	NA	NA	NA	NA	0	0	0	2,520	922	3,442	0	900
38	Dubbo	Castlereagh/Macquarie	Central West	3,550						1,020	***383***	6,387		6,387		1,158
39	Dungog (Unfiltered)	Hunter	Hunter	NA	NA	NA	NA	NA	NA	0	0	864	NA	864	0	200
40	Eurobodalla (Unfiltered)	Clyde	South East	3,010	611				343	1,210	724	5,172		5,172		505
41	Fish River WS (Unfiltered, Bulk Suppl	Castlereagh/Macquarie	Central West	NA	NA	NA	NA	NA	NA	990	0	11,118	NA	11,118	0	
42	Forbes	Lachlan	Lachlan	1,600	253	47		604	60	***285***	***171***	2,849	153	3,002		
43	Gilgandra	Castlereagh/Macquarie	Central West	400	80	20	0	0	100	***67***	40	667	0	667	0	0
44	Glen Innes	Moonie/Macintyre	Border Rivers	442	113	2	44		4	77	***41***	681		681		
45	Gloucester	Manning	Lower North Coast	461	30	34	0	0	121	***72***	***43***	718	NA	718	0	0
46	Goldenfields (Bulk Supplier)	Murrumbidgee	Murrumbidgee					6,389		415	400	6,804		6,804		
47	Goldenfields (Reticulator)	Murrumbidgee	Murrumbidgee	1,690	1,850	6	13	0	170	642	610	4,371	117	4,488	0	
48	Goldenfields (Combined)	Murrumbidgee	Murrumbidgee	1,690	1,850	6	13	2,433	170	1,060	1,010	7,219	117	7,336		
49	Gosford	Hawkesbury	Hawkesbury	12,400	1,710	669	0	0	539	1,640	871	17,005	0	17,005	0	***90***
50	Goulburn	Hawkesbury	Wollondilly	2,710		783		30		624	249	4,142		4,142		2,372

Table 6 - 1999/00 Water Consumptions in Non-metropolitan NSW

Consumption Per Category

	Water Utility	Source Catchment	Catchment Management Board	Water Consumption - Town Water Supply (ML)											Recycled Water	
				Residential (1)	Commercial (2)	Industrial (3)	Institutional (4)	Bulk (5)	Public (6)	Unaccounted for Water[2,5] (7)	System Water Loss[5] (8)	Total Potable Supply =(1)+(2)+(3)+(4)+(5)+(6)+(7) (9)	Non-Potable Supply (for outdoor uses or industry) (10)	Total Annual Water Consumption[6] (Potable + Non-potable) =(9)+(10)-(12) (11)	For Non-Potable Town Water Supply[8] (12)	For Agricultural use and Non-Potable Town Water Supply[9] (13)
51	Grafton	Clarence	Upper North Coast	NA	NA	NA	NA	NA	NA	0	0	2,346	***150***	2,346	***150***	150
52	Griffith	Murrumbidgee	Murrumbidgee									9,000		9,000		
53	Gundagai	Murrumbidgee	Murrumbidgee	387	100	50	10	1	50	***66***	***40***	664	0	664	0	100
54	Gunnedah (Groundwater)	Namoi	Namoi						111	***284***	***170***	2,839		2,839		657
55	Gunning	Lachlan	Lachlan	NA	NA	NA	NA	NA	NA	0	0	86	NA	86	0	0
56	Guyra	Gwydir	Gwydir	271	11	4			4			290		290		
57	Harden (Reticulator)	Murrumbidgee	Murrumbidgee	NA	NA	NA	NA	NA	NA	159	80	805	83	805	83	83
58	Hastings (Unfiltered)	Hastings	Mid North Coast	4,130	952	9	177	13	235	1,120	400	6,633		6,633		27
59	Hay (Dual Supply)	Murrumbidgee	Murrumbidgee	NA	NA	NA	NA	NA	NA	0	0	1,776	1,419	3,195	0	0
60	Holbrook	**No WS**	Murrumbidgee													
61	Hume	Murray	Murray	0	NA	NA	NA	NA	NA	215	58	964	0	964	0	0
62	Hunter Water	Metropolitan								19,400	11,400			80,100		
63	Inverell	Gwydir	Border Rivers	1,210	150	400	NA	NA	100	***207***	***124***	***2,069***	NA	2,069	0	0
64	Jerilderie (Dual Supply)	Murray	Murrumbidgee									100	234	334		100
65	Junee	**No WS**	Murrumbidgee							0	0				0	107
66	Kempsey (Groundwater)	Macleay	Mid North Coast									7,792	200	7,792	200	45
67	Kyogle	Clarence	Upper North Coast	277	40	3	7	110	1	50	***29***	483	NA	483	0	47
68	Lachlan	Lachlan	Lachlan							145	55	915		915		100
69	Leeton	Murrumbidgee	Murrumbidgee	1,600	167	152	NA	NA	119	270	180	2,331	NA	2,331	0	0
70	Lismore (Reticulator)	Tweed/Richmond	Northern Rivers	2,260	893	5				432	216	3,594		3,594		507
71	Lithgow	Hawkesbury	Cox's River	1,610	NA	NA	NA	NA	NA	***228***	***137***	2,283	NA	2,283	0	0
72	Lockhart	**No WS**	Murrumbidgee													0.1
73	Lower Clarence (Unfiltered)	Clarence	Upper North Coast	1,630	301	540	768	3	29	525	300	3,795	0	3,795	0	
74	Maclean	**No WS**	Upper North Coast													46
75	Manilla	Namoi	Namoi	460	25	30	1	NA	60	***64***	***38***	640	NA	640	0	230
76	Merriwa	Hunter	Hunter	188	34	3	1		38	***29***	***18***	293		293		
77	MidCoast (Manning - Unfiltered)	Manning	Lower North Coast							0	0				0	
78	MidCoast (Great Lakes - Unfiltered, Re	Manning	Lower North Coast													
79	MidCoast (Combined - Unfiltered)	Manning	Lower North Coast	6,390	909	653	52	0	97	1,440	573	9,544	NA	9,544	0	14
80	Moree Plains	Gwydir	Gwydir	1,600	167	152	19	6	119	270	180	2,331	10	2,341		283
81	Mudgee (Unfiltered)	Castlereagh/Macquarie	Central West	1,000	120	60	40	20	350	***177***	***106***	1,767	NA	1,717	50	250
82	Mulwaree	Hawkesbury	Wollondilly	97						***14***	***9***	141		141		
83	Murray	Murray	Murray	825	NA	NA	NA	NA	NA	***158***	***95***	1,578	NA	1,578	0	0
84	Murrumbidgee	Murrumbidgee	Murrumbidgee									801		801		156
85	Murrurundi (Unfiltered)	Hunter	Namoi	143	NA	NA	NA	NA	NA	30	30	183	0	183	0	0
86	Muswellbrook	Hunter	Hunter	1,390	274	54	248		187	239	143	2,392	1,400	2,392	1,400	1,400
87	Nambucca	Bellinger	Mid North Coast	1,280	220	20	40	NA	20	178	***105***	1,758	NA	1,758	0	0
88	Narrabri (Groundwater)	Namoi	Namoi									3,405		3,405		
89	Narrandera (Groundwater)	Murrumbidgee	Murrumbidgee	NA	NA	NA	NA	NA	NA	0	0	1,873	0	1,873	0	0
90	Narromine (Groundwater)	Castlereagh/Macquarie	Central West	700	23		100		225	125	75	1,173	192	1,365		
91	Nundle	Namoi	Namoi	94	17	NA	NA	NA	NA	0	0	***111***	NA	***111***	0	
92	Oberon (Unfiltered, Reticulator)	Castlereagh/Macquarie	Central West	250	45	375			30	***86***	***51***	856		856		
93	Orange	Castlereagh/Macquarie	Central West	NA	NA	NA	NA	NA	NA	1,500	930	5,980	2,505	5,980	2,505	2,505
94	Parkes	Lachlan	Central West	1,450	350	300	300	2,608	500	***612***	***367***	6,120		6,120		314
95	Parry	Namoi	Namoi	817	76	15	0	0	NA	***102***	***61***	1,019	0	1,019	0	27
96	Pristine Waters (Unfiltered)	Clarence	Upper North Coast									511		511		28
97	Queanbeyan (Reticulator)	Murrumbidgee	Murrumbidgee	3,440	NA	NA	NA	1	420	429	257	4,288	85	4,288	85	85
98	Quirindi	Namoi	Namoi	357	50	9	22	6	50	110	***36***	604		604		
99	Richmond Valley	Tweed/Richmond	Northern Rivers	NA	NA	NA	NA	NA	NA	0	0	3,005	0	3,005	0	0
100	Riverina (Groundwater)	Murrumbidgee	Murrumbidgee	7,360	1,570	1,400	1,200	343	308	1,450	***818***	13,640		13,640		
101	Rous (Bulk Supplier)	Tweed/Richmond	Northern Rivers	736	NA	NA	NA	9,950	NA	906	0	11,595	NA	11,595	0	

Table 6 - 1999/00 Water Consumptions in Non-metropolitan NSW

Consumption Per Category

	Water Utility	Source Catchment	Catchment Management Board	Water Consumption - Town Water Supply (ML)										Recycled Water	
				Residential (1)	Commercial (2)	Industrial (3)	Institutional (4)	Bulk (5)	Public (6)	Unaccounted for Water[2,5] (7)	System Water Loss[5] (8)	Total Potable Supply =(1)+(2)+(3)+(4)+(5)+(6)+(7) (9)	Non-Potable Supply (for outdoor uses or industry) (10)	Total Annual Water Consumption[6] (Potable + Non-potable) =(9)+(10)-(12) (11)	For Non-Potable Town Water Supply[8] (12)	For Agricultural use and Non-Potable Town Water Supply[9] (13)
102	Rylstone	Castlereagh/Macquarie	Central West	400	30	35	30		30	***58***	***35***	583		583		
103	Scone (Unfiltered)	Hunter	Hunter	557	130	45	78	0	105	490	200	1,405	NA	1,405	0	830
104	Severn	Moonie/Macintyre	Border Rivers									***100***		***100***		
105	Shoalhaven	Shoalhaven	Southern	6,740	1,650	1,430	90	2,000	319	3,640	1,020	17,008	2,138	19,146	0	50
106	Singleton	Hunter	Hunter							390	156	2,600		2,600		900
107	Snowy River (Unfiltered)	Snowy	South East	NA	NA	NA	NA	NA	NA	0	0	646	0	646	0	0
108	Sydney Water	Metropolitan								136,600	70,100			619,800		
109	Tallaganda	Shoalhaven	Southern	165	NA	NA	NA	NA	20	45	***13***	220	NA	220	0	0
110	Tamworth	Namoi	Namoi	3,730	3,500			16		1,480	1,480	8,714		8,714		
111	Temora	**No WS**	Murrumbidgee							0	0				0	365
112	Tenterfield	Moonie/Macintyre	Border Rivers					57				590		590		49
113	Tumbarumba	Murray	Murray	295	NA	NA	NA	NA	NA	***59***	***25***	412	NA	412	0	0
114	Tumut	Murrumbidgee	Murrumbidgee	860	94	509	54		6	***169***	***102***	1,692	58	1,739	11	11
115	Tweed	Tweed/Richmond	Northern Rivers	5,070	2,070	0	0	0	253	1,010	600	8,499	0	8,499	0	242
116	Uralla	Gwydir	Gwydir	216	49				18	106	38	389		389		
117	Wagga Wagga	**No WS**	Murrumbidgee							0	0				0	671
118	Wakool (Dual Supply)	Murray	Murray									180	1,140	1,320		***20***
119	Walcha	Namoi	Mid North Coast	140	30	1	12	0	11	35	16	259	0	259	0	0
120	Walgett (Dual Supply)	Namoi	Namoi									***1,300***	***1,050***	***2,350***		
121	Warren (Dual Supply)	Castlereagh/Macquarie	Central West	NA	NA	NA	NA	NA	NA	0	0	246	283	529	0	
122	Weddin	**No WS**	Lachlan													23
123	Wellington	Castlereagh/Macquarie	Central West	653	65	25	0	0	48	108	72	899	0	899	0	0
124	Wentworth (Dual Supply)	Darling	Lower Murray Darling									***1,170***	***1,900***	***3,070***		
125	Wingecarribee	Hawkesbury	Wollondilly	3,240	1,190	NA	NA	NA	NA	492	295	4,922	NA	4,922	0	
126	Wyong	Tuggerah Lake	Central Coast	10,200	2,550	998				***1,530***	900	15,310		15,310		
127	Yallaroi (Groundwater)	Gwydir	Border Rivers	354	19	0	0	0	4	***42***	***25***	419	NA	419	0	0
128	Yarrowlumla (Unfiltered)	Murrumbidgee	Murrumbidgee									554		554		
129	Yass	Murrumbidgee	Murrumbidgee	NA	NA	NA	NA	NA	NA	0	0	964	NA	964	0	344
130	Young (Reticulator)	Murrumbidgee	Murrumbidgee	851	40	250	25		53	***135***	***81***	1,354		1,354		250
	Total (for 61 utilities reporting column (1) together with (2) and/or (3)			**118,000**	**29,000**	**14,000**	**6,000**	**9,000**	**6,000**	**28,000**	**16,000**	**212,000**	**5,800**	**217,000**		
	Percentage of Total Potable Supply			**56%**	**14%**	**7%**	**3%**	**4%**	**3%**	**13%**	**8%**					
	TOTAL (all water utilities)[4]											**302,000**	**18,000**	**315,000**	**4,500**	**21,900**

Notes:

1. Source: Data provided by the 114 non-metropolitan NSW water supply utilities for the 1999/00 NSW Water Supply and Sewerage Performance Comparisons Report. Column (13) also reports the volume of recycled water use for a further 10 utilities which are responsible for sewerage only.
2. For consistency with national performance reporting, unaccounted for water (column (7)) now includes leakage (column (8)).
3. Where a water supply utility has not reported its total potable water consumption in 1999/00 (column (9)), the consumption previously reported has been used and is shown in ***italics bold.***
4. The total consumptions for all water utilities shown in the bottom line of the above table excludes double counting where water is supplied by a bulk supplier.
5. A review of unaccounted for water for NSW water utilities responsible for reticulating water supply to residential customers has indicated a minimum of 10% of total potable water consumption. The values for any such utilities reporting less than 10% unaccounted for water have therefore been increased to 10% (shown in ***italics bold***), and the reported values for total consumption have been increased accordingly. Similarly, as minimum system water loss levels (ie. leakage) for such utilities have been found to be at least 6% of the total potable water consumption, reported values of system water loss of 5% or less have been increased to 6% (shown in ***italics bold***).
6. The total annual water consumption (column (11)) comprises the sum of the potable water supply (column (9)) and the non-potable water supply (column (10)), less the recycled water (column(12)).
7. The above analysis shows that the total 1999/00 annual water consumption for country NSW was 315,000 ML (column (11)), of which 302,000 ML (column (9)) was for potable water supply. The total non-potable water supply was 18,000 ML (column (10)) which included 4,500 ML recycled water (column(12)). Column (12) includes 3,900 ML of recycled water sold to mining companies by Orange and Muswellbrook councils. The non-potable supply was mainly for outdoor uses in dual water supplies, but also includes supplies to industry and other outdoor uses. The average uses as a percentage of the total potable water supply were:
   - Residential - 56 % (column (11))
   - Commercial and Industrial - 21 % (columns (2) and (3))
   - Unaccounted for water - 13 % (column (7))
8. Recycled water used for non-potable town water supply is shown in column (12). This is a component of the non-potable town water supply (column (10)) which also includes raw water.
9. The recycled water used for agriculture and non-potable town water supply uses is shown in column (13) and includes the values shown in column (12). The total volume of recycled water for non-metropolitan NSW water utilities was 21,900 ML, which is 13% of the total volume of sewage collected.

Table 6A - 1999/00 Non-metropolitan Water Consumptions from Source Catchments in NSW

Source Catchment	Water Consumption - Town Water Supply (ML)											Recycled Water	
	Residential	Commercial	Industrial	Institutional	Bulk	Public	Unaccounted for Water	System Water Loss	Total Potable Supply	Non-Potable Supply	Total Annual Water Consumption (Potable + Non-potable)	For Non-Potable Town Water Supply	For Agricultural use and Non-Potable Town Water Supply
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	=(1)+(2)+(3)+(4)+(5)+(6)+(7) (9)	(for outdoor uses or industry) (10)	=(9)+(10)-(12) (11)	(12)	(13)
Bega	1,737	427	206	88	132	88	412	236	3,121	NA	3,121	0	213
Bellinger	5,589	1,399	220	216	190	136	912	541	8,675		8,675		65
Castlereagh/Macquarie	22,476	4,615	3,433	1,660	1,274	1,706	5301	3,048	41,098	4,352	42,895	2,555	4,203
Clarence	3,515	736	734	856	236	111	957	547	7,168	150	7,168	150	225
Clyde	3,007	611	NA	NA	NA	343	1210	724	5,172	NA	5,172	0	505
Darling	4,740	629	2,188	787	131	88	1337	644	9,930	2,424	12,354		1,039
Gwydir	3,854	422	556	40	6	330	664	390	5,871	10	5,881	0	293
Hastings	4,126	952	9	177	13	235	1121	400	6,633		6,633		27
Hawkesbury (Country Towns only)	19,742	3,236	1,612	69	133	608	3072	1,598	28,494	0	28,494	0	2,462
Hunter (Country Towns only)	4,164	937	342	430	155	433	1240	636	7,736	1,400	7,736	1,400	3,330
Lachlan	5,739	1,248	668	443	3,406	704	1615	903	13,866	282	14,148	0	414
Macleay	6,196	1,427	515	1,028	331	221	1368	791	11,179	200	11,179	200	622
Manning	6,852	939	687	52	0	218	1514	616	10,262	0	10,262	0	14
Moonie/Macintyre	826	207	47	64	29	24	168	93	1,371		1,371		49
Murray	10,950	2,296	2,046	555	823	639	2138	1,259	19,501	3,493	22,994	0	4,126
Murrumbidgee	25,729	6,920	3,912	1,968	1,289	1,348	5818	3,566	47,238	2,887	49,945	179	1,029
Namoi	9,958	4,757	561	252	346	368	2830	2,226	19,163	1,058	20,221	0	914
Shoalhaven	6,862	1,680	1,448	96	2,013	325	3667	1,037	17,228	2,138	19,366		50
Snowy	599	147	71	30	46	30	142	81	1,076	0	1,076	0	30
Tuggerah Lake	10,234	2,547	998				1531	900	15,310		15,310		
Tweed/Richmond	12,780	4,155	417	344	257	420	2895	1,650	21,323	62	21,323	62	859
No Water Supply													1,462
Totals	**169,700**	**40,300**	**20,700**	**9,200**	**10,800**	**8,400**	**39,900**	**21,900**	**301,000**	**18,000**	**315,000**	**4,500**	**21,900**

Note:
For water utilities which did not report their residential consumption together with commerical and/or industrial consumption, the percentages tabulated in ***Table 6*** were applied to their total potable water consumption (column 9) and the consumptions for each category summed for each catchment to obtain the above values.

Table 7 - Water Supply - Business Characteristics, Financial

	WATER UTILITY	BUSINESS CHARACTERISTICS																		FINANCIAL											
		Total No of Assessments (Properties) (1)				Connected Properties per Assessment (Total) (2)	Connected Properties per Assessment (Residential) (2a)	Residential Assessments (% of Total Assessments) (2b)	Population (2c)	Connected Properties (Total) (2d)	Length of Mains (km) (2e)	Properties Served per km of Main (3)	Total Annual Consumption (ML) (4)				Average Annual Residential Consumption (kL/property) (5)			Economic Real Rate of Return (%) (6)				Total Turnover (excl. Capital Works Grants) ($'000) (7)				Residential Revenue (% of Annual rates & charges) (7a)	Current Replacement Cost of System Assets ($'M) (7b)	Debt to Equity (%) (8)			
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
1	Albury	17,200	17,530	17,680	18,100	0.96	0.96	90	42,500	17,400	370	47.0	9,950	12,200	11,120	9,240	424	382	308	0.9	0.4	1.9	1.3	5,640	6,160	6,240	6,240	83	95	6	6	4	3
2	Armidale Dumaresq	7,760	7,760	8,160	9,310	0.98	0.98	84	23,000	9,120	265	34.4		3,370	3,200	3,390	313	255	241	-0.4	-1.2	-1.1	-1.9	3,200	3,540	3,070	3,070	66	102	1	0	0	1
3	Ballina (Reticulator)	11,700	12,800	12,080	12,200	0.96	0.96	93	31,700	11,700	307	38.3		3,770	3,920	3,770	229	220	215	0.5	1.1	1.3	0.5	3,790	3,700	3,670	3,670	72	45	2	1	0	0
4	Balranald (Dual Supply)	760	770	750	750	***0.95***	***0.95***	90	***1,880***	***713***	***31***	***22.8***	1,100	1,700	1,350	***1,350***	407	375	***260***	1.9	1.7	1.4	***1.4***	400	410	401	***400***	***90***	***8***	8	7	2	***2***
5	Barraba	760	750	770	770	1.01	1.01	94	1,430	776	48	16.2	230	140	160	280	168	179	265	-1.5	-1.8	-2.4	1.9	370	370	390	390	***90***	6	23	23	21	19
6	Bathurst	10,700	10,900	11,220	11,400	1.06	1.07	91	30,300	12,100	335	36.2	6,550	6,590	6,380	6,070	328	284	281	2.4	2.9	2.7	2.6	6,720	7,320	7,460	7,460	64	110	1	1	0	0
7	Bega Valley (Unfiltered)	11,100	12,000	12,160	12,300	***0.95***	***0.95***	92	25,600	***11,700***	502	23.3	3,190	3,360	3,580	3,120		200	162	2.5	2.7	2.3	1.7	5,890	6,020	5,990	5,990	82	97	1	0	0	0
8	Bellingen (Unfiltered)	4,850	3,840	3,840	3,840	***0.95***	***0.95***	91	9,000	***3,650***	154	23.7		1,510		1,320	189	200	222	2.4	1.3	1.2	1.3	1,480	1,560	1,580	1,580	70	32	3	2	1	0
9	Berrigan (Dual Supply)	2,850	2,870	2,860	2,990	0.98	0.98	85	5,670	2,930	189	15.5	2,450	2,530	2,110	2,270	467	291	369	2.2	1.8	1.8	0.7	1,350	1,460	1,530	1,530	***85***	24	7	15	14	11
10	Bingara	720	740	740	730	1.00	1.00	92	1,240	726	8	***22.6***	410	460	330	370	288	237	304	1.4	2.3	2.9	2.4	270	270	260	260	83	5	26	26	26	26
11	Bland	No WS																										0					
12	Blayney	No WS																															
13	Bogan	1,010	1,020	1,030	1,040	1.01	1.01	92	2,500	1,050	48	22.0			840	1,000		506	317	0.8	0.7	-0.7	-1.1	960	820	680	680	89	16	10	8	7	5
14	Bombala	820	830	910	910	0.92	0.92	83	1,850	836	37	22.7	410	400	380	430	439	426	447	2.4	3.6	3.0	3.2	390	390	400	400	81	6	15	12	8	6
15	Boorowa	830	840	640	650	0.88	0.87	89	1,200	572	100	5.7	190	190	190	***190***	275	279	***210***			-0.7	1.6	300	320	310	310	***89***	***5***	30	29		30
16	Bourke (Dual Supply)	2,150	1,750	1,760	1,760	0.75	0.75	79	3,500	1,320	87	15.2	1,690	1,690	1,600	900		507	378	-4.5	-7.5	-6.1	-5.3	700	700	750	750	***69***	13	5	5	5	15
17	Brewarrina	550	550	550	620	1.01	1.02	89	1,650	621	50	12.4		1,030	940	1,130		194	279	-0.6	-4.9	-2.3	-2.1	300	300	340	340	70	4	0	0	0	1
18	Broken Hill WB	10,000	10,200	10,180	10,200	1.01	1.01	91	22,000	10,300	362	28.4	8,100	8,120	8,590	7,120	340	448	325	0.6	0.7	0.9	0.3	10,500		9,886	9,886	***90***	60	9	0		0
19	Byron (Reticulator)	8,130	8,130	9,400	10,000	0.96	0.96	94	25,000	9,600	154	62.3	2,470	3,110	2,630	2,550	372	285	157	2.5	3.3	1.3	5.8	4,450	4,200	3,740	3,740	***90***	31	1	0	0	0
20	Cabonne	1,070	1,090	1,090	1,120	0.92	0.92	88	2,110	1,030	87	11.8	410	370	380	400		361	168	1.4	0.5	0.4	0.5	690	690	660	660	85	19	9	7	6	4
21	Carrathool	1,040	980	980	980	***0.95***	***0.95***	91	1,900	***933***	68	13.7	790	840	830	870	827	739	422	1.5	0.7	1.3	0.5	770	770	760	760	***90***	12	4	6	5	5
22	Central Darling	740	730	730	730	***1.00***	***1.00***	87	1,420	***728***	99	7.3	110	90	90	120	78	95	79				-2.7					82	14				1
23	Central Tablelands	4,960	5,000	4,810	4,910	***0.95***	***0.95***	82	11,000	***4,660***	414	11.3	3,060	3,250	2,930	2,430	245	266	272	0.0	-0.9	-1.5	-1.5	2,580	2,740	2,370	2,370	70	58	0	0	0	0
24	Cobar (Dual Supply)	1,840	1,840	1,740	2,020	***0.95***	***0.95***	91	5,650	***1,920***	95	20.1	1,550	1,600	1,370	1,140	1,023	856	359	-2.0	-0.5	-1.0	-1.0	1,210	1,220	1,130	1,130	90	20	3	1	0	0
25	Coffs Harbour (Unfiltered)	19,550	20,500	20,500	21,200	0.94	0.94	94	54,800	20,000	563	35.4	5,090	5,310	5,530	5,600	179	208	190	3.6	4.8	3.9	4.2	10,300	10,900	9,900	9,900	70	128	16	13	24	32
26	Coolah	1,070	1,070	1,070	1,070	0.97	0.97	89	1,940	1,030	58	***26.0***	440	110	170	460	109	167	280	6.4	5.0	0.9	1.4	450	450	430	430	***90***	6	1	0	0	0
27	Coolamon	No WS																										0					
28	Cooma-Monaro	3,540	3,550	3,570	3,610	***0.95***	0.95	90	7,690	***3,430***	142	24.2		1,610	1,480	1,410		330	253	3.2	4.6	5.5	7.7	1,710	1,700	1,710	1,710	***90***	15	15	13	9	7
29	Coonabarabran	1,870	1,870	1,870	1,870	0.95	0.95	87	4,270	1,780	58	***30.7***	670	1,210	650	780	741	299	395	-1.0	-0.2	0.1	-0.5	980	990	1,080	1,080	***90***	27	1	1	1	1
30	Coonamble (Groundwater)	1,370	1,370	1,470	1,470	0.87	0.85	90	***3,000***	1,280	42	30.4	1,020	1,020	830	930	874	741	528	4.6	7.6	3.8	3.5	570	570	560	560	***90***	7	7	5	4	2
31	Cootamundra (Reticulator)	2,700	2,700	2,700	2,700	0.99	0.99	91	6,800	2,670	84	32.0	970	1,180	980	930	323	260	243	-1.3	-3.1	-0.7	2.9	1,120	1,300	1,140	1,140	85	3	0	0	0	1
32	Copmanhurst (Unfiltered)	130	130	130	150	***0.95***	0.95	86	330	***144***	10	14.3	50	40	30	30	243	212	217	-1.8	-1.8	-7.1	11.4	60	50	48	50	***90***	1	0	0	0	1
33	Corowa	3,330	3,370	3,460	3,470	0.93	0.92	91	6,930	3,230	95	34.0	3,390	3,900	3,470	3,250	928	735	664	-0.3	2.2	3.8	2.5	1,350	1,450	1,420	1,420	72	24	0	0	0	1
34	Cowra	4,670	5,020	5,130	5,020	***0.95***	***0.95***	93	***12,500***	***4,760***	***334***	***14.2***		2,300	3,100	3,100	248	250	***389***	0.4	0.9	1.3	0.3	2,400	2,680	2,500	2,500	78	34	2	0	0	1
35	Crookwell	900	1,020	1,170	1,040	0.95	0.95	86	2,200	988	34	29.4	400	460	370	330	360	179	175	-1.3	2.1	2.4	2.2	470	530	560	560	***90***	6	34	24	23	24
36	Culcairn (Groundwater)	520	520	520	540	1.02	1.02	93	1,200	547	17	32.9	210	220	170	180	297	188	208	7.3	6.8	1.5	-3.3	120	150	130	130	***90***	2	10	6	4	2
37	Deniliquin	3,560	3,590	3,600	3,600	1.01	1.02	85	8,000	3,630	154	23.6	2,960	3,050	3,100	3,440		498	450	2.1	2.0	2.3	1.3	1,410	1,540	1,660	1,660	***85***	24	10	7	4	3
38	Dubbo	11,800	12,700	12,600	12,700	1.03	1.03	91	38,000	13,100	353	37.2	7,260	8,250	7,060	6,390		331	297	2.1	2.1	2.3	2.2	6,610	7,400	7,290	7,290	***90***	98	3	2	1	0
39	Dungog (Unfiltered)	1,960	1,920	1,890	2,130	***0.95***	***0.95***	91	7,630	***2,020***	85	23.9	420	750	920	860		408	262	1.2	2.2	1.4	-0.5	630	740	650	650	80	9	2	2	5	4
40	Eurobodalla (Unfiltered)	17,700	17,500	17,640	17,800	0.94	0.94	96	32,000	16,700	670	25.0	4,530	5,490	5,210	5,170	329	263	188	2.0	1.1	1.5	1.7	6,620	6,770	7,320	7,320	***90***	***137***	15	10	8	7
41	Fish River WS (Unfiltered, Bulk Supplier)	22,800	22,900	23,000	23,000	0.94	0.94	87	62,000	21,600	236	91.6	12,800	13,300	12,200	11,100				1.3	1.0	0.7	1.3	5,890	5,940	6,030	6,030	***90***	152	7	7	8	9
42	Forbes	3,370	3,370	3,440	3,190	1.01	1.01	90	8,000	3,220	118	27.4	3,300	3,700	3,690	3,000	902	551	554	3.5	2.3	2.0	3.7	1,540	1,460	1,499	1,499	81	***18***	8	7	6	5
43	Gilgandra	1,140	1,440	1,210	1,290	0.98	0.98	81	2,900	1,270	48	26.6	810	940	780	670	483	515	388	1.5	0.1	-0.7	-0.7	470	530	600	600	77	12	20	15	13	11

Table 7 - Water Supply - Business Characteristics, Financial

	WATER UTILITY	BUSINESS CHARACTERISTICS																		FINANCIAL											
		Total No of Assessments (Properties) (1)				Connected Properties per Assessment (Total) (2)	Connected Properties per Assessment (Residential) (2a)	Residential Assessments (% of Total Assessments) (2b)	Population (2c)	Connected Properties (Total) (2d)	Length of Mains (km) (2e)	Properties Served per km of Main (3)	Total Annual Consumption (ML) (4)				Average Annual Residential Consumption (kL/property) (5)			Economic Real Rate of Return (%) (6)				Total Turnover (excl. Capital Works Grants) ($'000) (7)				Residential Revenue (% of Annual rates & charges) (7a)	Current Replacement Cost of System Assets ($'M) (7b)	Debt to Equity (%) (8)			
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
44	Glen Innes	2,650	2,800	2,810	2,810	0.90	0.91	87	6,000	2,530	79	31.9	770	750	700	680	264	199	199	0.2	1.4	0.9	1.5	910	1,050	1,050	1,050	***87***	***20***	3	3	3	2
45	Gloucester	1,270	1,290	1,300	1,630	***0.95***	***0.95***	88	2,760	***1,550***	37	42.0	590	710	680	720	427	395	338	4.2	3.5	1.2	-0.6	630	630	620	620	***88***	9	8	7	5	4
46	Goldenfields (Bulk Supplier)	18,600	18,600	18,830	18,800	0.94	0.94	80	36,000	17,700	300	59.0	7,430	8,830	7,160	6,800				6.2	4.2	3.4	2.8	5,900	7,160	6,880	6,880		108	7	13	10	10
47	Goldenfields (Reticulator)	10,800	10,800	10,870	10,900	0.92	0.92	75	21,000	10,000	1,417	7.1		5,470	5,080	4,490	278	255	225	0.0	-0.5	-2.3	-2.9		7,340	6,590	6,590	52	136	0	0	0	0
48	Goldenfields (Combined)	18,600	18,600	18,830	18,800	0.94	0.94	80	36,000	17,700	1,717	10.3	7,430	8,830	7,160	7,340							0.0		14,500	13,470	13,470	77	244				5
49	Gosford	60,600	61,400	62,280	63,200	0.96	0.96	95	142,100	60,700	924	65.7	17,500	18,400	16,700	17,000	221	212	216	2.4	2.7	1.8	2.2	18,200	19,700	18,690	18,690	***81***	323	7	6	4	3
50	Goulburn	8,310	8,520	8,910	8,910	1.03	1.03	89	21,300	9,170	224	41.0	4,130	4,420	4,080	4,140	253	230	331	5.2	6.3	4.7	5.8	3,740	4,420	4,110	4,110	***89***	28	10	8	7	5
51	Grafton	6,590	6,640	6,660	6,710	1.06	1.07	92	17,500	7,110	255	27.9	2,510	2,720	5,370	2,350	223	354	197	1.8	-0.2	0.4	0.8	2,080	1,950	1,860	1,860	***90***	23	4	3	2	1
52	Griffith	7,590	7,570	7,570	8,760	0.85	0.84	86	22,800	7,450	380	19.6		7,600	9,090	9,000		851	795	0.1		0.6	1.0	3,920		4,135	4,135	***85***	63	0	0	2	0
53	Gundagai	930	930	930	940	1.02	1.02	86	2,400	954	32	29.8	800	800	660	660	466	466	471	2.8	1.6	2.5	1.9	430	440	440	440	87	4	13	11	10	8
54	Gunnedah (Groundwater)	4,080	4,100	4,110	4,130	1.02	1.02	90	10,300	4,210	134	31.4	5,000	2,300	2,270	2,840	580	580	418	2.9	3.0	2.2	2.8	1,680	1,670	1,540	1,540	85	23	12	11	10	8
55	Gunning	360	360	360	360	***0.95***	***0.95***	92	690	***341***	17	19.9	120	130	90	90	424	302	153	-2.4	-1.4	-0.6	1.9	80	100	120	120	87	3	1	1	1	0
56	Guyra	1,140	1,160	1,170	1,170	***0.95***	***0.95***	89	2,930	***1,110***	60	18.6	250	290	310	290	276	274	275	-0.1	-0.4	-0.2	-0.3	400	400	390	390	89	7	11	9	8	6
57	Harden (Reticulator)	1,560	1,560	1,610	1,510	0.96	0.95	75	3,800	1,450	168	8.6	800	920	1,030	810	563	649	420	-3.9	-3.7	-4.8	-4.6	910	980	940	940	***90***	12	0	0	0	0
58	Hastings (Unfiltered)	23,100	23,400	24,280	24,900	0.95	0.95	92	61,700	23,700	761	31.1	6,300	6,390	6,190	6,630	204	191	190	3.0	2.3	5.3	2.8	11,200	11,000	14,740	14,740	***90***	170	1	1	1	0
59	Hay (Dual Supply)	1,200	1,210	1,280	1,290	0.98	0.98	87	2,930	1,260	86	14.6	1,900	2,010	3,940	3,200		1,057	897	0.3	-0.4	-0.2	-0.4	510	550	550	550	76	8	2	2	0	0
60	Holbrook	**No WS**																															
61	Hume	1,840	1,840	1,970	2,000	0.95	0.95	88	6,030	1,900	146	13.0	960	1,110	1,040	960		494	321	1.1	2.3	-4.5	-1.4	790	1,020	720	720	***88***	9	3	1	0	0
62	Hunter Water	186,000	188,000	193,000	196,000	1.00	1.00	92	459,000	196,000	4,272	45.9	75,000	80,100	77,100	80,100	210	192	196	4.8	4.9	4.4	4.4	71,900	75,000	72,000	72,000		955	5	5	5	***5***
63	Inverell	6,130	5,180	4,780	4,850	0.98	0.99	90	11,700	4,750	225	21.1	2,350	2,350	2,350	2,070	337	288	279	0.8	1.0	-0.3	-0.3	2,250	2,300	2,070	2,070	77	44	6	4	3	2
64	Jerilderie (Dual Supply)	480	480	460	460	0.93	0.93	92	965	425	40	10.6	330	340	390	330	172	191	143	8.4	10.2	1.1	-3.3	220	220	210	210	90	2	24	22	10	6
65	Junee	**No WS**																										0					
66	Kempsey (Groundwater)	10,000	10,100	10,260	10,400	1.04	1.03	93	24,300	10,800	537	20.1	3,470	4,280	5,620	7,790	284	332	434	3.5	3.6	3.7	2.9	4,520	4,640	4,810	4,810	***90***	91	21	12	18	22
67	Kyogle	1,770	1,770	1,700	1,700	***0.95***	***0.95***	88	3,660	***1,610***	49	33.2	400	400	520	480	235	238	195	-0.6	-0.9	-1.5	-1.7	540	560	600	600	73	12	2	1	1	1
68	Lachlan	2,120	2,460	2,400	2,410	1.02	1.02	78	5,600	2,460	152	16.2		1,410	1,090	920		466	264	1.3	0.8	1.8	0.3	1,490	1,510	1,530	1,530	75	26	0	0	0	0
69	Leeton	3,400	3,440	3,440	3,560	1.00	1.00	88	7,690	3,560	122	29.3	2,730	2,610	2,590	2,330	590	588	511	0.4	0.1	1.5	1.3	1,620	1,770	1,690	1,690	73	27	4	3	3	6
70	Lismore (Reticulator)	12,100	12,230	12,300	12,400	1.04	1.05	91	32,600	12,900	307	41.9	3,350	3,280	3,830	3,590	203	222	193	2.7	3.6	2.7	2.0	4,870	4,680	4,320	4,320	73	37	5	4	4	5
71	Lithgow	7,070	7,070	7,170	7,070	0.98	0.98	90	20,000	6,930	454	15.2		2,400	2,090	2,280		320	259	0.7	-1.4	-2.4	-4.1	3,100	3,170	2,870	2,870	84	***36***	3	0	0	0
72	Lockhart	**No WS**																															
73	Lower Clarence (Unfiltered)	9,480	9,640	9,740	10,300	***0.95***	***0.95***	78	23,400	***9,770***	1,050	9.3	3,230	3,560	3,540	3,790	218	200	213	2.4	3.7	2.7	14.1	4,530	5,440	4,990	4,990	69	97	7	6	5	4
74	Maclean	**No WS**																															
75	Manilla	1,150	1,120	1,120	1,120	***0.93***	***0.93***	89	***2,300***	***1,050***	36	29.1	480	560	310	640	474	398	495	-0.9	5.3	1.3	1.3	350	370	360	360	***89***	5	37	34	32	30
76	Merriwa	590	590	600	600	0.94	0.94	90	1,000	566	26	21.9	280	400	290	290	620	379	371	-1.7	1.8	1.6	-2.7	240	310	300	300	83	4	3	1	0	0
77	MidCoast (Manning - Unfiltered)	18,400	18,600	18,830	20,400	***0.96***	***0.96***	94	0	***19,500***	***765***	***25.5***	7,340	7,800	8,700		263	217		11.1	7.9	3.0		6,860	7,900	7,400	***7,400***	0		16	16	24	
78	MidCoast (Great Lakes-Unfiltered, Reticula	11,500	11,600	11,840	12,800	***0.96***	***0.96***	95	0	***12,300***	***345***	***35.6***	2,920	2,900	3,140		219	216		3.4	2.2	3.0		5,280	6,600	6,200	***6,200***			11	15	24	
79	MidCoast (Combined - Unfiltered)	29,900	30,200	30,670	33,200	***0.96***	***0.96***	94	85,000	***31,800***	987	32.3	10,260	10,700	11,840	9,540	246	217	213	7.0	5.0	3.0	1.8	12,140	14,500	13,600	13,600	***90***	***152***	14	16	24	***2***
80	Moree Plains	5,000	5,000	5,000	5,000	***0.97***	***0.96***	88	***12,500***	***4,850***	231	21.0		3,400	3,410	2,340		631	379	6.1		8.1	***8.1***	290		1,260	***1,260***	***87***	***30***	44	0	6	***6***
81	Mudgee (Unfiltered)	4,000	4,490	4,540	4,600	1.04	1.05	88	10,000	4,780	225	21.3	1,860	1,860	1,850	1,720	248	236	235	6.8	7.7	5.2	4.0	2,600	2,920	2,810	2,810	79	30	11	6	2	2
82	Mulwaree	430	450	500	500	***0.95***	***0.95***	89	890	***474***	31	15.3	150	140	150	140	382	388	229	0.7	1.3	-2.1	-0.7	250	300	270	270	70	6	19	16	13	13
83	Murray	1,360	1,630	1,630	2,010	***0.95***	***0.95***	88	4,580	***1,910***	90	21.3		1,300	1,510	1,580	528	428	491	7.8	7.6	8.0	8.9	810	840	920	920	89	***10***	37	37	36	49
84	Murrumbidgee	760	750	750	730	1.03	1.05	89	1,580	747	26	28.3	850	980	980	800		633	661	9.8	4.7	1.3	4.1	330	240			83	4	5	4		1
85	Murrurundi (Unfiltered)	560	630	630	630	0.95	0.95	91	1,230	597	29	20.6		100	160	180		232	264	8.5	3.7	5.1	1.6	300	330	330	330	***90***	7	11	9	7	4
86	Muswellbrook	4,400	4,820	4,810	4,910	0.97	0.97	89	14,600	4,760	102	46.6	2,470	2,920	3,990	2,390	435	389	327	1.5	4.0	3.1	0.5	1,720	1,970	1,960	1,960	75	22	0	0	0	0

Table 7 - Water Supply - Business Characteristics, Financial

	WATER UTILITY	BUSINESS CHARACTERISTICS																		FINANCIAL											
		Total No of Assessments (Properties) (1)				Connected Properties per Assessment (Total) (2)	Connected Properties per Assessment (Residential) (2a)	Residential Assessments (% of Total Assessments) (2b)	Population (2c)	Connected Properties (Total) (2d)	Length of Mains (km) (2e)	Properties Served per km of Main (3)	Total Annual Consumption (ML) (4)				Average Annual Residential Consumption (kL/property) (5)			Economic Real Rate of Return (%) (6)				Total Turnover (excl. Capital Works Grants) ($'000) (7)				Residential Revenue (% of Annual rates & charges) (7a)	Current Replacement Cost of System Assets ($'M) (7b)	Debt to Equity (%) (8)			
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
87	Nambucca	5,650	5,670	5,790	5,980	***0.95***	***0.95***	91	14,000	***5,680***	167	34.0	1,870	2,370	1,580	1,760	271	230	249	2.7	2.9	3.1	5.0	1,910	2,210	1,890	1,890	***90***	27	8	6	5	4
88	Narrabri (Groundwater)	3,990	4,200	4,200	4,200	0.98	0.98	97	10,800	4,120	134	30.8	3,340	3,700	3,230	3,400		969	475	1.5	2.8	5.5	5.4	1,600	1,730	1,740	1,740	***90***	21	7	6	5	4
89	Narrandera (Groundwater)	2,070	2,390	2,140	2,150	0.92	0.92	86	4,700	1,980	64	31.0	1,800	1,810	1,480	1,870		700	613	10.3	6.4	8.0	7.1	860	1,020	1,180	1,180	84	***9***	5	4	3	2
90	Narromine (Groundwater)	1,890	2,050	2,060	2,080	0.95	0.95	88	4,770	1,980	56	35.5	1,030	1,140	1,030	1,370		400	402	2.7	5.5	4.5	-2.8	610	730	730	730	***88***	9	3	1	0	0
91	Nundle	200	220	220	220	***0.95***	***0.95***	91	358	***209***	18	11.6		100	110	110		350	495	-1.7	-0.7	-0.4	-0.9	100	100	110	110	***90***	2	18	29	30	30
92	Oberon (Unfiltered, Reticulator)	1,100	1,200	1,200	1,210	1.01	1.02	85	2,700	1,220	33	37.3	650	590	700	860	198	193	239	-1.0	12.9	10.2	15.1	530	730	790	790	85	4	9	7	16	32
93	Orange	13,900	13,400	13,690	13,700	1.00	1.00	93	31,400	13,700	401	34.1	7,230	7,230	6,950	5,980	467	351	263	1.0	4.7	1.6	2.9	4,690	7,240	5,690	5,690	87	87	1	0	0	0
94	Parkes	4,870	4,930	5,760	5,760	***0.95***	***0.95***	89	11,500	***5,470***	417	13.1	3,090	3,230	6,280	6,120	627	283	300	2.1	2.8	1.6	1.6	4,320	4,770	3,980	3,980	57	76	1	0	0	0
95	Parry	1,760	1,760	1,850	1,860	***0.95***	***0.95***	95	4,950	***1,760***	80	21.9	830	940	440	1,020	526	474	489	1.9	2.3	1.8	0.8	820	900	840	840	***90***	20	22	21	19	19
96	Pristine Waters (Unfiltered)	1,810	1,870	1,990	1,990	***0.95***	***0.95***	84	***3,800***	***1,890***	44	***20.3***		600	490	510	302	232	180	5.0	4.0	4.2	***4.2***	920	920	860	820	90	***11***	36	31	22	***22***
97	Queanbeyan (Reticulator)	12,700	12,900	12,500	13,000	1.03	1.04	92	29,000	13,400	240	55.8	4,440	5,080	4,340	4,290	418	291	275	1.4	3.0	0.7	0.1	4,690	5,900	5,330	5,330	***85***	35	1	1	2	1
98	Quirindi	1,590	1,600	1,600	1,600	0.83	0.84	85	3,000	1,330	51	26.0	720	900	570	600	454	292	312	2.0	2.8	0.5	1.1	450	530	490	490	85	***10***	0	0	0	0
99	Richmond Valley	6,260	6,450	6,440	6,290	***0.97***	***0.97***	92	***16,800***	***6,100***	163	37.4	3,600	3,460	3,100	3,010	352	350	299	2.3	2.6	2.0	4.0	2,780	2,790	2,570	3,010	***90***	58	6	3	2	0
100	Riverina (Groundwater)	24,500	23,700	23,960	25,500	0.96	0.96	92	58,000	24,500	1,299	18.9	14,200	16,500	15,200	13,600	452	385	328	9.9	4.5	3.4	2.5	10,000	12,900	12,150	12,150	69	172		10	9	9
101	Rous (Bulk Supplier)	30,000	31,700	33,000	33,500	0.96	0.96	94	96,200	32,200	375	***74.1***	10,500	11,700	11,000	11,600				3.6	2.1	3.0	2.9	8,150	7,220	7,720	7,720	***90***	108	1	0	0	0
102	Rylstone	1,260	1,270	1,270	1,270	0.99	0.99	93	***2,700***	1,260	***41***	***30.7***	510	520	580	580	340	344	344	1.8	1.6	1.1	-0.4	750	810	710	710	81	12	3	0	0	0
103	Scone (Unfiltered)	2,580	2,610	2,620	2,640	1.01	1.02	91	7,000	2,660	114	23.3	1,450	1,780	1,470	1,410	279	214	228	3.2	3.8	1.4	0.2	1,390	1,420	1,120	1,120	82	16	2	0	0	0
104	Severn	200	190	190	200	***0.95***	***0.95***	90	400	***185***	9	21.3			100	***100***		400	***335***	-1.0	-1.5	-0.5	-0.4	50	60	50	50	***90***	1	12	12	11	8
105	Shoalhaven	43,000	43,700	44,210	45,200	0.94	0.94	93	85,000	42,400	1,280	33.2	17,200	17,300	16,340	19,100	175	177	170	4.4	4.2	3.1	3.8	15,800	15,900	15,260	15,260	83	216	13	11	12	9
106	Singleton	5,240	5,360	5,440	5,150	0.95	0.95	90	13,500	4,890	130	37.6	2,990	2,850	3,240	2,600	284	316	329	2.6	2.6	3.6	5.2	2,970	3,080	3,210	3,210	82	37	16	14	10	7
107	Snowy River (Unfiltered)	2,120	2,250	2,380	2,380	1.43	1.43	88	3,730	3,400	122	28.0	780	870	660	650	289	187	120	2.4	3.9	2.5	2.5	1,120	1,290	1,150	1,150	90	***18***	22	21	17	15
108	Sydney Water	1,555,000	1,579,000	1,572,000	1,599,000	0.97	0.97	93	3,995,000	1,551,000	20,598	75.3	588,100	620,000	635,800	619,800	256	242	244	3.4	4.3	3.4	3.4	565,000	622,000	597,000	597,000		5,770	18	19	18	16
109	Tallaganda	600	600	600	600	0.95	0.95	92	1,100	573	19	30.2	220	260	240	220	355	327	312	0.0	0.9	-0.4	-0.3	220	290	260	260	80	4	5	3	2	0
110	Tamworth	13,464	13,557	14,280	15,100	1.01	1.01	92	35,200	15,300	442	34.6	7,880	9,280	8,190	8,710	234	265	265	1.0	3.3	0.6	1.8	6,350	7,280	6,450	6,450	82	141	6	4	2	1
111	Temora	**No WS**																										0					
112	Tenterfield	1,940	2,030	1,960	1,960	0.95	0.95	88	3,620	1,860	64	29.3	560	500	550	590	280	301	199	-0.8	-0.3	-4.4	-1.7	750	700	770	770	85	15	1	0	2	4
113	Tumbarumba	1,060	1,070	1,070	1,070	0.95	0.95	93	2,000	1,010	54	18.9		750	4,070	410	845	850	314	-10.9	1.4	-0.3	1.3	370	390	390	390	85	8	0	4	0	0
114	Tumut	3,910	3,880	3,870	3,890	0.95	0.95	89	11,700	3,700	123	30.0	1,670	1,880	2,400	1,740	400	303	261	2.9	1.7	2.7	2.6	1,630	1,680	1,800	1,800	72	29	11	4	5	2
115	Tweed	24,425	25,350	26,250	25,800	0.91	0.93	94	62,800	23,500	568	41.4	9,330	9,310	8,930	8,500	272	233	224	5.6	3.3	2.5	2.8	14,800	12,200	11,850	11,850	80	165	5	3	3	2
116	Uralla	1,250	1,250	1,260	1,260	1.01	1.02	86	2,780	1,270	37	33.9	240	240	490	390	209	198	195	0.8	-0.6	0.0	-0.4	510	490	480	480	***86***	9	6	4	4	3
117	Wagga Wagga	**No WS**																										0					
118	Wakool (Dual Supply)	890	1,170	1,210	1,850	***0.95***	***0.95***	86	2,560	***1,760***	55	31.9		1,200	1,520	1,320		315	66	7.8	4.5	4.3	4.1	690	720	750	750	66	10	18	15	15	12
119	Walcha	830	840	820	820	1.01	1.01	87	1,590	829	49	16.9	290	260	260	260	225	187	195	1.7	1.6	-0.2	-0.2	410	420	340	340	***87***	10	9	7	5	4
120	Walgett (Dual Supply)	1,720	1,720	1,740	1,740	***0.85***	***0.85***	92	***6,550***	***1,480***	***121***	***12.2***		2,300	2,350	***2,350***		607	***532***	-1.4	-0.8	-1.9	-0.5	860	970	930	930	***90***	15	7	6	5	5
121	Warren (Dual Supply)	950	980	980	1,030	0.95	0.95	91	***2,350***	977	51	19.3	550	570	670	530		264	153	1.1	1.5	0.4	4.3	350	410	400	400	***90***	6	6	6	5	6
122	Weddin	**No WS**																															
123	Wellington	2,790	2,840	2,780	2,780	***1.00***	***1.00***	90	5,600	***2,780***	71	39.2		1,270	1,290	900	357	332	260	5.0	4.0	2.6	1.7	1,710	1,780	1,670	1,670	***90***	20	27	23	19	15
124	Wentworth (Dual Supply)	1,450	1,450	1,550	1,550	***0.95***	***0.95***	88	***3,780***	***1,470***	***97***	***15.2***		3,000	3,070	***3,070***		350	***350***	-0.1		0.2	0.4	930	1,240	1,070	1,070	71	20	20	18	17	19
125	Wingecarribee	15,400	15,400	15,940	16,400	0.90	0.90	93	35,000	14,700	620	23.7	4,610	4,910	5,250	4,920	259	249	236	3.3	5.1	4.2	6.3	7,190	8,600	8,360	8,360	71	106	21	19	16	13
126	Wyong	50,700	51,600	52,640	53,900	0.96	0.96	95	133,000	51,700	1,007	51.4	14,700	15,800	15,210	15,300	212	209	207	2.1	2.5	4.7	4.4	19,200	23,000	24,910	24,910	84	290	6	6	6	6
127	Yallaroi (Groundwater)	680	720	720	720	1.00	1.00	89	1,700	722	42	17.0	210	470	390	420	690	505	548	2.0	3.1	3.5	5.6	240	270	320	320	***89***	4	8	10	9	14
128	Yarrowlumla (Unfiltered)	960	970	960	950	0.95	0.95	94	1,770	902	27	33.3	250	320	350	550	381	380	364	3.7	3.2	-0.2	2.6	350	410	354	350	***90***	***6***	4	7	6	5
129	Yass	2,600	2,600	2,600	2,530	0.98	0.98	91	6,720	2,480	105	23.6	1,120	1,040	990	960		452	238	1.1	1.4	1.1	1.0	1,330	1,320	1,310	1,310	***90***	20	8	7	5	4
130	Young (Reticulator)	3,550	3,550	3,560	3,390	1.04	1.04	90	6,800	3,530	103	34.2	1,360	1,200	1,300	1,350		301	268	1.9	3.4	3.6	***3.6***	1,820	1,930	1,840	***1,840***	***80***	***8***	1	1	5	***5***

Blank Page

Table 8 - Water Supply - Residential Charges, Bills

	WATER UTILITY	RESIDENTIAL CHARGES																RESIDENTIAL BILLS											
		Type of Tariff (8a) 2000/01	Access Charge (or Minimum) ($) (9) 1998/99	1999/00	2000/01	Charge Independent of Land Value? (10) 1998/99	1999/00	2000/01	Allowance (kL) (11) 1999/00	2000/01	Usage Charge for >200kL/a (or > Allowance) (c/kL) (12) 6. 1997/98	1998/99	1999/00	2000/01	Typical Developer Charge ($/ET) (13) 1997/98	1998/99	1999/00	2000/01	Typical Residential Bill ($/assessment) (13a) 1997/98	1998/99	1999/00	2000/01	Average Residential Bill ($/property) (14) 1996/97	1997/98	1998/99	1999/00	Bill for Customer using 200 kL/a ($/assessment) (15) 1996/97	1997/98	1998/99	1999/00	Real Increase in Bill for Customer using 200 kL/a (%) (16) 1996/97	1997/98	1998/99	1999/00
1	Albury	Inclining Block	145	145	125	Yes	Yes	Yes	Nil	Nil	10	12	12	12*	1,000	1,000	1,000	1,500	192	191	182	164	267	313	304	254	160	170	169	169	-29	4	-2	-2
2	Armidale Dumaresq	Inclining Block	135	135	145	Yes	Yes	Yes	Nil	Nil	55	55	55	60*	3,600	3,600	3,620	3,618	307	275	268	290	266	265	242	225	264	245	245	245	-11	-9	-2	-2
3	Ballina (Reticulator)	325kL Allowance	140	215	175	Yes	Yes	No	75	75	95	30	30	30	1,500	1,300	1,350	1,354	263	272	257	240	207	170	183	179	195	170	178	253	-26	-14	2	39
4	Balranald (Dual Supply)	Unmetered	212	220	256	Yes	Yes	No	Unmetered						400				210	212	220	256			460	433	212	210	212	220		-3	-1	2
5	Barraba	300kL Allowance	434	434	434	Yes	Yes	Yes	300	300	61	61	61	61					434	434	434	434	376	414	460	442	393	434	434	434	-2	8	-2	-2
6	Bathurst	400kL Allowance	297	305	316	No	No	No	400	400	83	85	85	88*	1,700	1,000	1,200	1,200	289	297	305	316	280	280	290	390	289	297	305	316	1	-2	1	2
7	Bega Valley (Unfiltered)	Two Part	210	200	200	Yes	Yes	Yes	Nil	Nil	126	126	65	65	2,500	2,500	2,460	2,605	423	423	305	306	464	453	380	342	383	393	393	330	3	1	-2	-18
8	Bellingen (Unfiltered)	Two Part	183	185	189	Yes	Yes	Yes	Nil	Nil	53	54	55	56	4,800	4,900	4,900	5,500	280	291	308	332	305	305	275	253	282	286	291	295	1	0	0	-1
9	Berrigan (Dual Supply)	250kL Allowance	412	427	427	Yes	Yes	Yes	750	250	43	43	43	55*		400	430	425	405	412	427	493	409	429	443	465	405	405	412	427	1	-2	0	2
10	Bingara	320kL Allowance	285	295	300	Yes	Yes	Yes	332	320	80	90	90	100					285	285	295	300	284	328	283	302	285	285	285	295	8	-2	-2	1
11	Bland	NO WS																																
12	Blayney	NO WS																																
13	Bogan	700kL Allowance	452	451	475	No	No	No	800	700	63	65	65	68					444	452	451	475	416	426	559	562	431	444	452	451	1	1	0	-2
14	Bombala	300kL Allowance	426	425	425	Yes	Yes	Yes	300	300	65	65	84	84	1,200	1,100	1,050	1,190	496	499	549	549	434	473	413	445	413	414	426	425	-2	-2	1	-2
15	Boorowa	570kL Allowance	342	342	342	Yes	Yes	No	570	570	60	60	60	60	400	400	400	***400***	502	504	468	469		380	465	473	462	462	462	462	11	-2	-2	-2
16	Bourke (Dual Supply)	Unmetered	491	503	517	Yes	Yes	Yes	Unmetered						400	400	400	400	483	491	503	517	442	451	497	511	469	483	491	517	1	1	0	3
17	Brewarrina	Unmetered	467	467	502	No	No	No	Unmetered										445	467	467	502	400	471	535	422	430	445	467	502	0	2	3	5
18	Broken Hill WB	Inclining block with 2	198	210	210	Yes	Yes	Yes	200	200	90	53	56	56*					308	327	280	280	277	287	287	301	170	182	198	210		5	7	4
19	Byron (Reticulator)	Two Part	90	91	93	Yes	Yes	Yes	Nil	Nil	85	85	85	87	4,000	5,000	4,400	4,900	418	318	225	232	380	353	295	299	302	290	260	261	-10	-6	-12	-2
20	Cabonne	500kL Allowance	546	492	492	No	No	No	500	500	123	127	130	134*		400	400	***400***	546	546	492	492	538	548	541	531	546	546	546	492	14	-2	-2	-12
21	Carrathool	500kL Allowance	290	305	305	Yes	Yes	Yes	500	500	43	43	31	31*		500	790	794	445	393	305	305	442	463	472	596	290	305	290	305	-2	3	-7	3
22	Central Darling	115kL Allowance	425	445	121	Yes	Yes	Yes	115	115	198	244	244	244*					405	425	358	121			445	***445***	393	405	425	652	13	1	3	51
23	Central Tablelands	Declining Block	120	120	120	Yes	Yes	Yes	Nil	Nil	84	86	86	96*					326	344	354	381	343	337	353	355	280	288	288	298	-2	1	-2	1
24	Cobar (Dual Supply)	550kL Allowance	407	493	493	No	Yes	Yes	500	550	110	110	125	125*	1,300	1,300	1,310	1,408	550	650	493	493	463	474	646	***646***	395	407	407	493	37	1	-2	19
25	Coffs Harbour (Unfiltered)	Two Part	142	153	161	Yes	Yes	Yes	Nil	Nil	97	99	104	109	2,300	2,500	2,840	2,889	296	344	351	368	313	347	296	295	334	340	337	361	3	0	-3	5
26	Coolah	400kL Allowance	292	292	300	Yes	Yes	Yes	400	400	54	54	54	54*					292	292	292	300	351	351	322	358	278	292	292	292	-2	3	-2	-2
27	Coolamon	NO WS																																
28	Cooma-Monaro	Two Part	322	322	328	Yes	Yes	Yes	Nil	Nil	42	43	43	43	2,000	2,000	1,970	1,993	455	464	431	438	433	448	499	486	382	388	401	408	-8	0	1	0
29	Coonabarabran	Two Part	216	430	216	No	No	No	683	Nil	64	64	64	64*	1,000	1,000	980	996	463	216	430	468	474	497	507	536	200	210	216	430	-50	3	1	95
30	Coonamble (Groundwater)	775kL Allowance	184	186	186	No	No	No	775	775	23	23	24	24	400	400	400	452	201	184	186	186	340	373	323	339	178	184	184	186	1	1	-2	-1
31	Cootamundra (Reticulator)	219kL Allowance	268	281	281	No	No	No	218	219	97	101	101	107*	2,000	2,000	2,000	2,000	374	321	306	307	333	389	352	405	270	283	268	281	-32	3	-7	3
32	Copmanhurst (Unfiltered)	100kL Allowance	230	230	250	Yes	Yes	Yes	100	100	80	80	80	90	700	600	690	690	345	320	323	354	358	368	317	330	310	310	310	310	3	-2	-2	-2
33	Corowa	700kL Allowance	310	310	310	Yes	Yes	Yes	Unmetered	700				14	400	400	400		310	310	310	310	291	299	294	294	285	310	310	310	8	7	-2	-2
34	Cowra	Inclining Block	295	295	302	Yes	Yes	Yes	Nil	Nil	20	25	25	25*	1,500	1,500	2,000	2,000	340	358	392	401	368	399	374	430	326	330	345	345	7	-1	3	-2
35	Crookwell	300kL Allowance	501	550	550	Yes	Yes	No	300	300	60	70	70	70	500	600	700	725	501	501	550	550	432	495	471	608	395	455	501	550	1	13	8	8
36	Culcairn (Groundwater)	238kL Allowance	152	152	152	Yes	Yes	Yes	238	238	64	64	64	64	1,800	1,800	1,780	1,783	190	152	152	152	211	230	189	171	152	152	152	152	0	-2	-2	-2
37	Deniliquin	1000kL Allowance	413	453	465	Yes	Yes	Yes	Unmetered	1000				48	400	400	430	465	392	413	453	465	423	402	399	430	392	392	413	453	1	-2	3	8
38	Dubbo	Two Part	210	210	210	Yes	Yes	Yes	Nil	Nil	79	52	52	52	3,200	3,200	3,250	3,250	487	324	364	364	369	408	422	420	348	388	278	314	3	9	-30	11
39	Dungog (Unfiltered)	240kL Allowance	204	224	244	Yes	Yes	Yes	240	240	78	85	93	102	2,300	2,500	2,540	2,595	330	347	245	270	227	287	250	283	196	196	204	224	2	-2	2	8
40	Eurobodalla (Unfiltered)	Two Part	245	230	230	Yes	Yes	Yes	Nil	Nil	40	40	50	50*	1,500	1,700	1,670	1,665	377	351	324	324	319	325	324	336	325	325	325	330	-2	-2	-2	0
41	Fish River WS (Unfiltered, Bulk Sup		MAQ	MAQ	MAQ	Yes	Yes	Yes	MAQ	MAQ																								
42	Forbes	1500kL Allowance	334	334	342	No	No	No	1500	1500	30	30	30	31	500	500	540	555	328	334	334	342	294	293	291	373	328	328	334	334	-2	-2	0	-2
43	Gilgandra	Two Part	250	250	250	Yes	Yes	Yes	Nil	Nil	35	30	30	30					419	405	366	366	339	296	323	316	310	320	310	310	-2	1	-5	-2

NOTE: Bills and Charges are in Dollars of the Year

NOTE: * Inclining block or multiple tariffs apply as shown in ***Table 8A***

Table 8 - Water Supply - Residential Charges, Bills

	WATER UTILITY	RESIDENTIAL CHARGES																RESIDENTIAL BILLS											
		Type of Tariff (8a)	Access Charge (or Minimum) ($) (9)			Charge Independent of Land Value? (10)			Allowance (kL) (11)		Usage Charge for >200kL/a (or > Allowance) (c/kL) (12)				Typical Developer Charge ($/ET) (13)				Typical Residential Bill ($/assessment) (13a)				Average Residential Bill ($/property) (14)				Bill for Customer using 200 kL/a ($/assessment) (15)				Real Increase in Bill for Customer using 200 kL/a (%) (16)			
		2000/01	1998/99	1999/00	2000/01	1998/99	1999/00	2000/01	1999/00	2000/01	6. 1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00
44	Glen Innes	230kL Allowance	269	269	269	Yes	Yes	Yes	230	230	117	117	117	117					296	269	269	269	275	358	346	357	243	269	269	269	-9	8	-2	-2
45	Gloucester	350kL Allowance	328	200	350	Yes	No	Yes	350	350	91	93	95	100*	1,300	1,400	1,360	1,400	389	370	200	350	342	365	399	371	319	319	328	200	1	-2	1	-40
46	Goldenfields (Bulk Supplier)		Peak Week	Peak Week	Peak Week	Yes	Yes	Yes	Nil	Nil					2,000	2,000	2,000	2,000																
47	Goldenfields (Reticulator)	Two Part	192	192	192	Yes	Yes	Yes	Nil	Nil	100	101	101	101	2,000	2,000	2,000	2,000	468	473	419	419		582	510	355	386	390	394	394	2	-1	-1	-2
48	Goldenfields (Combined)																	2,000																
49	Gosford	Two Part	153	153	70	Yes	Yes	Yes	200	Nil	65	65	65	65	2,900	2,900	2,860	3,031	172	159	163	210	211	214	221	190	168	161	153	153	-6	-6	-7	-2
50	Goulburn	Inclining Block	200	212	212	Yes	Yes	Yes	Nil	Nil	50	50	53	53*	1,100	1,100	1,130	1,265	331	315	388	388	299	311	334	454	290	299	318	318	-29	1	4	-2
51	Grafton	Two Part	134	134	134	Yes	Yes	Yes	Nil	Nil	38	50	50	50					321	329	233	234	199	195	176	224	215	217	234	234	-12	-1	6	-2
52	Griffith	634kL Allowance	238	243	260	No	No	No	680	634	35	37	38	41	1,600	1,600	1,750	1,815		301	287	330	310	333	283	434	222	238	238	243	-2	5	-2	0
53	Gundagai	500kL Allowance	310	310	310	No	No	No	500	500	72	72	62	62	400	400	480	520	310	310	310	310	307	345	323	387	310	310	310	310	-2	-2	-2	-2
54	Gunnedah (Groundwater)	440kL Allowance	220	230	230	No	No	No	440	440	43	43	52	52*	2,300	2,300	2,390	2,390	250	280	230	230	242	282	265	326	180	190	220	230	4	4	14	2
55	Gunning	360kL Allowance	99	118	118	No	No	No	360	360	50	100	110	110					117	99	118	118	203	270	238	278	81	85	99	118	-2	3	14	17
56	Guyra	Inclining Block	200	200	214	Yes	Yes	Yes	Nil	Nil	60	65	65	69*					356	378	314	336	285	310	301	328	290	310	330	330	3	5	4	-2
57	Harden (Reticulator)	300kL Allowance	353	365	365	Yes	Yes	Yes	300	300	78	80	83	83	2,000	2,000	2,000	2,000	535	617	465	469	389	389	418	391	343	343	353	365	3	-2	1	1
58	Hastings (Unfiltered)	Two Part	180	175	175	Yes	Yes	Yes	Nil	Nil	69	72	75	75	2,500	2,500	2,300	2,580	300	315	318	315	381	361	320	370	345	318	328	325	-6	-10	1	-3
59	Hay (Dual Supply)	300kL Allowance	345	345	345	Yes	Yes	Yes	300	300	70	75	75	75					347	399	793	801	361	373	352	331	330	345	340	345	0	3	-3	-1
60	Holbrook	NO WS																																
61	Hume	500kL Allowance	200	200	200	No	Yes	No	500	500	80	80	80	110*	1,300	2,000	1,500	1,062	385	235	200	200	397	464	335	352	200	200	200	200	-45	-2	-2	-2
62	Hunter Water	Two Part	37	25	25	Yes	Yes	Yes	Nil	Nil	89	90	92	92	1,000	1,000	1,000	1,000	249	186	205	206	239	228	205	178	235	227	217	209	-1	-5	-6	-6
63	Inverell	Two Part	180	180	185	Yes	Yes	Yes	Nil	Nil	80	80	80	80	1,700	1,700	1,690	1,689	461	460	404	409	266	283	322	343	345	340	340	340	-2	-3	-2	-2
64	Jerilderie (Dual Supply)	300kL Allowance	376	377	377	Yes	Yes	No	300	300	70	71	65	80*	600				343	376	377	377	406	425	421	509	343	343	376	377	3	-2	8	-2
65	Junee	NO WS																																
66	Kempsey (Groundwater)	200kL Allowance	359	370	370	Yes	Yes	Yes	200	200	57	59	61	61*	2,900	3,000	3,500	3,500	391	421	513	474	350	378	383	387	342	342	359	370	0	-2	3	1
67	Kyogle	Two Part	194	200	200	Yes	Yes	Yes	Nil	Nil	50	51	52	57	1,000	1,000	1,000	1,000	309	315	301	311	222	241		259	295	291	296	304	-1	-3	0	1
68	Lachlan	Inclining Block	180	220	220	Yes	Yes	Yes	Nil	Nil	80	40	50	50*						380	353	354	294	304	426	484	255	260	260	320	0	0	-2	21
69	Leeton	Inclining Block	215	215	222	Yes	Yes	Yes	Nil	Nil	36	38	38	38*	1,400	3,300	3,270	3,265	425	452	418	425	310	310	386	375	273	274	292	292	-6	-2	5	-2
70	Lismore (Reticulator)	Two Part	84	84	85	Yes	Yes	Yes	Nil	Nil	85	85	85	85	3,100	3,100	3,100	3,100	268	288	248	249	265	249	226	230	290	258	254	254	-5	-13	-3	-2
71	Lithgow	Inclining Block	250	250	250	No	Yes	Yes	Nil	Nil	38	38	38	38*	2,200	2,200	2,230	2,234	360	375	348	348	355	343	318	358	330	326	326	326		-3	-2	-2
72	Lockhart	NO WS																																
73	Lower Clarence (Unfiltered)	Declining Block	222	225	216	Yes	Yes	Yes	Nil	Nil	50	50	51	52*	2,600	2,600	2,700	3,200	331	322	334	327	339	293	285	290	322	322	322	327	12	-2	-2	-1
74	Maclean	NO WS																																
75	Manilla	400kL Allowance	305	305	337	Yes	Yes	Yes	400	400	67	60	60	60	900	900	1,000	1,100	311	305	305	394	293	316	284	333	305	305	305	305	10	-2	-2	-2
76	Merriwa	Two Part	315	315	315	Yes	Yes	Yes	Nil	Nil	35	35	35	35	400	400	400	400	534	449	445	445	383	404	379	397	380	385	385	385	4	-1	-2	-2
77	MidCoast (Manning - Unfiltered)	Inclining Block	168	168	156	Yes	Yes	Yes	Nil	Nil	23	53	53	55*	2,000	2,300	2,300	2,300	218	221	219	227	374	375	341	332	204	214	224	238	-19	3	3	4
78	MidCoast (Great Lakes - Unfiltered,	Inclining Block	360	360	290	Yes	Yes	Yes	400	Nil	85	80	78	22*	2,600	2,600	3,110	3,200	390	360	360	334	375	373	341	332	390	360	360	360	1	-9	-2	-2
79	MidCoast (Combined - Unfiltered)																																	
80	Moree Plains	Inclining Block	190	190	194	Yes	Yes	Yes	Nil	Nil	18	18	20	25*				3,265	350	305	266	290	313	313	259	372	221	221	226	230	3	-2	0	0
81	Mudgee (Unfiltered)	Two Part	250	250	240	Yes	Yes	Yes	Nil	Nil	93	88	88	80	2,800	2,000	3,160	3,160	519	480	472	445	476	473	439	437	450	451	426	426	5	-2	-7	-2
82	Mulwaree	295kL Allowance	345	360	360	Yes	Yes	Yes	295	295	105	105	122	107*	3,000	3,000	2,500	2,500	365	408	360	360	416	457	428	449	310	310	345	360	1	-2	9	2
83	Murray	250kL Allowance	358	358	358	Yes	Yes	Yes	250	250	20	20	30	30*	500	500	700	700	409	358	430	430	441	400	426	400	356	353	358	358	-2	-3	0	-2
84	Murrumbidgee	Unmetered	257	283	283	No	No	No	Unmetered								1,000	1,000	310	257	283	283	233	264		318	221	221	257	283		-2	14	8
85	Murrurundi (Unfiltered)	425kL Allowance	410	420	420	Yes	Yes	Yes	425	425	96	96	99	100*	400	400	400	***400***	410	410	420	420	547	505	486	472	425	410	410	420	1	-5	-2	0
86	Muswellbrook	Two Part	82	84	86	Yes	Yes	Yes	Nil	Nil	56	56	59	59	2,400	2,400	2,370	2,370	331	305	277	279	263	278	265	266	190	194	194	202	-2	0	-2	2

Table 8 - Water Supply - Residential Charges, Bills

	WATER UTILITY	RESIDENTIAL CHARGES																RESIDENTIAL BILLS											
		Type of Tariff (8a)	Access Charge (or Minimum) ($) (9)			Charge Independent of Land Value? (10)			Allowance (kL) (11)		Usage Charge for >200kL/a (or > Allowance) (c/kL) (12)				Typical Developer Charge ($/ET) (13)				Typical Residential Bill ($/assessment) (13a)				Average Residential Bill ($/property) (14)				Bill for Customer using 200 kL/a ($/assessment) (15)				Real Increase in Bill for Customer using 200 kL/a (%) (16)			
		2000/01	1998/99	1999/00	2000/01	1998/99	1999/00	2000/01	1999/00	2000/01	6. 1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00
87	Nambucca	Two Part	145	145	145	Yes	Yes	Yes	Nil	Nil	65	65	65	65	2,800	2,800	2,800	2,800	321	294	307	307	225	240	220	286	259	275	275	275	20	4	-2	-2
88	Narrabri (Groundwater)	Two Part	153	153	153	Yes	Yes	Yes	Nil	Nil	33	33	33	33	2,200	2,200	2,180	2,177	370	350	310	312	327	331	307	330	216	219	219	219		-1	-2	-2
89	Narrandera (Groundwater)	Two Part	212	233	233	Yes	Yes	Yes	Nil	Nil	37	40	44	44	800	800	800	***800***	453	495	505	509	393	409	511	451	266	266	293	322	7	-2	8	8
90	Narromine (Groundwater)	Two Part	198	204	209	Yes	Yes	Yes	Nil	Nil	35	35	35	35*	400	400	500	500	360	338	344	350	295	335	320	327	240	268	268	274	-2	10	-2	0
91	Nundle	350kL Allowance	447	470	470	Yes	Yes	Yes	350	350	126	128	134	134					440	447	470	470	495	427	455	452	427	440	447	470	-2	1	0	3
92	Oberon (Unfiltered, Reticulator)	Two Part	160	160	80	Yes	Yes	Yes	Nil	Nil	78	80	80	82	800	900	1,100	***1,100***	326	326	351	276	198	298	305	321	216	316	320	300	1	44	-1	-8
93	Orange	305kL Allowance	177	177	235	No	No	No	300	305	108	110	52	52	1,200	1,200	1,270	4,414	174	177	177	235	262	265	243	324	169	174	177	177	1	1	0	-2
94	Parkes	364kL Allowance	343	349	368	No	No	No	364	364	91	94	96	101	1,900	2,300	3,250	3,250	584	343	349	569	421	442	408	411	333	343	343	349	2	1	-2	0
95	Parry	350kL Allowance	387	296	300	Yes	Yes	Yes	350	350	50	70	70	75*		1,200		500	461	474	393	404	359	399	396	404	359	373	387	296	19	2	2	-25
96	Pristine Waters (Unfiltered)	Two Part	340	340	180	Yes	Yes	Yes	200	Nil	106	108	108	50*	3,200	3,300	3,500	***3,500***	336	341	340	260	408	419	405	408	370	300	340	340	12	-20	11	-2
97	Queanbeyan (Reticulator)	Inclining Block	200	185	185	Yes	Yes	Yes	Nil	Nil	40	42	51	51*	800	800	780	***780***	376	322	325	325	290	330	295	265	270	270	284	287	-1	-2	3	-1
98	Quirindi	500kL Allowance	250	250	250	Yes	Yes	Yes	500	500	50	50	50	50					250	250	250	250	289	322	298	307	250	250	250	250	-2	-2	-2	-2
99	Richmond Valley	300kL Allowance	240	210	210	Yes	Yes	Yes	300	300	74	74	76	76*	1,900	1,900	1,940	2,000	310	300	210	210	289	275	246	***246***	255	240	240	210	-2	-8	-2	-14
100	Riverina (Groundwater)	Two Part	80	80	80	Yes	Yes	Yes	Nil	Nil	45	70	62	63*	1,500	1,050	1,100	1,150	272	291	283	286	290	327	319	308	180	201	207	204	-35	10	1	-3
101	Rous (Bulk Supplier)					Yes	Yes		Nil						1,300	1,300	1,260	1,257																
102	Rylstone	370kL Allowance	491	370	370	Yes	Yes	Yes	370	370	100	100	100	100				1,215	476	491	370	370	469	497	426	369	476	476	491	370	1	-2	1	-26
103	Scone (Unfiltered)	Inclining Block	103	106	106	Yes	Yes	Yes	Nil	Nil	78	78	80	80*	2,400	2,400	2,460	2,560	373	317	281	288	324	386	283	346	253	259	259	266	1	0	-2	1
104	Severn	Two Part	210	219	210	Yes	Yes	Yes	Nil	Nil	40	40	42	40					300	370	359	346	230	272	251	276	265	290	290	303	12	7	-2	2
105	Shoalhaven	Inclining Block	260	230	220	Yes	Yes	Yes	150	Nil	70	70	70	10*	1,900	2,000	2,070	2,105	272	260	230	236	326	309	256	253	272	272	260	269	-2	-2	-6	1
106	Singleton	Two Part	359	194	194	Yes	Yes	Yes	Nil	Nil	68	68	75	75*	2,400	2,400	2,400	2,353	359	359	441	444	373	439	412	475	359	359	359	344	1	-2	-2	-6
107	Snowy River (Unfiltered)	Inclining Block	229	233	233	Yes	Yes	Yes	Nil	Nil	36	37	38	38*	4,000	3,300	3,300	2,500	330	299	278	278	231	238	280	361	291	297	303	309	-32	0	0	0
108	Sydney Water	Two Part	80	80	80	Yes	Yes	Yes	Nil	Nil	80	80	87	90	2,250	2,300	2,350	2,400	272	286	292	300	248	275	262	285	222	238	240	258	-1	5	-1	5
109	Tallaganda	Two Part	240	240	176	No	No	Yes	Nil	Nil	128	132	65	75	2,800	2,900	2,940	2,940	516	460	453	410	332		392	338	305	317	293	370	-9	2	-9	24
110	Tamworth	Two Part	135	135	135	Yes	Yes	Yes	Nil	Nil	60	60	60	60	3,000	3,000	3,000	3,078	264	295	294	294	329	370	365	320	235	245	255	255	2	2	2	-2
111	Temora	NO WS																																
112	Tenterfield	Two Part	220	231	231	Yes	Yes	Yes	Nil	Nil	58	58	61	61*	1,500	1,500	1,500	1,500	382	395	353	354	242	290	286	338	330	336	336	353	32	0	-2	3
113	Tumbarumba	500kL Allowance	327	350	360	Yes	Yes	Yes	400	500	82	85	82	72*				400	350	350	350	360	316	326	322	360	319	327	327	350	109	1	-2	5
114	Tumut	Inclining Block	205	205	215	Yes	Yes	Yes	Nil	Nil	41	41	41	43*	2,000	2,200	2,230	2,525	369	329	312	327	308	335	368	363	270	287	287	287	3	4	-2	-2
115	Tweed	250kL Allowance	212	215	250	No	Yes	Yes	250	250	70	70	72	72	3,300	3,310	3,350	3,420	212	212	215	250	309	208	241	234	277	212	212	215	-5	-25	-2	-1
116	Uralla	350kL Allowance	345	325	325	Yes	Yes	Yes	350	350	50	50	50	50*	1,000	1,100	1,100	***1,100***	345	345	325	325	344	335	322	348	370	345	345	325	-5	-8	-2	-8
117	Wagga Wagga	NO WS																																
118	Wakool (Dual Supply)	300kL Allowance	510	230	200	No	No	Yes	300	300	50	50	60	50					450	450	230	200	464	421	415	279	496	504	510	230	85	0	-1	-56
119	Walcha	Two Part	270	270	270	Yes	Yes	Yes	Nil	Nil	63	70	71	71					481	407	408	408	448	461	381	397	481	481	410	412	-2	-2	-16	-1
120	Walgett (Dual Supply)	Unmetered	458	469	482	Yes	Yes	Yes	Unmetered										450	458	469	482	487	609	572	603	436	450	458	469	1	1	0	0
121	Warren (Dual Supply)	650kL Allowance	310	310	325	Yes	Yes	Yes	650	650	44	46	46	46					370	310	310	325	281	372	357	358	242	295	310	310	-2	20	3	-2
122	Weddin	NO WS																																
123	Wellington	548kL Allowance	481	461	470	No	No	No	548	548	84	84	84	84	1,000	1,000	1,000	1,000	505	481	461	470	510	510	521	517	505	505	481	461	-2	-2	-7	-6
124	Wentworth (Dual Supply)	250kL Allowance	415	435	435	Yes	Yes	Yes	250	250	170	198	198	198*	900	800	1,150	1,150	510	480	435	633	491	478	463	556	400	405	415	435	-3	-1	1	3
125	Wingecarribee	Inclining Block	197	197	197	Yes	Yes	Yes	Nil	Nil	137	143	143	53*	2,100	2,000	2,050	2,115	358	338	355	400	440	460	410	382	340	342	345	348	-27	-1	-1	-1
126	Wyong	Two Part	176	176	80	Yes	Yes	Yes	200	Nil	60	60	60	60	3,000	3,000	3,250	***3,302***	183	196	176	207		180	211	235	176	176	176	176	-2	-2	-2	-2
127	Yallaroi (Groundwater)	425kL Allowance	416	416	443	No	Yes	No	450	425	58	59	59	65					521	463	474	522	322	392	395	438	309	361	416	416	11	15	13	-2
128	Yarrowlumla (Unfiltered)	280kL Allowance	266	266	266	No	Yes	Yes	280	280	70	70	70	70*	1,900	500			322	321	325	328	352	421	334	356	266	266	266	266	2	-2	-2	-2
129	Yass	420kL Allowance	425	425	437	Yes	Yes	Yes	420	420	65	65	65	100	1,400	1,400	1,450	1,560	520	460	425	437	435	497	440	486	425	425	425	425	-2	-2	-2	-2
130	Young (Reticulator)	265kL Allowance	360	370	370	Yes	Yes	Yes	265	265	109	109	109	110	2,000	2,000	2,000	2,000	480	450	373	370	387	412	390	425	349	360	360	370	4	1	-2	1

Blank Page

Table 8A - Water Supply - 2000/01 Residential Inclining Block or Multiple Tariffs

	WATER UTILITY	Town	Tariff Type (1)	Access Charge ($) (2)	Access Charge Independent of Land Value ? (3)	Allowance (kL) (4)	Usage Range (kL) (5)	Tariff (c/kL) (6)
1	Albury		Inclining Block	125	Yes	Nil	Up to 300 kL	12
							>300 kL	45
2	Armidale Dumaresq		Inclining Block	145	Yes	Nil	Up to 400 kL	60
							401 kL to 600 kL	70
							601 kL to 900 kL	80
							901 kL to 1,200 kL	90
							>1,200 kL	100
6	Bathurst		400 kL Allowance	316	No	400	400 to 855 kL	88
							>855 kL	63
9	Berrigan (Dual Supply)	Berrigan (Potable)	250 kL Allowance	427	Yes	250	>250 kL	55
		Berrigan (Non-Potable)	500 kL Allowance			500	>500 kL	27
		Barooga (Non-Potable)	750 kL Allowance	427		750	>750 kL	43
		Finley (Potable)	750 kL Allowance	427		750	>750 kL	43
		Finley (Non-Potable)	500 kL Allowance			500	>500 kL	27
		Tocumwal (Potable)	750 kL Allowance	427		750	>750 kL	43
18	Broken Hill WB		Inclining Block with 20	210	Yes	200	201 kL to 400 kL	56
							>400 kL	157
20	Cabonne	Molong	500 kL Allowance	492	No	500	>500 kL	134
		Cumnock	450 kL Allowance	525	No	450	>450 kL	122
		Yeoval	450 kL Allowance	379	No	450	>450 kL	88
21	Carrathool	Hillston	500 kL Allowance	305	Yes	500	500 kL to 1,000 kL	31
							>1,000 kL	45
		Carrathool	500 kL Allowance	503	Yes	500	500 kL to 1,000 kL	26
							>1,000 kL	42
		Goolgobi/Merriwagga	500 kL Allowance	547	Yes	500	500 kL to 1,000 kL	23
							>1,000 kL	40
		Goolgowi (Rural)	500 kL Allowance	585	Yes	500	>500 kL	46
		Merriwagga (Rural, Bunda)	500 kL Allowance	779	Yes	500	>500 kL	46
		Rankins Springs	500 kL Allowance	653	Yes	500	500 kL to 1,000 kL	22
							>1,000 kL	37
22	Central Darling	Wilcannia (Dual Supply)	115 kL Allowance	121	Yes	115	>115 kL	244
		White Cliffs	200 kL Allowance	290	Yes	200	>200 kL	208
		Ivanhoe	100 kL Allowance	161	Yes	100	>100 kL	244
23	Central Tablelands		Declining Block	120	Yes	Nil	Up to 5,000 kL	96
							5,001 kL to 9,000	65
							>9,000 kL	54
24	Cobar (Dual Supply)	Cobar	550 kL Allowance	493	Yes	550	>550 kL	125
		Nymagee Village	Unmetered	386		Nil		
		Mt Hope	Unmetered	522		Nil		
		Euabalong Village	Unmetered	479		Nil		
		Euabalong West	Unmetered	479		Nil		
26	Coolah		400 kL Allowance	300	Yes	400	401 to 800 kL	54
							> 800 kL	60
29	Coonabarabran	Coonabarabran	Two Part	216	No	Nil	All	64
		Baradine	Two Part	225	No	Nil	All	59
		Binnaway	Two Part	255	No	Nil	All	77
31	Cootamundra (Reticulator)		219 kL Allowance	281	No	219	>219 kL to 719 kL	107
							>719 kL	93
33	Corowa	Corowa	700 kL Allowance	310	Yes	700	>700 kL	14
		Mulwala	700 kL Allowance	240	Yes	700	>700 kL	33
34	Cowra		Inclining Block	302	Yes	Nil	Up to 2,500 kL	25
				302			2,501 to 5,000 kL	40
				302			5,001 to 10,000 kL	80
				302			>10,000 kL	130
39	Dungog (Unfiltered)	Dungog	240 kL Allowance	244	Yes	240	>240 kL	102
		Clarence Town	240 kL Allowance	244	Yes	240	>240 kL	102
		Patterson District	240 kL Allowance	304	Yes	240	>240 kL	127
		Gresford	Two Part	304	Yes	Nil	All	127
45	Gloucester	Gloucester	350 kL Allowance	350	Yes	350	Up to 350 kL	100
		Barrington	500 kL Allowance	285	No	500	>500 kL	57

	WATER UTILITY	Town	Tariff Type (1)	Access Charge ($) (2)	Access Charge Independent of Land Value ? (3)	Allowance (kL) (4)	Usage Range (kL) (5)	Tariff (c/kL) (6)
50	Goulburn		Inclining Block	212	Yes	Nil	Up to 400 kL	53
							>400 kL	122
54	Gunnedah (Groundwater)	Gunnedah	440 kL Allowance	230	No	440	>440 kL	52
		Curlewis	440 kL Allowance	340	No	440	>440 kL	52
		Mullaley	440 kL Allowance	620	No	440	>440 kL	52
		Tambar Springs	440 kL Allowance	694	No	440	>440 kL	52
56	Guyra	Guyra	Inclining Block	214	Yes	Nil	Up to 750 kL	69
							>750 kL	127
		Tingha	Two Part	180	Yes	Nil	All	111
61	Hume	Howlong	500 kL Allowance	200	No	500	>500 kL	110
		Villages, Table Top	500 kL Allowance	350	No	500	>500 kL	110
64	Jerilderie (Dual Supply)		300 kL Allowance	377	No	300	300 to 600 kL	80
							600 to 1200 kL	70
							>1200 kL	60
4	Kempsey (Groundwater)		200 kL Allowance	370	Yes	200	200 kL to 2500	61
							>2500 kL	59
68	Lachlan	Condoblin	Inclining Block	220	Yes	Nil	Up to 300 kL	50
							>300 kL	135
69	Leeton	Leeton, Whitton, Murrami	Inclining Block	222	Yes	Nil	Up to 400 kL	39
							>400 kL	47
71	Lithgow		Inclining Block	250	Yes	Nil	Up to 500 kL	38
							501 kL to 5,000	100
							>5,000 kL	150
73	Lower Clarence (Unfiltered)		Declining Block	216	Yes	Nil	Up to 300 kL	52
							>300 kL	31
77	Midcoast (Manning - Unfiltered)		Inclining Block	156	Yes	Nil	Up to 200 kL	35
							> 200 kL	55
78	Midcoast (Great Lakes - Unfiltered)		Inclining Block	290	Yes	Nil	Up to 400 kL	22
							> 400 kL	78
80	Moree Plains	Moree	Inclining Block	194	Yes	Nil	Up to 375 kL	25
							>375 kL	45
		Mungindi	Inclining Block	290	Yes	Nil	Up to 250 kL	75
							>250 kL	95
		Boggabilla	Inclining Block	395	Yes	Nil	Up to 250 kL	75
							>250 kL	95
							>250 kL	95
82	Mulwaree	Marulan	295 kL Allowance	360	Yes	295	>295 kL	107
		Taralga	295 kL Allowance	315	Yes	295	>295 kL	122
83	Murray	Moama (Dual Supply)	250 kL Allowance	358	Yes	250	>250 kL	30
		Mathoura	750 kL Allowance	358	Yes	750	>750 kL	30
84	Murrumbidgee	Darlington Point	Unmetered	283	No			
		Coleambally	Unmetered	366	No			
85	Murrurundi (Unfiltered)	Murrurundi	425 kL Allowance	425	Yes	425	All	100
		Willow Tree	425 kL Allowance	505	Yes	425	All	119
88	Narrabri (Groundwater)	Narrabri	Two Part	153	Yes	Nil	All	33
		Gwabegar	Two Part	150	Yes	Nil	All	50
		Pilliga	Two Part	200	Yes	Nil	All	50
		Wee Wa	Two Part	132	Yes	Nil	All	51
		Boggabri	Two Part	316	Yes	Nil	All	60
		Bellata	Two Part	316	Yes	Nil	All	60
90	Narromine (Groundwater)	Narromine/Trangie	Two Part	209	Yes	Nil	All	35
		Tomingly	Two Part	290	Yes	Nil	All	35

Table 8A - Water Supply - 2000/01 Residential Inclining Block or Multiple Tariffs

	WATER UTILITY	Town	Tariff Type (1)	Access Charge ($) (2)	Access Charge Independent of Land Value ? (3)	Allowance (kL) (4)	Usage Range (kL) (5)	Tariff (c/kL) (6)
95	Parry	Kootingal/Moonbi	350 kL Allowance	300	Yes	350	>350 kL	75
		Werris Creek	350 kL Allowance	451	Yes	350	>350 kL	75
		Attunga	350 kL Allowance	449	Yes	350	>350 kL	75
		Bendemeer	350 kL Allowance	310	Yes	350	>350 kL	75
96	Pristine Waters	Coutts Crossing	Two Part	180	Yes	Nil	All	50
		Waterview Heights	Two Part	180	Yes	Nil	All	60
		Wooli	350 kL Allowance	452	Yes	350kL	>350 kL	72
		Minnie Water	350 kL Allowance	422	Yes	350kL	>350 kL	72
		Glenreagh	350 kL Allowance	250	Yes	350kL	>350 kL	72
		Corindi Beach	200 kL Allowance	287	Yes	200kL	>200 kL	125
97	Queanbeyan		Inclining Block	185	Yes	Nil	Up to 350 kL	51
							351 kL to 15,000	105
							>15,000 kL	85
99	Richmond Valley (Reticulator)	Casino	300 kL Allowance	210	Yes	300	Up to 300 kL	76
		Richmond	Inclining Block	216	Yes	Nil	Up to 360 kL	90
							>360 kL	125
100	Riverina (Groundwater)	Wagga Wagga	Two Part	80	Yes	Nil	All	63
		Rural & Other Towns	Two Part	100	Yes	Nil	All	75
103	Scone (Unfiltered)		Inclining Block	106	Yes	Nil	Up to 240 kL	80
							241 kL to 561 kL	109
							562 kL to 750 kL	122
							>750 kL	160
105	Shoalhaven		Inclining Block	220	Yes	Nil	Up to 300 kL	10
							>300 kL	70

	WATER UTILITY	Town	Tariff Type (1)	Access Charge ($) (2)	Access Charge Independent of Land Value ? (3)	Allowance (kL) (4)	Usage Range (kL) (5)	Tariff (c/kL) (6)
106	Singleton	Singleton	Two Part	194	Yes	Nil	All	75
		Mt Thorley	Two Part	767	Yes	Nil	All	75
		Jerry's Plains	80 kL Allowance	377	Yes	80	>80 kL	116
107	Snowy River (Unfiltered)		Inclining Block	233	Yes	Nil	Up to 354 kL	38
					Yes	Nil	>354 kL	104
112	Tenterfield	Tenterfield	Two Part	231	Yes	Nil	All	61
		Jennings	Two Part	231	Yes	Nil	All	61
		Urbenville	Two Part	253	Yes	Nil	All	44
113	Tumbarumba	Tumbarumba	500 kL Allowance	360	Yes	500	>500 kL	72
		Khancoban	500 kL Allowance	440	Yes	500	>500 kL	88
114	Tumut	Tumut	Inclining Block	215	Yes	Nil	Up to 400 kL	43
							Up to 400 kL	60
116	Uralla	Uralla	350 kL Allowance	325	Yes	350	>350 kL	50
		Bundarra	350 kL Allowance	500	Yes	350	>350 kL	50
124	Wentworth (Dual Supply)	Wentworth (Potable)	250 kL Allowance	435	Yes	250	>250 kL	198
		Wentworth (Non-Potable)	2000 kL Allowance	385	Yes	2000	>2,000 kL	38
		Namatjira (Potable)	250 kL Allowance	435	Yes	250	>250 kL	174
		Namatjira (Non-Potable)	2000 kL Allowance	385	Yes	2000	>2,000 kL	38
125	Wingecarribee		Inclining Block	197	Yes	Nil	Up to 150 kL	53
							151 kL to 5,000	143
							>5,000	169
128	Yarrowlumla (Unfiltered)	Bungendore	280 kL Allowance	266	Yes	280	>280 kL	70
		Captains Flat	280 kL Allowance	450	Yes	280	>280 kL	70
129	Yass	Yass, Bowning, Binalong	420 kL Allowance	437	Yes	420	>420	100
		Murrumbateman	420 kL Allowance	226	Yes	420	>420	100

Table 8B - Water Supply - 2000/01 Non-Residential Tariffs

	WATER UTILITY	Town	Tariff Type (1)	Access Charge for 20 mm Service Connection (or Minimum) ($) (2)	Basis for Access Charge (3)	Access Charge Independent of Land Value ? (4)	Allowance (kL) (5)	Usage Range (kL) (6)	Usage Charge (c/kL) (7)
1	Albury	Albury	Inclining Block	125	Land Value	No	Nil	Up to 300 kL	12
								301 kL to 2000 kL	45
								>2000 kL	35
2	Armidale Dumaresq	Armidale	Inclining Block	145	Uniform Access Charge	Yes	Nil	Up to 400 kL	60
								401 kL to 600 kL	70
								601 kL to 900 kL	80
								901 kL to 1,200 kL	90
								>1,200 kL	100
3	Ballina (Reticulator)	Ballina	75 kL Allowance	175	Uniform Access Charge	Yes	75	75 kL to 325 kL	30
								>325 kL	95
4	Balranald (Dual Supply)	Balranald (Filtered)	Unmetered	256	Land Value	No			
		Euston	Unmetered	175		Yes			
5	Barraba	Barraba	300 kL Allowance	434	Land Value	No	300	>300 kL	50
6	Bathurst	Bathurst	400 kL Allowance	316	Land Value	No	400	400 to 855 kL	88
								>856 kL	63
		Bathurst (major users)						For filtered water users over 160,000 kL:	
								Up to 227,000 kL	47
								>227,000 kL	51
7	Bega Valley (Unfiltered)	BVSC	Two Part	200	Meter Size	Yes	Nil	All	65
8	Bellingen (Unfiltered)		Two Part	189	Square of Meter Size (20mm: $189)	Yes	Nil	All	56
9	Berrigan (Dual Supply)	Berrigan (Potable)	250 kL Allowance	427	Uniform Access Charge	Yes	250	>250 kL	55
		Berrigan, Finley (Non-Potable)	500 kL Allowance				500	>500 kL	27
		Barooga (Non-Potable)	750 kL Allowance	427			750	>750 kL	43
		Finley, Tocumwal (Potable)	750 kL Allowance	427			750	>750 kL	43
10	Bingara	Bingara	320 kL Allowance	300	Uniform Access Charge				
13	Bogan	Nyngan	700 kL Allowance	475	Land Value	No	700		
14	Bombala	Bombala	300 kL Allowance	425	Uniform Access Charge	Yes	300	>300 kL	84
		Delegate	Unmetered	162	Uniform Access Charge	Yes	320		
15	Boorowa	Boorowa	570 kL Allowance	342	Land Value	No	570	>570 kL	60
16	Bourke (Dual Supply)	Bourke	Unmetered	517	Uniform Access Charge	Yes			
17	Brewarrina	Brewarrina	Unmetered	502	Land Value	No			
		Goodooga	Unmetered	325		No			
18	Broken Hill WB	Broken Hill	200 kL Allowance	210	Uniform Access Charge	Yes	200	201 kL to 400 kL	93
								>400 kL	101
19	Byron (Reticulator)	Byron	Two Part	93	Meter Size (20mm: $93, 25mm: $164, 32mm: $290, 40mm: $469, 50mm: $750, 80mm: $1970,	Yes	Nil	All	87
20	Cabonne	Molong	500 kL Allowance	492	Land Value	No	500	501 kL to 700 kL	134
								> 700 kL	105
		Cumnock	450 kL Allowance	525	Land Value	No	450	>450 kL	122
		Yeoval	450 kL Allowance	379	Land Value	No	450	>450 kL	88
21	Carrathool	Hillston	500 kL Allowance	305	Uniform Access Charge	Yes	500	500 kL to 1,000 kL	31
								>1,000 kL	45
		Carrathool	500 kL Allowance	503	Uniform Access Charge	Yes	500	500 kL to 1,000 kL	26
								>1,000 kL	42
		Goolgobi/Merriwagga	500 kL Allowance	547	Uniform Access Charge	Yes	500	500 kL to 1,000 kL	23
								>1,000 kL	40
		Goolgowi (Rural)	500 kL Allowance	585	Uniform Access Charge	Yes	500	>500 kL	46
		Merriwagga (Rural, Bunda)	500 kL Allowance	779		Yes	500	>500 kL	46
		Rankins Springs	500 kL Allowance	653	Uniform Access Charge	Yes	500	500 kL to 1,000 kL	22
								>1,000 kL	37
22	Central Darling	Wilcannia (Dual Supply)	115 kL Allowance	121	Uniform Access Charge	Yes	115	> 115 kL	244
		White Cliffs	200 kL Allowance	290	Uniform Access Charge	Yes	200	>200 kL	208
		Ivanhoe	100 kL Allowance	161	Uniform Access Charge	Yes	100	>100 kL	244
23	Central Tablelands	Central Tablelands	Declining Block	120	Meter Size	Yes	Nil	Up to 5,000 kL	96
								5,001 kL to 9,000 kL	65
								>9,000 kL	54
24	Cobar (Dual Supply)	Cobar	550 kL Allowance	364	Land Value	No	550	>550 kL	130
		Nymagee Village	Unmetered	386			Nil		
		Mt Hope	Unmetered	522			Nil		
		Euabalong Village	Unmetered	479			Nil		
25	Coffs Harbour (Unfiltered)	Coffs Harbour, Nana Glen, Coramba	Two Part	161	Uniform Access Charge	Yes	Nil	All	109
26	Coolah	Coolah Shire	400 kL Allowance	300	Uniform Access Charge	Yes	400	401 kL to 800 kL	54
								>800 kL	60

Table 8B - Water Supply - 2000/01 Non-Residential Tariffs

	WATER UTILITY	Town	Tariff Type (1)	Access Charge for 20 mm Service Connection (or Minimum) ($) (2)	Basis for Access Charge (3)	Access Charge Independent of Land Value ? (4)	Allowance (kL) (5)	Usage Range (kL) (6)	Usage Charge (c/kL) (7)
28	Cooma-Monaro	Nimmitable	Two Part	328	Uniform Access Charge	Yes	Nil	All	43
		Bredbo	Two Part	328	Uniform Access Charge	Yes	Nil	All	43
		Cooma	Two Part	328	Uniform Access Charge	Yes	Nil	All	43
29	Coonabarabran	Coonabarabran	Two Part	216	Land Value	No	Nil	All	64
		Baradine	Two Part	225	Land Value	No	Nil	All	59
		Binnaway	Two Part	255	Land Value	No	Nil	All	77
30	Coonamble (Groundwater)	Coonamble	775 kL Allowance	86	Land value	No	775	All	24
31	Cootamundra (Reticulator)	Cootamundra	219 kL Allowance	281	Land Value	No	219	219 kL to 719 kL	107
								>719 kL	93
32	Copmanhurst (Unfiltered)	Copmanhurst Village	100 kL Allowance	250	Uniform Access Charge	Yes	100	>100 kL	90
33	Corowa	Corowa	700 kL Allowance	310	Uniform Access Charge	Yes	700	>700 kL	14
		Mulwala	700 kL Allowance	240		Yes	700	>700 kL	33
34	Cowra		Inclining Block	302	Uniform Access Charge	Yes	Nil	up to 2500 kL	30
								2501 kL to 5000 kL	40
								5001 kL to 10000 kL	80
								>10000 kL	130
35	Crookwell	Crookwell	300 kL Allowance	550	Land Value	No	300	>300 kL	70
36	Culcairn (Groundwater)	Culcairn	238 kL Allowance	152	Uniform Access Charge	Yes	238	>238 kL	64
37	Deniliquin	Deniliquin	1000 kL Allowance	465	Uniform Access Charge	Yes	1000	>1000 kL	48
38	Dubbo	Dubbo	Two Part	210	Land Value	No	Nil	All	52
39	Dungog (Unfiltered)	Dungog, Clarence Town	240 kL Allowance	244	Uniform Access Charge	Yes	240	>240 kL	102
		Patterson District, Gresford	240 kL Allowance	304	Uniform Access Charge	Yes	240	>240 kL	127
40	Eurobodalla (Unfiltered)	Eurobodalla	Two Part	230	Uniform Access Charge	Yes	Nil	All	50
42	Forbes	Forbes	1500 kL Allowance	342	Land Value	No	1500	>1500 kL	31
43	Gilgandra (Groundwater)	Gilgandra	Two Part	250	Uniform Access Charge	Yes	Nil	All	30
44	Glen Innes	Glen Innes	230 kL Allowance	269	Uniform Access Charge	Yes	230	>230 kL	117
45	Gloucester	Gloucester	Declining Block	350	Uniform Access Charge	Yes	Nil	up to 10,000 kL	100
								>10000 kL	50
		Barrington	500 kL Allowance	285	Land Value	No	500	>500 kL	57
47	Goldenfields (Reticulator)	Retail	Two Part	192	Uniform Access Charge	Yes	Nil	All	101
49	Gosford	Gosford/Wyong Joint	Two Part	70	Square of Service Connection Size (eg 50mm: $438, 100mm: $1,750, 200mm: $7,000)	Yes	Nil	All	65
50	Goulburn	Goulburn	Inclining Block	212	Square of Meter Size ($212 for 20 mm)	Yes	Nil	up to 400 kL (for 20mm meter)	58
								>400 kL (for 20mm meter)	128
								up to 1600 kL (for 40mm meter)	58
								>1600 kL (for 40mm meter)	128
51	Grafton	Grafton	Two Part	134	Uniform Access Charge	Yes	Nil	All	50
52	Griffith	Griffith (Filtered)	634 kL Allowance	260	Land Value	No	634	>634 kL	41
		Griffith (Unfiltered)	634 kL Allowance	260	Land Value	No	634	>634 kL	19
53	Gundagai	Gundagai	500 kL Allowance	310	Land Value	No	500	>500 kL	62
54	Gunnedah (Groundwater)	Gunnedah	440 kL Allowance	230	Land Value	No	440	>440 kL	52
		Curlewis	440 kL Allowance	340	Land Value	No	440	>440 kL	52
		Mullaley	440 kL Allowance	620	Land Value	No	440	>440 kL	52
		Tambar Springs	440 kL Allowance	694	Land Value	No	440	>440 kL	52
55	Gunning	Gunning	360 kL Allowance		Land Value	No	360	>360 kL	110
		Dalton	300 kL Allowance		Land Value	No	300	>300 kL	160
56	Guyra	Guyra	Inclining Block	214	Uniform Access Charge	Yes	Nil	up to 750 kL	69
								>750 kL	127
		Tingha	Two Part	180	Uniform Access Charge	Yes	Nil	All	111
57	Harden (Reticulator)	Harden	300 kL Allowance	378	*Uniform Access Charge*	*Yes*	300kL	>300 kL	85
58	Hastings (Unfiltered)	Hastings	Two Part	175	Meter Size	Yes	Nil	All	75
59	Hay (Dual Supply)	Hay (Filtered)	300 kL Allowance	345	Uniform Access Charge	Yes	300	>300 kL	75
		Hay (Unfiltered)	1000 kL Allowance	345	Uniform Access Charge	Yes	1000	>1,000 kL	35
61	Hume	Howlong	500 kL Allowance	200	Land Value	No	500	>500 kL	110
		Villages, Table Top	500 kL Allowance	350	Land Value	No	500	>500 kL	110
62	Hunter Water		Declining Block	20	Square of Meter Size (eg 50mm: $157,100mm: $627, 300mm: $5,641, 500mm: $15,669)	Yes	Nil	up to 1,000 kL	92
								>1000 kL	85
63	Inverell	Inverell/Ashford/Yetman	Two Part	185	Uniform Access Charge	Yes	Nil	All	80
64	Jerilderie (Dual Supply)	Jerilderie	300 kL Allowance	377	Land Value	No	300	301 kL to 600 kL	80
						No		601 to 1,200 kL	70
						No		>1,200 kL	60

Table 8B - Water Supply - 2000/01 Non-Residential Tariffs

	WATER UTILITY	Town	Tariff Type (1)	Access Charge for 20 mm Service Connection (or Minimum) ($) (2)	Basis for Access Charge (3)	Access Charge Independent of Land Value ? (4)	Allowance (kL) (5)	Usage Range (kL) (6)	Usage Charge (c/kL) (7)
66	Kempsey (Groundwater)	Kempsey	200 kL Allowance	370	Uniform Access Charge	Yes	200	201 kL to 2500 kL	61
								>2500 kL	59
67	Kyogle	Kyogle	Two Part	200	Uniform Access Charge	Yes	0	All	57
		Bonalbo (Non-Potable)	Two Part	200	Uniform Access Charge	Yes	0	All	57
		Muli-Muli, Woodenbong	Two Part	200	Uniform Access Charge	Yes	0	All	57
68	Lachlan	Condoblin	Inclining Block	220	Uniform Access Charge	Yes	Nil	up to 300 kL	50
								>300 kL	135
69	Leeton	Leeton, Whitton, Murrami	Inclining Block	222	Uniform Access Charge	Yes	Nil	Up to 400 kL	39
								>400 kL	47
70	Lismore (Reticulator)	Lismore, Nimbin	Two Part	85	Service Connection Size	Yes	Nil	All	85
71	Lithgow		Inclining Block	250	Uniform Access Charge	Yes	Nil	up to 500 kL	38
								501 kL to 5,000 kL	100
								>5,000 kL	150
73	Lower Clarence (Unfiltered)	Lower Clarence	Declining Block	216	Uniform Access Charge	Yes	Nil	up to 300 kL	52
								>300 kL	31
75	Manilla	Manilla	400 kL Allowance	337	Uniform Access Charge	Yes	400	>400 kL	60
76	Merriwa (Groundwater)	Merriwa/Cassilis	Two Part	315	Uniform Access Charge	Yes	Nil	All	35
77	MidCoast (Manning - Unfiltered)		Inclining Block	156	Meter Size	Yes	Nil	up to 200 kL	35
								>200 kL	55
78	MidCoast (Great Lakes - Unfiltered, Reticulator)		Inclining Block	290	Meter Size	Yes	Nil	up to 400 kL	22
								>400 kL	78
80	Moree Plains	Moree	Inclining Block	194	Uniform Access Charge	Yes	Nil	up to 375 kL	25
								>375 kL	45
		Mungindi	Inclining Block	290	Uniform Access Charge	Yes	Nil	up to 250 kL	75
								>250 kL	95
		Boggabilla	Inclining Block	395	Uniform Access Charge	Yes	Nil	up to 375 kL	75
								>375 kL	95
81	Mudgee (Unfiltered)	Mudgee	Two Part	400	Uniform Access Charge	Yes	Nil	All	80
		Gulgong	Two Part	350	Uniform Access Charge	Yes	Nil	All	80
82	Mulwaree	Marulan	295 kL Allowance	360	Uniform Access Charge	Yes	295	>295 kL	107
		Taralga	210 kL Allowance	315	Uniform Access Charge	Yes	210	>295 kL	122
83	Murray	Moama (Dual Supply)	250 kL Allowance	380	Uniform Access Charge	Yes	250	>250 kL	40
		Mathoura	750 kL Allowance	380	Uniform Access Charge	Yes	750	>750 kL	40
84	Murrumbidgee	Darlington Point	Unmetered	283	Land Value	No			
		Coleambally	Unmetered	366	Land Value	No			
85	Murrurundi (Unfiltered)	Murrurundi	425 kL Allowance	425	Uniform Access Charge	Yes	425	>425 kL	100
		Willow Tree	425 kL Allowance	505	Uniform Access Charge	Yes	425	All	119
86	Muswellbrook	Muswellbrook/Denman/Sandy Hollow	Two Part	86	Uniform Access Charge	Yes	0	All	59
87	Nambucca	Nambucca	Two Part	145	Uniform Access Charge	Yes	Nil	All	65
88	Narrabri (Groundwater)	Narrabri	Two Part	153	Service Connection Size	Yes	0	All	33
		Gwabegar	Two Part	150	Service Connection Size	Yes	0	All	50
		Pilliga	Two Part	200	Service Connection Size	Yes	0	All	50
		Wee Wa	Two Part	132	Service Connection Size	Yes	0	All	51
		Boggabri	Two Part	316	Service Connection Size	Yes	0	All	60
		Bellata	Two Part	316	Service Connection Size	Yes	0	All	60
89	Narrandera (Groundwater)	Narrandera	Two Part	233	Uniform Access Charge	Yes	Nil	All	44
90	Narromine (Groundwater)	Narromine/Trangie	Two Part	209	Uniform Access Charge	Yes	Nil	All	35
		Tomingley	Two Part	290	Uniform Access Charge	Yes	Nil	All	35
91	Nundle (Groundwater)	Nundle	295 kL Allowance	470	Uniform Access Charge	Yes	350	>295 kL	134
92	Oberon (Unfiltered, Reticulator)	Oberon	Inclining Block	80	Uniform Access Charge	Yes	Nil	up to 5,000 kL	86
								>5,000 kL	123
93	Orange	Orange	305 kLAllowance	325	Land Value	No	305	>305 kL	52
94	Parkes	Parkes	364 kL Allowance	364	Land Value	No	364	>364 kL	101
95	Parry	Kootingal/Moonbi	350 kL Allowance	300	Uniform Access Charge	Yes	350	>350 kL	75
		Werris Creek	350 kL Allowance	451	Uniform Access Charge	Yes	350	>350 kL	75
		Attunga	350 kL Allowance	449	Uniform Access Charge	Yes	350	>350 kL	75
		Bendemeer	350 kL Allowance	310	Uniform Access Charge	Yes	350	>350 kL	75
96	Pristine Waters (Unfiltered)	Coutts Crossing	Two Part	180	Uniform Access Charge	Yes	Nil	All	50
		Waterview Heights	Two Part	180	Uniform Access Charge	Yes	Nil	All	60
		Wooli	350 kL Allowance	452	Uniform Access Charge	Yes	350kL	>350 kL	72
		Minnie Water	350 kL Allowance	422	Uniform Access Charge	Yes	350kL	>350 kL	72
		Glenreagh	350 kL Allowance	250	Uniform Access Charge	Yes	350kL	>350 kL	72
		Corindi Beach	200 kL Allowance	287	Uniform Access Charge	Yes	200kL	>200 kL	125

Table 8B - Water Supply - 2000/01 Non-Residential Tariffs

	WATER UTILITY	Town	Tariff Type (1)	Access Charge for 20 mm Service Connection (or Minimum) ($) (2)	Basis for Access Charge (3)	Access Charge Independent of Land Value ? (4)	Allowance (kL) (5)	Usage Range (kL) (6)	Usage Charge (c/kL) (7)
97	Queanbeyan (Reticulator)	Queanbeyan	Inclining Block	185	Uniform Access Charge	Yes	Nil	up to 350 kL	51
								351 to 15,000 kL	105
								>15,000 kL	85
98	Quirindi	Quirindi	500 kL Allowance	250	Uniform Access Charge	Yes	500	501 kL to 1,000 kL	50
								>1,000 kL	47
99	Richmond Valley (Reticulator)		Inclining Block	210	Meter Size	Yes	Nil	up to 80,000 kL	35
						Yes		80,000 to 600,000 kL	40
100	Riverina (Groundwater)	Wagga Wagga	Declining Block	120	Uniform Access Charge	Yes	Nil	up to 36,000 kL	63
								>36,000 kL	56
		Other Towns	Declining Block	125	Uniform Access Charge	Yes	Nil	up to 36,000 kL	75
								>36,000 kL	67
102	Rylstone	Rylstone	370 kL Allowance	370	Uniform Access Charge	Yes	Nil	>370 kL	100
103	Scone (Unfiltered)	Scone, Aberdeen	Declining Block	106	Uniform Access Charge	Yes	Nil	up to 750 kL	122
								>750 kL	80
104	Severn	Deepwater	Two Part	210	Uniform Access Charge	Yes	Nil	All	40
105	Shoalhaven		Inclining Block	220	Uniform Access Charge	Yes	Nil	up to 300 kL	10
								> 300 kL	70
106	Singleton	Singleton	Two Part	194	Meter Size	Yes	Nil	All	75
		Mt Thorley	Two Part	767	Meter Size	Yes	Nil	All	75
		Jerry's Plains	80 kL Allowance	377	Uniform Access Charge	Yes	80	>80 kL	116
107	Snowy River (Unfiltered)	Snowy River	Inclining Block	233	Uniform Access Charge	Yes	Nil	up to 354 kL	38
								>354 kL	104
108	Sydney Water		Two Part	80	Square of Meter Size (eg 50mm: $500, 100mm: $2,000	Yes	Nil	all	90
109	Tallaganda	Braidwood	Two Part	176	Uniform Access Charge	Yes	Nil	all	75
110	Tamworth	Tamworth	Two Part	135	Meter Size		Nil	all	60
111	Temora					Yes			
112	Tenterfield	Tenterfield	Two Part	231	Uniform Access Charge	Yes	Nil	All	61
		Jennings	Two Part	231	Uniform Access Charge	Yes	Nil	All	61
		Urbenville	Two Part	253	Uniform Access Charge	Yes	Nil	All	44
113	Tumbarumba	Tumbarumba	500 kL Allowance	360	Uniform Access Charge	Yes	500	>500 kL	72
		Khancoban	500 kL Allowance	440	Uniform Access Charge	Yes	500	>500 kL	88
114	Tumut	Tumut	Inclining Block	215	Meter Size	Yes	Nil	up to 400 kL	43
								> 400 kL	60
115	Tweed	Tweed	250 kL Allowance	215	Uniform Access Charge	Yes	250	>250 kL	72
116	Uralla	Uralla	350 kL Allowance	325	Uniform Access Charge	Yes	350	>350 kL	50
		Bundarra	350 kL Allowance	500		Yes	350	>350 kL	50
118	Wakool (Dual Supply)	Wakool	300 kL Allowance	200	Uniform Access Charge	Yes	300	>300 kL	50
119	Walcha	Walcha	Two Part	295	Uniform Access Charge	Yes	Nil	all	80
120	Walgett (Dual Supply)	Walgett	Unmetered	482	Uniform Access Charge	Yes	Unmetered		
121	Warren (Dual Supply)	Warren	650 kL Allowance	340	Uniform Access Charge		650	>650 kL	46
122	Weddin					No			
123	Wellington	Wellington	548 kL Allowance	470	Land Value	No	548	>548 kL	84
124	Wentworth (Dual Supply)	Wentworth (Potable)	250 kL Allowance	435	Uniform Access Charge	Yes	250	>250 kL	198
		Wentworth (Non-Potable)	2000 kL Allowance	385	Uniform Access Charge	Yes	2000	>2,000 kL	38
		Namatjira (Potable)	250 kL Allowance	435	Uniform Access Charge	Yes	250	>250 kL	174
		Namatjira (Non-Potable)	2000 kL Allowance	385	Uniform Access Charge	Yes	2000	>2,000 kL	38
125	Wingecarribee		Inclining Block	197	Meter Size		Nil	up to 150 kL	53
								151 kL to 5,000 kL	143
						Yes		>5,000 kL	169
126	Wyong	Wyong	Two Part	80	Square of Service Connection Size (eg 50mm: $500, 100mm: $2,000, 200mm: $8,000)	No	Nil	all	60
127	Yallaroi (Unfiltered)	Warialda, Gravesend, North Star	425 kL Allowance	443	Land Value	No	425	>425 kL	65
128	Yarrowlumla (Unfiltered)	Bungendore	280 kL Allowance	266	Uniform Access Charge	Yes	280	>280 kL	70
		Captains Flat	280 kL Allowance	450	Uniform Access Charge	Yes	280	>280 kL	70
129	Yass	Yass	420 kL Allowance	437	Uniform Access Charge	Yes	420	>420 kL	100
130	Young (Reticulator)		265 kL Allowance	370	Uniform Access Charge		265	266 kL to 1,500 kL	124
								1,501 kL to 5,000 kL	115
								5,001 kL to 10,000 kL	80
								>10,000 kL	60

Table 9 - Water Supply - Levels of Service, Efficiency

	WATER UTILITY	LEVELS OF SERVICE																EFFICIENCY											
		Water Quality Compliance								Water Quality Complaints (per 1000 properties) (19)				Water Service Complaints (per 1000 properties) (20)				Average Customer Outage Time (mins/property-unplanned) (21)				Operating Cost (OMA) ($/property) (22)				Management Cost ($/property) (23)			
		Physical & Chemical (%) (17)				Microbiological (%) (18)																							
		1987 NHMRC/AWRC Guidelines		1996 NHMRC/ARMCANZ Guidelines		1987 NHMRC/AWRC Guidelines		1996 NHMRC/ARMCANZ Guidelines																					
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
1	Albury	99	100	77	40	100	100	96	89				0	8	15	6	6					199	209	196	189	117	118	110	113
2	Armidale Dumaresq	100	100	100	100	100	100	100	100			3				39						245	306	273	278	125	143	105	136
3	Ballina (Reticulator)		75	75	100		100	92	97		1	1	2		0	0	0	0	69	49	51	95	88	75	110	48	49	38	61
4	Balranald (Dual Supply)	100	100	100		100	100	100		7	23	3			5	14		2	1	0		212	253	286	316		33	34	***34***
5	Barraba									52	20	6	8	33	26	30	0	2	4	0	12	187	197	245	218	56	73	75	72
6	Bathurst	100	100	100	100	100	100	100	100	3	1	3	7	10	7	8	10			18		197	211	232	252	76	94	89	96
7	Bega Valley (Unfiltered)	100	100	100	83	100	100	100	96	2	0	0				7		0	0			263	242	247	262	142	148	149	153
8	Bellingen (Unfiltered)	70	100	57	100	100	100	100	100		2		3				25				1	109	143	157	154	34	32	38	47
9	Berrigan (Dual Supply)	100	100	100	100	100	100	100	100	4	4	5	3	36	14	12	2	1	1	0	3	199	261	253	253	59	84	76	101
10	Bingara			50		100		95		7	3	9		3		1		4	0	0		208	158	140	180	54	61	53	67
11	Bland	**No WS**																											
12	Blayney	**No WS**																											
13	Bogan	98		98	96	100		95	100	6		6	6				8	30		0	1	603	510	456	483	119	117	177	203
14	Bombala	86	50	67	38	100	100	100	87	13	8	14	2			53	53	26	14	0	61	268	248	291	289	38	46	53	61
15	Boorowa	100	100	100		100	100	100		16	16		0	14	14		0	3	3			295	179	254	217	26	26	34	31
16	Bourke (Dual Supply)	100	50	50	50				40	50	31	38	2	25	76	42	67	28	34	30	43	395	490	481	448	75	85	98	89
17	Brewarrina			50	60	100	100	100	100		45	63	32			40	32				4	418	547	540	441	93	80	102	72
18	Broken Hill WB	88	88	90	91	100	100	100	100			6	4			10	6	0	0			729	721	689	769	184	184	189	202
19	Byron (Reticulator)			95	93	90	100	100	100	4	8	3	2			6	1	0	1	0	3	264	296	188	173	147	137	92	88
20	Cabonne	56	88	96	70	100	100	92	88	6	2	3	6	20		14	27	0	0		1	244	313	311	289	93	92	90	90
21	Carrathool	67	100	100	100	100	100	100	100	119	125	123	2			11	8	0	0			401	549	545	557	108	177	206	226
22	Central Darling	100	100		93	100	100		95	22	18		27				144		547		2		431	431	396		75	75	***75***
23	Central Tablelands	100	100	51	12	100	100	100	100	30	31	24	20			41	62	101	1		1	334	345	326	310	162	178	160	150
24	Cobar (Dual Supply)	96	45	95	100	100	100	100	100	10	9	99	2	11	10	21	21	16	10	0	1	393	398	460	346	33	150	105	***105***
25	Coffs Harbour (Unfiltered)	100	98	100	99	100	91	85	89	16	9	9	3			12	21	0	3	2	3	169	193	167	163	85	82	87	82
26	Coolah	100	83	95	63	100	100	100	91	28	44		3	135			7	5	51	1	1	232	243	273	268	55	49	54	54
27	Coolamon	**No WS**																											
28	Cooma-Monaro		100	60	38		100	81	85		9	0	2			5	15		36	0		221	228	193	217	44	43	78	81
29	Coonabarabran	100	73	73	73	100	100	100	76		12		29				0		6	0	0	335	351	343	354	116	123	171	221
30	Coonamble (Groundwater)				60				90	18	14	27	23	67	65	66	52	1	1	0	1	127	118	139	132	16		20	***20***
31	Cootamundra (Reticulator)			100				87		3	5	1	20		37	29	38	0	0			64	69	81	81	21	21	44	43
32	Copmanhurst (Unfiltered)	50		50	50	61	89	74	89	40			21				35	0	0			356	261	533	360	24	62	140	159
33	Corowa	100	100	100	100	100	100	100	93	3	5	7	7			30	56	0	0			187	227	171	189	70	70	54	72
34	Cowra		99				100	100			5			9	8			0	0			284	228	163	280	106	94	25	103
35	Crookwell	50		98	50	100	100	84	85	6	9	13	22	7	6	10	2	0	0	0	0	328	274	235	366	62	41	21	58
36	Culcairn (Groundwater)	100	100	100	100	76	100	80	80		4	4	0	23	11	9	4	0	0	0	0	60	92	132	188	8	32	38	31
37	Deniliquin	100	98	99	99	67		100	100	12	12	10	7	9	12	23	13					171	216	233	259	55	63	72	119
38	Dubbo	100	100	100	99	100	100	100	100			1	2	31	34	4	23	13	7	10	0	243	322	281	252	101	89	98	93
39	Dungog (Unfiltered)									2	2	4	4		12	63	77				1	76	79	75	111	30	25	26	30
40	Eurobodalla (Unfiltered)	100	86	75	89	100	100	97	100	23	28	19	4	3	4	3	12			1		190	201	202	220	97	95	101	98
41	Fish River WS (Unfiltered, Bulk Supplier)	79	82	91	84	85	100	100	100				0	1	1			0	0	0		88	88	104	85	45	45	64	54
42	Forbes	100	66	96	50	100	100	97	92	1	2	1	2	17	31		34	1	22	0	4	198	226	224	218	37	37	37	***40***
43	Gilgandra	100	100	50	100	100	100	100	100	3	1	4	4	137	50	152	118	0	0		1	142	181	210	176	32	29	44	32

Table 9 - Water Supply - Levels of Service, Efficiency

	WATER UTILITY	LEVELS OF SERVICE																EFFICIENCY											
		Water Quality Compliance								Water Quality Complaints (per 1000 properties) (19)				Water Service Complaints (per 1000 properties) (20)				Average Customer Outage Time (mins/property-unplanned) (21)				Operating Cost (OMA) ($/property) (22)				Management Cost ($/property) (23)			
		Physical & Chemical (%) (17)				Microbiological (%) (18)																							
		1987 NHMRC/AWRC Guidelines		1996 NHMRC/ARMCANZ Guidelines		1987 NHMRC/AWRC Guidelines		1996 NHMRC/ARMCANZ Guidelines																					
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
44	Glen Innes	100	100	100	100	100	100	100	100	2	4	3	4	5	25	20	14	1	1	0	0	209	153	205	172	67	16	76	40
45	Gloucester	100	75	100	100	100	100	100	93							231	154	0	0			203	211	275	325	17	17	16	47
46	Goldenfields (Bulk Supplier)	100	100	99	99	100	100	100	100													156	178	156	159	74	39	40	36
47	Goldenfields (Reticulator)		98	100	98		100	100	95		4	12	6			43	145		16	5	8		238	240	243		70	85	78
48	Goldenfields (Combined)			99	99			100	96																				
49	Gosford	100	98	100	100	100	100	93	94	9	9	4	8	3	3	38	5	48	54	26	37	128	132	157	157	59	69	89	75
50	Goulburn	100	100	98	100	100	82	95	93	7	5	3	4	22	36	24	28	0	0	20	1	211	230	227	240	95	87	79	98
51	Grafton	100	100	100	100	100	100	100	95				4	50	47	48	44					127	178	146	156	59	83	75	75
52	Griffith	100	88	33	100	100	100	88	100			1	20			4	13					366		365	364	109		153	149
53	Gundagai	100	100	100	92	100	100	100	100	5	5	5	6	11	11	5	5	4	4	0	3	259	291	275	274	53	51	52	56
54	Gunnedah (Groundwater)			100				100			1	2	2			38	0	0	0	0	5	183	183	178	185	39	41	42	44
55	Gunning	100	100	25	50	100	100	100	84	12		6	12				12	0	1			100	170	170	108		56	56	***56***
56	Guyra	100	100	100		100	100	100					5	5			0	0	0	0	0	175	207	219	186	76	94	48	50
57	Harden (Reticulator)		100	75	100		100	100	100	22	17	26	35	65	57	39	38	2	2	0	2	119	93	124	153	41	43	42	47
58	Hastings (Unfiltered)	100	86	72	39	100	100	100	100			6	7			14	15			2	3	153	164	184	160	38	42	53	54
59	Hay (Dual Supply)	100	100	92	100	100	100	100	100	5			0	34	34		0	0	0	0		243	254	237	247	74	72	73	71
60	Holbrook	**No WS**																											
61	Hume	100		100	100	100		100		1			0				0	42	40	0	0	211	234	234	375	54	49	49	70
62	Hunter Water	100	99	100	100	100	100	100	100	6	9	11	8					48	41	35	28	163	167	167	141				*0*
63	Inverell	100	100	100	100	100	100	100	100	1	1		2	3			21	5	5	0	2	173	214	269	272	36	46	73	70
64	Jerilderie (Dual Supply)	100	100	100	100	100	100	100	100	11	11	9	9	11	11	12	12	0	30	0	169	299	334	351	292	61	65	64	***64***
65	Junee	**No WS**																											
66	Kempsey (Groundwater)	50	82	81	88	100	100	100	100	6	5	4	9			28	50	0	0			158	125	170	171	42	57	51	56
67	Kyogle	100	100	100	100	100	100	100	88			7	3			40	13	0	0	0	1	183	188	190	210	83	84	87	94
68	Lachlan	100	98	97	82		100	95	67		2	4	2	7	8	7	6	0	0	0	0	328	325	284	338	105	83	87	138
69	Leeton	98	98	98	100	100	100	86	100	1	1	1	1			2	1	14	14	0	43	246	315	290	330	54	119	51	85
70	Lismore (Reticulator)		99	100	100		100	100	100			3	2				3	1	1	2	1	107	103	93	103	60	48	44	51
71	Lithgow	100	100	100		100	100	100		24	16	17	17	17	17	13	13	0	0	0		202	208	171	***193***	122	119	84	***90***
72	Lockhart	**No WS**																											
73	Lower Clarence (Unfiltered)	67	70	20	45	100	100	82	64	28	5	6	8	28	2	3	5	0	21	0	16	128	137	146	170	88	95	100	123
74	Maclean	**No WS**																											
75	Manilla	100	99	99	99	100	100	100	100		5	6	5	23	24	19	17	3	5		2	208	171	220	249	85	37	35	77
76	Merriwa	100	79	100	100	100	44	82	100	36	18	1	53	397	78	2	7	34	24	0	3	221	266	208	286	24	69	85	101
77	MidCoast (Manning - Unfiltered)	100	86	33		100	86	94		61	102	91			36			0	0			179	186	186		33	34	69	
78	MidCoast (Great Lakes - Unfiltered, Reticulator)	81	73	67		74	89	100		19	20	36						0	0			140	189	186		69	65	69	
79	MidCoast (Combined - Unfiltered)	91	80	60	90	88	87	82	91	41	62	65	38		36	16	42	0	0			164	188	186	207	47	46	69	33
80	Moree Plains	100			98	100		94	100				1				0				32	226		231	250	48		54	***54***
81	Mudgee (Unfiltered)	75	75	80	30	100	100	95	100	63	49	20	21	120	43	28	27	14	46	6	5	239	218	248	282	37	53	90	108
82	Mulwaree	100	100	100	100	100	100	92	96	49	94	2	0				21	0	0	0	8	265	260	419	335	76	47	42	42
83	Murray	100			100						1	4	2			4	4	0	0	0	0	308	269	286	240	97	80	86	81
84	Murrumbidgee	100	100		75	100	100	100	83	26	23		27					0	260	0		83	88	77	100			18	**20**
85	Murrurundi (Unfiltered)		75	95		100	78	100	88			16	30			28	20	0	0	0	20	164	263	180	196		20	20	17
86	Muswellbrook	98	100	83	75	92	100	100	86	15	6	31	8	3	1	3	2	52	30	2	58	225	208	200	250	73	52	40	61

Table 9 - Water Supply - Levels of Service, Efficiency

	WATER UTILITY	LEVELS OF SERVICE																EFFICIENCY											
		Water Quality Compliance								Water Quality Complaints (per 1000 properties) (19)				Water Service Complaints (per 1000 properties) (20)				Average Customer Outage Time (mins/property-unplanned) (21)				Operating Cost (OMA) ($/property) (22)				Management Cost ($/property) (23)			
		Physical & Chemical (%) (17)				Microbiological (%) (18)																							
		1987 NHMRC/AWRC Guidelines		1996 NHMRC/ARMCANZ Guidelines		1987 NHMRC/AWRC Guidelines		1996 NHMRC/ARMCANZ Guidelines																					
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
87	Nambucca	100	100	100	100	100	100	100	100	1	1	1	1	11	10	8	4	1	1	0	0	157	210	174	131	81	102	85	57
88	Narrabri (Groundwater)		75				74	42	50	1												233	225	113	164	38	36	22	44
89	Narrandera (Groundwater)	69	83	89	88	100	100	100	100	1	1	1	2	6		7	5	0	0			228	210	116	206	35	53	28	51
90	Narromine (Groundwater)	97			100	100		100		1			3				25					184	174	181	322	26	33	33	190
91	Nundle		100	100	100		100	100	100				0				0	0	0	0	3	320	263	273	292	57		33	33
92	Oberon (Unfiltered, Reticulator)			43	100			100	100	86	58	91		16	66	56	49	0	0	0	3	172	97	199	156	33	37	105	66
93	Orange	100	100	92	100	100	100	93	100	23	10	12	2	12						23		166	192	215	180	59	50	66	43
94	Parkes	75	25			85	88	90	90	5	33	7	14	29	42	45	44	0	0			404	405	133	331	55	56	20	51
95	Parry	50	100	60	58	51	100	53	96	4	2	1	5	59		2	2	0	0	0		188		218	247	39	41	38	41
96	Pristine Waters (Unfiltered)	81	51	66		100	100	100	92		6	8	5			11	5	0	34	0		72	84	160	***160***		22	53	***53***
97	Queanbeyan (Reticulator)	90	100	100	100	100	100	100	87	4	3	4	3	16	24		31	23	12	11		104	127	153	153	57	83	115	87
98	Quirindi	100	80	95	90	100	100	100	100				0	45			2	9	8	0	10	140	163	208	***185***	26	47	41	***47***
99	Richmond Valley	100	100	100	50	90	89	85	94			1		31	25	18	20	3	3	0		186	200	229	205	77	98	112	89
100	Riverina (Groundwater)	91	91	84	85	100	100	87	100	1	2	2	5			11	7	13	12	15	18	176	203	204	190	46	48	59	59
101	Rous (Bulk Supplier)	100	100	100	100	100	100	100	100	0	1	0	0			2	2				1	88	91	90	95	43	49	63	49
102	Rylstone	100	100	100	100	100	100	100	100	6	4	0	2					0	0	0	0	273	323	260	273	38	84	53	52
103	Scone (Unfiltered)	100	100	57	21	100	100	90	100	3	4	3	3			110	97	16	0			253	275	247	281	109	60	75	124
104	Severn			0				17					11	11	6		11	0	0			156	193	161	178	70	83	72	92
105	Shoalhaven	98	98	62	84	100	100	89	92	5	6	4	4			3	32			0		150	164	167	160	69	83	86	88
106	Singleton	100	100	100	100	100	100	100	100	4	4	0	11	2	2	2	1	0	45	0	49	278	297	271	286	93	82	70	89
107	Snowy River (Unfiltered)	50	50	100		100	100	100		4	5	8	6			5	3	0	0	0		121	90	63	***122***	44	37	21	***39***
108	Sydney Water	99	100	97	96	100	100	100	100	5	4	136	5					33	16	13	13	221	222	233	246				0
109	Tallaganda	100	100	100	100	100	100	92	92	3	3	1	0				2	30	21	0	1	257	293	277	244	31	30	24	31
110	Tamworth	100	100	98	100	94	100	100	100	2	2	8	5	53	89	32	60	0	0	0		197	150	270	226	65	39	125	78
111	Temora	**No WS**																											
112	Tenterfield	100	100	100	79	67	54	90	92	96	12	6	10			1	0	116	4	1	19	253	178	286	262	139	73	136	129
113	Tumbarumba			100				100	100		12	12	6			30	15	0	0	0	3	201	186	136	193	28	24	32	71
114	Tumut	72	76	70	75	100	100	100	100	4	1	10	1			2	1	1	0	0	2	195	215	207	214	64	75	89	66
115	Tweed	100	100	100	99	100	100	100	100	1	1	3	2	9	39		30	22	24	9	5	165	172	190	170	62	64	69	76
116	Uralla	87	68	93	93	100	100	100	100		1	1	2			2	1	0	1	0	1	223	265	245	232	92	123	115	103
117	Wagga Wagga	**No WS**																											
118	Wakool (Dual Supply)		100	100			100	100				4				5		0	0	0	68	229	160	143	104	63	34	33	22
119	Walcha	100	100	100		100	100	100	100				0	10	14	7	10	1	2	0	0	210	225	195	286	14		52	76
120	Walgett (Dual Supply)			95				100														540	422	453	370	230	126	202	120
121	Warren (Dual Supply)	100	100	92	75	100	100	75	100	9	8	11	20	28		14	11					189	224	238	244	42	52	50	60
122	Weddin	**No WS**																											
123	Wellington		100	100	100		100	100	100		1	5	3	25	26	38	61	0	63	0	15	249	312	315	324	72	87	112	115
124	Wentworth (Dual Supply)			64				80														446	478	260	416	82	120	78	81
125	Wingecarribee	100	97	93	100	100	100	100	100	7	13	25	32			30	33					256	245	266	179	121	108	86	82
126	Wyong	100	100	100	100	100	100	97	100	6	7	16	23	4	4	3	4					150	161	139	149	85	103	46	48
127	Yallaroi (Groundwater)	100	100			100	33				12	8	14	29		22	21	4	2	0	46	182	179	206	194			19	21
128	Yarrowlumla (Unfiltered)	67	67	69		100	100	67		22	22	19	30			49	0	19	68	0	6	166	206	186	189	57	60	61	67
129	Yass	100	100	95	100	100	100	100	100	2	2	2	2	2	3	2	3	2	2	0	2	274	256	246	290	79	93	107	113
130	Young (Reticulator)			100				100	90	2			4	1			7	11			1	75	78	74	68	22	23	25	***25***

Blank Page

Table 10 - Sewerage - Business Charactistics, Financial

	WATER UTILITY	BUSINESS CHARACTERISTICS																		FINANCIAL															
		Total No of Assessments (Properties) (1)				Connected Properties per Assessment (Total) (2)		Residential Assessments (% of Total) (2b)	Population (2c)	Connected Properties (Total) (2d)	Length of Mains (km) (2e)	Properties Served per km of Main (3)	Total Vol of Sewage Collected (ML) (4)				Volume of Sewage Treated (ML) (4a)	Vol of Sewage Treated per Property (kL/property) (5)				Economic Real Rate of Return (%) (6)				Total Turnover (excl. Capital Works Grants) ($'000) (7)				Residential Revenue (% of Annual rates and charges) (7a)	Current Replacement Cost of System Assets ($'M) (7b)	Debt to Equity (%) (8)			
		1996/97	1997/98	1998/99	1999/00	1999/00	(Residential) 1999/00	1999/00	1999/00	1999/00	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00
1	Albury	17,000	17,215	17,649	17,900	0.96	0.96	89	42,500	17,200	410	42.0	5,300	5,400	5,320	5,290	5,290	326	327	314	307	1.2	7.1	1.8	0.8	5,670	10,500	6,622	7,090	66	118	12	19	28	29
2	Armidale Dumaresq	7,620	7,620	7,739	7,740	0.98	0.98	92	23,000	7,580	201	37.8		1,970	1,650	1,290	1,290		264	218	170	-1.1	-1.7	-1.1	-1.9	1,920	1,990	2,011	2,080	65	57	0	0	0	0
3	Ballina	11,200	12,700	11,868	12,100	0.96	0.96	92	31,700	11,700	274	42.6		3,140	4,150	3,590	3,590		258	364	308	3.7	3.7	4.3	4.1	6,090	6,320	6,945	7,300	81	87	9	7	3	2
4	Balranald	770	750	753	750	***0.95***	***0.95***	90	***1,880***	***715***	***15***	***47.7***		410	80	***80***	***80***		572	115	***115***	1.5	0.6	2.2	***2.2***	350	370	400	***400***	90	***10***	13	0	0	
5	Barraba	700	700	721	720	1.01	1.01	93	1,430	728	28	26.0	110		260	160	160	149		360	222	-5.7	-2.9	-2.5	0.7	130	170	180	180	***90***	1	0	0	0	0
6	Bathurst	10,300	10,900	10,762	11,000	1.08	1.08	91	29,000	11,900	300	39.6	3,490	3,400	4,210	4,370	4,370	314	289	363	368	0.2	0.5	0.3	1.2	4,200	4,410	4,780	5,310	68	82	5	3	4	4
7	Bega Valley	9,310	9,420	9,960	10,200	***0.95***	***0.95***	88	23,400	***9,690***	271	35.8			1,530	2,500	1,810			131	187	2.9	2.3	2.5	1.0	5,210	5,150	5,239	4,960	85	70	5	3	1	1
8	Bellingen	2,700	2,670	2,663	2,660	***0.95***	***0.95***	94	6,760	***2,530***	72	35.1		590	600	690	690		233	237	273	2.4	0.3	0.4	0.7	1,380	1,270	1,347	1,320	89	25	51	4	3	2
9	Berrigan	2,660	2,660	2,669	2,790	0.98	0.98	86	5,670	2,740	100	27.4	710	330	340	530	500	270	128	155	181	0.1	-0.5	-0.3	-0.3	950	930	960	1,020	***86***	21	12	11	10	9
10	Bingara	600	600	601	610	1.00	1.00	93	1,100	611	8	***32.7***	110	110	120	320	320	184	186	200	524	-2.8	-2.8	-2.5	-3.4	160	160	170	170	89	8	4	4	4	3
11	Bland	1,790	1,790	1,806	1,820	0.95	0.95	91	3,690	1,730	48	36.2		80	300	300	300		46	185	174	0.3		0.4	0.1	570	582	600	630	***90***	8	8	3	0	0
12	Blayney	1,040	1,060	1,222	1,230	1.03	1.03	92	2,980	1,270	43	29.6	260	410	300	260	260	238	379	236	207	12.5		5.2	3.4	870	622	840	610	85	5	0	0	0	0
13	Bogan	920	920	926	960	1.01	1.01	96	2,500	972	20	47.7			470	460	460			497	469	1.9	2.1	1.5	1.7	350	350	340	370	***90***	7	25	22	18	14
14	Bombala	790	790	785	780	0.92	0.92	86	1,770	721	34	21.1	160	170	180	180	180	218	236	251	244	2.4	2.7	2.5	1.9	310	320	310	330	80	5	29	26	23	25
15	Boorowa	830	840	647	700	0.88	0.87	81	1,200	612	20	31.4	180	180	110	110	110	246	245	193	180	-4.9	-5.3	-5.5	-5.5	60	60	70	80	***85***	5				0
16	Bourke	2,150	1,750	1,760	1,720	0.75	0.75	81	3,500	1,290	34	37.9	430	430	450	***450***	***450***	267	326	340	***340***	1.1	-2.0	-2.2	1.2	540	480	520	520	***90***	7	27	24	21	22
17	Brewarrina	480	480	501	560	1.03	1.03	88	1,650	572	30	18.8		180	180	220	220		368	388	376	-3.1	2.5	6.5	5.1	150	150	180	170	60	***3***	36	6	5	***5***
18	Broken Hill WB	9,830	9,530	9,530	9,530	1.01	1.01	94	22,500	9,630	215	44.8	1,700	1,720	2,110	2,250	2,120	178	179	219	220	-1.1	-1.1	-0.7	-0.4	2,310		2,438	2,520	***88***	35	9	9	9	0
19	Byron	7,420	7,870	9,200	9,700	0.96	0.96	92	24,000	9,310	177	52.6	1,930	2,120	2,650	2,840	2,840	271	280	300	305	7.1	8.3	5.1	7.5	6,280	7,590	7,372	8,490	71	57	15	14	11	8
20	Cabonne	1,240	1,570	1,711	1,710	0.92	0.92	90	***3,600***	1,570	42	37.8	150	140	150	110	110	128	97	95	69	7.5	5.1	3.2	4.2	940	780	780	1,070	89	17	9	5	3	15
21	Carrathool	630	690	748	750	***0.95***	***0.95***	91	1,880	***711***	20	36.3										4.2	-1.3	-8.1	-2.1	260	100	90	100	***90***	4	0	0	0	0
22	Central Darling	370	360	364	360	***0.95***	***0.95***	87	820	***346***	13	26.2	90	80	80	100	100	263	256	243	275				0.1				100	90	2	0	0	0	0
23	Central Tablelands	No SGE																												0				No SGE	
24	Cobar	1,600	1,700	1,736	1,760	***0.95***	***0.95***	93	4,500	***1,670***	43	38.6	670	700	700	700	700	468	457	447	419	4.2	1.5	-0.4	***-0.4***	420	460	360	***360***	90	***9***	3	0	0	***0***
25	Coffs Harbour	17,800	18,200	18,651	19,600	0.93	0.93	94	48,200	18,300	454	40.3	5,410	4,940	7,000	6,080	6,080	346	308	423	333	0.8	5.0	4.2	2.1	11,810	12,700	12,844	13,600	88	146	27	21	18	16
26	Coolah	810	810	809	810	0.96	0.96	91	1,600	777	26	30.5	190	130	220	220	220	248	171	286	282	1.1	2.6	3.9	3.9	210	200	210	220	***90***	2	1	1	1	0
27	Coolamon	480	910	908	910	0.59	0.61	91	2,000	536	14	38.0	70	70	90	190	190	250	131	159	345	-1.8	12.0	5.7	0.5	90	680	260	260	***90***	4	0	2	13	13
28	Cooma-Monaro	3,130	3,230	3,247	3,290	0.95	0.95	86	7,380	3,130	228	13.7		280	30	760	760		90	301	242	2.2	1.9	0.9	0.9	1,230	1,270	1,363	1,440	81	24	19	16	15	15
29	Coonabarabran	1,620	1,620	1,588	1,590	0.95	0.95	87	3,620	1,510	90	***16.8***	220	320	470	350	350	143	208	309	233	0.7	0.6	0.9	-1.0	670	630	680	710	***87***	19	8	8	1	7
30	Coonamble	1,320	1,330	1,335	1,320	0.87	0.85	86	***2,500***	1,150	46	25.0	550	550	550	260	260	478	476	474	230	-2.5	-2.8	-1.0	-4.3	440	440	450	470	***86***	13	4	4		2
31	Cootamundra	2,620	2,620	2,620	2,620	0.98	0.98	90	6,800	2,570	49	52.4	880	810	760	840	750	342	314	295	292	-2.4	-9.6	-3.3	-3.3	450	510	460	610	72	7	5	6		5
32	Copmanhurst	470	470	470	440	0.95	0.95	99	1,300	417	14	29.6	90	90	100	90	90	193	197	219	216	5.8	3.8	0.8	11.3	290	290	300	370	***90***	3	0	0	0	0
33	Corowa	3,160	2,990	3,273	3,270	0.95	0.95	92	6,930	3,110	80	38.9	870	850	610	830	830	290	299	197	266	-2.8	-0.6	1.2	-0.1	980	1,010	1,030	1,040	80	19	4	4	3	4
34	Cowra	3,140	3,390	3,436	3,390	***0.95***	***0.95***	93	***8,600***	***3,220***	***95***	***34.0***		850	930	***930***	***930***		264	283	***283***	0.6	-4.6	2.6	0.5	730	290	930	1,000	***80***	9	10	5	5	5
35	Crookwell	970	970	1,173	990	0.95	0.95	85	2,200	941	33	28.5	340	340	580	400	400	369	369	521	420	-2.8	-1.6	-1.3	-2.2	360	350	400	420	***85***	9	23	23	21	22
36	Culcairn	1,360	1,360	1,329	1,330	1.02	1.02	90	2,920	1,360	36	38.1	220	230	240	230	230	157	165	174	172	0.2	-0.4	-0.9	-0.8	260	280	290	290	***90***	9	19	16	12	9
37	Deniliquin	3,560	3,560	3,597	3,120	1.01	1.02	87	8,000	3,150	67	47.0	900	870	840	1,100	1,100	243	236	225	349	-0.3	-1.7	-1.2	-2.8	880	930	940	1,120	***80***	21	1	6	5	5
38	Dubbo	11,200	11,700	12,046	11,900	1.03	1.03	92	34,000	12,200	326	37.5	2,440	2,570	2,890	2,870	2,870	211	212	233	235	3.2	4.4	4.3	5.4	6,010	6,950	7,128	7,630	***75***	102	4	24	1	0
39	Dungog	990	940	993	990	***0.95***	***0.95***	89	3,220	***943***	29	32.4	290	330	400	400	400	310	373	424	424	-2.6	-0.6	4.9	2.5	230	300	400	410	86	8	6	11	15	21
40	Eurobodalla	15,600	16,100	15,595	16,000	0.94	0.94	95	32,000	15,000	488	30.8	2,910	2,630	3,030	2,760	2,760	199	174	206	183	2.0	1.8	3.3	2.0	7,620	7,780	8,742	7,670	***85***	***112***	21	18	17	17
41	Fish River WS	No SGE			0																									0				No SGE	
42	Forbes	3,370	3,370	3,442	2,900	1.01	1.01	90	8,000	2,930	118	24.8	1,020	1,140	1,030	1,050	1,040	300	335	296	354	4.4	2.3	4.3	6.9	1,020	895	1,048	1,280	***80***	***9***	30	28	28	23
43	Gilgandra	1,240	1,440	1,210	1,220	0.98	0.98	82	2,900	1,190	33	36.4	300	300	350	400	300	246	212	270	254	-2.5	-2.8	-2.8	-3.6	230	240	240	250	73	10	6	4	4	3

Table 10 - Sewerage - Business Charactistics, Financial

	WATER UTILITY	BUSINESS CHARACTERISTICS																		FINANCIAL															
		Total No of Assessments (Properties) (1)				Connected Properties per Assessment (Total) (2)		Residential Assessments (% of Total) (2b)	Population (2c)	Connected Properties (Total) (2d)	Length of Mains (km) (2e)	Properties Served per km of Main (3)	Total Vol of Sewage Collected (ML) (4)				Volume of Sewage Treated (ML) (4a)	Vol of Sewage Treated per Property (kL/property) (5)				Economic Real Rate of Return (%) (6)				Total Turnover (excl. Capital Works Grants) ($'000) (7)				Residential Revenue (% of Annual rates and charges) (7a)	Current Replacement Cost of System Assets ($'M) (7b)	Debt to Equity (%) (8)			
		1996/97	1997/98	1998/99	1999/00	(Residential) 1999/00		1999/00	1999/00	1999/00	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00
44	Glen Innes	2,940	2,630	2,577	2,580	0.91	0.91	89	6,000	2,350	77	30.5	990	720	990	710	710	371	301	422	302	-0.4	0.3	-1.6	3.4	540	580	610	620	89	***16***	12	12	12	12
45	Gloucester	1,130	1,140	1,452	1,570	***0.95***	***0.95***	87	2,600	***1,490***	46	32.1	370	380	400	350	350	348	354	286	235	3.5	3.7	3.1	2.8	500	540	520	540	***87***	11	26	22	18	15
46	Goldenfields (Bulk Supplier	No SGE														0					0												No SGE	
47	Goldenfields (Reticulator)	No SGE																														No SGE	
48	Goldenfields (Combined)	No SGE														0					0												No SGE	
49	Gosford	57,500	58,000	58,970	59,700	0.97	0.97	95	140,300	57,900	1,369	42.3	13,200	16,600	15,900	15,400	15,400			278	267	3.9	3.7	3.7	4.4	28,210	28,900	29,070	30,700	***82***	380	31	26	21	16
50	Goulburn	8,400	8,400	8,266	8,280	1.03	1.03	93	21,000	8,530	122	69.9	1,980	2,420	2,050	2,370	2,370	229	280	239	278	4.4	3.3	7.9	5.1	2,590	3,220	3,622	3,400	***90***	18	40	37	35	31
51	Grafton	6,540	6,540	6,664	6,710	1.06	1.07	92	17,500	7,110	152	46.7	1,920	2,070	2,160	1,930	1,930	278	298	306	271	3.4	2.8	4.1	3.6	2,890	2,830	2,845	3,140	90	45	7	4	2	1
52	Griffith	5,900	6,140	6,136	7,700	0.85	0.84	84	22,800	6,550	211	31.0	2,270		2,520	2,820	2,820	453			430	0.0		0.6	4.7	2,650		3,099	4,700	66	50	0		1	0
53	Gundagai	960	970	967	970	1.02	1.02	87	2,400	986	73	***22.4***		240	110	110	110		243	112	106	5.0	-2.3	1.3	3.2	200	180	190	210	***87***	1	3	2	2	2
54	Gunnedah	3,620	3,310	3,624	3,640	1.03	1.03	88	10,200	3,750	88	42.5	730	1,130	770	720	720	195	332		193	-0.5	0.4	0.6	1.0	790	820	840	890	***88***	21	9	7	6	5
55	Gunning	230	230	232	230	***0.95***	***0.95***	92	560	***220***	8	27.4	20	20	20	***20***	***20***	87	91	91	***91***	-4.5	-1.7	-0.3	1.8	80	80	90	110	***90***	2	6	5	5	5
56	Guyra	690	700	734	770	***0.95***	***0.95***	85	2,200	***735***	36	20.3	130	130	110	350	350	197	197	151	476	1.7	1.7	1.3	0.9	300	360	430	440	86	7	20	19	45	35
57	Harden	970	1,020	977	980	0.96	0.95	88	1,950	938	45	20.8	190	190	190	190	110	199	190		117	-6.8	-8.0	-11.0	-8.4	160	170	190	200	82	6	8	8	10	8
58	Hastings	20,400	20,900	22,660	22,300	0.95	0.95	94	50,500	21,100	495	42.7	5,740	6,400	6,980	6,290	6,290	310	337		297	3.1	4.9	4.3	6.2	9,930	11,200	12,117	14,800	***90***	133	12	10	10	8
59	Hay	1,190	1,220	1,235	1,250	0.98	0.98	87	2,930	1,230	37	33.0	430	420	440	420	420	369	351	360	346	-1.8	-1.2	-1.0	-0.3	430	450	480	490	87	5	4	1	0	0
60	Holbrook	680	690	687	690	***0.95***	***0.95***	91	***1,700***	***653***	***19***	***34.0***								285	***285***	-0.1	-5.4	-1.4	-0.2	240	250	260	260	81	4	3	0	6	5
61	Hume	1,210	1,220	1,231	1,390	***0.95***	***0.95***	93	3,770	***1,320***	49	27.0	200	120	210	210	190	174	108	191	140	3.3	2.5	-4.3	-0.3	450	450	330	360	***90***	7	0	0	0	0
62	Hunter Water	175,100	178,000	181,800	185,000	0.99	0.99	95	443,000	182,200	4,315	42.2	47,400	48,500	67,400	65,900	65,900	276	278	378	362	3.5	4.5	5.0	5.0	62,029	72,728	76,505	73,000	0	965	5	5	5	5
63	Inverell	4,450	4,310	4,358	4,380	0.98	0.98	90	11,200	4,290	123	34.9	790	790	790	760	760	181	187	185	177	1.0	1.1	-2.3	-2.2	1,180	1,330	1,144	1,160	***90***	26	9	7	5	3
64	Jerilderie	420	420	424	420	0.95	0.95	92	950	403	9	47.4				350	350				869	0.8		2.3	10.6	170	200	190	300	90	2	17	17	2	17
65	Junee	1,400	1,400	1,400	1,400	***0.95***	***0.95***	92	4,000	***1,330***	71	***18.8***	350	350	190	190	190	262	262	159	144	5.7	5.6	3.6	1.4	350	390	400	410	90	6				0
66	Kempsey	7,050	7,290	7,514	7,640	1.04	1.03	86	24,300	7,940	209	38.0	2,420	2,270	2,640	2,870	2,710	330	299		341	2.7	2.3	2.4	2.4	4,220	4,350	4,482	4,550	***80***	73	19	17	14	12
67	Kyogle	1,650	1,540	1,542	1,540	***0.95***	***0.95***	92	3,590	***1,460***	37	39.7	150	130	360	380	380	93	86	270	256	-2.8	-3.2	-2.9	-2.7	360	400	420	470	60	12	10	10	10	10
68	Lachlan	2,170	2,020	2,022	2,030	1.02	1.03	87	5,130	2,070	66	31.5		720	720	740	720		348	347	345	0.4	1.6	0.9	0.7	600	760	680	710	***87***	16	0	0	0	0
69	Leeton	3,000	2,670	2,659	2,760	1.00	1.00	86	7,600	2,760	69	40.2	880	810	880	1,010	1,010	292	304	333	365	0.3	0.7	5.7	3.4	1,070	1,130	1,349	1,460	89	21	4	3	8	5
70	Lismore	10,626	10,735	10,825	11,000	1.05	1.06	90	29,000	11,500	321	36.0	3,810	3,810	3,880	4,180	4,170	342	338	341	361	0.8	0.2	0.1	0.6	4,390	4,570	4,588	4,880	72	86	4	6	5	4
71	Lithgow	6,530	7,070	6,683	7,070	0.98	0.98	90	20,000	6,930	322	***21.5***	1,860	1,740	1,800	1,800	1,800	290	251	274	260	-0.7	-5.9	-3.4	-2.3	1,930	1,880	1,863	1,970		***37***	2	0	0	0
72	Lockhart	790	790	690	690	0.95	0.95	87	1,400	654	20	32.2	140	60	130	130	130	185	83	114	193	0.4	-0.5	2.0	-0.03	360	300	450	310	***87***	10	6	5	3	2
73	Lower Clarence	No SGE			0																											No SGE	
74	Maclean	3,690	4,000	4,238	4,740	0.91	0.91	94	14,000	4,310	102	42.3	730	710	870	910	910	216	194	227	211	2.9	3.8	5.2	6.9	2,010	2,110	2,421	2,930	87	29	10	9	8	7
75	Manilla	920	960	1,030	1,060	***0.95***	***0.95***	89	***2,300***	***1,000***	29	35.1	220	220	230	230	230	251	242	235	229	3.0	7.1	5.5	1.8	320	510	520	510	***89***	8	9	44	36	25
76	Merriwa	470	480	479	480	0.94	0.94	89	900	450	17	26.7	250	90	80	80	80	561	203	194	169	-4.0	-9.2	-7.5	-9.1	130	140	140	130	84	3	0	0	0	0
77	MidCoast (Taree)	13,600	13,600	14,299	14,800	***0.96***	***0.96***	97	0	***14,200***			3,040	3,190	4,780	3,360	3,360	233	245	348	237	1.5	3.8	2.6		8,160	9,630	7,100	***0***			24	30	24	
78	MidCoast (Great Lakes)	12,300	12,500	12,437	12,900	***0.96***	***0.96***	90	0	***12,300***			4,690	4,080	3,943	3,900	3,900	397	341	327	316	1.6	3.8	2.6		6,010	6,250	5,000	***0***	0		11	30	24	
79	MidCoast (Combined)	25,900	26,100	26,736	27,600	***0.96***	***0.96***	94	69,000	***26,500***	693	38.3	7,730	7,270	8,723	7,250	7,250	309	390	338	273	1.5	3.8	2.6	2.8	14,170	15,880	12,100	17,500	***79***	***195***	18	30	24	31
80	Moree Plains	3,900	3,900	3,900	3,900	***0.97***	***0.96***	86	10,100	***3,780***	96	39.6		2,400	3,000	1,140	1,140		634	792	302			3.8	***3.8***	1,630		1,824	***1,820***	90	***25***	0		11	***11***
81	Mudgee	4,100	4,140	4,315	4,600	1.04	1.05	88	10,000	4,780	128	37.4	1,250	1,150	1,250	1,400	1,400	294	267	279	293	3.1	2.4	1.1	1.5	1,660	1,740	1,759	1,840	85	28	14	12	10	9
82	Mulwaree	70	80	286	290	***0.95***	***0.95***	89	***715***	***272***	7	36.9	30	30	40	30	30	474	432	151	104	-0.7	-0.3	2.6	2.6	70	80	160	190	60	3	41	58	54	44
83	Murray	2,070	1,530	1,527	1,850	***0.95***	***0.95***	87	4,580	***1,760***	63	27.9	430	430	455	***480***	***480***	219	295	314	***275***	4.1	1.9	0.5	3.0	1,290	840	800	970	89	***9***	52	51	50	37
84	Murrumbidgee	640	680	684	660	1.03	1.05	91	1,480	676	21	32.2	160	160	160	190	190	236	221	227	283	17.0	5.7	1.0	5.0	510	230	960	380	89	4	15	14	19	5
85	Murrurundi	410	410	470	510	0.95	0.94	94	1,000	483	14	35.7			200	200	200			439	414	3.1	0.2	0.2	0.2	180	170	170	180	***90***	6	1			0
86	Muswellbrook	4,630	4,590	4,633	4,680	0.95	0.95	93	14,500	4,450	130	34.2	1,160	1,220	1,380	1,420	1,420	263	279	313	319	0.5	0.2	1.3	-1.7	1,440	1,440	1,779	1,580	***90***	31	3	1	1	0

Table 10 - Sewerage - Business Charactistics, Financial

	WATER UTILITY	BUSINESS CHARACTERISTICS																				FINANCIAL											
		Total No of Assessments (Properties) (1)				Connected Properties per Assessment (Total) (2)		Residential Assessments (% of Total) (2b)	Population (2c)	Connected Properties (Total) (2d)	Length of Mains (km) (2e)	Properties Served per km of Main (3)	Total Vol of Sewage Collected (ML) (4)				Volume of Sewage Treated (ML) (4a)	Vol of Sewage Treated per Property (kL/property) (5)				Economic Real Rate of Return (%) (6)				Total Turnover (excl. Capital Works Grants) ($'000) (7)				Residential Revenue (% of Annual rates and charges) (7a)	Current Replacement Cost of System Assets ($'M) (7b)	Debt to Equity (%) (8)			
		1996/97	1997/98	1998/99	1999/00	1999/00	1999/00	1999/00	1999/00	1999/00	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00	1999/00	1999/00	1996/97	1997/98	1998/99	1999/00
87	Nambucca	4,960	5,100	5,210	5,830	***0.95***	***0.95***	92	13,500	***5,540***	132	42.0	1,040	1,050	1,540	1,460	1,460	221	216	311	263	4.3	3.3	2.8	4.3	2,740	2,770	2,734	3,150	73	42	19	21	21	19
88	Narrabri	3,610	3,610	3,612	3,780	0.98	0.98	88	10,200	3,700	96	38.4	1,370		***1,370***	***1,370***	***1,370***	388		***389***	***370***	-2.2	-1.0	-0.2	-2.3	1,040	1,100	1,241	1,170	***88***	43	9	16	18	18
89	Narrandera	1,730	1,740	1,817	1,820	0.92	0.92	89	4,280	1,670	36	47.0	520	570	570	570	570	328	356	340	341	10.5	1.5	4.7	6.2	630	660	750	810	82	***12***	1	0	1	0
90	Narromine	1,830	1,920	1,981	1,950	0.95	0.95	91	4,770	1,850	49	***30.8***			90	***90***	***90***			478	***478***	4.5	4.3	3.8	0.1	790	750	760	780	***90***	14	2	2	2	2
91	Nundle	No SGE			0																										No SGE				
92	Oberon	1,120	1,120	1,136	1,150	1.01	1.02	87	2,700	1,160	33	35.5	410	340	340	350	350	359	298	296	303	0.9	1.0	0.5	1.9	480	450	430	520	85	6	5	5	4	3
93	Orange	12,600	13,100	13,220	13,300	1.01	1.01	92	34,000	13,400	344	39.0	5,470	4,450	6,780	6,370	6,370	433	342	520	475	3.0	6.6	2.4	3.1	6,190	16,400	7,299	7,370	***85***	99	2	0	0	0
94	Parkes	4,650	4,700	4,564	4,430	***0.95***	***0.95***	91	11,200	***4,210***	95	44.5	700	780	780	780	770	166	183	189	184	1.6	1.1	-2.0	0.8	1,000	960	1,232	1,080	66	22	1	0	0	0
95	Parry	1,160	1,160	1,176	1,180	***0.95***	***0.95***	95	4,100	***1,120***	34	33.1		120	190	210	200		109	172	182	-0.5	-0.5	0.0	0.4	340	380	440	450	***90***	***12***	33	34	33	31
96	Pristine Waters	170	204	204	550	***0.95***	***0.95***	88	1,450	523	4	47.9		40	40	40	40		212	192	195	1.6	0.3	-1.1	***-1.1***	110	110	110	500	90	7	17	19	24	***24***
97	Queanbeyan	12,670	12,900	12,450	13,000	1.03	1.04	92	29,000	13,400	263	50.9	3,770	3,430	3,610	3,870	3,870	289	259	281	289	3.6	6.0	11.0	7.1	4,920	6,170	8,442	6,350	***90***	48	1	1	1	1
98	Quirindi	1,140	1,140	1,140	1,180	0.83	0.84	87	3,000	979	37	26.7	610	560	540	360	360	640	590	571	363	-0.9	-0.6	2.3	-1.1	350	370	460	310	***87***	12	15	8	5	4
99	Richmond Valley	5,790	5,840	5,736	5,880	***0.95***	***0.95***	92	16,500	***5,580***	164	34.0	1,510	1,490	2,040	1,800	1,800	274	269	360	322	1.0	1.4	1.0	0.7	2,130	2,210	2,749	2,020	***90***	27	14	11	9	***9***
100	Riverina	No SGE			0																									0				No SGE	
101	Rous	No SGE			0																													No SGE	
102	Rylstone	1,030	1,040	1,048	1,050	0.99	0.99	91	2,680	1,040	45	***22.9***			290	290	290			277	277	-3.2	-3.1	-1.4	-2.1	330	330	380	400	89	7	5	3	3	1
103	Scone	2,620	2,630	2,627	2,640	1.01	1.02	92	7,000	2,670	85	31.4	720	740	1,160	1,040	1,040	273	279	438	389	2.7	0.6	1.4	0.0	1,340	1,090	1,117	1,190	***90***	17	6	0	0	0
104	Severn	180	190	213	210	0.95	0.95	85	400	202	9	23.7			40	***40***	***40***			198	***198***	4.1	4.2	6.7	6.4	80	80	80	90	74	1	33	16	14	11
105	Shoalhaven	34,100	34,500	35,285	37,000	0.94	0.94	96	84,000	34,800	930	37.4	6,150	6,000	7,180	6,630	6,630	192	185	216	190	4.7	5.1	4.5	6.1	17,780	18,700	19,915	22,000	***90***	214	24	22	19	14
106	Singleton	4,460	4,740	4,822	4,700	0.95	0.95	91	13,500	4,470	150	29.8	1,140	1,220	1,310	1,230	1,230	270	271	286	275	-0.7	-0.4	0.0	-0.2	1,490	1,550	1,637	1,580	79	39	4	3	3	2
107	Snowy River	2,160	2,160	2,162	2,200	1.43	1.43	93	3,200	3,150	72	43.7	300		420	420	420	97		134	132	1.7	2.9	2.2	2.8	1,160	1,310	1,249	1,440	***83***	***21***	19	16	13	11
108	Sydney Water	1,491,000	1,513,000	1,515,000	1,550,500	0.97	0.97	97	3,866,000	1,504,000	22,186	67.8	474,000	493,000	548,000	526,000	526,000	328	335	373	350	5.4	6.1	4.5	4.5	740,023	769,898	704,182	725,000	0	5,890	18	19	18	16
109	Tallaganda	550	550	577	580	0.95	0.95	86	950	548	14	40.6	90	90	110	110	90	172	172	164	164	0.0	-0.8	-1.0	-1.0	120	130	140	140	***86***	2	1	1	0	0
110	Tamworth	14,100	14,100	14,907	15,100	1.00	1.00	92	35,200	15,100	344	44.0	4,610	5,080	5,920	4,000	4,000	326	359	397	264	-1.5	1.9	2.9	3.6	4,980	4,950	6,624	7,070	79	103	2	2	1	5
111	Temora	2,070	1,890	1,897	1,950	1.00	1.00	86	4,600	1,950	40	48.7		370	380	510	500		193	200	257	-1.3	-3.7	-3.7	-4.1	220	280		300	78	8	0	0		0
112	Tenterfield	1,900	1,770	1,470	1,470	0.95	0.95	91	3,460	1,400	60	23.4		230	160	280	280		138	116	201	4.3	2.4	0.7	0.7	750	660	670	700	81	13	7	4	4	1
113	Tumbarumba	820	880	947	880	0.95	0.95	87	1,680	835	32	26.0		160	180	400	400		191	197	473	-0.2	-1.8	-1.0	-3.3	390	390	390	330	82	9	0	0	0	0
114	Tumut	3,400	3,600	3,672	4,320	0.95	0.95	92	11,700	4,100	115	35.6	1,350	1,060	830	1,130	1,130	417	311	259	276	-0.6	-0.4	0.6	1.8	1,390	1,440	1,589	1,940	75	37	10	6	6	5
115	Tweed	22,700	23,500	23,356	24,100	0.91	0.93	95	60,300	22,000	524	41.9	6,250	6,230	7,950	7,910	7,910	303	310	359	360	5.5	5.1	3.7	4.8	14,800	14,334	13,974	16,200	85	180	10	9	9	7
116	Uralla	940	950	975	980	1.00	1.01	87	2,460	979	28	34.6	170	150	190	190	190	178	153	192	189	-0.2	-0.2	-1.8	-0.7	370	400	380	390	***90***	6	15	15	14	14
117	Wagga Wagga	18,300	18,500	18,820	19,500	1.04	1.05	93	57,000	20,300	459	44.3	5,670	5,708	5,269	6,030	6,030	297	284	258	297	13.3	11.5	11.2	3.3	6,340	6,330	6,771	7,090	70	117	2	2	1	1
118	Wakool	830	1,000	1,044	1,000	***0.95***	***0.95***	79	2,030	***946***	30	31.1			140	***140***	***140***			181	***181***	4.5	5.7	4.9	4.2	450	480	490	500	77	5	27	21	17	13
119	Walcha	760	760	757	760	1.01	1.01	79	1,580	765	29	26.4	230	200	230	200	200	304	259	301	267	-0.5	-1.0	-2.3	-2.2	160	160	160	170	***79***	6	4	3	2	2
120	Walgett	1,690	1,690	1,638	1,640	***0.85***	***0.85***	92	***6,000***	***1,390***	***50***	***28.1***			400	***400***	***400***			287	***287***	-0.4	-2.1	-1.9	-2.2	390	430	430	440	***90***	12	12	11	8	6
121	Warren	850	840	850	850	0.95	0.95	90	***2,310***	***808***	16	49.8		320	240	240	240		401	297	293	0.7	1.0	2.4	2.8	260	290	320	370	78	5	2	1	5	5
122	Weddin	1,000	1,000	1,004	1,010	0.94	0.93	86	2,000	946	23	42.0	230	230	140	140	140	165		161	145	-2.8	-2.8	-8.1	-9.0	130	130	110	140	83	6	0	4	1	0
123	Wellington	2,220	2,230	2,225	2,200	***1.00***	***1.00***	90	5,600	***2,200***	42	52.3		500	630	640	640		245	306	293	-1.9	-0.7	-2.6	-1.5	660	690	840	840	***90***	17	4	15	14	13
124	Wentworth	1,390	1,370	1,369	1,450	***0.95***	***0.95***	88	***3,500***	***1,380***	***60***	***23.0***			300	***300***	***300***			231	***231***	-1.2		-0.1	0.7	510	480	530	610	89	16	18	17	17	19
125	Wingecarribee	10,200	10,200	10,915	10,900	0.89	0.89	92	28,000	9,690	352	27.5	2,460	2,310	2,840	2,770	2,770	271	254	293	286	3.2	3.8	6.2	6.3	5,320	5,750	7,348	8,580	82	99	4	4	2	1
126	Wyong	48,200	49,300	50,587	51,500	0.96	0.95	96	131,000	49,400	1,107	***62.0***	11,500	12,700	12,370	12,000	12,000			256	243	2.5	2.9	3.3	2.6	20,820	22,700	24,445	22,700	***90***	365	16	13	10	8
127	Yallaroi	600	560	586	580	1.01	1.01	88	1,500	590	22	26.6	140	180	190	***190***	***190***	223	321	314	***314***	-1.5	-0.8	-1.4	-1.0	150	150	150	160	***88***	5	3	3	2	2
128	Yarrowlumla	890	890	896	900	0.95	0.95	94	1,770	851	27	31.5	160	160	100	190	170	187	187	114	201	2.8	3.6	2.6	3.3	590	590	490	570	***90***	***6***	34	31	28	24
129	Yass	1,960	1,960	1,963	1,970	0.98	0.98	91	4,870	1,930	69	28.1	440	380	480	560	560	231	197	199	290	1.6	0.8	-0.1	3.0	680	680	650	810	89	6	6	6	5	4
130	Young	3,040	3,140	3,136	2,930	1.04	1.04	89	6,800	3,050	94	32.4	760		760	790	790	239		233	259	2.0	2.6	3.5	***3.5***	570	640	700	***700***	***89***	***10***	2	2	0	***0***

Blank Page

Table 11 - Sewerage - Residential Charges, Bills

	WATER UTILITY	CHARGES														BILLS											
		Access Amount (or Minimum) ($) (9)				Charge Independent of Land Value ? (10)				Does Council Have Trade Waste Charges ? (10a)	Trade Waste Charges (% of Annual rates and charges) (10b)	Trade Waste Volume (% of Sewage Collected) (10c)	Typical Developer Charge ($/Equivalent Tenement (ET)) (11)				Typical Residential Bill ($/assessment) (11a)				Average Residential Bill ($/property) (12)				Real Increase in Average Residential Bill (%) (13)			
		1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	2000/01	1999/00	1999/00	1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00
1	Albury	214	220	250	275	Yes	Yes	Yes	Yes	Yes	8.4	22	1000	1000	1000	1500	214	220	250	275	229	234	240	270	1	0	1	10
2	Armidale Dumaresq	180	185	190	210	Yes	Yes	Yes	Yes	Yes			1200	1200	1240	1242	180	185	190	210	165	175	178	167	0	4	0	-8
3	Ballina	370	370	370	330	Yes	Yes	Yes	Yes	Yes	0.7		4000	4100	4200	4200	370	370	370	330	380	358	390	386	-3	-8	7	-3
4	Balranald	200	140	304	332	No	Yes	Yes	No								200	140	304	332	368	379	386	***386***	-3	1	0	-2
5	Barraba	236	236	132	236	Yes	Yes	Yes	Yes								236	236	132	236	169	218	182	202	10	27	-18	9
6	Bathurst	284	301	308	319	No	No	No	No	Yes	9.1		1400	1100	1190	1500	284	301	308	319	281	286	272	280	0	0	-7	1
7	Bega Valley	500	500	420	420	Yes	Yes	Yes	Yes				2200	2200	2150	2153	500	500	420	420	493	493	473	392	-11	-2	-6	-19
8	Bellingen	380	386	390	400	Yes	Yes	Yes	Yes				6400	6500	5900	5500	380	386	390	400	379	379	366	378	-3	-2	-5	1
9	Berrigan	256	260	270	270	Yes	Yes	Yes	Yes								256	260	270	270	281	280	290	301	-3	-2	2	2
10	Bingara	270	280	285	295	Yes	Yes	Yes	Yes								270	280	285	295	227	231	240	229	1	0	2	-6
11	Bland	317	322	320	330	No	No	No	No	Yes	3.0			1000	1000	1000	317	322	320	320	281	289	295	322	-1	1	0	7
12	Blayney	325	342	350	360	Yes	Yes	Yes	Yes	Yes			1100	1000	1000	1024	325	342	350	360	300	301	309	367	0	-1	1	16
13	Bogan	305	310	305	326	No	No	No	No								305	310	305	326	329	339	344	340	3	1	0	-3
14	Bombala	285	294	306	306	No	No	No	Yes			4.0	1500	1000	1200	1534	285	294	306	306	358	370	373	390	-3	2	-1	2
15	Boorowa	100	111	111	111	No	No	No	No				500	500	500	***500***	100	111	111	111	115	115	78	114	-3	-2	-33	42
16	Bourke	395	401	411	422	Yes	Yes	Yes	Yes	Yes			400			400	395	401	411	422	504	504	321	428	-1	-2	-38	31
17	Brewarrina	290	305	305	320	No	No	No	No								290	305	305	320	234	236	240	200	0	-1	0	-19
18	Broken Hill WB	190	196	208	208	No	No	No	Yes								190	196	208	208	178	183	213	228	4	1	14	5
19	Byron	412 + usage	412 + usage	418 + usage	429 + usage	Yes	Yes	Yes	Yes	Yes	24.2		5300	5400	5300	5800	573	573	579	526	457	458	410	437	16	-2	-12	4
20	Cabonne	309	309	309	359	No	No	No	No								309	309	309	359	413	413	445	628	0	-2	6	38
21	Carrathool	131	135	145	145	Yes	Yes	Yes	Yes				500	500	500	504	131	135	145	145		122	108	124	-3		-13	12
22	Central Darling	355	362	370	380	Yes	Yes	Yes	Yes							400	355	362	370	380	366	377	384	365	0	1	0	-7
23	Central Tablelands	**No SGE**																										
24	Cobar	190	190	192	192	No	No	Yes	Yes	Yes			700	700	710	710	190	190	192	192	204	211	200	190	-1	1	-7	-7
25	Coffs Harbour	453	460	470	486	Yes	Yes	Yes	Yes	Yes	0.8		1900	2400	2400	2400	453	460	470	486	520	541	542	534	-3	2	-2	-3
26	Coolah	226	229	229	235	Yes	Yes	Yes	Yes								226	229	229	235	187	193	205	235	-3	1	4	12
27	Coolamon	180	180	220	210	Yes	Yes	Yes	Yes						3000	3000	180	180	220	210	261	264	340	401	0	-1	26	15
28	Cooma-Monaro	362	391	391	411	Yes	Yes	Yes	Yes				2000	800	1600	1625	362	391	391	411	351	368	385	406	8	3	3	3
29	Coonabarabran	100	102	280	102	No	No	No	No				800	400	820	829	100	102	280	102	350	347	354	403	0	-3	0	12
30	Coonamble	181	181	230	230	No	No	No	No								181	181	230	230	252	258	263	318	0	0	0	19
31	Cootamundra	128	130	193	143	No	No	No	No			5.2	700	700	700	700	128	130	193	143	120	122	150	169	0	0	20	11
32	Copmanhurst	600	600	600	600	Yes	Yes	Yes	Yes				3500	3600	3690	3688	600	600	600	600	611	611	536	562	16	-2	-14	3
33	Corowa	200	200	200	225	Yes	Yes	Yes	Yes				600	400	400	560	200	200	200	225	223	245	228	228	-3	8	-9	-2
34	Cowra	210	266	200	312	Yes	Yes	Yes	Yes				1800		2500	2500	210	266	200	240	201	258	248	242	11	26	-6	-4
35	Crookwell	350	385	404	404	No	No	No	No				500	400	450	465	350	385	404	404	316	340	350	399	7	5	1	12
36	Culcairn	225	225	225	256	Yes	Yes	Yes	Yes				1700	1300	1800	2126	225	225	225	256	157	157	164	181	0	-2	2	8
37	Deniliquin	262	288	325	334	Yes	Yes	Yes	Yes				500	500	500	500	262	288	325	334	245	210	189	272	-6	-16	-12	41
38	Dubbo	390	404	424	424	No	No	No	No	Yes		3.5	2500	2500	2500	2500	390	404	424	424	411	424	443	398	2	1	2	-12
39	Dungog	196	204	260	268	Yes	Yes	Yes	Yes	Yes			2500	2700	2750	2595	196	204	260	268	168	179	311	372	32	4	71	17
40	Eurobodalla	430	430	430	430	Yes	Yes	Yes	Yes				1800	2000	1980	1977	430	430	430	430	439	430	446	413	-3	-4	2	-9
41	Fish River WS	**No SGE**																										
42	Forbes	265	314	314	361	No	No	No	No	Yes	1.3	1.9	500	500	540	555	265	314	314	361	218	222	254	339	-3	0	12	31
43	Gilgandra	180	180	180	180	Yes	Yes	Yes	Yes			0.5					180	180	180	180	163	163	157	164	-3	-2	-6	3

NOTE: Bills and Charges are in Dollars of the Year

Table 11 - Sewerage - Residential Charges, Bills

	WATER UTILITY	CHARGES															BILLS											
		Access Amount (or Minimum) ($) (9)				Charge Independent of Land Value ? (10)				Does Council Have Trade Waste Charges ? (10a)	Trade Waste Charges (% of Annual rates and charges) (10b)	Trade Waste Volume (% of Sewage Collected) (10c)	Typical Developer Charge ($/Equivalent Tenement (ET)) (11)				Typical Residential Bill ($/assessment) (11a)				Average Residential Bill ($/property) (12)				Real Increase in Average Residential Bill (%) (13)			
		1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	2000/01	1999/00	1999/00	1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00
44	Glen Innes	200	215	226	226	Yes	Yes	Yes	Yes								200	215	226	226	192	198	220	253	-3	1	9	13
45	Gloucester	305	315	320	336	Yes	Yes	Yes	No	Yes	1.0	2.3	1500	1600	1560	1610	305	315	320	336	323	333	274	281	-1	1	-19	1
46	Goldenfields (Bulk Supplier)	No SGE																										
47	Goldenfields (Reticulator)	No SGE																										
48	Goldenfields (Combined)	No SGE																										
49	Gosford	377	371	371	341	Yes	Yes	Yes	Yes	Yes	0.4	10.4	1400	1400	1550	1883	377	371	371	341	370	360	362	341	-15	-5	-1	-8
50	Goulburn	250	250	268	281	No	No	No	No				900	900	900	900	250	250	268	281	239	257	306	347	-3	5	17	11
51	Grafton	380	380	380	380	Yes	Yes	Yes	Yes	Yes	1.5						380	380	380	380	338	357	367	353	8	4	1	-6
52	Griffith	218	218	224	230	No	No	No	No	Yes	32.1	15.4	1600	1600	2110	1815	218	218	224	230	235	247	252	349	-3	3	0	36
53	Gundagai	173	182	193	196	No	No	No	No								173	182	193	196	152	160	168	186	2	3	3	9
54	Gunnedah	190	195	200	200	No	Yes	Yes	Yes				1800	1000	1860	1856	190	195	200	200	175	184	212	211	3	4	13	-3
55	Gunning	151	171	200	200	No	No	No	No								151	171	200	200	147	158	332	394	-4	5	106	16
56	Guyra	350	375	350	435	Yes	Yes	Yes	Yes			2.0					350	375	350	435	287	337	405	450	29	15	18	9
57	Harden	154	187	205	205	Yes	Yes	Yes	Yes								154	187	205	205	139	146	169	178	7	3	14	3
58	Hastings	396	410	427	438	Yes	Yes	Yes	Yes	Yes	0.1		1900	1500	2000	2800	396	410	427	438	397	404	389	417	-1	0	-6	5
59	Hay	320	345	345	345	Yes	Yes	Yes	Yes								320	345	345	345	564	575	359	355	0	0	-39	-3
60	Holbrook	160	160	164	168	No	No	No	No	Yes	0.8						160	160	164	168	340	341	354	342	-3	-2	2	-5
61	Hume	350	300	200	200	No	No	Yes	Yes				2900	1300	2000	2000	350	300	200	200	341	300	226	211	-20	-14	-26	-8
62	Hunter Water	171 + usage	165 + usage	203 + usage	207 + usage	Yes	Yes	Yes	Yes	Yes			1000	1200	1500	1800	216	210	248	247	232	236	226	230	-6	-1	-6	0
63	Inverell	255	255	255	255	Yes	Yes	Yes	Yes								255	255	255	255	227	245	242	241	6	6	-3	-2
64	Jerilderie	450	427	434	434	No	No	No	No				600	600	600	600	450	427	434	434	377	438	428	516	2	14	-4	18
65	Junee	243	255	255	255	Yes	Yes	Yes	Yes	Yes			500	500	500	***500***	243	255	255	255	214	236	246	299	4	8	2	19
66	Kempsey	390	400	405	424	Yes	Yes	Yes	Yes				2700	2800	2800	3117	390	400	405	424	356	356	366	451	-1	-2	1	21
67	Kyogle	175 + usage	178 + usage	200 + usage	220 + usage	Yes	Yes	Yes	Yes				1000		1000	1000	274	277	299	301	263	284	158	182	-14	6	-45	13
68	Lachlan	275	275	300	300	Yes	Yes	Yes	Yes								275	275	300	300	223	256	277	299	1	13	6	6
69	Leeton	300	300	330	330	Yes	No	No	No	Yes	11.1	9.9	1100	4500	4500	4500	300	300	330	330	297	300	338	464	6	-1	10	35
70	Lismore	295	300	307	308	Yes	Yes	Yes	Yes	Yes	6.0		3600	3600	3600	3600	295	300	307	308	256	275	284	286	0	6	1	-2
71	Lithgow	260	260	273	273	No	No	Yes	No	Yes			1800	1800	1790	1787	260	260	273	273	245	245	237	278	-4	-2	-5	15
72	Lockhart	107	107	107	111	No	No	No	No								107	107	107	111	296	260	293	341	0	-14	11	14
73	Lower Clarence	No SGE																										
74	Maclean	330	350	371	300	Yes	Yes	Yes	Yes	Yes		0.1	3300	3800	2940	3028	330	350	371	300	320	353	320	380	3	8	-11	16
75	Manilla	320	320	320	320	Yes	Yes	Yes	Yes				1100	1100	1200	1200	320	320	320	320	311	302	444	442	44	-4	44	-2
76	Merriwa	270	270	270	270	Yes	Yes	Yes	Yes				600	600	600	600	270	270	270	270	278	250	236	261	1	-12	-7	8
77	MidCoast (Taree)	425	450	450	445	Yes	Yes	Yes	Yes				2000	2100	2150	2200	425	450	450	445	385	417	511	461	5	6	20	-12
78	MidCoast (Great Lakes)	433	440	445	450	Yes	Yes	Yes	Yes				3300	3300	3470	3600	433	440	445	450	419	432	493	461	-1	1	12	-8
79	MidCoast (Combined)									Yes	8.4	11.6																
80	Moree Plains	360	380		418	No	No		Yes							700	360	380		418	392	412	421	518	5	3	0	21
81	Mudgee	310	310	330	350	No	No	No	No				2000	1500	1620	1620	310	310	330	350	302	316	299	344	19	3	-7	13
82	Mulwaree	250	250	380	380	No	No	No	No				2500	2500	2500	2500	250	250	380	380	384	391	322	396	-3	0	-19	21
83	Murray	332	289	289	293	Yes	Yes	Yes	Yes	Yes			600	600	700	700	332	289	289	293	344	326	383	353	-2	-7	15	-10
84	Murrumbidgee	346	346	346	346	No	No	No	No							1000	346	346	346	346	223	216	150	248	-3	-5	-32	62
85	Murrurundi	310	310	310	310	Yes	Yes	Yes	Yes				800	800	850	845	310	310	310	310	344	344	298	282	11	-2	-15	-7
86	Muswellbrook	250	252	271	288	Yes	Yes	Yes	Yes	Yes	0.1	2.0	2500	2000	2500	4290	250	252	271	288	233	250	277	298	-1	5	9	6

Table 11 - Sewerage - Residential Charges, Bills

	WATER UTILITY	CHARGES														BILLS											
		Access Amount (or Minimum) ($) (9)				Charge Independent of Land Value ? (10)				Does Council Have Trade Waste Charges ? (10a)	Trade Waste Charges (% of Annual rates and charges) (10b)	Trade Waste Volume (% of Sewage Collected) (10c)	Typical Developer Charge ($/Equivalent Tenement (ET)) (11)				Typical Residential Bill ($/assessment) (11a)				Average Residential Bill ($/property) (12)				Real Increase in Average Residential Bill (%) (13)			
		1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	2000/01	1999/00	1999/00	1997/98	1998/99	1999/00	2000/01	1997/98	1998/99	1999/00	2000/01	1996/97	1997/98	1998/99	1999/00	1996/97	1997/98	1998/99	1999/00
87	Nambucca	394	394	394	394	Yes	Yes	Yes	Yes				1600	1600	1650	1650	394	394	394	394	386	385	385	352	0	-2	-2	-10
88	Narrabri	276	296	296	296	Yes	Yes	Yes	Yes	Yes	2.1		1800	1800	1740	1742	276	296	296	296	207	231	244	286	10	9	4	15
89	Narrandera	229	251	304	304	No	No	No	No				1500				229	251	304	304	228	255	349	393	7	10	34	10
90	Narromine	350	350	358	368	No	No	No	No				600	600	940	940	350	350	358	368	355	342	342	386	22	-5	-2	11
91	Nundle	No SGE																										
92	Oberon	120	120	120	220	No	No	No	No	Yes	14.3	40.0	1100	1100	1100	***1100***	120	120	120	120	238	248	277	340	-1	2	10	20
93	Orange	334	334	343	278	No	No	No	No	Yes	3.1		1200	1200	1270	2700	334	334	343	278	353	357	365	324	0	-1	0	-13
94	Parkes	143	157	160	169	No	No	No	No				1900	1200	2200	3110	143	157	160	169	133	123	145	142	7	-9	15	-3
95	Parry	300	396	390	575	Yes	Yes	Yes	Yes	Yes	2.9			700	500	500	300	396	390	575	262	297	338	352	1	11	12	2
96	Pristine Waters	555	555	565	705	Yes	Yes	Yes	Yes				1710	1700	1700	***1700***	555	555	565	705	547	563	515	***525***	16	1	-10	0
97	Queanbeyan	245	257	400	263	No	No	No	No				1100	1100	1080	1084	245	257	400	263	279	277	320	335	1	-2	13	3
98	Quirindi	245	245	245	260	Yes	Yes	Yes	Yes								245	245	245	260	265	261	258	258	-3	-3	-3	-2
99	Richmond Valley	345	345	350	350	Yes	Yes	Yes	Yes	Yes			4900	4900	4010	4129	345	345	350	350	318	344	370	375	-1	7	5	-1
100	Riverina	No SGE																										
101	Rous	No SGE																										
102	Rylstone	317	324	380	380	Yes	Yes	Yes	Yes								317	324	380	380	271	284	335	354	0	3	16	4
103	Scone	346	346	346	346	No	No	No	No				2000	2000	2030	2083	346	346	346	346	326	326	326	365	-3	-2	-2	9
104	Severn	440	440	462	440	Yes	Yes	Yes	Yes								440	440	462	440	422	424	366	363	-3	-1	-15	-3
105	Shoalhaven	450	470	500	500	Yes	Yes	Yes	Yes	Yes			1600	1630	1700	1735	450	470	500	500	455	471	480	503	4	2	0	3
106	Singleton	246	246	266	271	Yes	Yes	Yes	Yes				1000	1020	1050	1072	246	246	266	271	242	239	242	259	-1	-3	-1	5
107	Snowy River	258 + usage	268 + usage	279 + usage	277 + usage	Yes	Yes	Yes	Yes	Yes	16.8		2000	1400	2000	2000	366	338	309	336	347	359	284	336	0	1	-22	16
108	Sydney Water	280	286	290	290	Yes	Yes	Yes	Yes	Yes			4300	5100	5200	5300	280	286	290	290	269	278	283	285	4	1	0	-1
109	Tallaganda	110	110	264	263	No	No	No	Yes				3000	3000	3040	3100	110	110	264	263	188	197	206	222	-3	3	2	5
110	Tamworth	276	276	396	396	Yes	Yes	Yes	Yes	Yes	7.5	17.0	1250	1300	1250	1282	276	276	396	396	233	249	364	358	0	5	44	-3
111	Temora	77	90	90	104	Yes	Yes	Yes	Yes	Yes			400				77	90	90	104	80	80	76	107	0	-2	-7	38
112	Tenterfield	260	260	273	273	Yes	Yes	Yes	Yes				1700	1600	1500	1500	260	260	273	273	263	263	291	310	-3	-2	9	4
113	Tumbarumba	363	363	300	310	Yes	Yes	Yes	Yes								363	363	300	310	407	384	356	301	22	-7	-9	-17
114	Tumut	374	374	374	428	Yes	Yes	Yes	Yes	Yes	1.2		2500	1400	2720	3100	374	374	374	428	330	330	351	320	2	-2	4	-11
115	Tweed	385	394	400	400	No	No	Yes	Yes	Yes		15.8	2700	2770	2770	2820	385	394	400	400	416	416	417	402	3	-2	-2	-6
116	Uralla	389	389	389	391	Yes	Yes	Yes	Yes				1000	1100			389	389	389	391	344	349	347	379	1	-1	-2	7
117	Wagga Wagga	198	198	204	231	No	No	No	Yes	Yes	12.2	14.1	1200	1200	1040	1200	198	198	204	231	233	244	264	244	0	3	6	-9
118	Wakool	371	410	410	337	No	No	No	No								371	410	410	337	366	382	401	422	-11	2	3	3
119	Walcha	206	206	210	210	Yes	Yes	Yes	Yes								206	206	210	210	184	182	182	198	-3	-3	-2	6
120	Walgett	219	223	223	234	Yes	Yes	Yes	Yes								219	223	223	234	222	245	281	289	0	8	13	1
121	Warren	290	320	320	352	Yes	Yes	Yes	Yes	Yes							290	320	320	352	257	275	330	367	7	5	18	9
122	Weddin	127	127	135	138	Yes	Yes	Yes	Yes								127	127	135	138	137	112	115	106	2	-20	0	-9
123	Wellington	256	280	300	335	No	No	No	No			0.8			1000	1000	256	280	300	335	267	286	333	350	3	5	14	3
124	Wentworth	280	300	365	315	Yes	Yes	Yes	Yes				1500	1400	1920	***1920***	280	300	365	315	303	300	327	362	0	-3	7	9
125	Wingecarribee	351 + usage	365 + usage	365 + usage	372 + usage	Yes	Yes	Yes	Yes	Yes			3100	3100	3100	3350	456	511	511	466	503	539	426	472	0	5	-22	9
126	Wyong	356	356	347	347	Yes	Yes	Yes	Yes	Yes	1.7		1400	1400	1320	1341	356	356	347	347		351	331	343			-7	2
127	Yallaroi	260	273	273	277	No	No	Yes	No								260	273	273	277	227	227	240	254	0	-2	4	4
128	Yarrowlumla	585	564	585	585	No	No	Yes	Yes				1500		1480	***1480***	585	564	585	585	479	379	531	526	1	-22	37	-3
129	Yass	220	231	231	281	Yes	Yes	Yes	No	Yes	2.0		1500	1500	1570	1570	220	231	231	281	263	269	269	356	6	1	-2	30
130	Young	160	200	220	220	Yes	Yes	Yes	Yes	Yes		1.3	700	700	700	700	160	200	220	220	146	158	179	196	11	6	11	7

Blank Page

Table 11A - Sewerage - 1999/00 Residential Multiple Tariffs

WATER UTILITY		Town	Access Charge (or Minimum) ($) (1)	Access Charge Independent of Land Value ? (2)
4	Balranald	Balranald	332	No
		Euston	449	No
9	Berrigan	Berrigan	270	Yes
		Barooga	508	Yes
		Finley	270	Yes
		Tocumwal	270	Yes
14	Bombala	Bombala	306	Yes
		Delegate	560	Yes
20	Cabonne	Molong	359	No
		Canowindra	490	No
21	Carrathool	Hilston	145	Yes
		Goolgowi	78	Yes
		Rankins Springs	70	Yes
27	Coolamon	Coolamon	210	Yes
		Ganmain	220	Yes
29	Coonabarabran	Coonabarabran	102	No
		Baradine	600	Yes
33	Corowa	Corowa	225	Yes
		Mulwala	350	Yes
36	Culcairn	Culcairn	256	Yes
		Henty	162	Yes
		Walla Walla	255	Yes
54	Gunnedah	Gunnedah	200	Yes
		Curlewis	480	Yes
61	Hume	Howlong	200	Yes
		Lara Lakes	740	No
		Burrumbuttock	450	Yes
		Jindera	200	Yes
72	Lockhart	Lockhart	111	No
		The Rock	92	No
80	Moree Plains	Moree	418	Yes
		Mungindi	457	Yes
84	Murrumbidgee	Darlington Point	346	No
		Coleambally	174	No
88	Narrabri	Narrabri	296	Yes
		Wee Waa	332	Yes
		Boggabri	246	Yes
95	Parry	Kootingal	575	Yes
		Werris Creek	250	Yes
96	Pristine Waters	Corindi Beach	706	Yes
		Coutts Crossing	650	Yes
99	Richmond Valley	Casino	350	Yes
		Richmond	450	Yes
113	Tumbarumba	Tumbarumba	310	Yes
		Khancoban	330	Yes
124	Wentworth	Wentworth	315	Yes
		Namatjira	340	Yes
128	Yarrowlumla	Bungendore	585	Yes
		Captains Flat	515	Yes

Table 11B - Sewerage - 2000/01 Non-Residential Tariffs

	WATER UTILITY	Town	Access Charge (or Minimum) ($) (1)	Access Charge Independent of Land Value? (2)	Basis for Access Charge *Proportional to square of size of service connection or water meter (3)	Usage Charges (4)
1	Albury	Albury	275	Yes	Uniform Access Charge	
2	Armidale Dumaresq	Armidale	210	No	Land value	
3	Ballina	Ballina	370+usage	Yes	Minimum charge plus additional charge of $41 for each WC in excess of 2	Water usage above 200kL per WC @ 58c/kL
4	Balranald	Balranald	332	No	Land value	
		Euston	449	No	Land value	
5	Barraba	Barraba	236	Yes	Uniform Access Charge	
6	Bathurst	Bathurst	328	No	Land value	$328 for first WC, $114 for each additional WC
7	Bega Valley	Bega Valley	520+usage	Yes	Service connection size	90c/kL
8	Bellingen	Bellingen	400+usage	Yes	Uniform Access Charge	94c/kL for estimated sewage volume
9	Berrigan	Berrigan	270	Yes	Uniform Access Charge	
		Barooga	508	Yes	Uniform Access Charge	
		Finley	270	Yes	Uniform Access Charge	
		Tocumwal	270	Yes	Uniform Access Charge	
10	Bingara	Bingara	295	Yes	Uniform Access Charge	
11	Bland	Bland	92	No	Land value	
12	Blayney	Blayney	360	Yes	Uniform Access Charge	
13	Bogan	Nyngan	326	No	Land value	
14	Bombala	Bombala	306	Yes	Uniform Access Charge	
		Delegate	560	Yes	Uniform Access Charge	
15	Boorowa	Boorowa	136	No	Land value	
16	Bourke	Bourke	422	Yes	Uniform Access Charge	
17	Brewarrina		320	No	Land value	
18	Broken Hill WB	Broken Hill	208	Yes	Uniform Access Charge	
19	Byron	Byron	429+usage	Yes	$429 for up to 1 kL/d of usage, $429 for each additional kL/d of usage (ie. $858 for usage of 1 to 2 kL/d, $1287 for usage of 2 to 3 kL/d)	62c/kL for estimated sewage volume 80c/kL for estimated trade waste volume
20	Cabonne	Molong	359	No		
		Canowindra	490	No	Land value	
21	Carrathool	Hilston	150	Yes	Uniform Access Charge	
		Goolgowi	80	Yes	Uniform Access Charge	
		Rankine Springs	145	Yes	Uniform Access Charge	
22	Central Darling	Wilcannia	380	Yes	Uniform Access Charge	
24	Cobar		242	Yes	Uniform Access Charge	
25	Coffs Harbour	Coffs Harbour	486	No	Land Value	
26	Coolah	Coolah and Dunedoo	242	Yes	Uniform Access Charge	
27	Coolamon	Coolamon	210	Yes	Uniform Access Charge	
		Ganmain	220			
28	Cooma-Monaro	Cooma/Nimmitable	437+usage	No	Land value and estimated sewage volume - range of charges- $437 to $10,387	
29	Coonabarabran	Coonabarabran	102	No	Land value+$71 per WC and $36 per urinal	
		Baradine	600	Yes	Uniform Access Charge	
30	Coonamble	Coonamble	230	No	Land value	
31	Cootamundra	Cootamundra	143	No	Land value	
32	Copmanhurst	Junction Hill	600	Yes	Uniform Access Charge	
33	Corowa	Corowa	225	Yes	Uniform Access Charge	
		Mulwala	350	Yes	Uniform Access Charge	
34	Cowra	Cowra	312	Yes	Uniform Access Charge	
35	Crookwell	Crookwell	404	No		
36	Culcairn	Culcairn	256	Yes	Uniform Access Charge	
		Henty	162	Yes	Uniform Access Charge	
		Walla Walla	255	Yes	Uniform Access Charge	
37	Deniliquin	Deniliquin	334	Yes	Uniform Access Charge	
38	Dubbo	Dubbo	106	No	Land value, Pedestal charges	
39	Dungog	Dungog	268	Yes	Uniform Access Charge	
40	Eurobodalla	Eurobodalla	430	Yes	Meter Size	
42	Forbes	Forbes	361	No	Land Value	
43	Gilgandra	Gilgandra	180	Yes	Uniform Access Charge	
44	Glen Innes	Glen Innes	226	Yes	Uniform Access Charge	
45	Gloucester	Gloucester	173	No	Land Value	

Table 11B - Sewerage - 2000/01 Non-Residential Tariffs

	WATER UTILITY	Town	Access Charge (or Minimum) ($) (1)	Access Charge Independent of Land Value? (2)	Basis for Access Charge *Proportional to square of size of service connection or water meter (3)	Usage Charges (4)
49	Gosford	Gosford	254+usage	Yes	Service connection size* (eg 20mm: $254, 50mm: $1588, 100mm: $6350, 200mm: $25,400)	70c/ kL of estimated sewage volume (discharge factor mean of 0.8)
50	Goulburn	Goulburn	281	No	Land Value	
51	Grafton	Grafton	380	Yes	Uniform Access Charge	
52	Griffith	Griffith	230	No	Land Value	
53	Gundagai	Gundagai	196	No	Land value	
54	Gunnedah	Gunnedah	205	Yes	Uniform Access Charge	
		Curlewis	494	Yes	Uniform Access Charge	
55	Gunning	Gunning	200	No	Land value	
56	Guyra	Guyra	435	Yes	Uniform Access Charge	
57	Harden	Harden	205	Yes	Uniform Access Charge	
58	Hastings	Hastings	438+usage	Yes	Uniform Access Charge	42c/ kL of water consumed
59	Hay	Hay	345	Yes	Uniform Access Charge	
60	Holbrook		168	No	Land Value	
61	Hume	Howlong	200	Yes	Uniform Access Charge+$60/WC and $25/Urinal	
		Lara Lakes		No	Land value+$60/WC and $25/Urinal	
		Lake Hume		No	Land value+$60/WC and $25/Urinal	
		Burrumbuttock	450	Yes	Uniform Access Charge+$60/WC and $25/Urinal	
		Jindera	200	Yes	Uniform Access Charge+$60/WC and $25/Urinal	
62	Hunter Water		420+usage	Yes	Meter Size* (eg 50mm: $2,625, 100mm: $10,500, 300mm: 94,500, 500mm: $262,500)	41 c/kL with appropriate discharge factor
63	Inverell	Inverell/Ashford /Delungra/Gilgai	255	Yes	Uniform Access Charge (Motels, hotels, clubs in Inverell:$690)	
64	Jerilderie	Jerilderie	434	No	Land Value	
65	Junee	Junee	255	Yes	Uniform Access Charge	
66	Kempsey	Kempsey	445	Yes	Uniform Access Charge	
67	Kyogle	Kyogle/Wooden Bong/Bonalbo	220+usage	Yes	Uniform Access Charge	104c/kL, based on discharge factor of 40%
68	Lachlan	Lachlan	300	Yes	Uniform Access Charge	
69	Leeton	Leeton	330	No	Land Value	
		Yanco	330	No	Land Value	
70	Lismore	Lismore/Nimbin	185+usage	Yes	Uniform Access Charge	127c/kL /. $318 per ET(250kL= 1 ET)
71	Lithgow	Lithgow	273	No	Land Value	
		Wallerawang	273	No	Land Value	
		Portland	273	No	Land Value	
72	Lockhart	Lockhart	111	No	Land Value	
		The Rock	92	No	Land Value	
74	Maclean	Maclean	300	Yes	Uniform Access Charge	
75	Manilla	Manilla	320	Yes	Uniform Access Charge	
76	Merriwa	Merriwa	270	Yes	Uniform Access Charge	
77	MidCoast (Manning)		346	Yes	Meter Size	$1.20/kL
78	MidCoast (Great Lakes)		346	Yes	Meter Size	$1.40/kL
80	Moree Plains	Moree	280	Yes	Uniform Access Charge	
		Mungindi	457	Yes	Uniform Access Charge	
81	Mudgee	Mudgee, Gulgong	350	No	Land Value	
82	Mulwaree	Marulan	380	No	Land Value	
83	Murray	Moama	293	Yes	Uniform Access Charge	
		Mathoura	293	Yes	Uniform Access Charge	
84	Murrumbidgee	Darlington Point	346	No	Land Value	
		Coleambally	174	No	Land Value	
85	Murrurundi	Murrurundi	314	Yes	Uniform Access Charge	
86	Muswellbrook	Muswellbrook	288	Yes	Uniform Access Charge	
		Denman	288	Yes	Uniform Access Charge	
87	Nambucca	Nambucca	394	Yes	Uniform Access Charge	
88	Narrabri	Narrabri	296	Yes	Uniform Access Charge	
		Wee Waa	332	Yes	Uniform Access Charge	
		Bogabri	246	Yes	Uniform Access Charge	
89	Narrandera	Narrandera	304	No	Land Value	

Table 11B - Sewerage - 2000/01 Non-Residential Tariffs

	WATER UTILITY	Town	Access Charge (or Minimum) ($) (1)	Access Charge Independent of Land Value? (2)	Basis for Access Charge *Proportional to square of size of service connection or water meter (3)	Usage Charges (4)
90	Narromine	Narromine/Trangie	368	No	Land Value	
92	Oberon	Oberon	120	Yes	Uniform Base Charge (120)+LandValue	
93	Orange	Orange	278	No	Land Value	
94	Parkes	Parkes	169	No	Land Value	
95	Parry	Werris Creek	183	Yes	Uniform Access Charge	
		Kootingal	569	Yes	Uniform Access Charge	
96	Pristine Waters	Corindi Beach	705	Yes	Uniform Access Charge	
		Coutts Crossing	650	Yes	Uniform Access Charge	
97	Queanbeyan	Queanbeyan	284	No	Land value	
98	Quirindi	Quirindi	260	Yes	Uniform Access Charge	
99	Richmond Valley	Casino	350	Yes	Uniform Access Charge	
		Richmond	450	Yes	Uniform Access Charge	
102	Rylstone	Rylstone	380	Yes	Uniform Access Charge	
103	Scone	Scone/Aberdeen	346	No	Land value	
104	Severn	Deepwater	462	Yes	Uniform Access Charge	
105	Shoalhaven	Shoalhaven	500	Yes	Uniform Access Charge	
106	Singleton	Singleton	271	Yes	Uniform Access Charge	
107	Snowy River	Snowy River	277+usage	Yes	Water usage in winter 4 months at 92c/kL (minimum $277)	50c/kL for estimated sewage volume based on discharge factors of 0.88, 0.63 and 0.56 for the winter, summer/spring and autumn 4 monthly periods respectively. The winter usage charge provides an upper limit for usage charges in the summer/spring
108	Sydney Water		290+usage	Yes	Meter Size* (eg 50mm: $1,815, 100mm: $7,260, 300mm: $65,300)	96c/kL for discharges over 500kL/a (1.37kL/d)
109	Tallaganda	Braidwood	273	Yes	Uniform Access Charge	
110	Tamworth	Tamworth	396	Yes	Uniform Access Charge	
111	Temora	Temora	104	Yes	Uniform Access Charge	
112	Tenterfield	Tenterfield	273	Yes	Uniform Access Charge	
		Urbenville	273	Yes	Uniform Access Charge	
113	Tumbarumba	Tumbarumba	310	Yes	Uniform Access Charge	
		Khancoban	330	Yes	Uniform Access Charge	
114	Tumut	Tumut	428	Yes	Uniform Access Charge	
115	Tweed	Tweed	400	Yes	Uniform Access Charge	
116	Uralla	Uralla	389	Yes	Uniform Access Charge	
117	Wagga Wagga	Wagga Wagga	462	Yes	Based on fixture unit ratings per AS 3500.2 Access charge includes first 24 fixture units (equivalent to 4 pans) Additional charge of $58 for each 6 additional fixture units (equivalent to 1 WC).	
118	Wakool	Wakool	337	No	Land Value	
119	Walcha	Walcha	244	Yes	Uniform Access Charge -additional Water Closets $29 and $57	
120	Walgett		234	Yes	Uniform Access Charge	
121	Warren	Warren	385	Yes	Pedestal charge - $176/pedestal/urinal	
122	Weddin	Grenfell	138	Yes	Uniform Access Charge	
123	Wellington	Wellington	335	No	Land Value	
124	Wentworth	Wentworth	315	Yes	Uniform Access Charge	
		Namatjira	340	Yes	Uniform Access Charge	
125	Wingecarribee	Wingecarribee	372+usage	Yes	Meter Size 20mm: $372, 25mm: $584, 32mm: $956, 40mm: $1,496, 50mm: $2,336, 65mm: $3,945,	40c/kL
126	Wyong	Wyong	347+usage	Yes	Service connection size* (eg 20mm:$125, 50mm:$781, 100mm:$3,125, 200mm: $12,500)	60 c/kL with appropriate discharge factor applied to metered water usage (minimum charge is $347)
127	Yallaroi	Warialda	284	No	Land Value	
128	Yarrowlumla	Bungendore	585	Yes	Uniform Access Charge	
		Captains Flat	515	Yes	Uniform Access Charge	
129	Yass	Yass	281	No	Land value	
130	Young		220	Yes	Uniform Access Charge	

Table 12 - Sewerage - Levels of Service, Efficiency

	WATER UTILITY	LEVELS OF SERVICE																										EFFICIENCY							
		BOD					SS					Sewer Main Chokes & Collapses				Sewer Overflows to the Environment				Odour Complaints				Service Complaints				Average Customer Outage Time				Operating Cost (OMA)				Management Cost			
		EPA Discharge Licence Compliance (%) (14)				90 %-ile Limit (mg/L) (14a)	EPA Discharge Licence Compliance (%) (15)				90 %-ile Limit (mg/L) (15a)	(per 100 km of Main) (16)				(per 100 km of Main) (17)				(per 1000 properties) (18)				(per 1000 properties) (19)				(mins/property-unplanned) (20)				($/property) (21)				($/property) (22)			
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
1	Albury	100	100	100	100	35	100	100	88	79	40	56		179	155	56		51	43	0	0	2	0	42	40	54	17					176	201	212	246	89	105	101	117
2	Armidale Dumaresq	100	100	100	100	No Limit	90	96	94	100	30				36			208		0	0	0	0		71	53	48					151	187	170	204	83	97	72	97
3	Ballina	100	100	100	97	20	100	100	92	92	30		15	7	10		1	1	4	0	1	1	0		1	1	1		0	0	0	192	196	219	246	59	52	62	83
4	Balranald	No Discharge Licence					No Discharge Licence					30				0	0	0		0	0	0		14	0	0				0		76	249	122	122		29	29	***29***
5	Barraba	100	100	100	100	20	100	100	100	100	30	89	93	86	136	18	29	14	7	0	0	7	3	32	36	33	52			2	0	143	153	147	176	45	48	54	48
6	Bathurst	95	98	100	96	20	90	100	98	100	25	48	84	57	37	23	9	10	18	1	0	0	0	11	9	13	9		2			233	205	254	197	81	81	92	95
7	Bega Valley	100	100	100	100	20	92	100	92	92	30	51	68	25		23	19	0	44	0	0	0	0	15	4	18	13			0	0	249	264	246	262	133	125	127	136
8	Bellingen	100	100		94	10	98	100		94	15		16		14		11		4	0	4	0	8		4	0	5					157	230	251	238	38	50	61	66
9	Berrigan	98	100	100	100	20	97	98	100	100	30	51	25	18	18	0	0	0		0	0	0	0	13	10	5	7	1	0	1	0	182	204	200	177	61	87	77	80
10	Bingara	No Discharge Licence		100	100	20	No Discharge Licence			100	30	33	22	6	38	0	0	0	0	0	0	0	2	10	3	12	5	0	0	1	4	171	174	173	203	35	42	40	57
11	Bland	100	100	100	100	20	100	100	100	100	30		512	472	475	0	0	0	0	0	0	0	0		143	130	141				0	173		191	201	43		55	71
12	Blayney	100	100	100	100	30	100	100	100	100	30	24	30	33	35	24	18	0	0	0	0	0	0	18	24	21	20					200		355	179	66		73	85
13	Bogan	No Discharge Licence			NL		No Discharge Licence			NL		26		128	88	0	0	0	0	0	0	5	4			0	21			0	3	168	169	183	217	93	90	123	147
14	Bombala	100	100	100	83	20	100	100	100	100	30	178			178					1	3	0	0	80	119	139	85	0	0	0	0	197	207	231	244	30	36	51	53
15	Boorowa	100	100	100	100	20	100	100	100	100	No Limit	77	72		1,128	0	0	0		7	4	0	0	18	17	31	0	3	3	1	1	80	91	123	110	19	16	23	20
16	Bourke	No Discharge Licence					No Discharge Licence					29	412	306	206	1	0	35	0	24	39	0	2	51	85	112	66			0	0	176	187	265	216	58	85	101	67
17	Brewarrina	100	100	50	100	20	100	100	100	100	30				40				7	0	0	0	2		55	42	21	5	0	17	6	292	258	244	196	67	45	54	37
18	Broken Hill WB	87	87	100	100	40	75	75	100	100	45	247	247	260		59	59			0	1	0			132		139					168	168	175	198	56	57	61	63
19	Byron	99	100	100	100	20	100	100	100	100	25	46	45	23	20	7	1	5		13	13	7	3	14	17	10	9	17	0	1	0	389	454	445	371	118	112	140	132
20	Cabonne	85	88	92	90	20	78	48	79	79	25	69	50	53	17	0	0	0		0	0	0	0	23	13	10	15	0	0		7	192	176	161	184	61	57	43	48
21	Carrathool	No Discharge Licence			NL		No Discharge Licence			NL		268	167	251	66	0	0	0	0	17	0	0	6	71	1		53	0	0			121		336	125	43		23	32
22	Central Darling	No Discharge Licence					No Discharge Licence					303	151		454				38	14	0	0	0	205	91		29	9	5				213	213	194		27	27	***27***
23	Central Tablelands						**No SGE**																																
24	Cobar	No Discharge Licence					No Discharge Licence					8	7	7	53	3	2	7	12	0	0	0	5	2	2	5	14	0	0	0		74	134	112	144	13	46	39	***39***
25	Coffs Harbour	100	100	100	100	50	100	100	99	100	50	74	124	97	77	16	11	11		1	1	0	1	12	11	14	13		0	3		286	275	310	261	86	82	121	84
26	Coolah	No Discharge Licence		50	50	20	No Discharge Licence		0	50	30			106	78	0	23	0	4	4	1	0	3	208	208	49	42	29	0	5	0	177	168	169	153	23	19	21	21
27	Coolamon	No Discharge Licence		100	100	20	No Discharge Licence		80	83	30	14	42	43	28	0	0	0		0	0	0	0	13	7	9	19					228	110	153	203	57	37	39	62
28	Cooma-Monaro		100	100	100	10		100	99	100	15		20		29					0	0	0	0		125	68	57	0	0	0	0	224	189	519	222	35	35	178	61
29	Coonabarabran	100	100	100	100	20	100	100	100	100	25	192	279	312	279	2		67	41	0	0	0	11		155	47	33	0	0	0	0	203	189	225	236	87		158	137
30	Coonamble	95	95	95	95	20	95	95	95	95	30	43	46	17	13	2	2	2	2	0	4	9	0	30	29	22	24	0	0		0	183	194	167	259			19	***21***
31	Cootamundra	100	91	92	86	20	100	100	92	100	30	443	402	412	104		12			0	0	0	0	83	78	78	41	0	0	0		128	133	133	140	24	33	33	41
32	Copmanhurst	92	86	97	90	20	72	74	83	100	30	185		85	64		7			0	0	0	0	55	43	26	22	0	0	1		186	249	354	384	13	65	101	151
33	Corowa		50	74	92	20		33	69	69	30	43	25	28	31	1	5	1	6	3	4	1	2	10	10	36	21	0	0		0	203	253	171	190	75	79	48	74
34	Cowra		50	100				33	95					83						0	3	0			18	44		0	0	4		129	106	95	141	51	39	20	51
35	Crookwell	100	100	100	100	20	100	100	100	100	30	77	115	101	109	0	0	0	0	0	0	0	0	26	38	28	38	0	0	0	0	466	339	295	276	19	21	20	28
36	Culcairn	100	100	100	100	20	99	83	100	95	30	42	34	31	25	0	0	0	0	0	1	0	0	11	9	9	7	0	0	0	0	79	105	128	129	12	39	46	38
37	Deniliquin		100	100	100	20	0	100	40	40	30	328	563	191	300	0	0	0	0	4	1	2	3	62	106	55	67					141	189	174	247	51	58	54	102
38	Dubbo	100	100	100	67	40	100	96	79	71	45	145	35	62	71	26	3	27	14	0	0	0	0	88	96	16	44	6	0	1	1	183	205	213	190	68	81	97	101
39	Dungog	No Discharge Licence			NL		No Discharge Licence			NL		70	69	62	69	31	41	34		0	1	0	0	34	34	29	50				8	177	218	197	225	31	36	32	54
40	Eurobodalla	100	100	100	100	30	100	100	100	100	40	30	30	27	52	0	3	3	27	1	1	1	0	0	39	27	19		0	3	2	248	259	244	269	108	102	103	92
41	Fish River WS						**No SGE**																																
42	Forbes	67	92	77	75	20	92	100	92	83	30	61	175	147	69	3	0	5	3	0	0	2	2	36	61	51	51		7	6	10	157	158	155	188	33	32	35	***39***
43	Gilgandra	100	100	95	95	50	100	100	100	100	No Limit	131		138	122	15	12	15	15	3	1	0	4	44	42	41	42			5	10	121	108	112	141			23	30

Table 12 - Sewerage - Levels of Service, Efficiency

	WATER UTILITY	LEVELS OF SERVICE																										EFFICIENCY							
		BOD					SS					Sewer Main Chokes & Collapses (per 100 km of Main) (16)				Sewer Overflows to the Environment (per 100 km of Main) (17)				Odour Complaints (per 1000 properties) (18)				Service Complaints (per 1000 properties) (19)				Average Customer Outage Time (mins/property-unplanned) (20)				Operating Cost (OMA) ($/property) (21)				Management Cost ($/property) (22)			
		EPA Discharge Licence Compliance (%) (14)				90 %-ile Limit (mg/L) (14a)	EPA Discharge Licence Compliance (%) (15)				90 %-ile Limit (mg/L) (15a)																											
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
44	Glen Innes	100	100	100	100	20	100	100	100	100	30	79	46	29	7	8	26	8		2	0	2	1	23	15	9	9	0	0	0	0	132	102	142	107	46		56	40
45	Gloucester	100	75	100	100	20	75	75	100	100	30			164	140	0	0	0		0	0	0		51	67	52	44	0	0			145	155	132	135	21	23	18	26
46	Goldenfields (Bulk Supplier)						No SGE																																
47	Goldenfields (Reticulator)						No SGE																																
48	Goldenfields (Combined)						No SGE																																
49	Gosford	100	100	100	100	No Limit	100	100	100	100	50	49	48	56	28	0	2	2		0	0	0	1	12	14	13	14	3	3	1	1	170	208	193	185	76	106	92	79
50	Goulburn	83	75	83	50	20	83	58	50	41	30	400	372	338	219	33	20	20	13	0	0	0	0	47	35	64	50					174	265	220	222	70	69	66	91
51	Grafton	94	100	100	99	20	95	94	95	93	30		52	92	36				15	2	2	2	1	35	29	21	23		0	0		152	200	177	222	60	94	78	84
52	Griffith	0	94	100	100	20	0	71	100	100	20	86	86	15	44	0	0	12	3	0	0	3	58	47	45	22	7			1		281		369	284	69		187	88
53	Gundagai	100	97	96	95	20	100	94	96	95	30		41	24	22	0	0	1	0	0	0	0	0		8	8	5		0	0	0	131		149	158	46	51	44	49
54	Gunnedah	100	100	100		25	100	100	100		25	119	144	215	171	29	20	0	0	0	0	0	0	32	43	26	56		0	2	0	93	102	103	93	19	22	21	22
55	Gunning	100	100	100	75	20	100	100	75	75	30	50	25	62	62	0	0	0		0	0	0	0	17	9	9	23	0	0	2	0	471	296	213	200		64	20	***20***
56	Guyra	100	100	100	100	20	100	100	100	100	30	22	22	22	28	11	11	11	6	0	0	0	1	9	9	81	14	0	1		0	171	240	301	277	59	100	148	144
57	Harden	100	100	100	92	20	100	100	92	75	30	311	256	24	40	0	2	2	4	0	0	0	0	144	113	0	32	0	0	0	0	138	147	197	180	54	53	58	60
58	Hastings	80	94	79	81	10	91	99	93	99	15	31	44	38	22	6	9	4	6	1	1	1	0	7	7	1	6	0	0			220	194	235	186	43	46	60	54
59	Hay	100	100		100	20	70	88		100	30	150	336	673	403	0	0	0		0	1	3	1		33	2	82					231	196	243	215	68	56	64	55
60	Holbrook																			0	0	0						0	0			221	242	270	288	71	70	74	147
61	Hume	97	100	100			92	100	100			0	2	2	8	0	0	5	0	0	0	0	0	2	2	56	0		0			151	174	174	187	56	54	54	79
62	Hunter Water	99	99	100	100		99	99	100	100		67	68	54	50			54	47		2	2	2					2	2	2	2	162	153	134	150				0
63	Inverell	90	100	93	96	20	62	100	74	88	30	89	19	70	171	15	10	9	21	0	0	0	0	72	9	6	49	0	0	8	4	136	178	175	154	27	29	46	49
64	Jerilderie	100	100	100	100	20	100	100	100	100	30		70	333	0	0	0	0	0	0	33	17	12	24	24	15	25				0	288	288	281	189	87	87	82	82
65	Junee	100	100	92	100	20	100	100	83	100	20	49	5	47	54	4	5	0	0	0	0	0	0	76	71	6	58	0	0	3		97	113	153	195			30	67
66	Kempsey	99	100	100	100	15	99	97	99	100	30	19	19	18	30					1	3	1	2	9	8	2	8	0	0			246	174	261	266	74	79	74	80
67	Kyogle	90	97	97	87	20	90	50	50	33	30	16	275	57	38					2	3	3	6		40	61	8	2	2	1	1	177	199	203	201	75	85	79	83
68	Lachlan	No Discharge Licence			100	20	No Discharge Licence			100	30		244	20	32	0	6	0		0	8	0	3		5	29	10	0	0	0		137	166	149	160	48	39	36	41
69	Leeton	96	100	90	100	50	91	90	84	100	50	52	44	77	35	12	9	54	0	7	6	0	2	12	11	9	9		0	1	0	232	289	227	235	50	124	46	68
70	Lismore	95	94	100	100	15	84	81	88	100	20	28	51	113	101					0	0	0	2	24	43	9	36		0	3	8	171	237	247	239	35	36	46	36
71	Lithgow	75	75	75	75	20	75	75	80		30				39				0	0	0	0	0		0	4	25					206	261	231	***214***	71	72	64	***58***
72	Lockhart	100	100	100	100	20	98	100	100	100	30	38	54	30	30				0	0	0	2	0	17	22	111	20	8	0	1	3	196	196	223	176	46	47	53	32
73	Lower Clarence						No SGE																																
74	Maclean	91	80	74	77	20	76	80	96	92	15	81	95	75	29	20	46	50	3	2	1	2	1	22	9	21	21	2	0	2	0	189	175	136	163	39	41	22	36
75	Manilla	100	100	100	100	20	100	100	100	100	30	226	522	496	409	43	43		52	0	0	0	0	56	10	7	117	0	0	2	12	185	214	214	227	71	43	46	88
76	Merriwa	80	90	100	100	20	80	90	80	75	30	207	347	124	148	40	167	95		0	0	0	0	51	13	0	27	5	0	2	0	175	255	218	215	29	118	76	64
77	MidCoast (Taree)	93	97	99	100	20	78	90	98	99	30	31	17	15		12	18	13		7	1	2		9	14	55		0	1		0	221	220	180		83	77	69	
78	MidCoast (Great Lakes)	100	100	100	97	30	100	99	99	95	30	17	17	13		6		9		4	3	4		6	5	15		0	0		0	267	267	242		64	66	62	
79	MidCoast (Combined)	96	98	99	99	25	94	94	98	97	30	24	17	14	14	9	14	11		6	2	3	0	8	9	44	8	0	1	0	0	242	242	209	234	74	72	66	60
80	Moree Plains	100			98		100			95	30				421					0	0	0	2			7	226				17	289		264	446	43		48	60
81	Mudgee	100	100	100	100	80	90	90	92	90	28	225	162	142	78	142	111	89	16	4	3	0	0	71	56	2	25	16	0	3	0	160	180	221	210	27	30	79	79
82	Mulwaree	100	100	100	100	No Limit	100	100	100	100	No Limit			27	0			41	0	0	0	0	0	0		0	0			0		489	364	129	155	44	54	18	18
83	Murray	No Discharge Licence					No Discharge Licence					22	29	21	14	0	0	0	3	0	6	0	2	6	10		11	0	0	0		231	167	214	148	52	71	86	73
84	Murrumbidgee	100	100	100	50	10	100	100	100	50	15	55	186	123		11		37		0	0	0	0	19	18	72		3	0		0	54	60	95	68			18	***22***
85	Murrurundi	No Discharge Licence			100	5	No Discharge Licence			100	13					0	0	0	7	0	0	0	0			7						114	155	145	124			20	***20***
86	Muswellbrook	100	100	100	100	20	100	100	100	100	30	260	114	123	101	40	26	37	53	2	2	1	1	85	66	0	50	27	0	8	8	170	189	219	278	48	39	43	43

Table 12 - Sewerage - Levels of Service, Efficiency

	WATER UTILITY	LEVELS OF SERVICE																										EFFICIENCY							
		BOD					SS					Sewer Main Chokes & Collapses (per 100 km of Main) (16)				Sewer Overflows to the Environment (per 100 km of Main) (17)				Odour Complaints (per 1000 properties) (18)				Service Complaints (per 1000 properties) (19)				Average Customer Outage Time (mins/property-unplanned) (20)				Operating Cost (OMA) ($/property) (21)				Management Cost ($/property) (22)			
		EPA Discharge Licence Compliance (%) (14)				90 %-ile Limit (mg/L) (14a)	EPA Discharge Licence Compliance (%) (15)				90 %-ile Limit (mg/L) (15a)																											
		1996/97	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*	*1996/97*	*1997/98*	*1998/99*	*1999/00*
87	Nambucca	99	96	92	97	20	96	99	94	74	15	86	31	30	35	44		15	15	1	0	0	0	22	8		12	1	0	0	0	285	253	221	201	109	119	78	72
88	Narrabri	95	100		100	30	95	40		100	30									0	0	0				0						192	185	180	152	31	28	33	51
89	Narrandera	69	100	92	88	20	50	100	83	24	30	472	492	275	81	0	0	0	0	1	1	0	0	97	101	0		0	0	0		186	244	210	210	34	62	66	56
90	Narromine	No Discharge Licence			NL		No Discharge Licence			NL		39			308				0	1	0	0	1	3		26	81					180	153	156	***156***	22	28	28	***28***
91	Nundle						No SGE																																
92	Oberon	90	90	90	100	20			100	100	25	31	46	77	77	0	0	0	6	0	0	0	0	34	27	21	22	0	0	0	3	236	242	229	218	37	46	52	52
93	Orange	100	100	96	100	15	100	100	96	98	20								43	1	1	1	0	44	53	0	42			0	0	138	120	186	144	56	40	53	42
94	Parkes	100	63	66	66	30	100	13	55	60	30	140	116	103	91	22	66	92	61	1	1	1	2	34	25	12	20	0	0	1	1	110	109	251	131	27	27	29	29
95	Parry	100	100	66	71	20	100	100	50	57	30	3	0	9	0	0	0	0		0	0	0	0	0	0	0	1	0	0	0	0	111	149	162	134	31	24	30	31
96	Pristine Waters		95	100	100	20			80	54	30	0	0	0		0	0	0					0		0	49		0	0			380	472	464	223		18	20	55
97	Queanbeyan	100	100	100	100	10	100	100	100	100	30	120	90	58	95	78	9	21	10	0	0	0	0	16	16	5	19					110	175	181	158	53	71	81	67
98	Quirindi	96	96	100	100	20	58	58	60	42	30	63	57	15	71			2	5	0	0	0	0	20	47	33	50	2	3		1	178	164	180	***182***	18	21	34	***29***
99	Richmond Valley	100	99	88	100	20	96	92	95	77	30	42	35	21	13	8	10	8	4	1	1	1	3				6	0	0	1		200	218	244	208	77	89	88	79
100	Riverina						No SGE																																
101	Rous						No SGE																																
102	Rylstone	100	100	100		20					25	36			29				7	0	0	0	0	47	38	0	23	0	0		0	281	278	247	253	24	37	22	26
103	Scone	100	51	87	100	20	96	84	82	100	30	126	128	83	72	4	5	4	0	1	1	0	0	52	44	11	38	0	0			253	268	268	276	94	109	59	131
104	Severn	No Discharge Licence			83	40	No Discharge Licence			75	45	0	0							18	0	0	0	0	0	18	5	0	0			158	176	89	124	58	61	54	79
105	Shoalhaven	98	100	98	95	20	94	100	77	79	30	23	33	25	28	18	5	5	4	0	0	0	1	13	19	16	13					238	252	280	265	85	103	106	107
106	Singleton	100	100	100	100	30	100	100	96	100	30	54	54	54	7	0	2	2		2	1	1	0	19	18	23	5	7	6	6	3	205	184	306	180	62	66	79	56
107	Snowy River	88	85	96	93	10	88	81	85	85	15	4			42		1	45	3	0	0	2	2	12	21	38	10		0	1		148	145	145	***163***	42	37	41	***45***
108	Sydney Water	100	100	100	100		100	100	99	99		72	88	84	63	22		79	63		1	1	1					2	1	1	2	232	232	242	234				0
109	Tallaganda	60	60	83	75	20	60	50	83	75	30	96	81	96	89	0	0	0	0	0	0	0	0	24	20	55	22	1	1	1	1	170	189	210	202	27	25	36	20
110	Tamworth	83	94	98	90	30	66	48	69	72	25	185	99	78	128	4	2	3	3	0	0	0	1	49	47	46	31					265	162	233	223	59	39	71	57
111	Temora			90	100	20				80	30	0	250	38	200	0				0	0	0	0		58	22	54	4	4	4	6	65	130	130	147	15	23	23	27
112	Tenterfield	100	100	96	97	20	100	69	71	72	30	86	34	99	110			20	2	1	0	0	0	27	12	60	47	0	0	4	0	113	154	261	233	41	47	125	114
113	Tumbarumba	100	100	85	100	20	100	100	80	90	30			91	72			43		0	0	0	0		7	3	28	0	0	0	1	204	262	211	166	21	17	41	37
114	Tumut	99	99	100	100	40	97	98	100	100	15	154	227	190	29	8	0	2	2	0	0	0	1	0	0	19	51	0	0	5		242	241	233	173	73	77	90	42
115	Tweed	100	100	99	98	15	99	100	97	98	20	21	12	5	8	4	2	3	2	1	1	1	1	3	2	92	3	2	0	1	1	192	193	220	233	62	67	75	87
116	Uralla	100	100	100	100	15	90	80	100	100	20	49	145	67	53					0	0	0	0	0	43	13	15				2	229	260	284	220	106	146	113	122
117	Wagga Wagga	99	100	100	94	20	71	100	100	89	30	150	151	126	77	0	0	0	0	0	0	0	0	104	99	11	63	4	4		1	110	117	128	119	22	29	28	***30***
118	Wakool	No Discharge Licence			NL		No Discharge Licence			NL		0	33	46	26			7		0	0	11	4		10	0			0	6	1	192	145	172	220	52	23	23	27
119	Walcha	92	100	100	100	20	42	67	92	92	30	38	62	28	34	28	39	28		3	46	7	10	15	31	45	13	1	2	1	0	112	126	179	199			43	43
120	Walgett			90					90									4		0	0	0				41				0	137	172	157	170	65	84	62	75
121	Warren	No Discharge Licence					No Discharge Licence					225	344			3	0		0	0	3	7	0	98	17	41	90					164	191	171	194	25	36	32	45
122	Weddin	100	5	100	100	20		10				60	60	145	124	0	0	0	0	0	0	0	0	53		0	30			0		61	61	100	99	16	16	29	27
123	Wellington	100	100	100	100	20	85	85	85	85	30		226	133	67		29	14	14	0	1	1	1		43	29	28	3	2	1	2	212	203	327	236	64	69	88	92
124	Wentworth																			0	0	0				6						263	275	278	236	70	96	86	55
125	Wingecarribee	100	100	100	100	20	99	100	100	100	30	59	22	36	69	8	11	17	15	0	0	0		20	39	41	47					213	227	243	245	103	108	102	132
126	Wyong	100	100	100	100	No Limit	100	100	100	100	50	35	57	40	33	1	1	1	0	1	0	1	1	5	9	2	7		0			216	230	200	224	100	111	48	50
127	Yallaroi	100	97		98	20			98	99	30		113	108	171	0	18	5	0	0	0	0	0	47	45	46	64	0	1	1	1	119	98	111	105			18	***22***
128	Yarrowlumla	100	100	100	100	10	100	100	63	83	15	22	18	33	22	4			4	0	6	5	4	7	2	0	5	0	0	0	2	347	298	332	278	127	108	108	107
129	Yass	100	50	100	100	20	100	50	100	100	20	108	147	133	147	6	7	4	6	1	1	0	0	38	51	0	52	0	0	0	2	214	246	258	251	57	77	84	79
130	Young	100	100	100	100	28	100	100	100	100	8	226			85	15				1	0	0	1	63		0	59				14	73	85	92	102	14	14	17	***17***

Blank Page

3. 2000/01 WATER SUPPLY AND SEWERAGE CHARGES/BILLS

This section contains the following Figures for 2000/201 water supply and sewerage charges and bills:

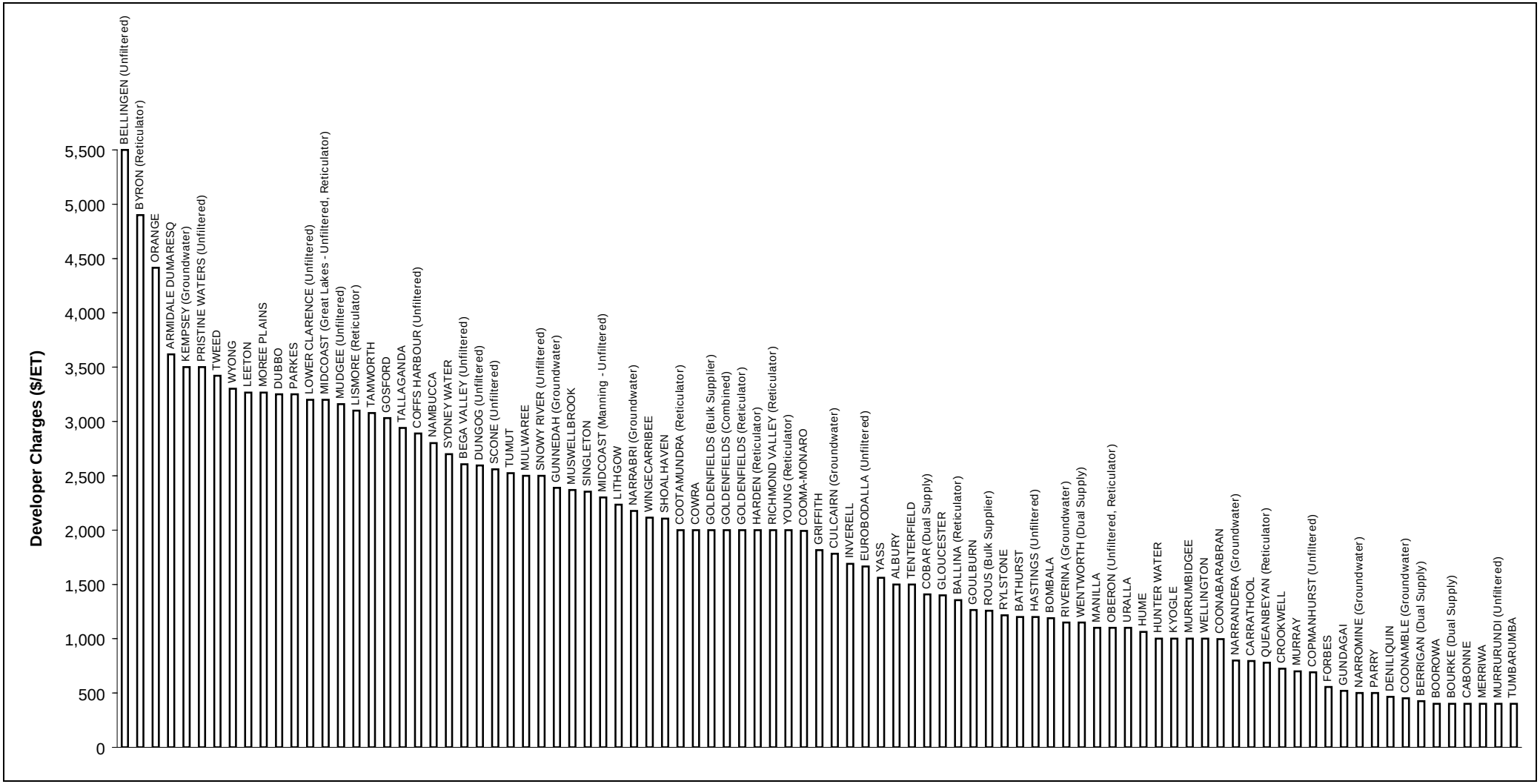
1. Typical Developer Charge for Water Supply
2. Residential Annual Water Allowance, Water Usage Charge and Access Charge
3. Typical Residential Bill - Water Supply
4. Typical Developer Charge for Sewerage
5. Typical Residential Bill – Sewerage
6. Typical Developer Charge for Water Supply and Sewerage
7. Typical Residential Bill - Water Supply and Sewerage

GENERAL NOTES

1. As for the 1998/99 NSW Water Supply and Sewerage Performance Comparisons report, this report has been prepared on a ***"per connected property"*** basis for consistency with national performance reporting. A connected property is a property that is connected to the system, as opposed to an assessment which is a bill issued by a water utility. Factors that influence this indicator are the number of vacant blocks (with no connection but which are billed as an assessment) and the number of multiple dwellings (eg. blocks of flats or units) with a single assessment.
2. The ratio of the number of connected properties to the number of assessments is reported to be about 0.95 for most utilities, although it ranges from 0.75 to 1.43. The data required for the calculation of this ratio was not well reported. DLWC has therefore estimated this ratio for many utilities (shown in ***italics bold*** in columns (2) and (2a) of Tables 7 and 10).
3. The ***typical residential bill*** is the annual bill paid by a typical residential customer and is the principal indicator of the overall cost of a water supply or sewerage system. Pensioners pay a lower amount due to the $87.50 pensioner rebate as do owners of vacant lots as they pay no usage charges.
4. The 2000/01 typical residential bill is based on a customer of the water utility's principal water supply or sewerage system, using the utility's 1999/00 average annual residential water consumption. These tariffs are shown in Tables 8 and 8A for water supply and Table 11 for sewerage. The typical residential bill for 1999/00 and previous years is based on the reported average annual residential water consumption for that year (these consumptions are shown in column 5 of Table 7).

5. The 1999/00 residential revenue, as a percentage of total rates and charges revenue is reported in column (7a) of Tables 7 and 10. A number of utilities did not report a breakdown of their rates and charges revenue into residential and non-residential. The percentage residential revenue for such utilities has been estimated by DLWC on the basis of reported values for similar utilities and is shown in italics bold in Tables 7 and 10. These latter values have been used for estimating the average residential bill for these utilities.
6. The average residential bill (Tables 8, 11 and Figures 8, 28, 80) comprises the water utility's revenue from residential rates and charges divided by the number of connected residential properties. Except for utilities with an inclining block tariff or an annual water allowance, and those with access charges not independent of land value, the average residential bill is less than the typical residential bill due to pensioner rebates and vacant lots.
7. The typical developer charges reported for Sydney Water Corporation and Hunter Water Corporation are for new release areas.
8. Drinking water quality guidelines have become more stringent. As for the 1998/99 NSW Water Supply and Sewerage Performance Comparisons report, this report reports compliance with the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines.
9. The average annual residential water consumption per connected property (Tables 5, 7 and Figure 22) refers to potable water consumption. As shown in Table 6, this comprises 96% (302,000/315,000) of the total 1999/00 water consumption for non-metropolitan NSW.
10. For consistency with national performance reporting, unaccounted for water now includes system water loss (ie. leakage).
19. ***Unfiltered –*** refers to a utility with over 50% of its supply comprising unfiltered surface water supply ie. the utility does not have a water treatment works involving at least filtration and disinfection for 50% of its supply *(Grafton, Hume, MidCoast, Tallaganda also have an unfiltered supply but the label has been inadvertently omitted).*
    Groundwater – refers to a utility with over 50% of its supply comprising good quality unfiltered groundwater (*Carrathool, Moree Plains, Nambucca, Parry also have groundwater but the label has been inadvertently omitted).*
    Reticulator – refers to a utility which purchases over 70% of its source water from a bulk supplier and reticulates water to householders in its area.
    Bulk Supplier – refers to a utility whose main task is to provide a piped bulk water supply to other utilities, rather than reticulating water to householders.
    Dual Supply – refers to a utility with a potable reticulated water supply for indoor uses and a separate non-potable supply for outdoor uses.
11. The performance indicators for Sydney Water Corporation and Hunter Water Corporation have been obtained from WSAA Facts 2000.

1 Typical Developer Charge for Water Supply – 2000/01

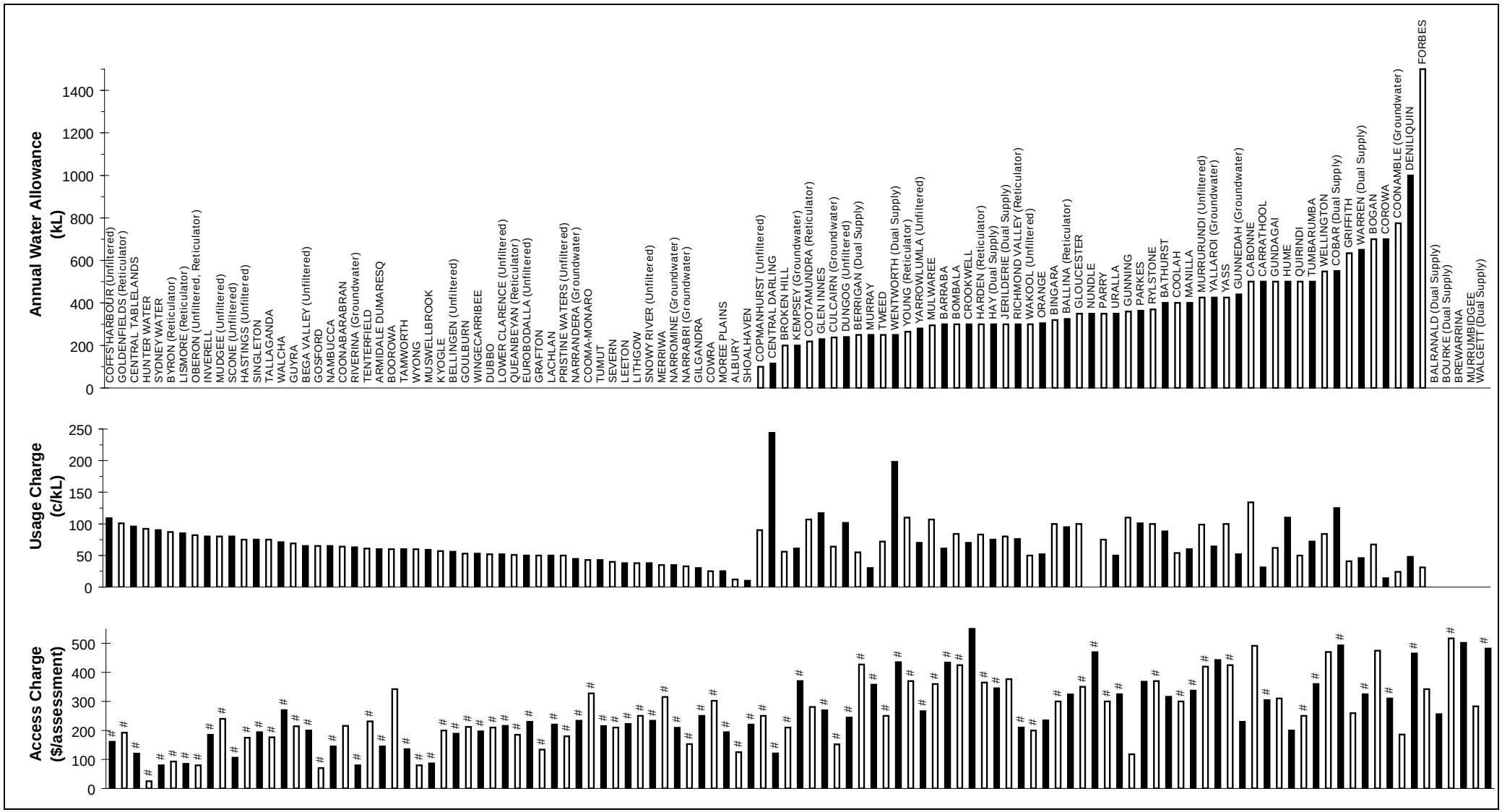


Parameter: Typical Water Supply Developer Charge (Q36)

Notes:

1. This figure shows ranked values of the 2000/01 typical developer charge for water supply for each council. Developer charges for the previous 3 years are shown in Table 8.
2. The Statewide median typical water supply developer charge was about $2,500 per equivalent tenement (ET) (Table 1).
3. 85 councils levied developer charges, 29 councils did not levy developer charges.
4. For general notes see page 43.

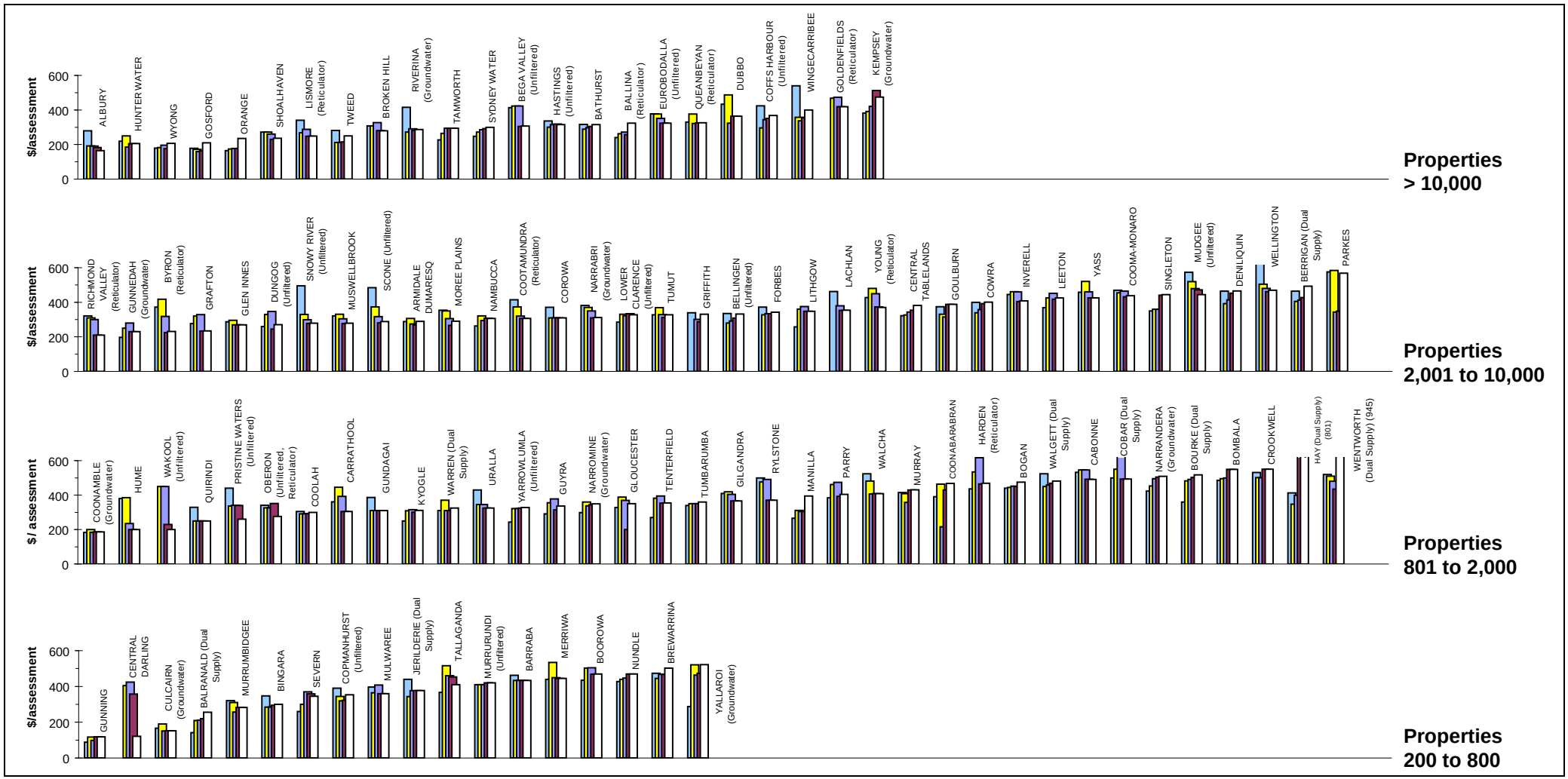
2 Residential Annual Water Allowance, Usage Charge And Access Charge – 2000/01



Notes:

1. The residential water usage charge shown is for usage in excess of 200 kL/a or any water allowance. Councils with a two-part tariff have the usage charge shown for all water usage. Further information on water supply tariff structures is shown in Tables 8, 8A and 8B.
2. The Statewide median water usage charge was 60 c/kL. 20% of councils had a usage charge greater than 95c/kL. 80% of councils had a usage charge greater than 45 c/kL.
3. The residential water access charge for the councils with a water allowance is the minimum charge or rate.
4. The 91 councils which have a residential access Charge independent of land value are indicated with an "#" on the bottom graph.

3 Typical Residential Bill – Water Supply

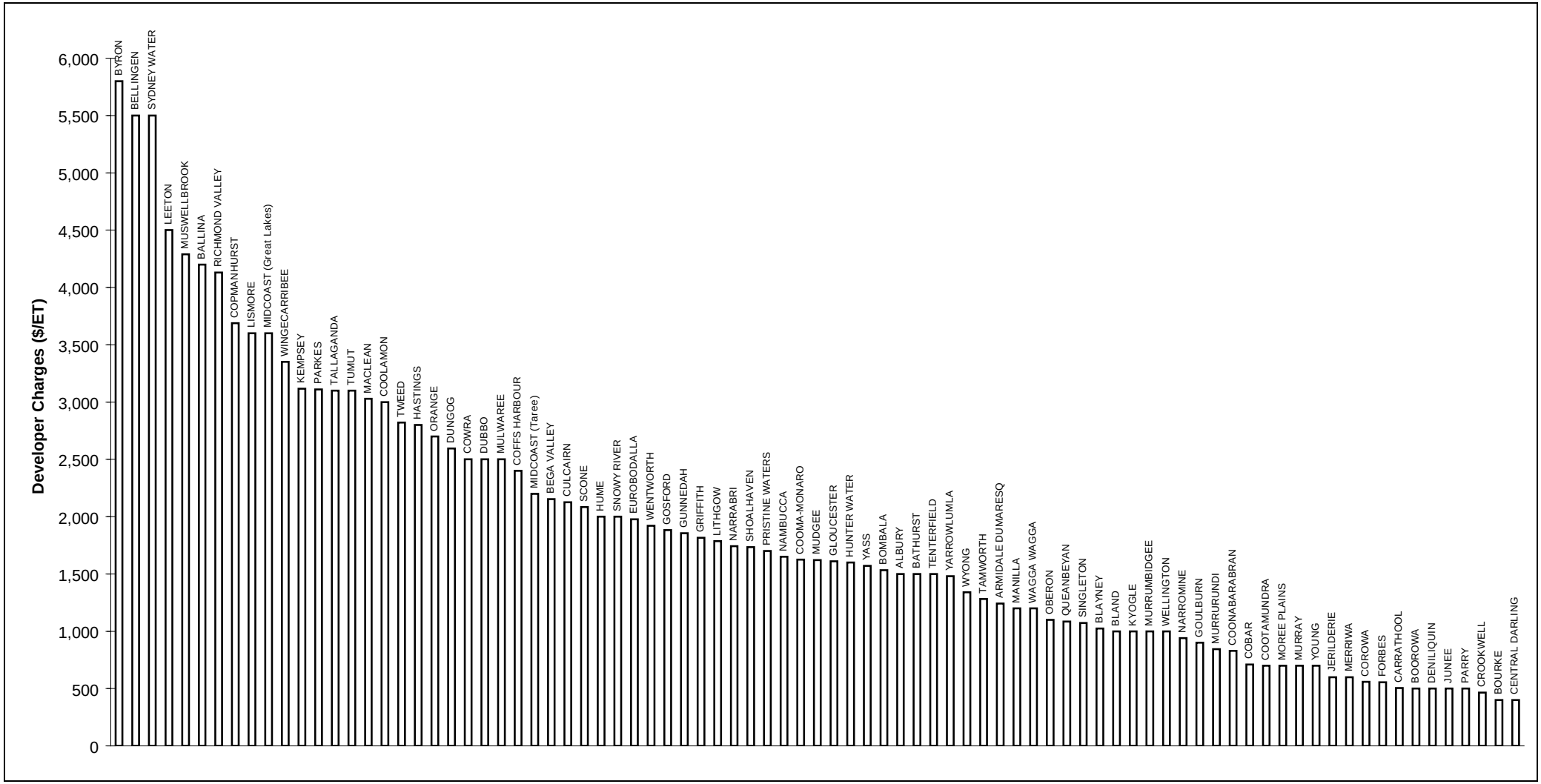


Parameter: Access Charge (Q32a) + Average Annual Residential Consumption (Fig.22) x Usage Charge (Q33b)

Notes:

1. This figure shows ranked values of the 2000/01 typical residential bill for water supply for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the typical residential bill for water supply for the 36 councils shown ***range*** from about ***$210 to $600*** per assessment. Results for the previous 4 years are also shown in Jan 2001$. Refer also to Table 8.
2. The Statewide median 2000/01 typical residential bill for water supply was $290 per assessment (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.

4 Typical Developer Charge For Sewerage – 2000/01

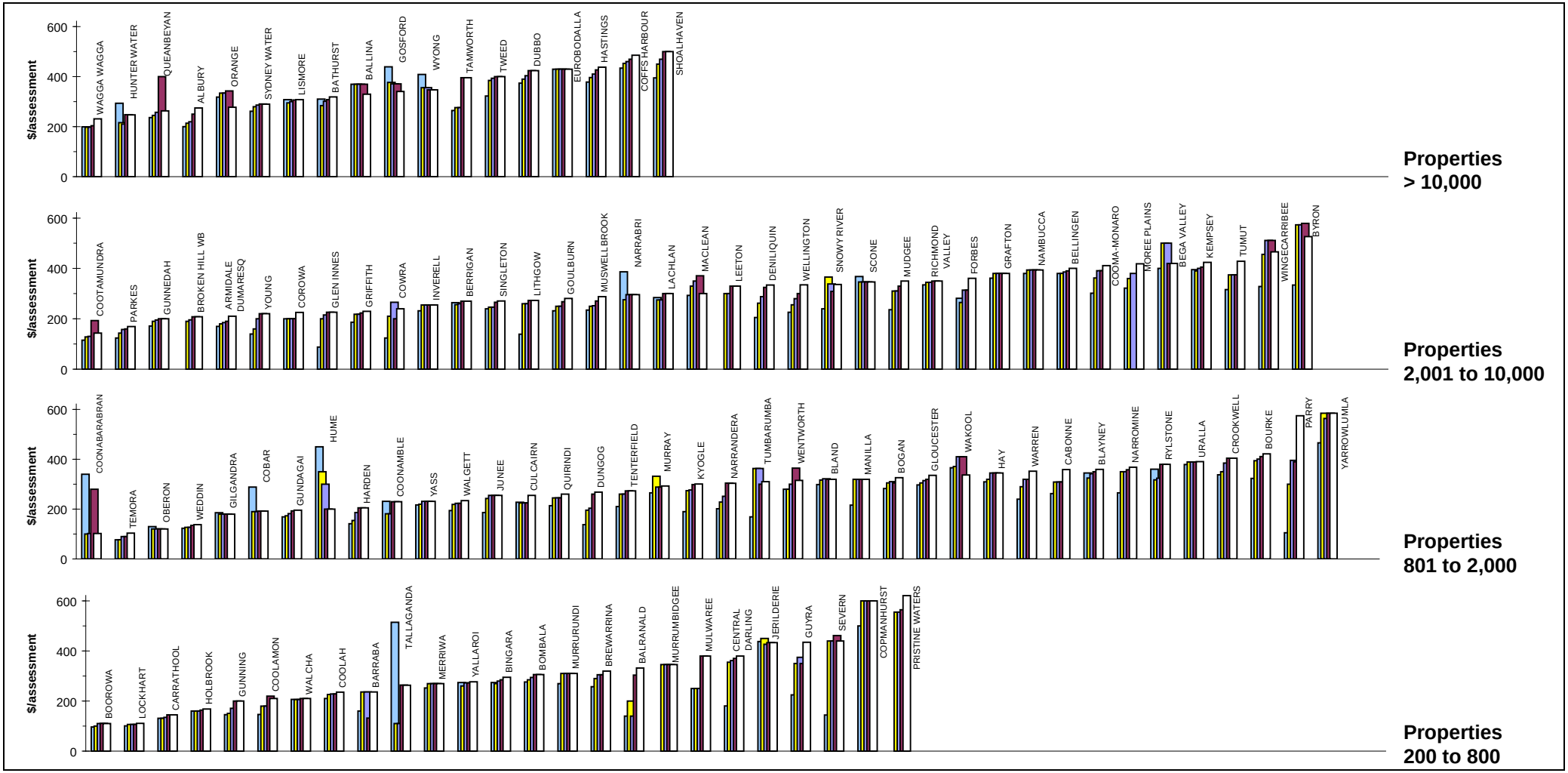


Parameter: Typical Sewerage Developer Charge (Q36)

Notes:

1. This figure shows ranked values of the 2000/01 typical developer charge for sewerage for each council. Developer charges for the previous 3 years are shown in Table 11.
2. The Statewide median typical sewerage developer charge was about $1,900 per equivalent tenement (ET) (Table 2).
3. 81 councils levied developer charges, 36 councils did not levy developer charges.
4. For general notes see page 43.

5 Typical Residential Bill – Sewerage

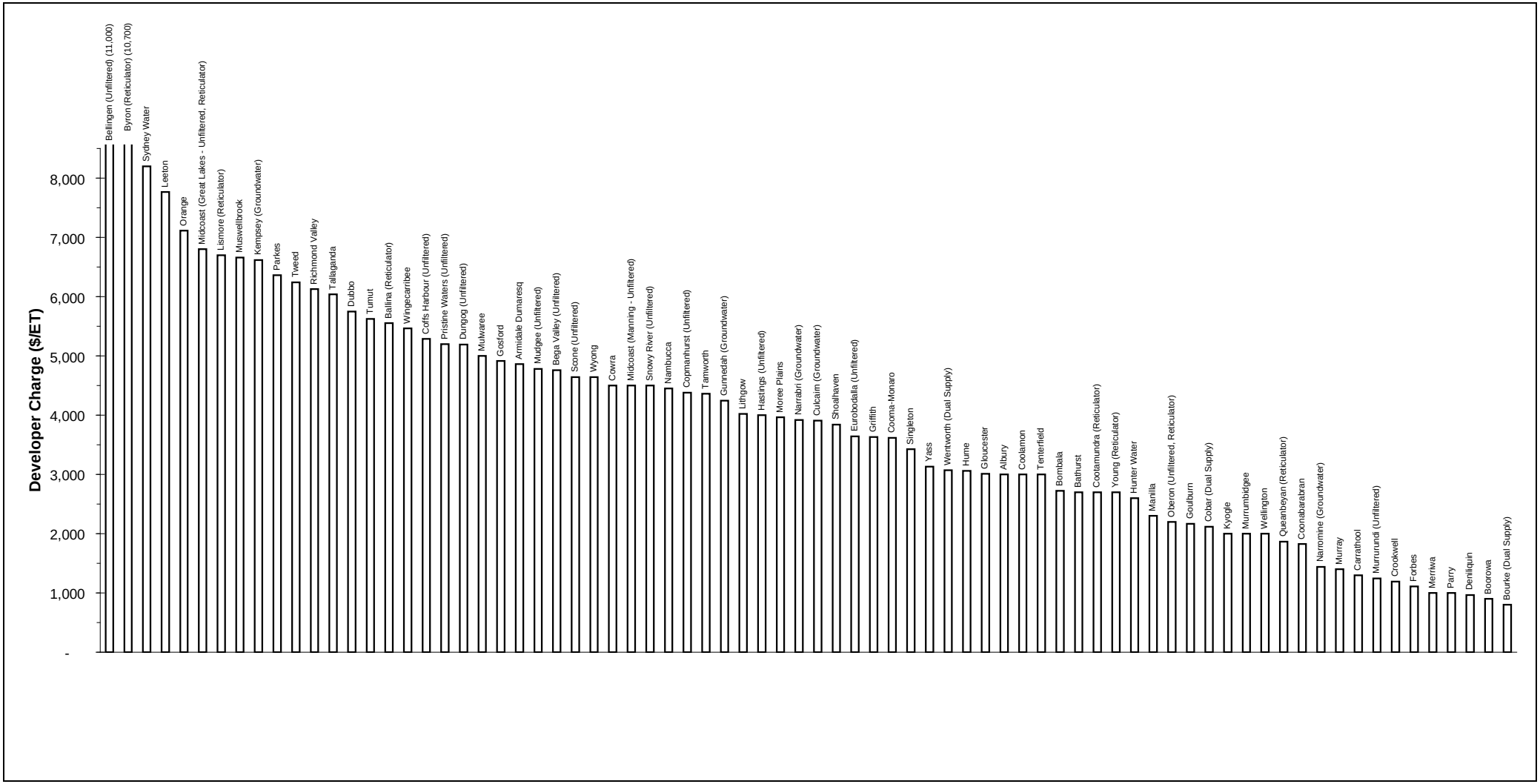


Parameter: Access Charge (Q31a).

Notes:

1. This figure shows ranked values of the 2000/01 typical residential bill for sewerage for each council in 4 groups based on the number of water supply connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the typical residential bill for sewerage bill for the 37 councils shown ***range*** from about ***$145 to $525*** per assessment. Results for the previous 4 years are also shown in Jan 2001$.
2. The Statewide median 2000/01 typical residential bill for sewerage was $340 per assessment (refer to Table 2 – percentage of connected properties basis).
3. For general notes see page 43.

6 Typical Developer Charge for Water Supply and Sewerage – 2000/01

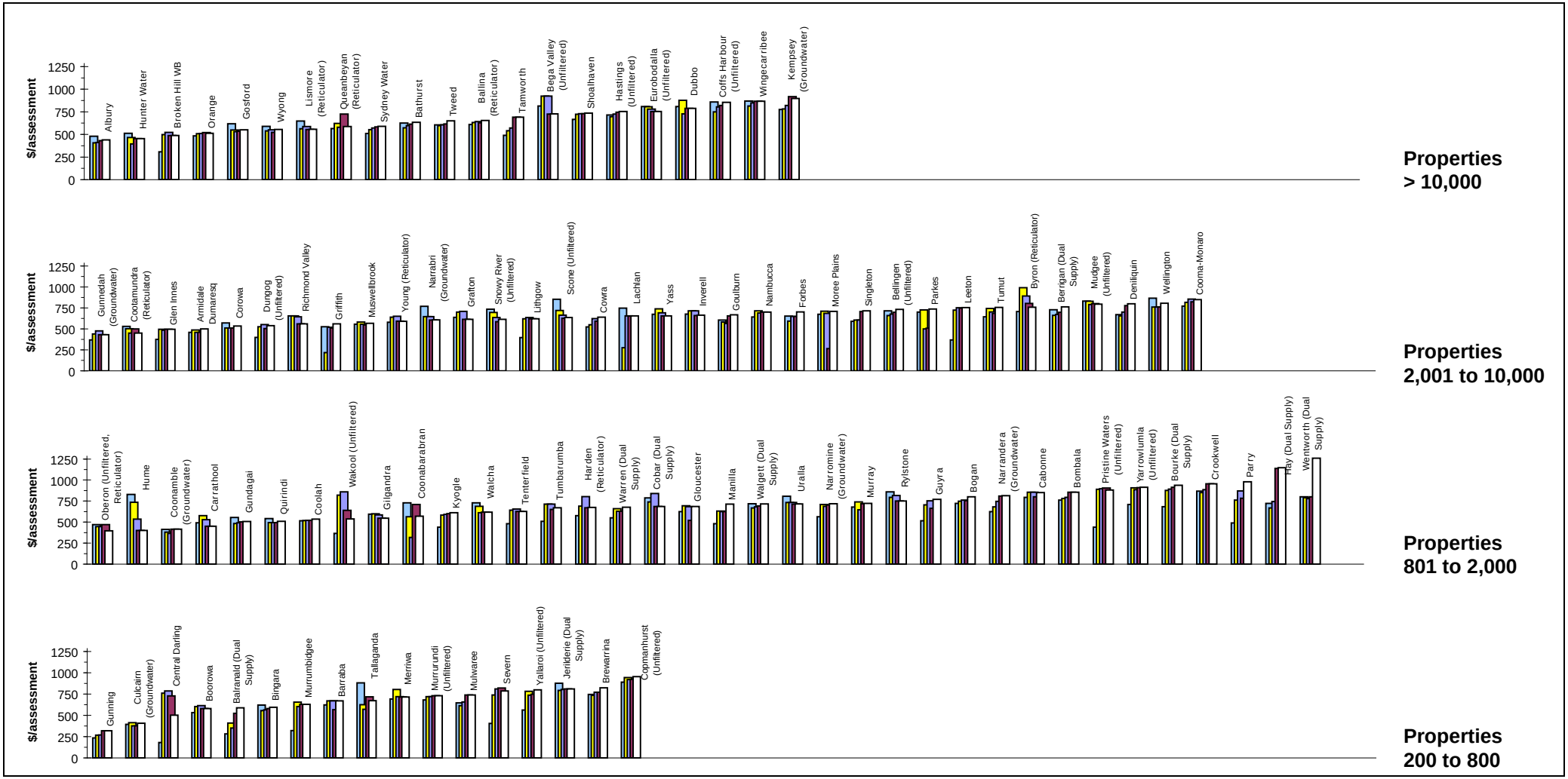


Parameter: Typical Water Supply Developer Charges (Fig. 1) + Typical Sewerage Developer Charges (Fig. 3)

Notes:

1. This figure shows ranked values of the 2000/01 typical developer charge for water supply and sewerage for each council.
2. The Statewide median typical developer charge for water supply and sewerage was $4,650 per equivalent tenement (ET).
3. For general notes see page 43.

7 Typical Residential Bill – Water Supply and Sewerage



Parameter: Typical Water Supply Residential Bill (Fig. 3) + Typical Sewerage Residential Bill (Fig. 5)

1996/97 1997/98 1998/99 1999/00 2000/01

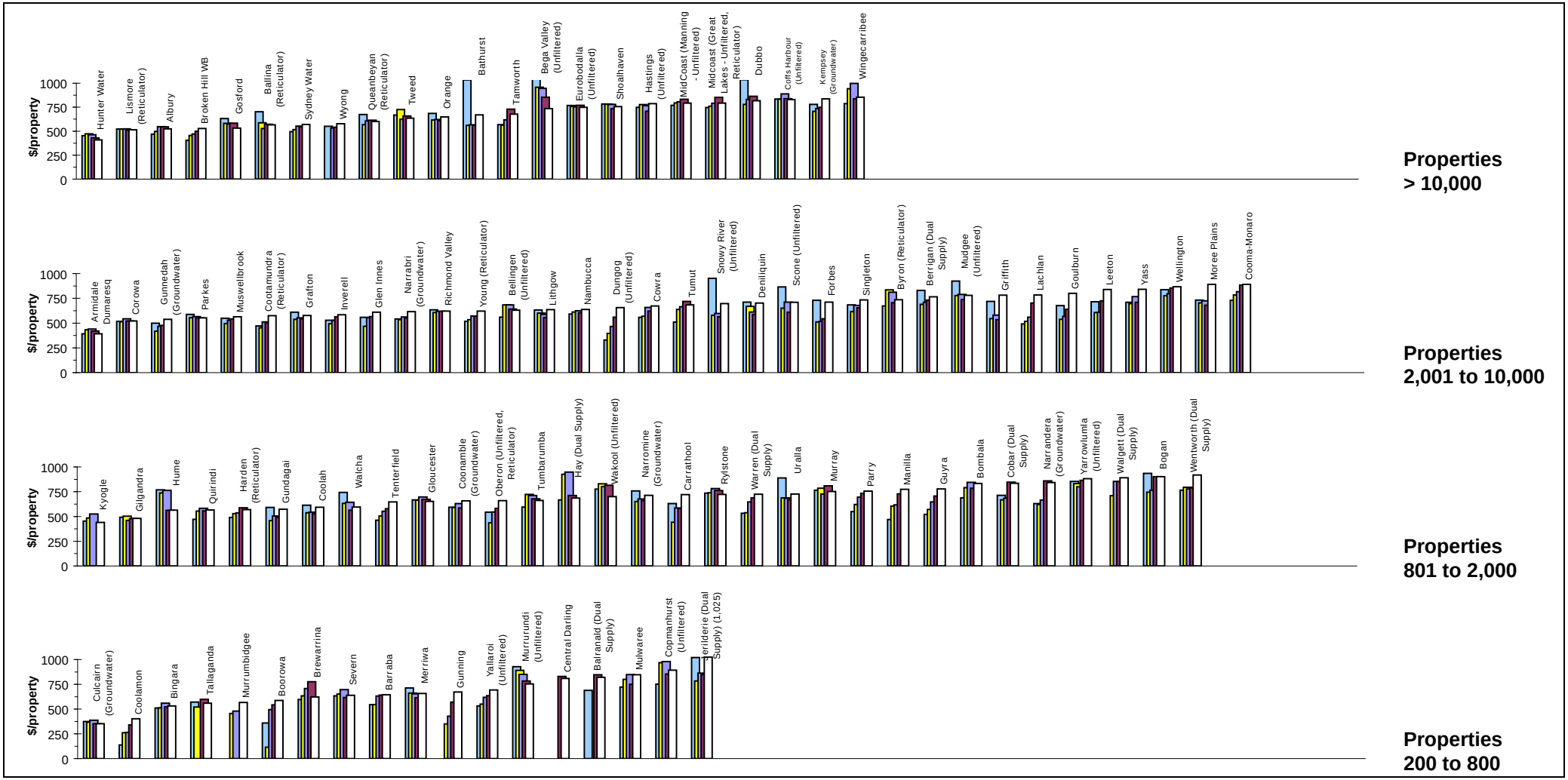
Notes:

1. This figure shows ranked values of the 2000/01 typical residential bill for water supply and sewerage for each council in 4 groups based on the number of water supply connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the typical residential bills for water supply and sewerage for the 34 councils shown ***range*** from about ***$430 to $900*** per assessment. Results for the previous 4 years are also shown in Jan 2001$.
2. The Statewide 2000/01 median typical residential bill for water supply and sewerage was $650 per assessment (Table 5).
3. For general notes see page 43.

Blank Page

4. 1999/00 WATER SUPPLY AND SEWERAGE FIGURES

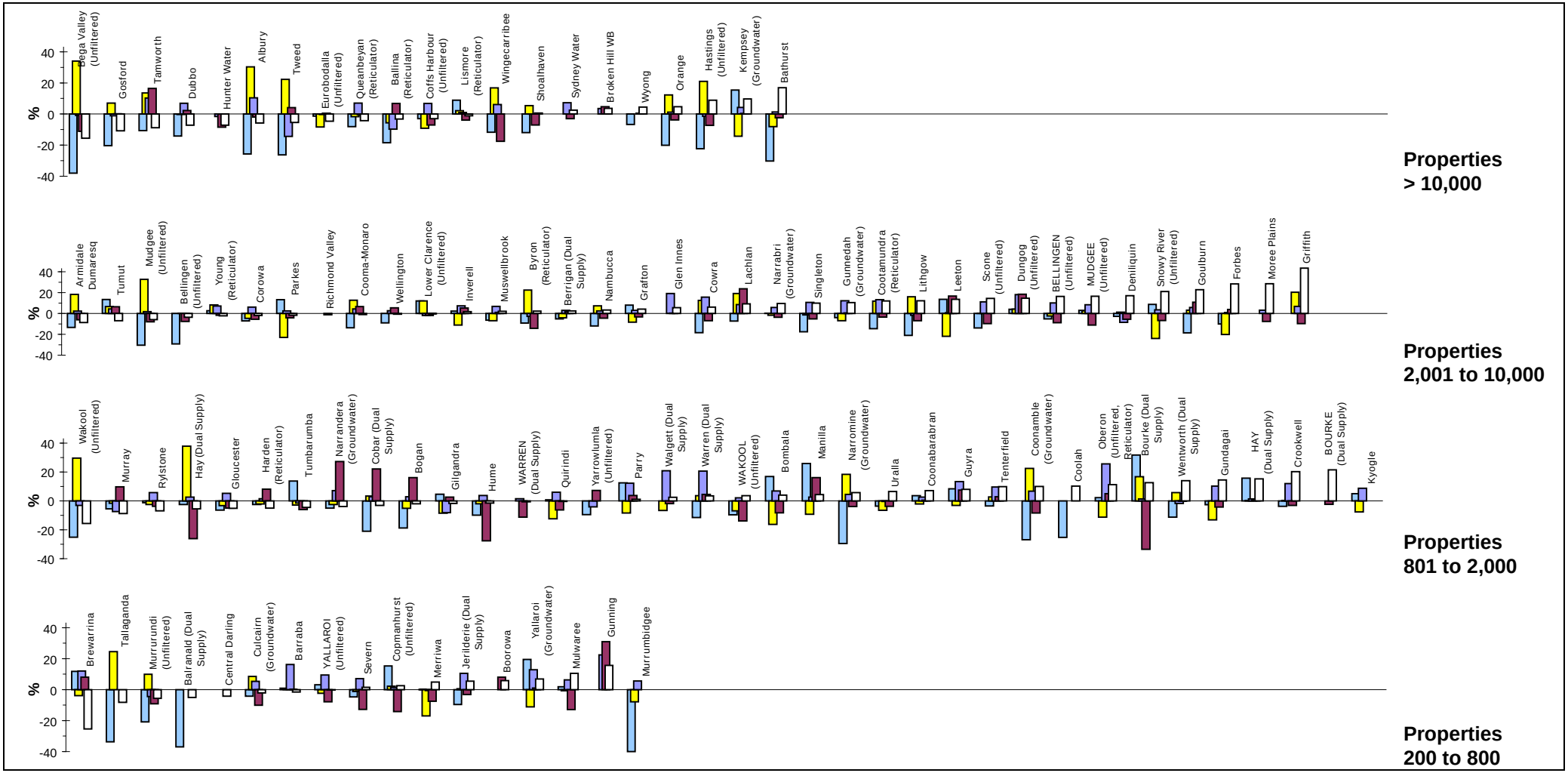
Blank Page



Parameter: Water Supply Average Residential Bill (Fig 28) + Sewerage Average Residential Bill (Fig 80)

Notes:

1. This figure shows ranked values of the 1999/00 average residential bill for water supply and sewerage for each council in 4 groups based on the number of water supply connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the water supply and sewerage average residential bills for the 34 councils shown ***range*** from about ***$390 to $890*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median average residential bill for water supply and sewerage was $620 per connected property.
3. For general notes see page 43.



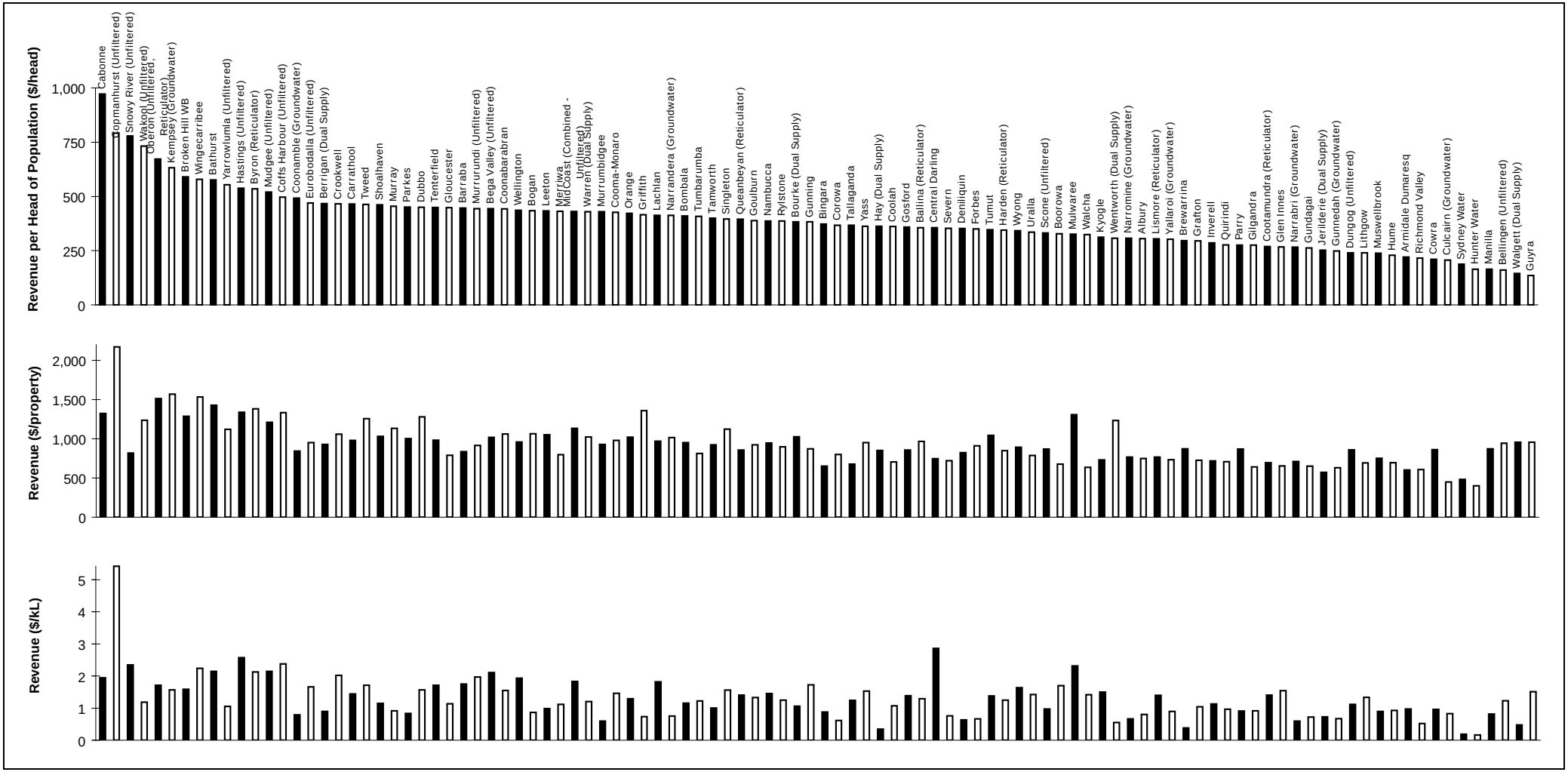
Parameter:

$$\frac{\text{[Water Supply Average Residential Bill for (Fig 28) + Sewerage Average Residential Bill (Fig 80)] x 100}}{\text{[Water Supply Average Residential Bill (Fig 28) + Sewerage Average Residential Bill (Fig 80)] for previous year x (1+CPI increase)}}$$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the 1999/00 real increase in the water supply and sewerage average residential bill for each council in 4 groups based on the number of water supply connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the real increase in the average residential bill for the 36 councils shown ***ranges*** from about ***–10% to 45%***.
2. For general notes see page 43.

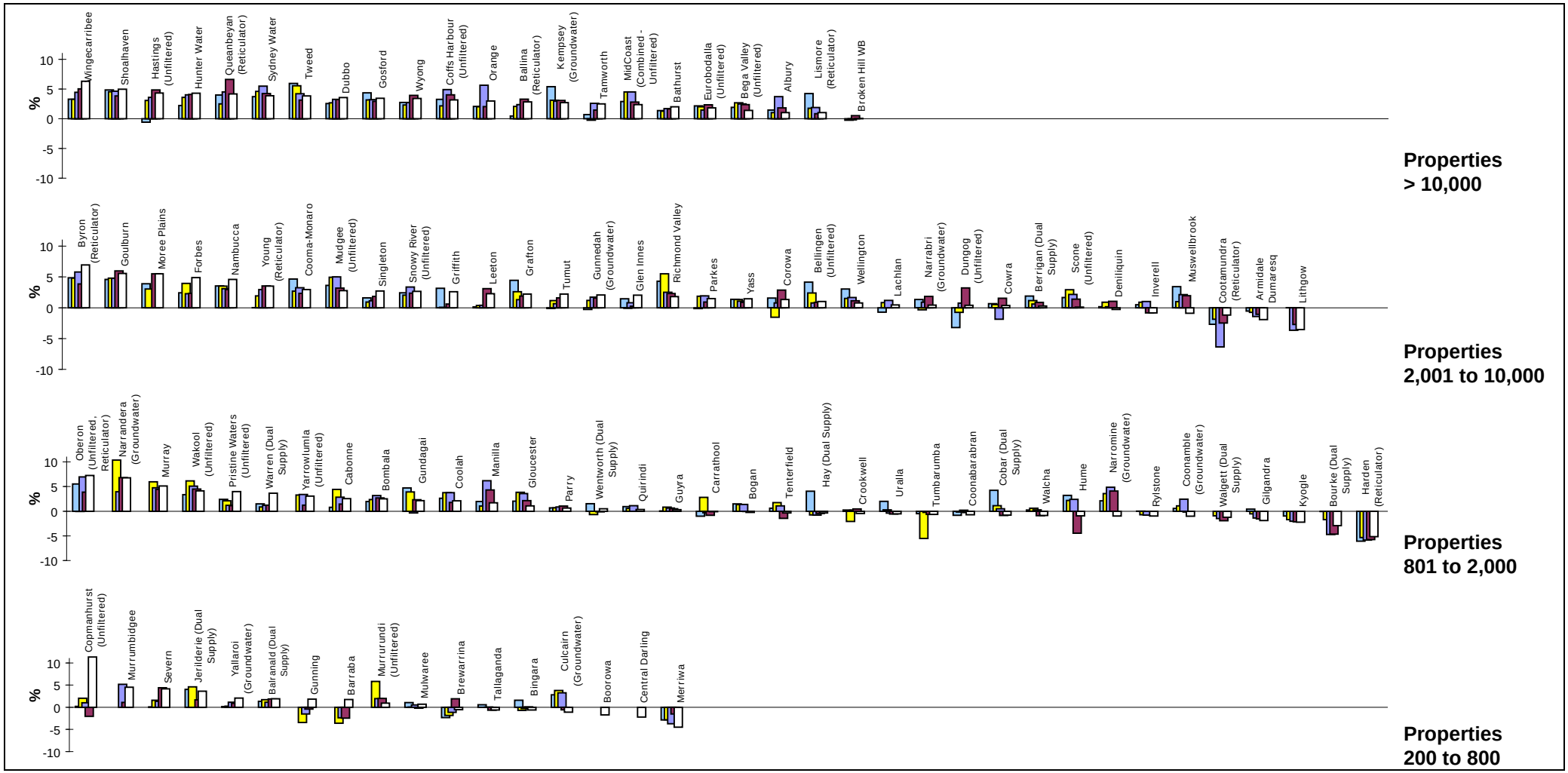


Parameter: $\frac{\text{Water Supply Revenue (W13)}}{\text{Water Supply Population (Q1a)}} + \frac{\text{Sewerage Revenue (S14)}}{\text{Sewerage Population (Q1a)}}$

Parameter: $\frac{\text{Water Supply Revenue (W13)}}{\text{(No. Water Supply Assessments (Q4a)+(Q4b)) x (No. of Connected Properties/Assessment from Table7)}} + \frac{\text{Sewerage Revenue (S14)}}{\text{(No. Sewerage Assessments (Q4a)+(Q4b)) x (No. of Connected Properties/Assessment from Table10)}}$

Parameter: $\frac{\text{Water Supply Revenue (W13)}}{\text{Water Consumption (Q12i)}} + \frac{\text{Sewerage Revenue (S14)}}{\text{Sewage Treated (Q12d)}}$

Note:
1. For general notes see page 43.

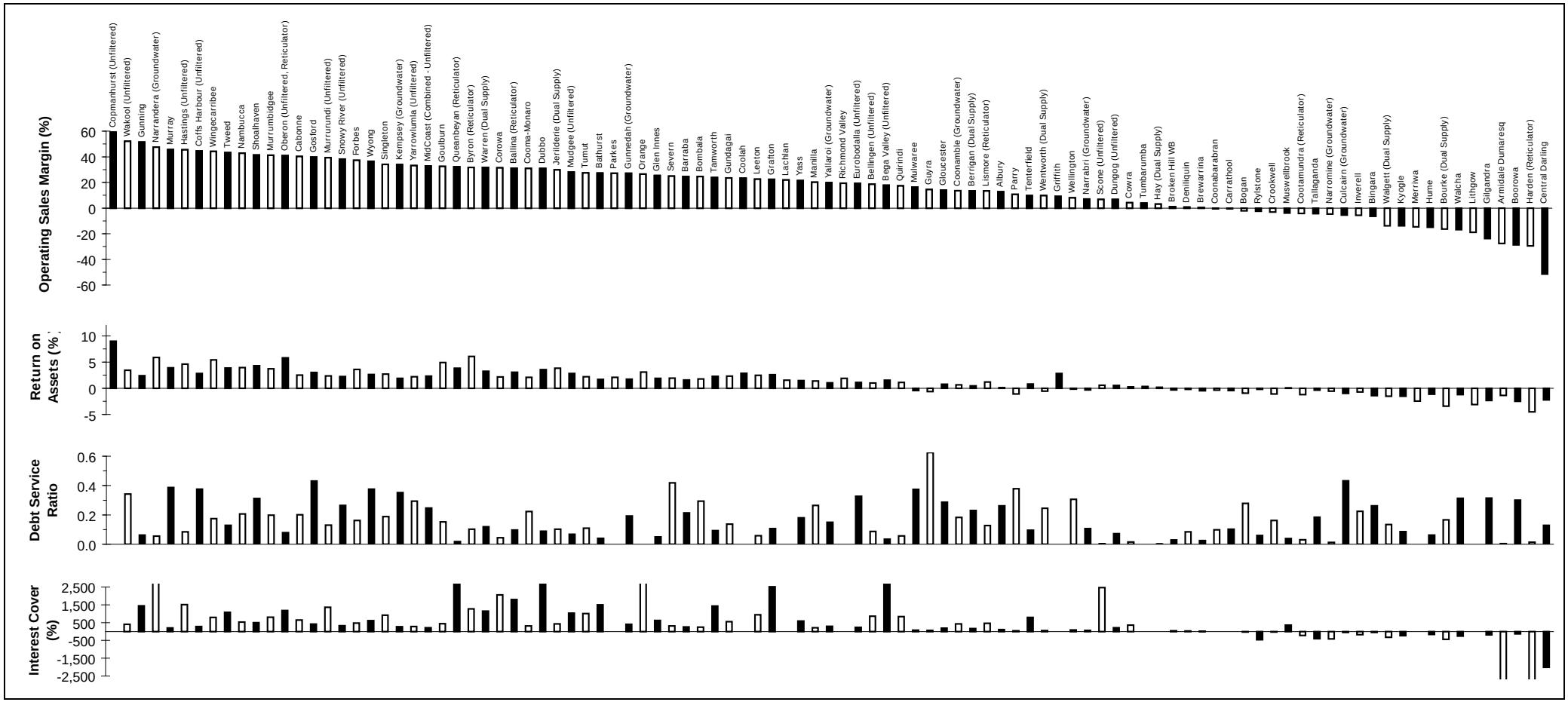


Parameter: [Revenue (S14+W19) - Grants for Acquisition of Assets (S12a+W11a) - Total Expenses (S5+W5) + Interest Expense (S4a+W4a) - Interest Income (S10+W9)] x 100 / Written Down Replacement Cost of Property, Plant & Equipment (S45+W44)

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows 1999/00 ranked values of the water supply and sewerage economic real rate of return for each council in 4 groups based on the number of water supply connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the real rates of return for the 34 councils shown ***range*** from about 7***% to –3%***.
2. The Statewide median economic real rate of return for water supply and sewerage was 3.0% (Table 5).
3. For general notes see page 43.



Parameter: $\frac{\text{[Total Revenue (S14+W13) - Grants for Capital Works (S12a+W11a) - Developer Provided Assets (S13b+W12b) - Total Expense (S5+W5) + Interest Expenses (S4a+W4a)] x 100}{\text{Total Revenue (S14+W13) - Grants for Capital Works (S12a+W11a) - Developer Provided Assets (S13b+W12b) - Interest on Investments (S10+W9)}}$

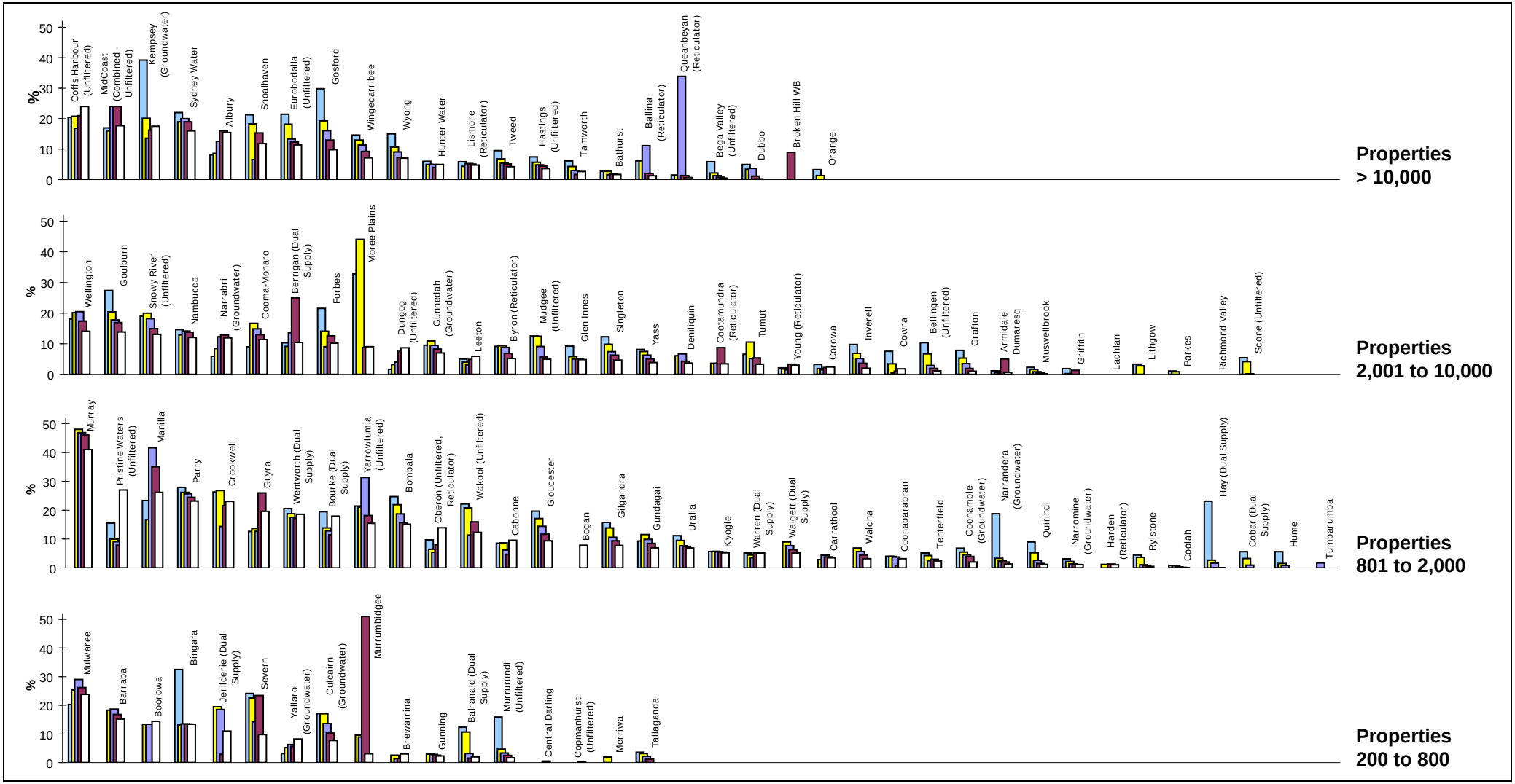
Parameter: $\frac{\text{[Total Revenue (S14+W13) - Grants for Capital Works (S12a+W11a) - Total Expenses (S5+W5)] x 100}}{\text{Total Equity (S42+W41)}}$

Parameter: $\frac{\text{Payment of Debts (S18+W17) + Interest Expense (S4a+W4a)}}{\text{[Total Revenue (S14+W13) - Grants for Capital Works (S12a+W11a) - Developer Provided Assets (S13b+W12b)}}$

Parameter: $\frac{\text{[Total Revenue (S14+W13) - Grants for Capital Works (S12a+W11a) - Total Expenses (S5+W5) + Interest Expense (S4a+W4a)] x 100}}{\text{Interest Expense (S4a+W4a)}}$

Note:

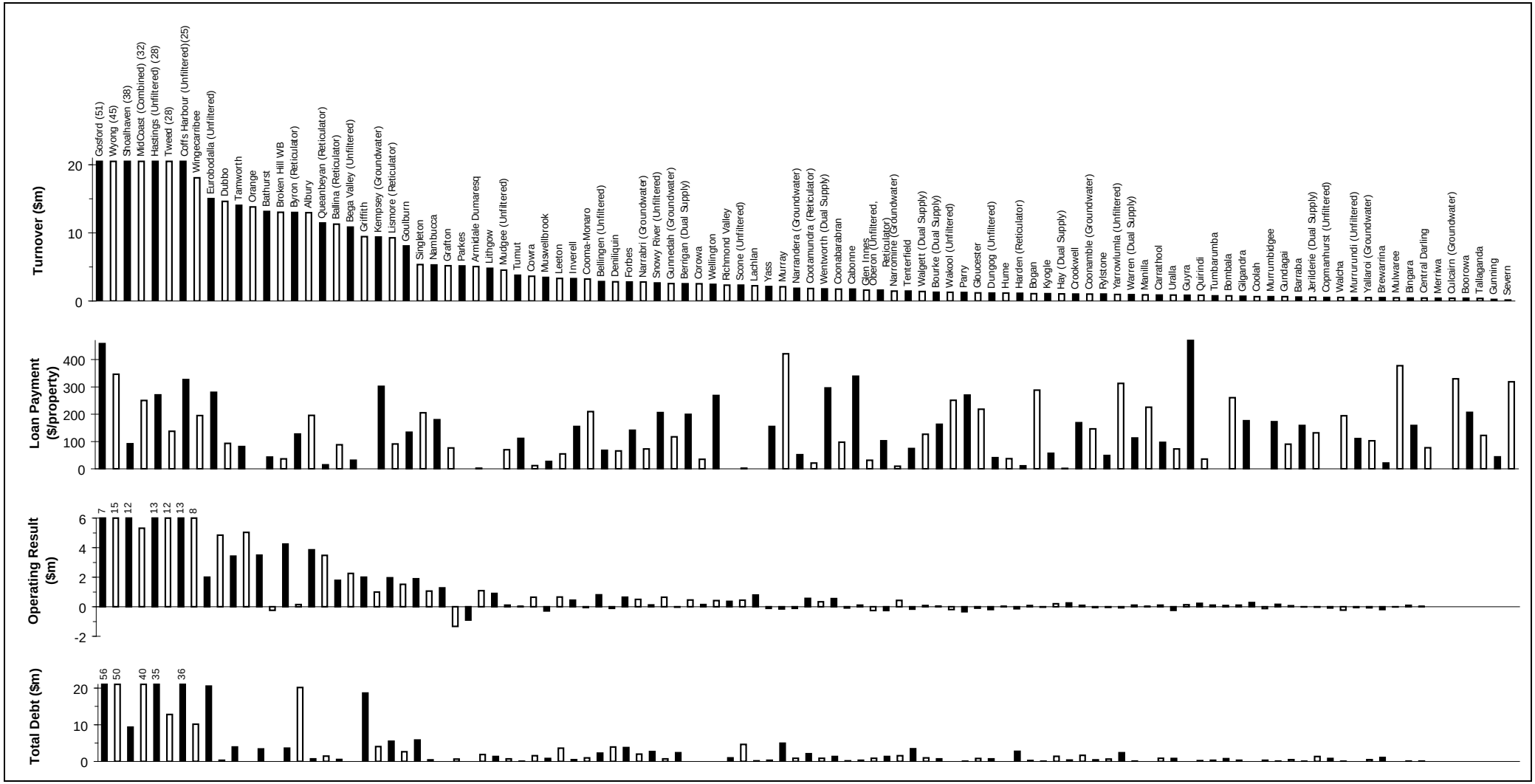
1. For general notes see page 43.



Parameter: $\frac{\text{[Bank Overdraft (S34+W33) + Borrowing (S36+W35)] x 100}}{\text{Total Equity (W42+W41)}}$

Notes:

1. This figure shows 1999/00 ranked values of the water supply and sewerage debt to equity for each council in 4 groups based on the number of water supply connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the debt to equity for the 34 councils shown ***ranges*** from about 15***% to 0%.***
2. The Statewide median debt to equity ratio for water supply and sewerage was 7% (Table 5).
3. For general notes see page 43.



Parameter: [Total Revenue (S14+W13) - Grants for Capital Works (S12a+W11a)] ÷ 1,000,000

Parameter:

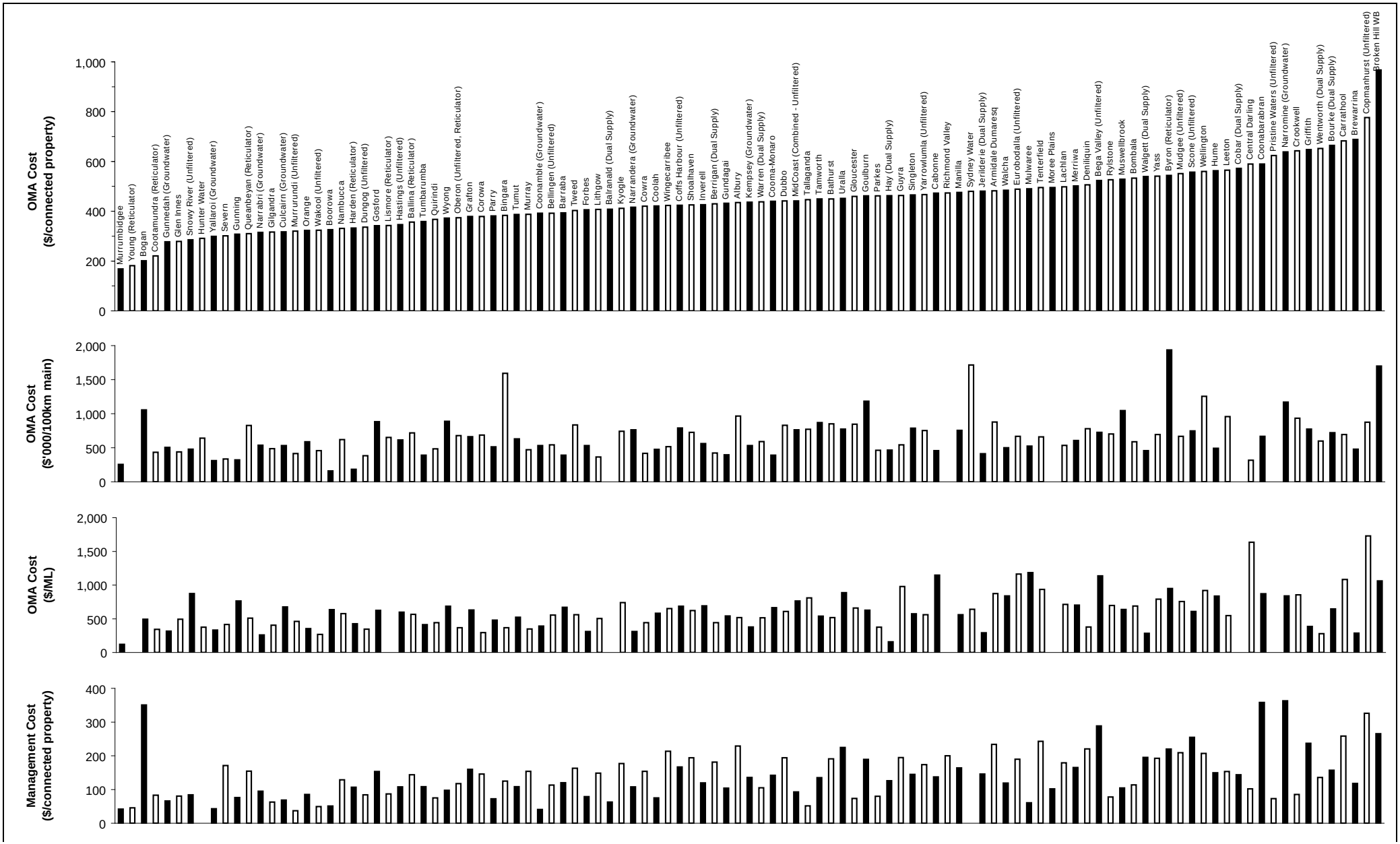
$$\frac{\text{Payment of Debts (S18+W17) + Interest Expense (S4a+W4a)}}{\text{No. of water Assessments(Q4a+Q4b) x No. of Connected Properties per Assessment}}$$

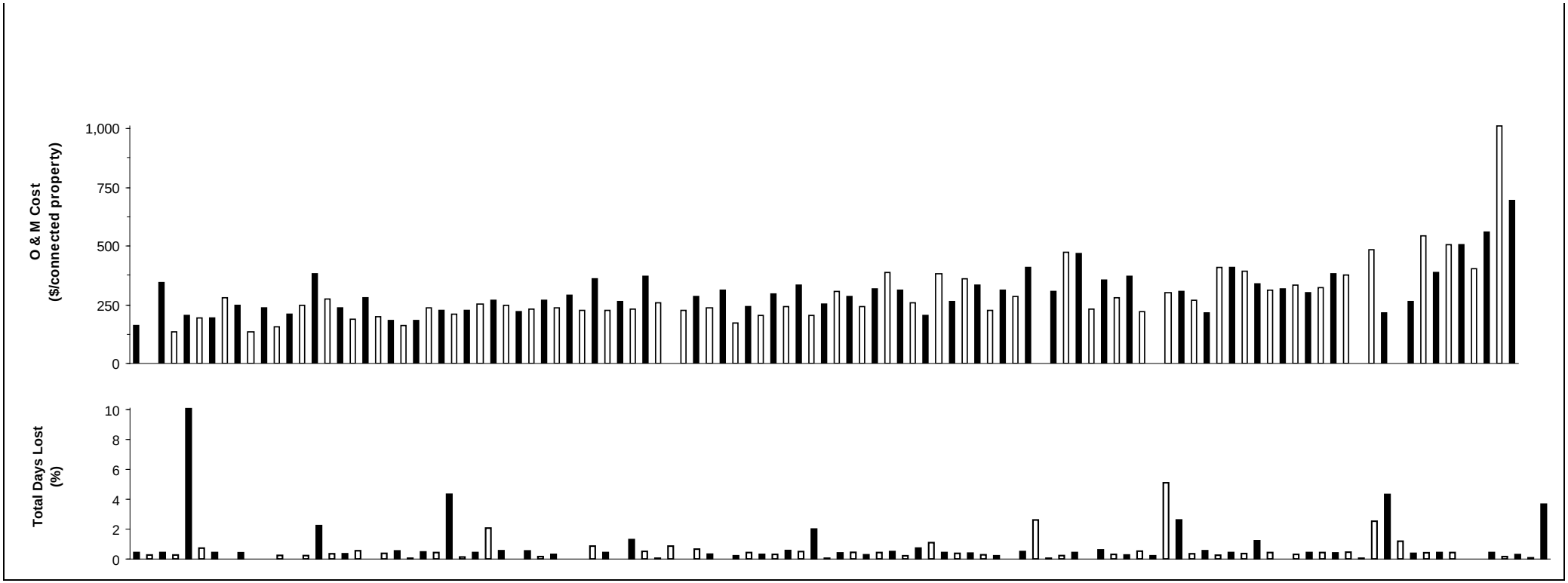
Parameter: [Operating Result (S16+W15) - Grants for Capital Works (S12a+W11a)] ÷ 1,000,000

Parameter: [Borrowings (S36 + W35) + Bank Overdraft (S34 + W33)] ÷ 1,000,000

Note:

1. For general notes see page 43.


OMA Cost ($/connected property)
1,000
800
600
400
200
0
Murrumbidgee
Young (Reticulator)
Bogan
Cootamundra (Reticulator)
Gunnedah (Groundwater)
Glen Innes
Snowy River (Unfiltered)
Hunter Water
Yallaroi (Groundwater)
Severn
Gunning
Queanbeyan (Reticulator)
Narrabri (Groundwater)
Gilgandra
Culcairn (Groundwater)
Murrurundi (Unfiltered)
Orange
Wakool (Unfiltered)
Boorowa
Nambucca
Harden (Reticulator)
Dungog (Unfiltered)
Gosford
Lismore (Reticulator)
Hastings (Unfiltered)
Ballina (Reticulator)
Tumbarumba
Quirindi
Wyong
Oberon (Unfiltered, Reticulator)
Grafton
Corowa
Parry
Bingara
Tumut
Murray
Coonamble (Groundwater)
Bellingen (Unfiltered)
Barraba
Tweed
Forbes
Lithgow
Balranald (Dual Supply)
Kyogle
Narrandera (Groundwater)
Cowra
Coolah
Wingecarribee
Coffs Harbour (Unfiltered)
Shoalhaven
Inverell
Berrigan (Dual Supply)
Gundagai
Albury
Kempsey (Groundwater)
Warren (Dual Supply)
Cooma-Monaro
Dubbo
MidCoast (Combined - Unfiltered)
Tallaganda
Tamworth
Bathurst
Uralla
Gloucester
Goulburn
Parkes
Hay (Dual Supply)
Guyra
Singleton
Yarrowlumla (Unfiltered)
Cabonne
Richmond Valley
Manilla
Sydney Water
Jerilderie (Dual Supply)
Armidale Dumaresq
Walcha
Eurobodalla (Unfiltered)
Mulwaree
Tenterfield
Moree Plains
Lachlan
Merriwa
Denliquin
Bega Valley (Unfiltered)
Rylstone
Muswellbrook
Bombala
Walgett (Dual Supply)
Yass
Byron (Reticulator)
Mudgee (Unfiltered)
Scone (Unfiltered)
Wellington
Hume
Leeton
Cobar (Dual Supply)
Central Darling
Coonabarabran
Pristine Waters (Unfiltered)
Narromine (Groundwater)
Crookwell
Griffith
Wentworth (Dual Supply)
Bourke (Dual Supply)
Carrathool
Brewarrina
Copmanhurst (Unfiltered)
Broken Hill WB
OMA Cost ($'000/100km main)
2,000
1,500
1,000
500
0
OMA Cost ($/ML)
2,000
1,500
1,000
500
0
Management Cost ($/connected property)
400
300
200
100
0



Parameter: $\frac{\text{Management Expenses (S1+W1) + Operations Expenses (S2+W2) – Purchase of Water(W2o)}}{\text{[No. of water Assessments(Q4a+Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Management Expenses (S1+W1) + Operations Expenses (S2+W2) – Purchase of Water(W2o)}}{\text{[Length of Sewerage Mains (Q10c) + Length of Water Mains (Q10c)] x 10}}$

Parameter: $\frac{\text{[Management Expenses (S1+W1) + Operations Expenses (S2+W2) – Purchase of Water(W2o)]}}{\text{Volume of Sewage Treated (Q39) + Water Consumption (Q12i)}}$

Parameter: $\frac{\text{Management Expenses (S1+W1)}}{\text{[No. of water Assessments(Q4a+Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Operations Expenses (S2+W2) – Purchase of Water(W2o)}}{\text{[No. of water Assessments(Q4a+Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{[Total No. of Sewerage Days Lost (Q30) Total No. of Water Days Lost (Q31)] x 100}}{\text{[Equivalent Full-time Sewerage Employees (Q29)+ Equivalent Full-time Water Employees (Q30)] x available working days (ie. 230)}}$

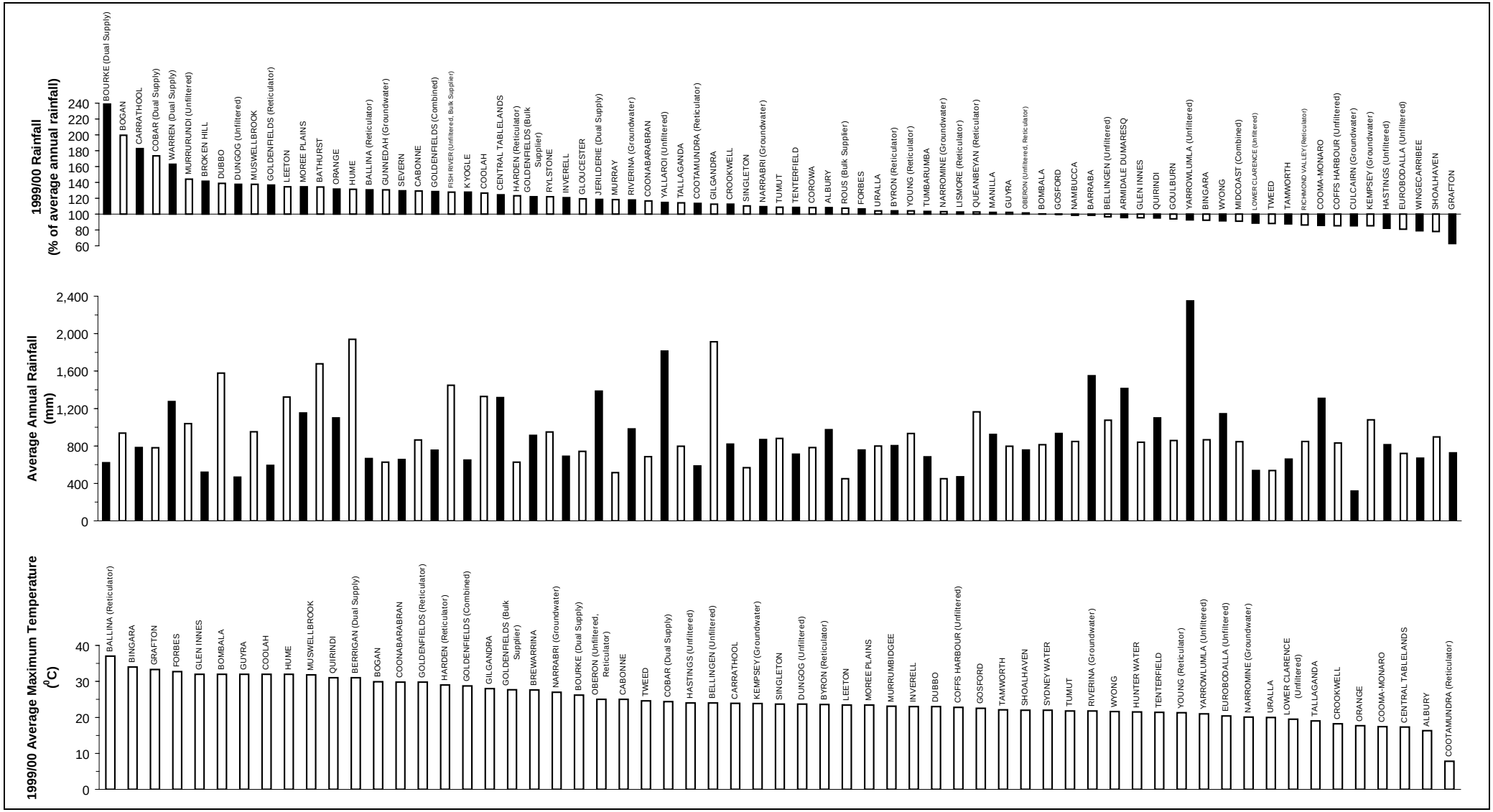
Note:

1. For general notes see page 43.

Blank Page

5. 1999/00 WATER SUPPLY FIGURES

Blank Page



Parameter: 1999/00 Rainfall (Q17a) x 100 / Average Annual Rainfall (Q17b)

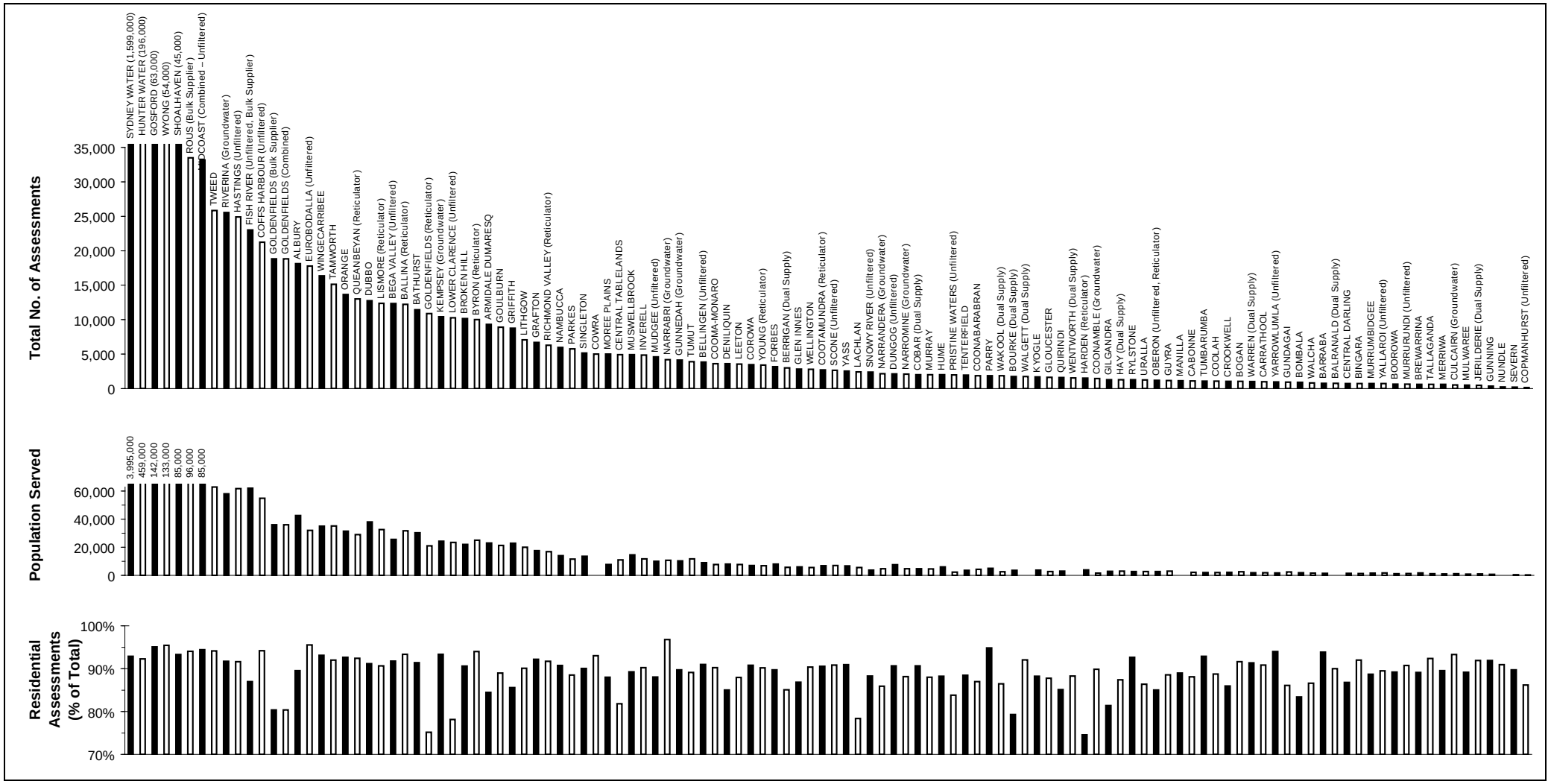
Parameter: Average Annual Rainfall (Q17b)

Parameter: 1999/00 Average Maximum Temperature (Q17c)

Note:

1. For general notes see page 43.

16 Population, Assessments Served



Parameter: No.of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)

Parameter: Population Served (Q1a)

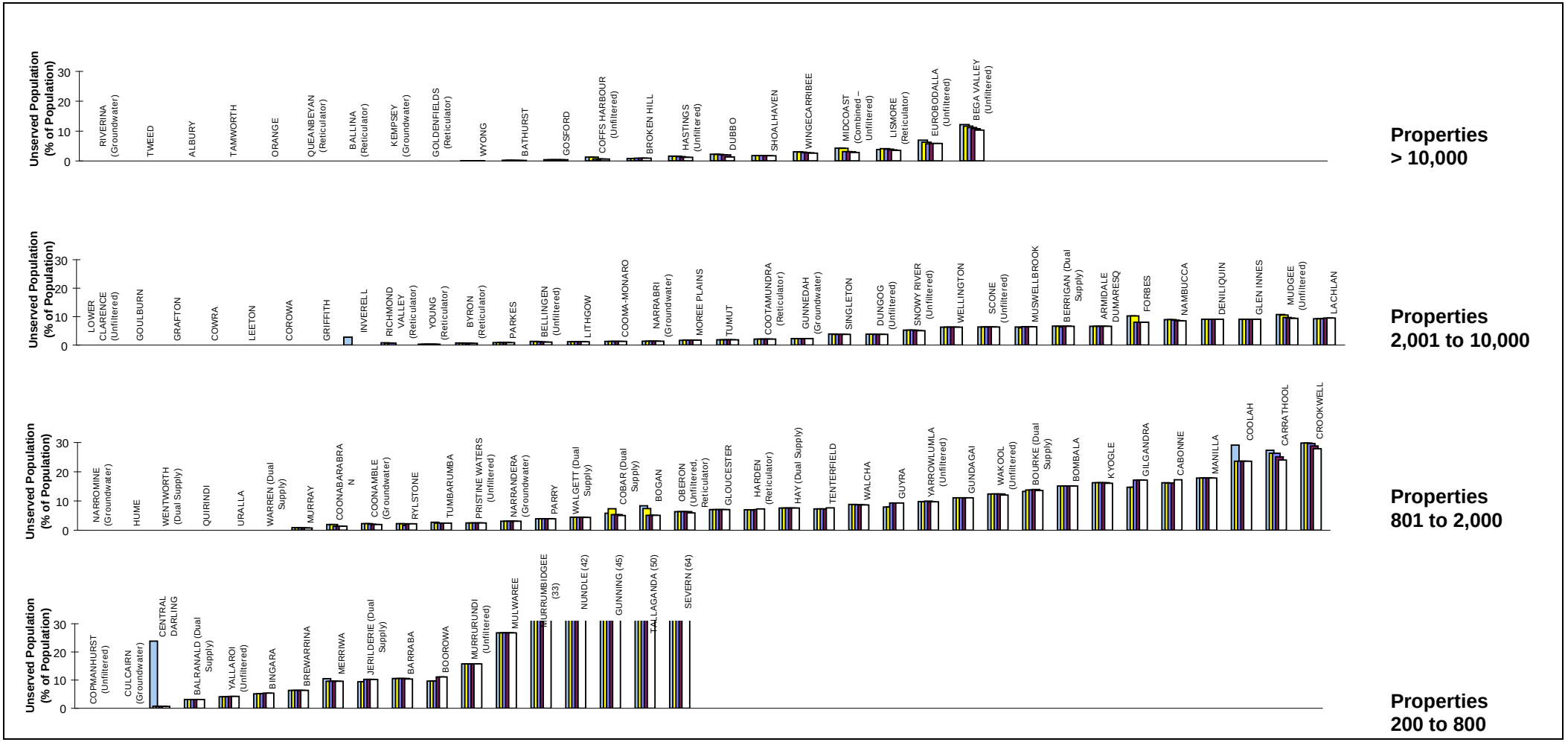
Parameter:

$$\frac{\text{No. of Residential Assessments (Q4a)} \times 100}{\text{No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)}}$$

Note:

1. For general notes see page 43.

17 Urban Population without Water Supply

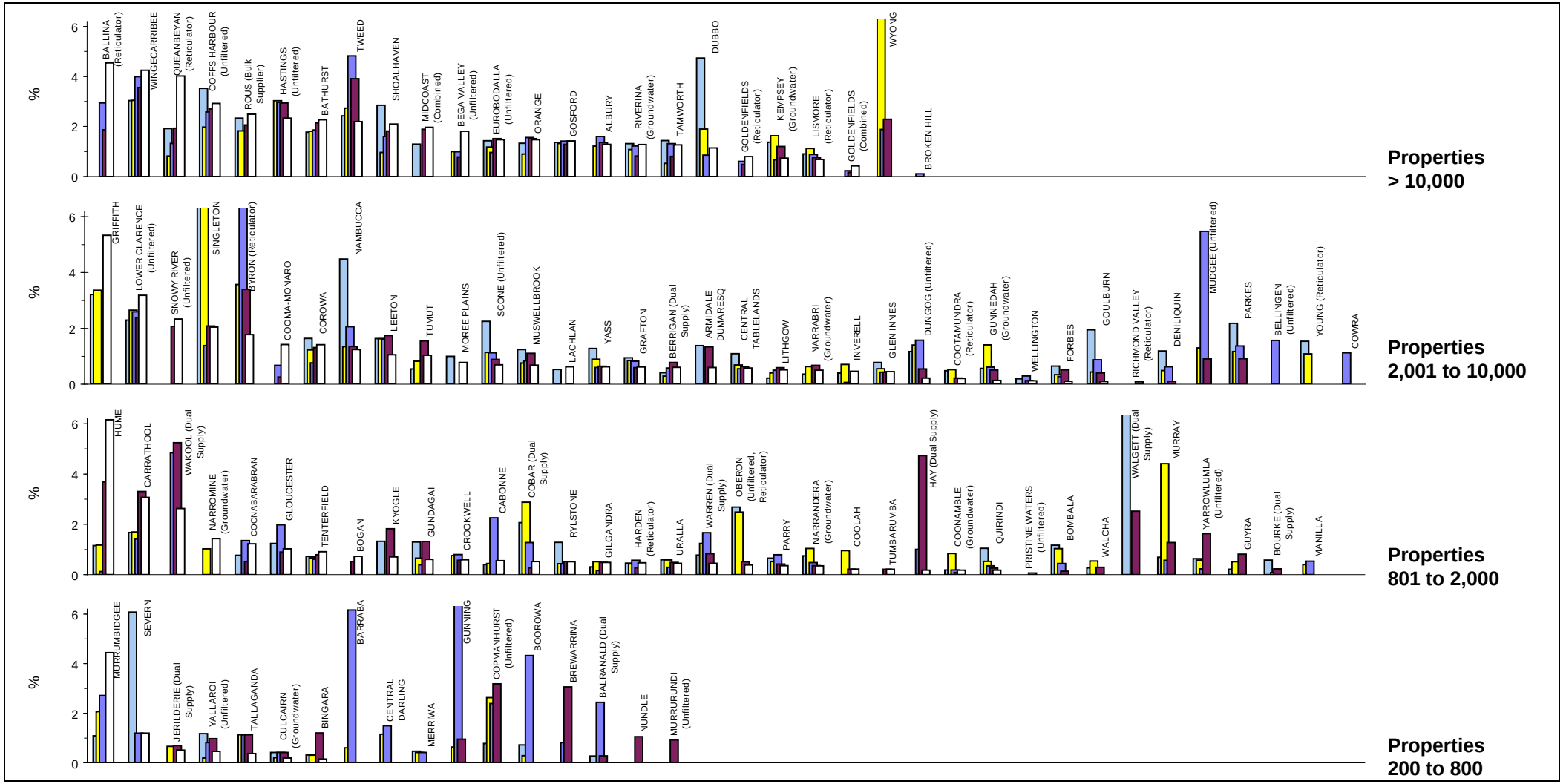


Parameter: $\frac{\text{Unserved Urban Population in Council Area (Q7b) x 100}}{\text{Population Served (Q1a) + Unserved Population (Q7b)}}$

Notes:

1. This figure shows 1999/00 ranked values of the percentage of urban population without a reticulated public water supply service for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one Council***. As an example, for the property range from 2,001 to 10,000, the percentage of urban population without a reticulated public water supply for the 36 councils shown ***ranges*** from about ***0 to 13%***. Results for the previous four years are also shown.
2. The Statewide median urban population without a reticulated public water supply was 0.7% (Table 1).
3. 25% of councils had an urban population of at least 500 without a reticulated public water supply; 10% of councils had a population of at least 1000 without a reticulated water supply.
4. The percentage of urban population without a reticulated public water supply for the median council was 4%.
5. 80% of councils had over 90% of their urban population served by a reticulated public water supply. Overall, over 97% of the urban population in non-metropolitan NSW received a reticulated public water supply service.

18 New Residential Dwellings Connected

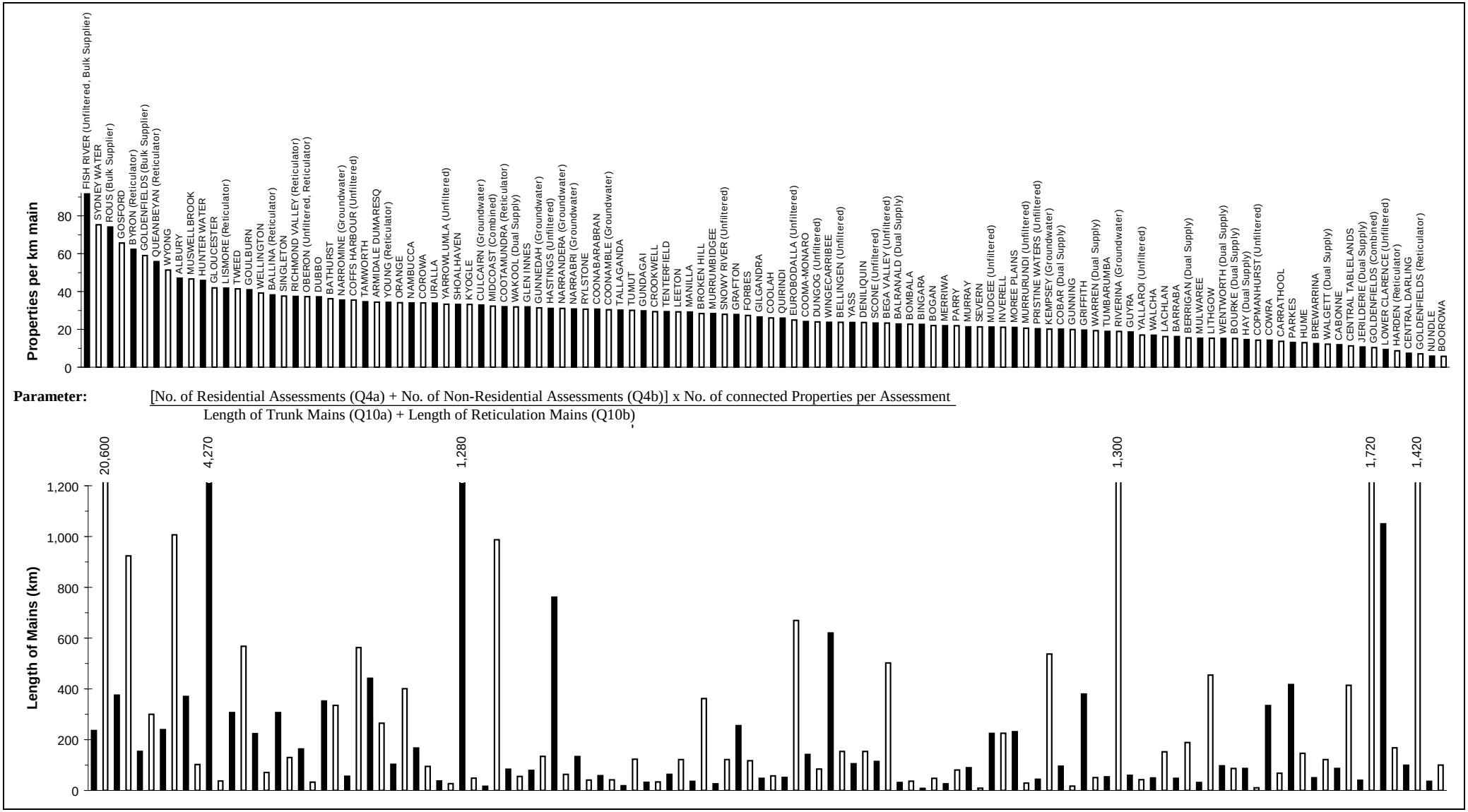


Parameter:

$$\frac{\text{No. of New Residential Dwellings Connected in Year (Q6) x 100}}{\text{No. of Residential Assessments (Q4a) x No. of connected Residential Properties per Residential Assessment}}$$

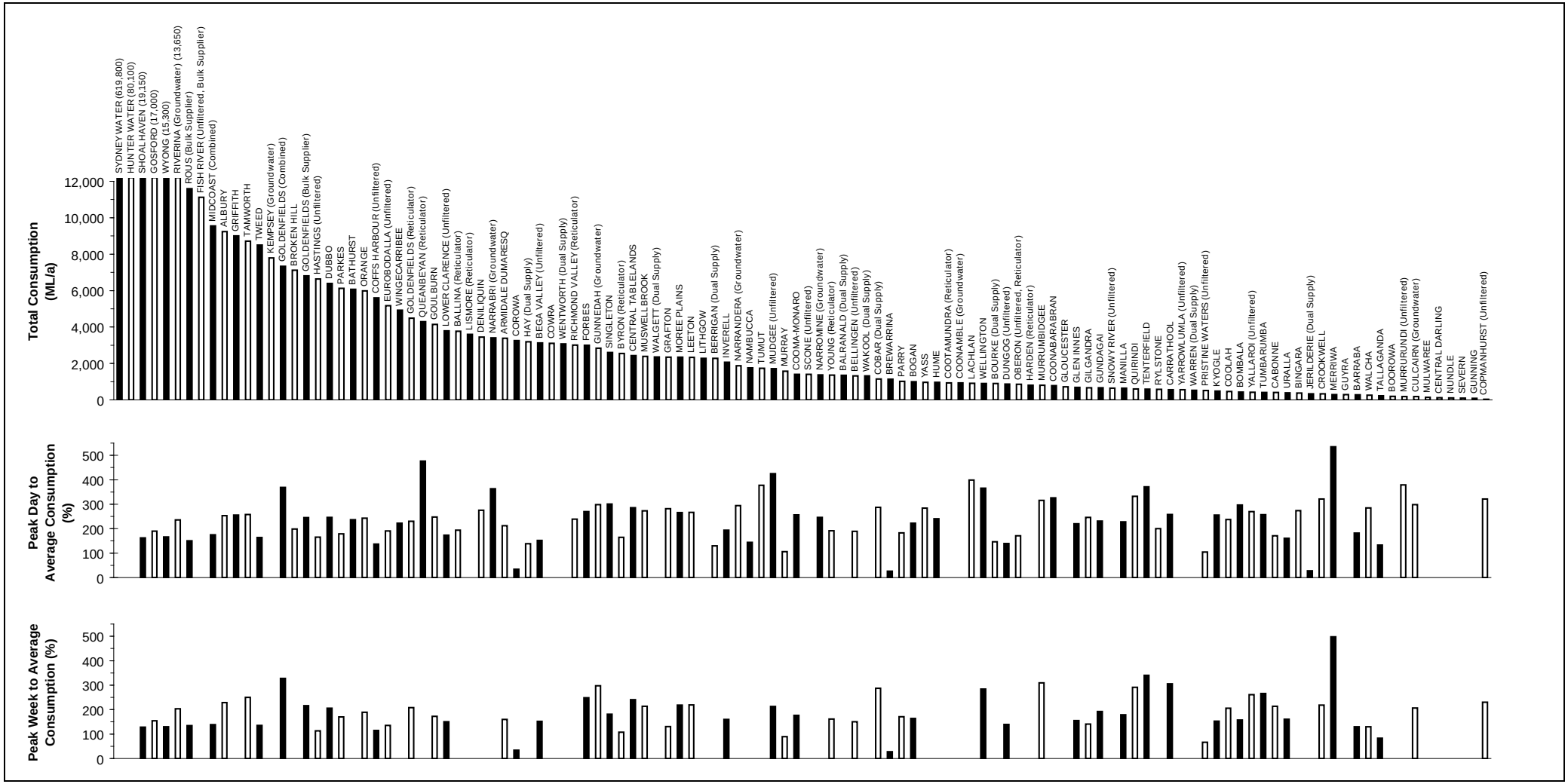
Notes:

1. This figure shows 1999/00 ranked values of the percentage of new residential dwellings connected to water supply for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one Council***. As an example, for the property range from 2,001 to 10,000, the percentage of new connections for the 36 councils shown ***ranges*** from about 5% ***to 0%***. Results for the previous 4 years are also shown.
2. The Statewide median percentage of new residential dwellings connected to water supply is 1.4 % of the existing number of connected residential properties (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.



Notes:

1. The top graph shows the ranked values of number of connected properties per km of water main for each council**.** ***Each bar represents one council***. The bottom graph of this figure shows the total length of mains for the corresponding councils**.**
2. The Statewide median water supply connected properties per km of main is 33 (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.



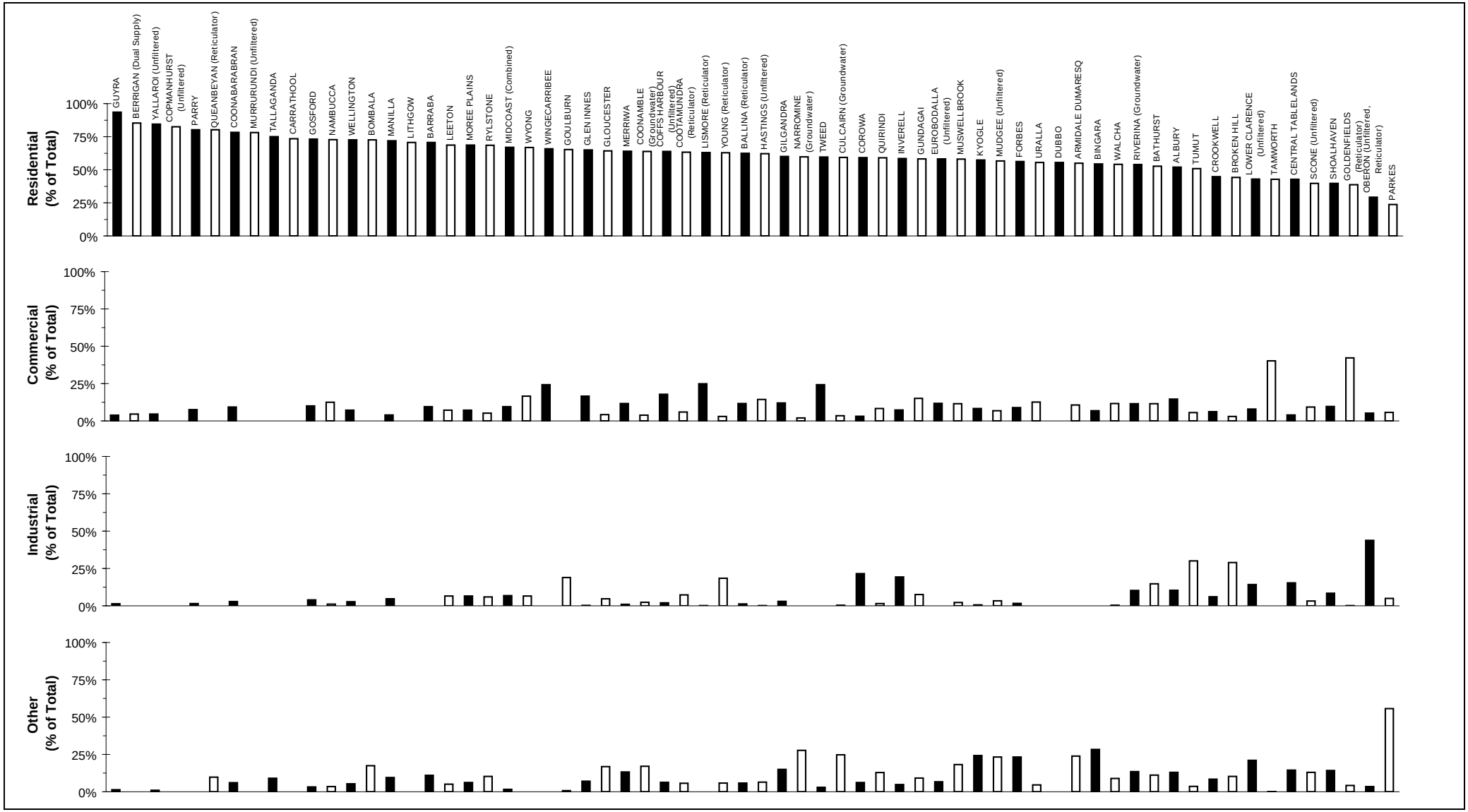
Parameter: Total Annual Potable Water Consumption (Q12i) + Raw Water Component (Q14) – Recycled Water (Q218)

Parameter: $\frac{\text{Peak Day Consumption (Q13a) x 365 x 100}}{\text{Total Annual Potable Water Consumption (Q12i)}}$

Parameter: $\frac{\text{Peak Week Consumption (Q13b) x 52 x 100}}{\text{Total Annual Potable Water Consumption (Q12i)}}$

Notes:

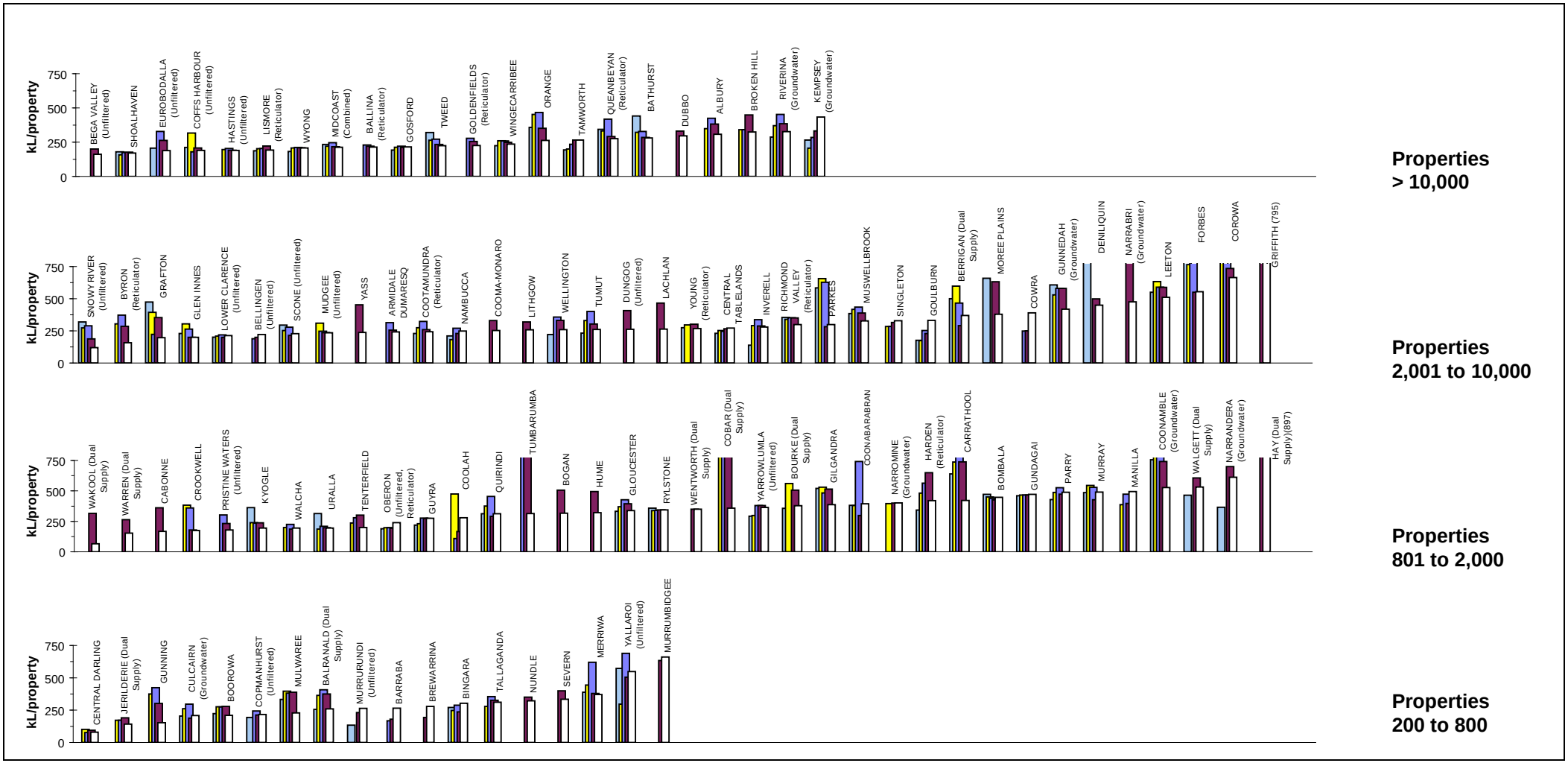
1. The top graph shows the annual total consumption. The second graph shows the percentage of peak day to average potable water consumption for each council. ***Each bar represents one council***. The third graph shows the percentage peak week to average potable water consumption.
2. For general notes see page 43.



Parameter: Annual Consumption for ***Each*** Sector (Q12) x 100
Total Consumption for Above Sectors

Note:

1. `Other' consumption comprises institutional uses, public uses and bulk sales; leakage and unaccounted-for-water are excluded.
2. For general notes see page 43.



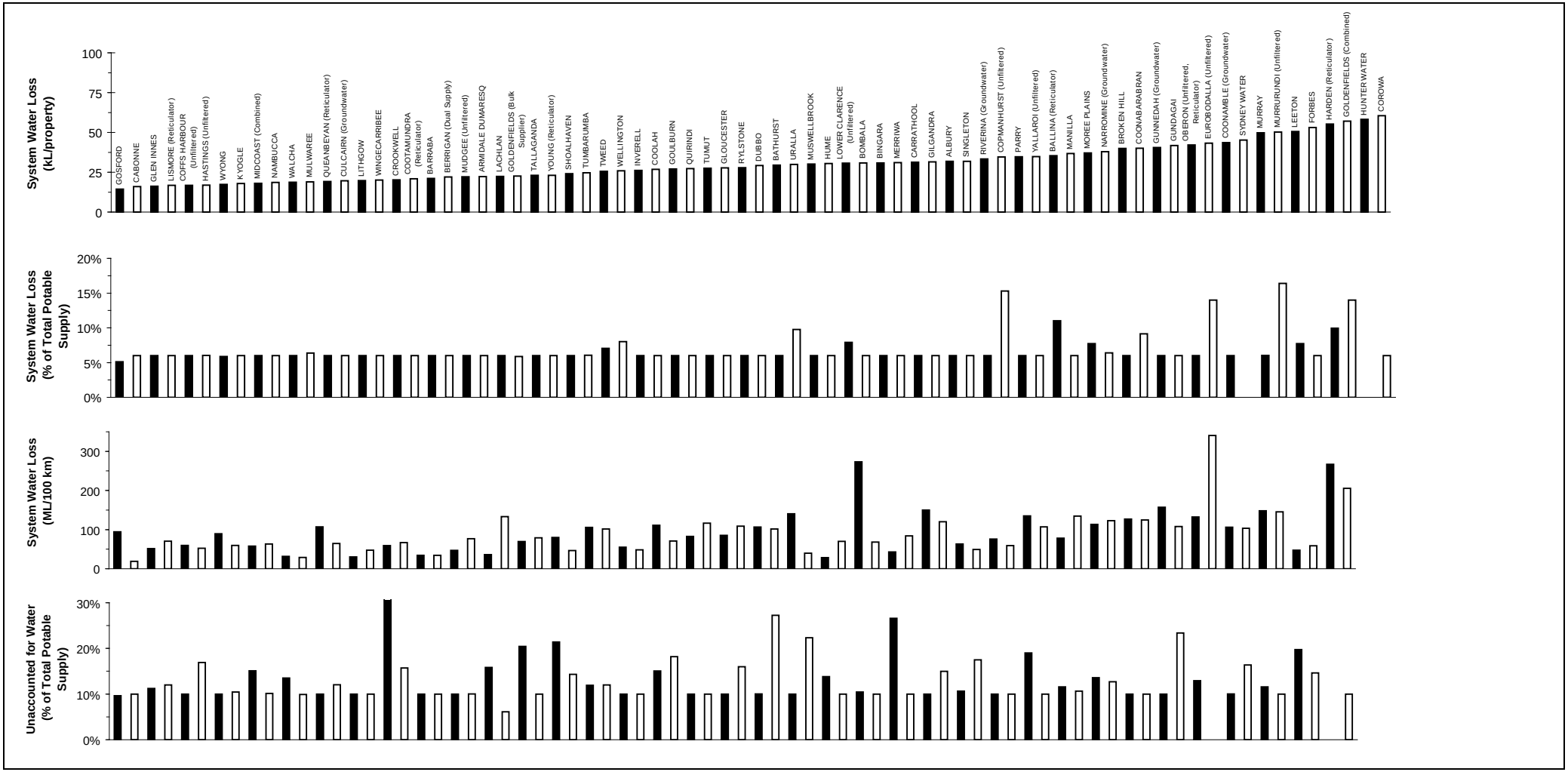
Parameter:

$$\frac{\text{Annual Residential Consumption (Q12a) x 1000}}{\text{No. of Residential Assessments (Q4a) x No. of Connected Residential Properties per Residential Assessment}}$$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the1999/00 average annual residential water consumption per connected property for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the annual residential water consumption in 1999/00 for the 36 councils shown ***ranges*** from about ***120 to 795 kL/a*** per connected property. Results for the previous 4 years are also shown.
2. The Statewide median annual residential water consumption is 220 kL/a per connected property (refer Table 1 - percentage of connected properties basis).
3. For general notes see page 43.



Parameter: $\frac{\text{Estimated Leakage (Q12a) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Estimated Leakage (Q12a) x 1000}}{\text{Total Water Consumption (Q12I)}}$

Parameter: $\frac{\text{Estimated Leakage (Q12h)}}{\text{Length of Mains (Q10c)}}$

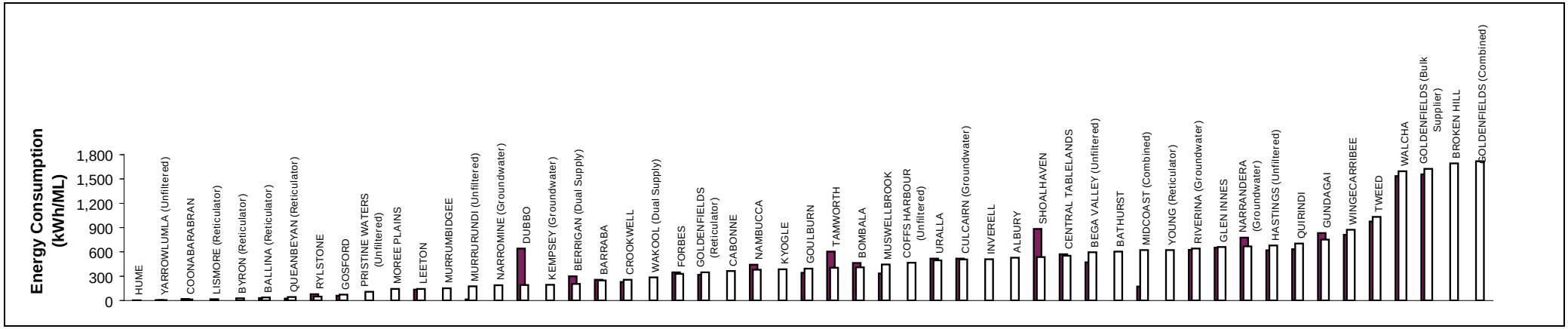
Parameter: $\frac{\text{Unaccounted for Water (Q12g) x 100}}{\text{Total Water Consumption (Q12I)}}$

Note:

1. For general notes see page 43.

24 Energy Consumption per ML

Water Supply



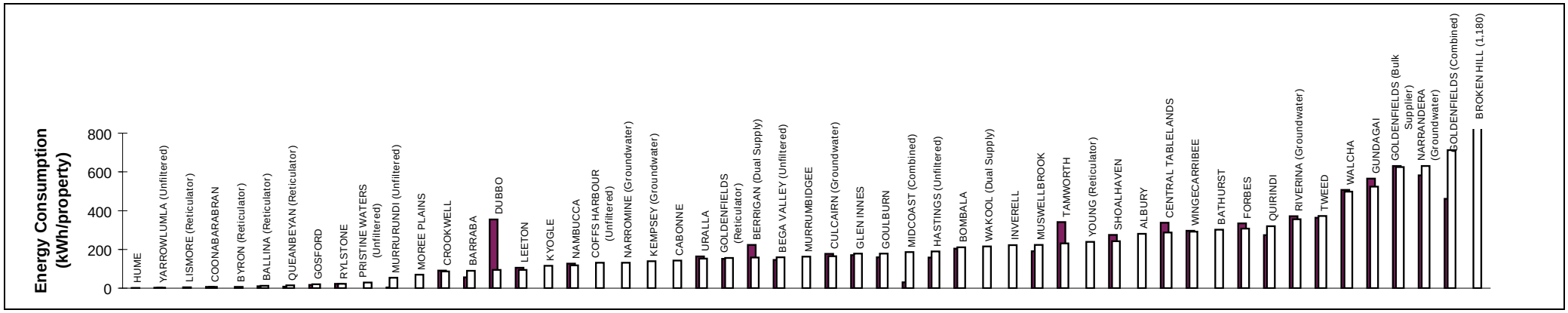
Parameter: $\frac{\text{Total Energy Usage (Q29)x1000}}{\text{Total PotableWater Consumption (Q12i)}}$

Notes:

1. This figure shows ranked values of the 1999/00 total energy consumption per ML. The energy consumption per ML for the 53 councils shown ***ranges*** from about 2 to 1,720 kWh per ML.
2. For general notes see page 43.

25 Energy Consumption per property

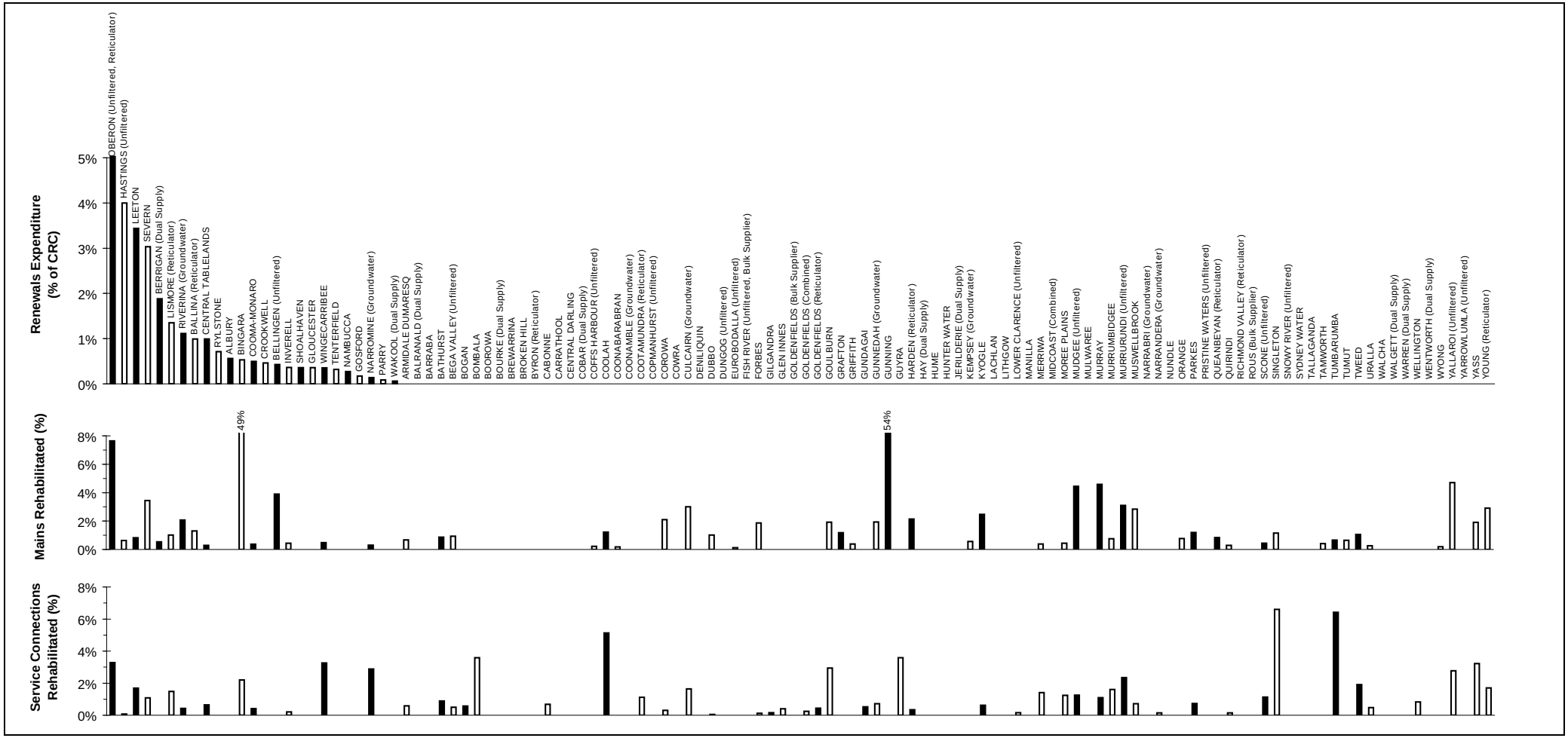
Water Supply



Parameter: $\frac{\text{Total Energy Usage (Q29) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Notes:

1. This figure shows ranked values of the 1999/00 total energy consumption per connected property. The energy usage per connected property for the 53 councils shown ***ranges*** from about 1 to 1,180 kWh per connected property.
2. For general notes see page 43.



Parameter: $\frac{\text{Renewals Expenditure (W16c) x 100}}{\text{Current Replacement Cost of System Assets (W42)}}$

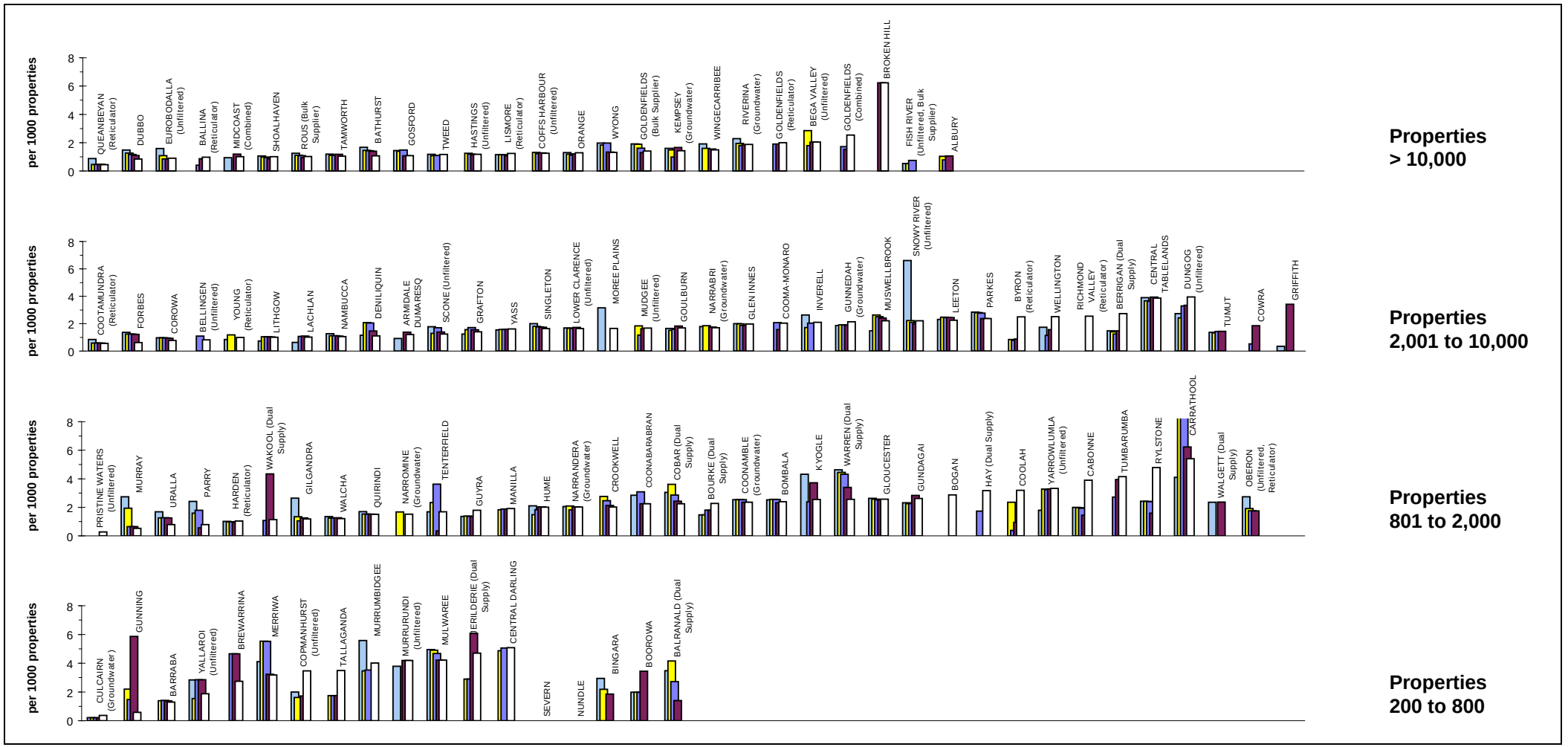
Parameter: $\frac{\text{Length of Mains Rehabilitated (Q11a) x 100}}{\text{Total Length of Mains (Q10c)}}$

Parameter: $\frac{\text{Service Connections Rehabilitated (Q11b) x 100}}{\text{Residential Properties Connected (Q2a + Q2b) + Non-Residential Properties Connected (Q3)}}$

Notes:

1. This first graph shows ranked values of the1999/00 renewals expenditure as a percentage the current replacement cost (CRC) of system assets, The second graph shows the percentage of mains rehabilitated and the third graph shows the percentage of service connections rehabilitated.
2. The Statewide median renewals expenditure is 0% (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

27 Employees per 1000 properties

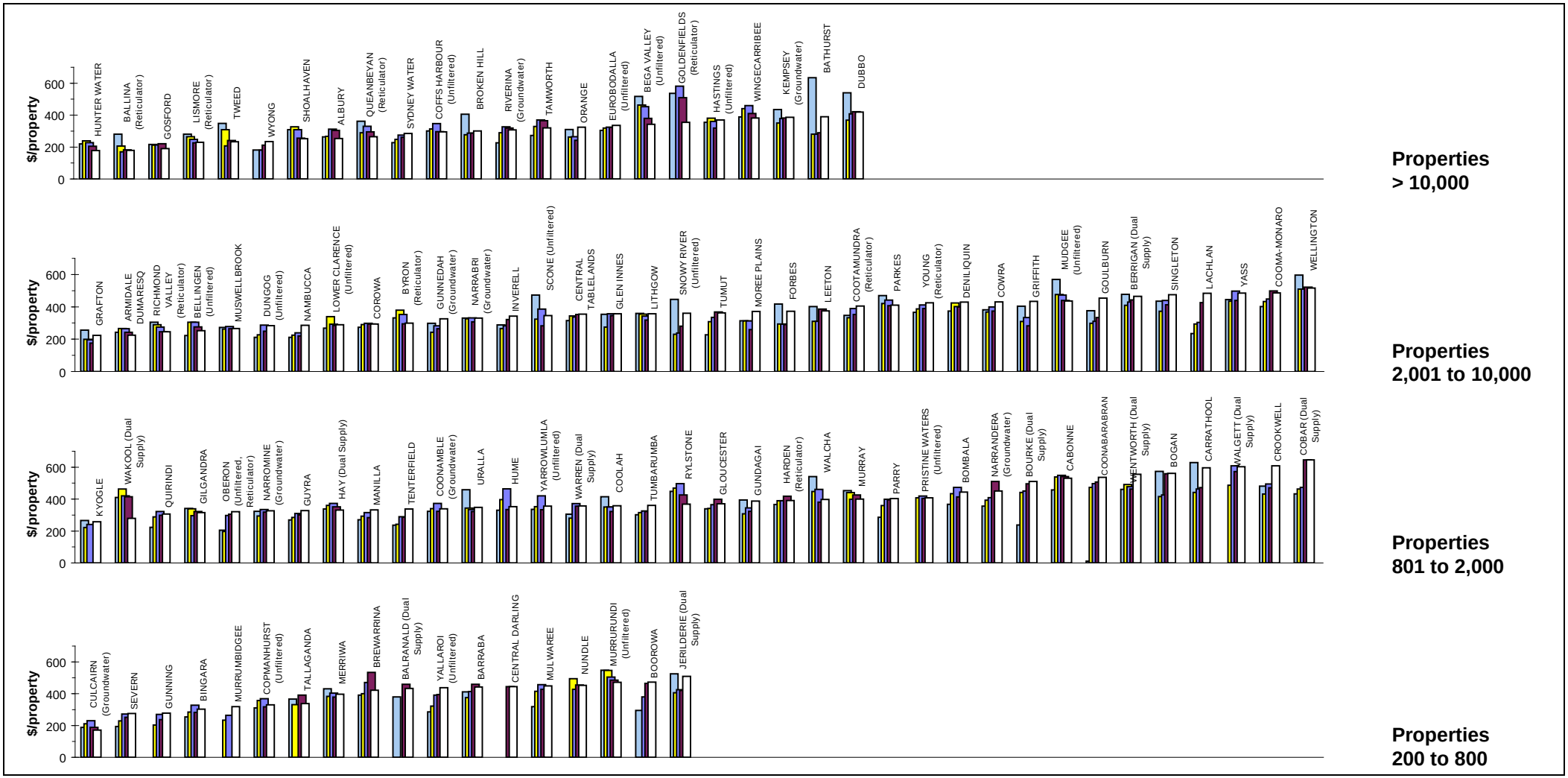


Parameter:

$$\frac{\text{Equivalent Full-time Employees (Q30)} \times 1000}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Notes:

1. This figure shows ranked values of the 1999/00 water supply employees per 1000 properties for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the water supply employees per 1000 connected properties for the 33 councils shown ***range*** from about ***0.6 to 4*** per connected property. Results for the previous 4 years are also shown.
2. The Statewide median number of water supply employees is 1.3 per 1000 connected properties (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

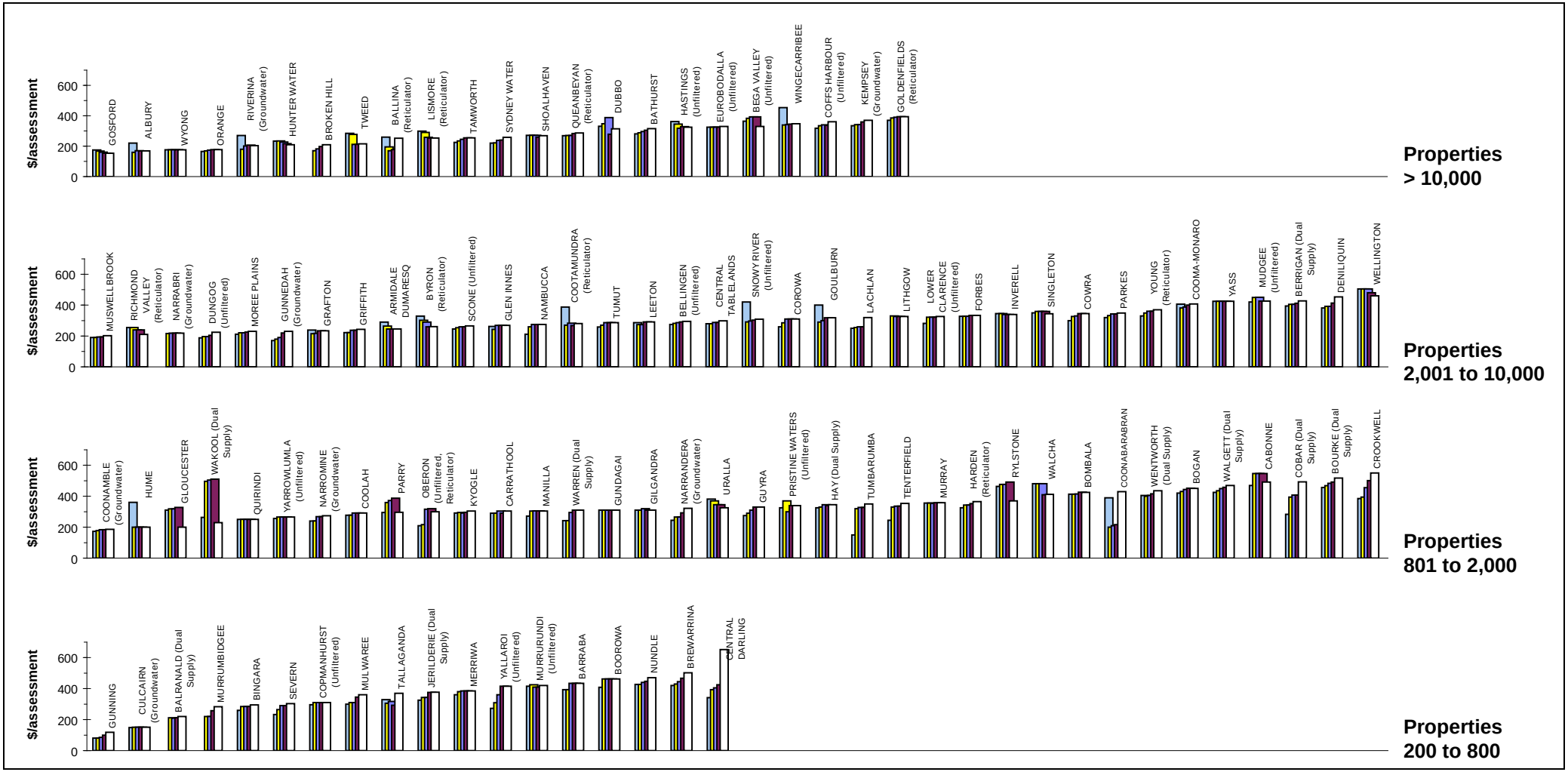


Parameter: Residential Rates & Service Availability Charges (W6a) + Residential User Charges (W7a) / No. of Residential Assessments (Q4a) x No. of Connected Residential Properties per Residential Assessment

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the1999/00 average residential bill for water supply for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the average residential bill in 1999/00 for the 36 councils shown ***ranges*** from about ***$225 to $510*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The 1999/00 Statewide median average residential bill for water supply is $300 per connected property (refer Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

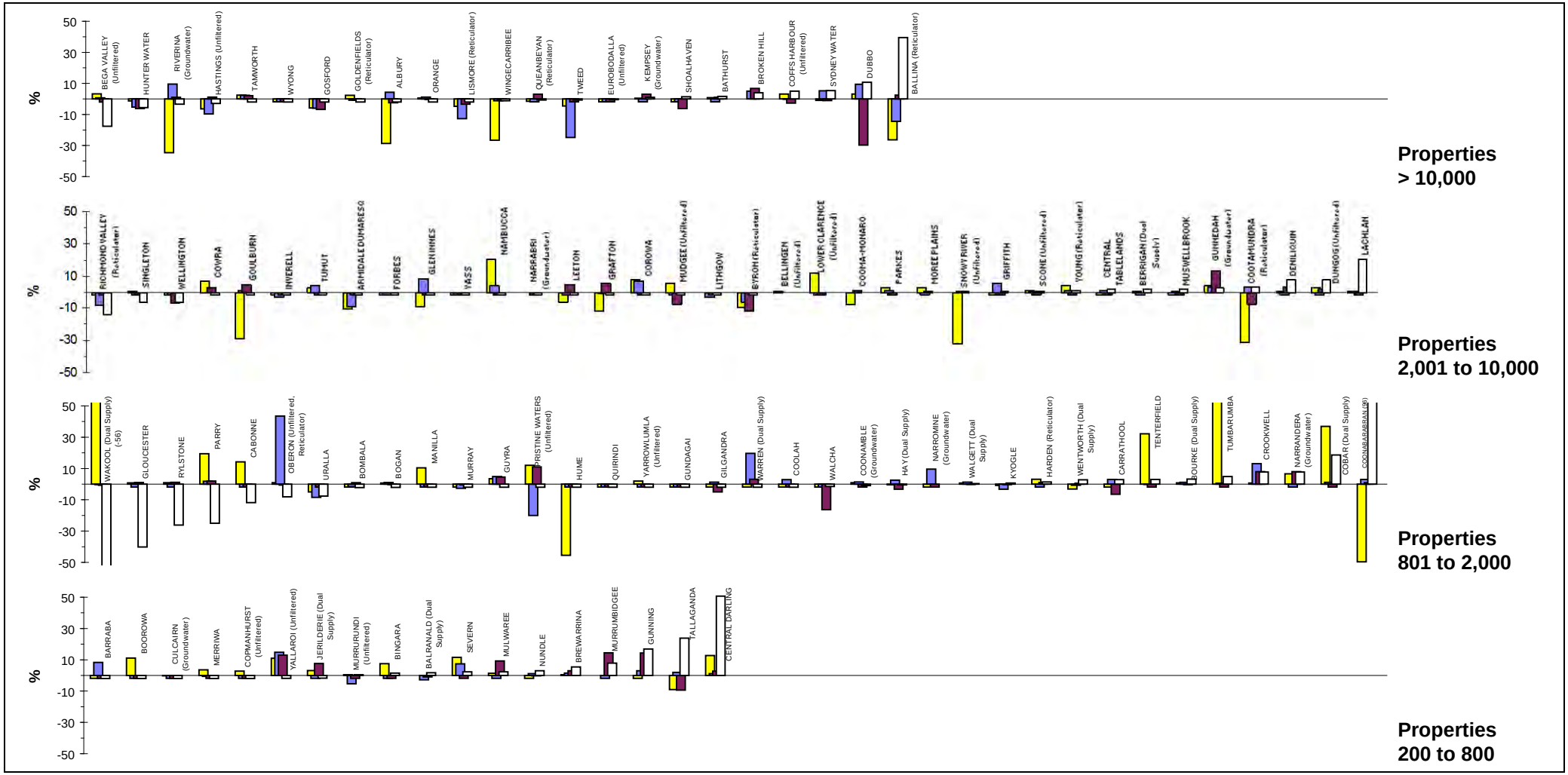


Parameter: Water Usage Charge (Q33)for 200kL + Minimum Annual Residential Charge (Q32b)

Notes:

1. This figure shows ranked values of the1999/00 bill for a residential customer using 200 kL/a for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the bill for a residential customer using 200 kL/a for the 36 councils shown ***ranges*** from about ***$200 to $460***. Results for the previous 4 years are also shown in Jan 2000$.
2. The 1999/00 Statewide median bill for a residential customer using 200 kL/a is $270 (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.

30 Real Increase over Previous Year's Bill for Residential Customer using 200 kL/a



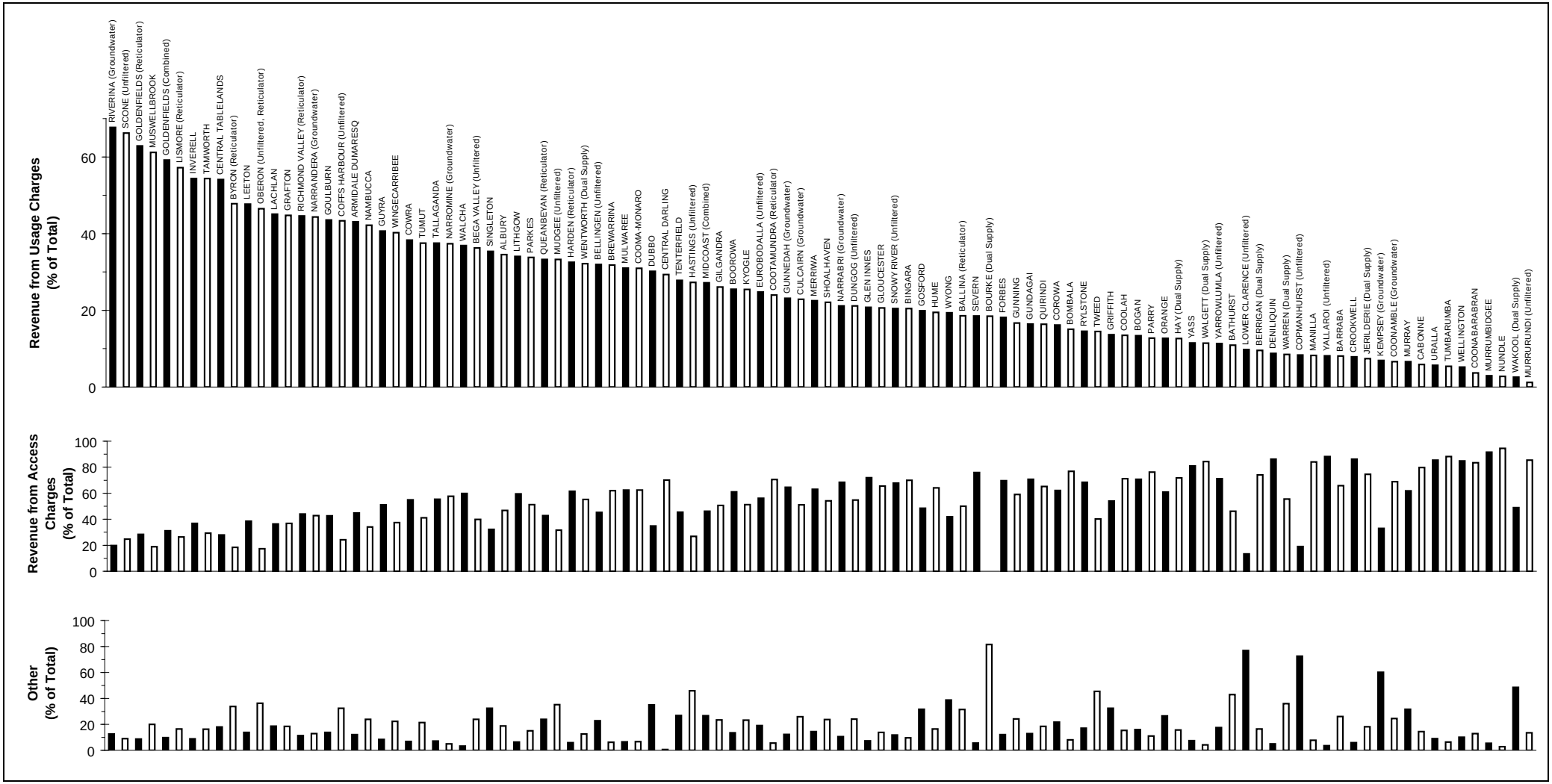
Parameter:

$$\frac{\text{[Water Usage Charge (Q33) for 200kL + Minimum Residential Charge (Q32b) for Current Year]} \times 100}{\text{[Water Usage Charge (Q33) for 200kL + Minimum Annual Residential Charge (Q32b) for Previous Year]} \times (1 + \text{CPI Increase})}$$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the1999/00 real increase over previous year's bill for a residential customer using 200 kL/a for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the real increase in 1999/00 for the 36 councils shown ***ranges*** from about ***–14% to 20%***. Results for the previous 4 years are also shown.
2. The Statewide median real increase over previous year's bill for a residential customer using 200 kL/a is –2% (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.



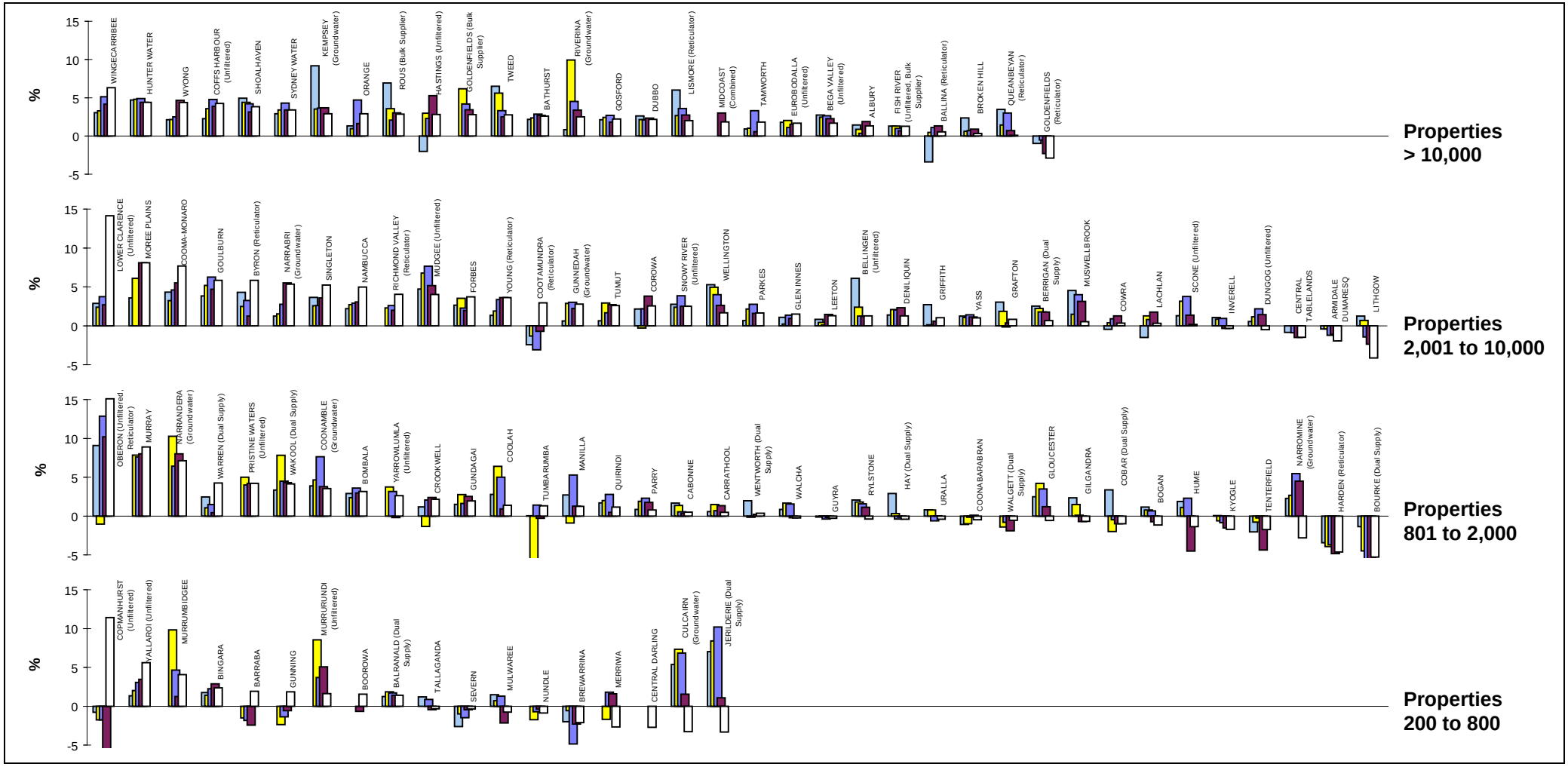
Parameter: [Revenue from User Charges (W7)] x 100 / Total Revenue (W13)

Parameter: [Revenue from Rates and Service Availability Charges (W6)] x 100 / Total Revenue (W13)

Parameter: [Revenue from Other (W13 – W6 – W7)] x 100 / Total Revenue (W13)

Note:

1. For general notes see page 43.

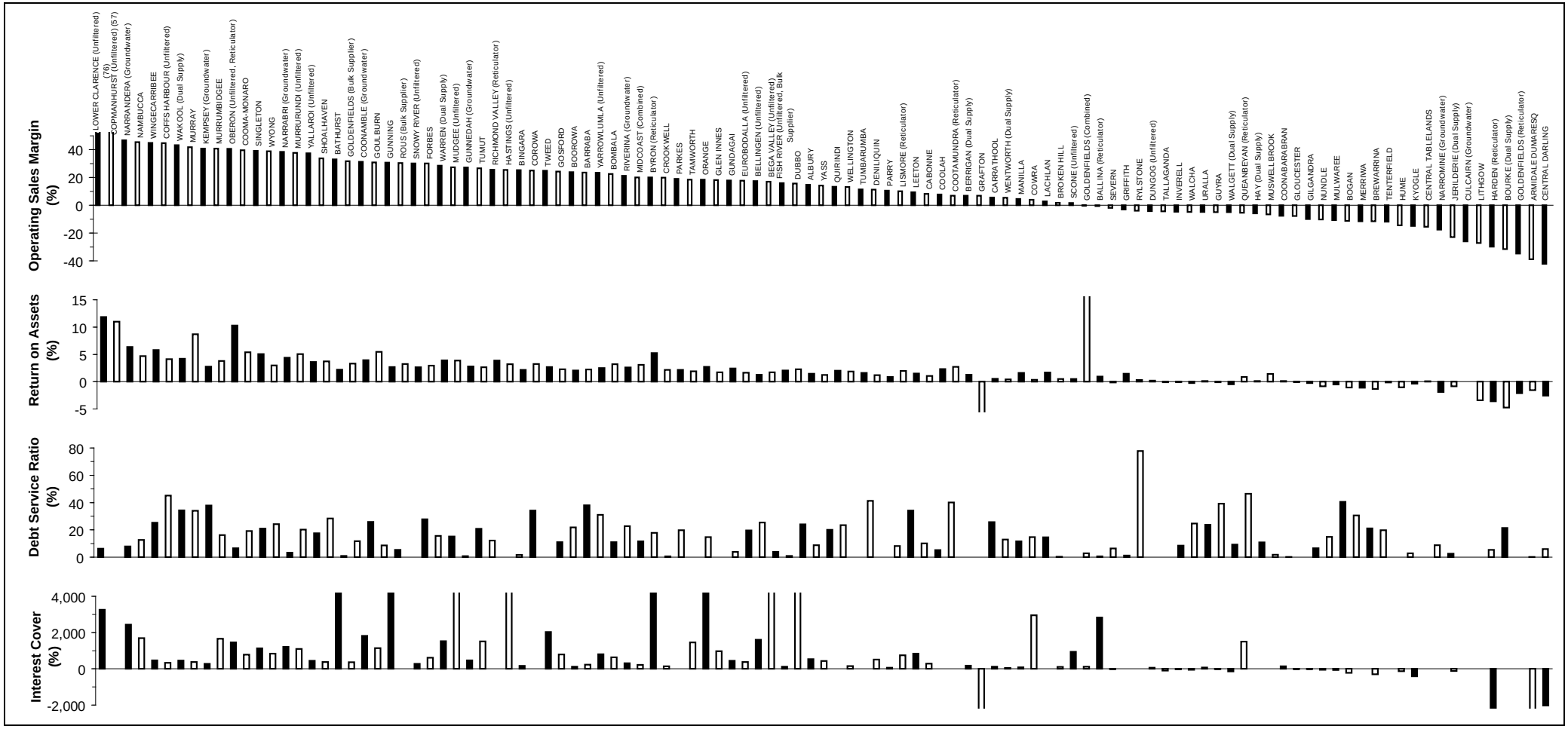


Parameter: [Operating Result (W15) + Interest Expense (W4a) - Interest Income (W9) - Grants for Acquisition of Assets (W11a)] x 100 / Written Down Replacement Cost of Property, Plant & Equipment (W44)

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the 1999/00 water supply economic real rate of return for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the real rate of return for the 36 councils shown ***ranges*** from about 14*% to -4%*. Results for the previous 4 years are also shown.
2. The Statewide median water supply real rate of return is 2.5% (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.



Parameter: $\frac{\text{[Operating Result (W15) + Interest Expenses (W4a) – Interest Income (W9) - Grants for Capital Works (W11a) – Developer Provided Assets (W12b)] x 100}{\text{Total Revenue (W13) – Grants for Capital Works (W11a) – Developer Provided Assets (W12b) – Interest Income (W9)}}$

Parameter: $\frac{\text{[Operating Result (W15) + Interest Expenses (W4a) – Grants for Capital Works (W11a)] x 100}}{\text{Total Assets (W32)}}$

Parameter: $\frac{\text{[Interest Expenses (W4a) + Repayment of Debt (W17)] x 100}}{\text{Total Revenue (W13) – Grants for Capital Works (W11a) – Developer Provided Assets (W12b)}}$

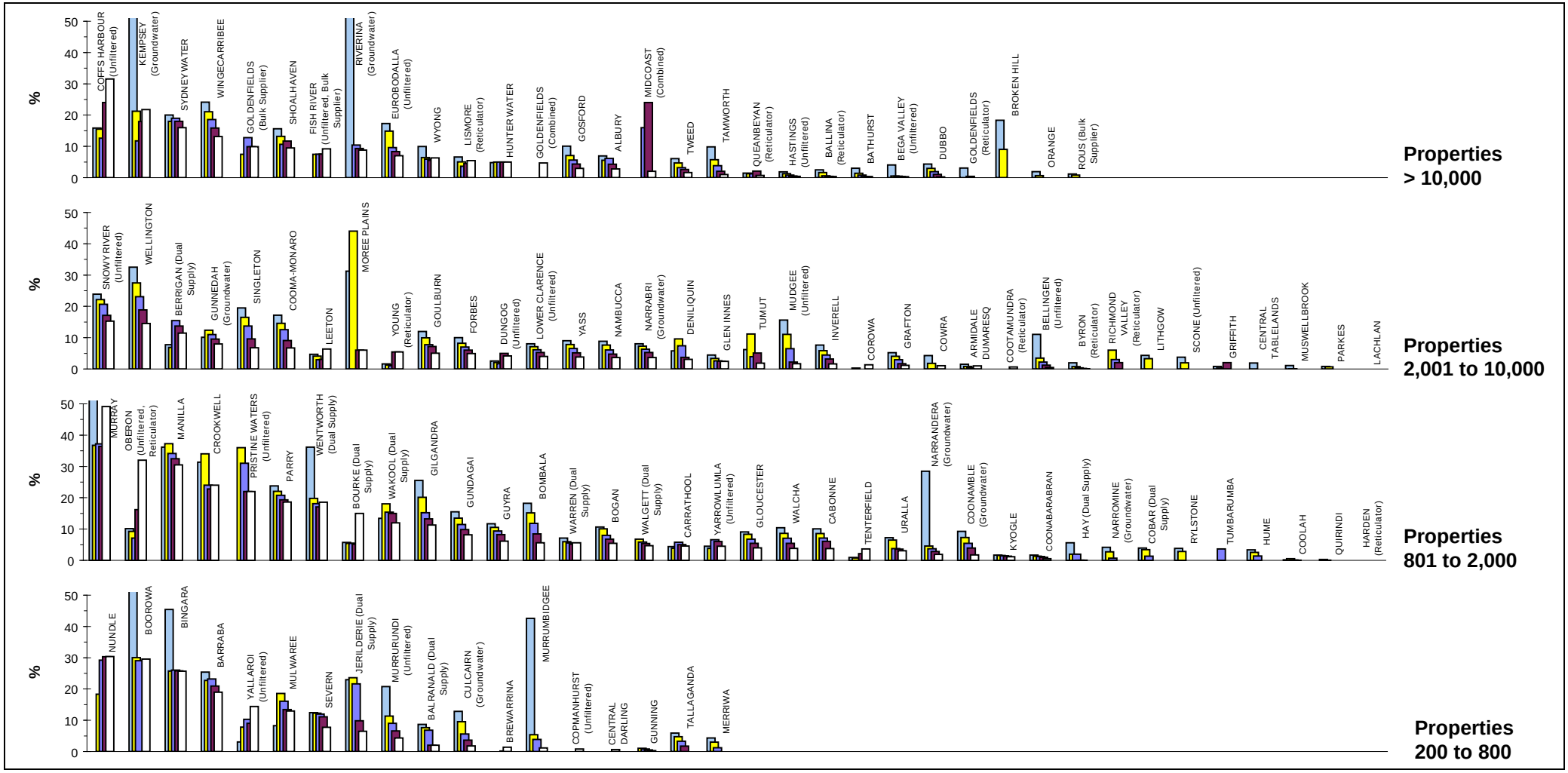
Parameter: $\frac{\text{[Operating Result (W15) + Interest Expenses (W4a) - Grants for Capital Works (W11a)] x 100}}{\text{Interest Expenses (W4a)}}$

Note:

1. For general notes see page 43.

34 Debt to Equity

Water Supply



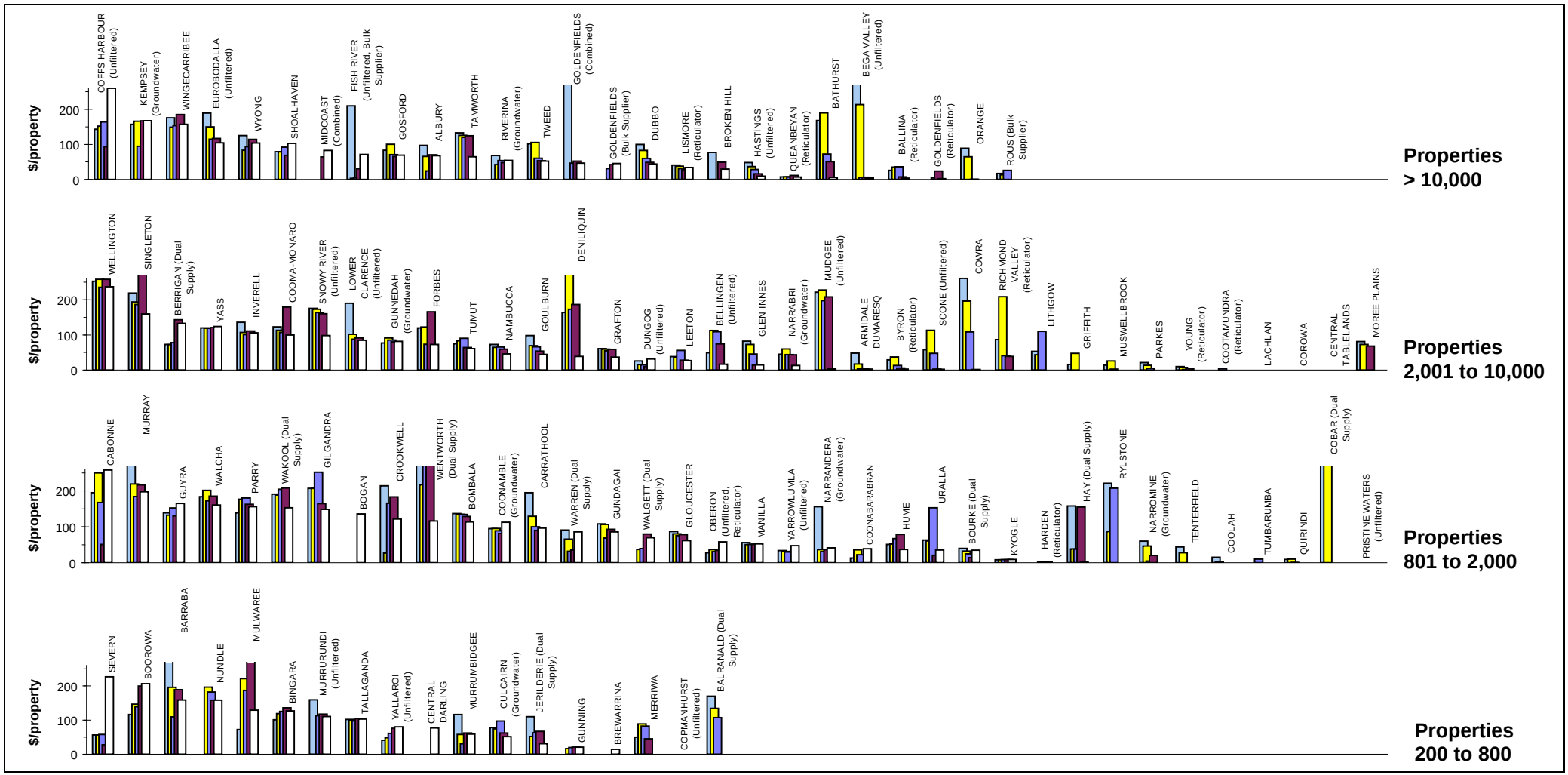
Parameter: $\frac{\text{[Bank Overdraft (W33) + Borrowings (W35)] x 100}}{\text{Total Equity (W41)}}$

Notes:

1. This figure shows ranked values of the 1999/00 water supply debt to equity for each council in 4 groups based on the number of connected properties served***. Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the debt to equity for the 36 councils shown ***ranges*** from about ***15 to 0*** percent**.** The 8 councils on the right reported zero debt. Results for the previous 4 years are also shown.

2. The Statewide median debt to equity is 3% (refer to Table 1 – percentage of connected properties basis).

3. For general notes see page 43.



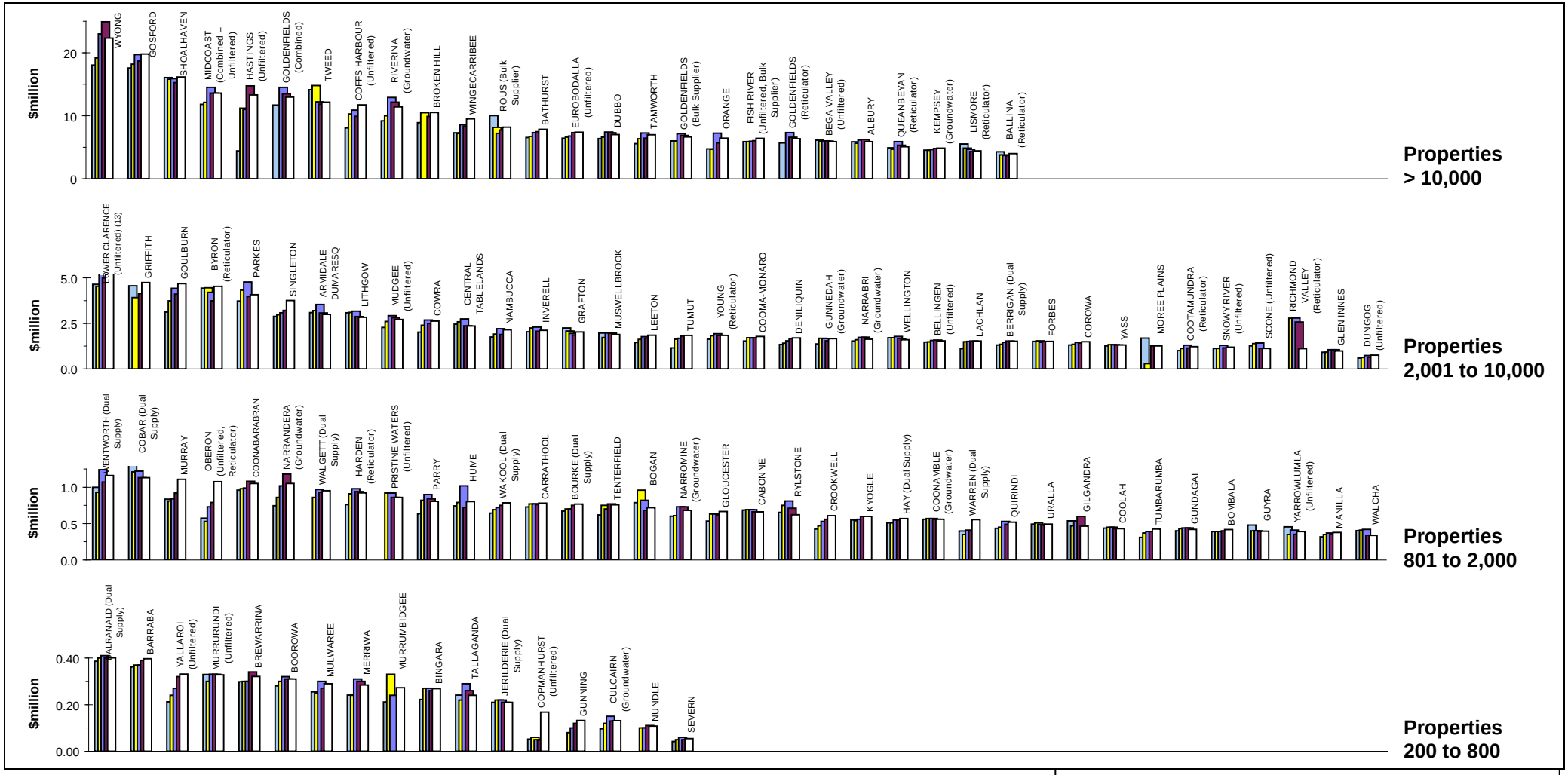
Parameter:

$$\frac{\text{Repayment of Debt (W17) + Interest Expenses (W4a)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

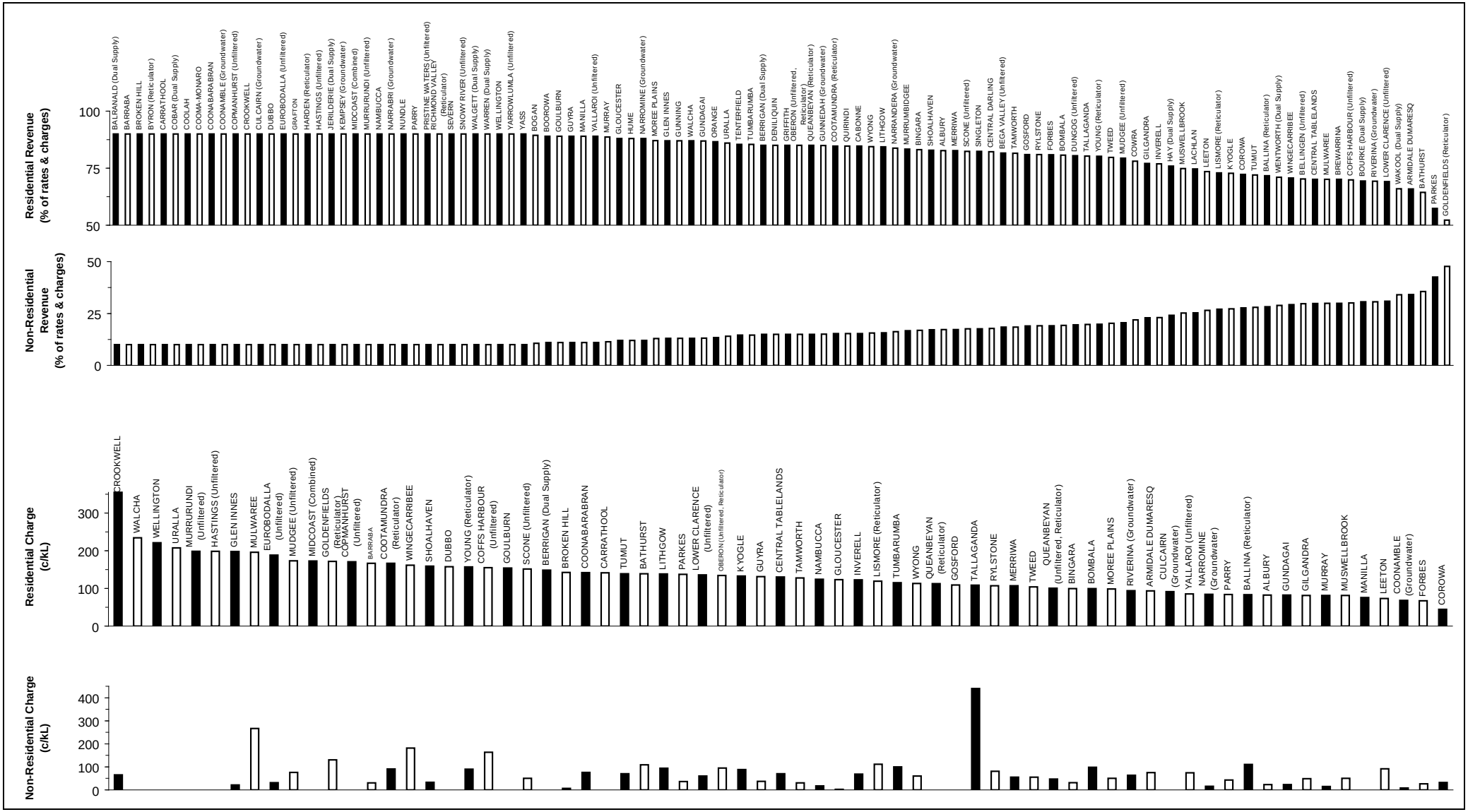
1. This figure shows the 1999/00 ranked values of the water supply loan payment for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the water supply loan payments for the 36 councils shown ***range*** from about ***$235 to $0*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median water supply loan payment is $60 per connected property (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.



Parameter: [Total Revenues (W13) - Grants for Acquisition of Assets (W11a)] ÷ 1,000,000

Notes:

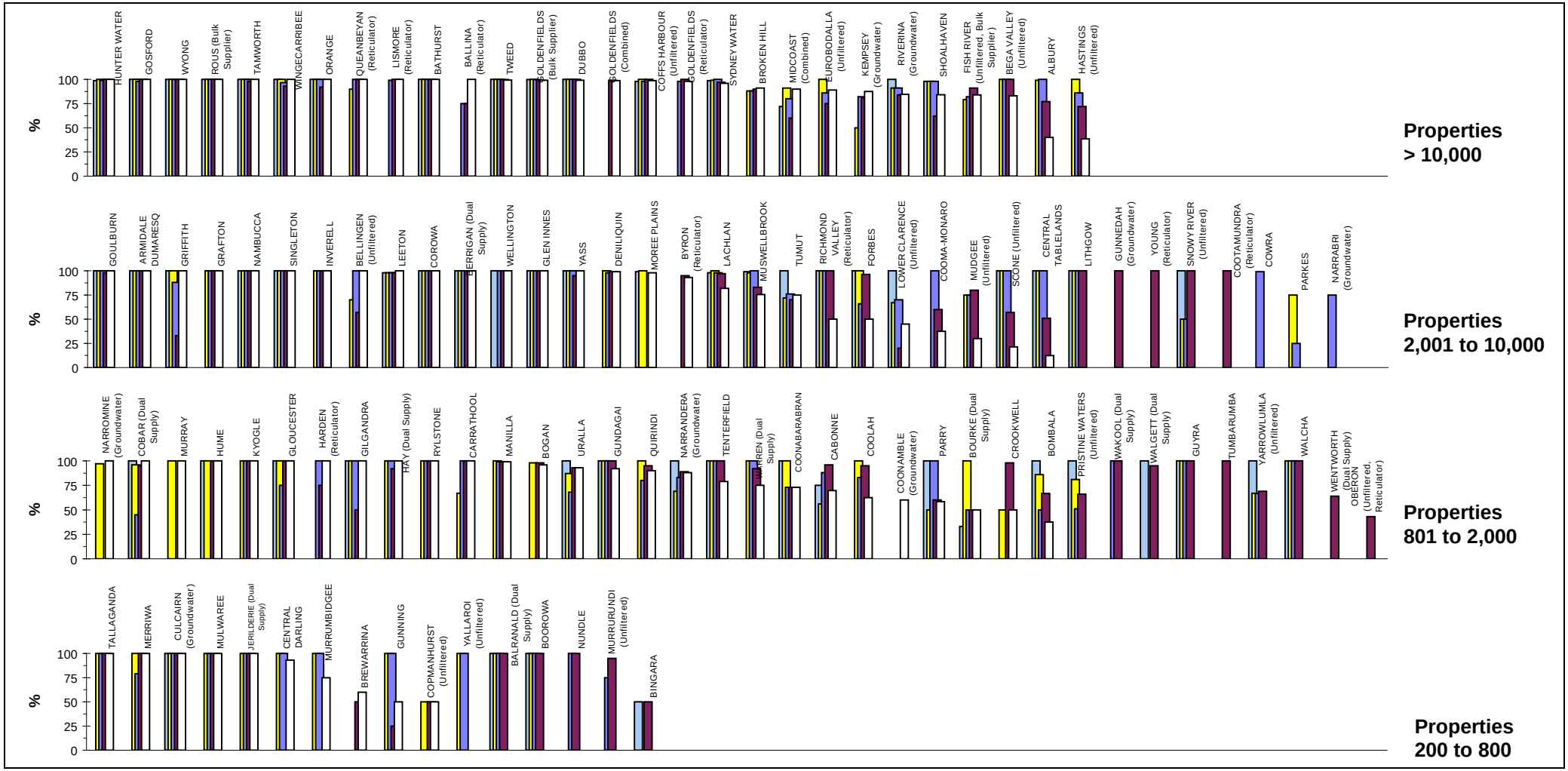
1. This figure shows the 1999/00 ranked values of the water supply turnover (ie. revenue less grants for capital works) for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the turnover for the 36 councils shown ***ranges*** from about ***$13 m to $750,000***. Results for the previous 4 years are also shown in Jan 2000$.
2. For general notes see page 43.



Parameter: [Rates & Service Availability Charges for ***Each*** Sector (W6) + User Charges for ***Each*** Sector (W7)]x100
Annual Consumption for ***Each*** Sector (Q12)

Note:

1. For general notes see page 43.

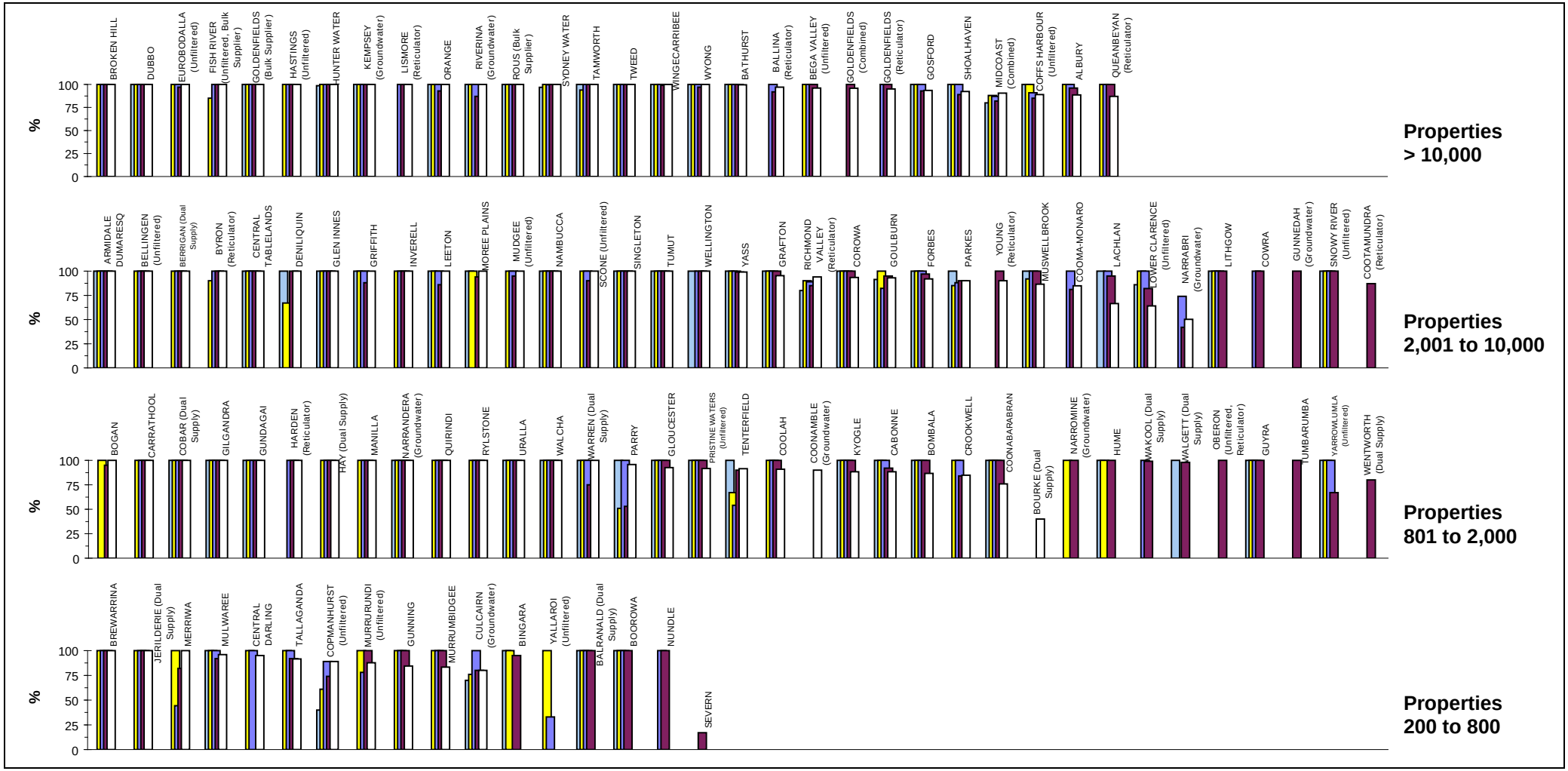


Parameter: Percentage of distribution system water samples complying with physical and chemical criteria of the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines (Q42a to Q42d).

Note:

1. This figure shows the 1999/00 ranked values of distribution system compliance with the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines for physical and chemical water quality for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the physical and chemical water quality compliance for the 27 councils shown ***range*** from about ***100 to 10%***. Results for the previous 4 years are also shown.
2. Results for 1998/99 are also on the basis of the 1996 Guidelines. From 1995/96 to 1997/98, results are based on 1987 NHMRC/AWRC Drinking Water Quality Guidelines.
3. For councils with more than one water treatment works, the reported compliance for 1998/99 and 1999/00 has been pro-rated on the basis of the number of samples tested at each treatment works. For 1995/96 to 1997/98, the compliance for each council's principal treatment works has been reported.
4. The Statewide median physical and chemical water quality compliance is 99 percent (refer to Table 1 - percentage of connected properties basis).
5. For general notes see page 43.

39 Microbiological Water Quality Compliance



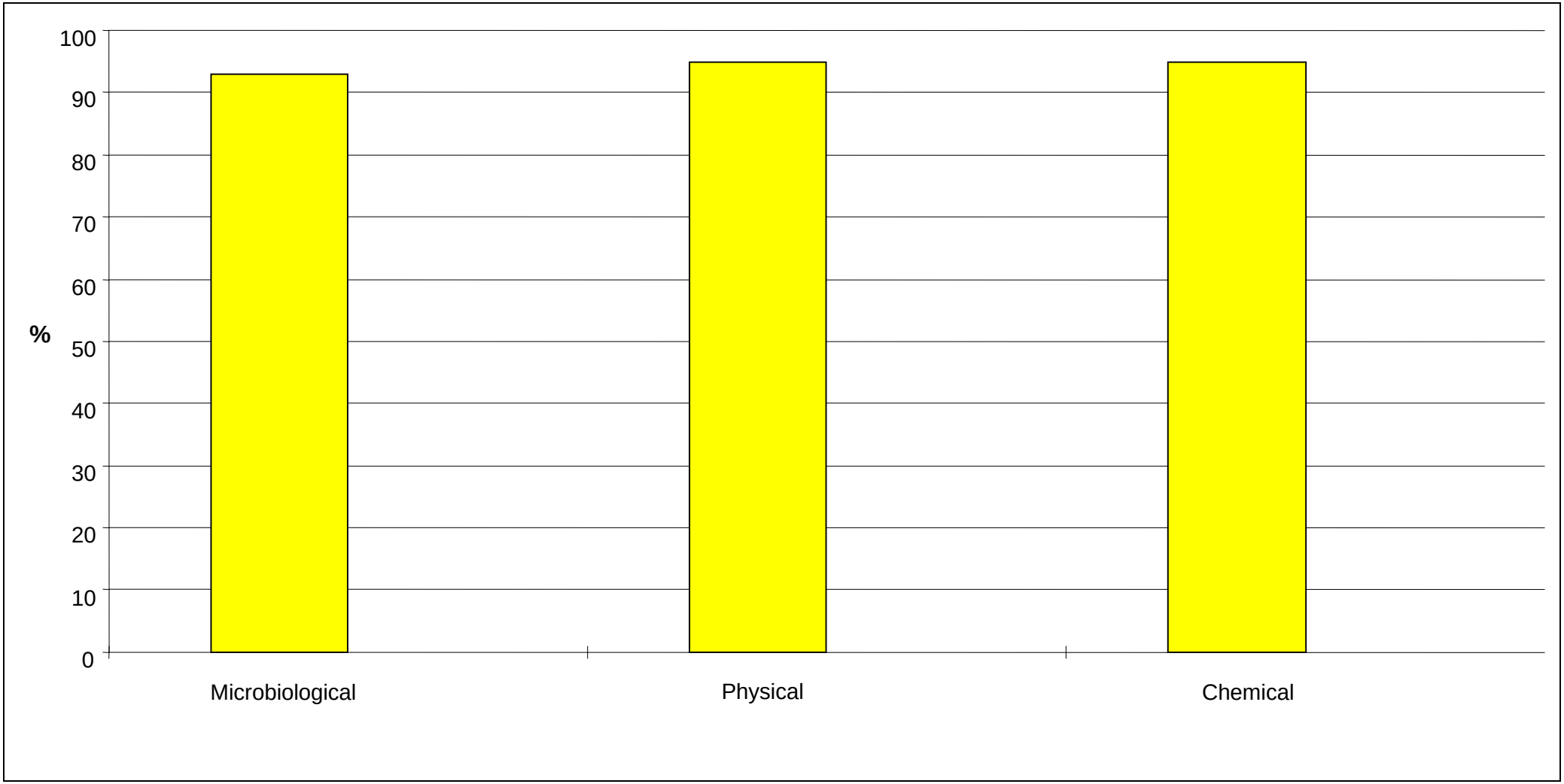
Parameter: Percentage of distribution system water samples complying with microbiological criteria of the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines (Q42k to n)

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

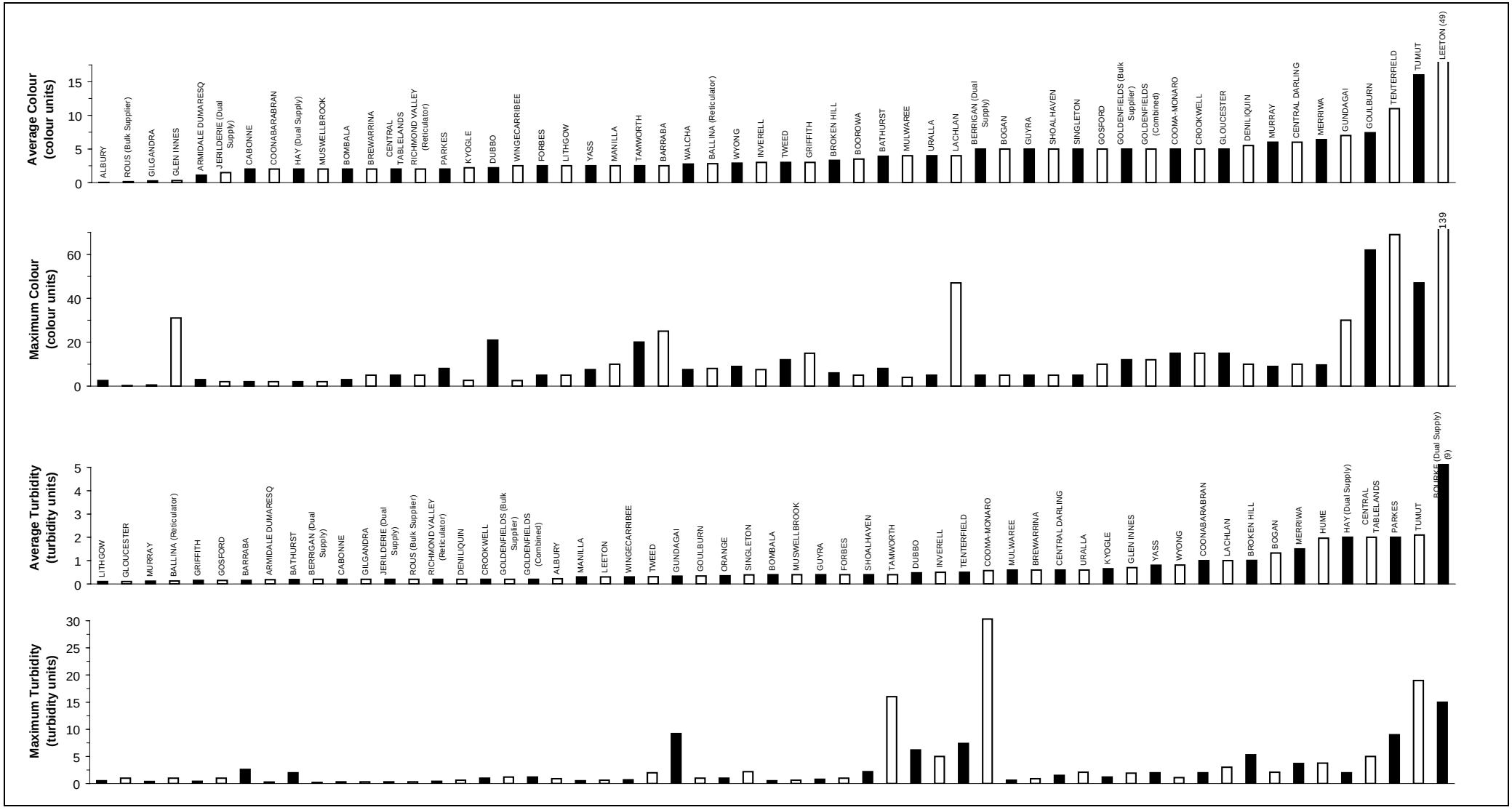
1. This figure shows the 1999/00 ranked values of distribution system compliance with the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines for microbiological water quality for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, results for the 30 councils are shown. The 5 councils on the right did not report compliance for 1999/00. Results for the previous 4 years are also shown.
2. Micobiological compliance covers both total coliforms and faecal coliforms. The health-related parameter is faecal coliforms – 97% of all samples tested contained no faecal coliforms. The detailed performance of each treatment works or chlorination station in non-metropolitan NSW is shown in Appendix D1.
3. Results for 1998/99 are also on the basis of the 1996 Guidelines. The results for 1995/96 to 1997/98 are on the basis of the 1987 NHMRC/AWRC Water Quality Guidelines, except for Sydney, which is on the basis of the 1980 NHMRC/AWRC Guidelines.
4. For councils with two or more treatment works, the reported compliance for 1998/99 and 1999/00 have been pro-rated on the basis of the number of samples tested at each treatment works. For 1995/96 to 1997/98, the compliance for council's principal treatment works has been reported.
5. Microbiological compliance with the 1987 NHMRC/AWRC Guidelines has been determined on the basis of the criteria for long-term compliance.
6. The Statewide median microbiological water quality compliance is 100% (refer to Table 1 – percentage of connected properties basis).
7. For general notes see page 43.

40 Compliance with 1996 Australian Drinking Water Guidelines



Comments:

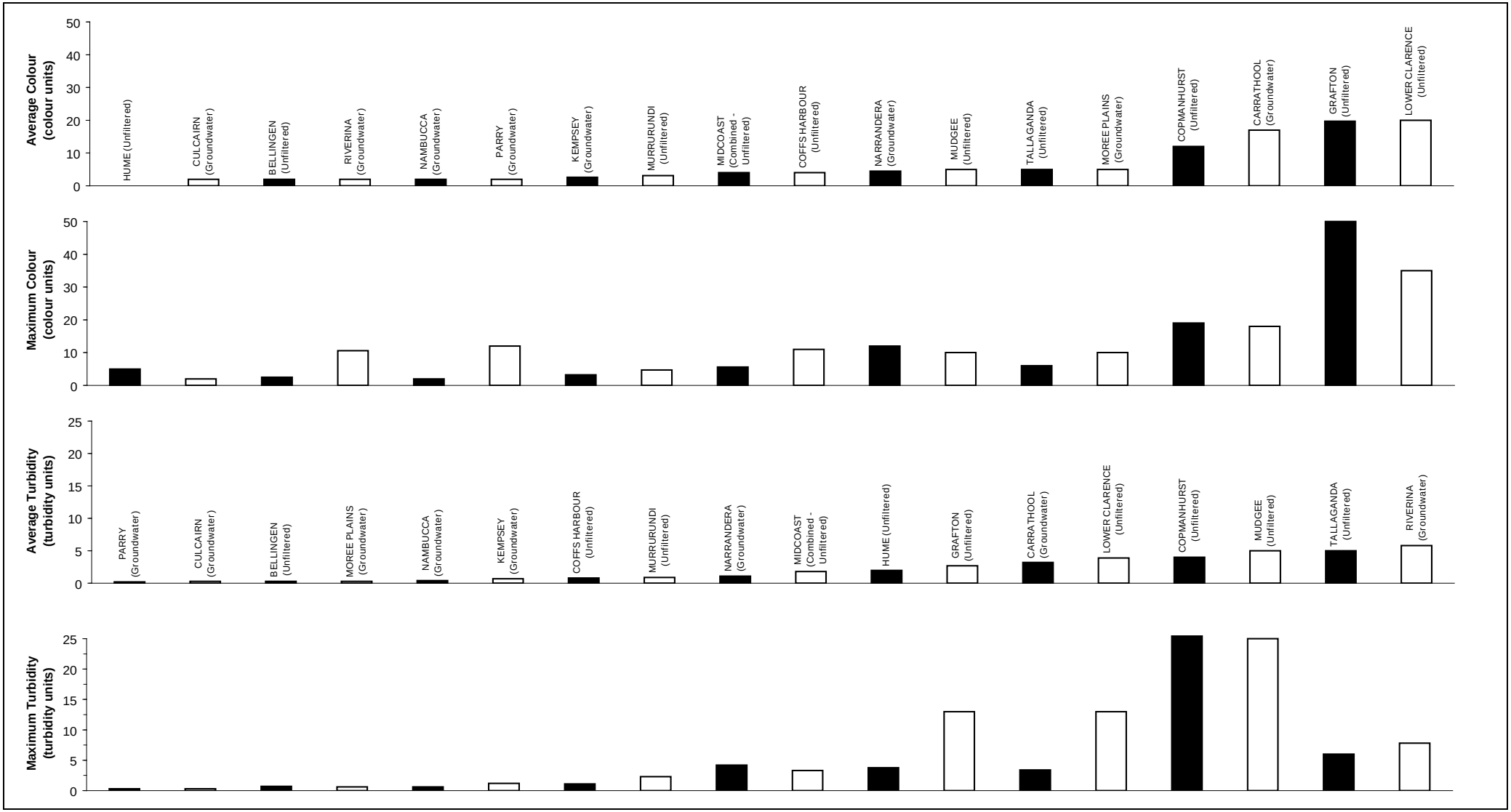
1. **Microbiological Water Quality Guidelines (1996) -** 93% of all samples tested for non-metropolitan NSW and 50% of councils complied with these guidelines for contamination by Faecal Coliforms or Total Coliforms. Most non-compliance was due to the presence of Total Coliforms which may not be of faecal origin and is therefore of lesser significance. 97% of all samples tested contained no Faecal Coliforms.
2. **Physical Water Quality Guidelines (1996) -** 95% of all samples tested for non-metropolitan NSW and 54% of councils complied with these guidelines.
3. **Chemical Water Quality Guidelines (1996) -** 95% of all samples tested for non-metropolitan NSW and 42% of councils complied with these guidelines.
4. 11% of councils did not report on microbiological, physical and chemical water quality compliance. All councils should carry out the necessary water quality sampling and report thereon in future.
5. For general notes see page 43.



Parameter: Treated Water Average Turbidity (Q40f), Maximum Turbidity (Q40d), Treated Water Average Colour (Q39f), Maximum Colour (Q39d).

Notes:

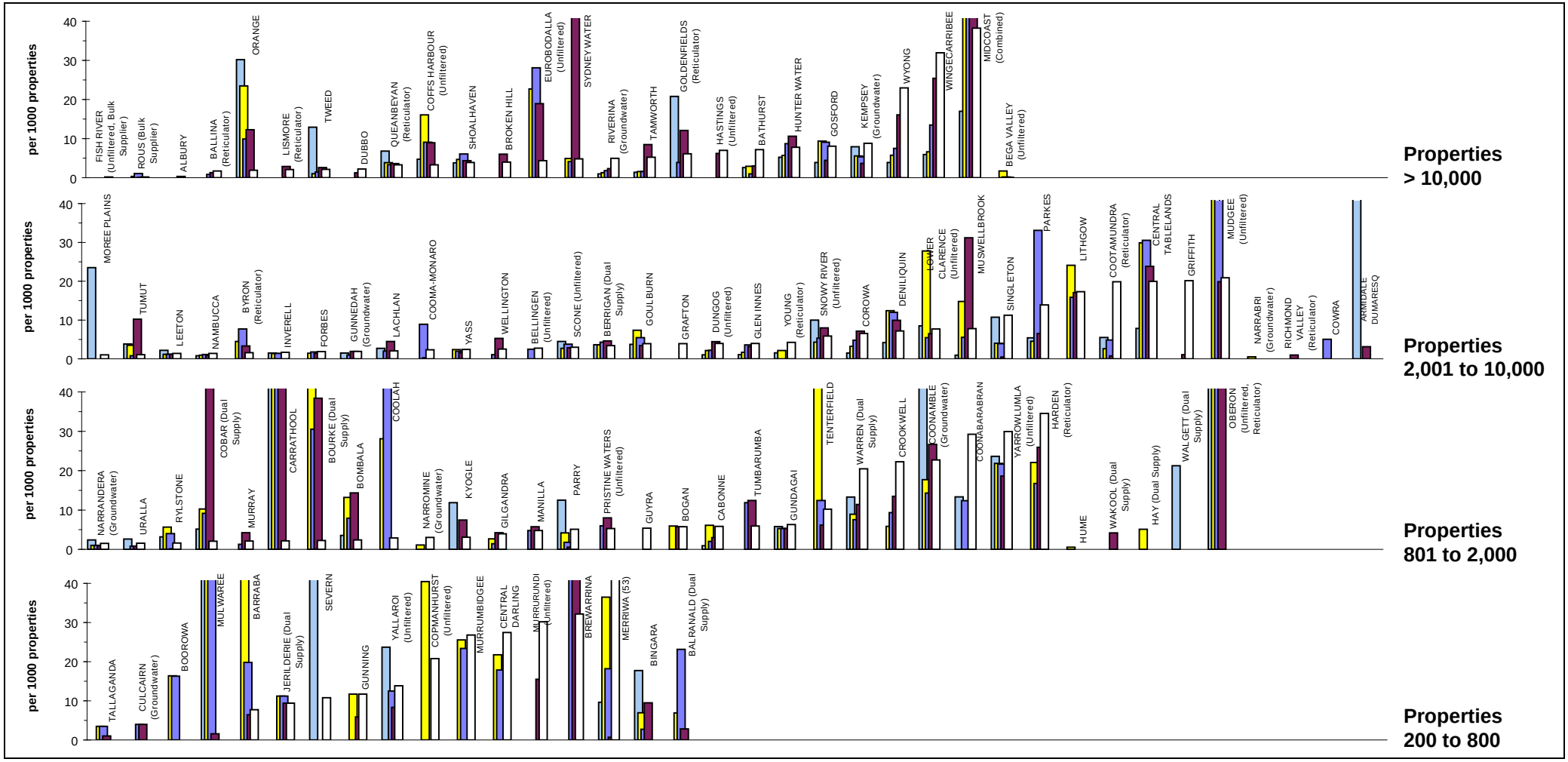
1. Only councils with at least filtration and disinfection for over 50% of their supply have been considered. The reported results are the weighted average for each council's water supply. A number of councils have some unfiltered supplies (<50% of their total supply) which increases the reported colour and turbidity values (Appendix D1).
2. 95% of the 60 reporting councils had average turbidity not exceeding 2 turbidity units. 83% of these councils had average turbidity not exceeding 1 turbidity unit.
3. 95% of the 58 reporting councils had average colour not exceeding 8 colour units. 90% of these councils had average colour not exceeding 5 colour units.
4. 5% of councils were unable to report on these items. All councils should carry out the necessary sampling and report thereon in future.



Parameter: Treated Water Average Turbidity (Q40f), Maximum Turbidity (Q40f), Treated Water Average Colour (Q39f), Maximum Colour (Q39d).

Notes:

1. Only unfiltered reporting supplies have been considered.
2. All of the 17 reporting councils had average colour not exceeding 20 colour units. 75% of these councils had average colour not exceeding 5 colour units.
3. All of the 17 reporting councils had average turbidity not exceeding 6 turbidity units. 55% of these councils had average turbidity not exceeding 2 turbidity units.
4. For general notes see page 43.

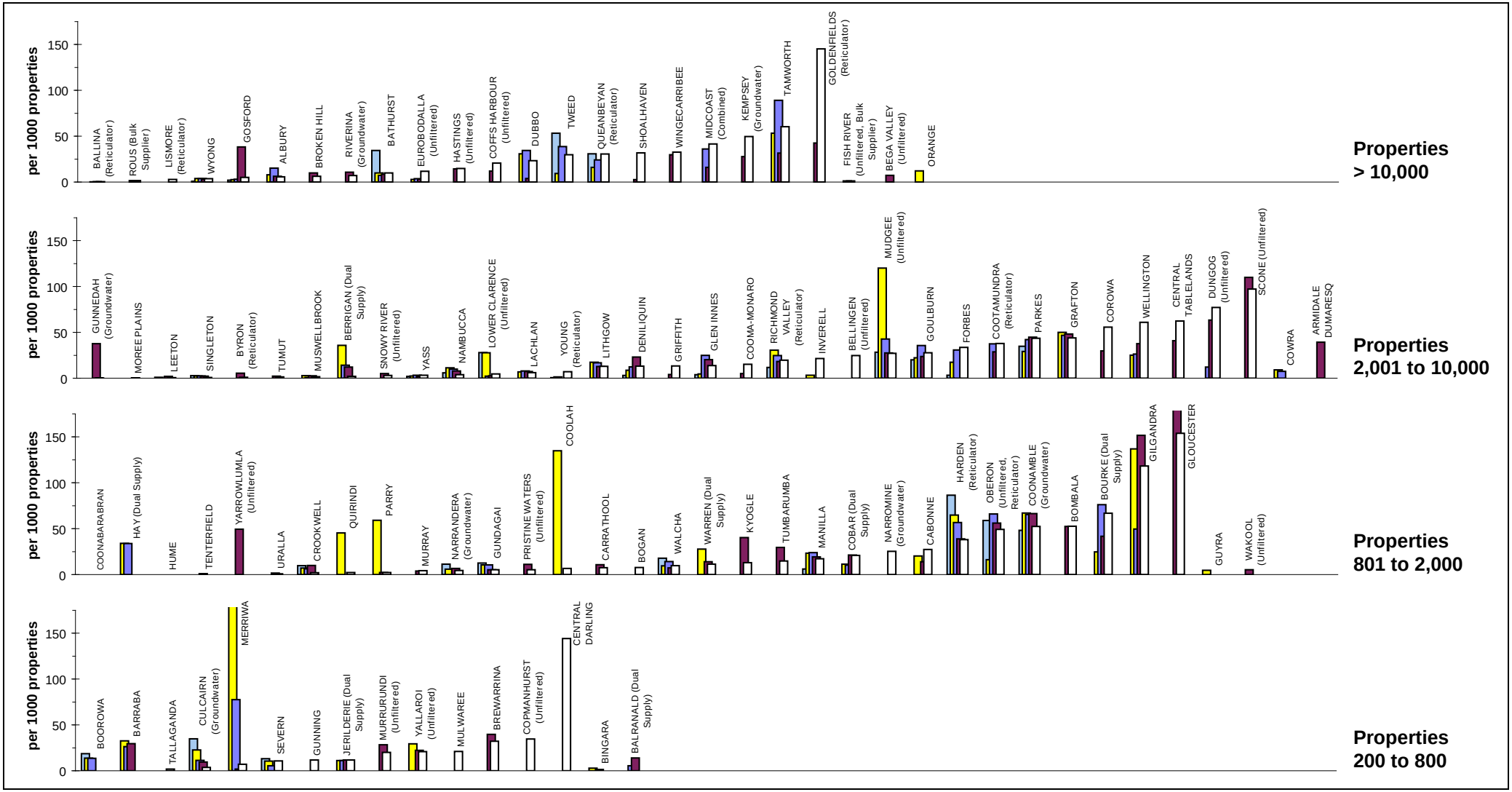


Parameter:

$$\frac{\text{No. of Water Quality Complaints (Q19) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Notes:

1. This figure shows the 1999/00 ranked values of the number of water quality complaints per 1000 connected properties for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the water quality complaints for the 32 councils shown ***range*** from about ***1 to 20*** per 1000 connected properties.
2. The Statewide median number of water quality complaints is 5 per 1000 connected properties (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.



Parameter:

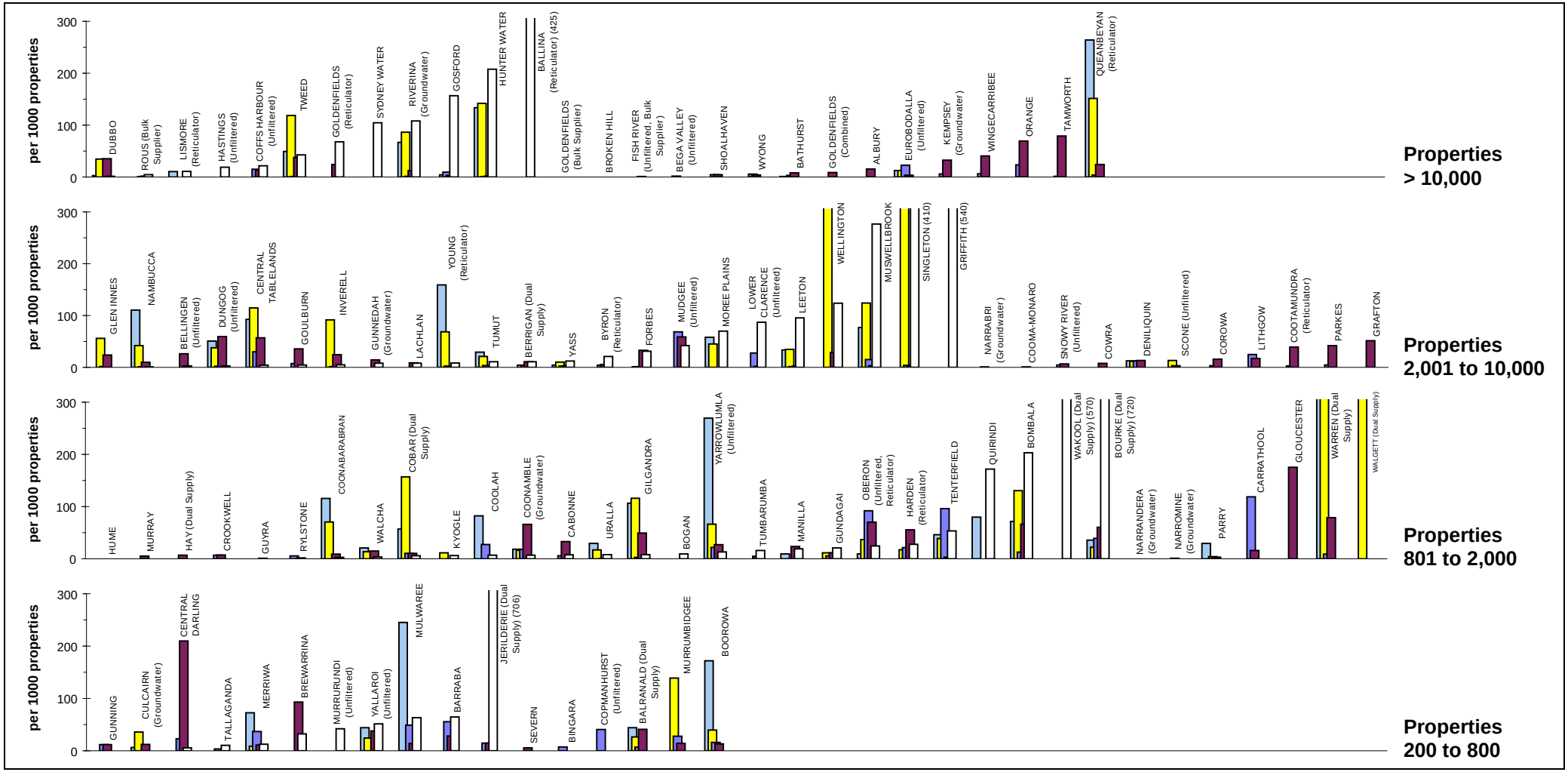
$$\frac{\text{No. of Water Service Complaints (Q20) x1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Notes:

1. This figure shows the 1999/00 ranked values of the number of service complaints per 1000 properties for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the service complaints for the 33 councils shown ***range*** from about ***0 to 95*** per 1000 connected properties. Results for the previous 4 years are also shown.
2. The Statewide median number of service complaints is 13 per 1000 connected properties (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

45 Customer Interruption Frequency

Water Supply

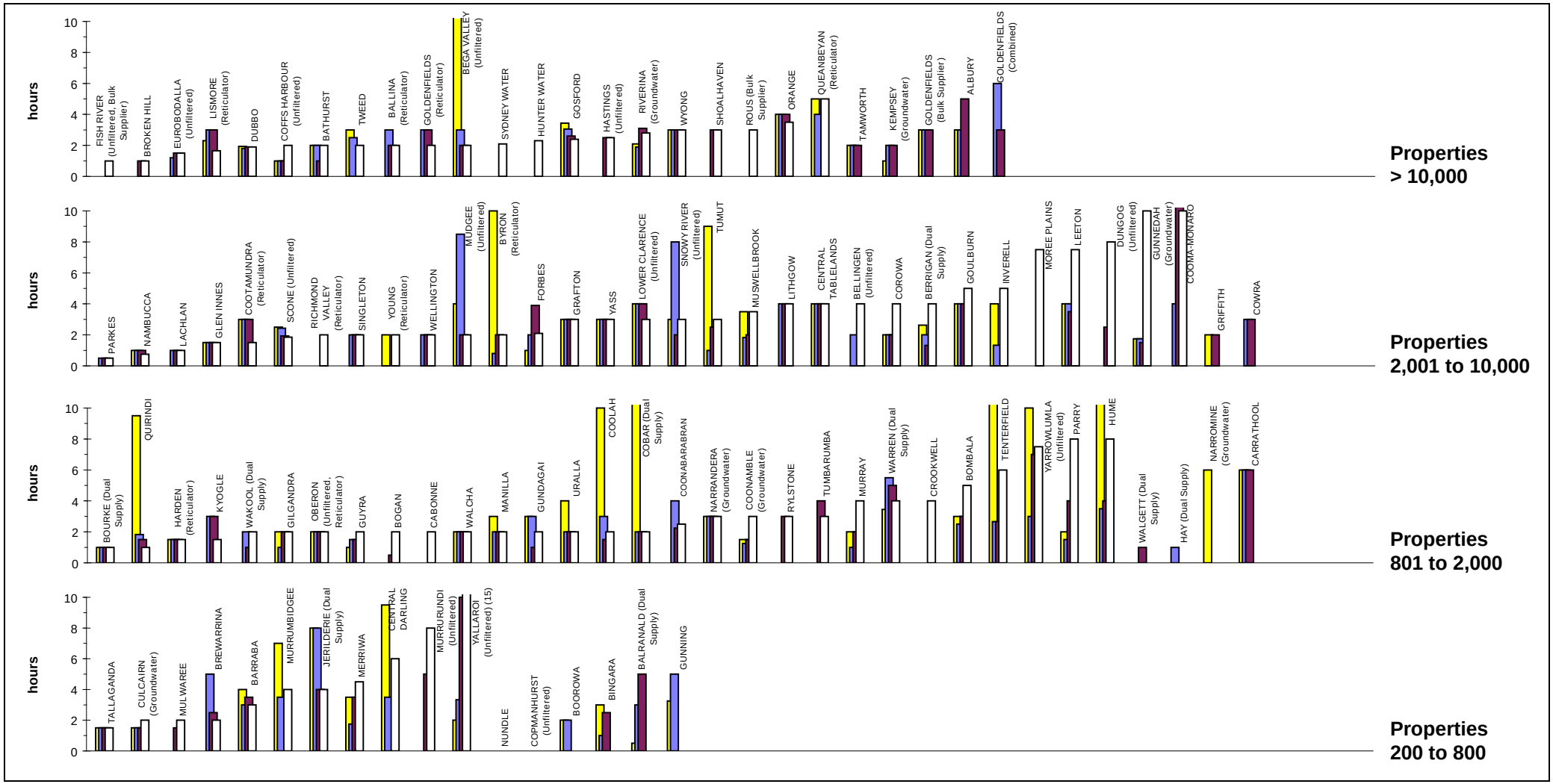


Parameter: No. of Properties Affected by an Unplanned Interruption to Supply (Q25a) x1000 / (No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)) x No. of Connected Residential Properties per Assessment

Notes:

1. This figure shows the 1999/00 ranked values of customer interruption frequency per 1000 properties for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the interruption frequencies for the 23 councils shown ***range*** from ***nil to 540***. Results for the previous 4 years are also shown.
2. The Statewide median customer interruption frequency is 20 (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

46 Average Duration of Interruptions

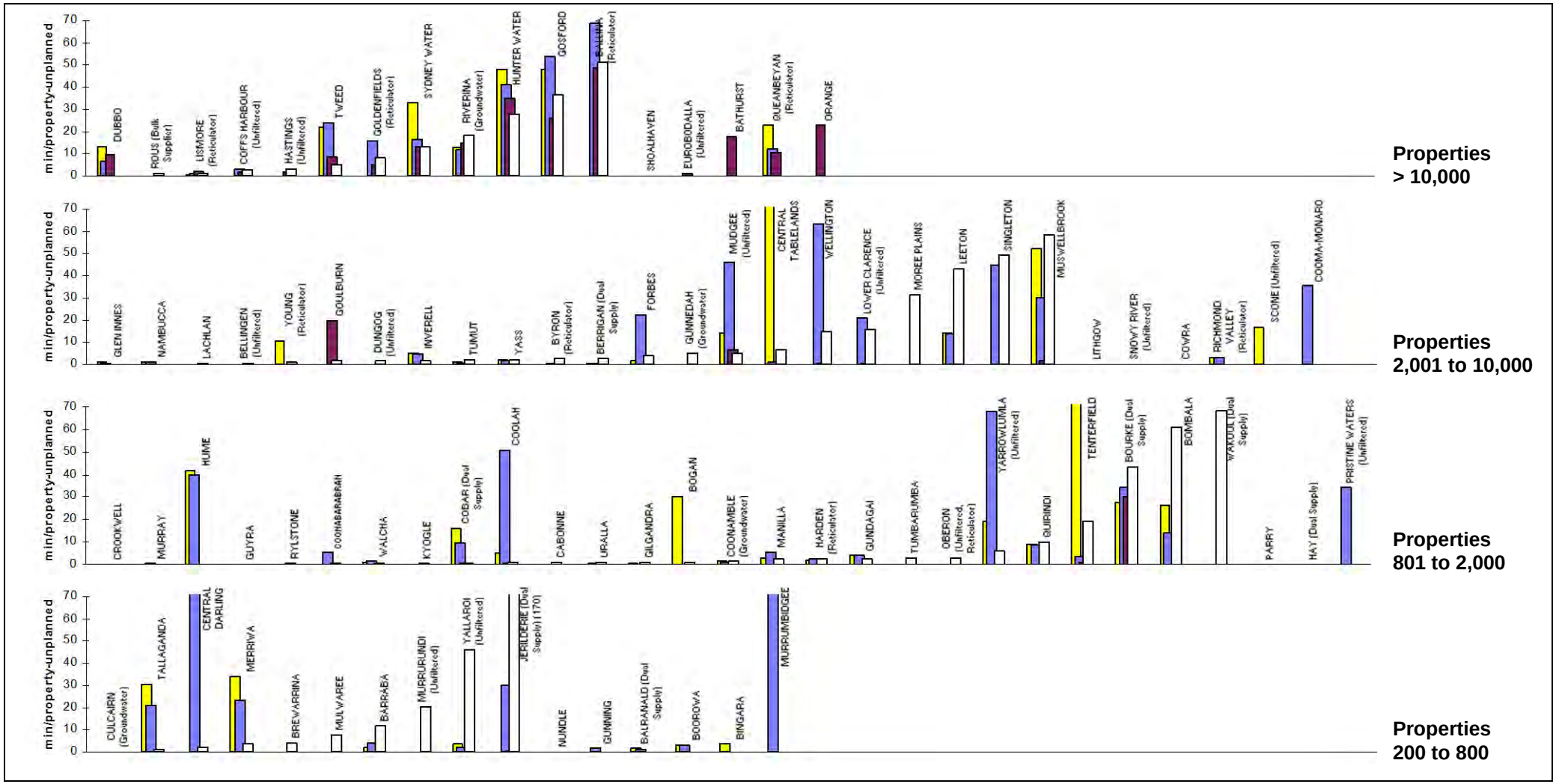


Parameter: Average Time Taken to Restore an Interrupted Supply (Q26) in hours

Notes:

1. This figure shows the 1999/00 ranked values of the average duration of interruptions for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the average duration of interruptions for the 31 councils shown ***ranges*** from about ***0.5 to 10*** hours. Results for the previous 3 years are also shown.
2. The Statewide median average duration of interruptions is 2 hours (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

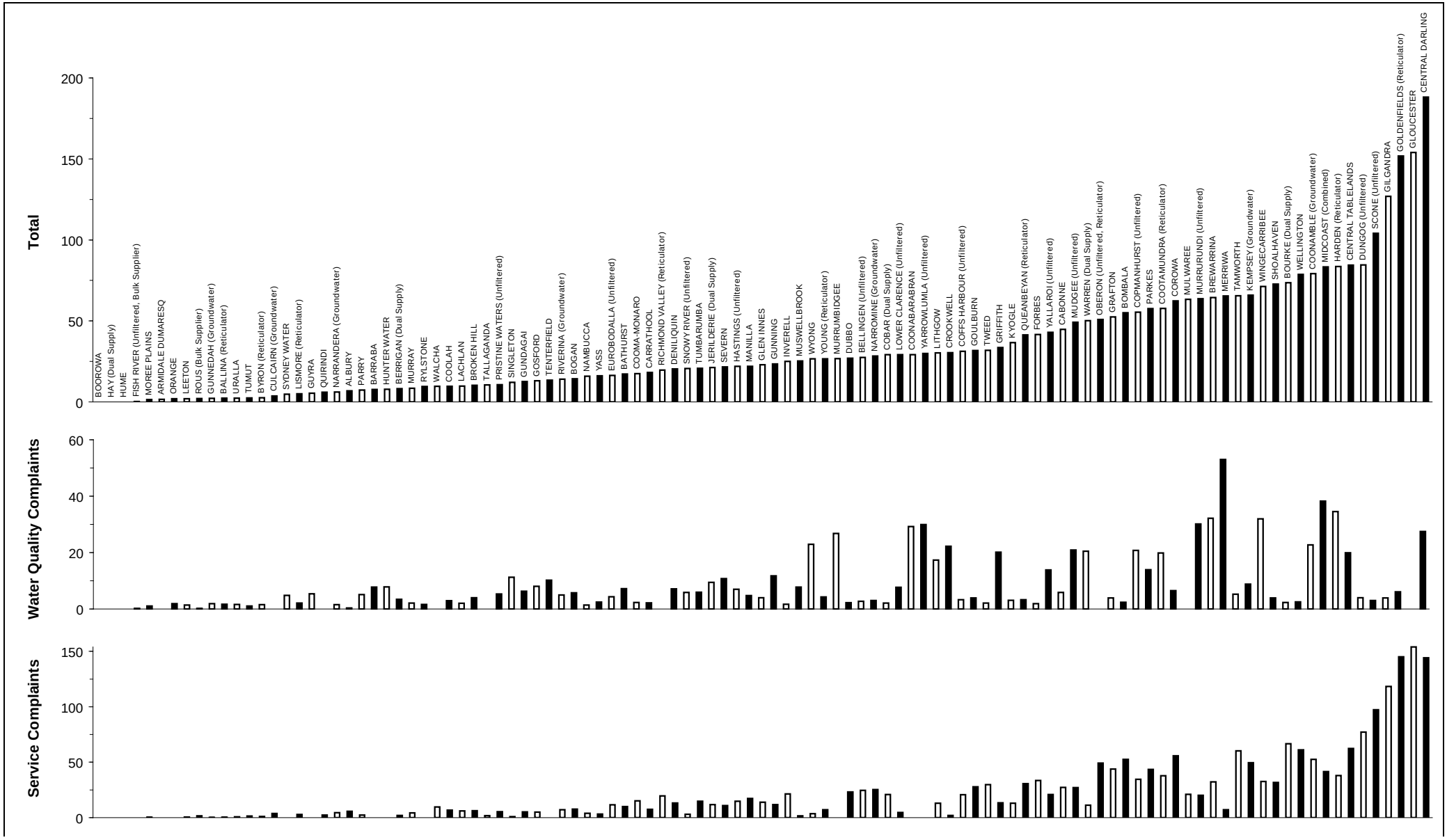
47 Average Customer Outage Time

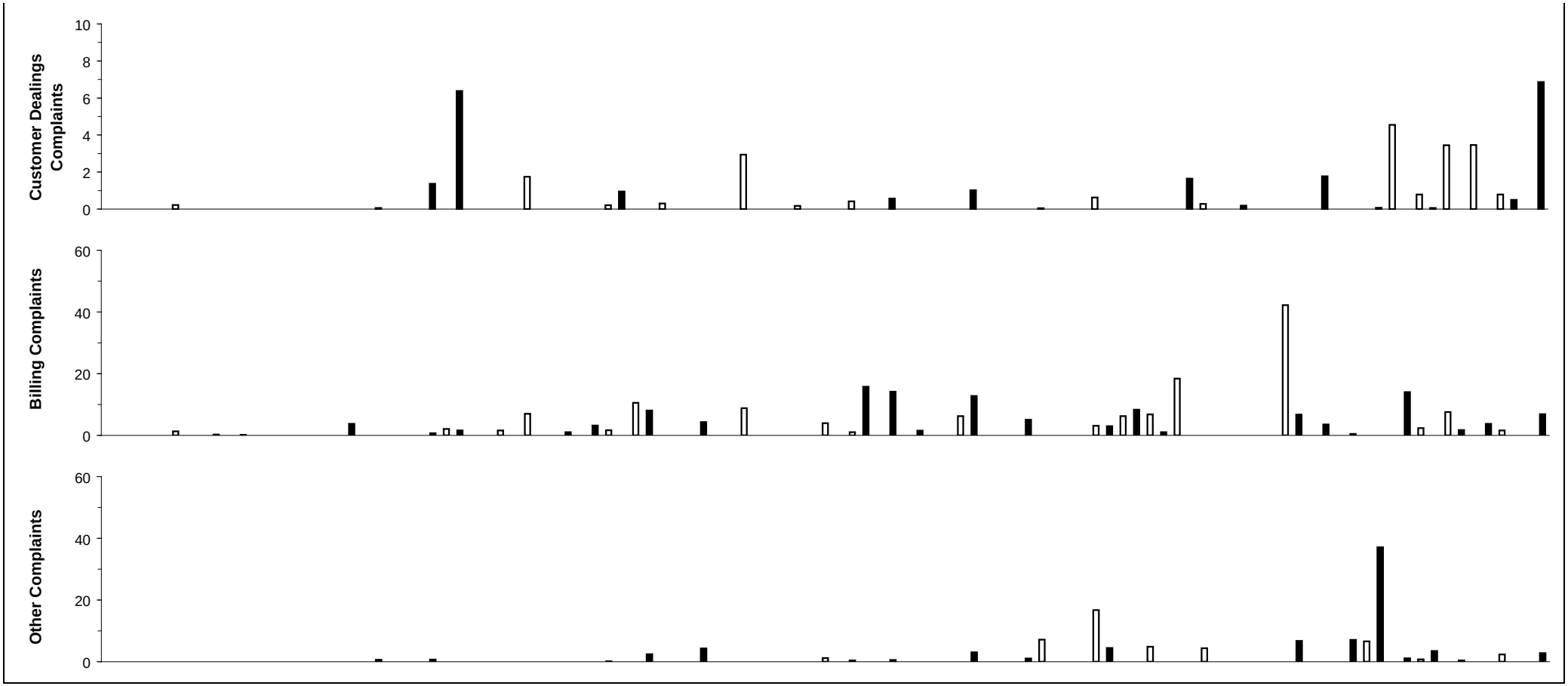


Notes:

1. This figure shows the 1999/00 ranked values of the average customer outage time per property for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the average customer outage times for the 22 councils shown ***ranges*** from about ***0 to 60*** *minutes*. Results for the previous 3 years are also shown.
2. The Statewide median average customer outage time is 3 minutes (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

Blank Page


Total
Water Quality Complaints
Service Complaints
200
150
100
50
0
60
40
20
0
150
100
50
0
BOOROWA
HAY (Dual Supply)
HUME
FISH RIVER (Unfiltered, Bulk Supplier)
MOREE PLAINS
ARMIDALE DUMARESQ
ORANGE
LEETON
ROUS (Bulk Supplier)
GUNNEDAH (Groundwater)
BALLINA (Reticulator)
URALLA
TUMUT
BYRON (Reticulator)
CULCAIRN (Groundwater)
SYDNEY WATER
LISMORE (Reticulator)
GUYRA
QUIRINDI
NARRANDERA (Groundwater)
ALBURY
PARRY
BARRABA
HUNTER WATER
BERRIGAN (Dual Supply)
MURRAY
RYLSTONE
WALCHA
COOLAH
LACHLAN
BROKEN HILL
TALLAGANDA
PRISTINE WATERS (Unfiltered)
SINGLETON
GUNDAGAI
GOSFORD
TENTERFIELD
RIVERINA (Groundwater)
BOGAN
NAMBUCCA
YASS
EUROBODALLA (Unfiltered)
BATHURST
COOMA-MONARO
CARRATHOOL
RICHMOND VALLEY (Reticulator)
DENILIQUIN
SNOWY RIVER (Unfiltered)
TUMBARUMBA
JERILDERIE (Dual Supply)
SEVERN
HASTINGS (Unfiltered)
MANILLA
GLEN INNES
GUNNING
INVERELL
MUSWELLBROOK
WYONG
YOUNG (Reticulator)
MURRUMBIDGEE
DUBBO
BELLINGEN (Unfiltered)
NARROMINE (Groundwater)
COBAR (Dual Supply)
LOWER CLARENCE (Unfiltered)
COONABARABRAN
YARROWLUMLA (Unfiltered)
LITHGOW
CROOKWELL
COFFS HARBOUR (Unfiltered)
GOULBURN
TWEED
GRIFFITH
KYOGLE
QUEANBEYAN (Reticulator)
FORBES
YALLAROI (Unfiltered)
CABONNE
MUDGEE (Unfiltered)
WARREN (Dual Supply)
OBERON (Unfiltered, Reticulator)
GRAFTON
BOMBALA
COPMANHURST (Unfiltered)
PARKES
COOTAMUNDRA (Reticulator)
COROWA
MULWAREE
MURRURUNDI (Unfiltered)
BREWARRINA
MERRIWA
TAMWORTH
KEMPSEY (Groundwater)
WINGECARRIBEE
SHOALHAVEN
BOURKE (Dual Supply)
WELLINGTON
COONAMBLE (Groundwater)
MIDCOAST (Combined)
HARDEN (Reticulator)
CENTRAL TABLELANDS
DUNGOG (Unfiltered)
SCONE (Unfiltered)
GILGANDRA
GOLDENFIELDS (Reticulator)
GLOUCESTER
CENTRAL DARLING



Parameter: $\frac{\text{Total No. of Complaints [(Q19a) + (Q20a) + (Q21) + (Q22) + (Q23)] x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{No. of Water Quality Complaints Reported (Q19a)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{No. of Water Service Complaints Reported (Q20a)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{No. of Customer Dealings Complaints Reported (Q21)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

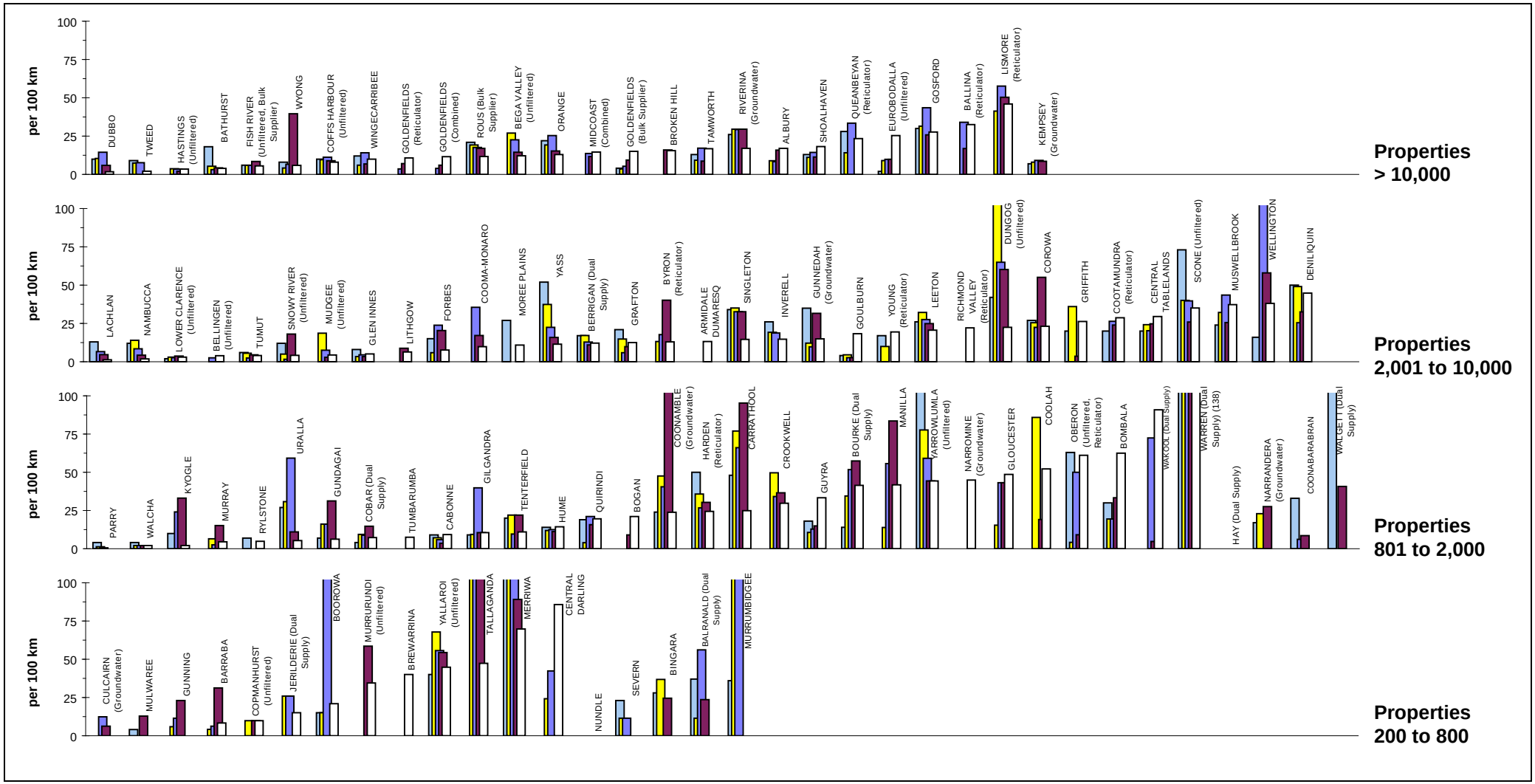
Parameter: $\frac{\text{No. of Billings Complaints Reported (Q22)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{No. of Other Complaints Reported (Q23)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Note:

1. For general notes see page 43.

49 Number of Water Main Breaks

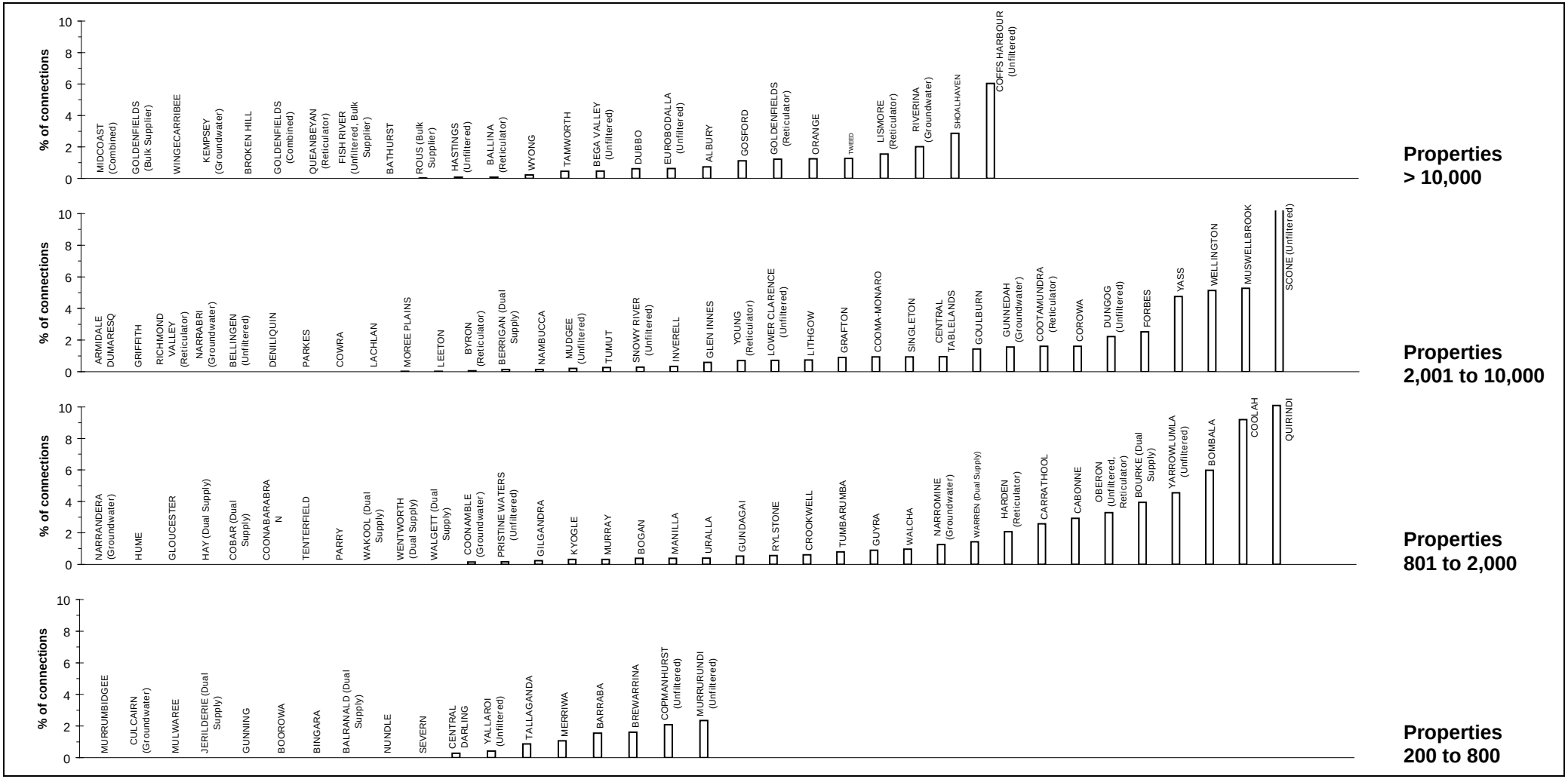


Parameter: No. of Pipeline Breaks (Q28a) x 100
~~Length of Distribution Trunk Mains (Q10c)~~

Note:

1. This figure shows the 1999/00 ranked values for water supply main breaks for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the number of main breaks for the 33 councils shown ***range*** from ***1 to 45*** breaks per 100 km of water mains. Results for the previous 4 years are also shown.
2. The Statewide median number of water supply main breaks is 15 per 100km of water main (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.

49A Service Connection Failures

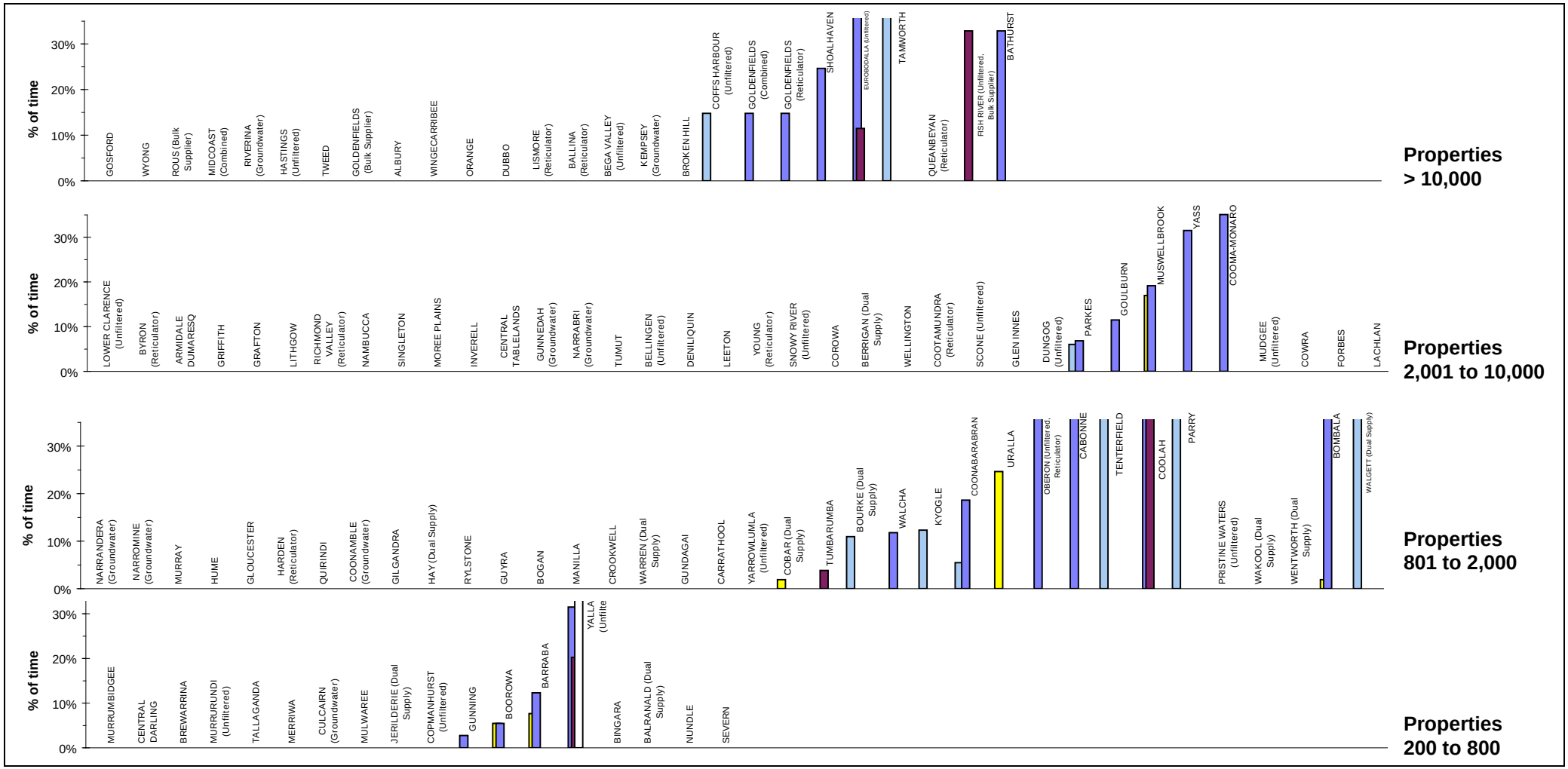


Parameter:

$$\frac{\text{No. of Service Connections Failures (Q28b) x 100}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Note:

1. This figure shows the 1999/00 ranked values for water supply service connection failures for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the number of service connection failures for the 36 councils shown ***range*** from about ***Nil to 15%.***
2. For general notes see page 43.



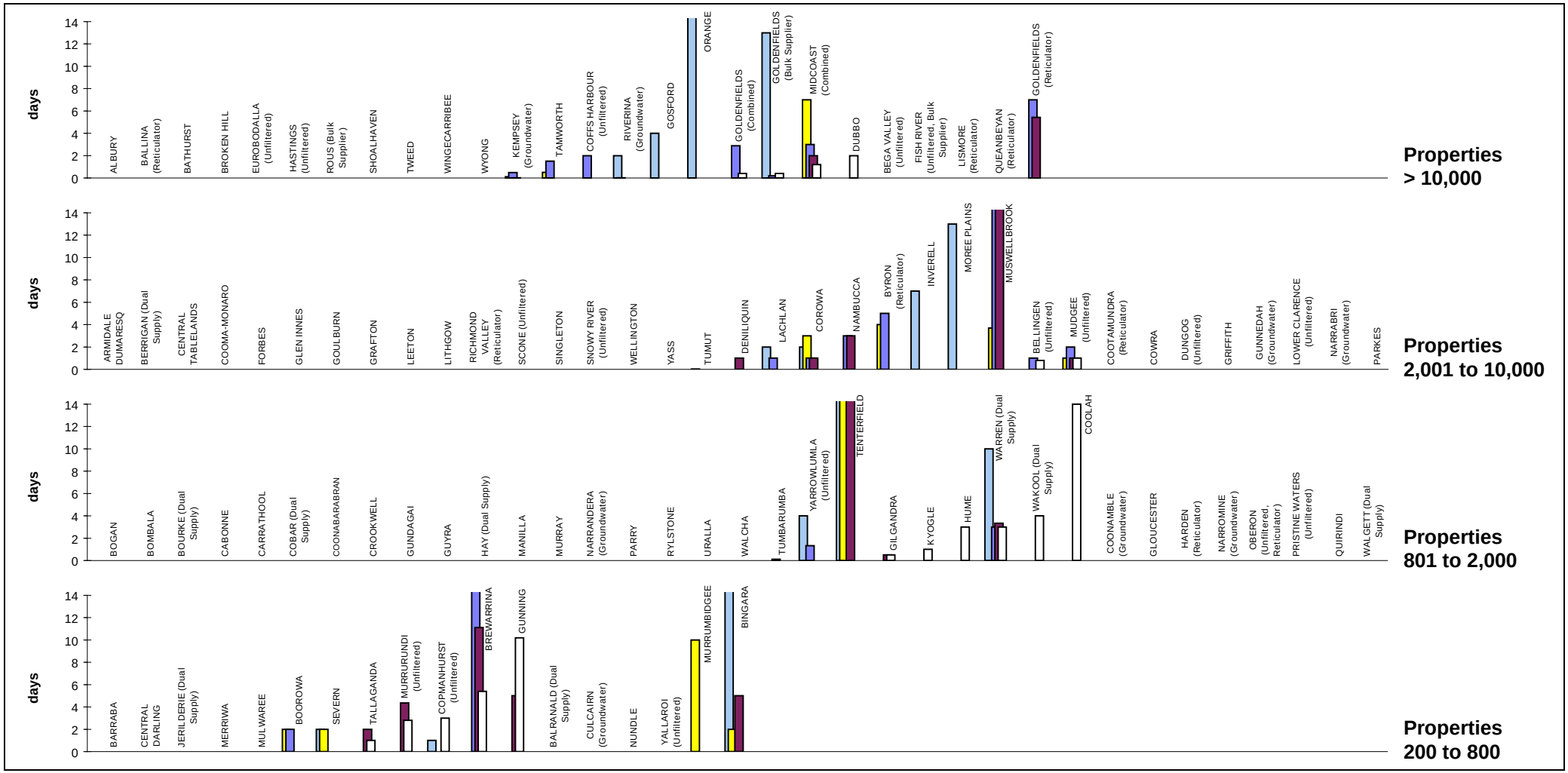
Parameter: $\frac{\text{No. of Days of Water Restrictions Due to Drought (Q27) x 100}}{\text{356 Days}}$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows the 1999/00 ranked values of water restrictions due to drought for each council in 4 groups based on the number of connected properties served. ***Each bar white represents one council.*** As an example, for the property range from 2,001 to 10,000, the 32 councils shown reported no water restrictions. Results for the previous 4 years are also shown.
2. The Statewide median water restrictions is 0% (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

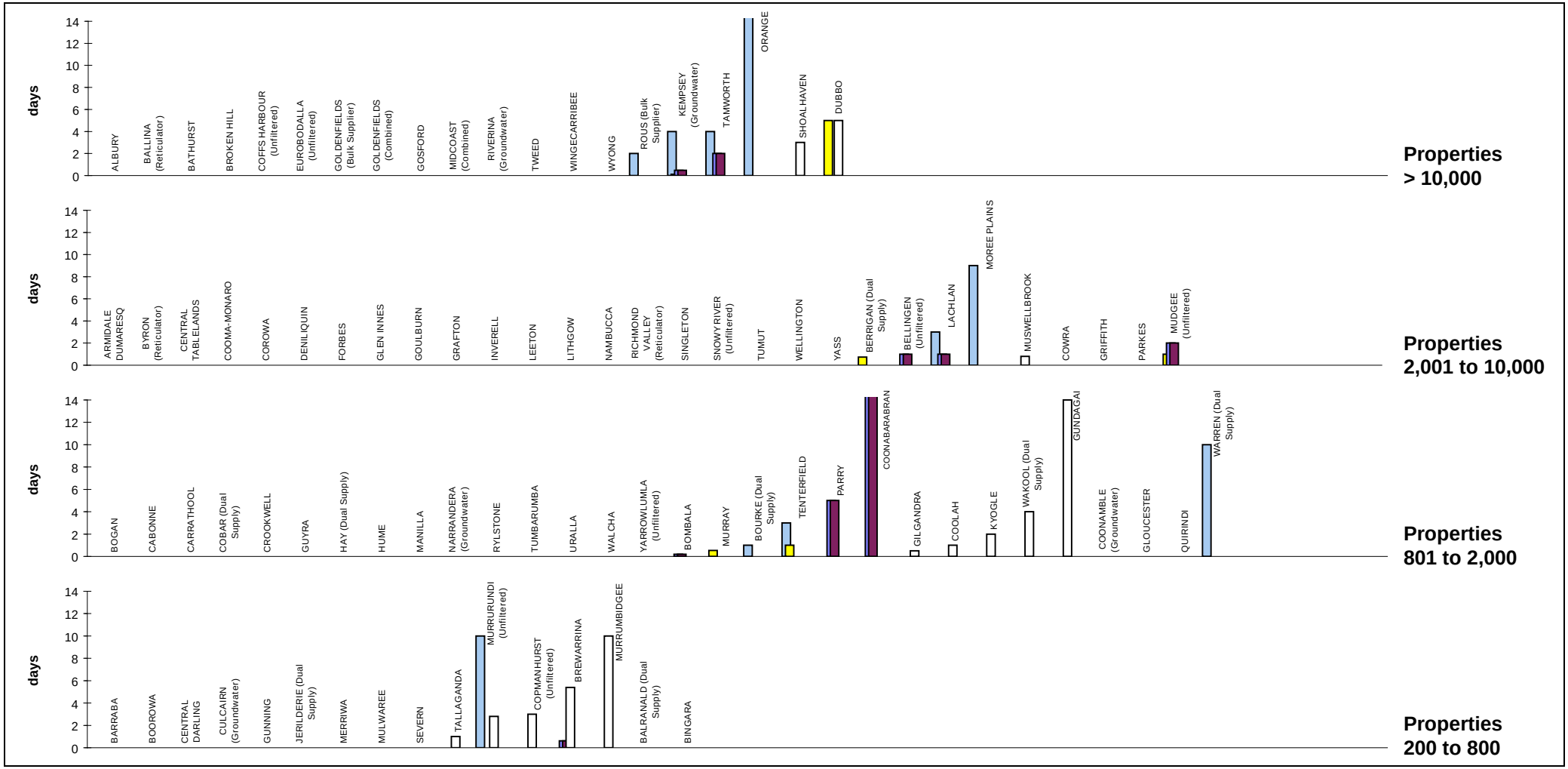
51 Chlorination System Malfunction



Parameter: Numbers of Days Chlorination System failed to Operate (Q44)

Note:

1. This figure shows the 1999/00 ranked number of days the chlorination system for potable water supplies did not operate for each council in 4 groups based on the number of connected properties served. ***Each bar white represents one council***. As an example, for the property range from 2,001 to 10,000, the number of days the chlorination system did not operate for the 27 councils show ***range*** from ***0 to 1*** *day*. The 8 councils on the right did not report chlorination system malfunction for 1999/00. Results for the previous 4 years are also shown.
2. For councils with more than one chlorination system, the weighted average (based on capacity) of days was used (Appendix E1).
3. For general notes see page 43.

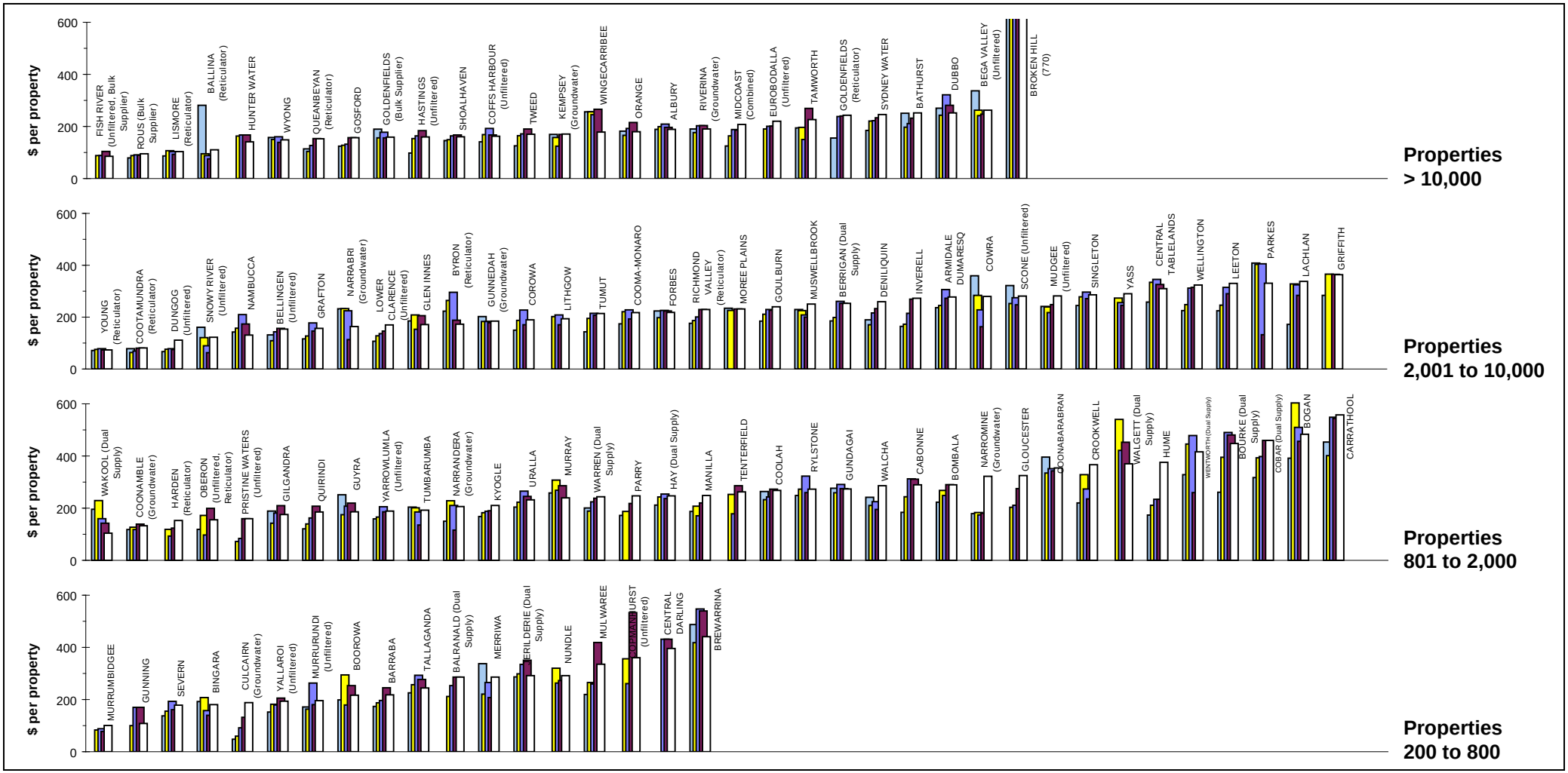


Parameter: Number of days of major Malfunction of Treatment Processes (Q45)

Notes:

1. This figure shows the 1999/00 ranked number of days of major malfunction of treatment processes for each council in 4 groups based on the number of c example, for the property range from 2,001 to 10,000, the number of days of treatment work malfunction for the 25 councils shown ***range*** from ***0 to 1*** day. Results for the previous 4 years are also shown.
2. For councils with more than one treatment works, the weighted average days of malfunction (based on treatment works capacity) was used (Appendix E1).
3. For general notes see page 43.

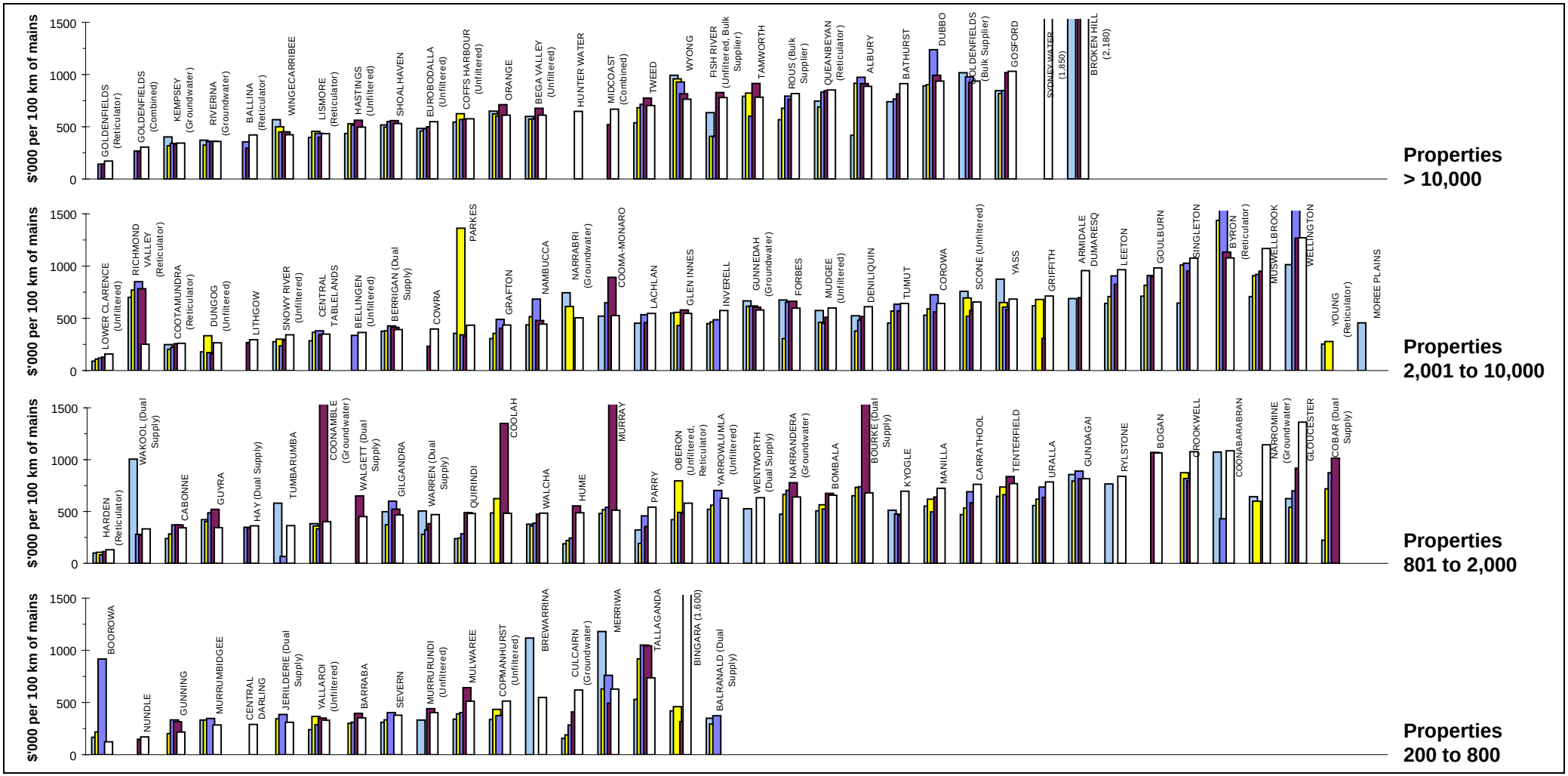
53 Operating Cost (OMA) per property



Parameter: [Management Expenses (W1) + Total Operations Expenses (W2) - Purchase of Water (W2o)] / [No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

Notes:

1. This figure shows the 1999/00 ranked values of the water supply operating cost (OMA - operation, maintenance and administration) per property for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the operating costs for the 36 councils shown ***range*** from about ***$75 to $365*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median operating cost per connected property is $180 (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.

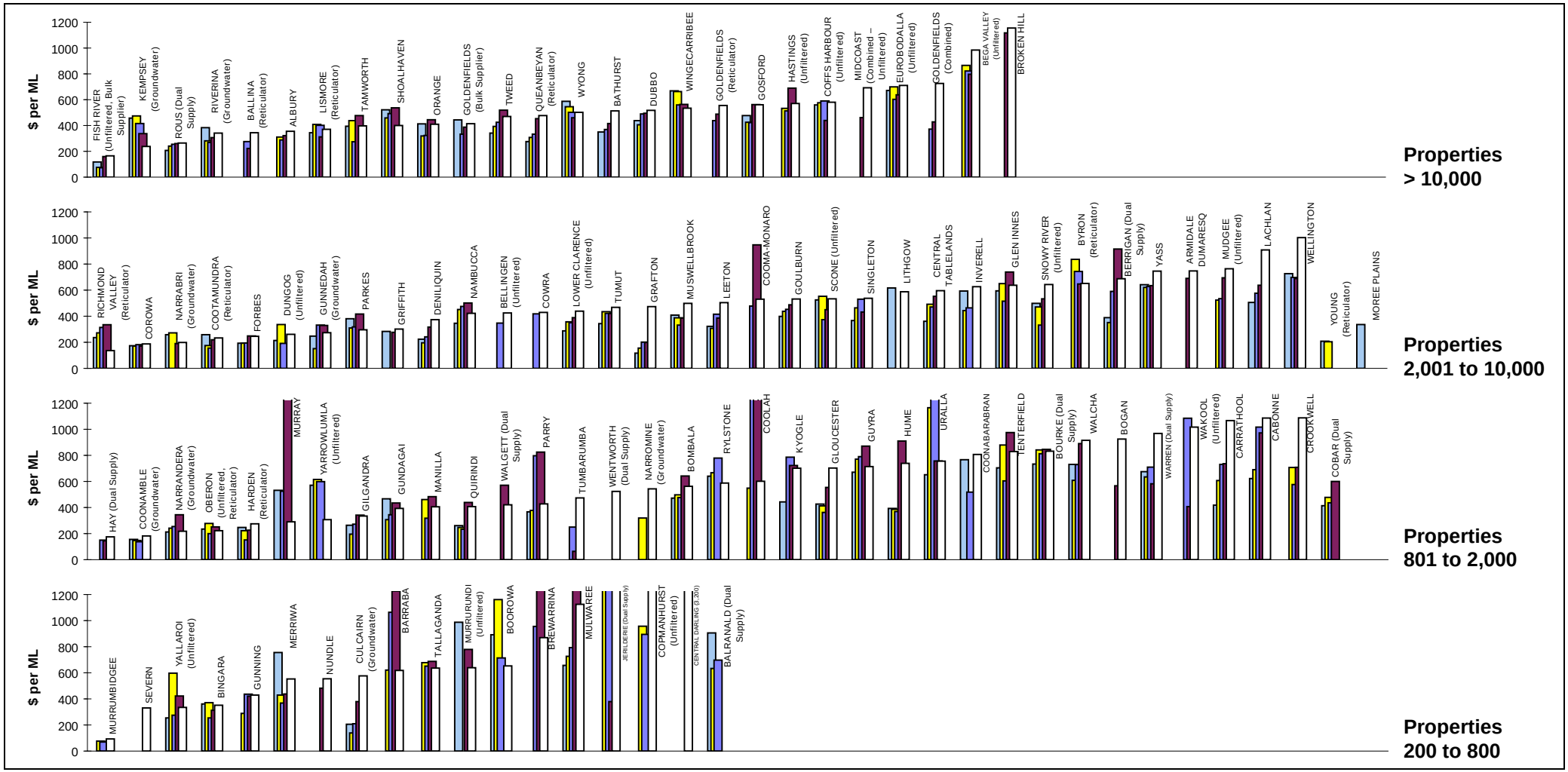


Parameter: ~~Management Expenses (W1) + Total Operations Expenses (W2) - Purchase of Water (W2o)~~ / Length of Distribution Trunk Mains (Q10c) x 10

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

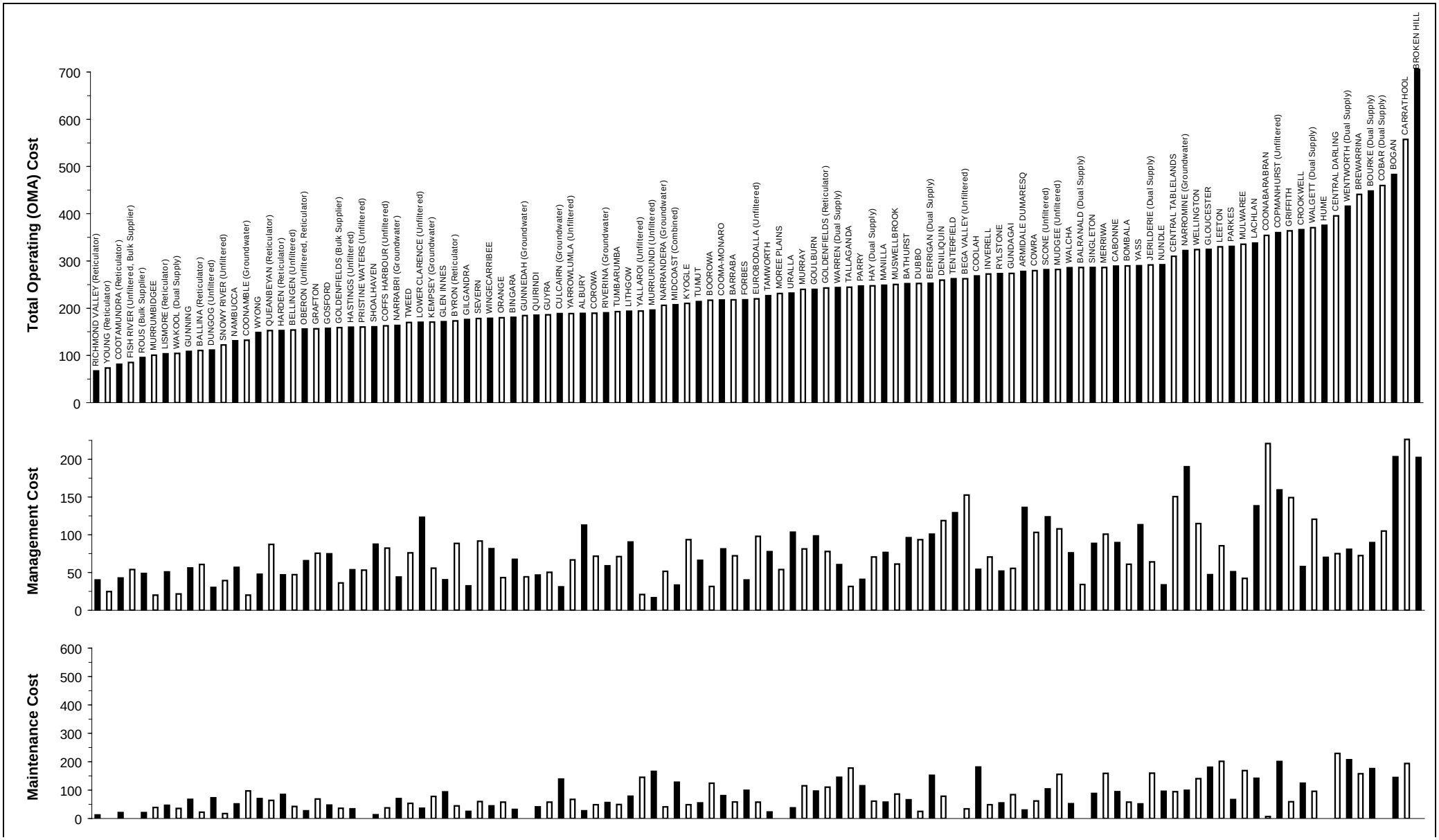
1. This figure shows the 1999/00 ranked values of the water supply operating cost (OMA - operation, maintenance and administration) per 100 km of main for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the operating costs for the 34 councils shown ***range*** from about ***$160 to $1300*** per 100 km of main. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median operating cost per 100 km of main is $610,000 (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.

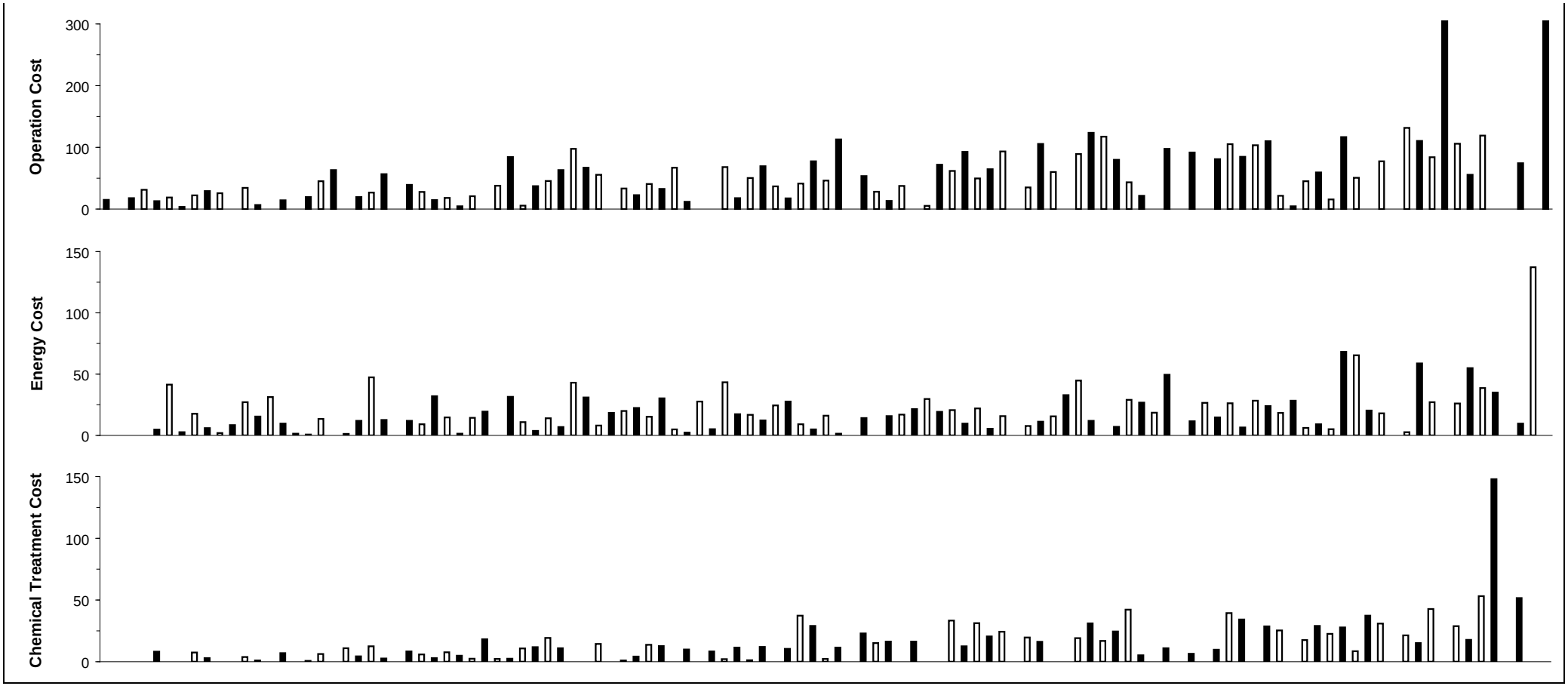


Parameter: $\frac{\text{Management Expenses (W1) + Total Operations Expenses (W2) - Purchase of Water (W2o)}}{\text{Total Potable Water Consumption (Q12i)}}$

Notes:

1. This figure shows the 1999/00 ranked values of the water supply operating cost (OMA - operation, maintenance and administration) per ML for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the operating costs for the 34 councils shown ***range*** from about ***$130 to $1000*** per ML. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median operating cost is $500 per ML (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.


Total Operating (OMA) Cost
Management Cost
Maintenance Cost
RICHMOND VALLEY (Reticulator)
YOUNG (Reticulator)
COOTAMUNDRA (Reticulator)
FISH RIVER (Unfiltered, Bulk Supplier)
ROUS (Bulk Supplier)
MURRUMBIDGEE
LISMORE (Reticulator)
WAKOOL (Dual Supply)
GUNNING
BALLINA (Reticulator)
DUNGOG (Unfiltered)
SNOWY RIVER (Unfiltered)
NAMBUCCA
COONAMBLE (Groundwater)
WYONG
QUEANBEYAN (Reticulator)
HARDEN (Reticulator)
BELLINGEN (Unfiltered)
OBERON (Unfiltered, Reticulator)
GRAFTON
GOSFORD
GOLDENFIELDS (Bulk Supplier)
HASTINGS (Unfiltered)
PRISTINE WATERS (Unfiltered)
SHOALHAVEN
COFFS HARBOUR (Unfiltered)
NARRABRI (Groundwater)
TWEED
LOWER CLARENCE (Unfiltered)
KEMPSEY (Groundwater)
GLEN INNES
BYRON (Reticulator)
GILGANDRA
SEVERN
WINGECARRIBEE
ORANGE
BINGARA
GUNNEDAH (Groundwater)
QUIRINDI
GUYRA
CULCAIRN (Groundwater)
YARROWLUMLA (Unfiltered)
ALBURY
COROWA
RIVERINA (Groundwater)
TUMBARUMBA
LITHGOW
YALLAROI (Unfiltered)
MURRURUNDI (Unfiltered)
NARRANDERA (Groundwater)
MIDCOAST (Combined)
KYOGLE
TUMUT
BOOROWA
COOMA-MONARO
BARRABA
FORBES
EUROBODALLA (Unfiltered)
TAMWORTH
MOREE PLAINS
URALLA
MURRAY
GOULBURN
GOLDENFIELDS (Reticulator)
WARREN (Dual Supply)
TALLAGANDA
PARRY
HAY (Dual Supply)
MANILLA
MUSWELLBROOK
BATHURST
DUBBO
BERRIGAN (Dual Supply)
DENILIQUIN
TENTERFIELD
BEGA VALLEY (Unfiltered)
COOLAH
INVERELL
RYLSTONE
GUNDAGAI
ARMIDALE DUMARESQ
COWRA
SCONE (Unfiltered)
MUDGEE (Unfiltered)
WALCHA
BALRANALD (Dual Supply)
SINGLETON
MERRIWA
CABONNE
BOMBALA
YASS
JERILDERIE (Dual Supply)
NUNDLE
CENTRAL TABLELANDS
NARROMINE (Groundwater)
WELLINGTON
GLOUCESTER
LEETON
PARKES
MULWAREE
LACHLAN
COONABARABRAN
COPMANHURST (Unfiltered)
GRIFFITH
CROOKWELL
WALGETT (Dual Supply)
HUME
CENTRAL DARLING
WENTWORTH (Dual Supply)
BREWARRINA
BOURKE (Dual Supply)
COBAR (Dual Supply)
BOGAN
CARRATHOOL
BROKEN HILL



Parameter: $\frac{\text{Total Operation and Maintenance Expenses (W1 + W2) – Purchase of Water (W2o)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Management Expenses (W1)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Dams \& Weir Maintenance (W2b) + Mains Maintenance (W2d) + Reservoir Maintenance (W2f) + Pumping Station Maintenance (W2i) + Treatment Maintenance (W2l)+ Other Maintenance (W2n)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

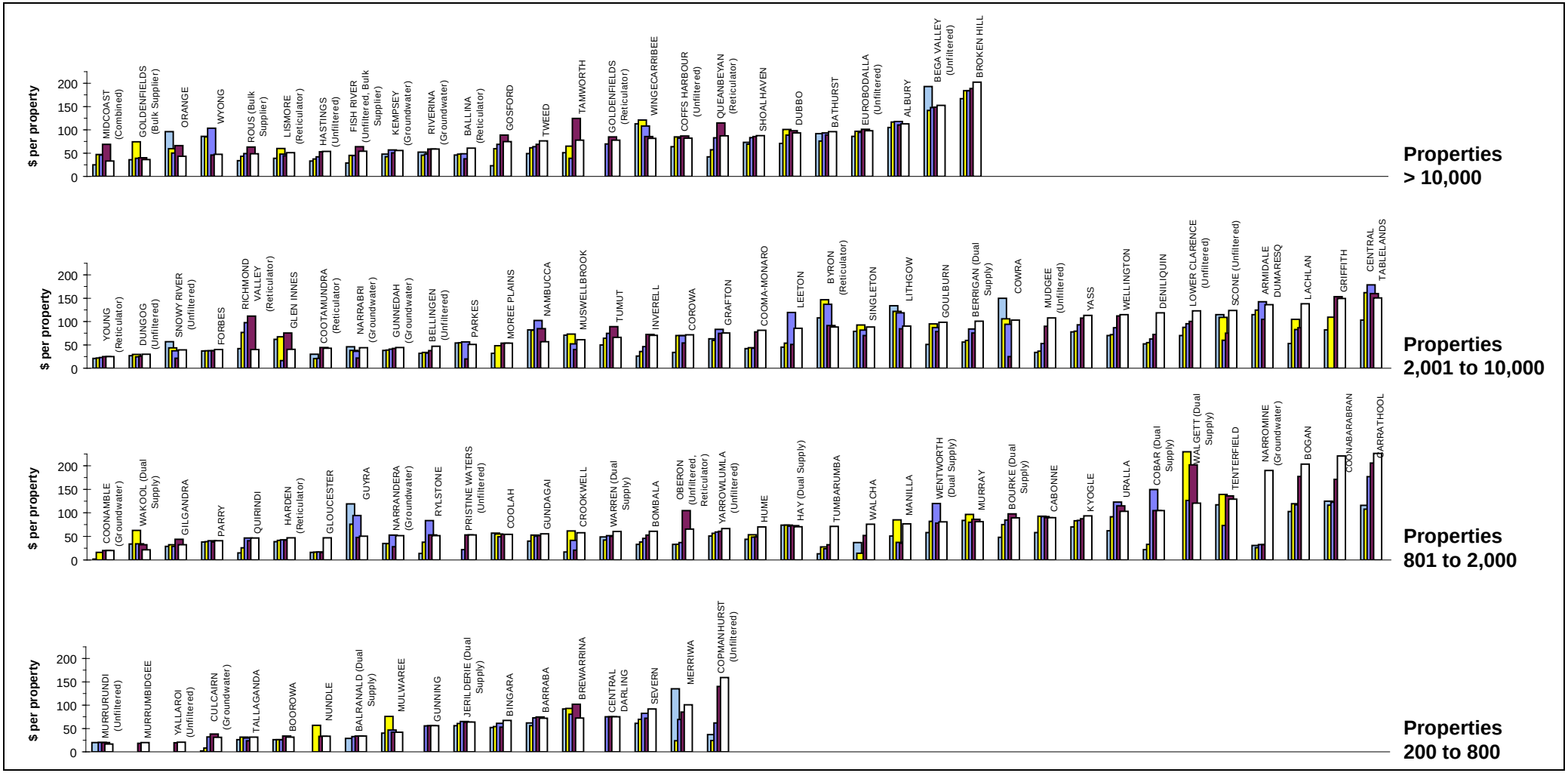
Parameter: $\frac{\text{Dams \& Weir Operation (W2a) + Mains Operation (W2c) + Reservoir Operation (W2e) + Pumping Station Operation (W2g) + Treatment Operation (W2j) + Other Operation (W2m)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Pump Station Energy Expenses (W2h)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Chemical Treatment Expenses (W2k)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Notes:

1. The Statewide median operating cost (OMA – operation, maintenance and administration) is $180 per connected property (refer to Table 1 – percentage of connected property basis).
2. For general notes see page 43.



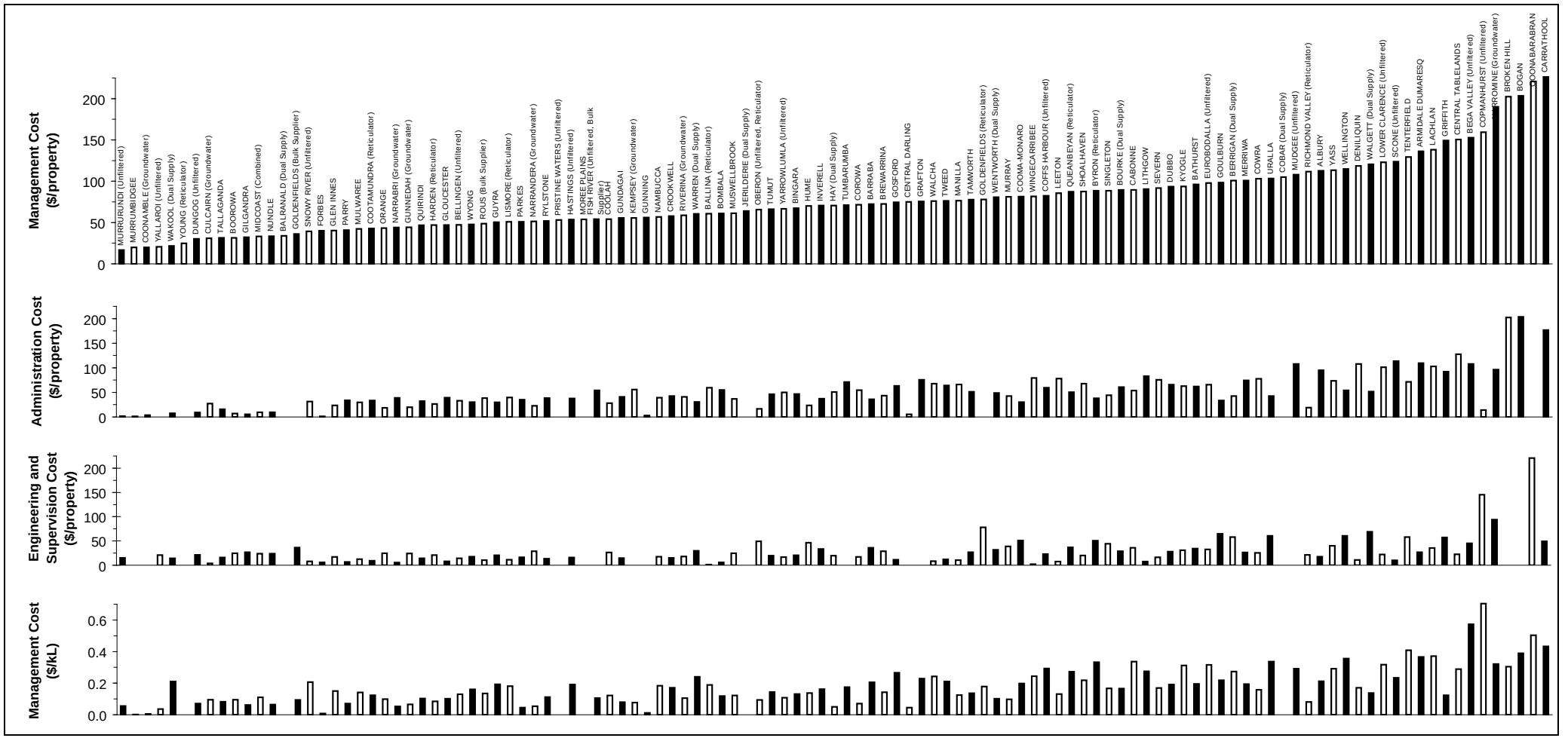
Parameter:

$$\frac{\text{Administration Cost (W1a) + Engineering Cost (W1b)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows the 1999/00 ranked values of the management cost per property for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the management costs for the 36 councils shown ***range*** from about ***$25 to $150*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median management cost is $75 per connected property (refer to Table 1 – percentage of connected properties basis).
3. For general notes see page 43.



Parameter: $\frac{\text{Management Expenses (W1)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

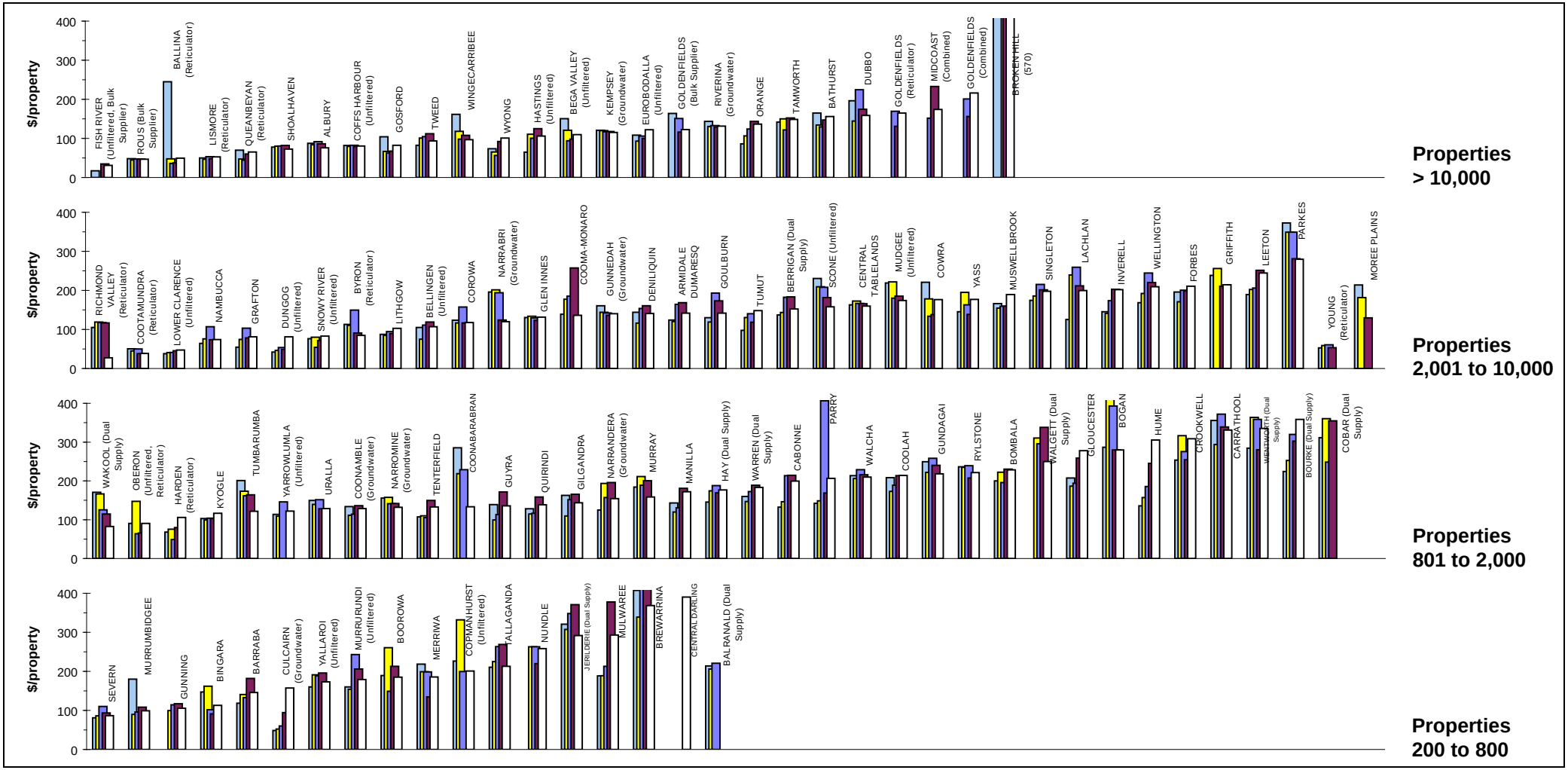
Parameter: $\frac{\text{Administration Expenses (W1a)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Engineering and Supervision Expenses (W1b)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Management Expenses (W1)}}{\text{Potable Water Consumption (Q12i) x 1000}}$

Notes:

1. The Statewide median management cost is $75 per connected property (refer to Table 1 – percentage of connected properties basis).
2. For general notes see page 43.



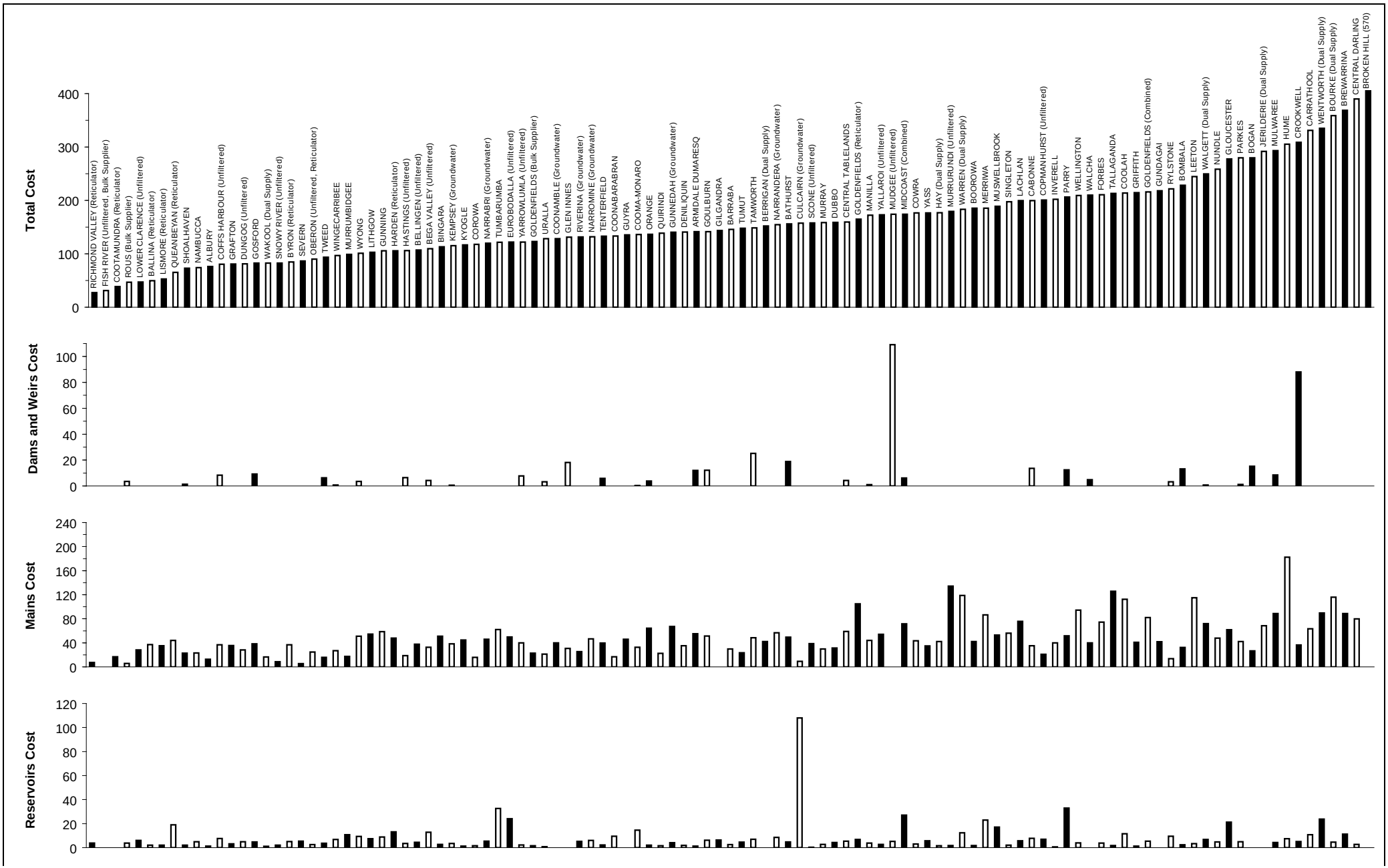
Parameter: Total Operation and Maintenance Cost (W2) – Purchase of Water (W2o)

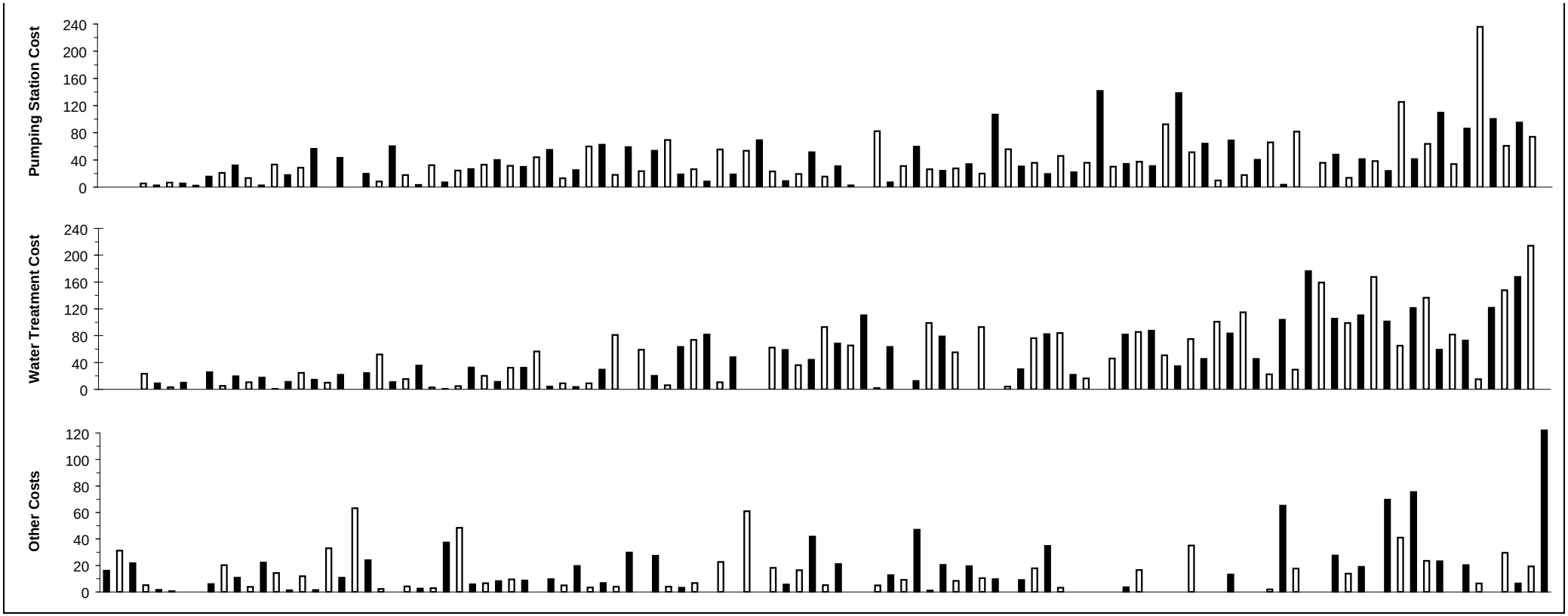
[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

Notes:

1. This figure shows ranked values of the 1999/00 water supply operation and maintenance cost for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the water supply operation and maintenance costs for the 34 councils shown ***range*** from about ***$25 to $280*** per property. Results for the previous 4 years are also shown in Jan 2000$.
2. For general notes see page 43.

Blank Page


Total Cost
Dams and Weirs Cost
Mains Cost
Reservoirs Cost
RICHMOND VALLEY (Reticulator)
FISH RIVER (Unfiltered, Bulk Supplier)
COOTAMUNDRA (Reticulator)
ROUS (Bulk Supplier)
LOWER CLARENCE (Unfiltered)
BALLINA (Reticulator)
LISMORE (Reticulator)
QUEANBEYAN (Reticulator)
SHOALHAVEN
NAMBUCCA
ALBURY
COFFS HARBOUR (Unfiltered)
GRAFTON
DUNGOG (Unfiltered)
GOSFORD
WAKOOL (Dual Supply)
SNOWY RIVER (Unfiltered)
B YRON (Reticulator)
SEVERN
OBERON (Unfiltered, Reticulator)
TWEED
WINGECARRIBEE
MURRUMBIDGEE
WYONG
LITHGOW
GUNNING
HARDEN (Reticulator)
HASTINGS (Unfiltered)
BELLINGEN (Unfiltered)
BEGA VALLEY (Unfiltered)
BINGARA
KEMPSEY (Groundwater)
KYOGLE
COROWA
NARRABRI (Groundwater)
TUMBARUMBA
EUROBODALLA (Unfiltered)
YARROWLUMLA (Unfiltered)
GOLDENFIELDS (Bulk Supplier)
URALLA
COONAMBLE (Groundwater)
GLEN INNES
RIVERINA (Groundwater)
NARROMINE (Groundwater)
TENTERFIELD
COONABARABRAN
GUYRA
COOMA-MONARO
ORANGE
QUIRINDI
GUNNEDAH (Groundwater)
DENILIQUIN
ARMIDALE DUMARESQ
GOULBURN
GILGANDRA
BARRABA
TUMUT
TAMWORTH
BERRIGAN (Dual Supply)
NARRANDERA (Groundwater)
BATHURST
CULCAIRN (Groundwater)
SCONE (Unfiltered)
MURRAY
DUBBO
CENTRAL TABLELANDS
GOLDENFIELDS (Reticulator)
MANILLA
YALLAROI (Unfiltered)
MUDGEE (Unfiltered)
MIDCOAST (Combined)
COWRA
YASS
HAY (Dual Supply)
MURRURUNDI (Unfiltered)
WARREN (Dual Supply)
BOOROWA
MERRIWA
MUSWELLBROOK
SINGLETON
LACHLAN
CABONNE
COPMANHURST (Unfiltered)
INVERELL
PARRY
WELLINGTON
WALCHA
FORBES
TALLAGANDA
COOLAH
GRIFFITH
GOLDENFIELDS (Combined)
GUNDAGAI
RYLSTONE
BOMBALA
LEETON
WALGETT (Dual Supply)
NUNDLE
GLOUCESTER
PARKES
BOGAN
JERILDERIE (Dual Supply)
MULWAREE
HUME
CROOKWELL
CARRATHOOL
WENTWORTH (Dual Supply)
BOURKE (Dual Supply)
BREWARRINA
CENTRAL DARLING
BROKEN HILL (570)



Parameter: $\frac{\text{Total Operation and Maintenance Expenses (W2) – Purchase of Water (W2o)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Operation and Maintenance Expenses of Dams \& Weirs (W2a + W2b)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Operation and Maintenance Expenses of Mains (W2c + W2d)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Operation and Maintenance Expenses of Reservoirs (W2e + W2f)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

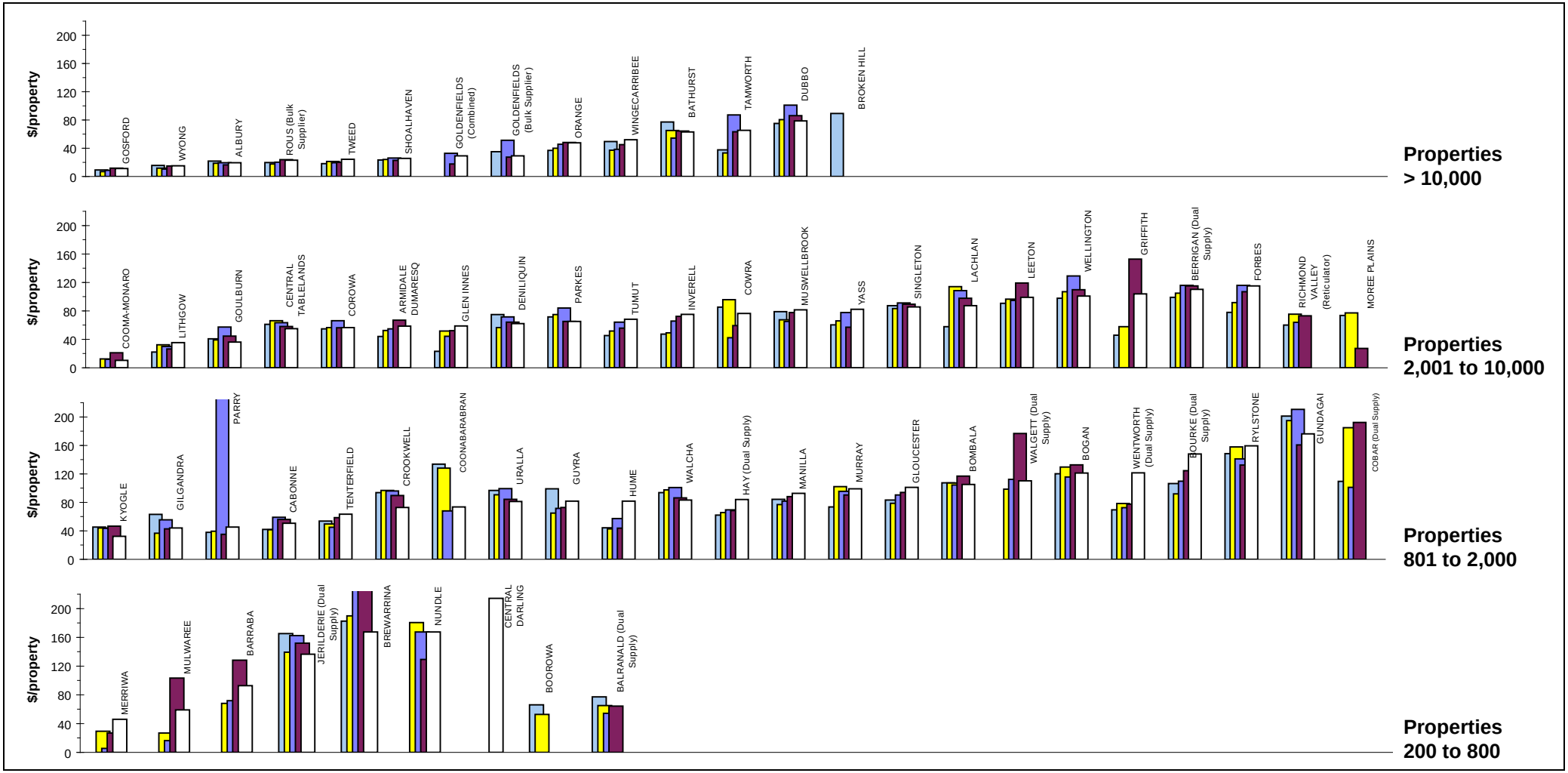
Parameter: $\frac{\text{[Operation and Maintenance Expenses of Water Pumping Stations (W2g + W2i) + Energy Expenses (W2h)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{[Operation and Maintenance Expenses of Water Treatment (W2j + W2l) + Chemical Expenses (W2k)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Other Operation and Maintenance Expenses (W2m + W2n)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Notes:

1. For general notes see page 43.



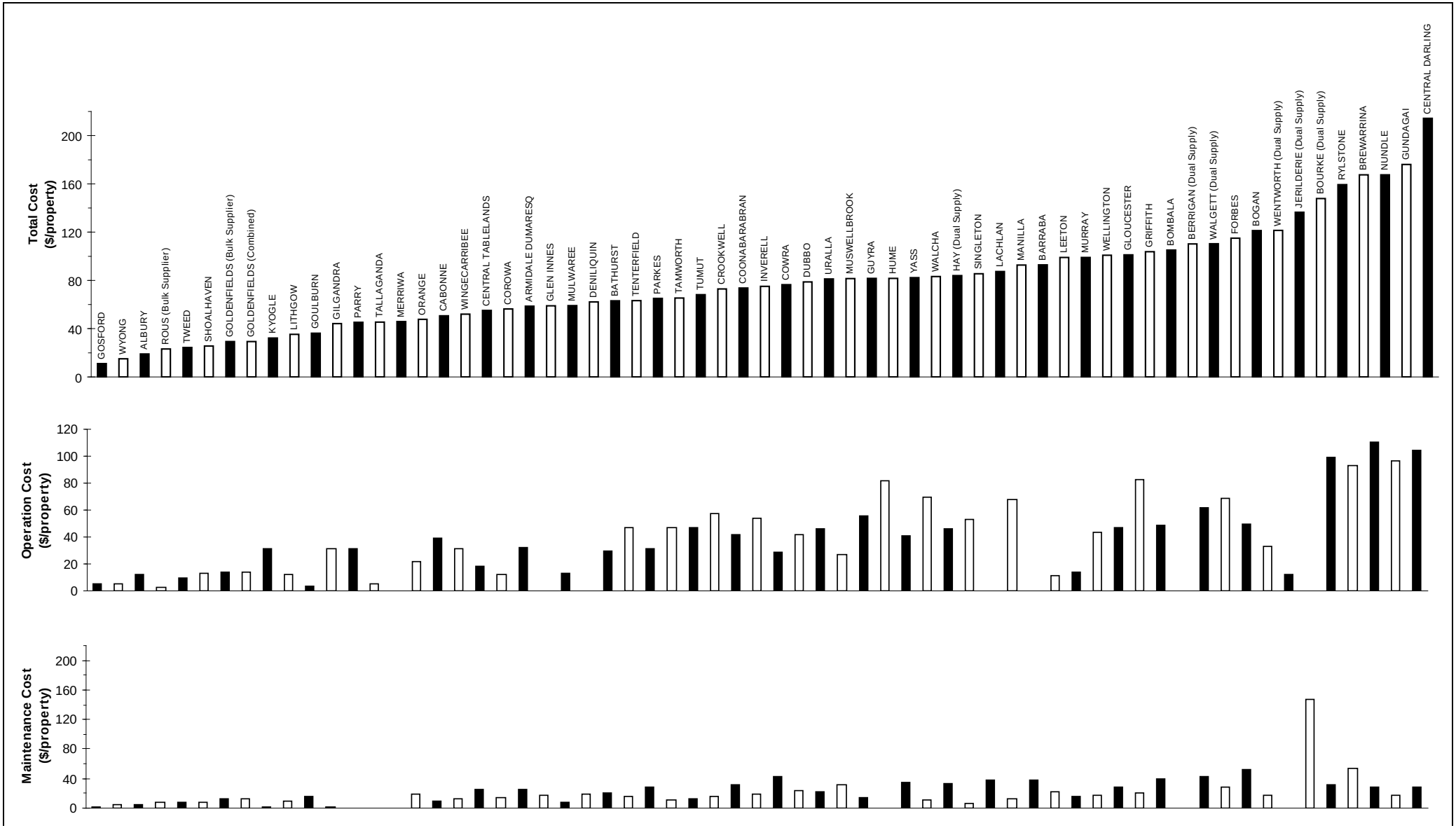
Parameter: Treatment Operation Expenses (W2j) + Treatment Chemical Cost (W2k) + Treatment Maintenance Expenses (W2l)

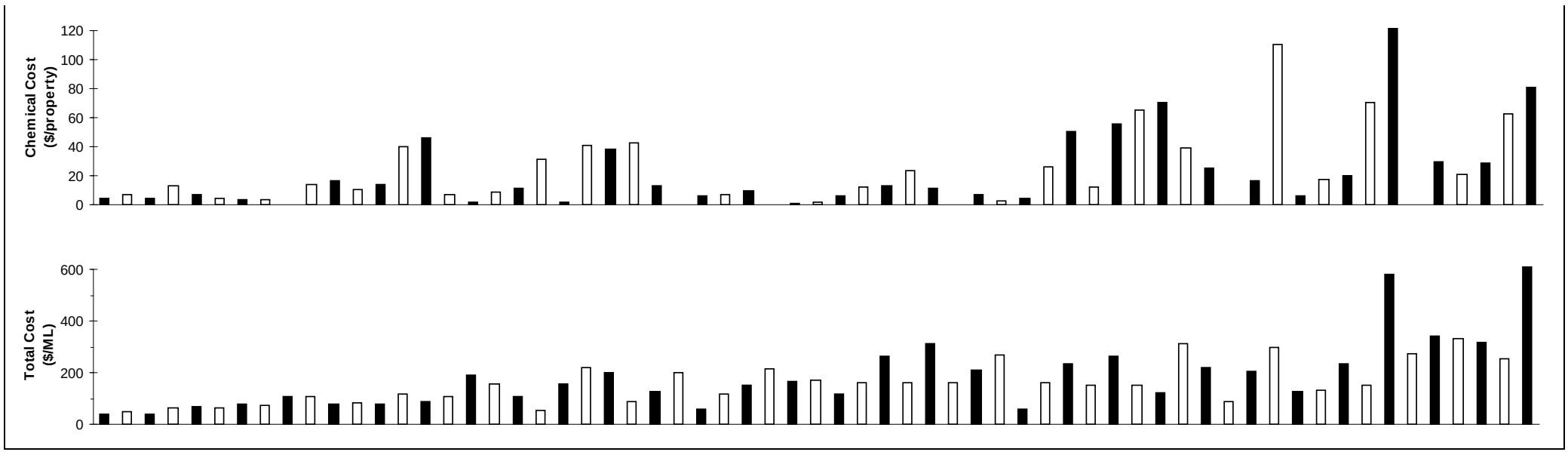
[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

Notes:

1. This figure shows ranked values of the 1999/00 water treatment operation and maintenance cost for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the treatment operation and maintenance cost for the 21 councils shown ***range*** from about ***$10 to $115*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. Only councils with a water treatment works involving at least filtration and disinfection for over 50% of their supply have been considered.
3. The Statewide median water treatment operation and maintenance cost is $25 per connected property (refer to Table 1 – percentage of connected properties basis).
4. For general notes see page 43.

Blank Page


Total Cost ($/property)
0
40
80
120
160
200
GOSFORD
WYONG
ALBURY
ROUS (Bulk Supplier)
TWEED
SHOALHAVEN
GOLDENFIELDS (Bulk Supplier)
GOLDENFIELDS (Combined)
KYOGLE
LITHGOW
GOULBURN
GILGANDRA
PARRY
TALLAGANDA
MERRIWA
ORANGE
CABONNE
WINGECARRIBEE
CENTRAL TABLELANDS
COROWA
ARMIDALE DUMARESQ
GLEN INNES
MULWAREE
DENILIQUIN
BATHURST
TENTERFIELD
PARKES
TAMWORTH
TUMUT
CROOKWELL
COONABARABRAN
INVERELL
COWRA
DUBBO
URALLA
MUSWELLBROOK
GUYRA
HUME
YASS
WALCHA
HAY (Dual Supply)
SINGLETON
LACHLAN
MANILLA
BARRABA
LEETON
MURRAY
WELLINGTON
GLOUCESTER
GRIFFITH
BOMBALA
BERRIGAN (Dual Supply)
WALGETT (Dual Supply)
FORBES
BOGAN
WENTWORTH (Dual Supply)
JERILDERIE (Dual Supply)
BOURKE (Dual Supply)
RYLSTONE
BREWARRINA
NUNDLE
GUNDAGAI
CENTRAL DARLING
Operation Cost ($/property)
0
20
40
60
80
100
120
Maintenance Cost ($/property)
0
40
80
120
160
200



Parameter: $$\frac{\text{Total Treatment Operation and Maintenance Expenses (W2j + W2k + W2l)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

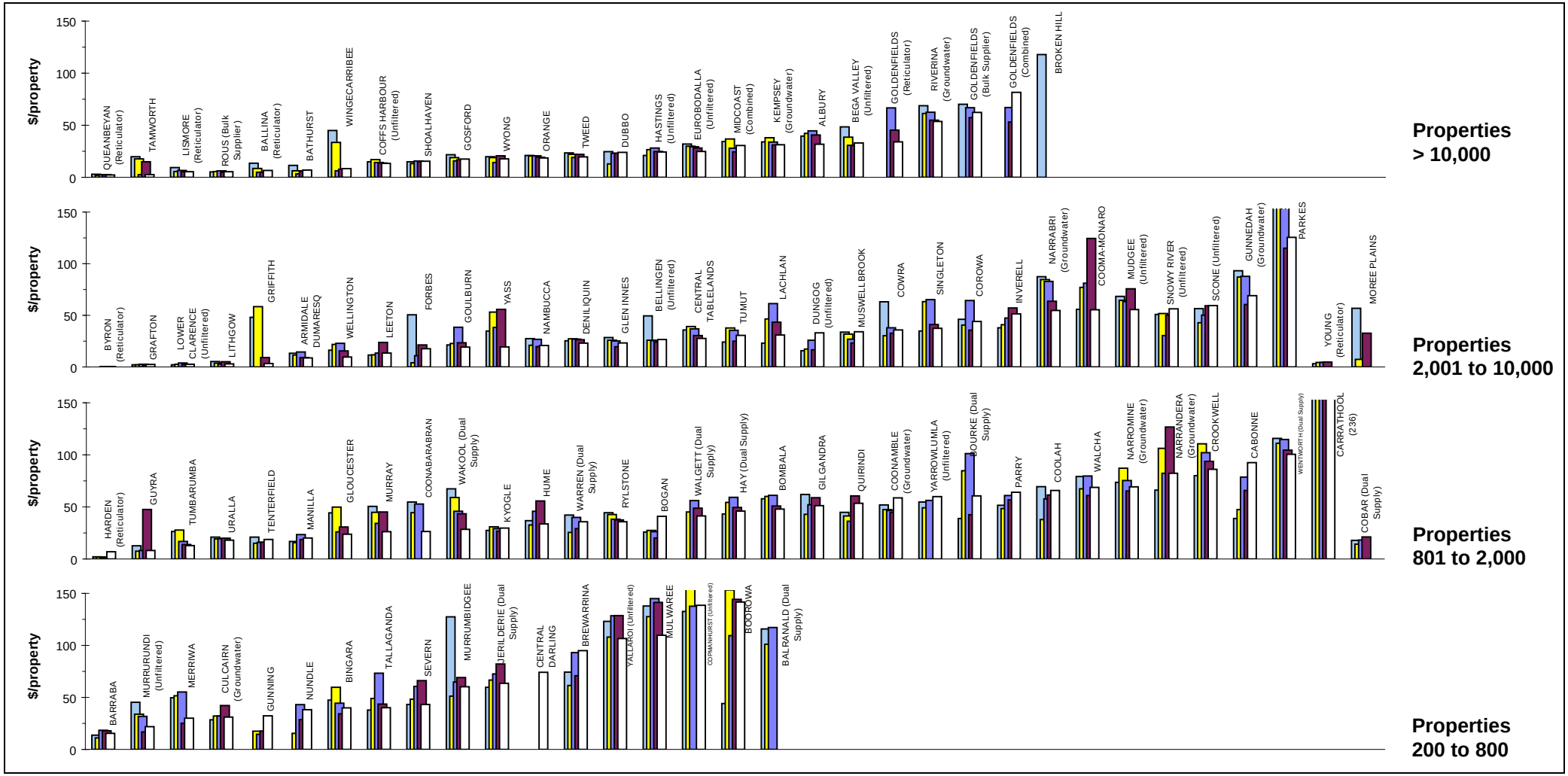
Parameter: $$\frac{\text{Treatment Operation Expenses (W2j)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Parameter: $$\frac{\text{Treatment Maintenance Expenses (W2k)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Parameter: $$\frac{\text{Treatment Chemical Expenses (W2l)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Parameter: $$\frac{\text{Total Treatment Operation and Maintenance Expenses (W2j + W2k + W2l)}}{\text{Total Potable Water Consumption (Q12i) x 1000}}$$

Notes:
1. Only councils with a water treatment works involving at least filtration and disinfection for over 50% of their supply have been considered.
2. For general notes see page 43.



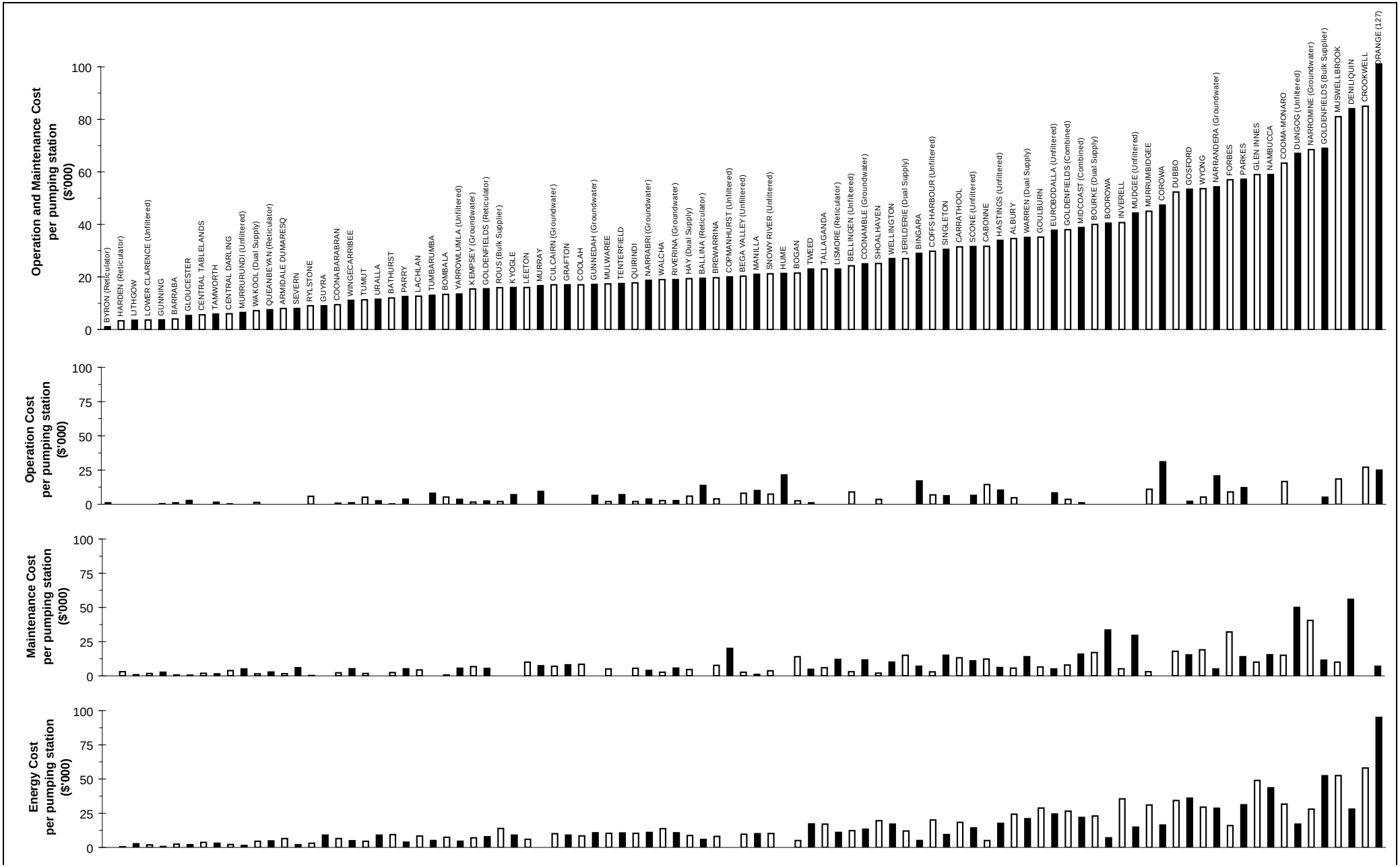
Parameter: [Pumping Stations Operation Expenses (W2g) + Pumping Stations Energy Cost (W2h) + Pumping Stations Maintenance Costs (W2i)] / [No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

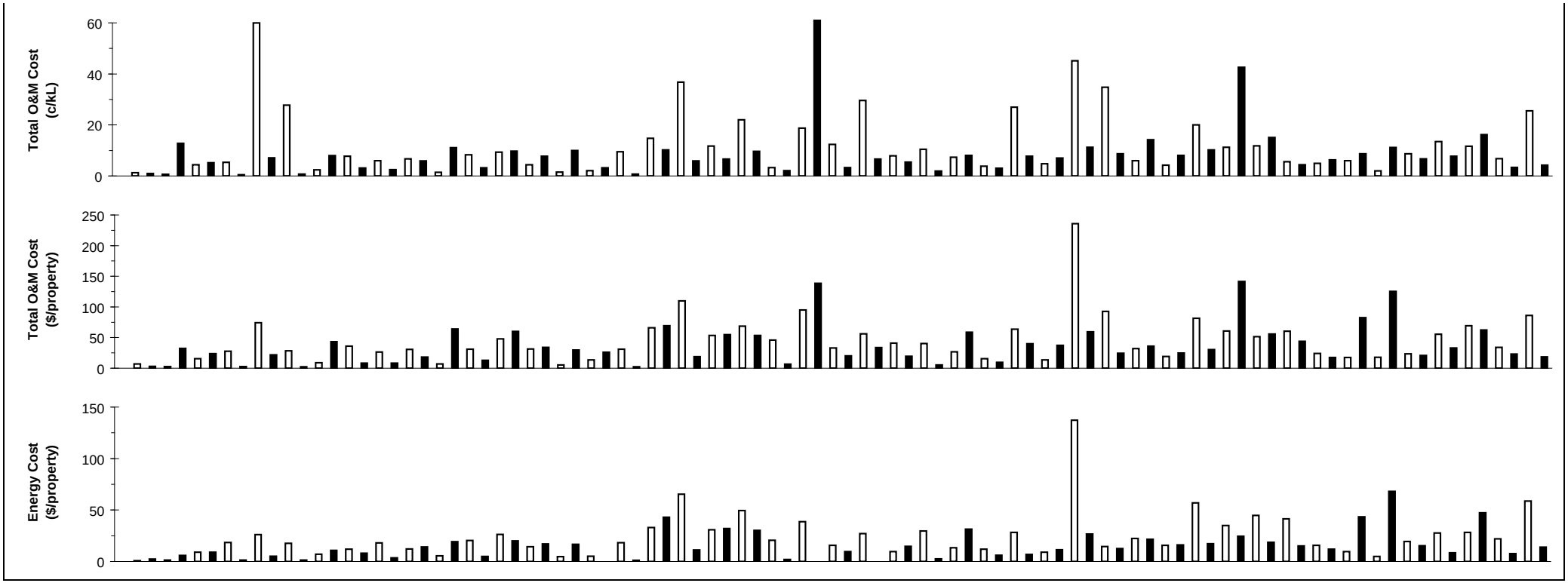
1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the 1999/00 water pumping operation and maintenance cost for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the water pumping operation and maintenance costs for the 31 councils shown ***range*** from about ***$0 to $125*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median water pumping operation and maintenance cost (including energy costs) is $20 per connected property (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

Blank Page


Operation and Maintenance Cost per pumping station ($'000)
Operation Cost per pumping station ($'000)
Maintenance Cost per pumping station ($'000)
Energy Cost per pumping station ($'000)
0
20
40
60
80
100
25
50
75
BYRON (Reticulator)
HARDEN (Reticulator)
LITHGOW
LOWER CLARENCE (Unfiltered)
GUNNING
BARRABA
GLOUCESTER
CENTRAL TABLELANDS
TAMWORTH
CENTRAL DARLING
MURRURUNDI (Unfiltered)
WAKOOL (Dual Supply)
QUEANBEYAN (Reticulator)
ARMIDALE DUMARESQ
SEVERN
RYLSTONE
GUYRA
COONABARABRAN
WINGECARRIBEE
TUMUT
URALLA
BATHURST
PARRY
LACHLAN
TUMBARUMBA
BOMBALA
YARROWLUMLA (Unfiltered)
KEMPSEY (Groundwater)
GOLDENFIELDS (Reticulator)
ROUS (Bulk Supplier)
KYOGLE
LEETON
MURRAY
CULCAIRN (Groundwater)
GRAFTON
COOLAH
GUNNEDAH (Groundwater)
MULWAREE
TENTERFIELD
QUIRINDI
NARRABRI (Groundwater)
WALCHA
RIVERINA (Groundwater)
HAY (Dual Supply)
BALLINA (Reticulator)
BREWARRINA
COPMANHURST (Unfiltered)
BEGA VALLEY (Unfiltered)
MANILLA
SNOWY RIVER (Unfiltered)
HUME
BOGAN
TWEED
TALLAGANDA
LISMORE (Reticulator)
BELLINGEN (Unfiltered)
COONAMBLE (Groundwater)
SHOALHAVEN
WELLINGTON
JERILDERIE (Dual Supply)
BINGARA
COFFS HARBOUR (Unfiltered)
SINGLETON
CARRATHOOL
SCONE (Unfiltered)
CABONNE
HASTINGS (Unfiltered)
ALBURY
WARREN (Dual Supply)
GOULBURN
EUROBODALLA (Unfiltered)
GOLDENFIELDS (Combined)
MIDCOAST (Combined)
BOURKE (Dual Supply)
BOOROWA
INVERELL
MUDGEE (Unfiltered)
MURRUMBIDGEE
COROWA
DUBBO
GOSFORD
WYONG
NARRANDERA (Groundwater)
FORBES
PARKES
GLEN INNES
NAMBUCCA
COOMA-MONARO
DUNGOG (Unfiltered)
NARROMINE (Groundwater)
GOLDENFIELDS (Bulk Supplier)
MUSWELLBROOK
DENILIQUIN
CROOKWELL
ORANGE (127)



Parameter: $\frac{\text{Total Pumping Station Operation and Maintenance Expenses (W2g + W2h + W2i)}}{\text{Number of Pumping Stations (Q8g)} \times 1000}$

Parameter: $\frac{\text{Pumping Station Operation Expenses (W2j)}}{\text{Number of Pumping Stations (Q8g)} \times 1000}$

Parameter: $\frac{\text{Pumping Station Maintenance Expenses (W2k)}}{\text{Number of Pumping Stations (Q8g)} \times 1000}$

Parameter: $\frac{\text{Pumping Station Energy Expenses (W2l)}}{\text{Number of Pumping Stations (Q8g)} \times 1000}$

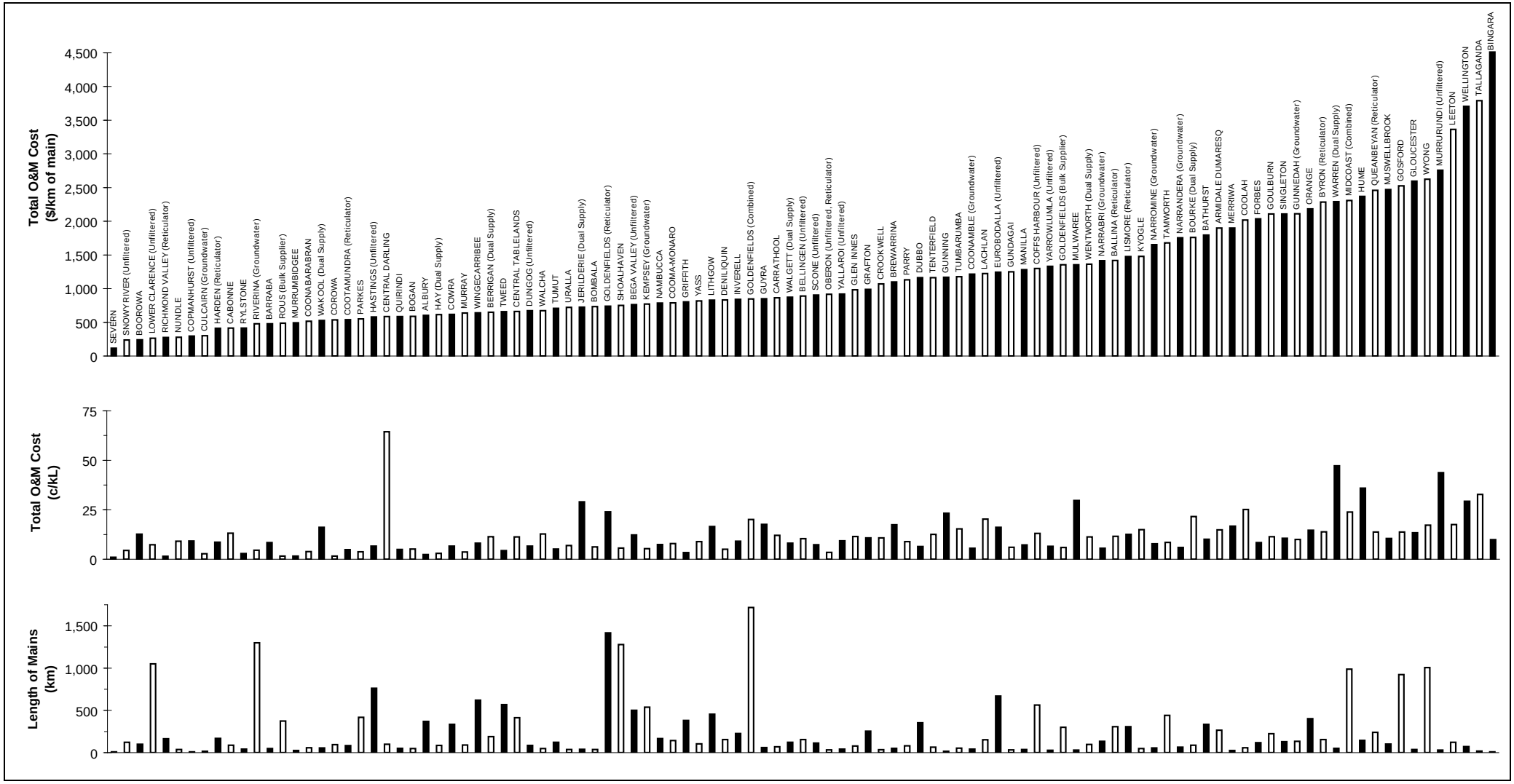
Parameter: $\frac{\text{Total Pumping Station Operation and Maintenance Expenses (W2g + W2h + W2i)} \times 100}{\text{Total Potable Water Consumption (Q12i)} \times 1000}$

Parameter: $\frac{\text{Total Pumping Station Operation and Maintenance Expenses (W2g + W2h + W2i)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)]} \times \text{No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Pumping Station Energy Expenses (W21)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-residential Assessments (Q4b)]} \times \text{No. of Connected Properties per Assessments}}$

Note:

1. For general notes see page 43.



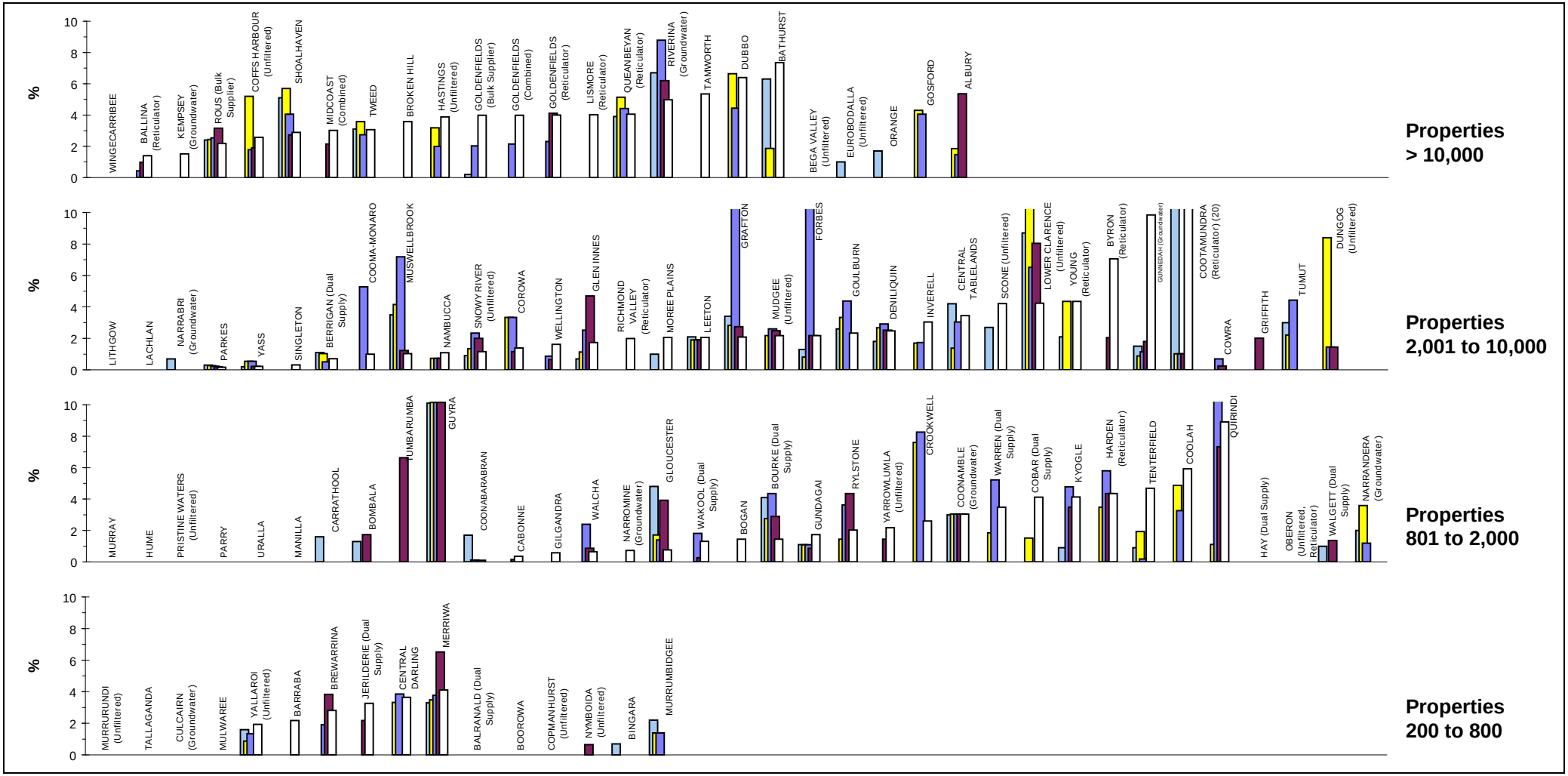
Parameter: $\frac{\text{Total Mains Operation and Maintenance Expenses (W2c + W2d)}}{\text{Total Length of Mains (Q10c)}}$

Parameter: $\frac{\text{Total Mains Operation and Maintenance Expenses (W2c + W2d)}}{\text{Total Potable Water Consumption (Q12i) x 10}}$

Parameter: Total Length of Mains (Q10c)

Notes:

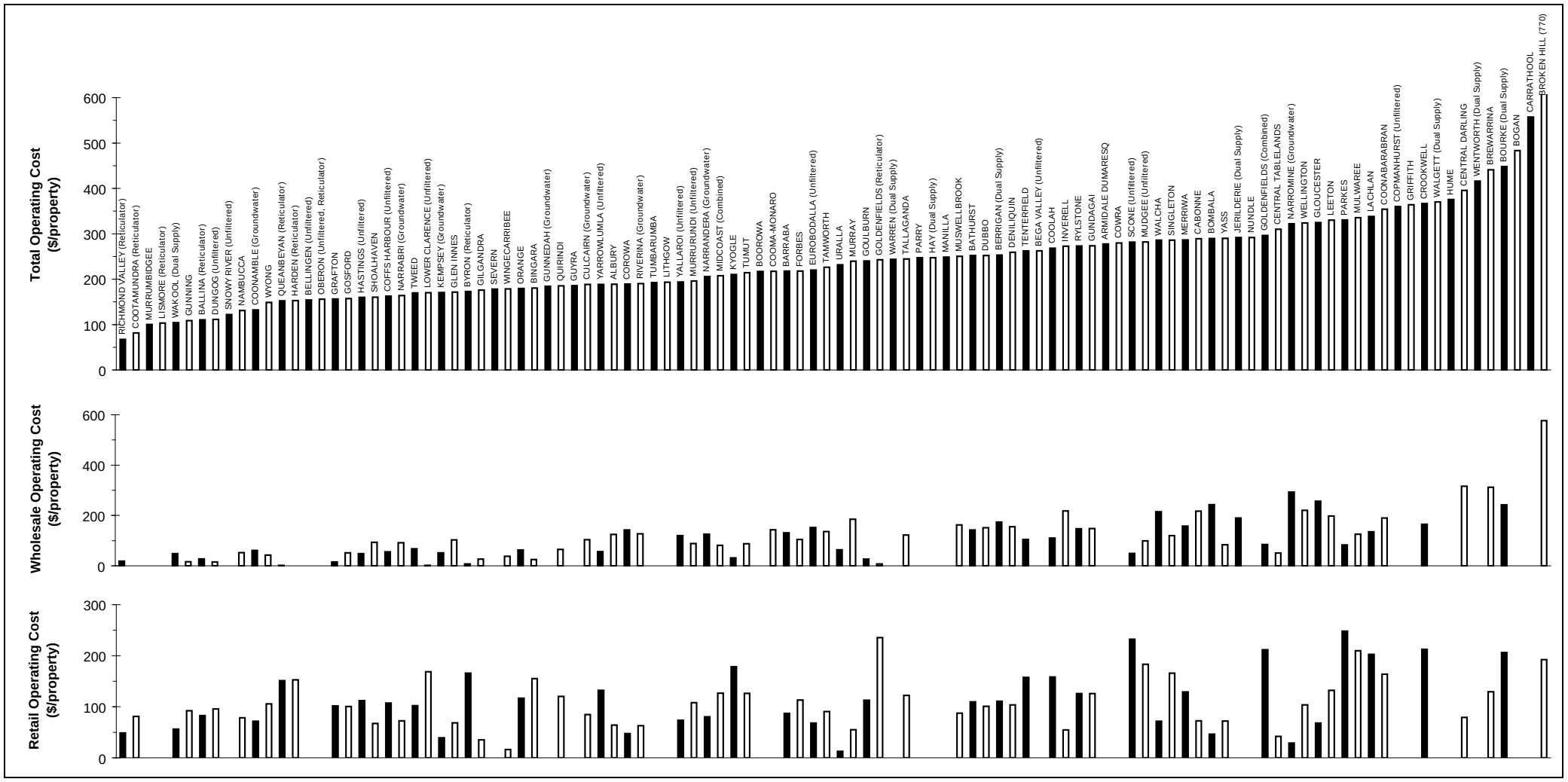
1. The Statewide median water main operation and maintenance cost is $40 per connected property (refer Table 1 – percentage of connected properties basis).
2. For general notes see page 43.



Parameter: $\frac{\text{Total Number of Days Lost for All Reasons in Year (Q31) x 100}}{\text{Equivalent full time employees (Q30) x available number of working days in year (ie. 230)}}$

Notes:

1. This figure shows ranked values of the 1999/00 total days lost for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the total lost for the 30 councils shown ***range*** from about ***nil to 20%***. Results for the previous 4 years are also shown.
2. The Statewide median days lost is 2% (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.



Parameter 1:

$$\frac{\text{[Operation and Maintenance Expenses (W2) + Management Expenses (W1)]}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Parameter 2: Parameter (1) x Headworks Component (Q18a) ÷ 100

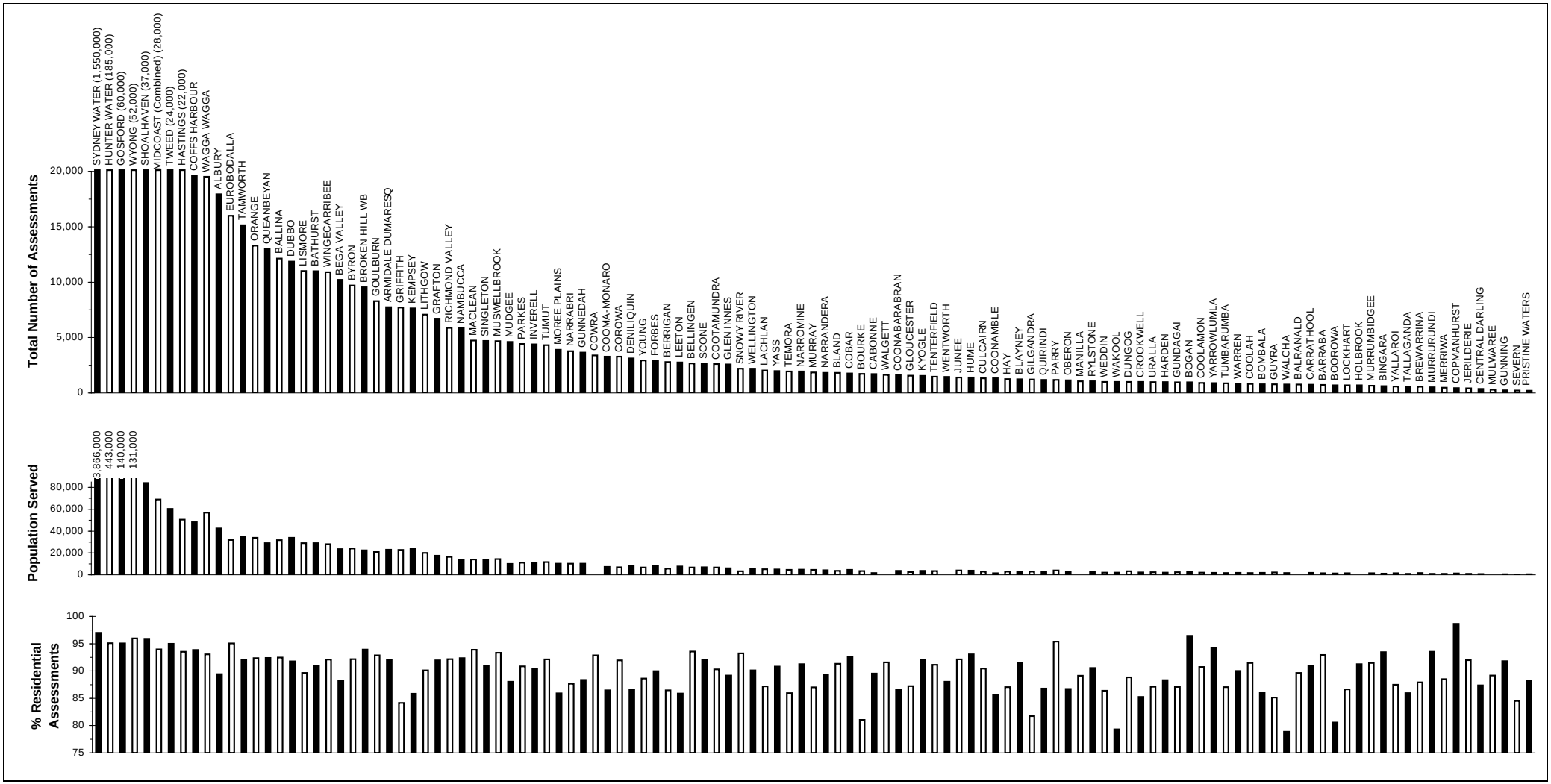
Parameter 3: Parameter (1) x Distribution and Reticulation Component (Q18b) ÷ 100

Notes:

1. The Statewide median (total) operating cost (OMA – operation, maintenance and administration) is $180 per connected property (refer to Table 1 – percentage of connected properties basis).
2. For general notes see page 43.

6. 1999/00 SEWERAGE FIGURES

Blank Page



Parameter: No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)

Parameter: Average Population Served (Q1a)

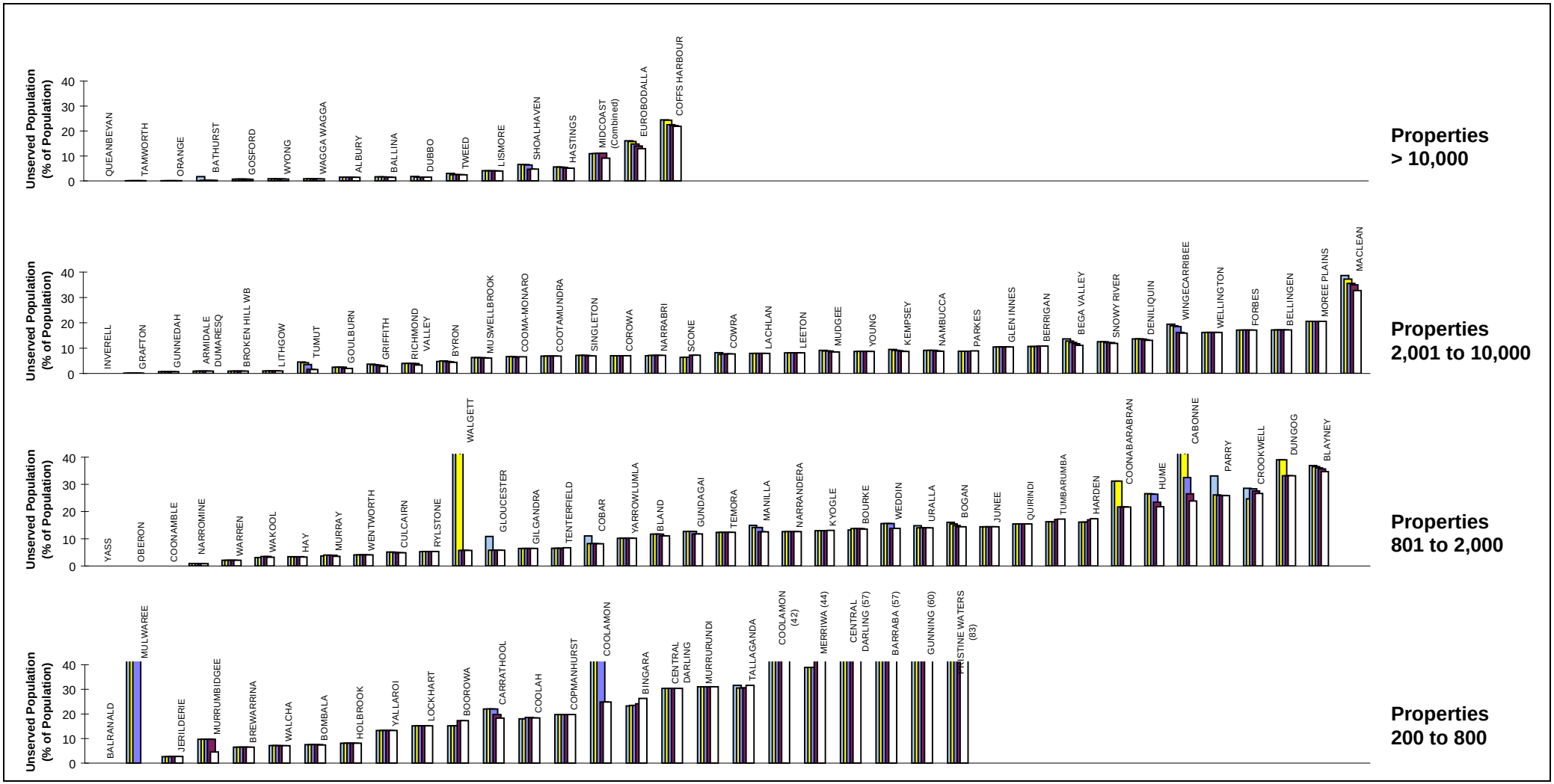
Parameter:

$$\frac{\text{No. of Residential Assessments (Q4a)} \times 100}{\text{No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)}}$$

Note:

1. For general notes see page 43.

69 Urban Population without Sewerage



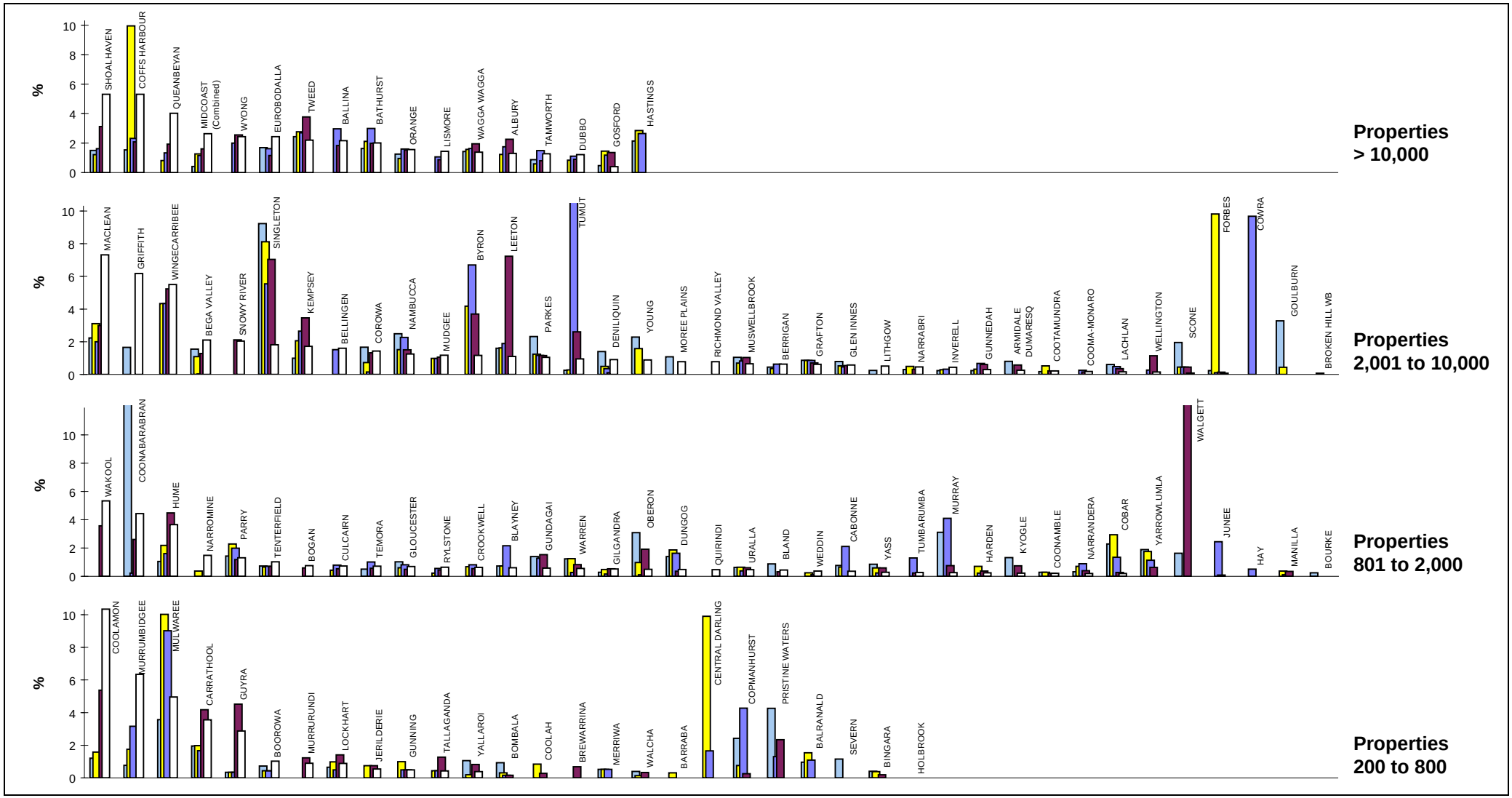
Parameter: $\frac{\text{Unserved Urban Population (Q6b)}}{\text{Population Served (Q1a) + Unserved Urban Population (Q6b)}}$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows 1999/00 ranked values of the percentage of urban population without a reticulated sewerage service for each council in 4 groups based on the number of connected properties served for the each council. ***Each white bar represents one Council***. As an example, for the property range from 2001 to 10,000, the percentage of urban population without a sewerage service for the 36 councils shown ***ranges*** from about ***0 to 44***. Results for the previous four years are also shown.
2. The Statewide median urban population without a reticulated sewerage service was 2.8% .
3. 50% of councils had an urban population of at least 500 without a reticulated sewerage service and 25% of councils had a population of at least 1000 without a reticulated sewerage service.
4. The percentage of urban population without a reticulated sewerage service for the median council was 8%.
5. 82% of councils provided a reticulated sewerage service to over 80% of their urban population. Overall, over 93% of the urban population in non-metropolitan NSW received a reticulated sewerage service.

70 New Residential Dwellings Connected



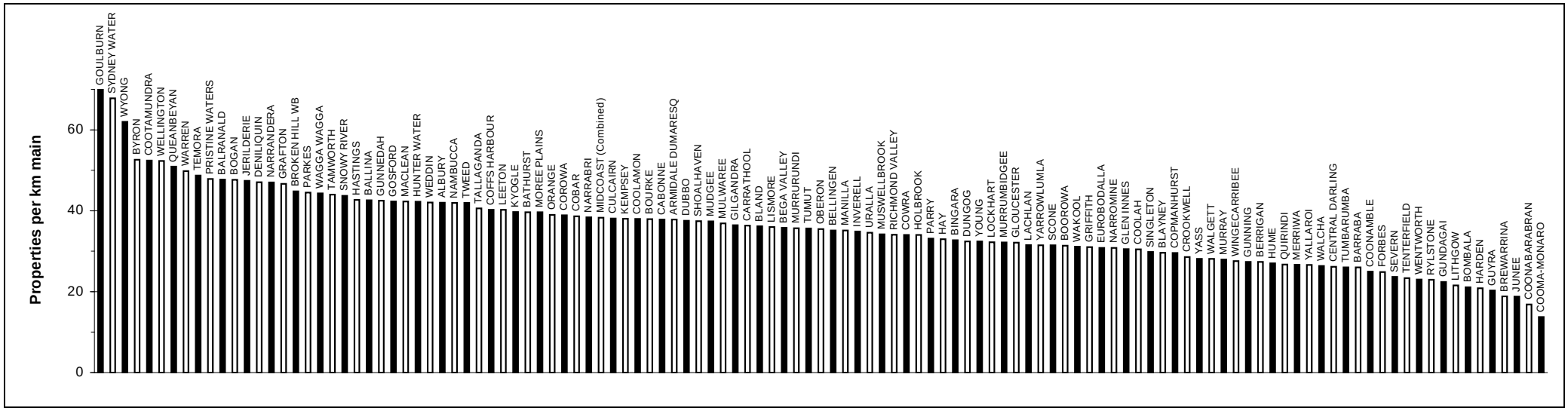
Parameter:

$$\frac{\text{No. of New Residential Dwellings Connected in Year (Q5)} \times 100}{\text{No. of Residential Assessments (Q4a)} \times \text{No. of Connected Residential Properties per Assessment}}$$

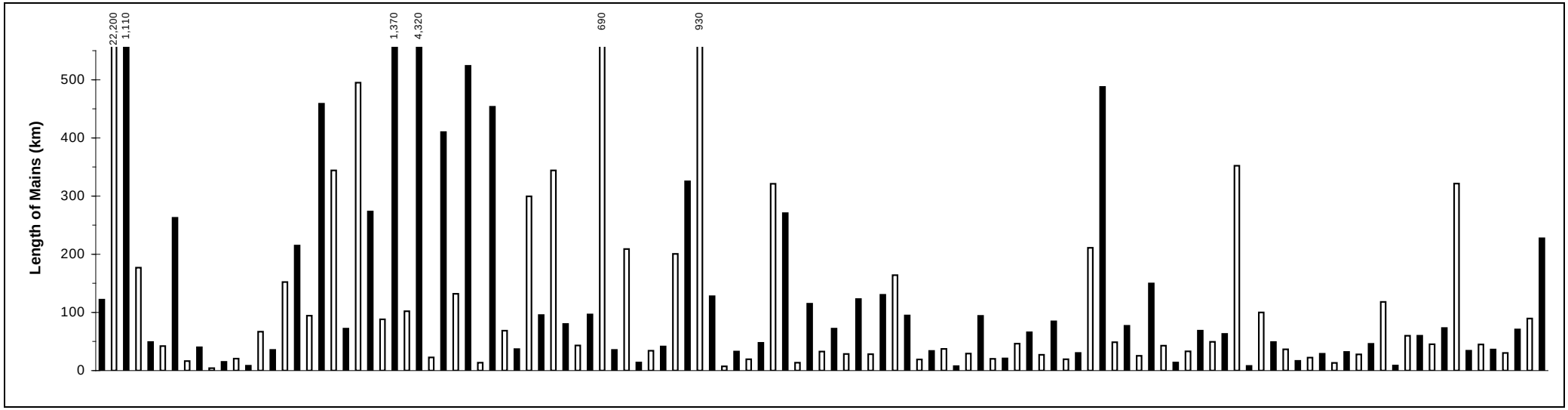
Notes:

1. This figure shows ranked values of the 1999/00 number of new residential dwellings connected to sewerage for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the total number of new residential dwellings connected for the 34 councils shown ***range*** from about ***7% to 0%***. The 3 councils on the right did not report their 1999/00 new residential properties connected. Results for the previous 4 years are also shown.
2. The Statewide median new residential dwellings connected to sewerage is 1.5% of the existing number of connected residential properties (refer to Table 2 - percentage of properties basis).
3. For general notes see page 43.

71 Properties Served per km of Main



Parameter: [No. of Residential Assessments (Q4a) + No. of Non-Residential Properties (Q4b)] x No. of Connected Properties per Assessment / Length of Reticulation/Gravity Mains (Q10a) + Length of Rising Mains (Q10b)

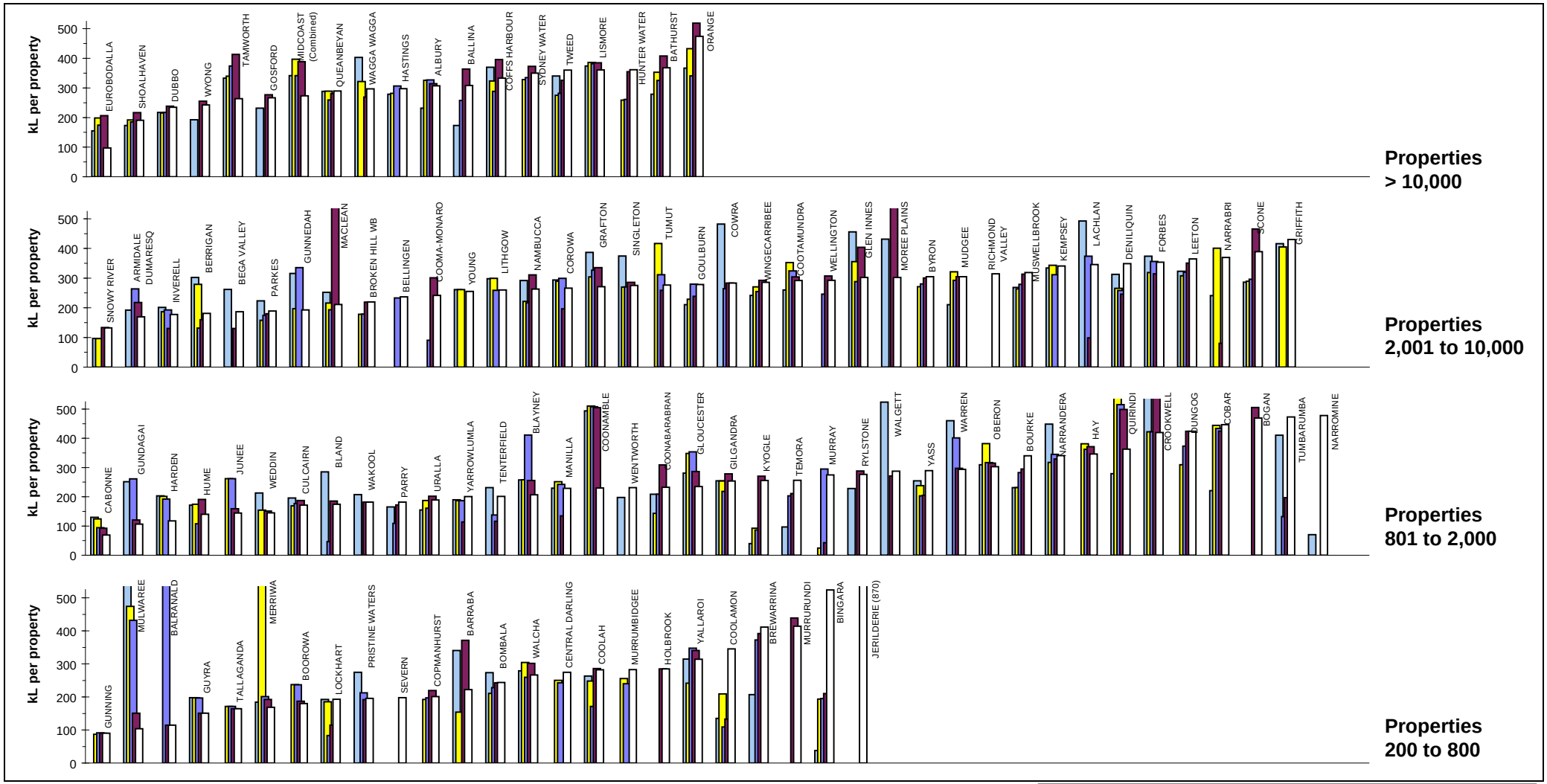


Parameter: Length of Reticulation/Gravity Mains (Q10a) + Length of Rising Mains (Q10b)

Note:

1. For general notes see page 43.

72 Volume Treated per property

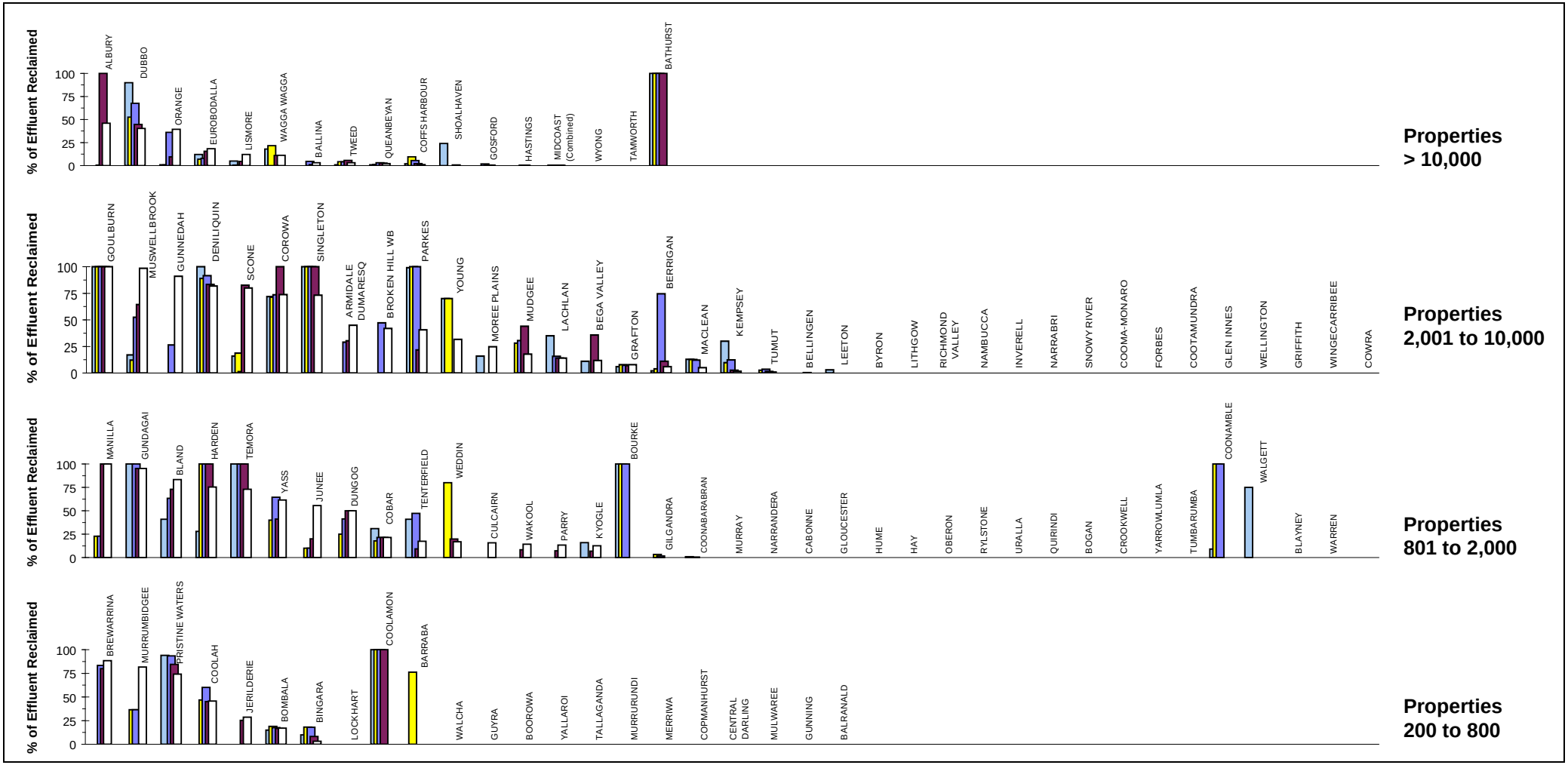


Parameter: Volume of Sewage Receiving Secondary Treatment (Q41c) x 1000
[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

Notes:

1. This figure shows ranked values of the volume of sewage treated per connected property in 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the volume of sewage treated per connected property for the 37 councils shown ***ranges*** from about ***130 kL/a to 430 kL/a***. Results for the previous 4 years are also shown.
2. The Statewide median volume of sewage treated per connected property is 270kL/a (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.

73 Reclaimed Water (% of Effluent Reclaimed)

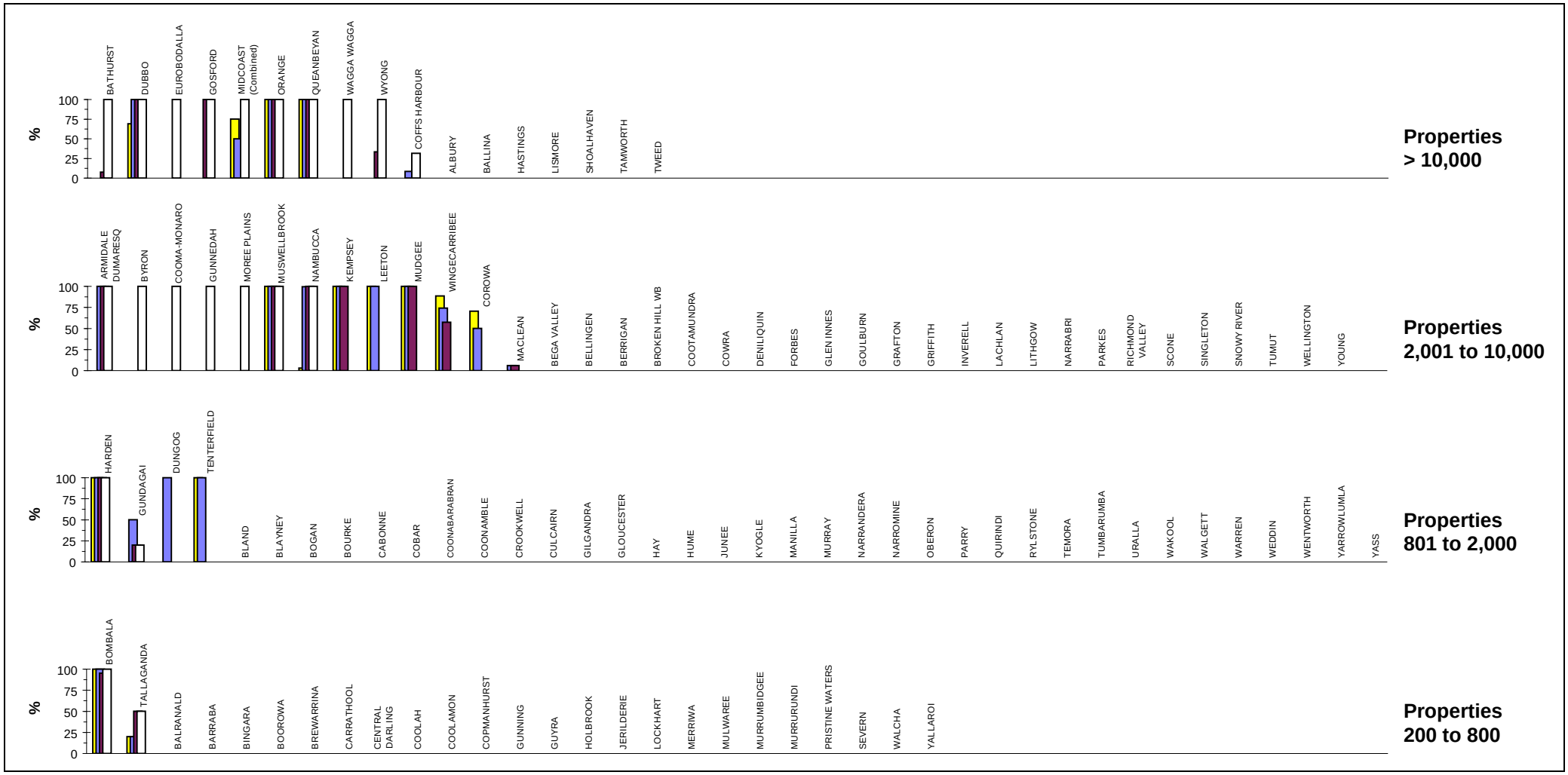


Parameter: Volume Recycled (Q42) x 100 / Volume of Sewage Receiving Secondary Treatment (Q41c)

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the reclaimed water in 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the reclaimed water for 20 of the 34 councils shown ***range*** from ***100% to 1%***. 14 of the councils indicated no use of reclaimed water. The 3 councils on the right did not report their 1999/00 use of reclaimed water. Results for the previous 4 years are also shown.
2. The Statewide median reuse of reclaimed water is 1% (refer to Table 2 - percentage of connected properties basis).
3. Reuse of reclaimed water is carried out by about 49% of councils.
4. Statewide some 13% of the effluent from sewage treatment works is reclaimed.
5. 19 councils reclaimed 50% of their sewage effluent and a further 8 councils reclaimed over 50% of their effluent in 1999/00. For general notes see page 43.

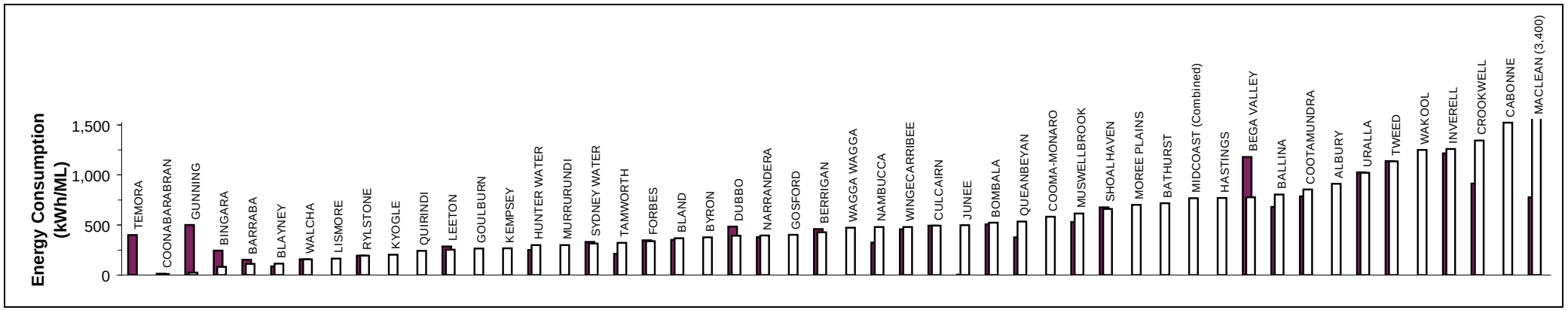


Parameter: Percentage of Biosolids Reused (Q43b)

Notes:

1. This figure shows ranked values of the percentage of Biosolids Reused in 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,0000, the percentage of biosolids reused for the 37 councils shown ***ranges*** from about ***100 % to nil***. Results for the previous 3 years are also shown.
2. The Statewide median percentage of biosolids reused is 100% (refer to Table 2 - percentage of connected properties basis).
3. For 1999/00, the 58 reporting councils produced 40,000 tonnes of biosolids, of which 18,000 tonnes was sent to landfill and 3,000 to farmland. 19 000 tonnes was otherwise managed (mostly reused/recycled).
4. For general notes see page 43.

75 Energy Consumption per ML



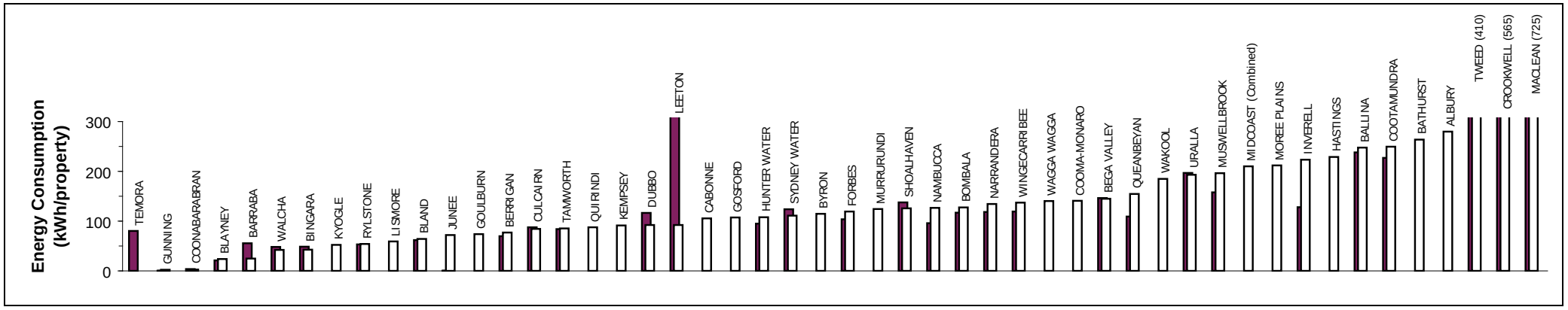
Parameter: $\frac{\text{Total Energy Usage (Q28) x 1000}}{\text{Volume of Sewage Receiving Secondary Treatment (Q41c)}}$

1998/99 1999/00

Notes:

1. This figure shows ranked values of the energy usage per ML of sewage treated in 1999/00 for each council. ***Each white bar represents one council***. The energy usage for the 50 councils shown ***range*** from about ***3 to 3,400 kWh per ML***. Only 40% of councils provided a response to this item and all councils should report in future.
2. The Statewide median energy usage is 540 kWh/ML (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.

76 Energy Consumption per property

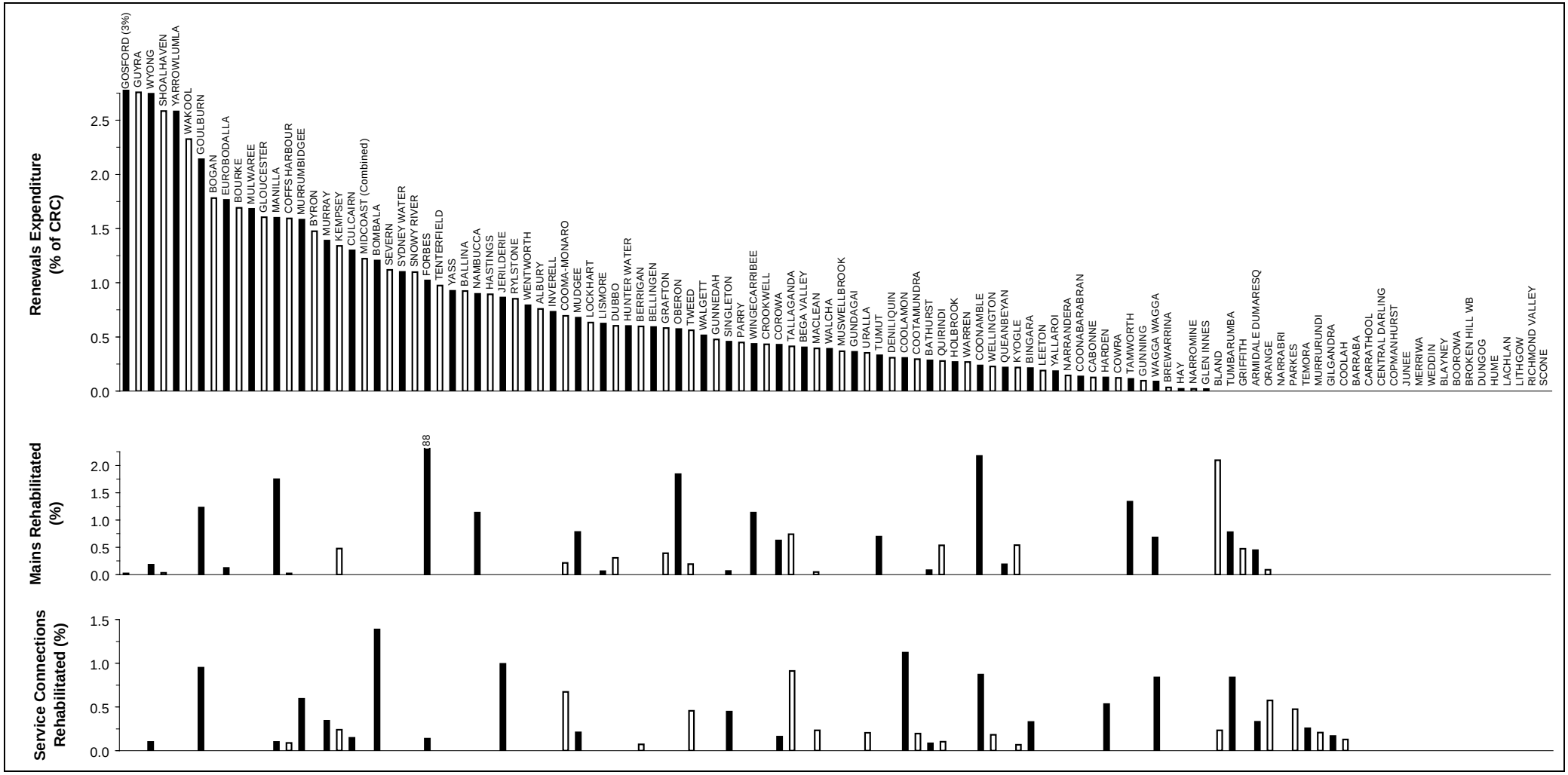


Parameter: $\frac{\text{Total Energy Usage (Q28) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

1998/99 1999/00

Notes:

1. This figure shows ranked values of the energy usage per property in 1999/00 for each council. ***Each white bar represents one council***. The energy usage for the 50 councils shown ***ranges*** from about ***0.4 to 725 kWh per connected property***. Only 40% of councils provided a response to this item and all councils should report thereon in future.
2. The Statewide median energy usage is 130 kWh per connected property (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.



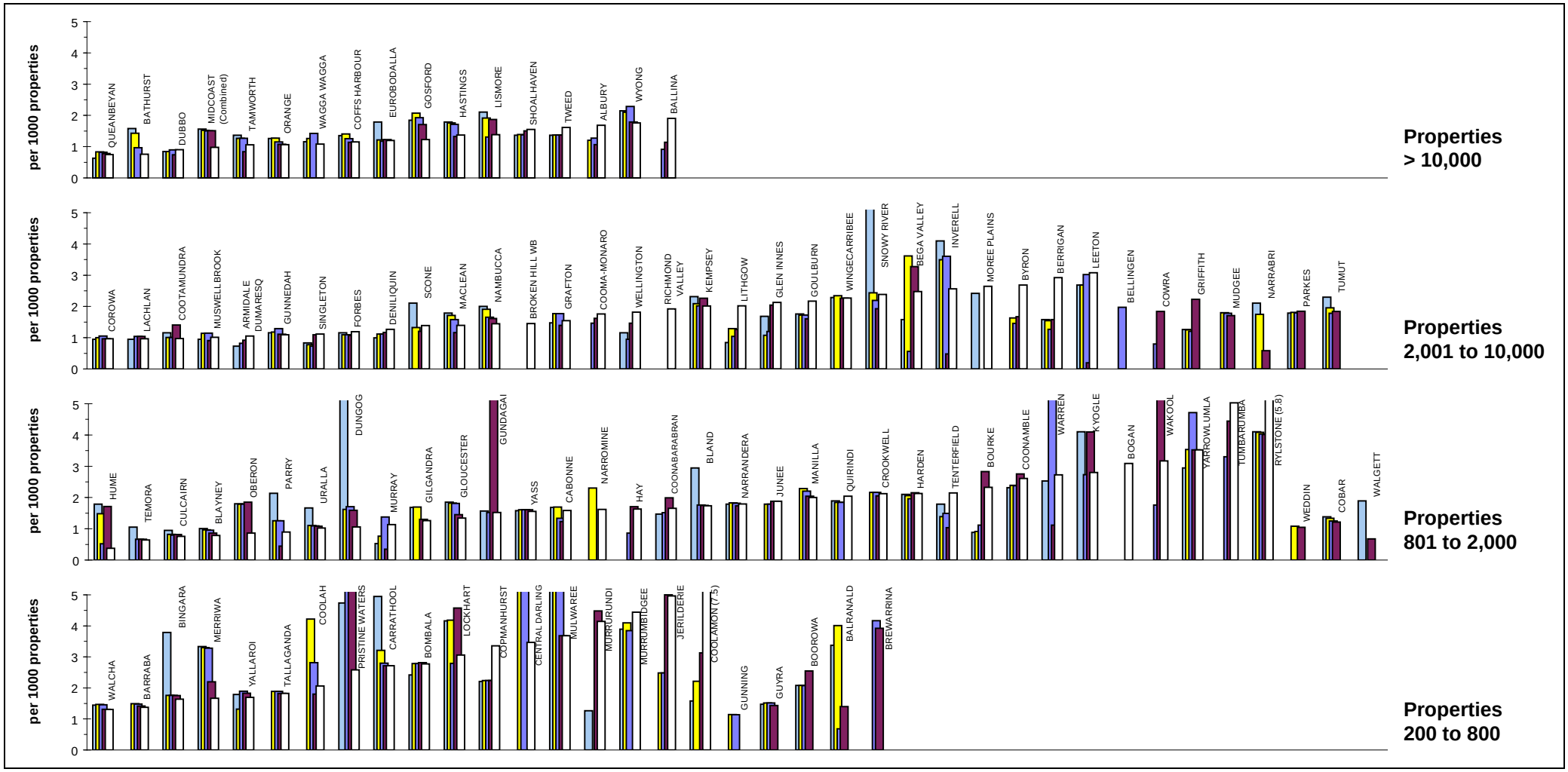
Parameter: $\frac{\text{Asset Renewals (S17c) x 100}}{\text{Current Replacement Cost of System Assets (S43)}}$

Parameter: $\frac{\text{Length of Mains Rehabilitated (Q11a) x 100}}{\text{Total Length of Mains (Q10c)}}$

Parameter: $\frac{\text{Service Connections Rehabilitated (Q11b) x 100}}{\text{Residential Properties Connected (Q2a) + Non-Residential Properties Connected (Q11b)}}$

Notes:

1. The first graph shows ranked values of the renewals expenditure as a percentage of current replacement cost of system assets in 1999/00 for each council; the second graph shows the percentage of mains rehabilitated and the third graph shows the percentage of service connections rehabilitated.
2. The Statewide median renewals expenditure is 0.8 (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.

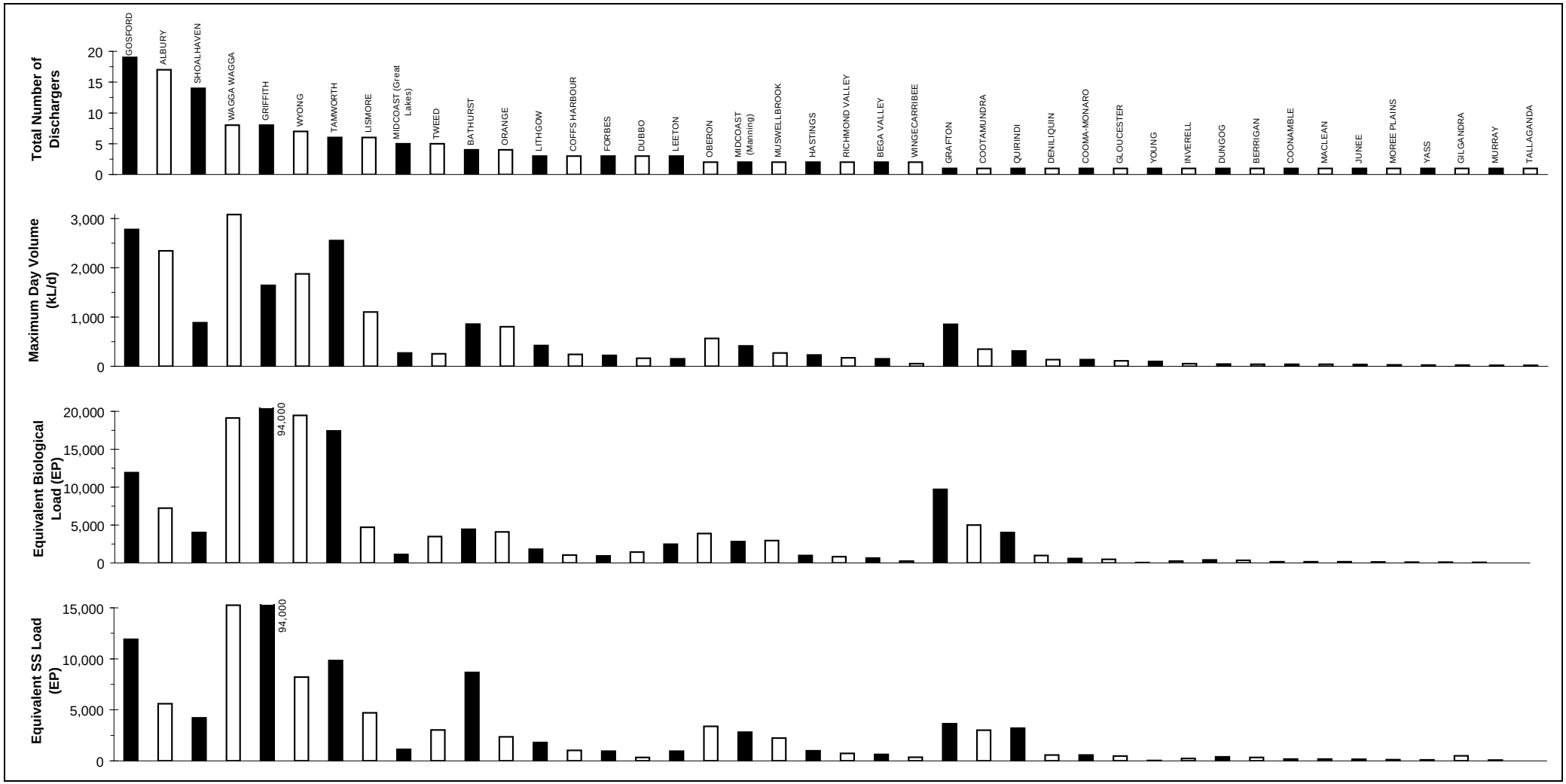


Parameter:

$$\frac{\text{Equivalent Full-time Employees (Q24) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Notes:

1. This figure shows ranked values of the sewerage employees in 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewerage employees for the 29 councils shown ***range*** from about ***1 to 3.1*** per 1000 connected properties. Results for the previous 4 years are also shown.
2. The Statewide median number of sewerage employees is 1.4 per 1000 connected properties (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.



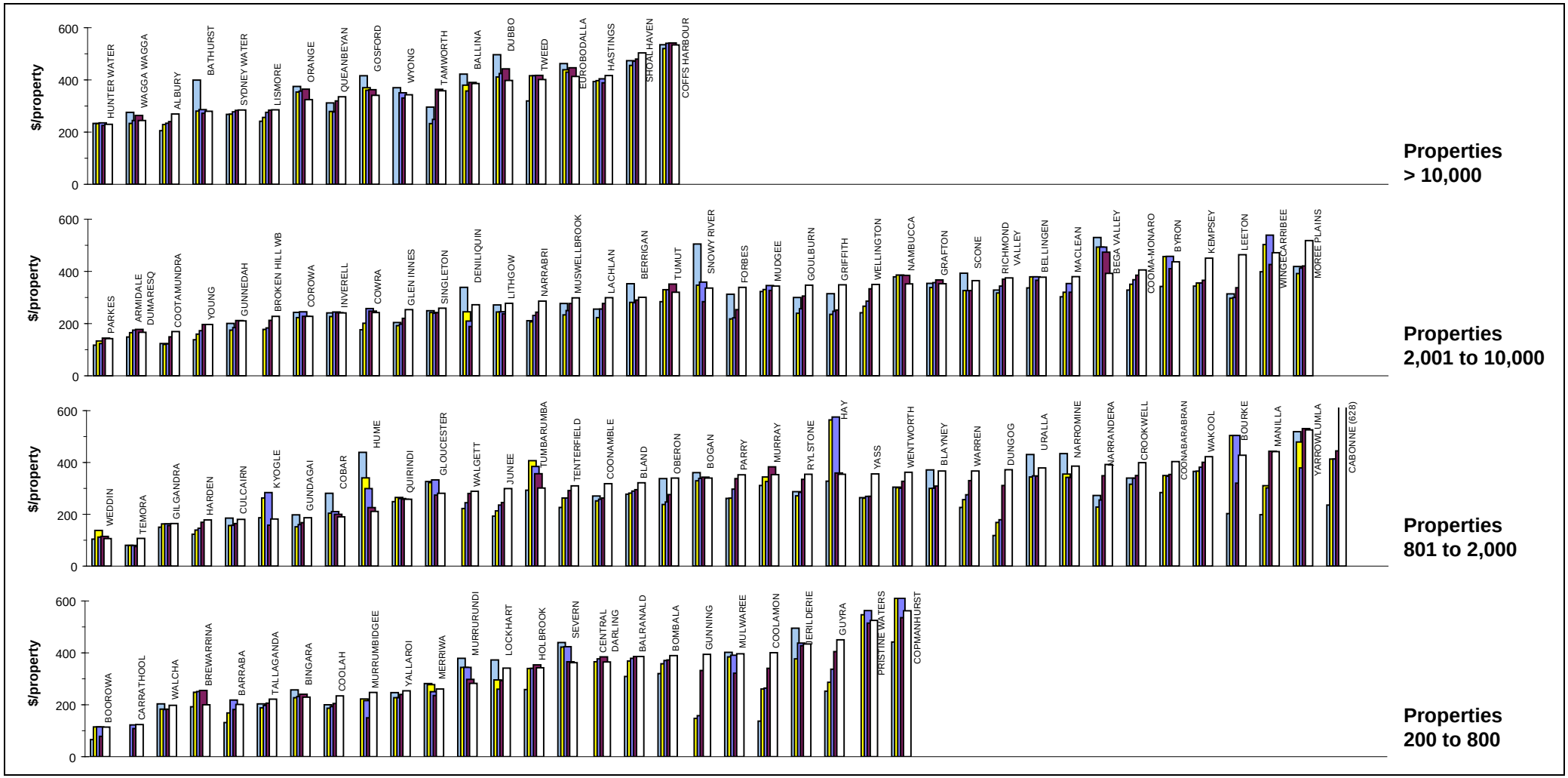
Parameters: Number of Large Dischargers
Maximum Day Volume
Equivalent Biological Load
Equivalent Suspended Solids Load

Notes:

1. A total of 41 councils have 149 large trade waste dischargers (>20 kL/d).
2. Albury, Bathurst, Dubbo, Gosford, Griffith and Tamworth have recently provided the data shown.
3. Councils will be asked to update these values for the 2000/01 Performance Comparisons Report.
4. In total 83 councils have a total of 3500 trade waste dischargers.
5. For general notes see page 43.

80 Average Residential Bill

Sewerage



Parameter: Residential Rates and Service Availability Charges (S6a)

[No. of Residential Assessments (Q4a)] x No. of Connected Properties per Residential Assessment

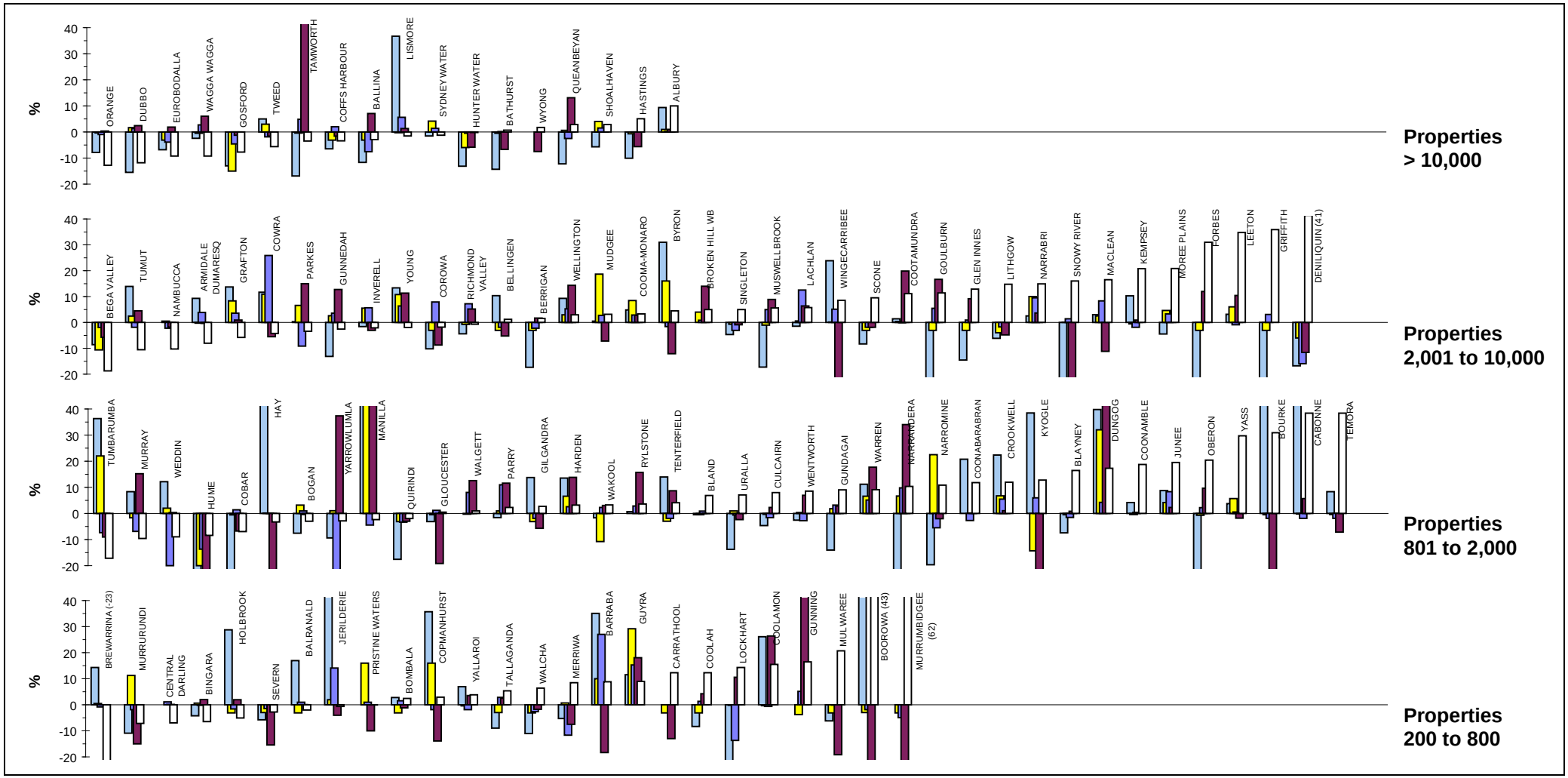
1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the 1999/00 average residential bill for sewerage for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council.*** As an example, for the property range from 2,001 to 10,000, the sewerage bills for the 37 councils shown ***range*** from about ***$140 to $520*** per connected property. Results for the previous 4 years are also shown.
2. The 1999/00 Statewide median average residential bill for sewerage is $350 per connected property (refer to Table 2 – percentage of connected properties basis).
3. For general notes see page 43.

81 Real Increase over Previous Year's Average Residential Bill

Sewerage

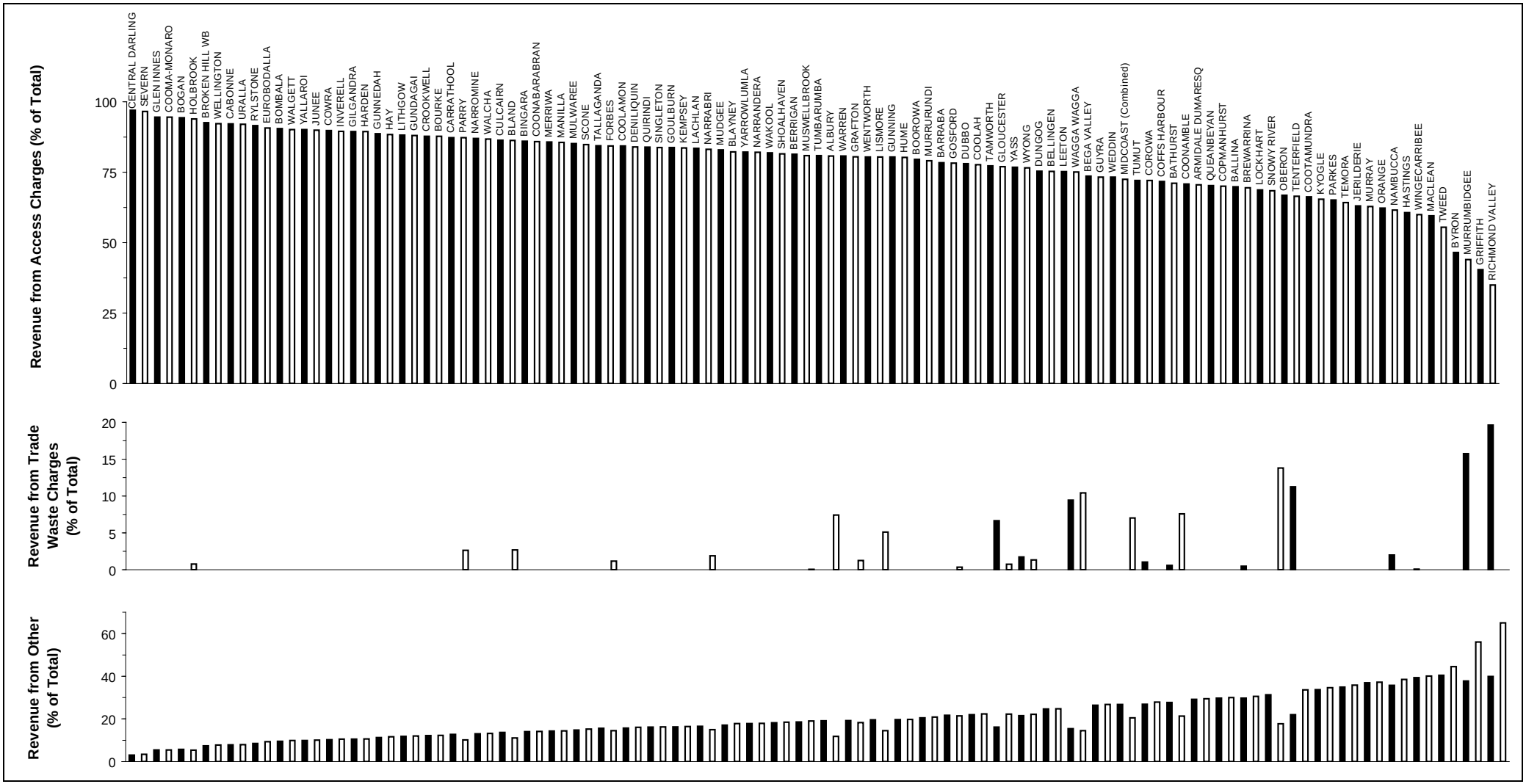


Parameter:

$$\frac{\text{Average Sewerage Bill for Residential Customers (1999/00) x 100}}{\text{Average Sewerage Bill for Residential Customers (1998/99) x (1 + CPI increase)}}$$

Notes:

1. This figure shows ranked values of the 1999/00 real increase over the previous year's average residential bill for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the real increases over the previous year's average residential bill for the 37 councils shown ***range*** from about ***-20% to 41%***. Results for the previous 4 years are also shown.
2. The 1999/00 Statewide median increase over the previous year's average residential bill is 2% per property (refer to Table 2 – percentage of connected properties basis).
3. For general notes see page 43.



Parameter: Rates and Services Availability Charges (S6) x 100 / Total Revenue (S14)

Parameter: Trade Wastes Charges (S7) x 100 / Total Revenue (S14)

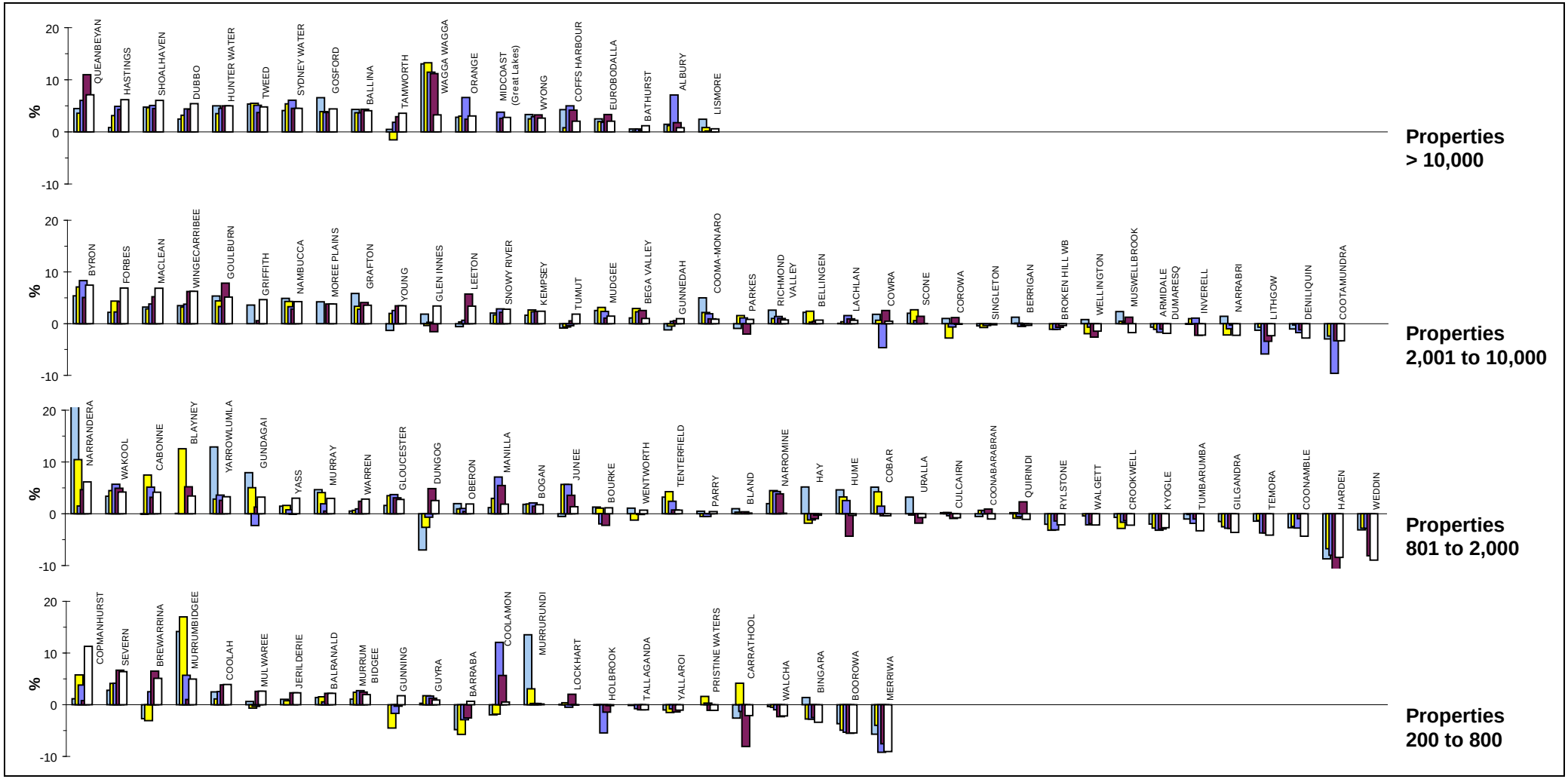
Parameter: [Other Sales and Charges (S8) + Extra Charges (S9) + Interest on Investments (S10) + Other Revenue (S11) + Other Grants (S12c) + Contributions (S13)] x 100 / Total Revenue (S14)

Note:

1. See general notes on page 43.

83 Economic Real Rate of Return

Sewerage

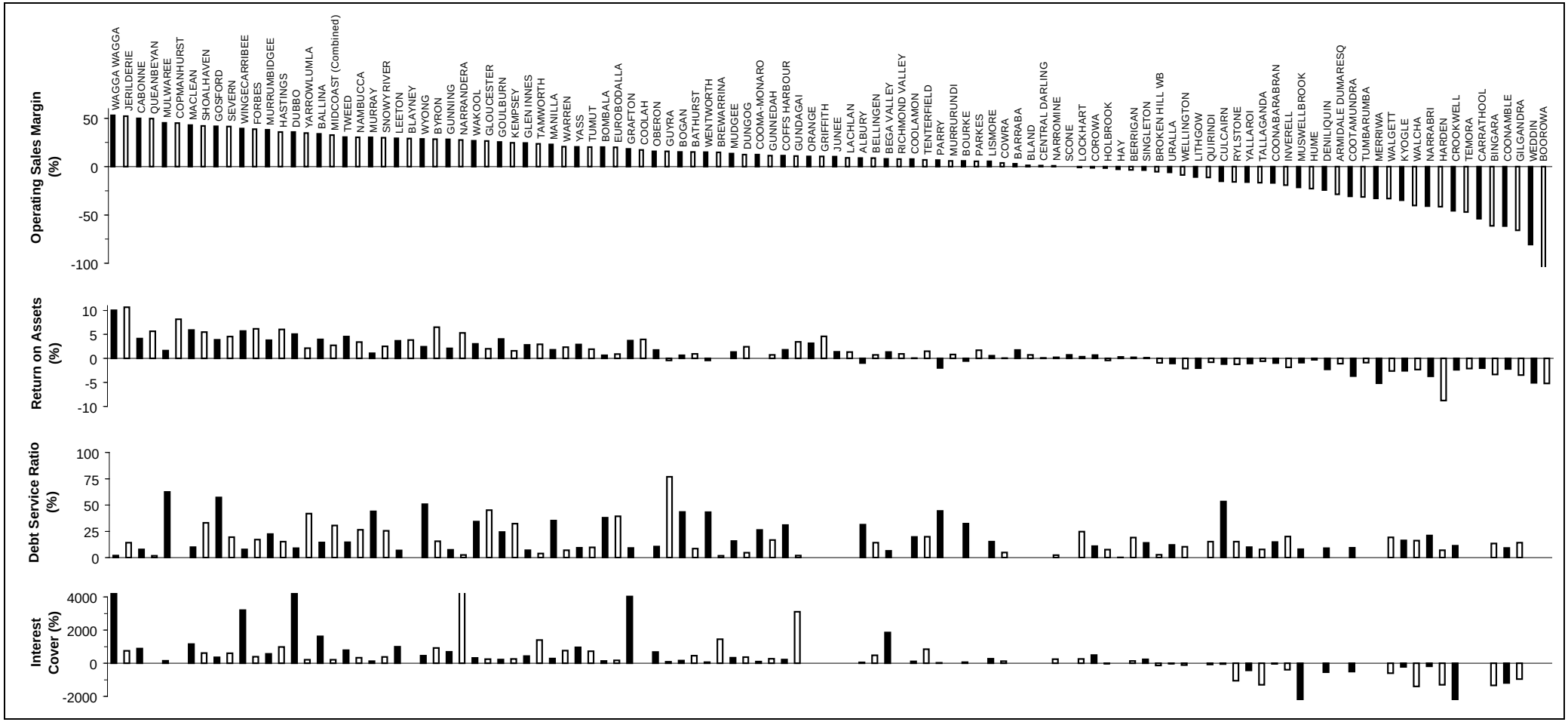


Parameter: [Total Revenue (S14) - Grants for Acquisition of Assets (S12a) - Total Expenses (S5) + Interest Expense (S4a) - Interest Income (S10)] x 100
Written Down Replacement Cost of Property, Plant & Equipment (Q31b)

Notes:

1. This figure shows1999/00 ranked values of the sewerage economic real rate of return for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the real rates of return for the 37 councils shown ***range*** from about ***7% to –4%***. Results for the previous 4 years are also shown.
2. The Statewide median sewerage economic real rate of return is 2.8% (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.

84 Operating Sales Margin, Return on Assets, Debt Service Ratio and Interest Cover



Parameter: [Total Revenue (S14) - Grants for Capital Works (S12a) - Developer Provided Assets (S13b) - Total Expense (S5) + Interest Expenses (S4a) - Interest Income (S10)] x 100 / Total Revenue (S14) - Grants for Capital Works (S12a) - Developer Provided Assets (S13b) - Interest on Investments (S10)

Parameter: [Total Revenue (S14) - Grants for Capital Works (S12a) - Total Expenses (S5) + Interest Expenses (4a)] x 100 / Total Assets (S33)

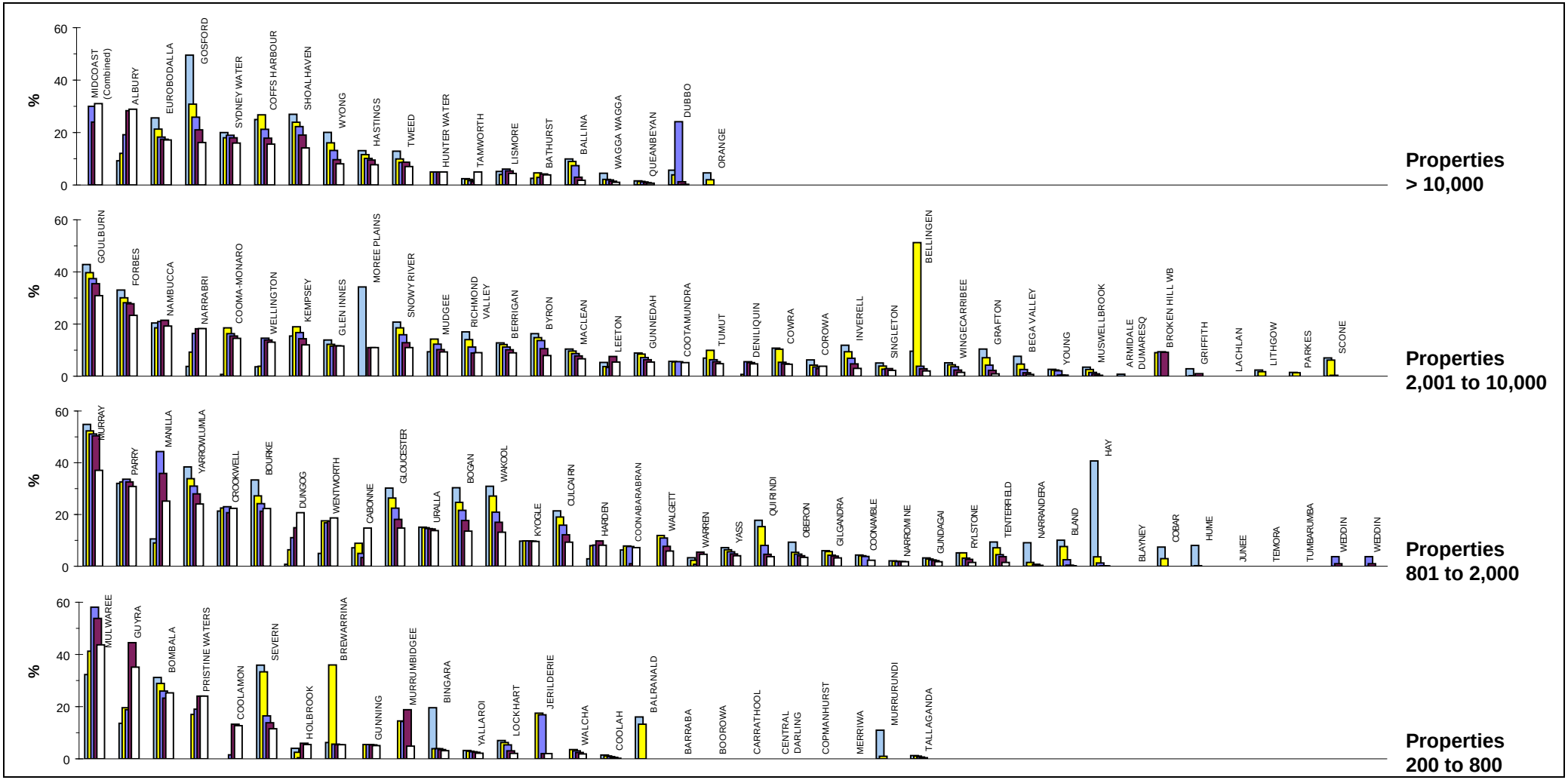
Parameter: [Payment of Debts (S18) + Interest Expense (S4a)] x 100 / Total Revenue (S14) - Grants for Capital Works (S12a) - Developer Provided Assets (S13b)

Parameter: [Total Revenue (S14) - Grants for Capital Works (S12a) - Total Expenses (S5) + Interest Expense (S4a)] x 100 / Interest Expense (S4a)

Note:

1. For general notes see page 43.

85 Debt to Equity



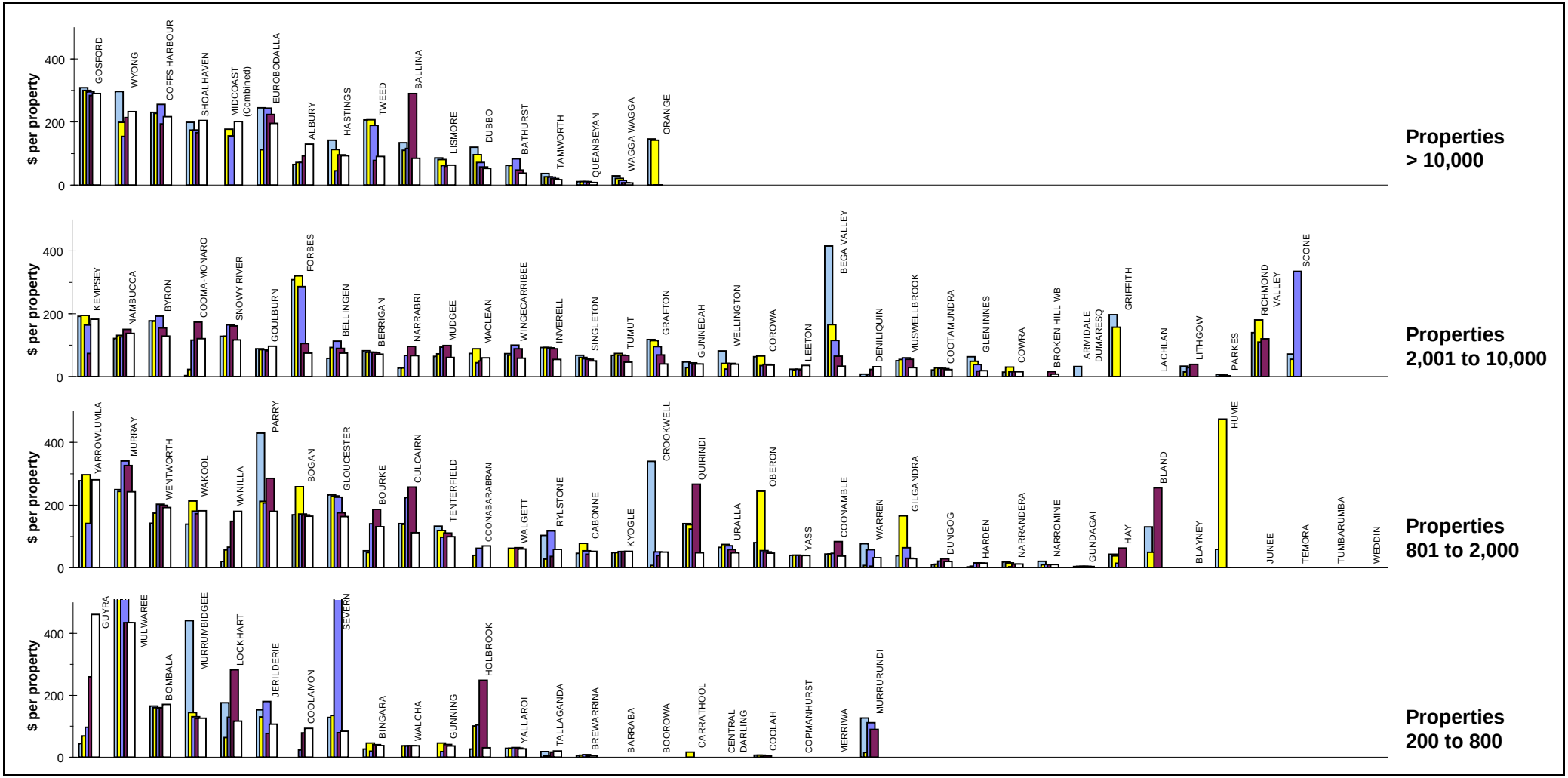
Parameter:

$$\frac{\text{[Bank Overdraft (S34) + Borrowing (S36)] x 100}}{\text{Total Equity (S42)}}$$

Notes:

1. This figure shows 1999/00 ranked values of the debt to equity for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the debt to equity for the 37 councils shown ***range*** from about ***30% to nil.*** Results for the previous 4 years are also shown.
2. The Statewide median debt to equity is 8% (refer to Table 2 – percentage of connected properties basis).
3. For general notes see page 43.

86 Loan Payment



Parameter:

$$\frac{\text{Payment of Debts (S18) + Interest Expense (S4a)}}{\text{No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

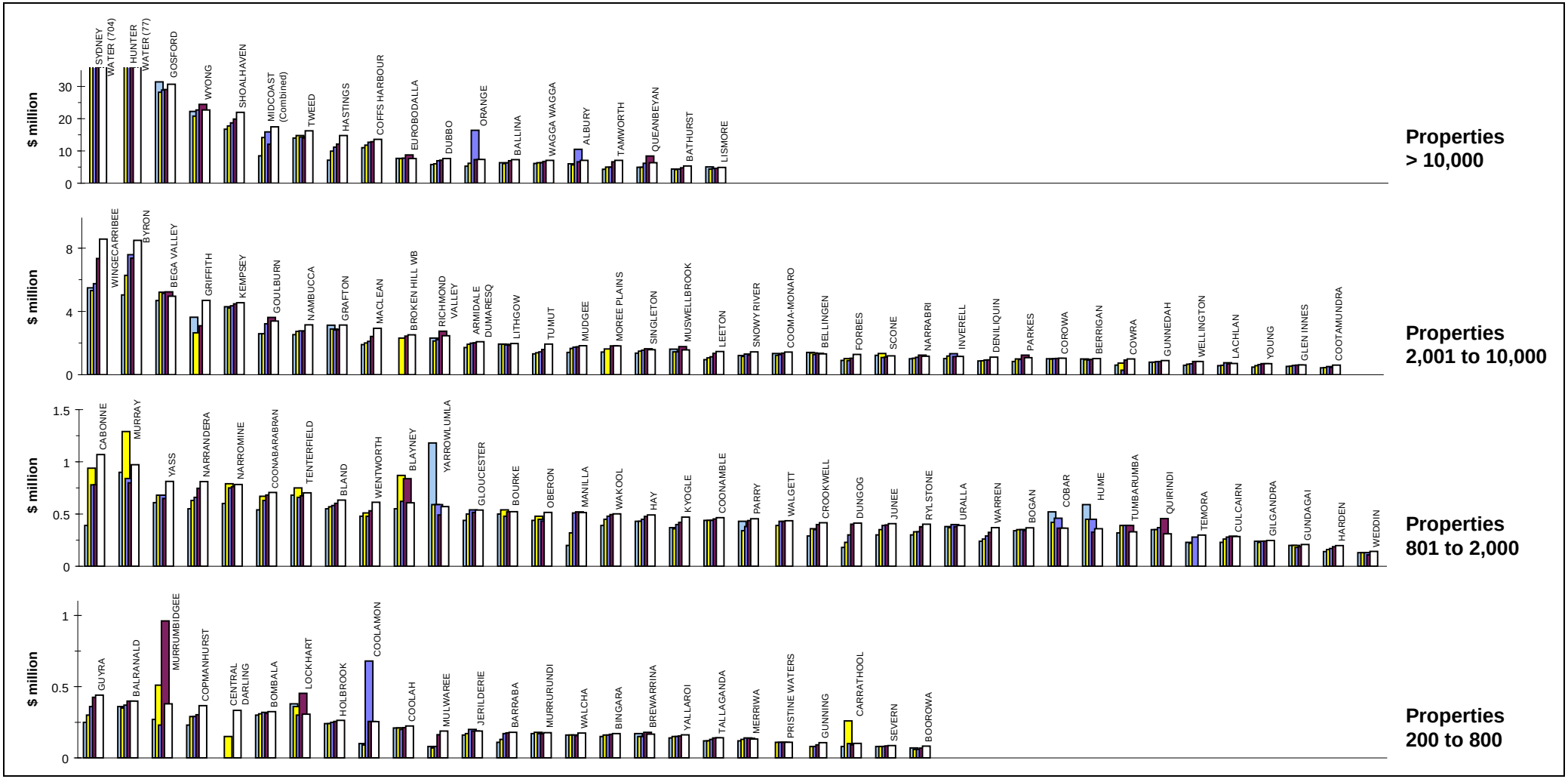
1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows 1999/00 ranked values of the sewerage loan payment per property for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewerage loan payments for 35 councils shown ***range*** from about ***$190 to nil*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median sewerage loan payment is $90 per connected property (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.

87 Turnover

Sewerage

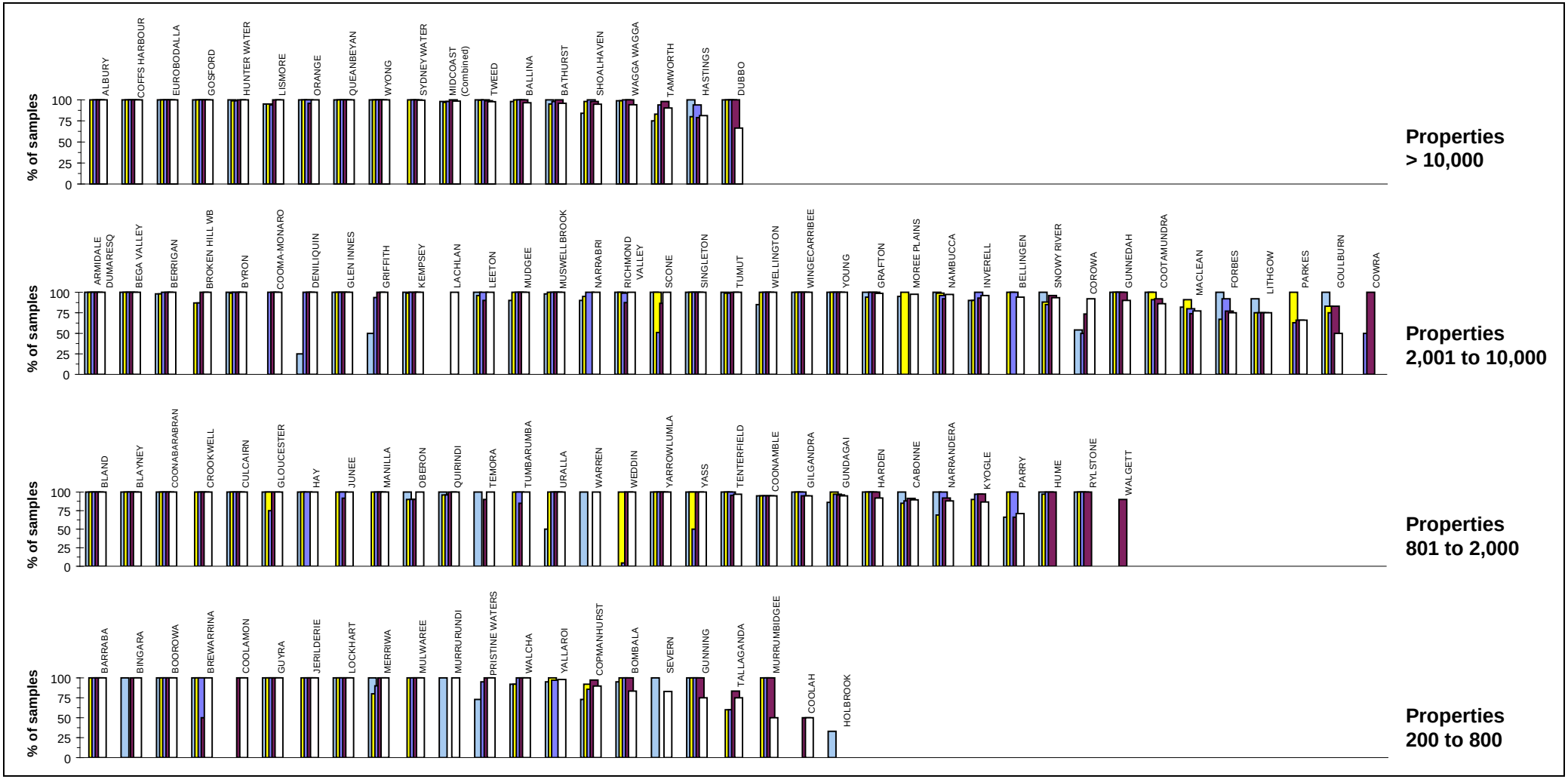


Parameter: [Total Revenues (S14) - Grants for Acquisition of Assets (S12a)] ÷ 1,000,000

Note:

1. This figure shows 1999/00 ranked values of the sewerage turnover (ie. revenue less grants for capital works) for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the turnover for the 37 councils shown ***range*** from about ***$8.5 M to $0.6***. Results for the previous 4 years are also shown in Jan 2000$.
2. For general notes see page 43.

88 Compliance with BOD in Licence

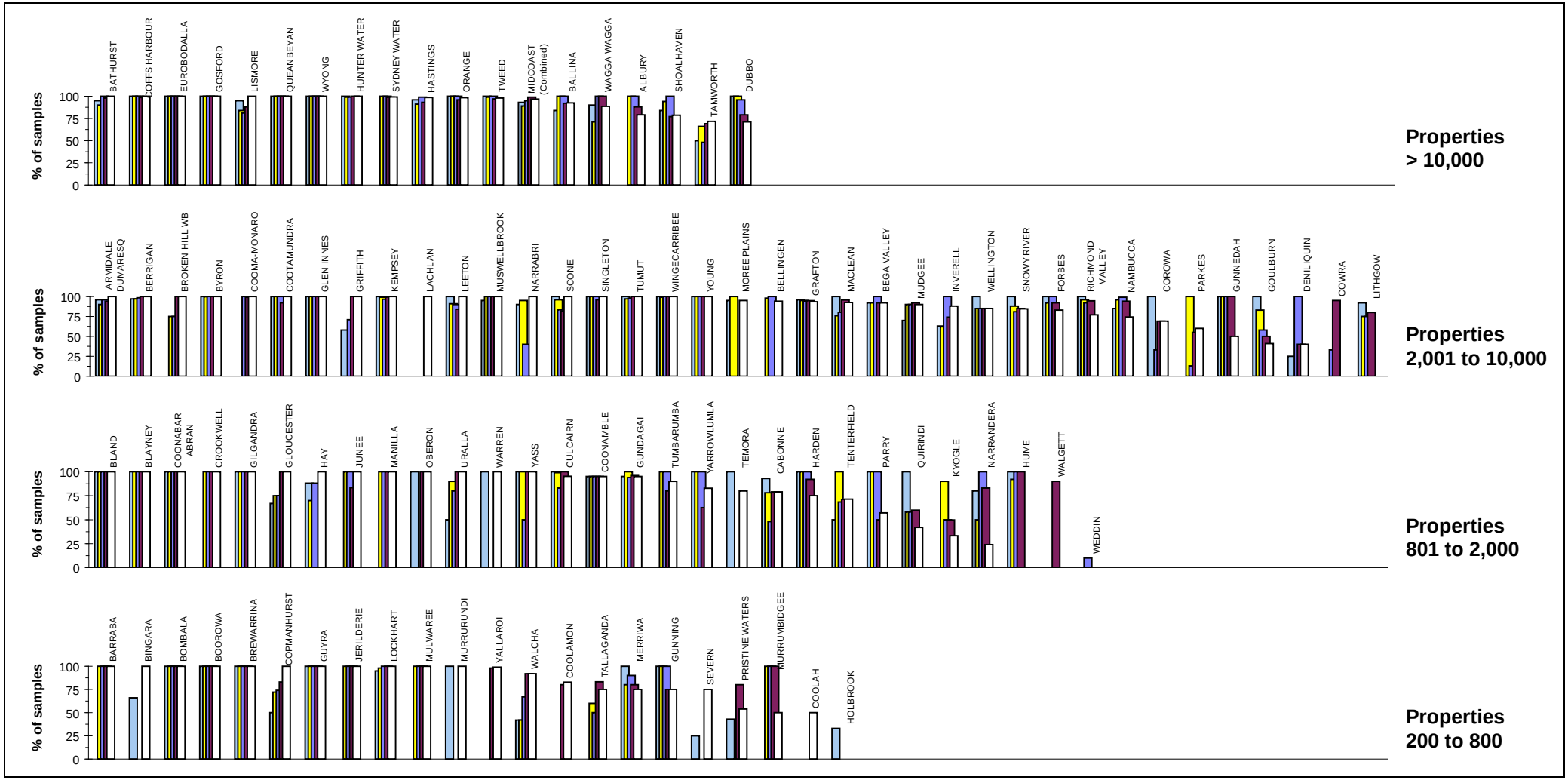


Parameter: Percentage of samples complying with 90 percentile EPA licence limits for Biochemical Oxygen Demand (BOD) (Q51a).

Note:

1. For general notes see page 43.

89 Compliance with SS in Licence



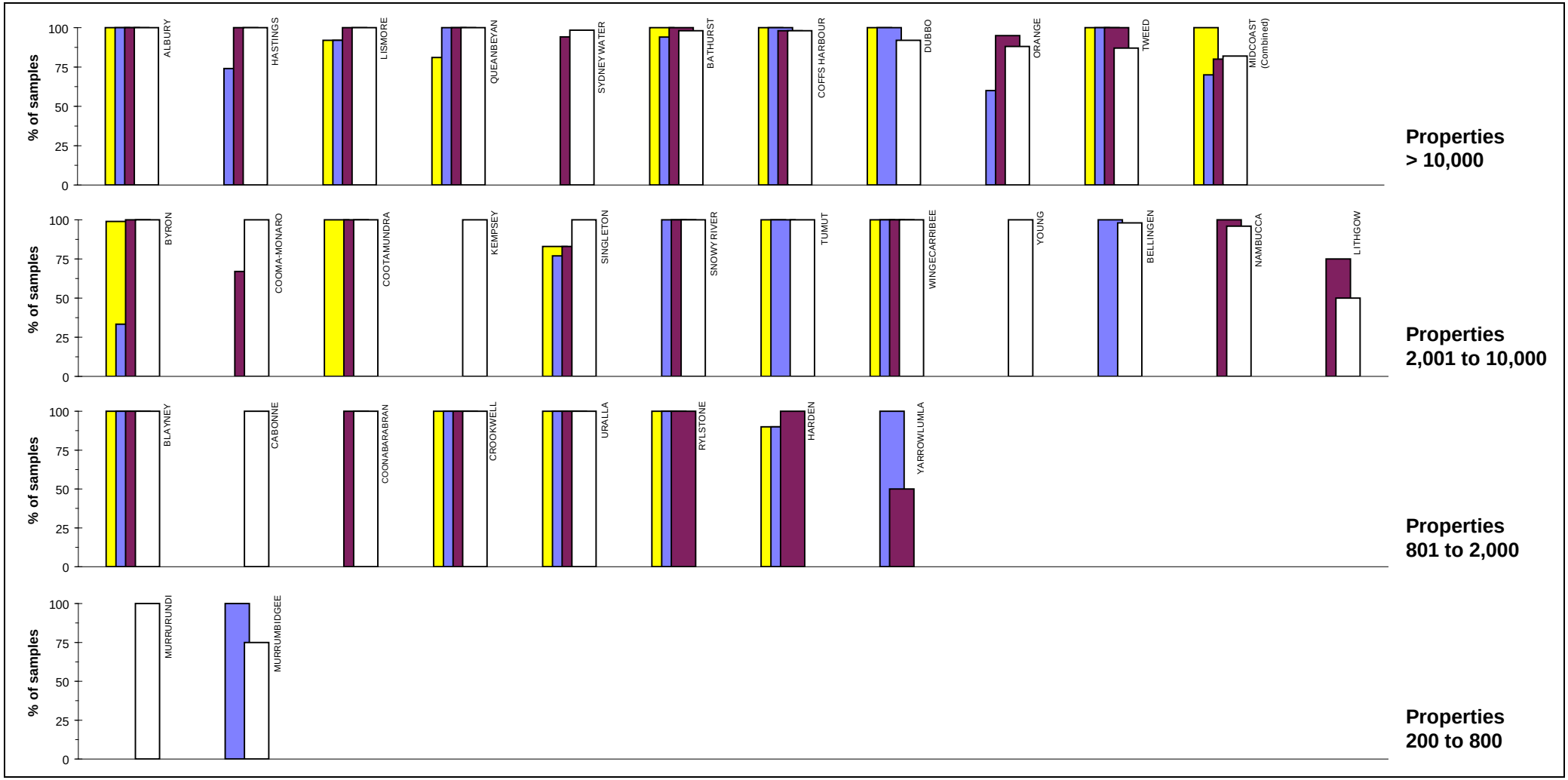
Parameter: Percentage of samples complying with 90 percentile EPA licence limits for Suspended Solids (SS) (Q51b).

1995/96 1996/97 1997/98 1998/99 1999/00

Note:

1. For general notes see page 43.

90 Compliance with total N in Licence



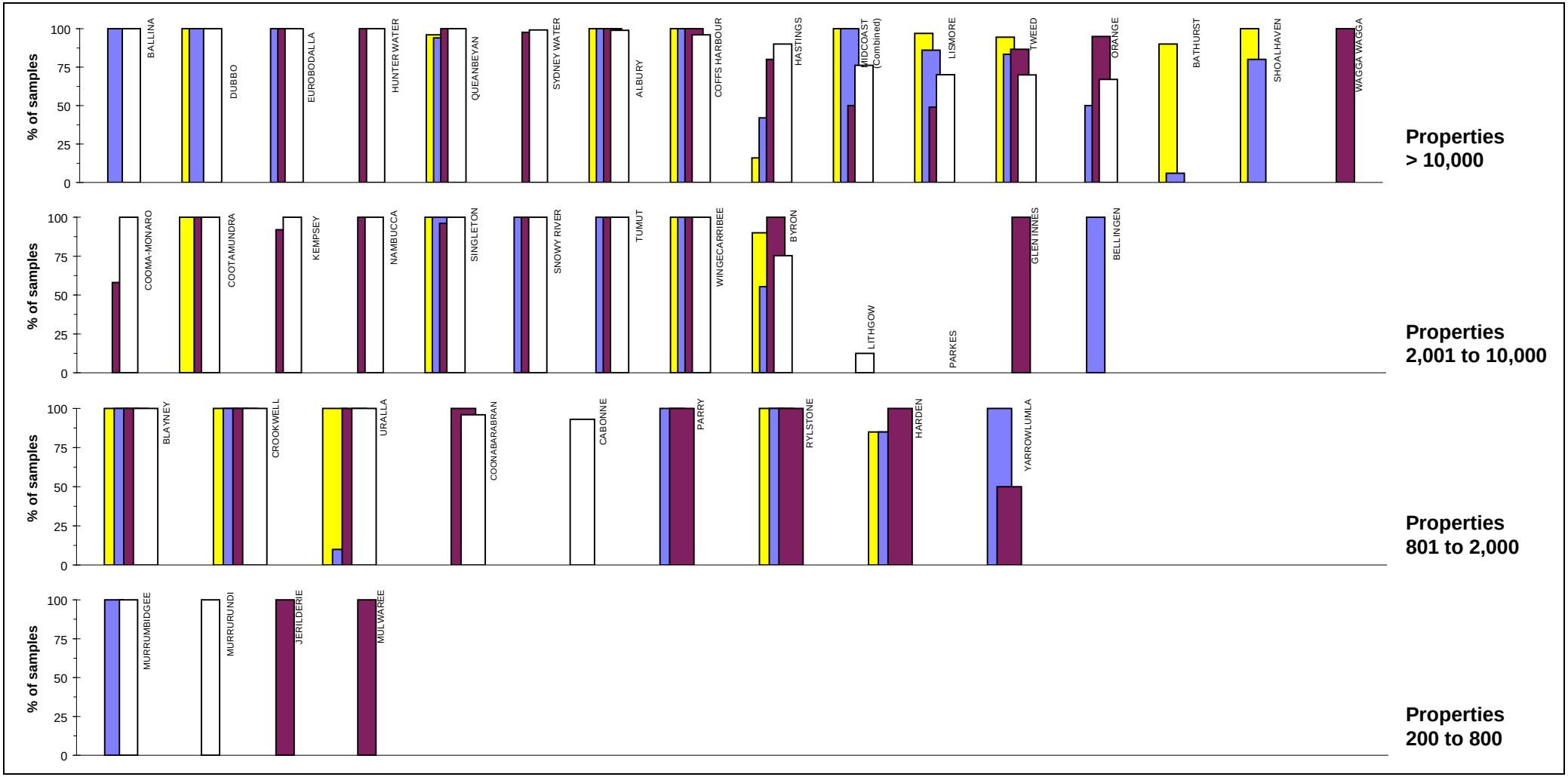
Parameter: Percentage of samples complying with 90 percentile EPA licence limits for Total Nitrogen (Q51c).

1996/97 1997/98 1998/99 1999/00

Note:

1. For general notes see page 43.

91 Compliance with total P in Licence



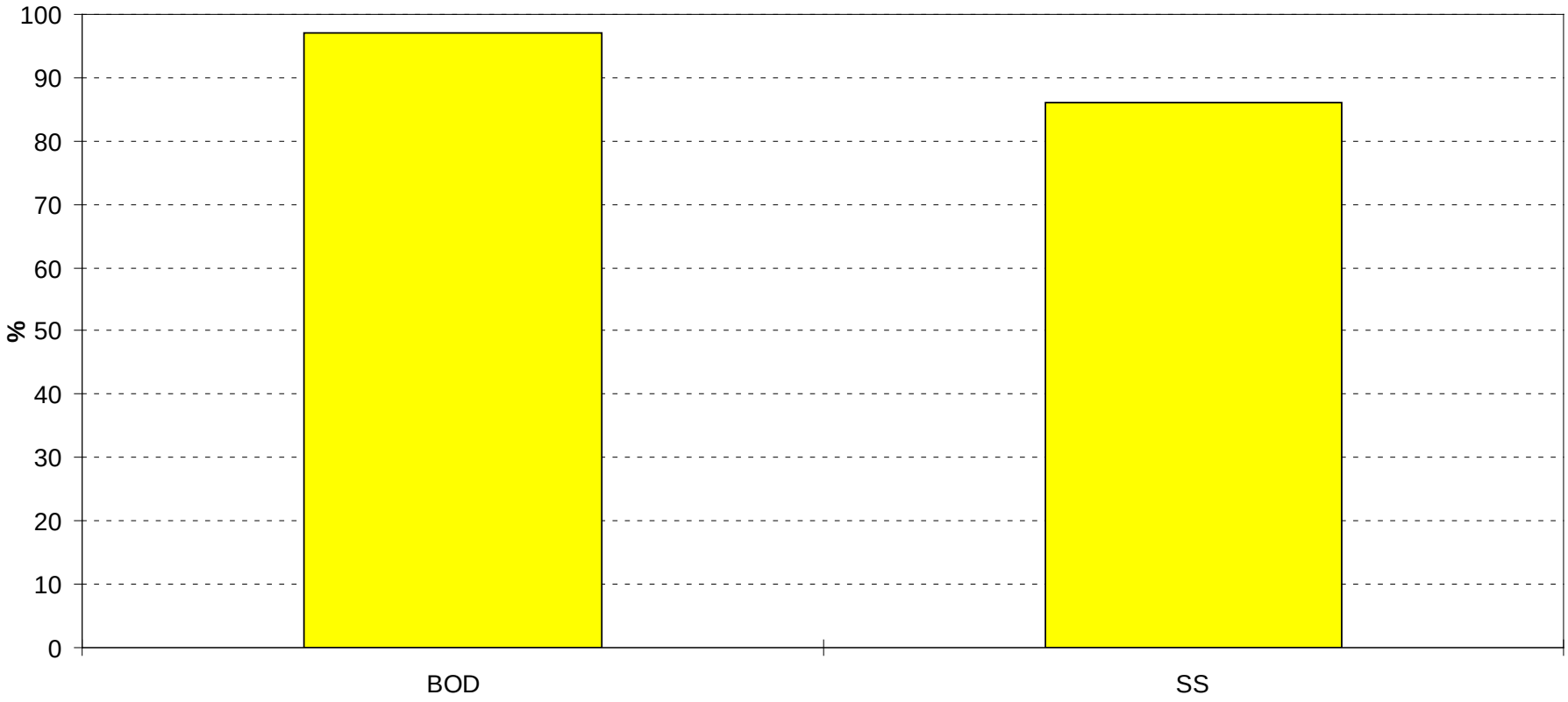
Parameter: Percentage of samples complying with 90 percentile EPA licence limits for Total Phosphorus (Q51f).

1996/97 1997/98 1998/99 1999/00

Note:

1. For general notes see page 43.

92 Compliance with EPA Licence – 1999/00



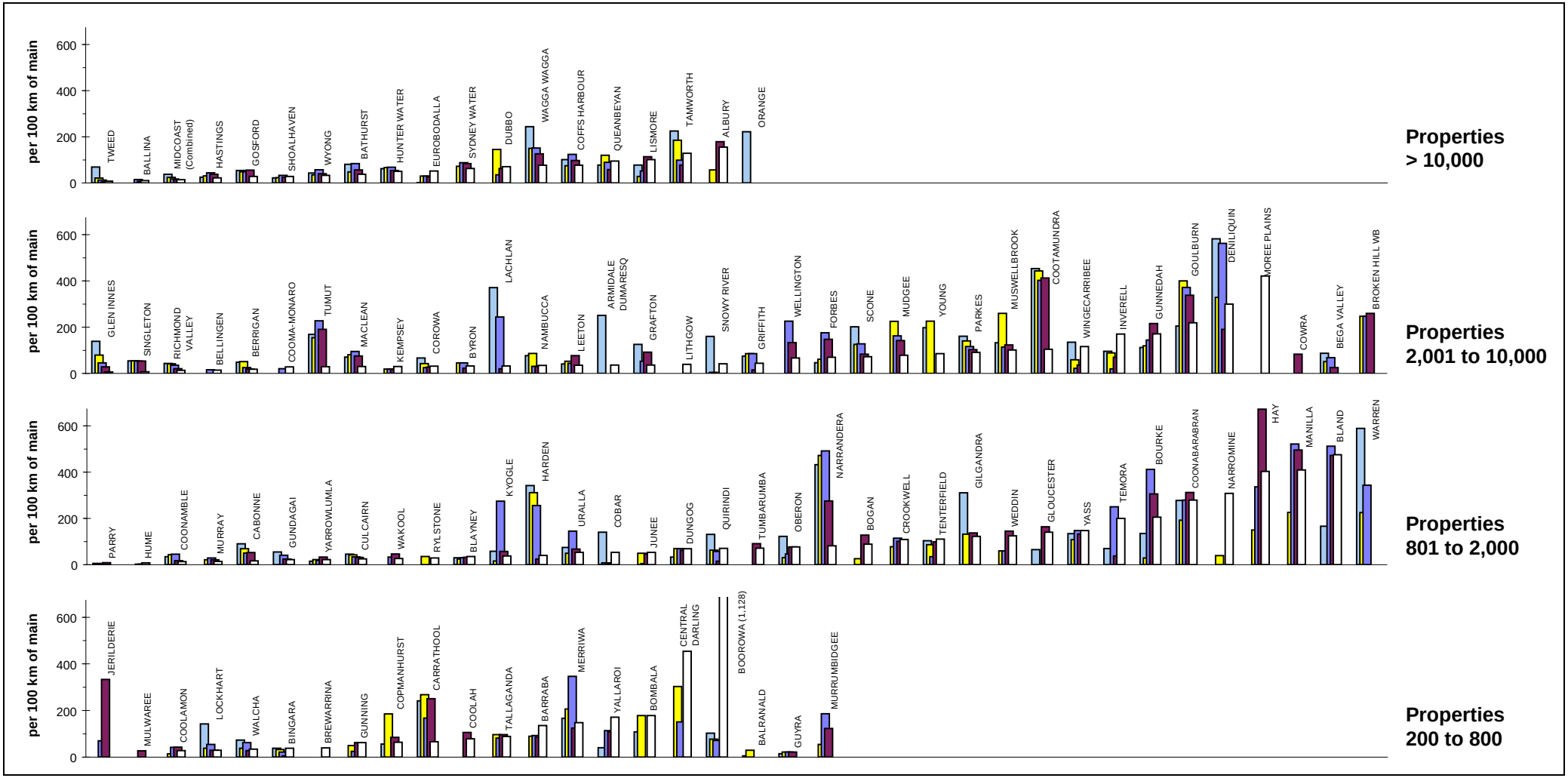
Comment:

1. **BOD** - 97% of all samples tested for non-metropolitan NSW complied with the 90 percentile limit of their EPA licence in regard to BOD; 56% of councils complied with these limits.
2. **SS** - 86% of all samples tested for non-metropolitan NSW complied with the 90 percentile limit of their EPA licence in regard to SS; 44% of councils complied with these limits.
3. For councils with more than one sewage treatment works, the reported compliance has been pro-rated on the basis of the number of sampling days at each treatment works.
4. The major cause of non-compliance is due to the growth of algae in maturation ponds, being measured as BOD and SS. Most treatment works in non-metropolitan NSW have maturation ponds due to previous EPA preference for ponding over chlorination. Negotiations with the EPA to develop an appropriate licensing method when maturation ponds are used for disinfection have favoured an option to test for SS prior to the maturation ponds. For new installations and major augmentations, Ultra Violet (UV) disinfection is being used rather than maturation ponds to overcome this problem.
5. Typical numbers of sampling days reported for treatment works are:

< 4 000 ep	15
about 15 000 ep	40
>25 000 ep	>100

6. 7% of councils did not report on their BOD and SS compliance. All councils should carry out the necessary sampling of effluent quality and report thereon in future.

93 Sewer Main Chokes and Collapses



Parameter:

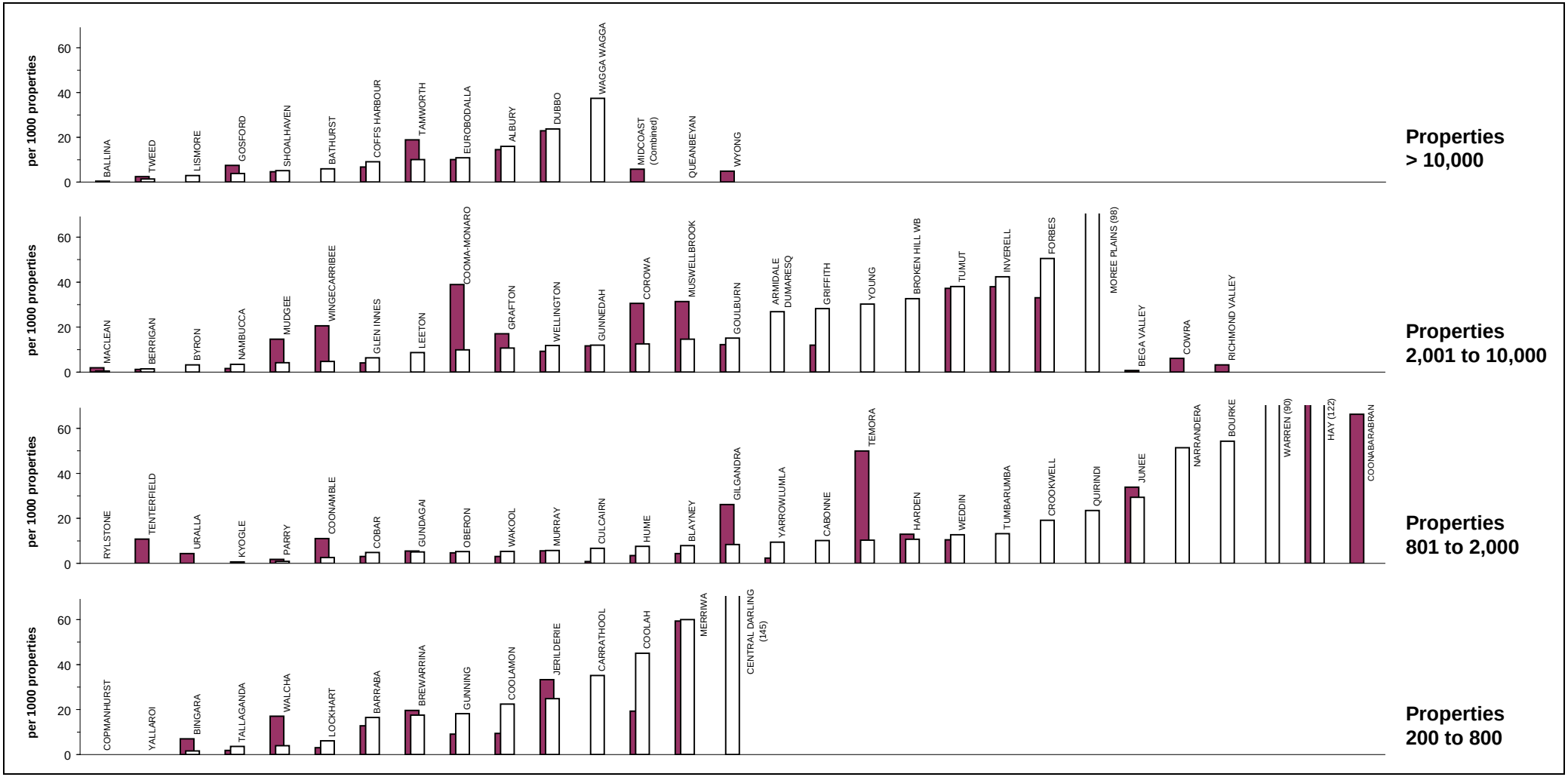
$$\frac{\text{Total No. of Confirmed Sewer Chokes (Q21) x 100}}{\text{Length of Reticulation/Gravity Mains (Q10a) + Length of Rising Mains (Q10b)}}$$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the sewer main chokes and collapses for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the number of sewer main chokes and collapses for the 33 councils shown ***ranges*** from about ***5 to 420*** chokes per 100 km of sewer mains. Results for the previous 4 years are also shown.
2. The Statewide median sewer main chokes and collapses is 35 per 100 km of sewer main (refer to Table 2 - percentage of connected properties basis).
3. 12% of councils were unable to report on this item and these councils should institute a system to record and report such occurrences.
4. For general notes see page 43.

94 Chokes in House Branch connections



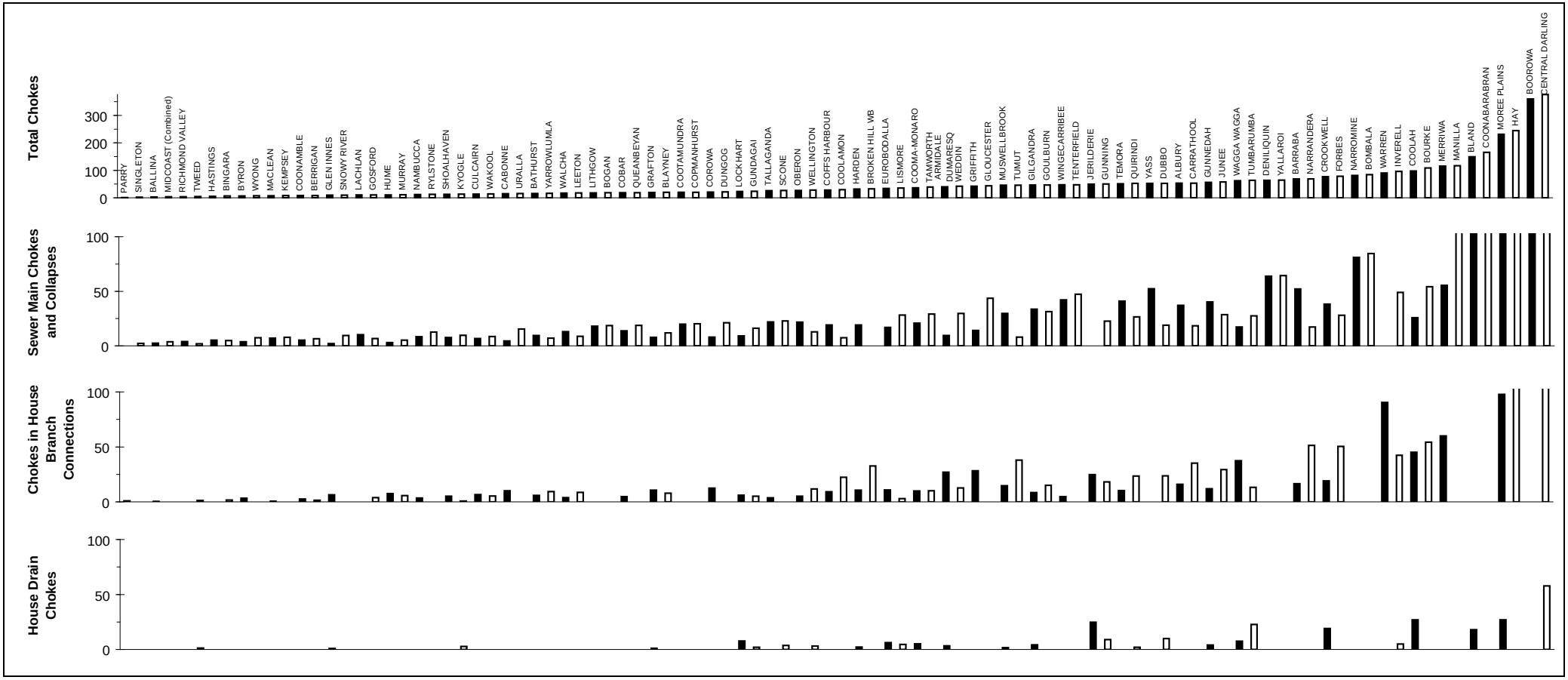
Parameter:

$$\frac{\text{No. of Chokes in House Branch Connections (Q23) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Notes:

1. This figure shows ranked values of the chokes in house branch connections per 1000 connected properties for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the number of confirmed sewer chokes for the 23 councils shown ***range*** from ***1 to 98*** chokes per 1000 connected properties.
2. Some 24% of reporting councils reported no house branch sewer chokes.
3. 32% of councils were unable to report on this item and these councils should institute a system to record and report such occurrences.
4. For general notes see page 43.

95 Total Chokes (per 1000 properties)



Parameter:

$$\frac{\text{[No. of Confirmed Sewer Chokes (Q21) + No. of Chokes in House Branch Connections (Q23) + No. of Chokes in House Drains (Q24)] x 1000}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Parameter:

$$\frac{\text{No. of Confirmed Sewer Chokes (Q21) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Parameter:

$$\frac{\text{No. of Chokes in House Branch Connections (Q23) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

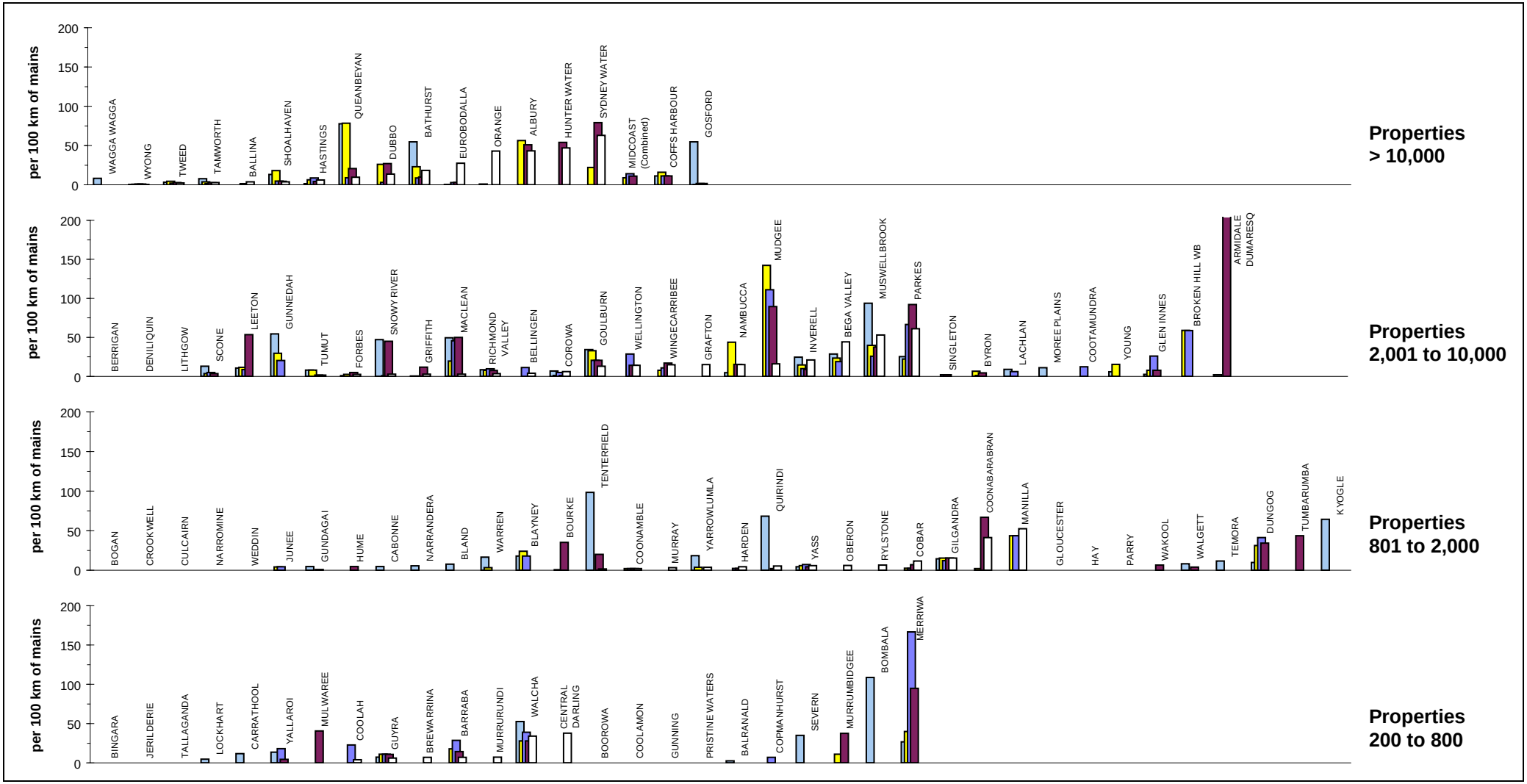
Parameter:

$$\frac{\text{No. of Chokes in House Drains (Q24) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Note:

1. For general notes see page 43.

96 Sewer Overflows to the Environment



Parameter:

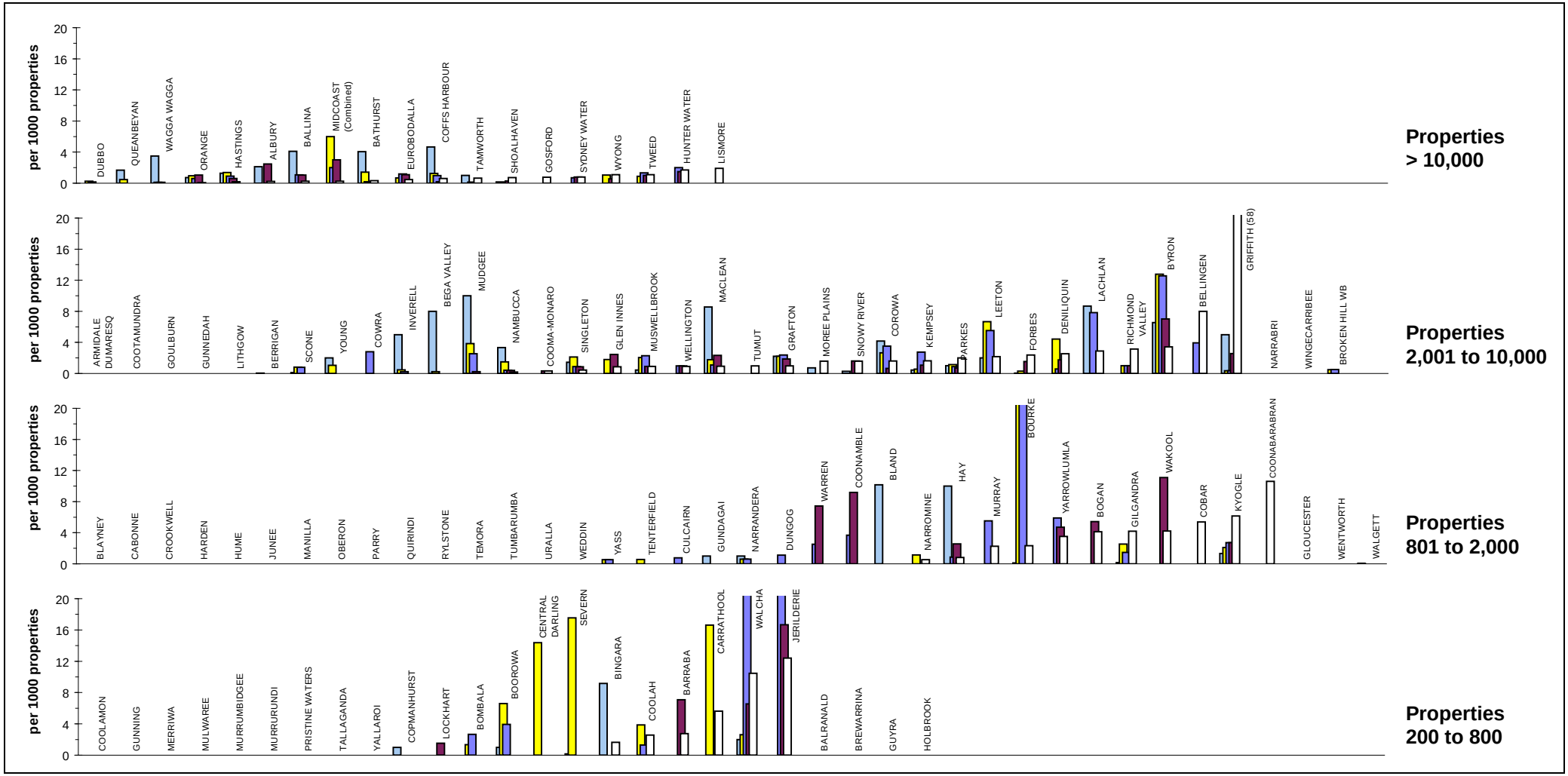
$$\frac{\text{Total No. of Sewage Overflows (Q20) x 100}}{\text{Length of Reticulation/Gravity Mains (Q10a) + Length of Rising Mains (Q10b)}}$$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the sewer overflows to the environment for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewer overflows to the environment for the 24 councils shown ***range*** from ***nil to 60*** overflows per 100 km of sewer mains. Results for the previous 4 years are also shown.
2. The Statewide median sewer overflows to the environment is 4 per 100 km of sewer main (refer to Table 2 - percentage of connected properties basis).
3. Some 24% of councils reported no sewer overflows.
4. 34% of councils were unable to report on this item and these councils should institute a system to record and report such occurrences.
5. For general notes see page 43.

97 Odour Complaints

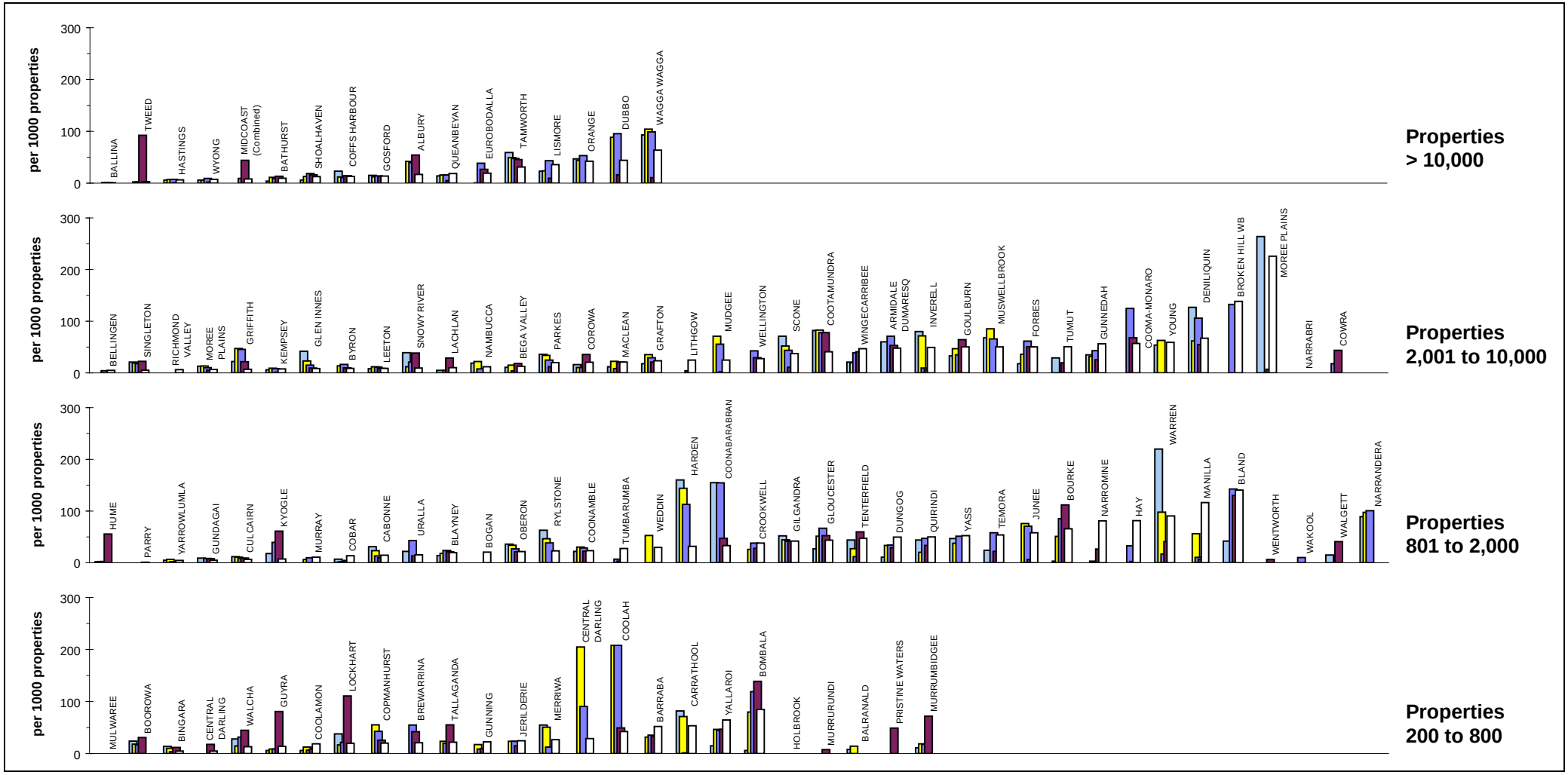


Parameter: [No. of Odour Complaints from treatment works (Q14a) + No. of Odour Complaints from pumping stations (Q14b)] x 1000 / [No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

Notes:

1. This figure shows ranked values of the number of sewage odour complaints for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the number of odour complaints for the 34 councils shown ***range*** from ***0 to 58*** complaints per thousand connected properties. Results for the previous 4 years are also shown.
2. The Statewide median number of odour complaints is 0.6 per 1000 properties (refer to Table 2 - percentage of connected properties basis).
3. Some 43% of reporting councils reported no odour complaints.
4. 8% of councils were unable to report on this item and these councils should institute a system to record and report such occurrences.
5. For general notes see page 43.

98 Sewerage Service Complaints



Parameter:

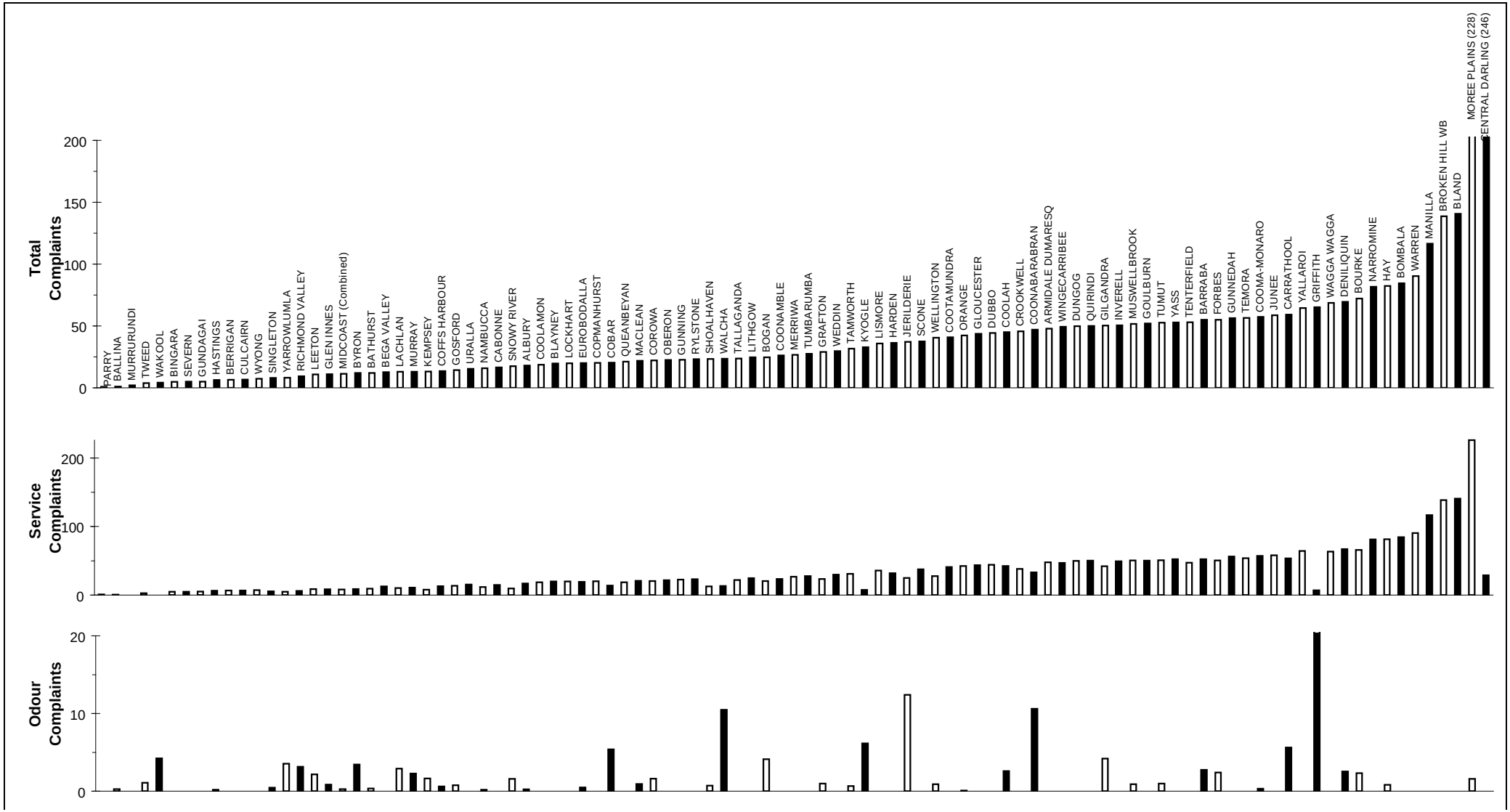
$$\frac{\text{No. of Service or Choke Complaints (Q15) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

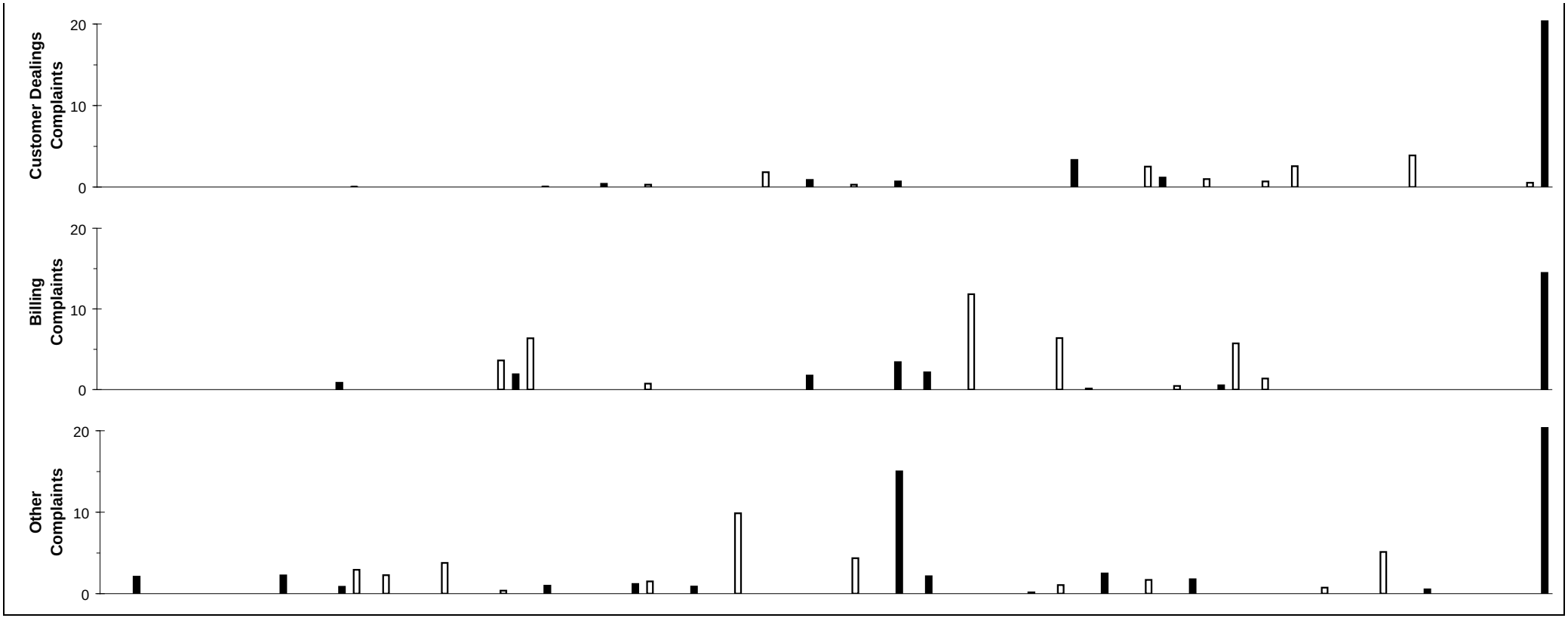
Notes:

1. This figure shows ranked values of the number of sewerage service complaints for 1999/00 for each council in 4 groups based on the number of properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the number of service complaints for the 35 councils shown ***ranges*** from ***5 to 225*** complaints per thousand properties. Results for the previous 4 years are also shown.
2. The Statewide median number of sewerage service complaints is 14 per 1000 properties (refer to Table 2 - percentage of properties basis).
3. Some 3% of reporting councils reported no sewerage service complaints.
4. For general notes see page 43.

Blank Page

99 Total Complaints (per 1000 properties)





Parameter: $\frac{\text{[No. of Sewage Service Complaints (Q15a) + Odour Complaints [(Q14a) + (14b)] + Customer Dealings Complaints (Q17) + Billings Complaints (Q18) + Other Complaints (Q19)] x 1000}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{No. of Sewage Service Complaints (Q15a) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{No. of Odour Complaints [(Q14a) + (14b)] x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

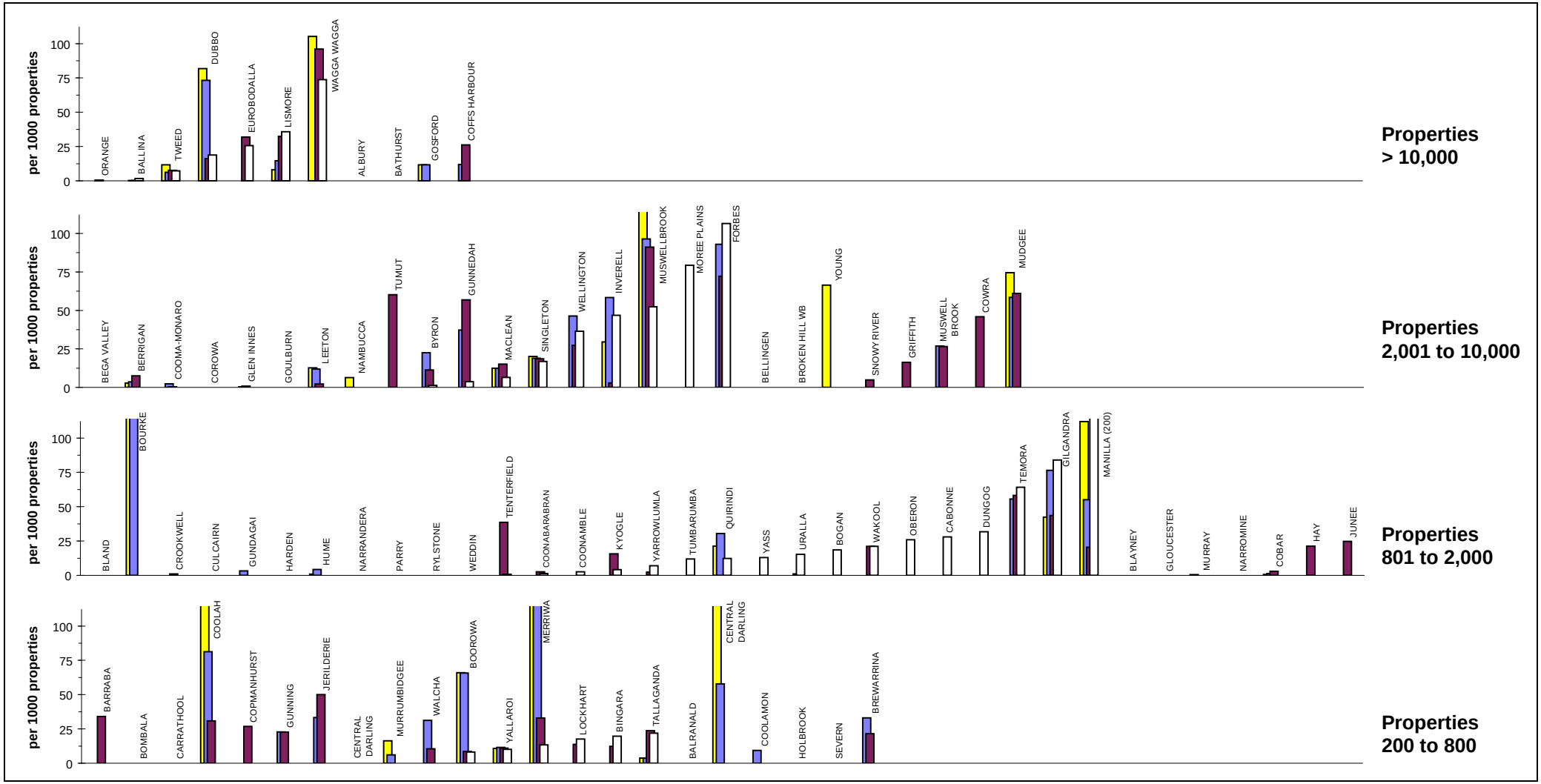
Parameter: $\frac{\text{No. of Customer Dealings Complaints (Q17) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{No. of Billings Complaints (Q18) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{No. of Other Complaints (Q19) x 1000}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Note:
1. For general notes see page 43.

100 Customer Interruption Frequency



Parameter: [No. of Properties affected by an unplanned interruption to service (Q25)] x 1000

[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

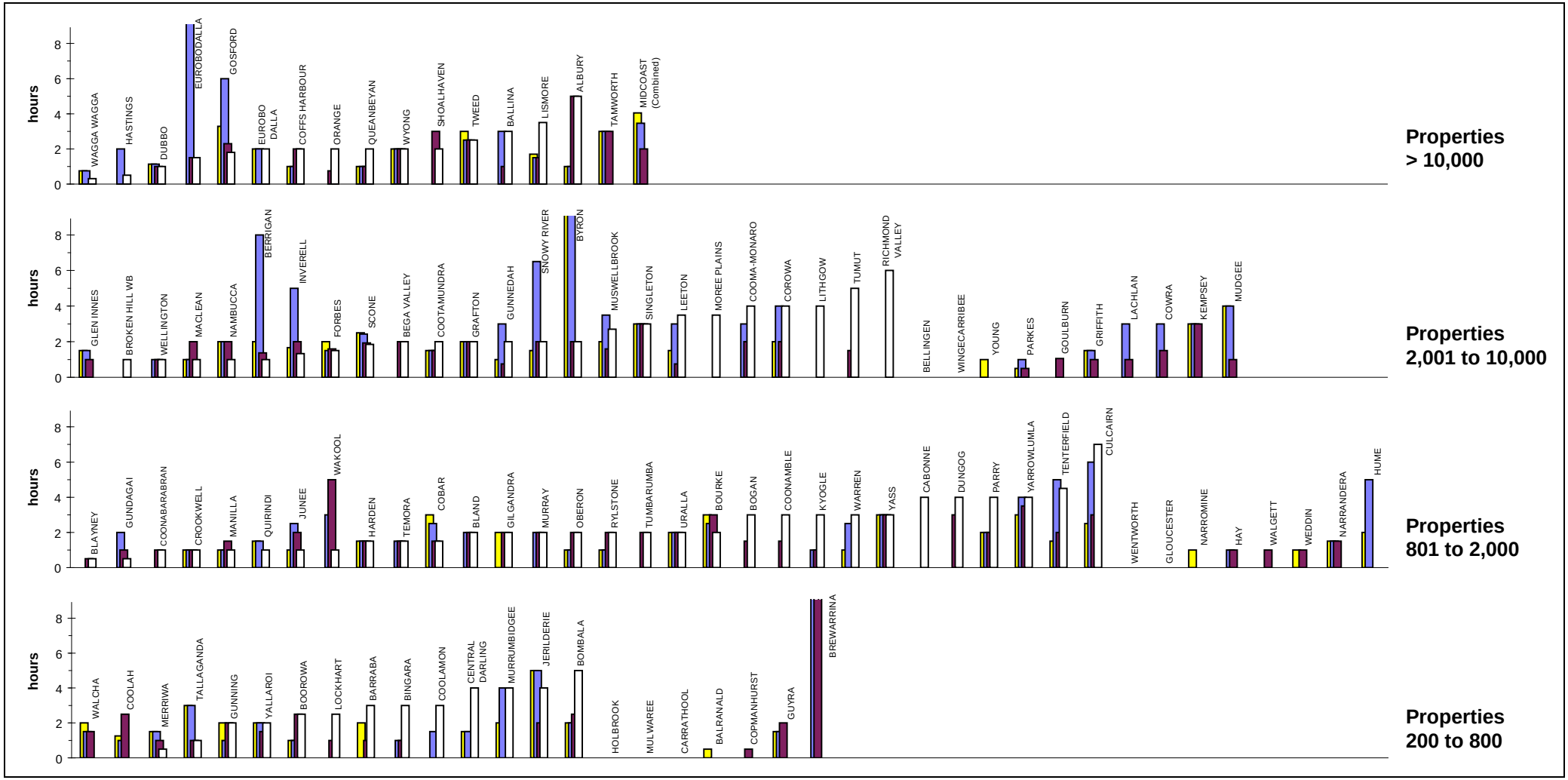
1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the customer interruption frequency for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range 2,001 to 10,000 the interruption frequencies for the 18 councils shown ***range*** from ***0 to 105*** per thousand connected properties. Results for the previous 2 years are also shown.
2. The Statewide median customer interruption frequency is 0.7 per thousand connected properties (refer to Table 2 - percentage of connected properties basis).
3. Some 27% of councils reported no unplanned interruptions to service.
4. 36% of councils were unable to report on this item and these councils should institute a system to record and report such occurrences.
5. For general notes see page 43.

101 Average Duration of Interruptions

Sewerage



Parameter: Average time taken to restore an interrupted service (Q26)

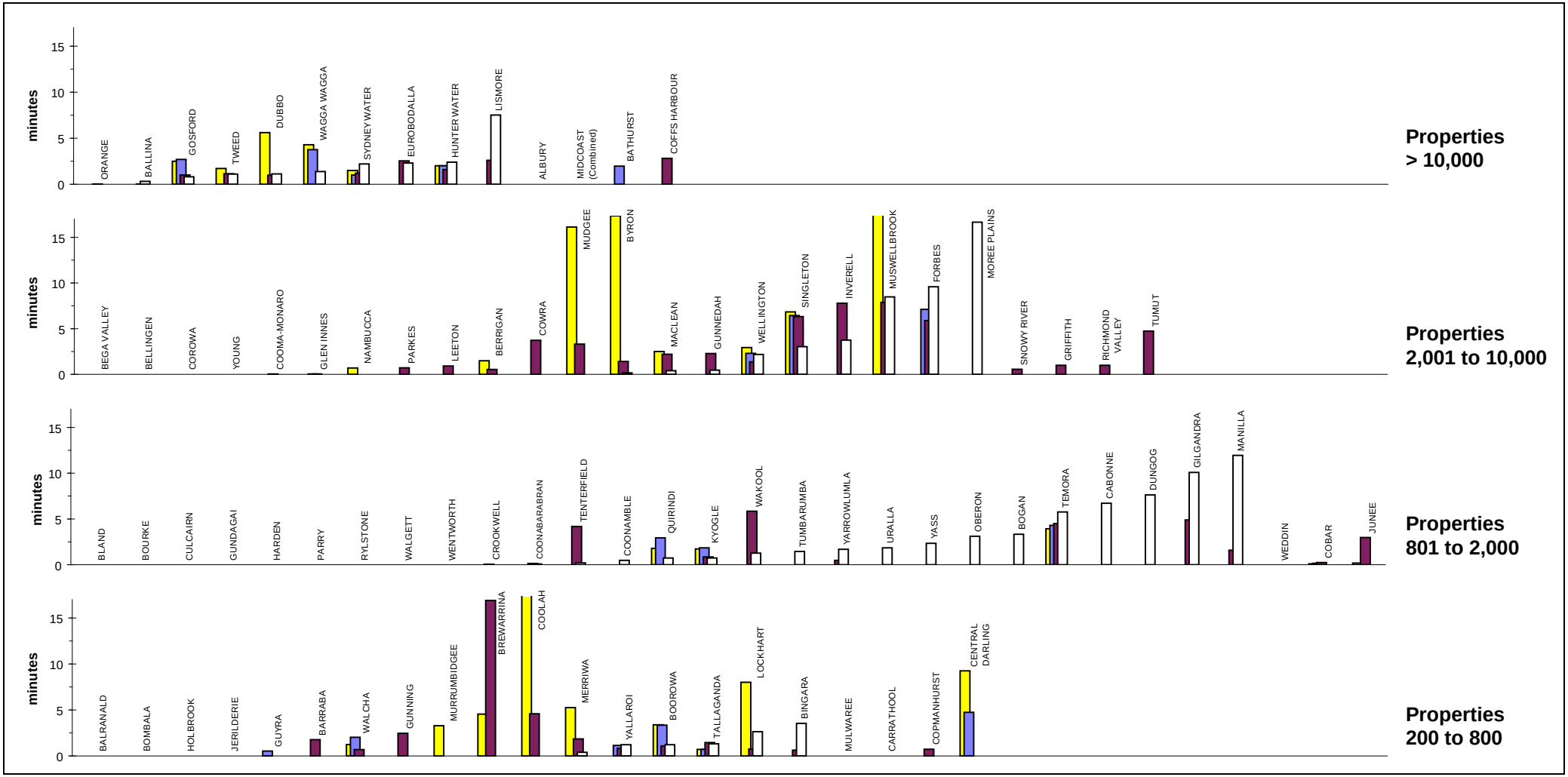
1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the average duration of interruptions to service for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range 2,001 to 10,000 the duration of interruptions for the 24 councils shown ***ranges*** from ***0 to 6*** hours. Results for the previous 3 years are also shown.
2. The Statewide median duration of interruptions is 2 hours (refer to Table 2 - percentage of connected properties basis).
3. 23% of councils were unable to report on this item and these councils should institute a system to record and report such occurrences.
4. For general notes see page 43.

102 Average Customer Outage Time

Sewerage



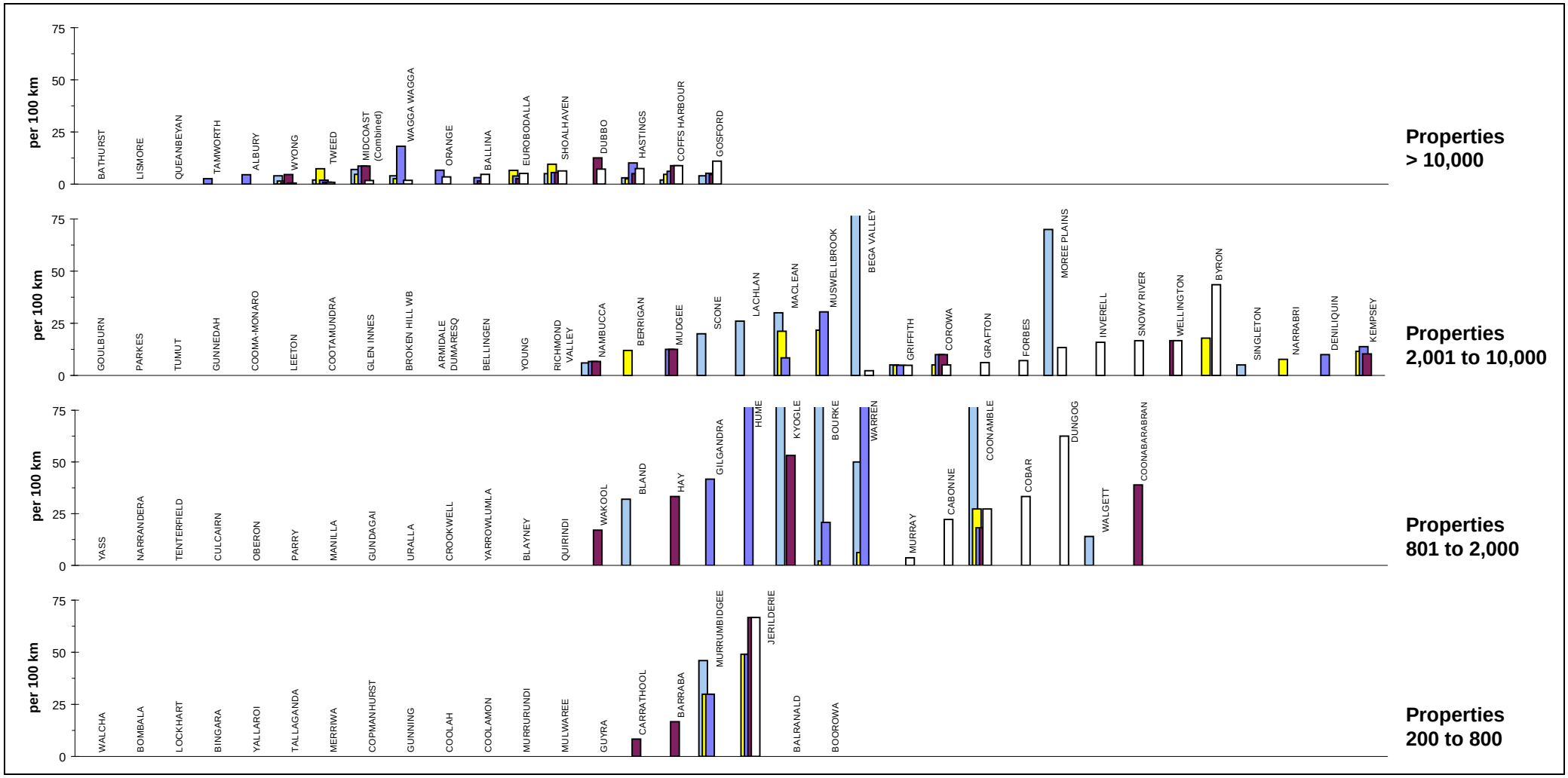
Parameter: $\frac{\text{No. of Properties affected by an unplanned interruption to service (Q25) x Average time taken to restore an interrupted service (Q26) x 60}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the average customer outage time for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range 2,001 to 10,000 the average customer outage time for the 21 councils shown ***ranges*** from 0 to 17 minutes. Results for the previous 3 years are also shown.
2. The Statewide median customer outage time is 1 minute (refer to Table 2 - percentage of connected properties basis).
3. 30% of councils were unable to report on this item and these councils should institute a system to record and report such occurrences.
4. For general notes see page 43.

103 Sewer Rising Main Breaks



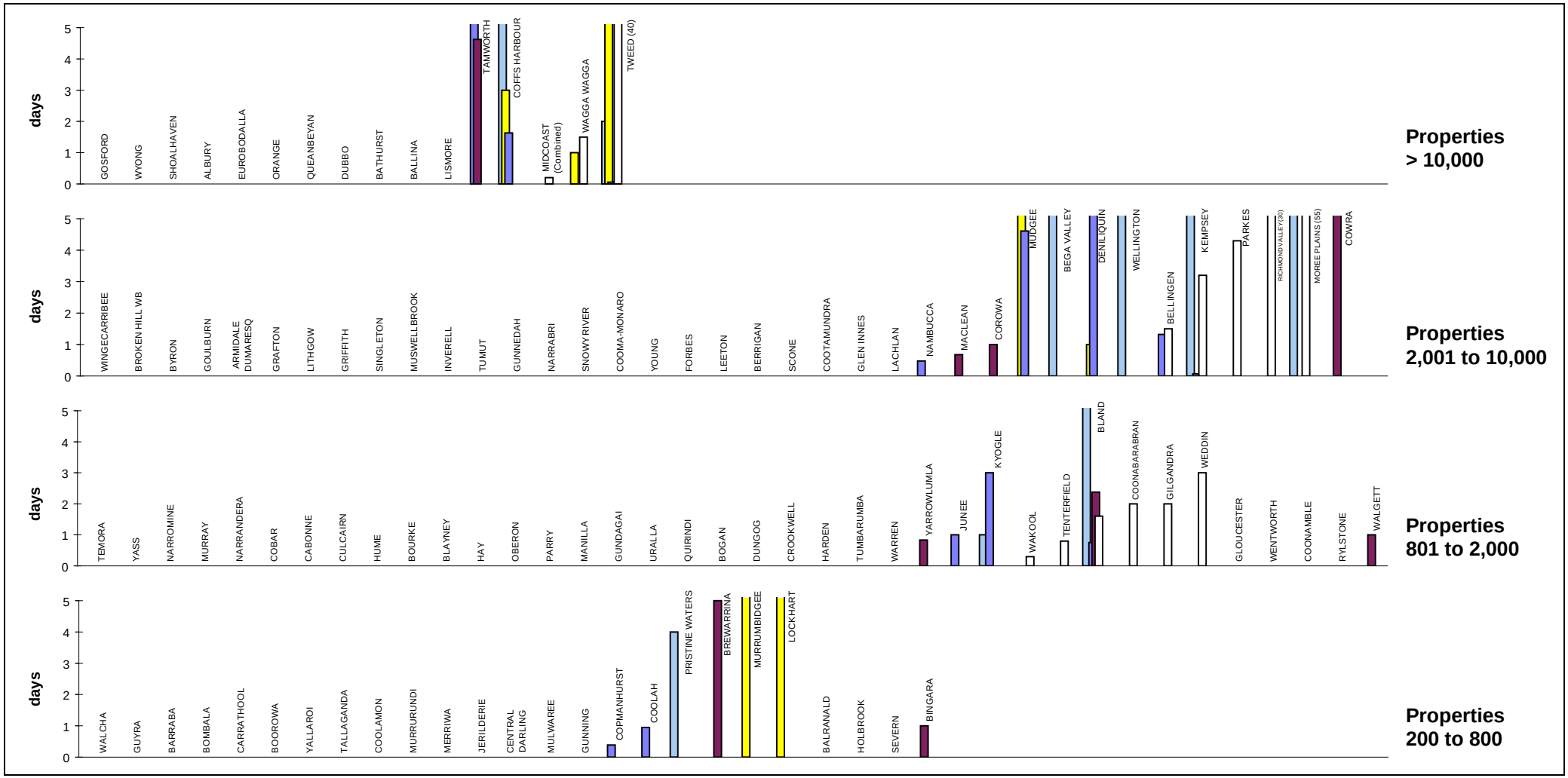
Parameter: No. of Pipeline Breaks (Q27) x 100 / Length of Rising Mains (Q10b)

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the sewer rising main breaks for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the main breaks for the 30 councils shown ***ranges*** from ***nil to 45*** breaks per 100 km of rising mains. Results for the previous 4 years are also shown.
2. For general notes see page 43.

104 Treatment Works Malfunction



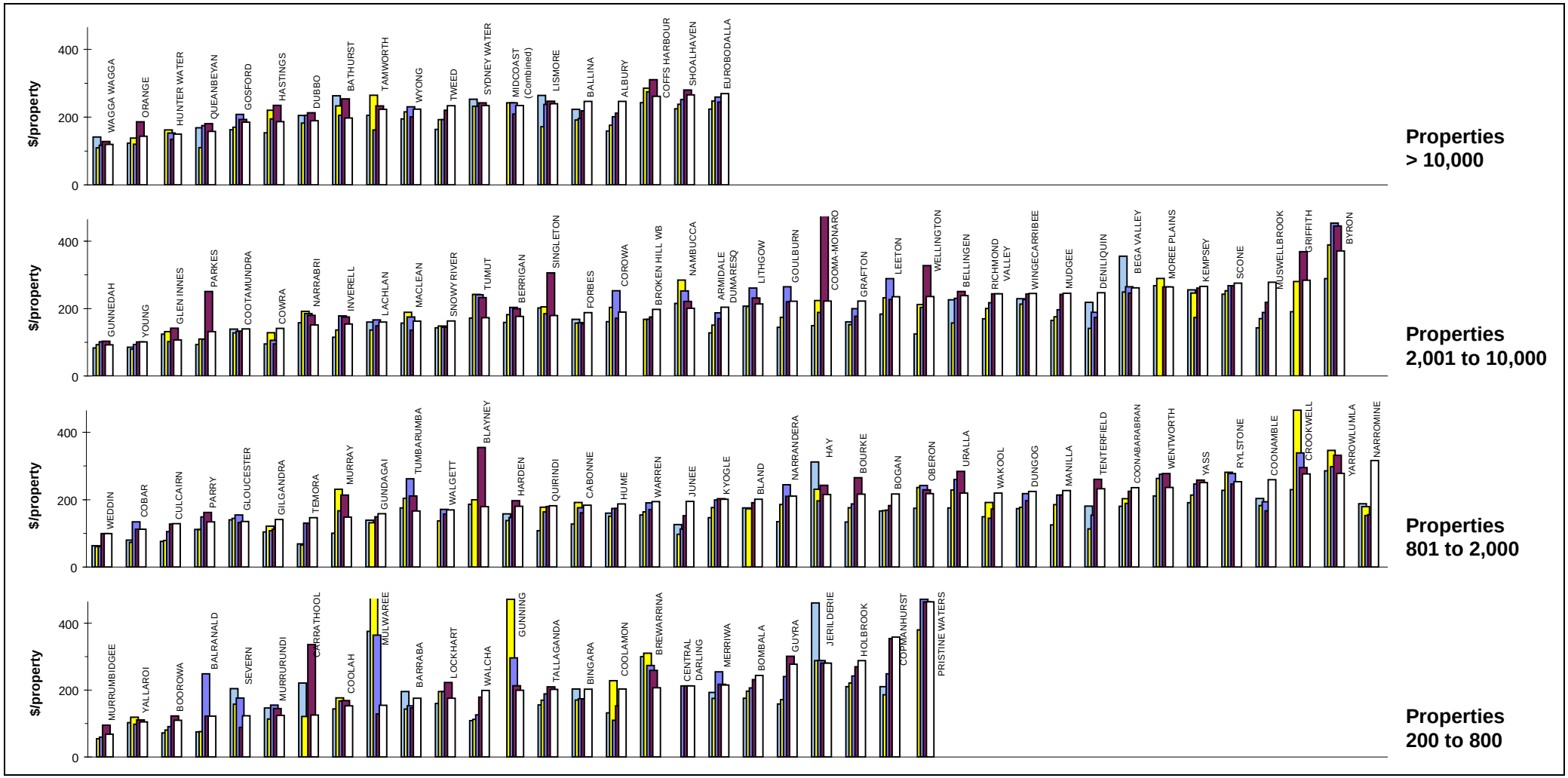
Parameter: No. of Days with Major Malfunction of Treatment Processes (Q53)

Notes:

1. This figure shows ranked values of the 1999/00 number of days of treatment works malfunction for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one Council***. As an example, for the property range from 2001 to 10,000, number of days of malfunction for the 36 councils shown ***ranges*** from about ***0*** *to 55.* Results for the previous 4 years are also shown.
2. For councils with more than one treated works, the weighted average (based on treatment works capacity) was used (Appendix E2).
3. For general notes see page 43.

105 Operating Cost (OMA) per property

Sewerage



Parameter:

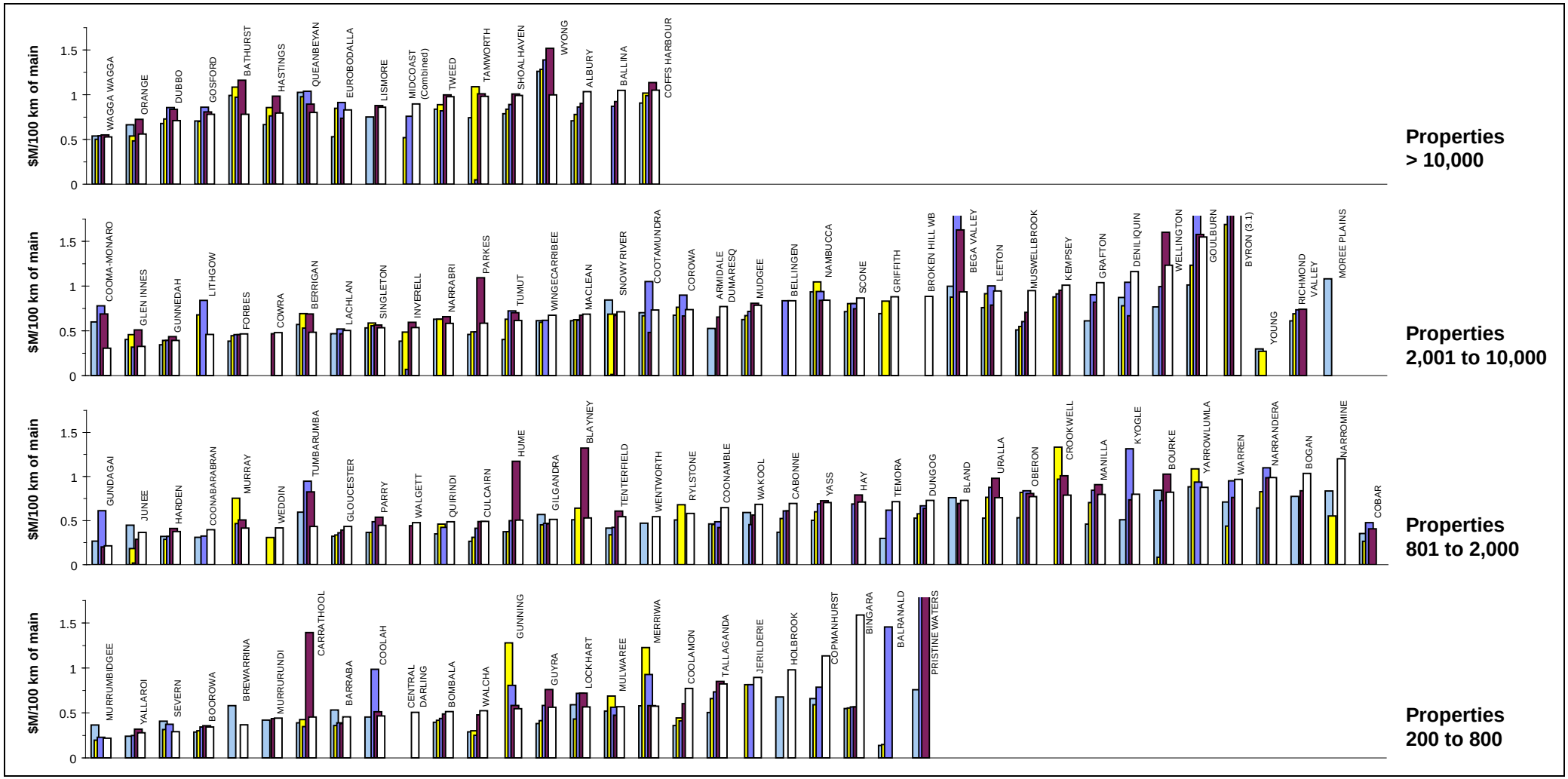
$$\frac{\text{Management Expenses (S1) + Total Operation and Maintenance Expenses (S2)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the 1999/00 sewerage operating cost (OMA - operation, maintenance and administration cost) per connected property for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewerage operating cost for the 37 councils shown ranges from about ***$90 to $370*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The 1999/00 Statewide median sewerage operating cost is $220 per connected property (refer to Table 2 – percentage of connected property basis).
3. For general notes see page 43.

106 Operating (OMA) Cost per 100 km of main

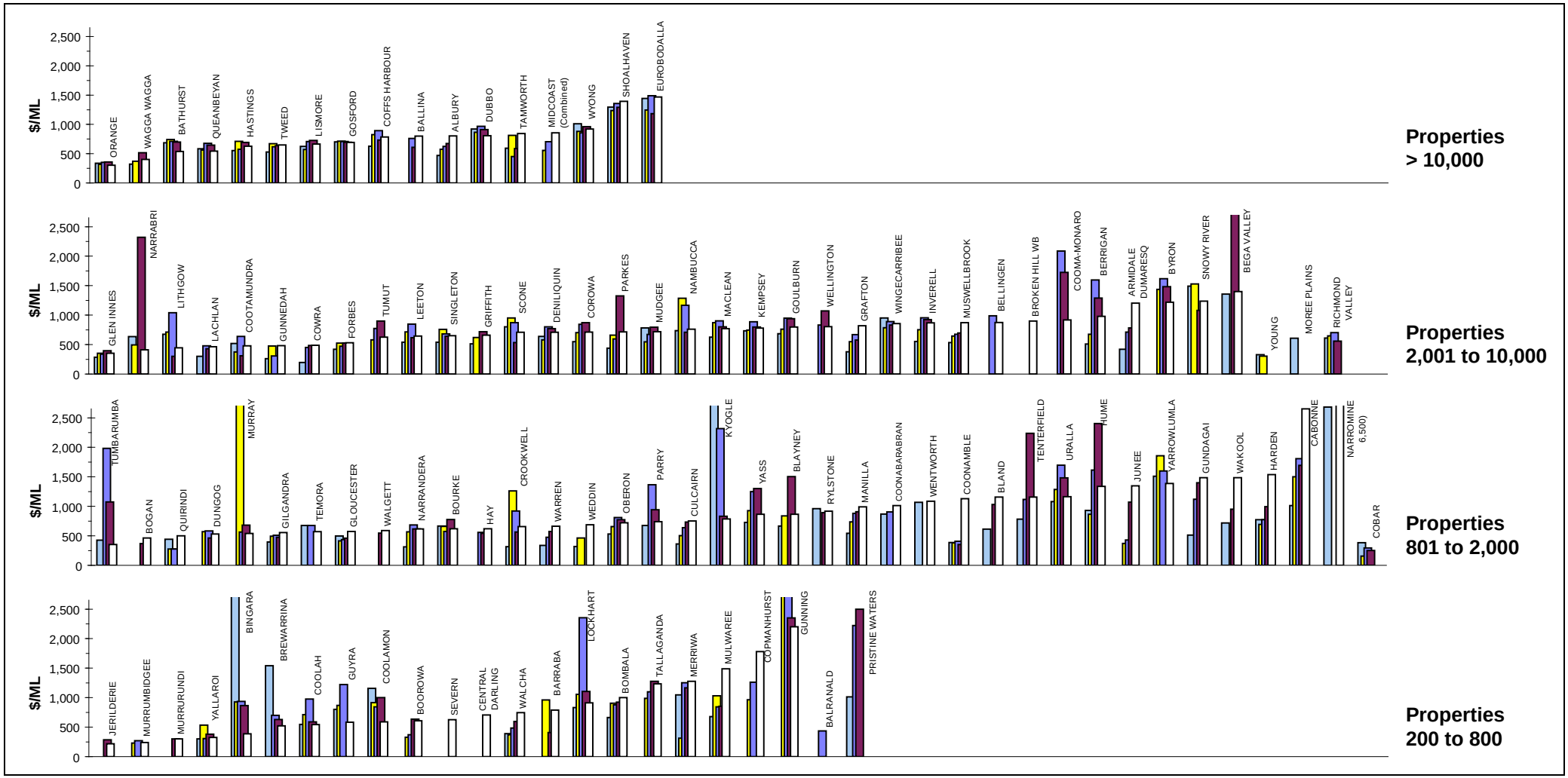


Parameter: Management Expenses (S1) + Total Operation and Maintenance Expenses (S2)
[Length of Reticulation Mains (Q10a) + Length of Rising Mains (Q10b)] x 10,000

Notes:

1. This figure shows ranked values of the sewerage operating cost (OMA - operation, maintenance and administration) per 100 km of main for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewerage operating costs for the 34 councils shown ***range*** from about ***$300,000 to $3.1M*** per 100 km of main. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median sewerage operating cost is $820,000 per 100 km of sewer main (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.

107 Operating (OMA) Cost per ML treated

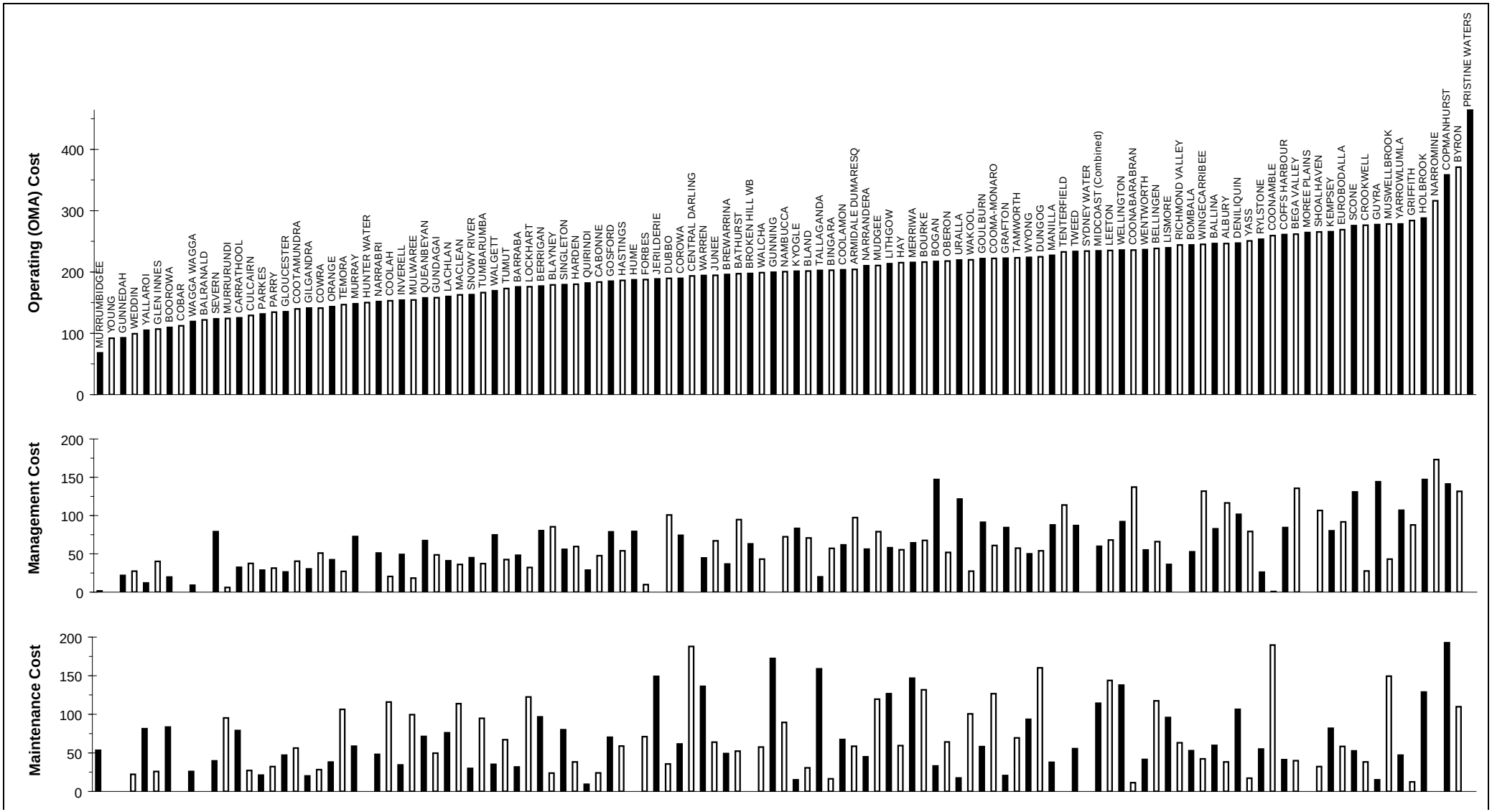


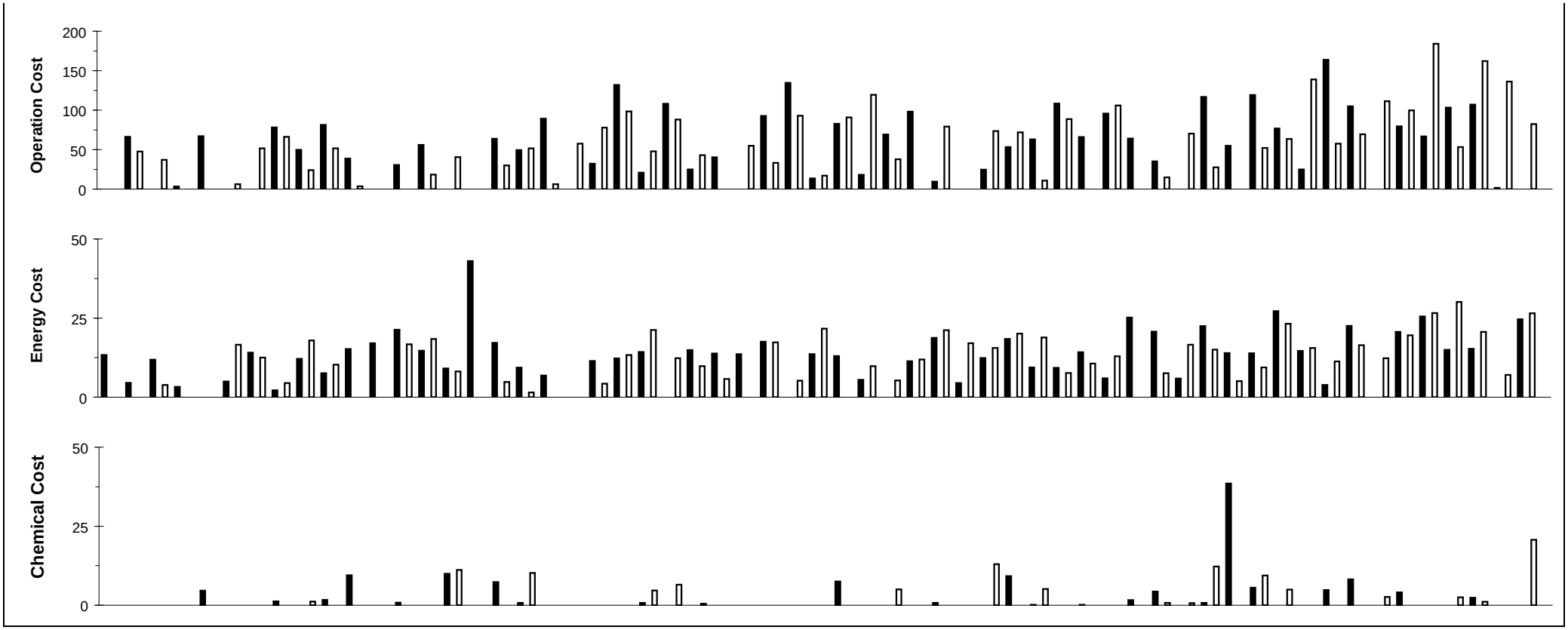
Parameter: [Management Expenses (S1) + Total Operation and Maintenance Expenses (S2)] x 1000 / Volume of Sewage Receiving Secondary Treatment (Q41c)

1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the sewerage operating cost (OMA - operation, maintenance and administration) per ML of sewage treated for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewerage operating costs for the 34 councils shown ***range*** from about ***$350 to $1,400*** per ML. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median sewerage operating cost is $790 per ML of sewage treated (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.


Operating (OMA) Cost
0
100
200
300
400
MURRUMBIDGEE
YOUNG
GUNNEDAH
WEDDIN
YALLAROI
GLEN INNES
BOOROWA
COBAR
WAGGA WAGGA
BALRANALD
SEVERN
MURRURUNDI
CARRATHOOL
CULCAIRN
PARKES
PARRY
GLOUCESTER
COOTAMUNDRA
GILGANDRA
COWRA
ORANGE
TEMORA
MURRAY
HUNTER WATER
NARRABRI
COOLAH
INVERELL
MULWAREE
QUEANBEYAN
GUNDAGAI
LACHLAN
MACLEAN
SNOWY RIVER
TUMBARUMBA
WALGETT
TUMUT
BARRABA
LOCKHART
BERRIGAN
BLAYNEY
SINGLETON
HARDEN
QUIRINDI
CABONNE
GOSFORD
HASTINGS
HUME
FORBES
JERILDERIE
DUBBO
COROWA
CENTRAL DARLING
WARREN
JUNEE
BREWARRINA
BATHURST
BROKEN HILL WB
WALCHA
GUNNING
NAMBUCCA
KYOGLE
BLAND
TALLAGANDA
BINGARA
COOLAMON
ARMIDALE DUMARESQ
NARRANDERA
MUDGEE
LITHGOW
HAY
MERRIWA
BOURKE
BOGAN
OBERON
URALLA
WAKOOL
GOULBURN
COOMA-MONARO
GRAFTON
TAMWORTH
WYONG
DUNGOG
MANILLA
TENTERFIELD
TWEED
SYDNEY WATER
MIDCOAST (Combined)
LEETON
WELLINGTON
COONABARABRAN
WENTWORTH
BELLINGEN
LISMORE
RICHMOND VALLEY
BOMBALA
WINGECARRIBEE
BALLINA
ALBURY
DENILIQUIN
YASS
RYLSTONE
COONAMBLE
COFFS HARBOUR
BEGA VALLEY
MOREE PLAINS
SHOALHAVEN
KEMPSEY
EUROBODALLA
SCONE
CROOKWELL
GUYRA
MUSWELLBROOK
YARROWLUMLA
GRIFFITH
HOLBROOK
NARROMINE
COPMANHURST
BYRON
PRISTINE WATERS
Management Cost
0
50
100
150
200
Maintenance Cost
0
50
100
150
200



Parameter: $\frac{\text{Total Operation and Maintenance Expenses (S1 + S2)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Management Expenses (S1)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Total Maintenance Costs [Mains (S2b) + Pumping Stations (S2e) + Treatment Works (S2k) + Other (S2m) + Effluent Management (S2i) + Biosolids Management (S2j)]}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Total Operation Costs [Mains (S2a) + Pumping Stations (S2c) + Treatment Works (S2f) + Other (S2l)]}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Energy Cost [Pumping Stations (S2d) + Treatment Works (S2h)]}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

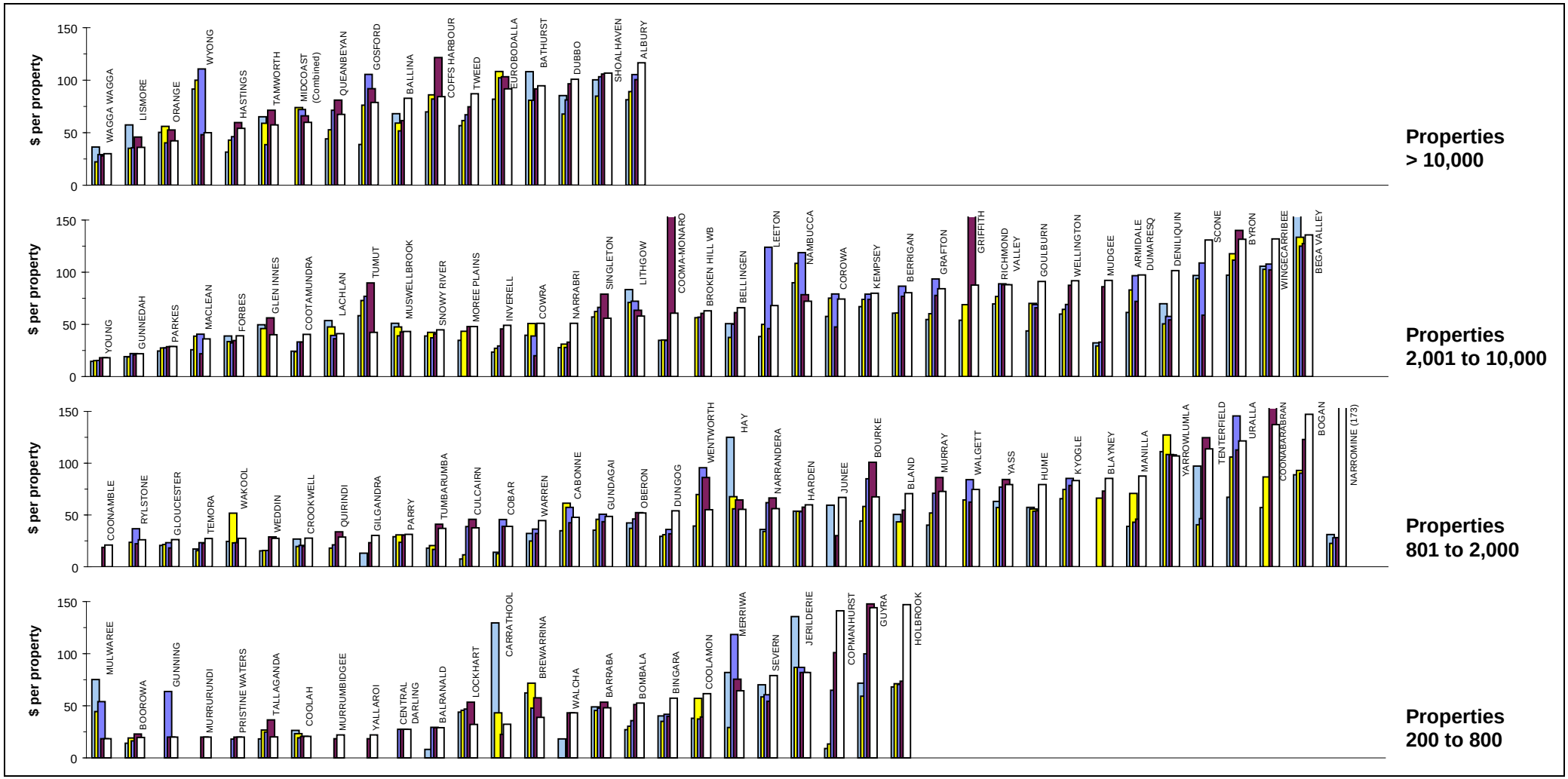
Parameter: $\frac{\text{Chemical Cost (S2g)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Notes:

1. The Statewide median sewerage operating cost (OMA – operation, maintenance and administration) is $220 per connected property (refer to Table 2 – percentage of connected properties basis).
2. For general notes see page 43.

109 Management Cost per property

Sewerage



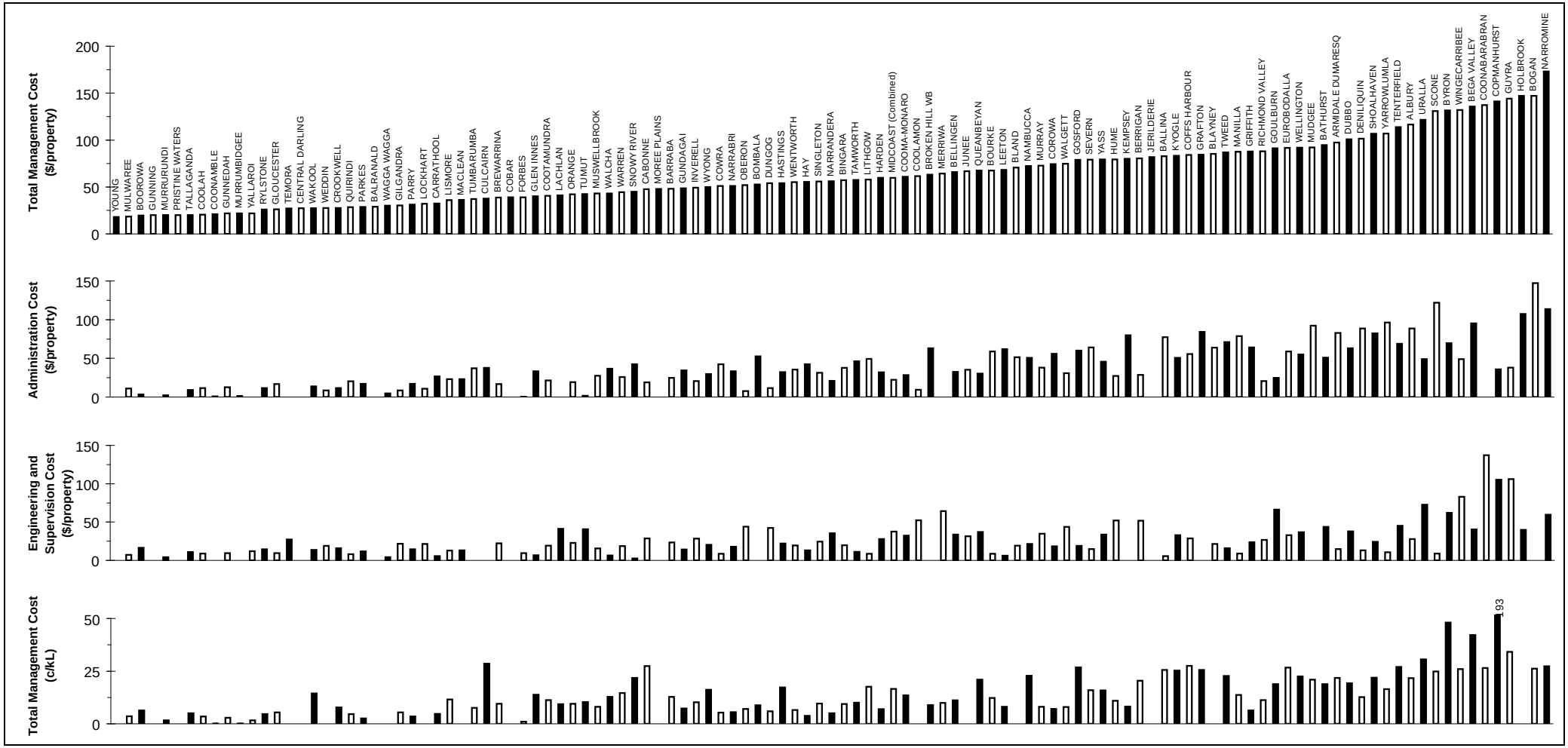
Parameter:

$$\frac{\text{Total Management Expenses (S1)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

1995/96 | 1996/97 | 1997/98 | 1998/99 | 1999/00

Notes:

1. This figure shows ranked values of the sewerage management cost for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewerage management costs for the 37 councils shown ***range*** from about ***$15 to $135*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median sewerage management cost is $70 per connected property (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.



Parameter:
$$\frac{\text{Total Management Expenses (S1)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

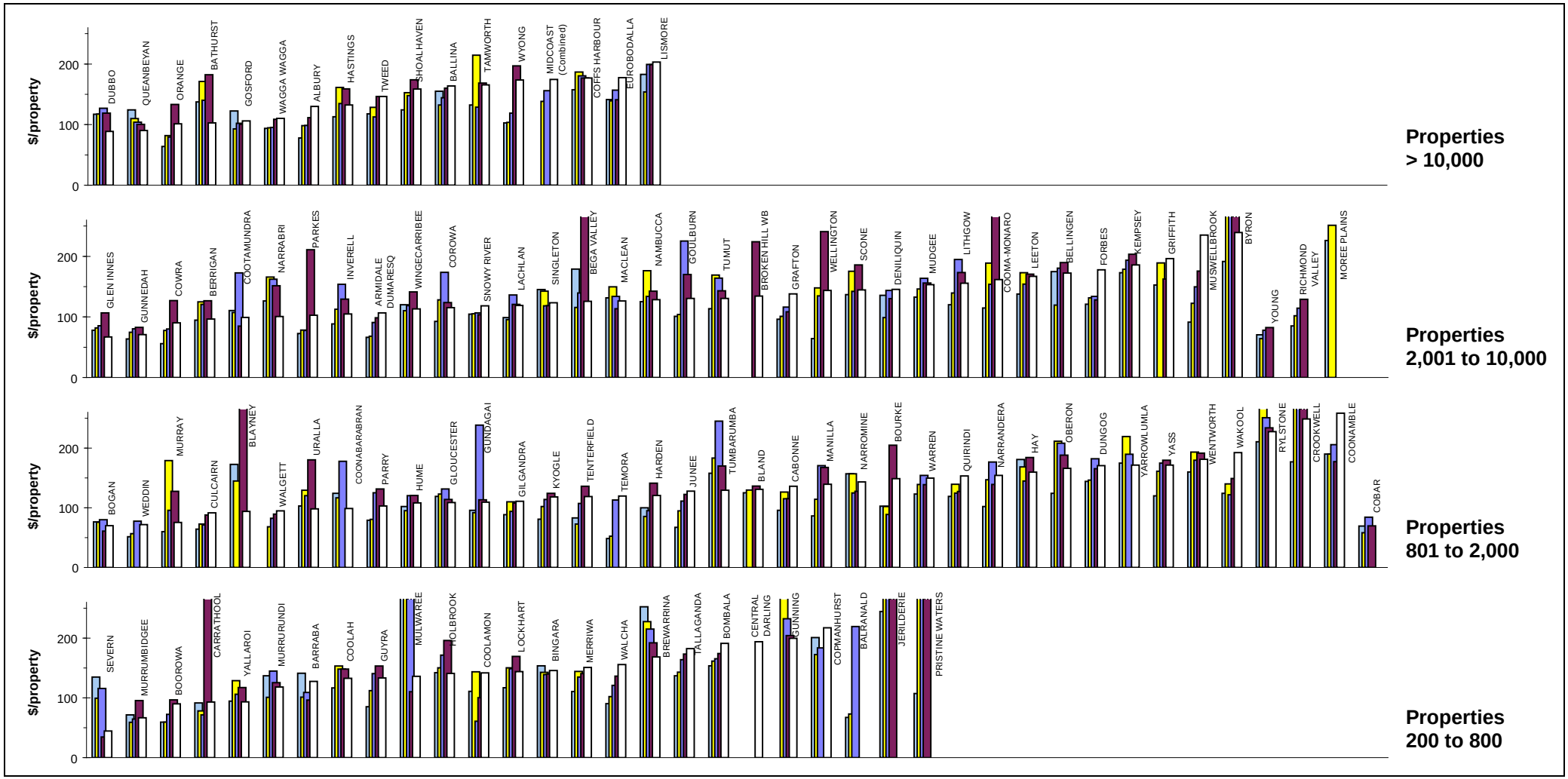
Parameter:
$$\frac{\text{Administration Expenses (S1a)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Parameter:
$$\frac{\text{Engineering and Supervision Expenses (S1b)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Parameter:
$$\frac{\text{Total Management Expenses (S1)}}{\text{Volume of Sewage Receiving Secondary Treatment (Q41c) x 10}}$$

Notes:

1. The Statewide sewerage management cost is $70 per connected property (refer to Table 2 – percentage of connected properties basis).
2. For general notes see page 43.



Parameter:

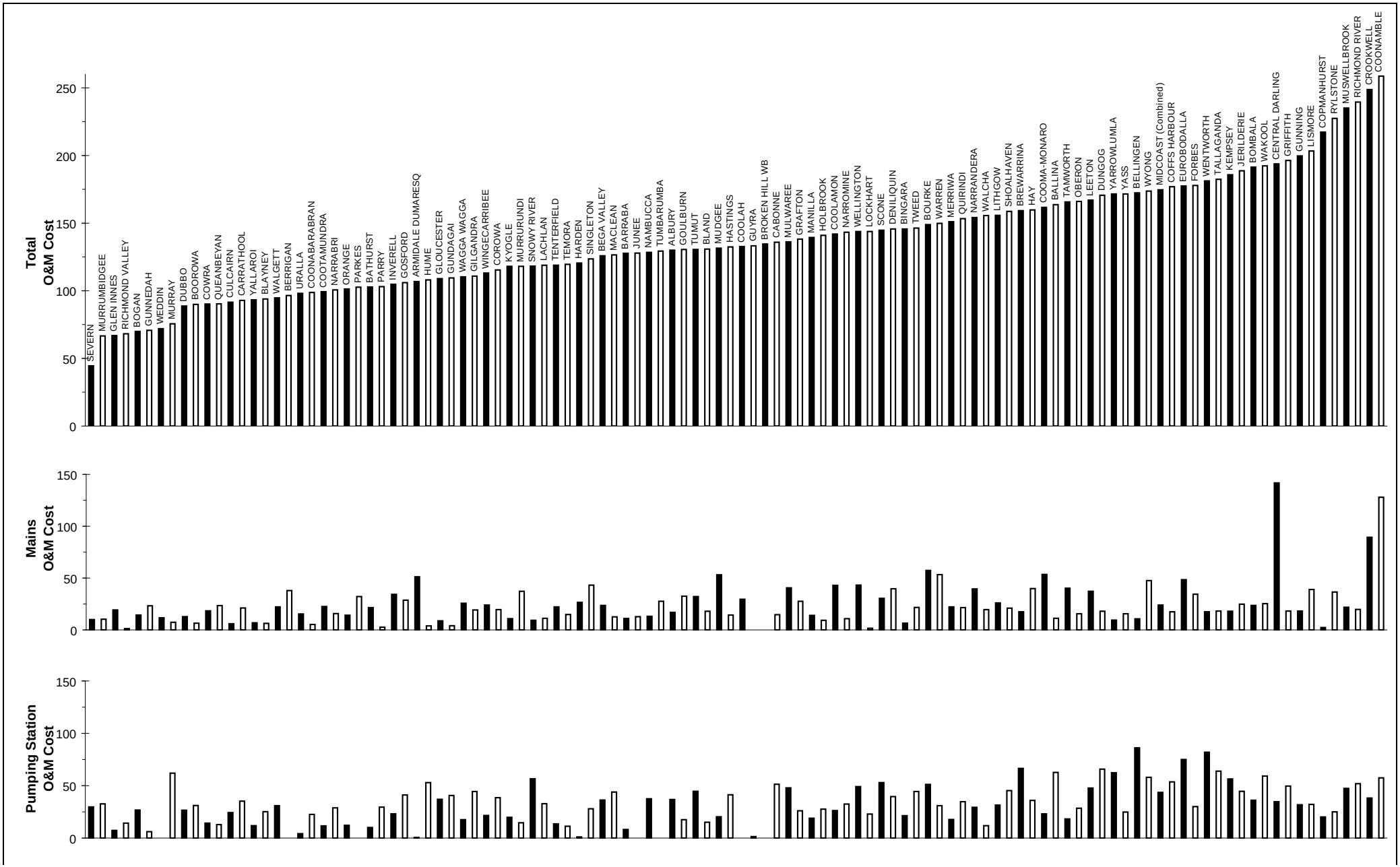
$$\frac{\text{Total Operation and Maintenance Expenses (S2)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

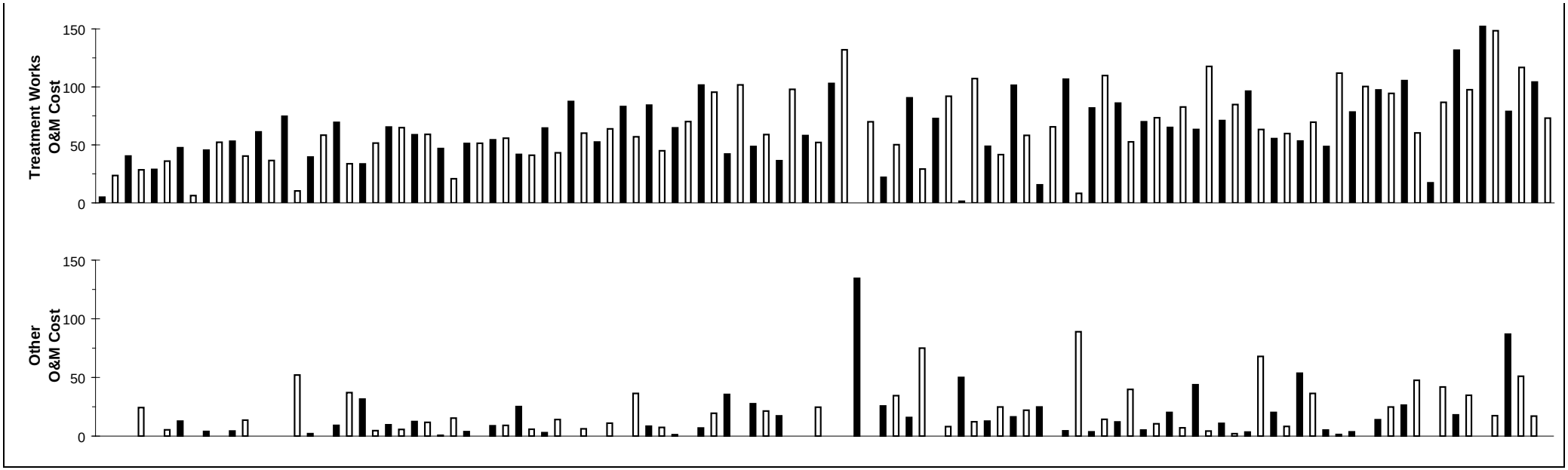
1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the sewerage operation and maintenance cost for 1999/00 for each council in groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewerage operation costs for the 34 councils shown ***range*** from about *$65* ***to $240*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. For general notes see page 43.

Blank Page


Total O&M Cost
Mains O&M Cost
Pumping Station O&M Cost
0
50
100
150
200
250
SEVERN
MURRUMBIDGEE
GLEN INNES
RICHMOND VALLEY
BOGAN
GUNNEDAH
WEDDIN
MURRAY
DUBBO
BOOROWA
COWRA
QUEANBEYAN
CULCAIRN
CARRATHOOL
YALLAROI
BLAYNEY
WALGETT
BERRIGAN
URALLA
COONABARABRAN
COOTAMUNDRA
NARRABRI
ORANGE
PARKES
BATHURST
PARRY
INVERELL
GOSFORD
ARMIDALE DUMARESQ
HUME
GLOUCESTER
GUNDAGAI
WAGGA WAGGA
GILGANDRA
WINGECARRIBEE
COROWA
KYOGLE
MURRURUNDI
SNOWY RIVER
LACHLAN
TENTERFIELD
TEMORA
HARDEN
SINGLETON
BEGA VALLEY
MACLEAN
BARRABA
JUNEE
NAMBUCCA
TUMBARUMBA
ALBURY
GOULBURN
TUMUT
BLAND
MUDGEE
HASTINGS
COOLAH
GUYRA
BROKEN HILL WB
CABONNE
MULWAREE
GRAFTON
MANILLA
HOLBROOK
COOLAMON
NARROMINE
WELLINGTON
LOCKHART
SCONE
DENILIQUIN
BINGARA
TWEED
BOURKE
WARREN
MERRIWA
QUIRINDI
NARRANDERA
WALCHA
LITHGOW
SHOALHAVEN
BREWARRINA
HAY
COOMA-MONARO
BALLINA
TAMWORTH
OBERON
LEETON
DUNGOG
YARROWLUMLA
YASS
BELLINGEN
WYONG
MIDCOAST (Combined)
COFFS HARBOUR
EUROBODALLA
FORBES
WENTWORTH
TALLAGANDA
KEMPSEY
JERILDERIE
BOMBALA
WAKOOL
CENTRAL DARLING
GRIFFITH
GUNNING
LISMORE
COPMANHURST
RYLSTONE
MUSWELLBROOK
RICHMOND RIVER
CROOKWELL
COONAMBLE



Parameter: $\frac{\text{Total Operations (ie. Operation and Maintenance) Expenses (S2)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Mains Operations Expenses (S2a + S2b)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Pumping Stations Operations Expenses (S2c + S2d + S2e)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

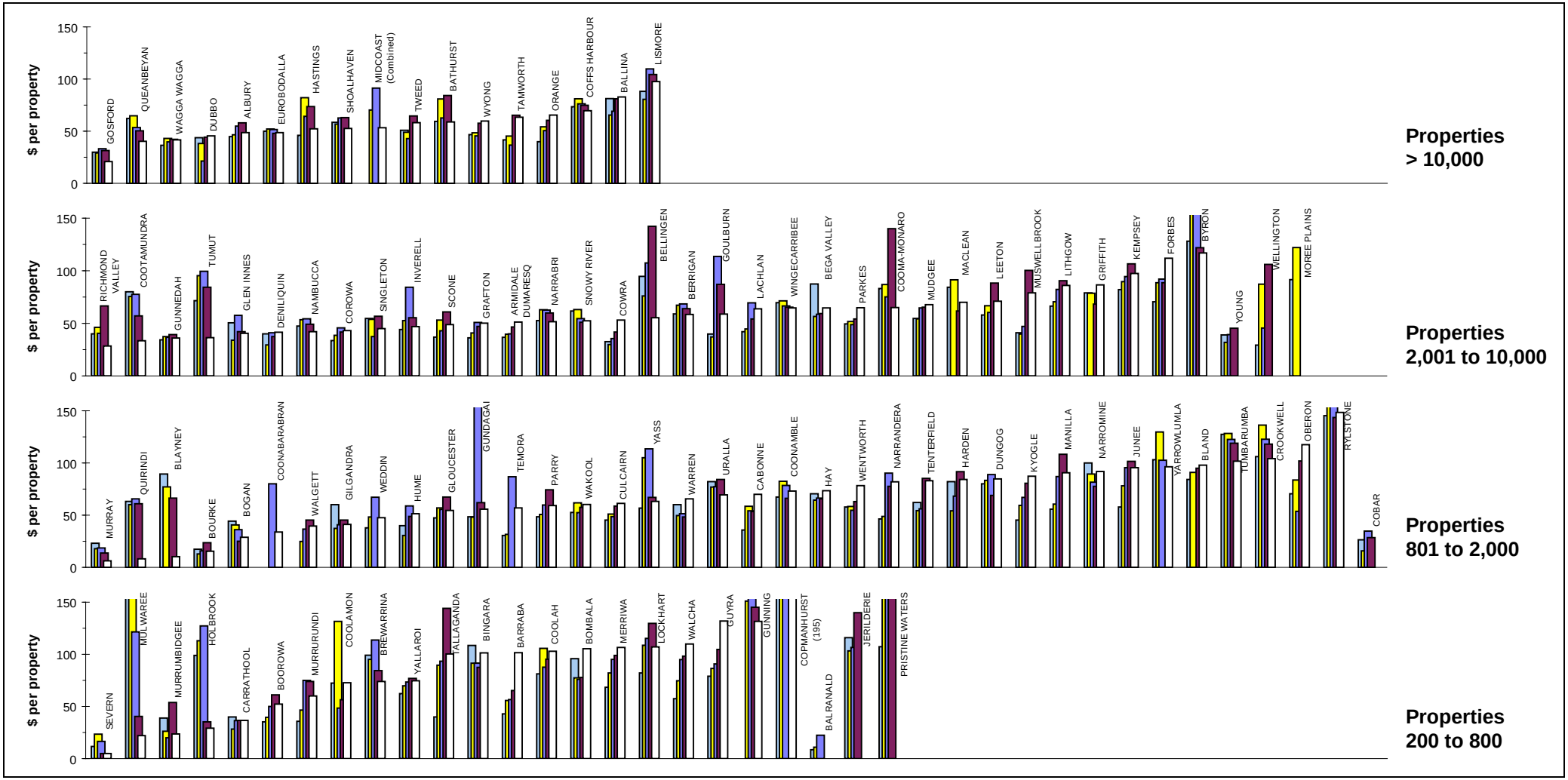
Parameter: $\frac{\text{Treatment Works Operations Expenses (S2f + S2g + S2h + S2k)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Other Operations Expenses (S2l + S2m) + Effluent Management Expenses (S2i) + Biosolids Management Expenses (S2j)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q3b)] x No. of Connected Properties per Assessment}}$

Note:

1. For general notes see page 43.

113 Treatment Operation and Maintenance Cost



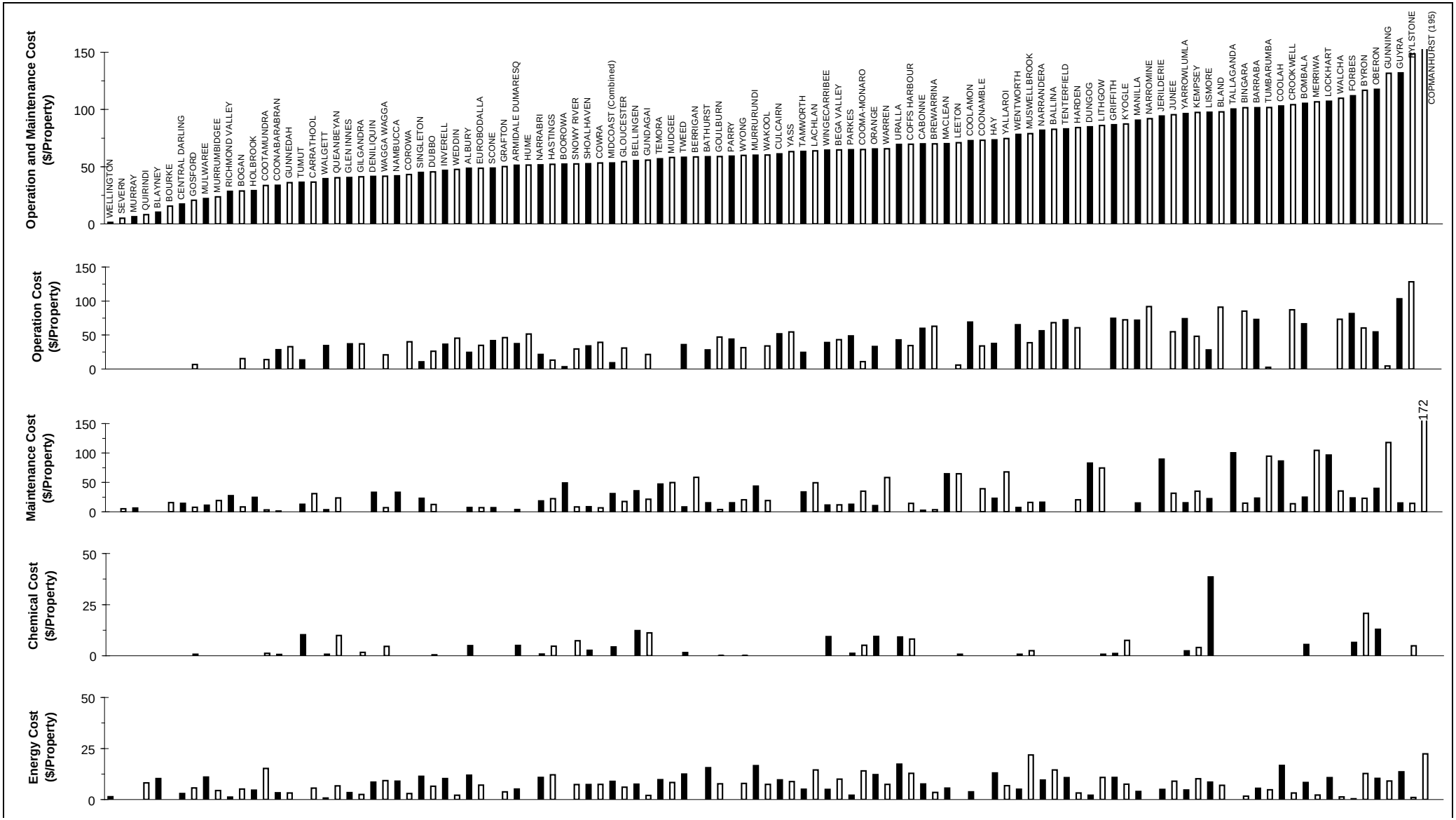
Parameter: Treatment Works Operation Expenses (S2f) + Chemical Cost (S2g) + Energy Cost (S2h) + Maintenance Expenses (S2k) / [No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

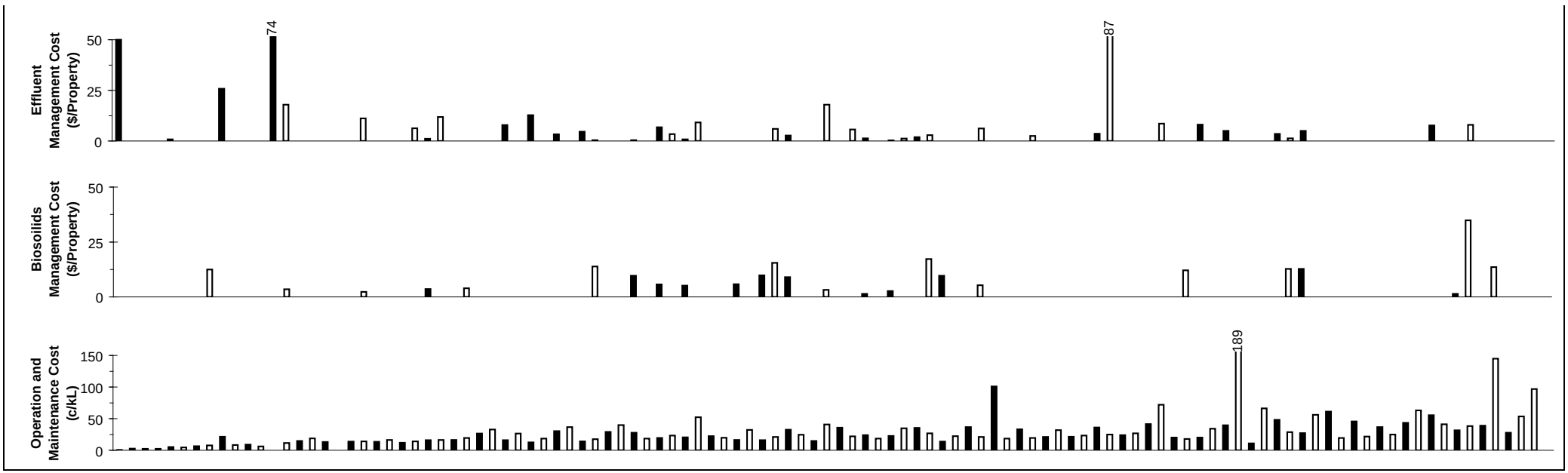
1995/96 1996/97 1997/98 1998/99 1999/00

Notes:

1. This figure shows ranked values of the sewage treatment operation and maintenance cost per property for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the sewage treatment operation and maintenance costs for the 33 councils shown ***range*** from about ***$25 to $120*** per property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median sewage treatment operation and maintenance cost is $55 per connected property (refer to Table 2 - percentage of properties basis)
3. For general notes see page 43.

Blank Page


Operation and Maintenance Cost ($/Property)
Operation Cost ($/Property)
Maintenance Cost ($/Property)
Chemical Cost ($/Property)
Energy Cost ($/Property)
150
100
50
0
25
172
WELLINGTON
SEVERN
MURRAY
QUIRINDI
BLAYNEY
BOURKE
CENTRAL DARLING
GOSFORD
MULWAREE
MURRUMBIDGEE
RICHMOND VALLEY
BOGAN
HOLBROOK
COOTAMUNDRA
COONABARABRAN
GUNNEDAH
TUMUT
CARRATHOOL
WALGETT
QUEANBEYAN
GLEN INNES
GILGANDRA
DENILIQUIN
WAGGA WAGGA
NAMBUCCA
COROWA
SINGLETON
DUBBO
INVERELL
WEDDIN
ALBURY
EUROBODALLA
SCONE
GRAFTON
ARMIDALE DUMARESQ
HUME
NARRABRI
HASTINGS
BOOROWA
SNOWY RIVER
SHOALHAVEN
COWRA
MIDCOAST (Combined)
GLOUCESTER
BELLINGEN
GUNDAGAI
TEMORA
MUDGEE
TWEED
BERRIGAN
BATHURST
GOULBURN
PARRY
WYONG
MURRURUNDI
WAKOOL
CULCAIRN
YASS
TAMWORTH
LACHLAN
WINGECARRIBEE
BEGA VALLEY
PARKES
COOMA-MONARO
ORANGE
WARREN
URALLA
COFFS HARBOUR
CABONNE
BREWARRINA
MACLEAN
LEETON
COOLAMON
COONAMBLE
HAY
YALLAROI
WENTWORTH
MUSWELLBROOK
NARRANDERA
BALLINA
TENTERFIELD
HARDEN
DUNGOG
LITHGOW
GRIFFITH
KYOGLE
MANILLA
NARROMINE
JERILDERIE
JUNEE
YARROWLUMLA
KEMPSEY
LISMORE
BLAND
TALLAGANDA
BINGARA
BARRABA
TUMBARUMBA
COOLAH
CROOKWELL
BOMBALA
MERRIWA
LOCKHART
WALCHA
FORBES
BYRON
OBERON
GUNNING
GUYRA
WILLSTONE
COPMANHURST (195)



Parameter: $\frac{\text{Treatment Expenses (S2f + S2g + S2h + S2k)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)) x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Treatment Operation Expenses (S2f)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)) x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Treatment Maintenance Expenses (S2k)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)) x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Treatment Chemical Cost (S2g)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)) x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Treatment Energy Cost (S2h)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)) x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Effluent Management Cost (S2i)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)) x No. of Connected Properties per Assessment}}$

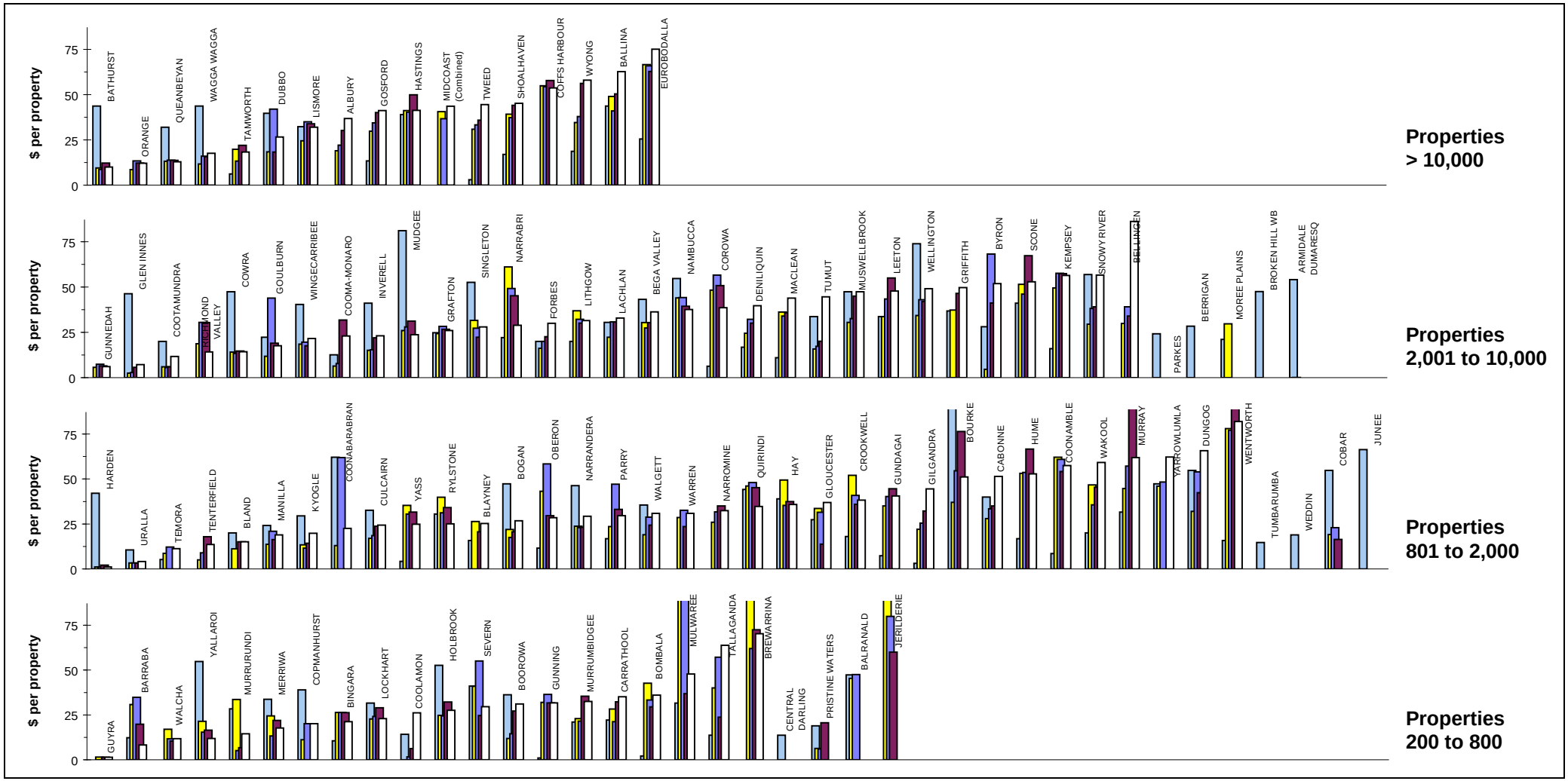
Parameter: $\frac{\text{Biosolids Management Cost (S2j)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)) x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Treatment Expenses (S2f + S2g + S2h + S2k)}}{\text{Volume of Sewage Receiving Secondary Treatment (Q41c) x 10}}$

Notes:

1. The Statewide median sewage treatment operation and maintenance cost (excluding effluent and biosolids management costs) is $55 per connected property (refer to Table 2 – percentage of connected properties basis).
2. For general notes see page 43.

115 Pumping Operation and Maintenance Cost



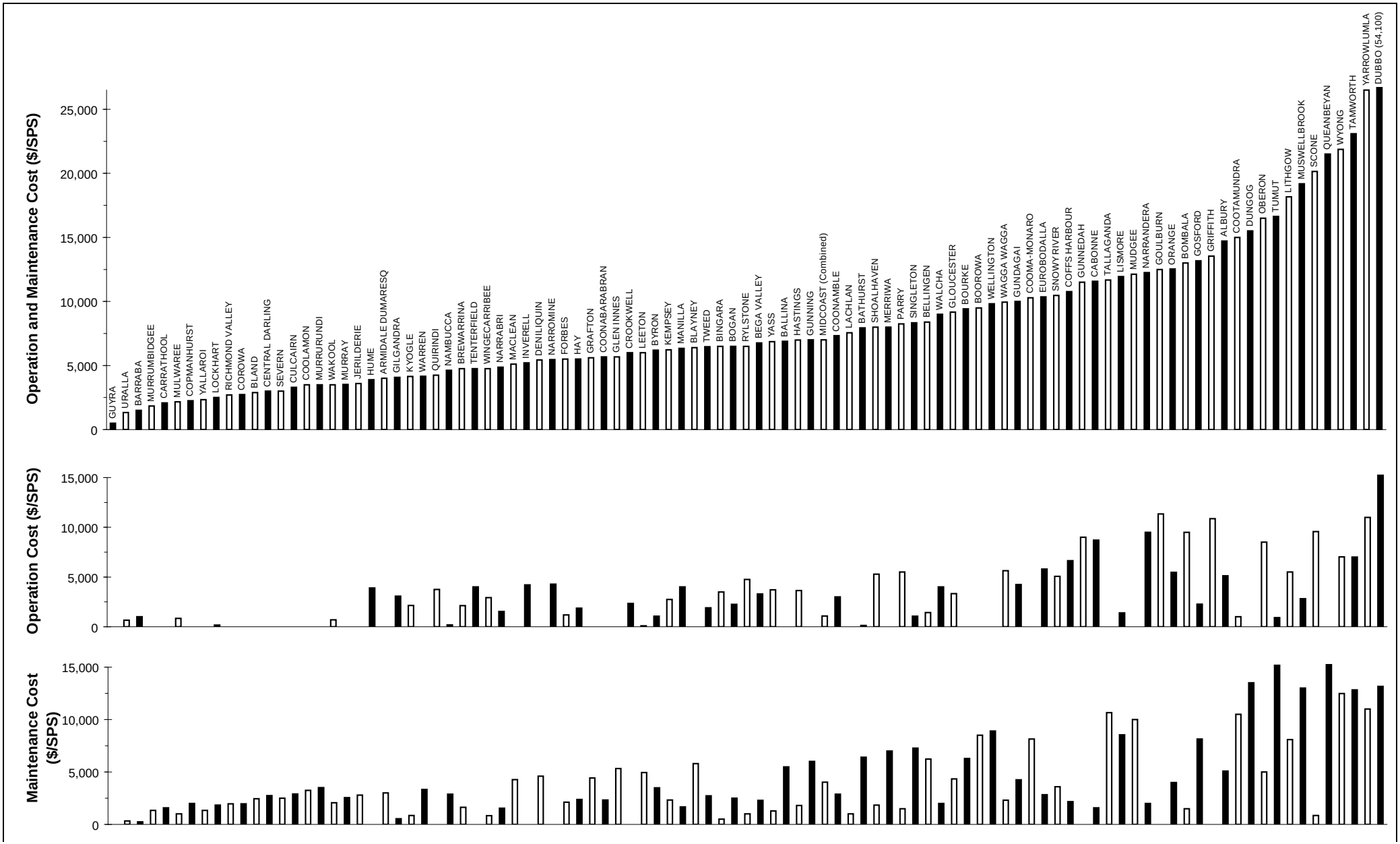
Parameter:

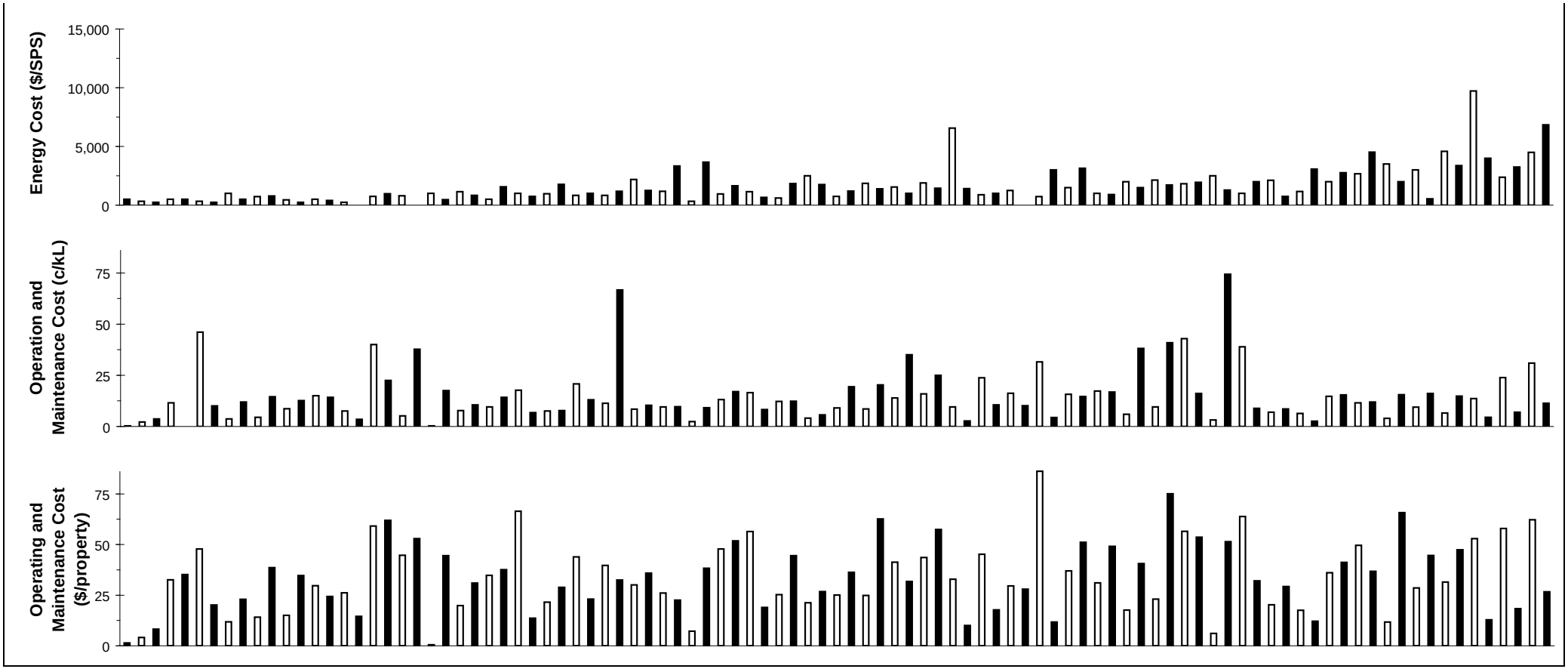
$$\frac{\text{Pumping Station Operation Cost (S2c) + Maintenance Cost (S2d) + Energy Cost (S2e)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$$

Notes:

1. This figure shows ranked values of the sewage pumping operation and maintenance cost per property for 1999/00 for each council in 4 groups based on the number of connected properties served. ***Each bar represents one council***. As an example, for the second ***graph*** (population range 2,001 to 10,000), the sewage pumping operation and maintenance costs for the 31 councils shown ***range*** from about ***$10 to $80*** per connected property. Results for the previous 4 years are also shown in Jan 2000$.
2. The Statewide median sewage pumping cost is $40 per connected property (refer to Table 2 - percentage of connected properties basis).
3. For general notes see page 43.

Blank Page


Operation and Maintenance Cost ($/SPS)
25,000
20,000
15,000
10,000
5,000
0
GUYRA
URALLA
BARRABA
MURRUMBIDGEE
CARRATHOOL
MULWAREE
COPMANHURST
YALLAROI
LOCKHART
RICHMOND VALLEY
COROWA
BLAND
CENTRAL DARLING
SEVERN
CULCAIRN
COOLAMON
MURRURUNDI
WAKOOL
MURRAY
JERILDERIE
HUME
ARMIDALE DUMARESQ
GILGANDRA
KYOGLE
WARREN
QUIRINDI
NAMBUCCA
BREWARRINA
TENTERFIELD
WINGECARRIBEE
NARRABRI
MACLEAN
INVERELL
DENILIQUIN
NARROMINE
FORBES
HAY
GRAFTON
COONABARABRAN
GLEN INNES
CROOKWELL
LEETON
BYRON
KEMPSEY
MANILLA
BLAYNEY
TWEED
BINGARA
BOGAN
RYLSTONE
BEGA VALLEY
YASS
BALLINA
HASTINGS
GUNNING
MIDCOAST (Combined)
COONAMBLE
LACHLAN
BATHURST
SHOALHAVEN
MERRIWA
PARRY
SINGLETON
BELLINGEN
WALCHA
GLOUCESTER
BOURKE
BOOROWA
WELLINGTON
WAGGA WAGGA
GUNDAGAI
COOMA-MONARO
EUROBODALLA
SNOWY RIVER
COFFS HARBOUR
GUNNEDAH
CABONNE
TALLAGANDA
LISMORE
MUDGEE
NARRANDERA
GOULBURN
ORANGE
BOMBALA
GOSFORD
GRIFFITH
ALBURY
COOTAMUNDRA
DUNGOG
OBERON
TUMUT
LITHGOW
MUSWELLBROOK
SCONE
QUEANBEYAN
WYONG
TAMWORTH
YARROWLUMLA
DUBBO (54,100)
Operation Cost ($/SPS)
15,000
10,000
5,000
0
Maintenance Cost ($/SPS)
15,000
10,000
5,000
0



Parameter: Pumping Stations Operation Expenses (S2c) + Pumping Stations Energy Cost (S2d) + Pumping Stations Maintenance Expenses (S2e) / No. of Pumping Stations (Q9a)

Parameter: Pumping Stations Operation Expenses (S2c) / No. of Pumping Stations (Q9a)

Parameter: Pumping Stations Maintenance Expenses (S2e) / No. of Pumping Stations (Q9a)

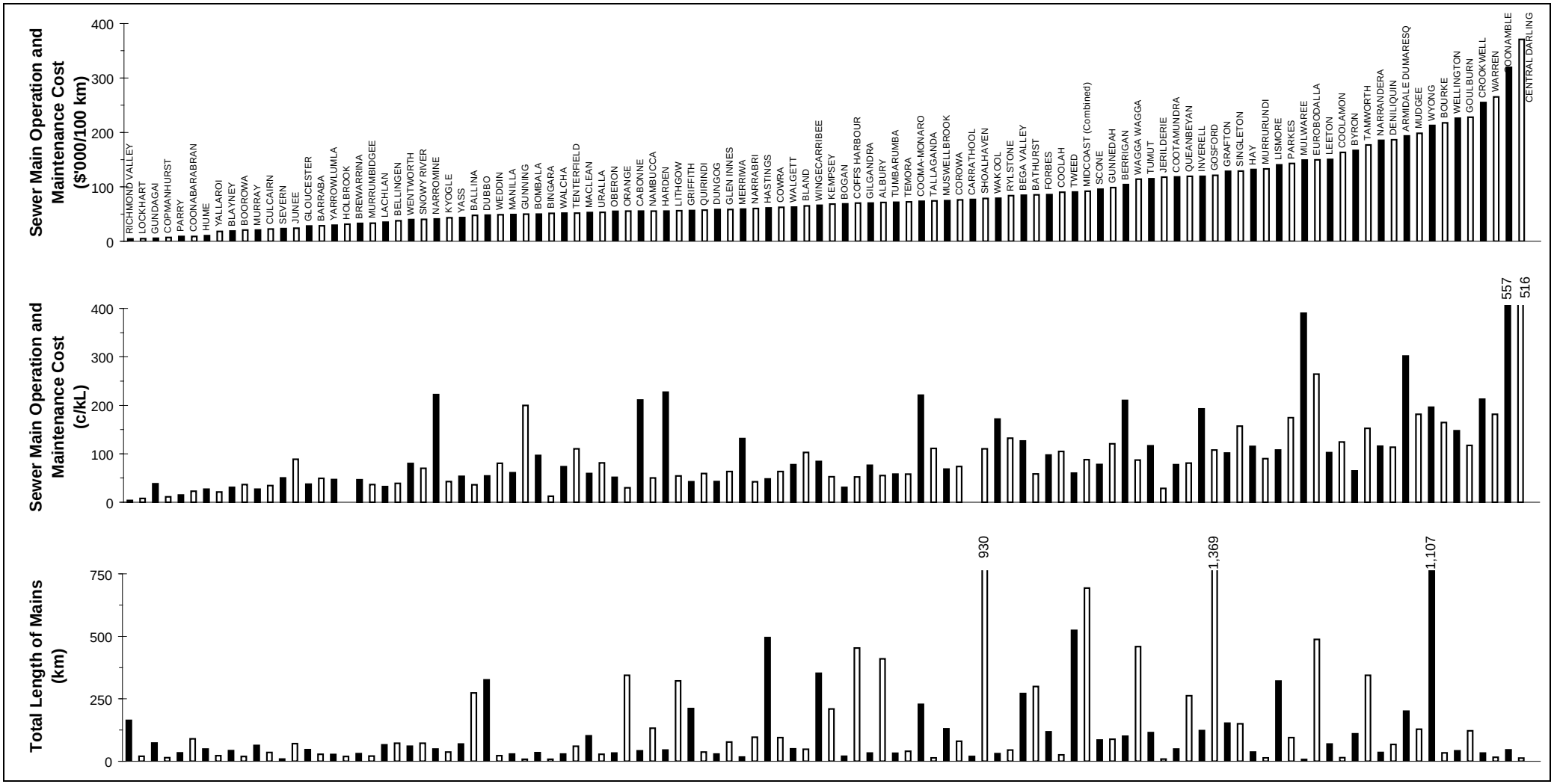
Parameter: Pumping Stations Energy Cost (S2d) / No. of Pumping Stations (Q9a)

Parameter: Pumping Stations Operation Expenses (S2c) + Pumping Stations Energy Cost (S2d) + Pumping Stations Maintenance Expenses (S2e) / Volume of Sewage Receiving Secondary Treatment (Q41c) x 10

Parameter: Pumping Stations Operation Expenses (S2c) + Pumping Stations Energy Cost (S2d) + Pumping Stations Maintenance Expenses (S2e) / [No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment

Notes:

1. The Statewide median sewage pumping operation and maintenance cost (including energy costs) is $40 per connected property (refer to Table 2 – percentage of connected properties basis).
2. For general notes see page 43.



Parameter: $\frac{\text{Sewer Main Operation Expenses (S2a) + Sewer Main Maintenance Cost (S2b)}}{\text{Length of Main (Q10a + Q10b) x 10}}$

Parameter: $\frac{\text{Sewer Main Operation Expenses (S2a) + Sewer Main Maintenance Cost (S2b)}}{\text{Total Volume of Sewage Treated (Q39) x 10}}$

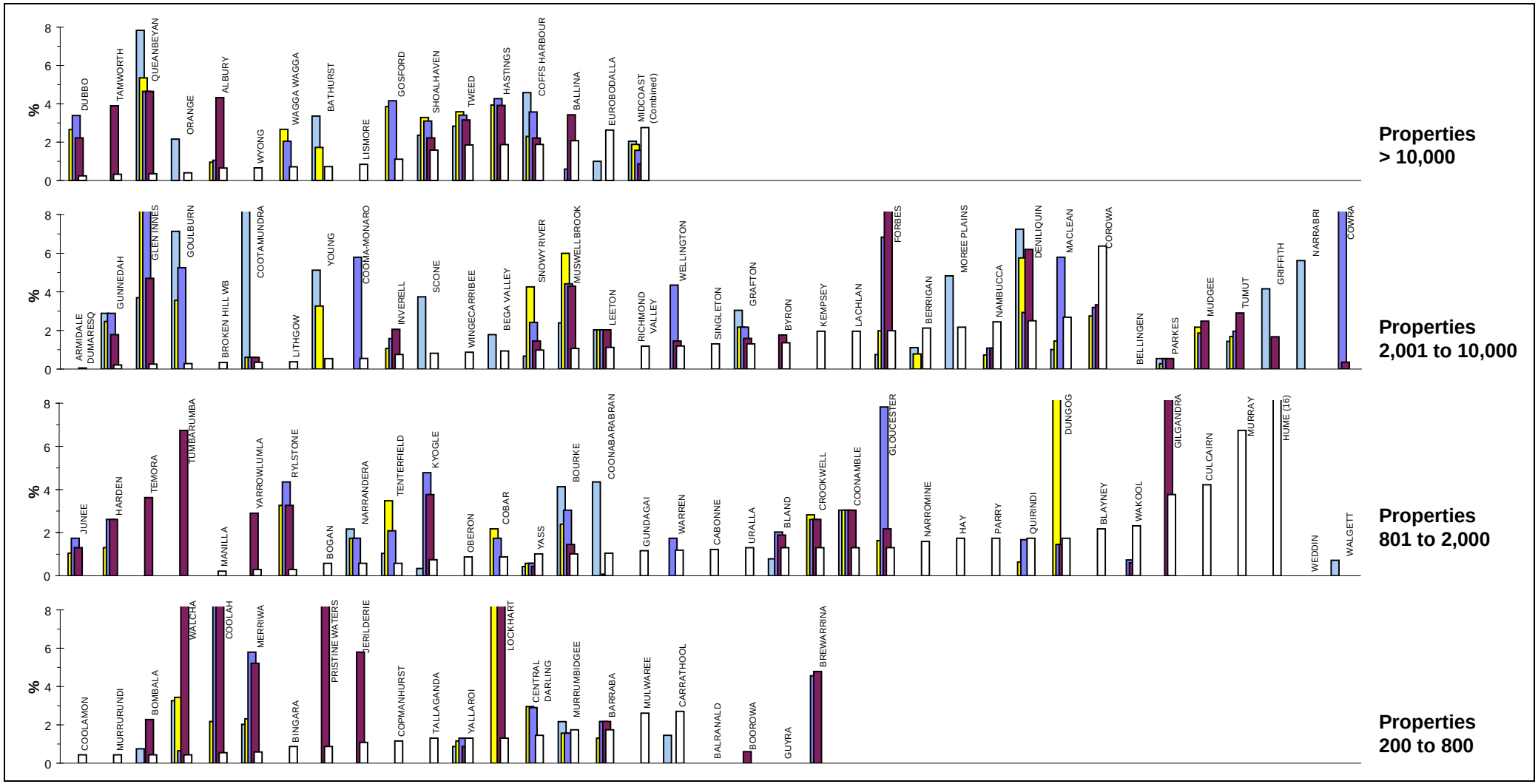
Parameter: Total Length of Main (Q10a + Q10b)

Notes

1. The Statewide median sewer main operation and maintenance cost is $25 per connected property (refer to Table 2 – percentage of connected properties basis).
2. For general notes see page 43.

118 Total Days Lost

Sewerage



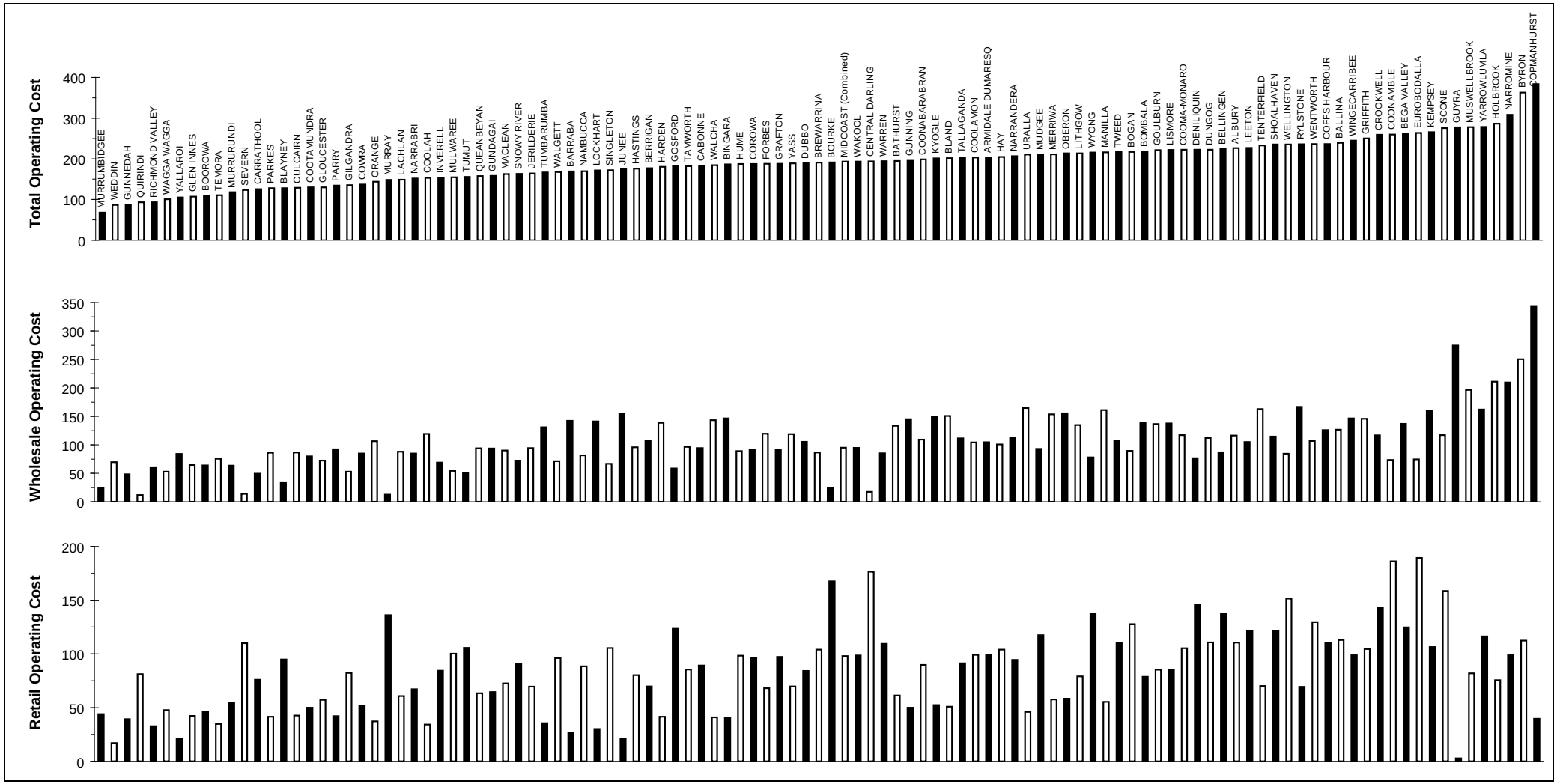
Parameter:

$$\frac{\text{Total Numbers of Days Lost in Year (Q30)} \times 100}{\text{Equivalent full time employees (Q29)} \times \text{available number of working days in year (ie. 230)}}$$

Notes:

1. This figure shows ranked values of the 1999/00 percentage of days lost for each council in 4 groups based on the number of connected properties served. ***Each white bar represents one council***. As an example, for the property range from 2,001 to 10,000, the percentage of days lost for the 30 councils shown ***range*** from about ***0 to 6%***. Results for the previous 4 years are also shown.
2. The Statewide median the percentage of days lost is 1.1% (refer to Table 1 - percentage of connected properties basis).
3. For general notes see page 43.

119 Retail/Wholesale Operating Cost ($/property)



Parameter: $\frac{\text{Total Operation and Maintenance Expenses (S1 + S2)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Treatment Operation and Maintenance Expenses (W2f + W2g + W2h + W2i + W2j + W2k) + Pro-rata Share of Management Expenses (S1)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Parameter: $\frac{\text{Mains O\&M (S2a +S2b) + Pumping Station O\&M (S2c +S2d + S2e) + Pro-rata Share of Management Expenses (S1)}}{\text{[No. of Residential Assessments (Q4a) + No. of Non-Residential Assessments (Q4b)] x No. of Connected Properties per Assessment}}$

Note:

1. For general notes see page 43.

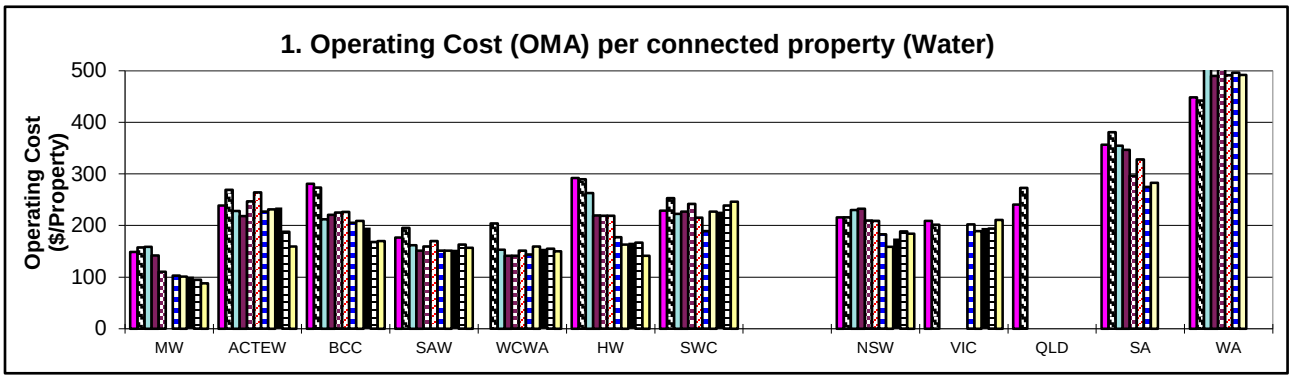
APPENDIX A

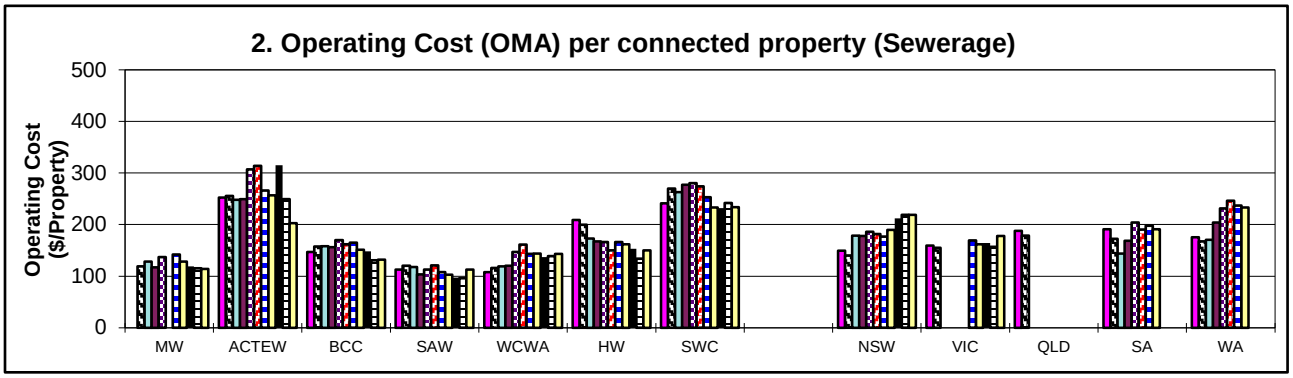
ARMCANZ PERFORMANCE COMPARISONS 1989/90 - 1999/00

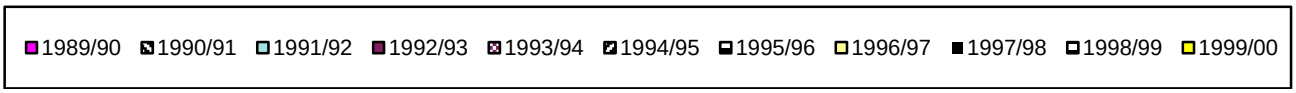
(Refer also to page xi)

Blank Page

ARMCANZ PERFORMANCE COMPARISONS 1989/90 - 1999/00
Water Supply and Sewerage Services







Metropolitan Water Utilities		Country Water Utilities	
MW	Melbourne Water*	NSW	NSW Country
ACTEW	ACT Electricity and Water	VIC	VIC Country
BCC	Brisbane City Council	QLD	QLD Country
SAW	SA Water Corporation (Adelaide)	SA	SA Country
WCWA	WA Water Corporation (Perth)	WA	WA Country
HW	Hunter Water		
SWC	Sydney Water Corporation		

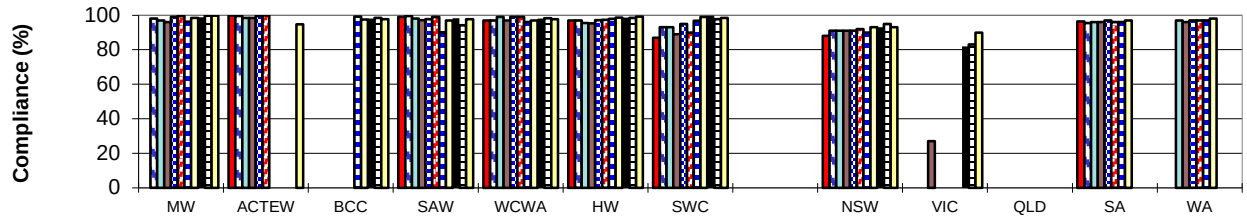
** Melbourne Water was disaggregated into 4 constituent utilities in 1994. Melbourne Water results shown for 1994/95 to 1999/00 have been aggregated from the reported results of the constituent utilities.*

NOTES:

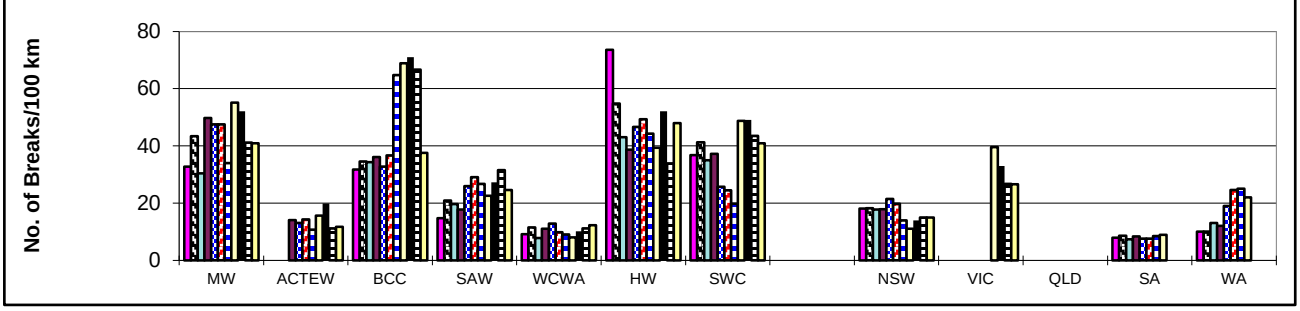
1. Operating Cost (OMA) is the Operation, Maintenance and Administration Cost
2. Results for the metropolitan water utilities for 1994/95 to 1999/00 obtained from "The Australian Urban Water Industry - WSAA Facts 2000", Water Services Association of Australia, 2000
3. Results for Victoria for 1996/97 to 1999/00 obtained from *"Urban Water Review 1999/00"*, Victorian Water Industry Association, 2000.
4. Results for SA Country and WA Country for 1991/92 to 1996/97 obtained from *"Government Trading Enterprises Performance Indicators 1991/92 to 1996/97"*, Steering Committee on National Performance Monitoring of Government Trading Enterprises, April 1998.

ARMCANZ PERFORMANCE COMPARISONS 1989/90 - 1999/00
Water Supply and Sewerage Services

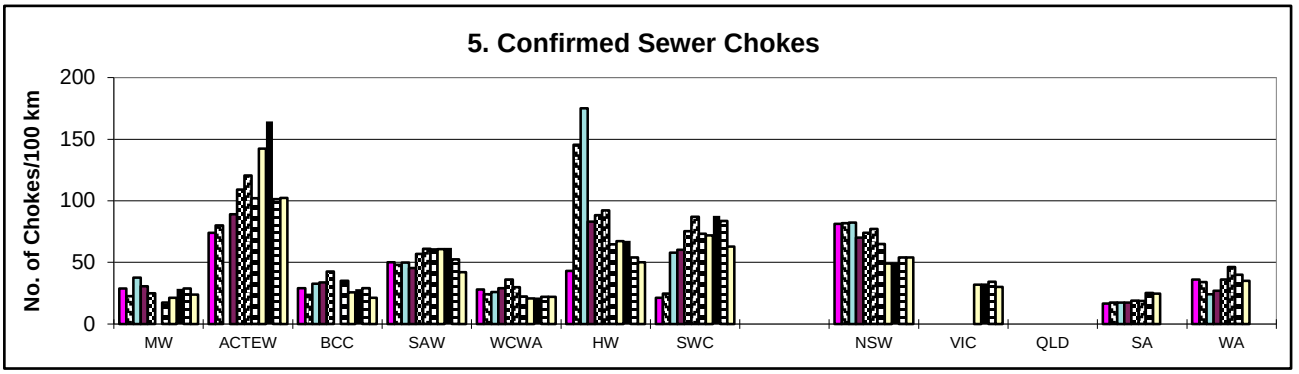
3. Compliance with 1987 NHMRC/ARMCANZ Microbiological Drinking Water Quality Guidelines



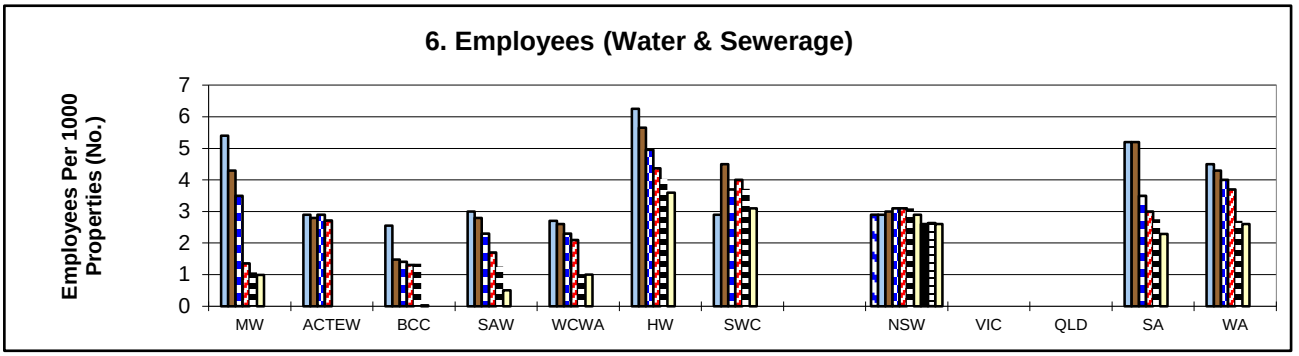
4. Water Main Breaks

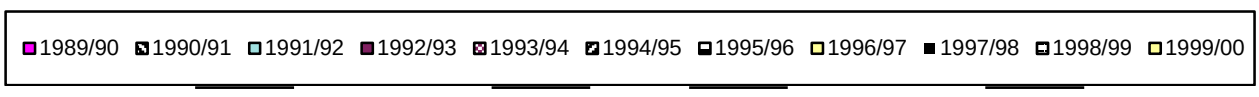


5. Confirmed Sewer Chokes



6. Employees (Water & Sewerage)

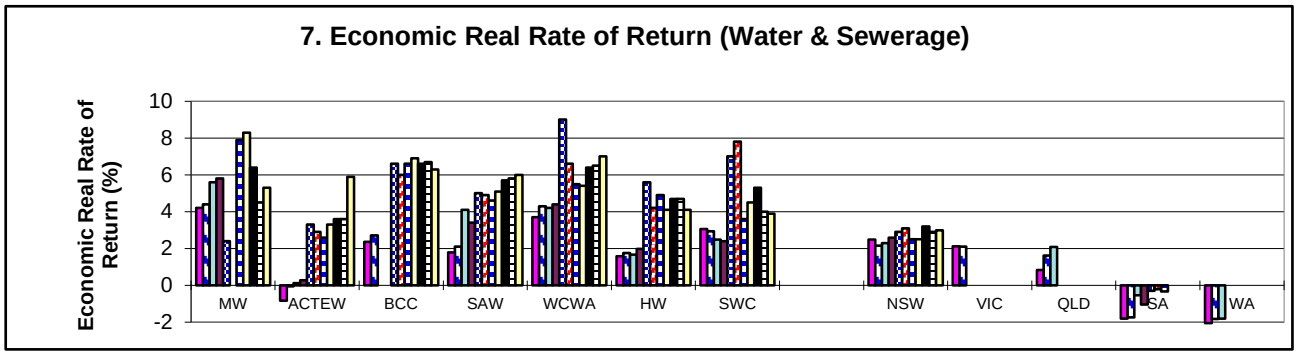


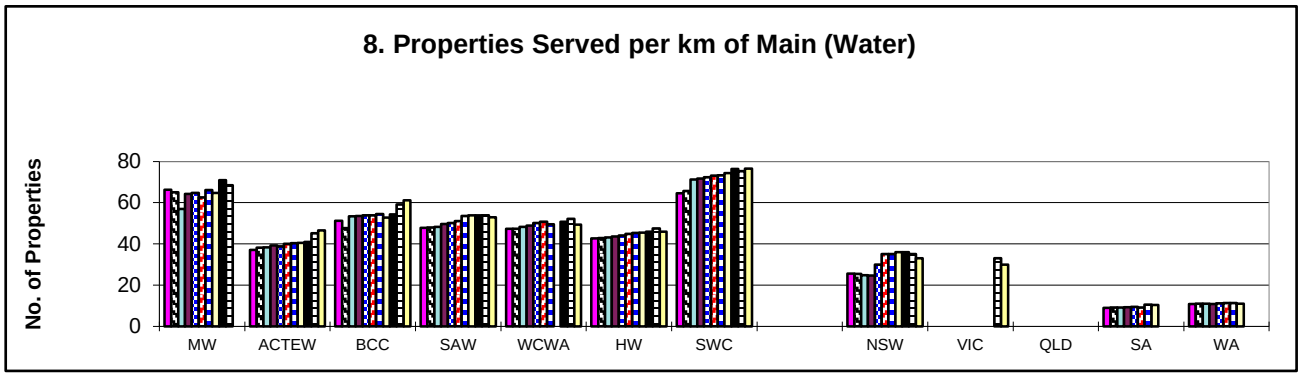


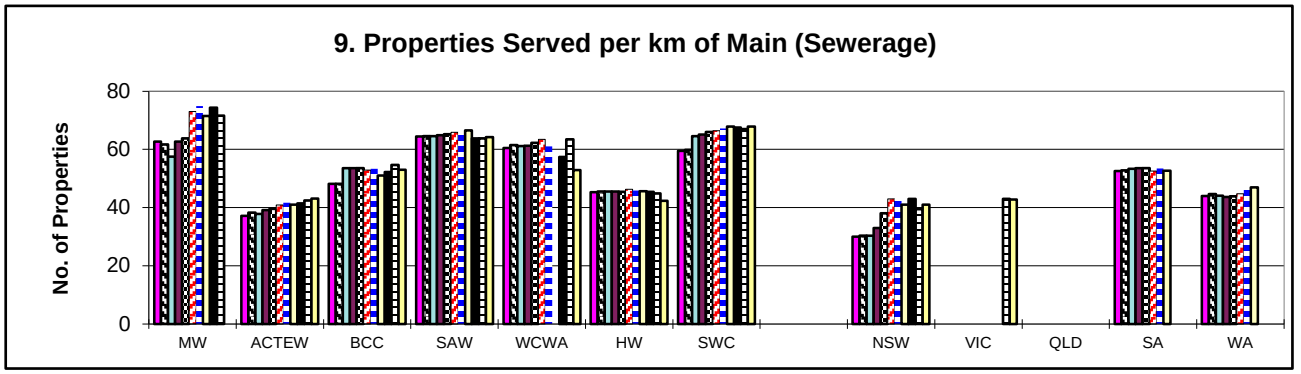
NOTE Limited data for the above parameters is available for country water utilities in the eastern states other than NSW. (In Queensland, many councils do not disinfect their drinking water supplies.)

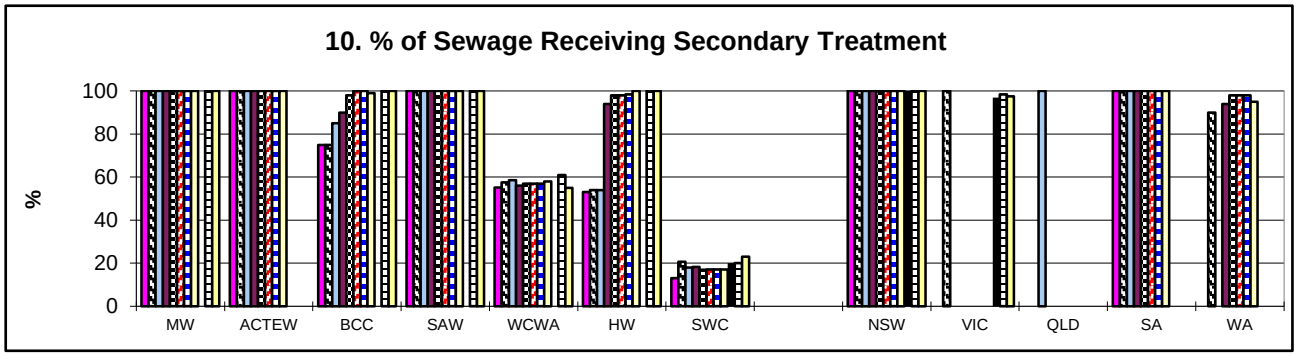
[+] *The data for Sydney Water is reported on the basis of the 1980 Drinking Water Quality Guidelines*

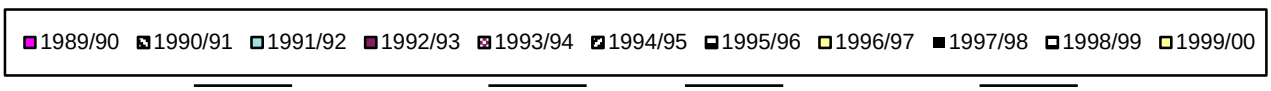
ARMCANZ PERFORMANCE COMPARISONS 1989/90 - 1999/00
Water Supply and Sewerage Services











Blank Page

APPENDIX B

NSW ANNUAL WATER SUPPLY AND SEWERAGE REPORTING FORMS

Blank Page

ANNUAL WATER REPORT FOR 1999/00

COUNCIL

WATER SUPPLY BUSINESS

POPULATION AND DWELLINGS

1 **Population Served:** Permanent[3]: persons Peak: persons

2 **Residential Properties Connected:** No. of Single Dwellings[1]: No. No. of Multiple Dwellings[2]: No.

Average No. of Properties per Multiple Dwelling: No.

3 **Non-Residential Properties Connected:** No.

4 **Assessments:** Residential[3]: No. Non-Residential[3]: No.

5 **Premises Metered:** Residential: No. Non-Residential: No.

6 **New Residential Dwellings Connected in year:** No.

7 **Unserved Urban Premises** (in Council Area)**:** Premises: No. Population: persons

ASSETS EMPLOYED

8 **Water Supply Assets:**

		Capacity			*Capacity*			*Capacity*
Service Reservoirs:	No.	ML	Dams:	No.	ML	Treatment Works:	No.	ML/d
Pumping Stations:	No.	ML/d	Weirs:	No.	ML	Bores:	No.	ML/d

9 **Delivery Capacity into Reticulation:** Total: ML/d

10 **Length of Mains:** Trunk Mains: km Reticulation: km Total Length[3]: km

11 **Rehabilitations This Year:** Length of Mains Rehabilitated: km Service Connections Rehabilitated: No.

WATER CONSUMPTION

12 **Annual Consumption:** (Potable supply only. For raw water component see Item 14)

Residential[3]:	ML
Commercial:	ML
Industrial:	ML
Institutional:	ML
Bulk Sales:	ML
Public Uses:	ML
Unaccounted for Water (including Estimated Leakage)[3,4]:	ML
(Estimated Leakage[3,4]:)	ML
Total Water Consumption[3]:	ML

13 **Peak Consumption:** Peak Day: ML/d Peak Week: ML/d

14 **Raw Water Component in a Dual Supply System:** ML

WATER RESOURCES

15 **Source Usage & Yield:**

	SOURCE USAGE		YIELD	
Council's Off-stream Dams:	ML	*(The yield is the annual demand that could be met for the critical drought. The yield is not the present*		
Council's On-stream Dams:	ML			
Run-of-River Pumping (without off-stream dam):	ML			
River Release (from DLWC dam):	ML	Surface Water:	ML/a	
Groundwater:	ML	Ground Water:	ML/a	
Recycled Water:	ML	Recycled Water:	ML/a	
Bulk Purchases:	ML	Bulk Purchases:	ML/a	
Total Water Usage:	ML	Total Yield of Sources:	ML/a	

16 **Bulk Purchases:** Source (Supply Scheme): Price: c/kL

17 **Climate** **Rainfall:** 1999/00 Rainfall: mm Average Annual Rainfall: mm

1999/00 Temperatures: Average Maximum: °C Average Minimum: °C

FINANCIAL - *Financial data is provided by Council in Special Schedule No.3 to its Financial Statement. This data includes amounts under the item "Operation and Maintenance Expenses". Please break-up the total under this item into "headworks" and "distribution and reticulation" components.*

18 **Operation and Maintenance Expenses:** Headworks[5] Component: % of total O & M Expenses

Distribution and Reticulation Component: % of total O & M Expenses

Notes Indicates the reader should refer to the definition of this item in Attachment 1.

1 This comprises all single dwellings (detached houses, duplexes with 2 connections or townhouses with a connection for each townhouse) with a separate connection to Council's water supply reticulation.

2 This comprises only those multiple dwellings with a single connection, eg.a block of flats or a group of townhouses with a single connection to Council's water supply reticulation.

3 Indicates Council should provide an estimate in this box of the accuracy and reliability of the data according to the following confidence grades: 1 (accuracy within ± 1%), 2 (± 5%), 3 (±10%), 4 (± 25%), 5 (± 50%), 6 (±100%), 7 (not within ± 100%). For further information refer to Attachment

4 If Unaccounted for water is less than 10% or Leakage is less than 6% of Total Water Consumption, this data should be carefully re-examined as Statewide analysis has found these to be the minimum values for other than bulk water suppliers.

5 Headworks include dams, bores, water treatment works and associated mains, tunnels and pumping stations.

(see over)

LEVELS OF SERVICE

19 Water Quality Complaints: No. of Water Quality Complaints Reported[3]: No.

Common Water Quality Complaints:

20 Water Service Complaints: No. of Water Service Complaints Reported: No.

Common Water Service Complaints:

21 Customer Dealings Complaints: No. of Customer Dealings Complaints: No. *(Refers to instances where customers are dissatisfied with the responsiveness of Council officers)*

22 Billing Complaints: No. of Billing Complaints: No.

23 Other Complaints: No. of Other Complaints: No.

24 Responses to Complaints: No. of Responses to Written Complaints: No.

25 Unplanned Interruption to Supply: No. of Properties Affected[3]: No. *Properties affected by an unplanned Interruption to Supply. Include each occurrence of interruption*

26 Average Time taken to Restore an Interrupted Supply[3]: hr

27 No. Days of Water Restrictions Due to Drought: days

28 Breaks/Failures: Pipeline Breaks[3]: No. Service Connection Failures[3]: No.

ENERGY/EMPLOYEES

29 Total Energy Usage[3]: MWh

30 Equivalent Full-time Employ No. *(Include staff engaged in operation, maintenance and management, including billing; exclude staff engaged on design or construction)*

31 Total No. of Days Lost in yea days *(Include employee days lost for all reasons eg. industrial disputes, sick leave, industrial accidents)*

2000/2001 WATER CHARGES

32 Residential Access (or Availability) Charges:

Uniform Access Charge $ **OR** Minimum Amount (based on Land Value) $

33 Residential Usage Charges:

0 to kL/a Price: c/kL

to kL/a Price: c/kL

to kL/a Price: c/kL

34 Non-Residential Access (or Availability) Charges:

Describe below the basis for Non-Residential Access Charges eg. Land value, meter size, service connection size etc.

35 Non-Residential Usage Charges:

0 to kL/a Price: c/kL

to kL/a Price: c/kL

to kL/a Price: c/kL

36 Typical Developer Charge: $ per ET (Equivalent Tenement)

1999/00 WATER QUALITY AND TREATMENT WORKS PERFORMANCE

If no water treatment works, complete Table as far as practicable. For businesses with 2 or more water treatment works, show details on copi

37 Water Treatment Works : Name: Capacity: ML/d

38 Type of Treatment Works: Volume Treated[3]: ML

		Max	Min	Avge		Max	Min	Avge
39 Colour Units:	Raw Water				Treated Water			
40 Turbidity Units:	Raw Water				Treated Water			

41 Chemical Usage per year: Alum: t Alkali: Chlorine: t Fluoride: t

42 Percentage Test Compliance With 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines: (Percent of No. of Samples)

Physical/Chemical:

Physical: % of Samples Chemical: % of Samples

Turbidity: % of Samples pH: % of Samples

Colour: % of Samples

Microbiological:

Faecal Coliforms: % of Samples Total Coliforms: % of Samples

43 Common Reasons for Less than 100% Test Compliance:

44 Number of Days Chlorination System failed to Operate[3]: days

45 No. of Days of Major Malfunction of Treatment Processes: days *(This is the number of days in the year when a significant portion of the treatment works was either not operating (other than routine maintenance) or not functioning properly.)*

Indicates that the reader should refer to the definition of this item in Attachment 1.

Indicates Council should provide an estimate in this box of the accuracy and reliability of the data according to the following confidence grades: 1 (accuracy within ± 1%), 2 (± 5%), 3 (±10%), 4 (± 25%), 5 (± 50%), 6 (±100%), 7 (not within ± 100%). For further information refer to Attachmen

For other notes refer to front page.

Report Completed by: _____ Signature: _____ Date: _____

ANNUAL SEWERAGE REPORT FOR 1999/00

_____ COUNCIL

_____ SEWERAGE BUSINESS

POPULATION AND DWELLINGS

1 **Population Served:** Permanent[3]: _____ persons ☐ Peak: _____ persons

2 **Residential Properties Connected:** No. of Single Dwellings[1]: _____ No. No. of Multiple Dwellings[2]: _____ No.

Average No. of Properties per Multiple Dwelling: _____ No.

3 **Non-Residential Properties Connected:** _____ No.

4 **Assessments:** Residential[3]: _____ No. ☐ Non-Residential[3]: _____ No. ☐

5 **New Residential Dwellings Connected in year:** _____ No.

6 **Unserved Urban Premises (in Council Area):** Premises: _____ No. Population: _____ persons

7 **Area Sewered (ie. catchment):** _____ ha

ASSETS EMPLOYED

8 **Sewage Treatment Works:** _____ No. Total Capacity: _____ EP

9 **Pumping Stations:** _____ No. Total Capacity: _____ ML/d

10 **Length of Mains:** Reticulation/gravity: _____ km Rising mains: _____ km Total Length[3]: _____ km ☐

11 **Rehabilitations This Year:** Length of Mains Rehabilitated: _____ km louse Connections Rehabilitated: _____ No.

SEWAGE COLLECTED

12 **Volumes of Sewage:** Infiltration/Inflow[3]: _____ ML ☐

Residential/Non-residential Sewage[3]: _____ ML ☐

Trade Waste[3]: _____ ML ☐

Total Transported through Sewerage Network[3]: _____ ML ☐

13 **Treated Sewage Effluent Discharges:** Ocean Discharges: _____ No.

Estuary Discharges: _____ No.

Inland Water Discharges: _____ No.

LEVELS OF SERVICE

14 **Sewage Odour Complaints:** Treatment works: _____ No. Pumping stations: _____ No.
(Include all complaints whether phone, verbal, letter)

15 **Sewage Service or Choke Complaints Reported[3]:** _____ No. ☐

16 **Common Service Complaints:** _____

17 **Customer Dealings Complaints reported:** _____ No. *(Refers to instances where customers are dissatisfied with the responsiveness of Council officers)*

18 **Billing Complaints:** No. of Billing Complaints: _____ No.

19 **Other Complaints:** No. of Other Complaints: _____ No.

20 **Sewage Overflows[3]:** _____ No. ☐

(Record any overflow/surcharge in Council sewers and pumping stations. Count each access chamber, pumping station etc. overflow as one overflow. Exclude overflows in sewer risers and sidelines (house connections) and at customers' gully traps).

21 **Confirmed Sewer Chokes:** _____ No.

(Sewer Chokes are confirmed partial or total blockages in Council sewer reticulation mains occasioning an interruption to service. Exclude blockages in Council's sewer risers and sidelines (house branch connections) or in customers internal drains.)

22 **Confirmed Sewer Chokes Attended to Within 5 hr:** _____ No.

23 **Chokes in House Branch Connections:** _____ No.

(Record blockages in Council's sewer risers and sidelines (house branch connections) up to the customers' gully traps. Exclude blockages in customers' house drains (internal drains).)

24 **Chokes in House Drains:** _____ No. *(Record blockages in customers' internal drains (house drains))*

25 **Properties Affected by an Unplanned Interruption to Service[3]:**

_____ No. ☐ *(Include each occurrence of interruption)*

26 **Average Time to Restore an Interrupted Service[3]:** _____ hr ☐

27 **Pipe Breaks (Rising Mains Only)[3]:** _____ No. ☐

ENERGY/EMPLOYEES

28 **Total Energy Usage[3]:** _____ MWh ☐

29 **Equivalent Full-time Employees:** _____ No. *(Include staff engaged in operation, maintenance and management including billing. Exclude staff engaged on design and construction.)*

30 **Total No. of Days Lost in Year:** _____ days *(Include employee days lost for all reasons eg. industrial disputes, sick leave, industrial accidents.)*

☞ Indicates that the reader should refer to the definition of this item in Attachment 1.

For other notes see over page

(see over)

2000/2001 SEWERAGE CHARGES

31 Residential Access (or Availability) Charges: Uniform Access Charge: $

OR

Minimum Amount (based on Land Value): $

32 Does Council have Usage Charges for Residential Sewerage Services?: Yes/No

If Yes, what are the Usage Charges:

33 Non-Residential Access (or Availability) Charges: Access Charge: $

Describe below the basis for Non-Residential Access Charges eg. Size of water service connection, land value, pedestal charges etc.

34 Does Council have Usage Charges for Non-Residential Sewerage Services?: Yes/No

If Yes, what are the Usage Charges:

35 Does Council have Trade Waste Charges?: Yes/No

36 Typical Developer Charge: $ per ET (Equivalent Tenement)

1999/00 TREATMENT WORKS PERFORMANCE

For businesses with 2 or more Sewage Treatment Works show details on copies of this page.

37 Sewage Treatment Works Name:

Capacity: EP

38 Type of Treatment Works:

Nutrient Removal (Yes/No): Disinfection (Yes/No):

39 Volume Received through Sewerage Network[3]: ML ☐

40 Tankered Flows: Septic Tank Effluent: kL

Septic Tank Sludge/Pan: kL

41 Volume of Sewage Receiving Treatment:

No Treatment[3]: ML ☐ Primary[3]: ML ☐

Secondary[3]: ML ☐ Tertiary[3]: ML ☐

(Tertiary treatment involves removal of over 90% of BOD and significant nutrient removal eg. by biological treatment, sand filtration, disinfection.)

42 Volume Recycled: ML

(Refers to reclaimed effluent for watering of golf courses etc. and does not refer to internal recycling within the treatment works.)

43 Biosolids

Biosolids Produced: tonnes dry solids: t

Biosolids reused/recycled: % recycled: %

Biosolids Management: to farmland: %

to land fill: %

to other: %

44 Average Dry Weather Flow: Permanent Population: L/s Peak Population: L/s

45 Peak Dry Weather Flow: Permanent Population: L/s Peak Population: L/s

46 Peak Wet Weather Flow: L/s

47 Qualification of Operators (eg. DLWC Certificate):

48 EPA Discharge Licence Expiry Date:

49 Effluent Volume Licensed: ML/d

50 90 Percentile Licence Limits:

BOD mg/L	SS mg/L	Total N mg/L	NH3N mg/L	Oil & Grease mg/L	Total P mg/L	Faecal coliforms cfu/100mL

51 Percentage of Samples Complying with 90 Percentile Licence Limits at Licensed Point of Discharge:

%	%	%	%	%	%	%

(Results for SS should be the measured values for effluent at the licensed point of discharge. The effluent should not be filtered to remove algae prior to testing.)

52 Sampling Days (including DLWC Sampling Days)[v]: days ☐

53 Days with Major Malfunction of Treatment Processes[3]: days ☐

(This refers to the number of days in the year when a significant portion of the treatment works was either not operating (other than routine maintenance) or not functioning properly (odours, loss of MLSS etc.))

Notes Indicates that the reader should refer to the definition of this item in Attachment 1.

1 This comprises all single dwellings (detached houses, duplexes with 2 connections or townhouses with a connection for each townhouse) with a separate connection to Council's sewerage reticulation.

2 This comprises only those multiple dwellings with a single connection, eg.a block of flats or a group of townhouses with a single connection to Council's sewerage reticulation.

3 ☐ Indicates Council should provide an estimate in this box of the accuracy and reliability of the data according to the following confidence grades: 1 (accuracy within ± 1%), 2 (± 5%), 3 (±10%), 4 (± 25%), 5 (± 50%), 6 (±100%), 7 (not within ± 100%). For further information refer to Attachment 1.

Report Completed by: _____ Signature: _____ Date: _____

ATTACHMENT 1

NSW ANNUAL WATER SUPPLY AND SEWERAGE PERFORMANCE REPORTING

BACKGROUND

The NSW annual water supply and sewerage performance reporting system has been developed in response to a need recognised by the Department of Land and Water Conservation/Local Government Liaison Committee for Water Supply and Sewerage. NSW has been a national leader in performance reporting since commencement of reporting in 1986. The main objectives of performance reporting are:

- To enable self-monitoring by each council of trends in its performance indicators and to compare its performance with that of similar councils to assist it to improve performance.
- To assist Local and State Government to obtain an overview of the present position and future needs of water supply and sewerage businesses in NSW and to facilitate national performance comparisons.
- Public accountability to the community.

Performance comparisons and benchmarking are an important element of the associated reforms under the Council of Australian Governments' (COAG) National Competition Policy, and are also regarded as essential by the Minister for Land and Water Conservation, the NSW Independent Pricing and Regulatory Tribunal and the Local Government and Shires Associations.

Nearly all country councils are now participating in the NSW Performance Reporting system, and the value of the system has been greatly enhanced by such full participation.

A Report illustrating the Statewide results is issued each year to all councils. The Report enables each council to compare its performance against Statewide results, and also against similar sized or relevant councils.

To meet its obligations under the COAG agreements, NSW will also continue to provide the key performance indicators for the larger NSW utilities (over 10 000 assessments) for inclusion in the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) national performance monitoring report for "Non-Major Urban" water supply and sewerage utilities. A copy of this national report will continue to be provided to all councils in country NSW.

For consistency with national performance reporting, from 1998/99, most NSW performance indicators will be reported on the basis of "per connected property", rather than the previous "per assessment" basis. Councils are therefore requested to carefully estimate the values requested for Q2 and Q3 to indicate the total number of properties connected to Council's water supply and sewerage businesses.

As for previous years, Financial Information will be obtained by DLWC from Special Schedule Nos 3 to 6 of Council's 1999/00 Financial Statement.

Councils are reminded they need only provide a single consolidated report for each of their water supply and sewerage businesses. However, if it is more convenient for Council to provide a separate reporting form for each of its water supply or sewerage schemes, this is equally satisfactory.

DEFINITION OF KEY TERMS

The following definitions of key terms are provided to ensure a consistent interpretation of terms and to assist councils in completing their reports.

GENERAL

To facilitate analysis of results, if the information to answer a particular question is not known or is unavailable, "N/A" should be entered in the relevant space. If the answer to a particular question is zero, "0" or "NIL" should be entered, not " - ".

For consistency with national performance reporting, an estimate of the confidence grading (ie. the reliability and accuracy of data) is required for a number of key data items. The appropriate confidence grading (1 to 7) should be inserted in the box provided. The grading should be based on the following:

1 - based on sound records with accuracy estimated to be within ± 1% [eg. number of assessments],

2 - based on sound records, accuracy estimated to be within ± 5% [eg. length of mains],

3 - based on records with minor shortcomings, accuracy estimated to be within ± 10% [eg. total water consumption],

4 - based on records with some shortcomings, accuracy estimated to be within ± 25% [eg. residential consumption],

5 - based on limited data, accuracy estimated to be within ± 50%[eg. unaccounted for water],

6 - based on limited data, accuracy estimated to be within ± 100% [eg. leakage],

7 - based on poor data, accuracy estimated to be <u>not</u> within ± 100%).

WATER SUPPLY

Q1 to Q7 Population and Dwellings

These questions refer to the figures at 30 June 2000. In Q1, do not include population in unserviced areas.

Q2 No. of Residential Properties Connected

Example:

Single Dwellings = 5000
Multiple Dwellings = 300

Av No. of Properties per Multiple Dwelling = 4

No. of Residential Properties Connected

= 5000 + 300 x 4 = 6200

Q4 Assessments

This is the number of annual bills rendered by Council, broken into residential and non-residential.

Q6 New Residential Properties Connected in Year

This is the number of new residential properties (ie. houses, villas, units, flats) connected within the financial year.

Q7 Unserved Urban Premises in Council Area
This refers to the total number of premises in urban zoned land in towns or villages which are not served by a reticulated water supply. Also indicate the estimated population in these premises. If Council has more than one water supply scheme reported on separate forms, only answer this question once (on the main scheme).

Q11 Rehabilitations this Year
This comprises the renewal or replacement of existing mains or service connections for this year. It excludes maintenance work.

Q12 Consumption
The various categories of consumption are as follows:

- Residential - Domestic in-house and ex-house.
- Commercial - Offices, shops, clubs, hotels, motels, caravan parks etc.
- Industrial - Industrial uses.
- Institutional - Hospitals, schools, colleges etc.
- Bulk Sales - Sales to other Councils/Water Utilities.
- Public Uses - Uses such as watering of public parks, gardens, ovals etc. (Fire Fighting & mains flushing is included in Unaccounted-for-water – see below).
- Unaccounted-for-Water - includes allowance for leakage, theft and illegal connections, illegal use of unmetered customer fire services, fire fighting (street hydrants), mains flushing, under-registration of customer meters, errors in system meters. Statewide analysis indicates this category should be at least 10% for other than bulk water suppliers.
- Estimated Leakage - Leakage studies carried out for 40 NSW towns indicate an average leakage of about 17% of annual consumption (range 6% to 35%). A minimum of 6% is therefore suggested for other than bulk suppliers.

Q15 Off-stream Dams
Most NSW councils with dams have an off-stream dam with run-of-river pumping to the storage.

Recycled Water
Recycled water and/or raw water is used in a dual supply system. The volume of recycled water shown in the Water Report may be less than the volume of effluent recycled shown in the Sewerage Report, as recycled effluent may also be used for agricultural irrigation purposes rather than for town water supply.

Total Water Usage
The Total Water Usage (Q15l) should equal the sum of Total Water Consumption (Q12i) plus the Raw Water Component in a Dual Supply System (Q14).

Estimated annual yield of sources
This refers to the annual demand level which could just be supplied by a water supply system during a repetition of the most severe historical drought. The yield is not the present annual demand.

Q19 to Q24 Complaints Reported
Each complaint reported to a Council employee, whether in person, by telephone, or in writing should be recorded and the total entered in Council's Report. Exclude reports of leaking house services and billing inquiries.

Q25 Interruption To Supply
The number of properties affected by unplanned interruptions to supply should be recorded for each occurrence of interruption.

Q27 No. of Days of Water Restrictions due to Drought
Include all days of water restrictions no matter what level of restriction is applied.

Q28 Number of Breaks/Failures
Pipeline breaks are where the main has to be shut down. Service connection failures are failures in house services.

Q42 Percentage test compliance with 1996 NHMRC/ ARMCANZ Australian Drinking Water Guidelines
Compliance is to be reported on the basis of the 1996 guidelines. Sampling location and frequency should also be on the basis of the guidelines (refer to Attachment 2).

SEWERAGE

Q1 to Q6 Population and Dwellings
See comments for Q1, Q2, Q4, Q6 and Q7 for water supply.

Q11 Rehabilitations
See comments for Q11 for Water Supply

Q12 Infiltration/Inflow
This refers to the estimated groundwater infiltration and stormwater inflow into Council's sewerage system.

Q14 to Q19 Complaints Reported
See comments for Q19 to Q24 for Water Supply.

Q20, Q21 Sewage Overflows, and Confirmed Sewer Chokes
It is emphasized these refer to Council sewerage reticulation mains and exclude sewer risers and sidelines (house connections) and internal drains. This is to ensure consistent reporting following queries from a number of councils.

Q23 Chokes in House Branch Connections, and
Q24 Chokes in House Drains
For consistency with national performance reporting, chokes in councils' sewer risers and sidelines (house branch connections) and in customers' internal drains (house drains) are reported in these items respectively.

Q41 Volume of Sewage Receiving Treatment
For each of the four levels of treatment shown, record the volume of sewage receiving treatment eg. For an IDEA treatment works with nutrient removal which received 200ML of sewage, with wet weather by-pass of 5%, the values entered would be:

No Treatment	10 ML
Primary Treatment	190 ML
Secondary Treatment	190 ML
Tertiary Treatment	190 ML

Q42 Volume Recycled
This refers to sewage effluent reclaimed for purposes such as watering of golf-courses, race-courses, industrial use or agricultural irrigation etc. and does not refer to any internal recycling within the sewage treatment works. Also see comments for Q15 for Water Supply.

Q43 Biosolids
This refers to how Council manages its biosolids (sludge) ie. to farmland, to landfill or other. The percentage reuse or recycling is also requested.

ATTACHMENT 2

1996 AUSTRALIAN DRINKING WATER GUIDELINES: SAMPLING LOCATION AND FREQUENCY

GUIDELINES

Since 1998/99, compliance for drinking water quality in country NSW has been reported on the basis of the ***1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines.*** These guidelines supersede the 1987 guidelines and reflect the latest World Health Organisation findings and recommendations on drinking water quality.

The guidelines outline the aesthetic and health characteristics required for good quality drinking water. Although the guidelines are not standards, it is recommended that NSW councils adopt a "best practice" approach for the supply of drinking water using the 1996 Guidelines.

The measurable characteristics fall into the following categories:

- ***Microbiological,***
- ***Physical,***
- ***Chemical, and***
- ***Radiological.***

For each characteristic, the guidelines identify three parameters, namely location of sampling, frequency of sampling and acceptable performance measures. Compliance requires that all three parameters be satisfied.

Most NSW councils would need to significantly increase their sampling frequency to comply with the 1996 Guidelines eg. Table 1 indicates that the number of microbiological samples required annually for systems supplying populations of 5,000, 10,000, 20,000, 50,000 and 100,000 is respectively 52, 64, 88, 160 and 220.

SAMPLING LOCATION

Samples for system performance monitoring should be taken from representative locations within the system. These should include headworks, service reservoirs, the start of the distribution system and at representative points throughout the distribution system. Suggested locations for each characteristic are shown on pages 35 to 39 (all references to pages in this attachment refer to the 1996 Guidelines Summary). Pages 35 to 39 also indicate other characteristics which may need to be monitored for a particular water supply.

SAMPLING FREQUENCY

The frequency of sampling is dependent on the type of characteristic. The suggested sampling frequency for various water supply characteristics are shown on pages 35 to 39.

The sampling frequency required for ***microbiological quality*** is provided in page 23 and summarised in Table 1. These should be increased following repair work or interruptions to supply.

Table 1 - Microbiological Quality Sampling Frequency

Population	*Recommended No. of Samples*
<1,000	Refer to pages 16 to 18 of Guidelines Summary
1,000 to 5,000	Preferably 1 sample per week (if less, refer to pages 16 to 18 of Guidelines Summary)
5,000 to 100,000	1 sample per week plus1 per month for each 5,000 above 5,000 population
>100,000	6 samples per week plus 1 per month for each 10,000 above 100,000 population

Sampling for the key ***physical characteristics*** should be carried out as shown in Table 2 where these are significant.

Table 2 - Physical Quality Sampling Frequency

Characteristic	*Sampling Frequency*
pH	Fortnightly
Colour, turbidity	Monthly
Hardness, TDS	Quarterly

Sampling for the full range of ***chemical characteristics*** should be carried out annually. In addition, tests for key characteristics should be undertaken more frequently as shown in Table 3 where these are significant.

Table 3 - Chemical Quality Sampling Frequency

Characteristic	*Sampling Frequency*
Chlorine, fluoride, aluminium	Weekly if the water supply is dosed with these chemicals
Iron, manganese	Fortnightly
Ammonia, copper, hydrogen sulphide, nitrates, lead, zinc	Monthly

Radiological sampling should be carried out every 5 years for surface water, every 2 years for groundwater and more frequently if the guideline is exceeded (page 36).

Disinfection by-products (organic) should be monitored monthly (page 36).

PERFORMANCE

Performance is regarded as satisfactory if over the preceding 12 months sampling location and frequency have complied with the Guidelines, and all guideline values for each characteristic have been met. Guideline values for microbiological characteristics are shown on pages 22 to 25 and are summarised in Table 4. Guideline values for physical characteristics are shown on page 26 and for chemical characteristics on pages 27 and 28.

Table 4 - Microbiological Performance

Indicator	*Guideline Value*
Performance is regarded as satisfactory if, over the preceding 12 months:	
Scheduled Samples	The minimum number of scheduled samples has been tested, and
Faecal Coliforms	At least 98% of scheduled samples contain no faecal coliforms, and
Total Coliforms	At least 95% of scheduled samples contain no total coliforms (except that a higher level of coliform contamination may be tolerated if certain other guidelines are met – refer to page 23 of the Guidelines Summary)

Blank Page

COUNCIL OF / COUNCIL OF THE CITY OF .....

SPECIAL SCHEDULE NO. 3

WATER SUPPLY OPERATING STATEMENT
(Gross Including Internal Transactions)
for the year ended 1999/2000
($'000)

		1999/00	1998/99
A. EXPENSES & REVENUES			
	Expenses		
1.	Management Expenses		
	a. Administration		
	b. Engineering and Supervision		
2.	Operation and Maintenance Expenses		
	- Dams and Weirs		
	a. Operation Expenses		
	b. Maintenance Expenses		
	-Mains		
	c. Operation Expenses		
	d. Maintenance Expenses		
	- Reservoirs		
	e. Operation Expenses		
	f. Maintenance Expenses		
	- Pumping Stations		
	g. Operation Expenses (excluding energy costs)		
	h. Energy Costs		
	i. Maintenance Expenses		
	- Treatment		
	j. Operation Expenses (excluding chemical costs)		
	k. Chemical Costs		
	l. Maintenance Expenses		
	- Other		
	m. Operation Expenses		
	n. Maintenance Expenses		
	o. Purchase of Water		
3.	Depreciation		
	a. System Assets		
	b. Plant and Equipment		
4.	Miscellaneous Expenses		
	a. Interest Expenses		
	b. Other Expenses		
5.	**Total Expenses**		
	Revenues		
6.	Rates & Service Availability Charges		
	a. Residential		
	b. Non-Residential		
7.	User Charges		
	a. Sales of Water : Residential		
	b. Sales of Water : Non-Residential		
8.	Extra Charges		
9.	Interest Income		
10.	Other Revenues		
11.	Grants		
	a. Grants for Acquisition of Assets		
	b. Grants for Pensioner Rebates		
	c. Other Grants		
12.	Contributions		
	a. Developer Charges		
	b. Developer Provided Assets		
	c. Other Contributions		
13.	**Total Revenues**		
14.	Gain or Loss on Disposal of Assets		
15.	Operating Result		
15a.	**Operating Result** (less Grants for Acquisition of Assets)		

COUNCIL OF / COUNCIL OF THE CITY OF .....

SPECIAL SCHEDULE NO. 3 (Cont'd)

WATER SUPPLY OPERATING STATEMENT
(Gross Including Internal Transactions)
for the year ended 1999/2000
($'000)

		1999/00	1998/99
B. CAPITAL TRANSACTIONS			
	Non-Operating Expenditures		
16.	Acquisition of Fixed Assets		
	a. Subsidised Scheme		
	b. Other New System Assets		
	c. Renewals		
	d. Plant & Equipment		
17.	Repayment of Debt		
	a. Loans		
	b. Advances		
	c. Finance Leases		
18.	Transfer to Sinking Fund		
19.	**Totals**		
	Non-Operating Funds Employed		
20.	Proceeds from Disposal of Assets		
21.	Borrowing Utilised		
	a. Loans		
	b. Advances		
	c. Finance Leases		
22.	Transfer from Sinking Fund		
23.	**Totals**		
C. RATES AND CHARGES			
24.	Number of Assessments		
	a. Residential (occupied)	.....	
	b. Residential (unoccupied)	.....	
	c. Non-Residential (occupied)	.....	
	d. Non-Residential (unoccupied)	.....	
25.	Number of ETs for which Developer Charges were received	..... ET	
26.	Total Amount of Pensioner Rebates	$.....	

COUNCIL OF / COUNCIL OF THE CITY OF .....

SPECIAL SCHEDULE NO. 4

WATER SUPPLY – NET ASSETS COMMITTED
(Gross Including Internal Transactions)
as at 1999/2000
($'000)

		Current	Non-Current	Total
	ASSETS			
27.	Cash and Investments			
	a. Developer Charges			
	b. Specific Purpose Grants			
	c. Accrued Leave			
	d. Unexpended Loans			
	e. Sinking Fund			
	f. Other			
28.	Receivables			
	a. Specific Purpose Grants			
	b. Rates and Charges			
	c. Other			
29.	Inventories			
30.	Property, Plant and Equipment			
	a. System Assets			
	b. Plant and Equipment			
31.	Other Assets			
32.	**Total Assets**			
	LIABILITIES			
33.	Bank Overdraft			
34.	Creditors			
35.	Borrowings			
	a. Loans			
	b. Advances			
	c. Finance Leases			
36.	Provisions			
37.	**Total Liabilities**			
38.	**NET ASSETS COMMITTED**			
	EQUITY			
39.	Accumulated Surplus			
40.	Asset Revaluation Reserve			
41.	**Total Equity**			
	Note to System Assets :			
42.	Current Replacement Cost of System Assets			
43.	Accumulated Current Cost Depreciation of System Assets			
44.	Written Down Current Cost of System Assets			

Blank Page

COUNCIL OF / COUNCIL OF THE CITY OF .....

SPECIAL SCHEDULE NO. 5

SEWERAGE OPERATING STATEMENT
(Gross Including Internal Transactions)
for the year ended 1999/2000
($'000)

		1999/00	1998/99
A. EXPENSES & REVENUES			
	Expenses		
1.	Management Expenses		
	a. Administration		
	b. Engineering and Supervision		
2.	Operation and Maintenance Expenses		
	-Mains		
	a. Operation Expenses		
	b. Maintenance Expenses		
	- Pumping Stations		
	c. Operation Expenses (excluding energy costs)		
	d. Energy Costs		
	e. Maintenance Expenses		
	- Treatment		
	f. Operation Expenses (excluding chemical, energy, effluent and biosolids management costs)		
	g. Chemical Costs		
	h. Energy Costs		
	i. Effluent Management		
	j. Biosolids Management		
	k. Maintenance Expenses		
	- Other		
	l. Operation Expenses		
	m. Maintenance Expenses		
3.	Depreciation		
	a. System Assets		
	b. Plant and Equipment		
4.	Miscellaneous Expenses		
	a. Interest Expenses		
	b. Other Expenses		
5.	**Total Expenses**		
	Revenues		
6.	Rates & Service Availability Charges		
	a. Residential		
	b. Non-Residential		
7.	Trade Waste Charges		
8.	Other Sales and Charges		
9.	Extra Charges		
10.	Interest Income		
11.	Other Revenues		
12.	Grants		
	a. Grants for Acquisition of Assets		
	b. Grants for Pensioner Rebates		
	c. Other Grants		
13.	Contributions		
	a. Developer Charges		
	b. Developer Provided Assets		
	c. Other Contributions		
14.	**Total Revenues**		
15.	Gain or Loss on Disposal of Assets		
16.	Operating Result		
16a.	**Operating Result** (less Grants for Acquisition of Assets)		

COUNCIL OF / COUNCIL OF THE CITY OF .....

SPECIAL SCHEDULE NO. 5 (Cont'd)

SEWERAGE OPERATING STATEMENT
(Gross Including Internal Transactions)
for the year ended 1999/2000
($'000)

		1999/00	1998/99
B. CAPITAL TRANSACTIONS			
	Non-Operating Expenditures		
17.	Acquisition of Fixed Assets		
	a. Subsidised Scheme		
	b. Other New System Assets		
	c. Renewals		
	d. Plant & Equipment		
18.	Payment of Debt		
	a. Loans		
	b. Advances		
	c. Finance Leases		
19.	Transfer to Sinking Fund		
20.	**Totals**		
	Non-Operating Funds Employed		
21.	Proceeds from Disposal of Assets		
22.	Borrowing Utilised		
	a. Loans		
	b. Advances		
	c. Finance Leases		
23.	Transfer from Sinking Fund		
24.	**Totals**		
C. RATES AND CHARGES			
25.	Number of Assessments		
	a. Residential (occupied)	.....	
	b. Residential (unoccupied)	.....	
	c. Non-Residential (occupied)	.....	
	d. Non-Residential (unoccupied)	.....	
26.	Number of ETs for which Developer Charges were received	..... ET	
27.	Total Amount of Pensioner Rebates	$.....	

COUNCIL OF / COUNCIL OF THE CITY OF .....

SPECIAL SCHEDULE NO. 6

SEWERAGE SERVICES – NET ASSETS COMMITTED
(Gross Including Internal Transactions)
as at 1999/2000
($'000)

		Current	Non-Current	Total
	ASSETS			
28.	Cash and Investments			
	a. Developer Charges			
	b. Specific Purpose Grants			
	c. Accrued Leave			
	d. Unexpended Loans			
	e. Sinking Fund			
	f. Other			
29.	Receivables			
	a. Specific Purpose Grants			
	b. Rates and Charges			
	c. Other			
30.	Inventories			
31.	Property, Plant and Equipment			
	a. System Assets			
	b. Plant and Equipment			
32.	Other Assets			
33.	**Total Assets**			
	LIABILITIES			
34.	Bank Overdraft			
35.	Creditors			
36.	Borrowings			
	a. Loans			
	b. Advances			
	c. Finance Leases			
37.	Provisions			
38.	**Total Liabilities**			
39.	**NET ASSETS COMMITTED**			
	EQUITY			
40.	Accumulated Surplus			
41.	Asset Revaluation Reserve			
42.	**Total Equity**			
	Note to System Assets :			
43.	Current Replacement Cost of System Assets			
44.	Accumulated Current Cost Depreciation of System Assets			
45.	Written Down Current Cost of System Assets			

NOTES TO SPECIAL SCHEDULE NOS. 3 AND 5

Administration comprises the following:

- Administration Staff
    - Salaries and Allowance
    - Travelling Expenses
    - Accrual of Leave Entitlements
    - Employment Overheads
- Meter Reading
- Bad and Doubtful Debts
- Other Administrative/Corporate Support Services

Engineering and Supervision comprises the following:

- Engineering Staff
    - Salaries and Allowance
    - Travelling Expenses
    - Accrual of Leave Entitlements
    - Employment Overheads
- Other Technical and Supervision Staff
    - Salaries and Allowance
    - Travelling Expenses
    - Accrual of Leave Entitlements
    - Employment Overheads

Operation Expenses comprise the day to day operational expenses excluding maintenance expenses.

Maintenance Expenses comprise the day to day repair and maintenance expenses. (Refer to Section 5 of the Asset Accounting Manual regarding capitalisation principles and the distinction between capital and maintenance expenditure).

Other Expenses include all expenses not recorded elsewhere.

Other Revenues include all revenues not recorded elsewhere.

Other Contributions include capital contributions for water supply or sewerage services received by Council under Section 565 of the Local Government Act.

Formulae for Calculation of Performance Indicators in Tables 5 & 6

Table Column No.	Performance Indicator	Formula
5. 1999/00 NSW Water Utility Performance Summary		
Water Supply		
(1)	Water Supply Assessments (No.)	From Col (1) Table 7
(2)	Annual Water Consumption (ML)	From Col (4) Table 7
(3)	Average Annual Residential Consumption (kL/ connected property)	From Col (5) Table 7
(4)	Turnover ($M)	From Col (7) Table 7
(5)	Tariff Pay-for-Use? (Yes/No)	From Col (9a) Table 8
(6)	Tariff Independent of Land Value? (Yes/No)	From Col (10) Table 8
(7)	Water Quality Compliance - Physical and Chemical (%)	From Col (17) Table 9
(8)	Water Quality Compliance - Microbiological (%)	From Col (18) Table 9
Sewerage		
(9)	Turnover ($M)	From Col (7) Table 10
(10)	Tariff Independent of Land Value? (Yes/No)	From Col (10) Table 11
(11)	EPA Licence Compliance - BOD (%)	From Col (14) Table 12
(12)	EPA Licence Compliance - SS (%)	From Col (15) Table 12
Water Supply and Sewerage		
(13)	Typical Residential Bill ($/assessment)	Col (13a) Table 8 + Col (11a) Table 11
(14)	Typical Developer Charge ($/ET)	Col (13) Table 8 + Col (11) Table 11
(15)	Economic Real Rate of Return (%)	$[(W_{15} + W_{4a} - W_9 - W_{11a} - W_{14}) + (S_{16} + S_{4a} - S_{10} - S_{12a} - S_{15})] \times 100 \div (S_{45}+W_{44})$
(16)	Debt/Equity (%)	$W_{33} + W_{35}) + (S34 + S35)] \times 100 \div (W_{41}+ S_{42})$
(17)	OMA Cost ($/connected property)	Col (22) Table 9 + Col (21) Table 12
(18)	Management Cost ($/connected property)	Col (23) Table 9 + Col (22) Table 12
(19)	Current Replacement Cost of System Assets ($M)	Col (7b) Table 7 + Col (7b) Table 10
(20)	Strategic Business Plans Prepared? (Yes/No)	
6. 1999/00 Water Consumptions in Non-Metropolitan NSW		
(1)	Residential	Q_{12a}
(2)	Commercial	Q_{12b}
(3)	Industrial	Q_{12c}
(4)	Institutional	Q_{12d}
(5)	Bulk	Q_{12e}
(6)	Public	Q_{12f}
(7)	Unaccounted for Water	Q_{12g}
(8)	System Water Loss	Q_{12h}
(9)	Total Potable Supply	$Q_{12i} = (1) +(2) + (3) + (4) + (5) + (6) + (7)$
(10)	Non- Potable Supply	Q_{14}
(11)	Total Annual Water Consumption	$Q_{12i} + Q_{14} - Q_{15f}$
(12)	Recycled Water for Non-Potable Town Water Supply	Q_{15f}
(13)	Recycled Water for Agricultural use and Non-Potable Town Water S	Q_{42} (sewerage)

Notes:

A. References to Q (eg. $Q12_a$) refer to questions on each council's Annual Water Supply Reporting Form for 1999/00.

B. References to W (eg. W_{15}) refer to items in Special Schedules Nos 3 and 4 of each council's 1999/00 Annual Financial Statement. Similarly, references to S (eg. S_{16}) refer to each council's Special Schedules Nos 5 and 6.

C. References to Col (1) to (23) (eg.(Col (1)) refer to columns in Tables 7 to 12.

Formulae for Calculation of Performance Indicators in Tables 7 to 9

Table	Column No.	Performance Indicator	Formula
7. Water Supply - 1999/00 Business Characteristics, Financial			
	(1)	Total No. of Assessments (assessments)	$(Q_{4a} + Q_{4b})$
	(2)	No. of Connected Properties per Assessment (See Note G)	$[Q_{2a} + (Q_{2c} \times Q_{2b}) + Q_3] \div (1)$
	(2a)	No. of Connected Residential Properties per Residential Assessment	$[Q_{2a} + (Q_{2c} \times Q_{2b})] \div Q_{4a}$
	(2b)	Residential Assessments (% of total assessments)	$Q_{4a} \div (Q_{4a} + Q_{4b})$
	(2c)	Population	Q_{1a}
	(2d)	Connected Properties	(1) x (2)
	(2e)	Length of Mains (km)	Q_{10c}
	(3)	Properties Served per km of Main (connected properties/km)	$[(1) \times (2)] \div Q_{10c}$
	(4)	Total Annual Consumption (ML)	$Q_{12i} + Q_{14} - Q_{15h}$ (Check = $Q_{15l} - Q_{15h}$)
	(5)	Average Annual Residential Consumption (kL/ connected property)	$Q_{12a} \times 1000 \div [Q_{4a} \times (2a)]$
	(6)	Economic Real Rate of Return (%)	$(W_{15} + W_{4a} - W_9 - W_{11a} - W_{14}) \times 100 \div W_{44}$
	(7)	Total Turnover (excl Capital Works Grants) ($'000)	$(W_{13} - W_{11a}) \div 1000$
	(7a)	Residential Revenue (% of rates and charges total)	$(W_{6a} + W_{7a}) \times 100 \div (W_6 + W_7)$
	(7b)	Current Replacement Cost of System Assets ($,000)	$W_{42} \div 1000$
	(8)	Debt to Equity (%)	$(W_{33} + W_{35}) \times 100 \div W_{41}$
8. Water Supply - 2000/01 Charges, 1999/00 Bills			
	(9)	Access Charge ($)	Q_{32a}
	(10)	Independent of Land Value? (Yes/No)	from Q_{32b}
	(11)	Allowance (kL)	from Q_{33a}
	(12)	Usage Charge for >200kL/a or for > Allowance (c/kL)	$Q_{33b,}$ Q_{33e} or Q_{33h}
	(13)	Typical Developer Charge ($/Equivalent Tenement(ET))	Q_{36} (see note D)
	(13a)	Typical Residential Bill ($)	$[Q_{32a} + (5) \times Q_{33b}] \div 100$
	(14)	Average Residential Bill ($)	$(W_{6a} + W_{7a}) \div [Q_{4a} \times (2a)]$
	(15)	Bill for Customer Using 200kL/a ($)	from Q_{32} and Q_{33}
	(16)	Real Increase in Bill for Customer using 200 kL/a (%)	
9. Water Supply - 1999/00 Levels of Service, Efficiency			
	(17)	Water Quality Compliance - Physical & Chemical (%)	see note E
	(18)	Water Quality Compliance - Microbiological (%)	see note F
	(19)	Water Quality Complaints (per 1000 properties)	$Q_{19a} \times 1000 \div [(1) \times (2)]$
	(20)	Water Service Complaints (per 1000 properties)	$Q_{20a} \times 1000 \div [(1) \times (2)]$
	(21)	Average Customer Outage Time (min)	$(Q_{25} \times Q_{26} \times 60) \div [(1) \times (2)]$
	(22)	Operating Cost OMA ($/property)	$[W_1 + W_{2(a\ to\ n)}] \div [(1) \times (2)]$
	(23)	Management Cost ($/property)	$W_1 \div [(1) \times (2)]$

Notes:

A. References to Q (eg. Q_{4a}) refer to questions on each council's Annual Water Supply Reporting Form for 1999/00.

B. References to W (eg. W_{15a}) refer to items in Special Schedules Nos 3 and 4 of each council's 1999/00 Annual Financial Statement.

C. References to (1) to (23) (eg. (2)) refer to columns in Tables 7 to 9.

D. Developer Charges under $400/ET have not been included in Table 8.

E. Sum for each treatment works, the lesser of Q_{42a} and $Q_{42c,}$ multiplied by Q_{42b} for that treatment works. Divide the total by the sum of Q_{42b} for all treatment works.

F. Sum for each treatment works, $Q_{42k\ ,}$ multiplied by Q_{42l} for that treatment works.
Divide the total by the sum of Q_{42l} for all treatment works.
A water utility complied with the 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines for microbological water quality if the required number of samples was tested and:

At least 98% of the samples contained no faecal coliforms AND

At least 95% of the samples contained no coliforms.

For utilities which did not comply, the percentage of samples complying is shown.

G. Many councils have provided insufficient data to calculate the number of Connected Properties per Assessment (Columns (2) and (2a)). A value has been estimated by DLWC for such councils on the basis of results for similar councils and is shown in italics bold in Table 7.

Formulae for Calculation of Performance Indicators in Tables 10 to 12

Table	Column No.	Performance Indicator	Formula
10. Sewerage - 1999/00 Business Characteristics, Financial			
	(1)	Total No. of Assessments (assessments)	$(Q_{4a} + Q_{4b})$
	(2)	No. of Connected Properties per Assessment (see Note F)	$[Q_{2a} + (Q_{2c} \times Q_{2b}) + Q_3] \div (1)$
	(2a)	No. of Connected Residential Properties per Residential Assessment	$[Q_{2a} + (Q_{2c} \times Q_{2b})] \div Q_{4a}$
	(2b)	Residential Assessments (% of total)	$Q_{4a} \div (Q_{4a} + Q_{4b})$
	(2c)	Population	Q_{1a}
	(2d)	Connected Properties	(1) x (2)
	(2e)	Length of Mains (km)	Q_{10c}
	(3)	Properties Served per km of Main (connected properties/km)	$[(1) \times (2)] \div (Q_{10c})$
	(4)	Total Volume of Sewage Collected (ML)	Q_{12d}
	(4a)	Total Volume of Sewage Treated (ML)	(greater of Q_{41b}, Q_{41c} and Q_{41d})
	(5)	Volume of Sewage Treated per Property (kL/property)	(greater of Q_{41b}, Q_{41c} and Q_{41d}) $\div$ [(2)x(1)]
	(6)	Economic Real Rate of Return (%)	$(S_{16} + S_{4a} - S_{10} - S_{12a} - S_{15}) \times 100 \div S_{45}$
	(7)	Total Turnover (excl Capital Works Grants) ($'000)	$(S_{14} - S_{12a}) \div 1000$
	(7a)	Residential Revenue (% of rates and charges total)	$S_{6a} \times 100 \div (S_6 + S_7 + S_8)$
	(7b)	Current Replacement Cost of System Assets ($,000)	$S_{43} \div 1000$
	(8)	Debt to Equity (%)	$(S_{34} + S_{36}) \times 100 \div S_{42}$
11. Sewerage - 2000/01 Charges, 1999/00 Bills			
	(9)	Access Amount ($)	Q_{31a}
	(10)	Independent of Land Value? (Yes/No)	from Q_{31b}
	(10a)	Trade Waste Charges? (Yes/No)	Q_{35}
	(10b)	Trade Waste Charges (% of total rates and charges)	$S_7 \times 100 \div (S_6 + S_7 + S_8)$
	(10c)	Trade Waste Volume (% of sewage collected)	$Q_{12c} \times 100 \div Q_{12d}$
	(11)	Typical Developer Charge ($/equivalent tenement (ET))	Q_{36} (see note D)
	(11a)	Typical Residential Bill (= residential access charge) ($)	Q_{31a}
	(12)	Average Residential Bill ($)	$S_{6a} \div [Q_{4a} \times (2a)]$
	(13)	Real Increase in Average Residential Bill (%)	
12. Sewerage - 1999/00 Levels of Service, Efficiency			
	(14)	EPA Licence Compliance BOD (%)	Q_{51a} (see note E)
	(14A)	BOD 90 Percentile Discharge Licence Limit	(see note F)
	(15)	EPA Licence Compliance SS (%)	Q_{51b} (see note E)
	(15A)	SS 90 Percentile Discharge Licence Limit	(see note F)
	(16)	Confirmed Sewer Chokes (per 100 km of main)	$Q_{21} \times 100 \div Q_{10c}$
	(17)	Sewage Overflows (per 100 km of main)	$Q_{20} \times 100 \div Q_{10c}$
	(18)	Odour Complaints (per 1000 properties)	$(Q_{14a} + Q_{14b}) \times 1000 \div [(1) \times (2)]$
	(19)	Service Complaints (per 1000 properties)	$Q_{15} \times 1000 \div [(1) \times (2)]$
	(20)	Average Customer Outage Time (min)	$Q_{25} \times Q_{26} \times 60 \div [(1)x(2)]$
	(21)	Operating Cost OMA ($/property)	$(S_1 + S_2) \div [(1) \times (2)]$
	(22)	Management Cost ($/property)	$S_1 \div [(1) \times (2)]$

Notes:

A. References to Q (eg. Q_{4a}) refer to questions on each council's Annual Sewerage Reporting Form for 1999/00.

B. References to S (eg. S_{16}) refer to items in Special Schedules Nos 5 and 6 of each council's 1999/00 Annual Financial Statement.

C. References to (1) to(21) (eg. (2)) refer to columns in Tables 10 to 12 for 1999/00.

D. Developer Charges under $400/ET have not been included in Table 11.

E. For multiple treatment works, the Licence Compliance indicators are calculated as a weighted average, on the basis of the number of sampling days for each treatment works. For example, BOD Compliance for 3 treatment works is calculated as follows:

$$\text{BOD Compliance} = \frac{\left\{\begin{array}{l}(Q_{51a} \times Q_{52}) \text{ at works 1} + \\ (Q_{51a} \times Q_{52}) \text{ at works 2} + \\ (Q_{51a} \times Q_{52}) \text{ at works 3}\end{array}\right.}{\left\{\begin{array}{l}Q_{52} \text{ at works 1} + \\ Q_{52} \text{ at works 2} + \\ Q_{52} \text{ at works 3}\end{array}\right.}$$

SS, Total N and Total P Compliance are similarly calculated.

F. The discharge licence limit shown is that required to be met for at least 50% of the total licenced treatment works capacity.
eg. for a utility with 3 treatment works:

Works 1	Capacity 10,000EP	BOD discharge licence limit 10mg/L
Works 2	Capacity 8,000EP	BOD discharge licence limit 20mg/L
Works 3	Capacity 5,000EP	BOD discharge licence limit 30mg/L

50% of the total treatment works capacity is 11,500 EP ((10,000 + 8,000 + 5,000) / 2 = 11,500) and the discharge licence limit which must be met for 11,500 EP is 20mg/L (8,000 EP must meet 20 mg/L and 10,000 EP must meet 10 mg/L).

G. Many councils have provided insufficient data to calculate the number of Connected Properties per Assessment (Columns (2) and (2a)). A value has been estimated by DLWC for such councils on the basis of results for similar councils and is shown in italics bold in Table 10.

Blank Page

APPENDIX C

1999/00 COUNCIL PERFORMANCE REPORTS

Blank Page

Armidale Dumaresq Council — Water Supply Performance — 1999/00

Water is drawn from the Macleay River to supply Armidale. The system comprises 2 rapid sand filtration plants (42 ML/d), 15 service reservoirs (39 ML), 10 pumping stations (1.1 ML/d), 42 ML/d delivery capacity into the reticulation, 75 km of trunk mains and 190 km of reticulation. The water supply is fully treated. The number of microbiological test samples was 52 and the number of physical/chemical samples was 365. There were no failures to comply with the 1996 Australian Drinking Water Guidelines. There were no failures of the chlorination system or treatment system. The current replacement cost of system assets was $102 M, cash and investments were $2.4M, debt was $0.6M and turnover was $3.0 M (excluding capital works grants).

Business Planning

Strategic Business Plan (SBP)	*Year Prepared*	1997/98	*Year Updated:*	-	*Is Further Development Required[4] ?*	Update
Financial Sustainability of Business	*Demonstrated?*	YES	*Year Updated:*	-	*Is Further Development Required[4] ?*	Update

Performance Indicators

				Result	Ranking[1] <10,000 Properties	All Councils Ranking[2]	Statewide Median[3]
Business Characteristics	1	***Population Served:***	**23,000** (0.98 connected properties per assessment)				
	2	***Number of Assessments*** : **9,307**	***Number of Connected Properties*** **9,121**				
	2a	***Urban Population without Reticulated Public Water Supply*** (%)		6.6	4	4	0.9
	3	***Residential Assessments*** (% of total)		89		2	93
	3a	***New Residential Dwellings Connected to Water Supply*** (%)		1.3	3	2	1.4
	4	***Properties Served per km*** (properties/km of main)		25		3	33
	4a	***Rainfall*** (% of average annual rainfall)		96			
	5	***Annual Total Consumption*** (at Master Meters - ML)		3387		2	6600
	6	***Average Annual Residential Consumption*** (kL/property)		241	2	2	220
	7	***Peak Week to Average Consumption*** (%)		162		1	220
	8	***Unaccounted for water*** (including system water loss) (%)		10		1	11
	9	***Energy Consumption*** (kWh/ML)					400
	10	***Energy Consumption*** (kWh/property)					160
	11	***Renewals Expenditure*** (% of current replacement cost of system assets)		0.0		2	0.0
	12	***Employees*** (employees/1000 properties)		1.2	2	2	1.3
Charges/Bills	13	***Description of Residential[5] Tariff Structure 2000/01:*** Inclining block tariff; Independent of land value					
	14	***Residential Water Usage Charge 2000/01[6]*** (c/kL)	For usage up to 400 kL/a	60		3	60
	15	***Residential Access Charge 2000/01*** ($/assessment)		145		1	195
	15a	***Typical Residential Bill 2000/01*** ($/assessment)		290	2	2	290
	15b	***Typical Developer Charge 2000/01*** ($/equivalent tenement)		3600		1	2500
	16	***Average Residential Bill 1999/00*** ($/connected property)		225	1	1	300
	17	***Bill for Residential Customer using 200kL/a (1999/00)*** ($/assessment)		245	2	1	270
	18	***Real increase over previous year's Bill for Residential Customer using 200kL/a*** (%)		-2	2	1	-2
Financial	19	***Revenue from Usage Charges*** (% of total)		43		1	25
	20	***Revenue from Access Charges*** (% of total)		45		2	43
	21	***Revenue from Other*** (% of total)		12		2	24
	22	***Economic Real Rate of Return*** (%)		-1.9	5	5	2.5
	23	***Return on Assets*** (%)		-1.6		5	2.6
	23a	***Debt to Equity*** (%)		1	4	4	3
	23b	***Interest Cover*** (%)		-7592		5	500
	23c	***Loan Payment*** ($/property)		3		4	60
Levels of Service	24	***Water Quality Compliance on basis of 1996 NHMRC/ARMCANZ Guidelines***		100			
	25	***Physical and Chemical Water Quality Compliance*** (%)		100	1	1	99
	26	***Microbiological Water Quality Compliance*** (%)		100	1	1	100
	27	***Water Quality Complaints*** (per 1000 properties)					5
	27a	***Water Service Complaints*** (per 1000 properties)					13
	28	***Customer Interruption Frequency*** (per 1000 properties)					20
	29	***Average duration of Interruptions*** (hr)					2
	30	***Average customer outage time*** (min)					3
	31	***Number of Main breaks*** (per 100km)		13	3	3	15
	32	***Drought Water Restrictions*** (% of time)		0	1	1	0
Efficiency	32a	***Operating Cost (OMA) per 100km of Main*** ($'000)		956	5	5	610
	33	***Operating Cost (OMA) per property*** ($/property)		278	4	4	180
	34	***Operating Cost (OMA) per ML*** ($/ML)		748	5	4	500
	34a	***Management Cost*** ($/property)		136	5	5	75
	34b	***Treatment Operation & Maintenance Cost*** ($/property)		59	2	5	25
	34c	***Pumping Operation & Maintenance Cost*** ($/property)		9	1	1	20
	34d	***Energy Cost*** ($/property)		7		1	20
	34e	***Water Main Operation & Maintenance Cost*** ($/property)		55		3	40
	34f	***Total Days Lost*** (%)		0	2	1	2

Notes: *1 Ranking for each performance indicator is based on dividing the results for councils in the 2,001 to 10,000 connected properties group into 5 equal divisions of 20%, ie:*

. a ranking of 1 indicates the Council is in the top 20% of Councils for that group

. a ranking of 5 indicates the Council is in the bottom 20% of Councils for that group

2 Ranking (1 to 5) for all councils

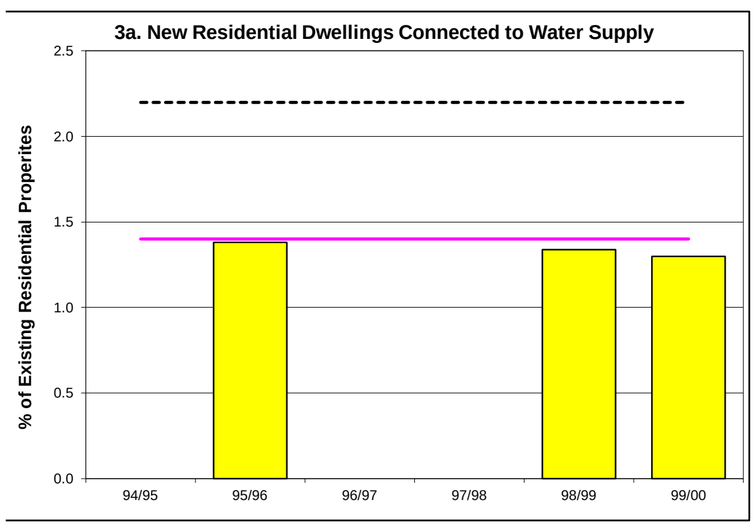
3 The Statewide Median is on a percentage of connected properties basis as indicated in Tables 1 & 3 of the 1999/00 NSW Performance Comparisons Report.

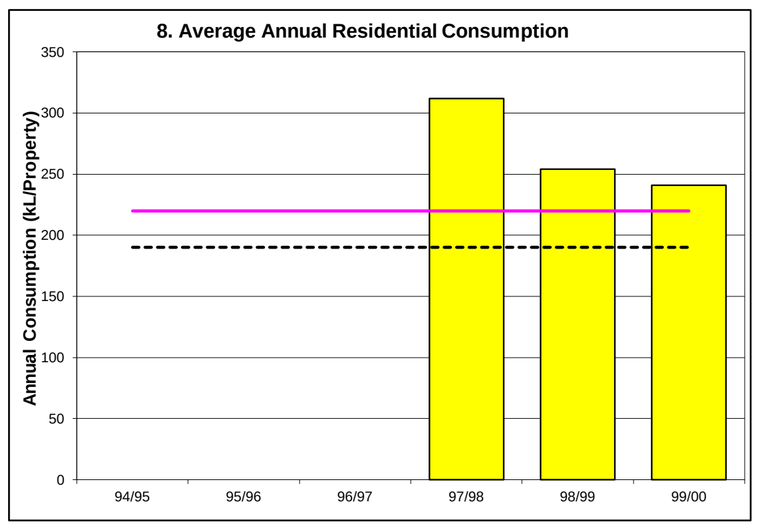
4 Annual review of the key projections and actions in Council's SBP are required, together with annual updating of Council's financial plan.

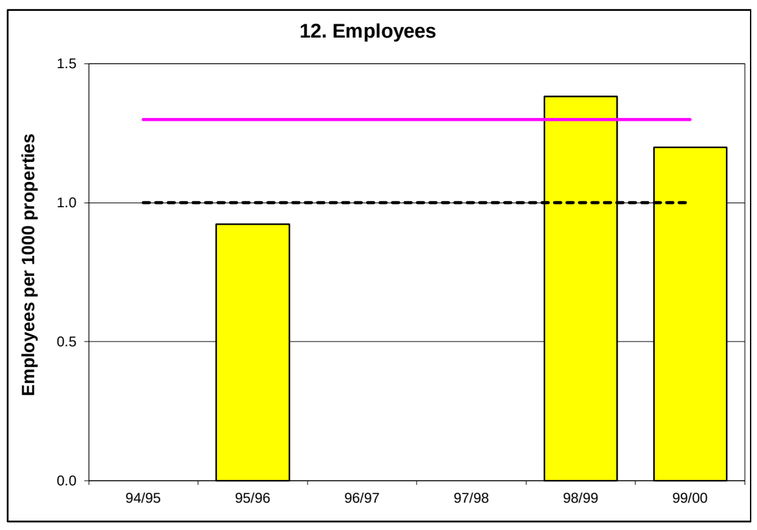
5 Non-residential: Inclining block tariff, uniform access charge.

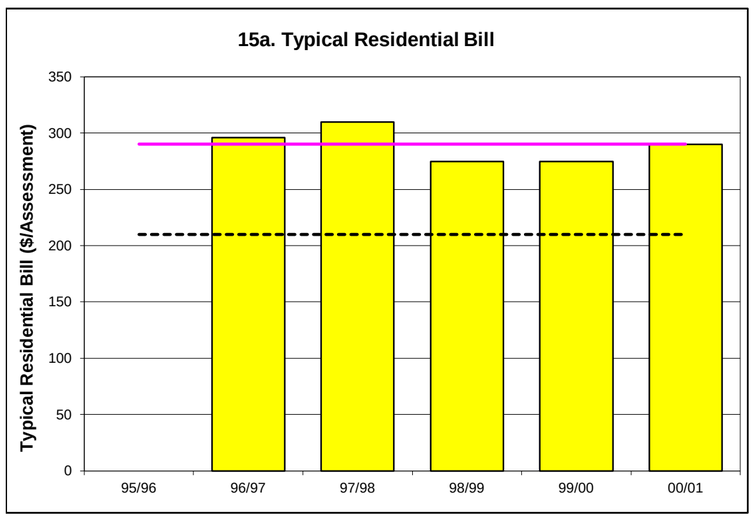
6 For usage of 401 to 600 kL/a = 70c/kL; 601 to 1200 kL/a = 90c/kL; over 1200kL/a = 100c/kL.

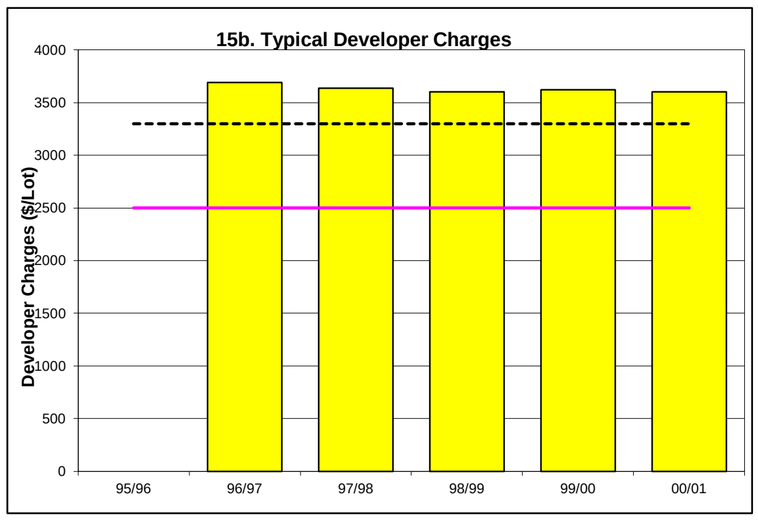
Armidale Dumaresq Council Performance (Results shown for 6 years together with 1999/00 Statewide Median and Top 20%)

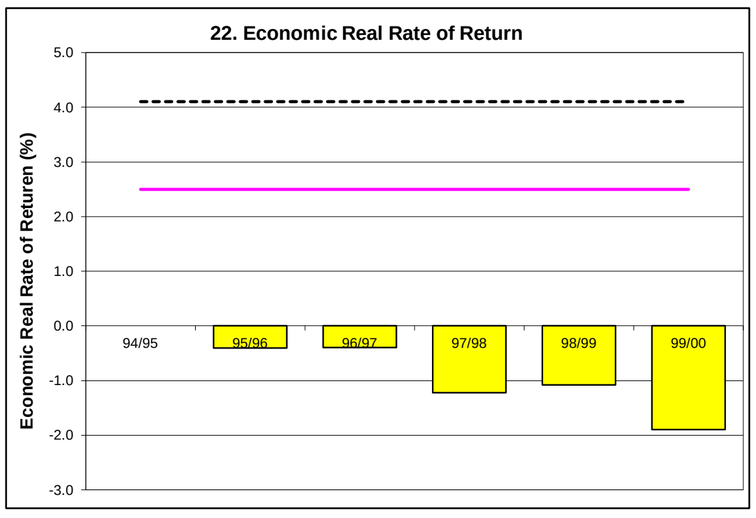


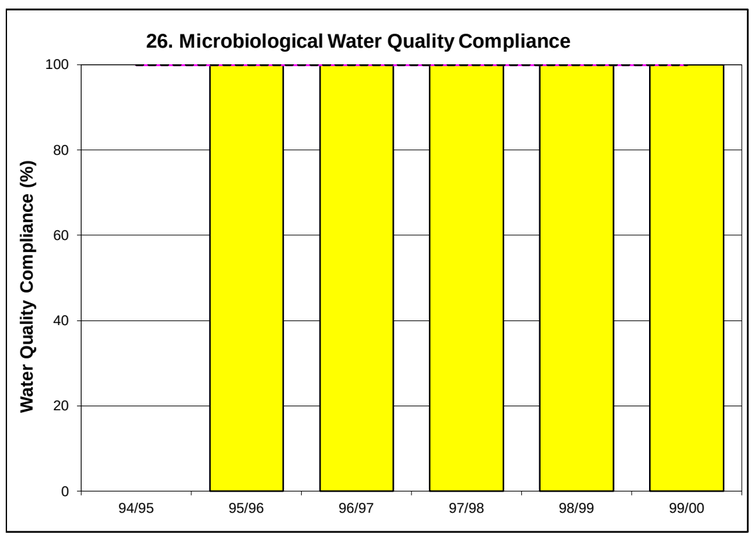


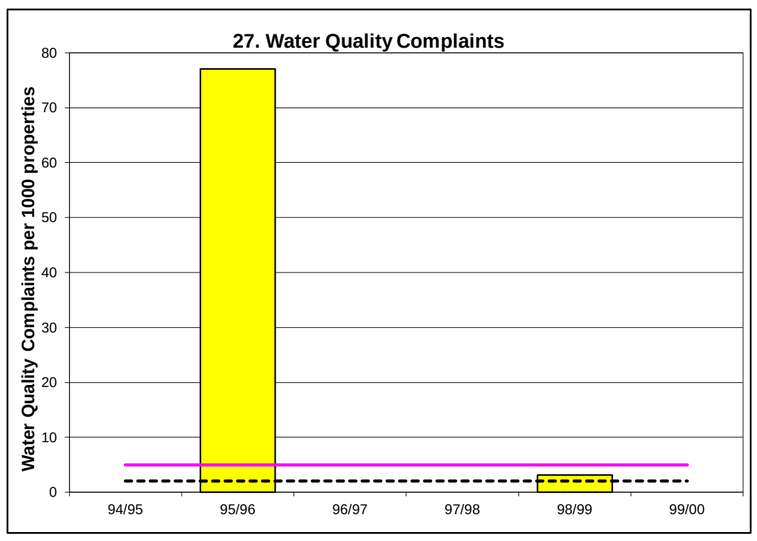


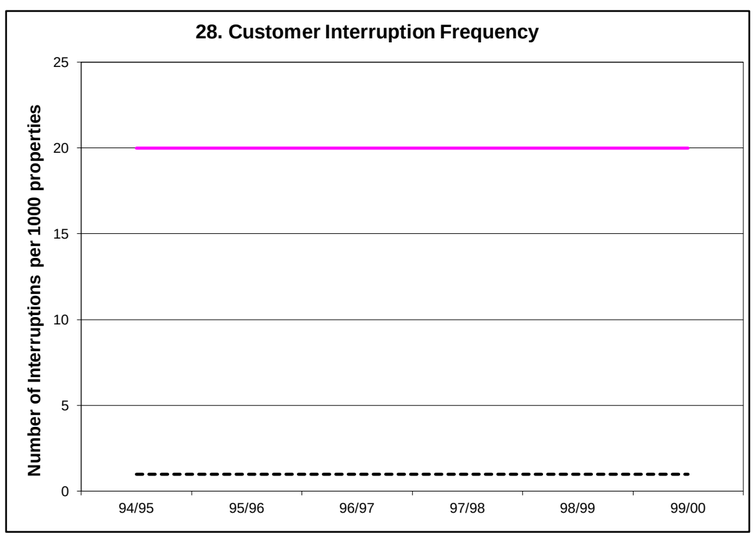


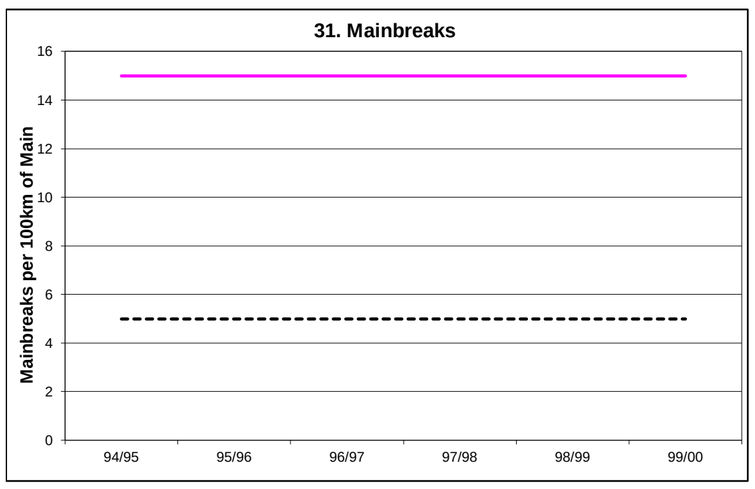


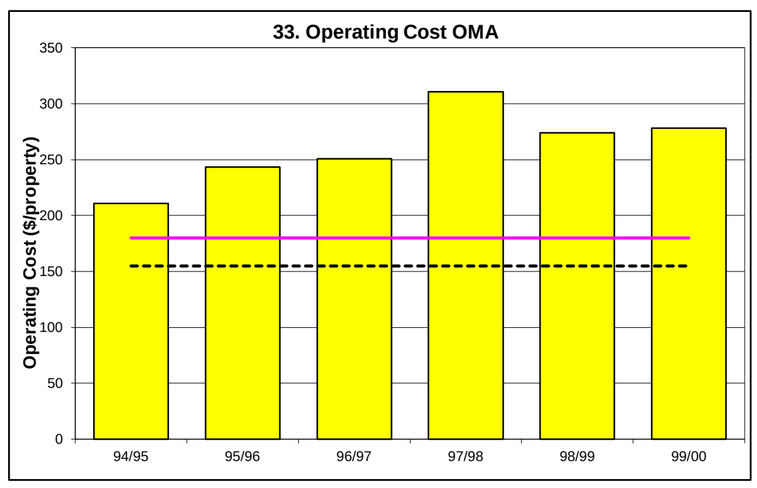


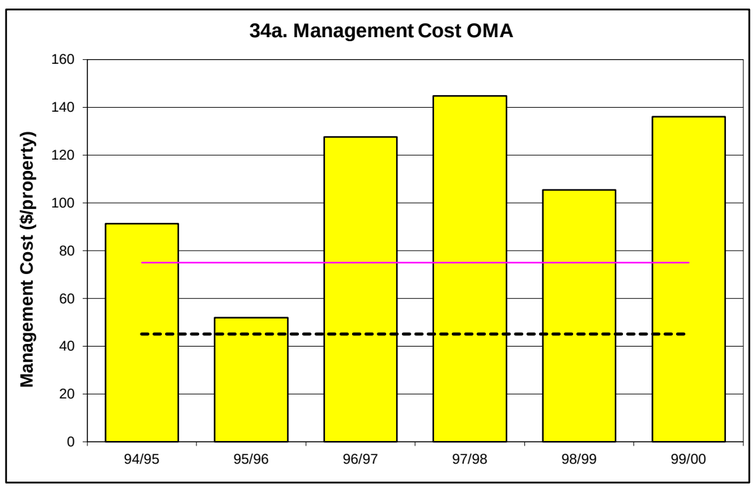


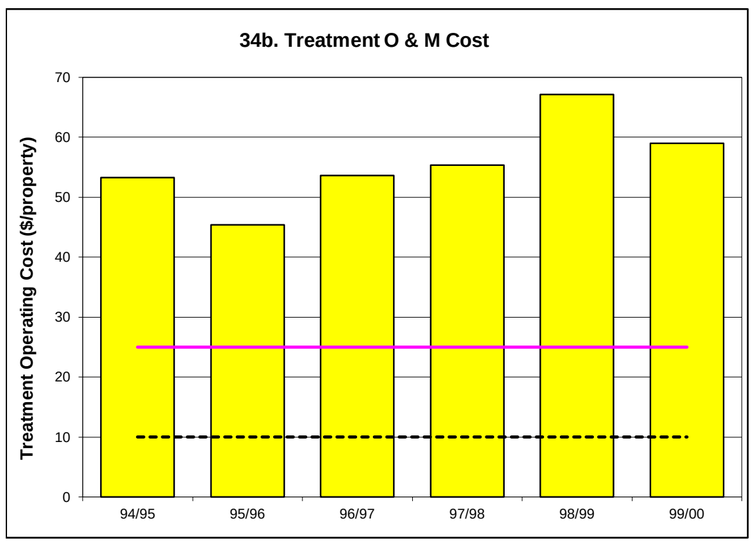


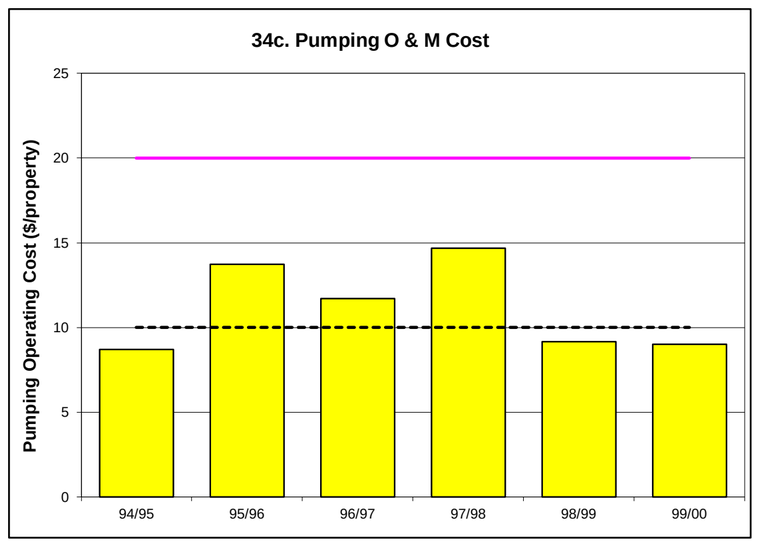


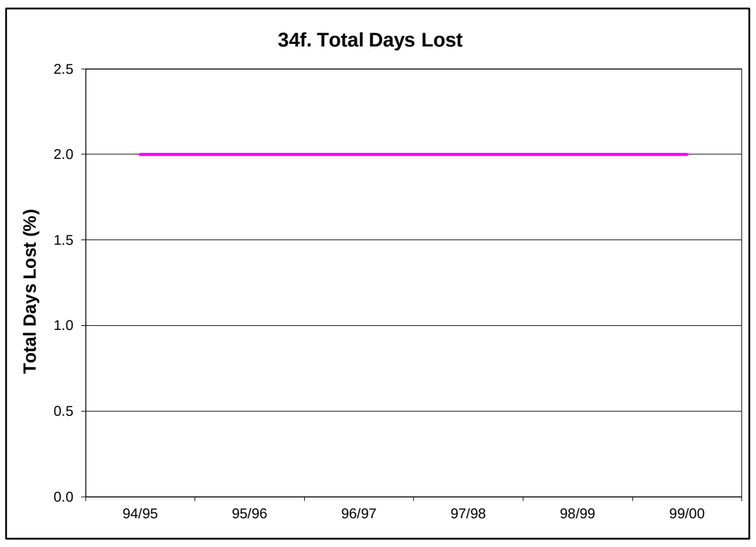












Costs are in Jan 2000$.

LEGEND

1999/00 State Median

1999/00 Top 20%

Armidale Dumaresq Council — Sewerage Performance — 1999/00

Council has 1 sewage treatment works providing tertiary treatment, serving Armidale. The system comprises 1 conventional trickling filter treatment works, 1 pumping station, 2.5 km of rising mains, 198 km of reticulation, and 1 river discharge. The number of sampling days at the treatment works was 52. There was no major malfunction of the treatment processes. The current replacement cost of system assets was $57 M, cash and investments were $3.4 M, debt was $nil M and turnover was $2 M (excluding capital works grants).

Business Planning

Strategic Business Plan (SBP)	*Year Prepared*	1997/98	*Year Updated*	-	*Is Further Development Required[4] ?*	Update
Financial Sustainability of Business	*Demonstrated?*	YES	*Year Updated*	-	*Is Further Development Required[4] ?*	Update

Performance Indicators

					Result	All Councils Ranking[1]	Ranking[2] <10,000 Properties	Statewide Median[3]
Business Characteristics	1	***Population Served:***	23,000	(0.98 connected properties per assessment)				
	2	***Number of Assessments:***	7,739	*Number of Connected Properties* 7,584				
	2a	***Residential Connections*** (% of total)			92	4		93
	3	***Urban properties without Reticulated Sewerage Service*** (%)			0.9	1	1	2.4
	3a	***New Residential Dwellings connected to Sewerage*** (%)			0.3	4	4	1.6
	4	***Properties Served per km*** (properties/km of main)			38	2		41
	4a	***Volume of Sewage treated per property*** (kL/property)			170	1	1	270
	5	***Energy Consumption*** (kWh/ML)						540
	6	***Energy Consumption*** (kWh/property)						130
	7	***Reclaimed Water*** (% of effluent reclaimed)			45	1	2	1
	8	***Bio-solids Reuse*** (%)			100	1	1	100
	9	***Renewals Expenditure*** (% of current replacement cost of system assets)			0.0	4		0.8
	10	***Employees*** (employees/1000 properties)			1.2	2	1	1.4
Charges/Bills	11	***Description of Residential[5] Tariff Structure:*** Access charge/property, independent of land value						
	12	***Residential access Charge 2000/01[5]*** ($/assessment)			210	1		340
	12a	***Typical Residential Bill 2000/01*** ($/assessment)			210	1	1	340
	12b	***Typical Developer Charge 2000/01*** ($/equivalent tenement)			1242	2		1900
	13	***Average Residential Bill 1999/00*** ($/connected property)			167	1	1	350
	14	***Real increase over previous year's Average Residential Bill*** (%)			-8	1	1	2
Financial	15	***Revenue from Usage Charges*** (% of total)			16			
	16	***Revenue from Access Charges*** (% of total)			70	4		77
	17	***Revenue from Trade Waste Charges*** (% of total)			0	2		0.3
	18	***Revenue from Other*** (% of total)			27	4		21
	19	***Economic Real Rate of Return*** (%)			-1.9	5	5	2.8
	20	***Return on Assets*** (%)			-1.1	4		2.8
	20a	***Debt to Equity*** (%)			0	5	5	8
	20b	***Interest Cover*** (%)						400
	20c	***Loan Payment*** ($/property)			0	4	5	90
Levels of Service	21	***90 Percentile Licence Limits for Effluent Discharge:***		***BOD No Limit mg/L SS 30mg/L***				
	22	***Compliance with BOD in Licence*** (% of samples)			100	1	1	100
	23	***Compliance with SS in Licence*** (% of samples)			100	1	1	99
	24	***Sewer Main Chokes and Collapses*** (per 100km of main)			36	2	3	35
	25	***Sewage Overflows to the Environment*** (per 100 km of main)						4
	26	***Odour Complaints*** (per 1000 properties)			0	1	1	0.6
	26a	***Sewerage Service Complaints*** (per 1000 properties)			48	4	4	14
	27	***Customer Interruption Frequency*** (per 1000 properties)						7
	28	***Average duration of Interruptions*** (hr)						2
	29	***Average customer outage time*** (min)						1
Efficiency	29a	***Operating Cost (OMA) per 100km of Main*** ($)			774	4	3	820
	30	***Operating Cost (OMA) per property*** ($/property)			204	3	3	220
	31	***Operating Cost (OMA)*** ($/ML)			942	4	5	790
	31a	***Management Cost*** ($/property)			97	5	5	70
	31b	***Treatment Operation & Maintenance Cost*** ($/property)			53	5	2	55
	31c	***Pumping Operation & Maintenance Cost*** ($/property)			1	1	1	40
	31d	***Energy Cost*** ($/property)			5	1		15
	31e	***Sewer Main Operation & Maintenance Cost*** ($/property)			51	5		25
	31f	***Total Days Lost*** (%)			0	1	1	1.1

Notes:

1 *Ranking for each performance indicator is based on dividing the results for all councils into 5 equal divisions of 20%, ie:*
- *a ranking of 1 indicates the Council is in the top 20% of Councils*
- *a ranking of 5 indicates the Council is in the bottom 20% of Councils*

2 *Ranking (1 to 5) for the 2,000 to 10,000 properties group of councils.*

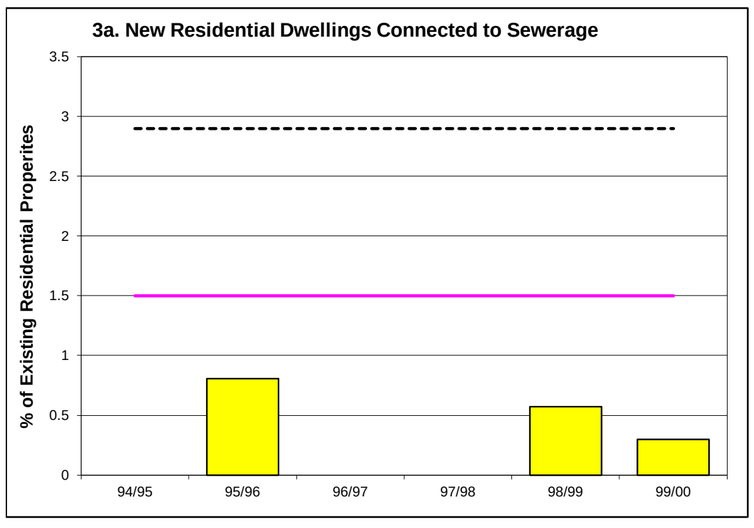
3 *The Statewide median is on a percentage of connected properties basis as indicated in Tables 2 and 3 of the 1999/00 NSW Performance Comparisons Report.*

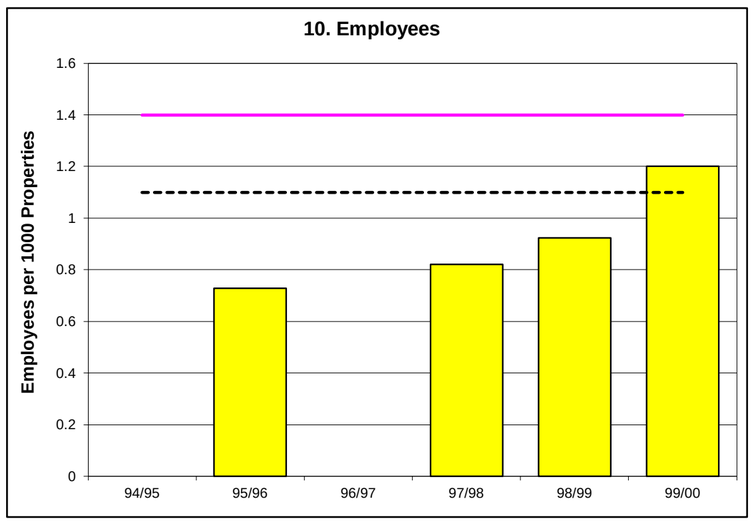
4 *Annual review of the key profections and actions in Council's SBP are required, together with annual updating of Council's financial plan.*

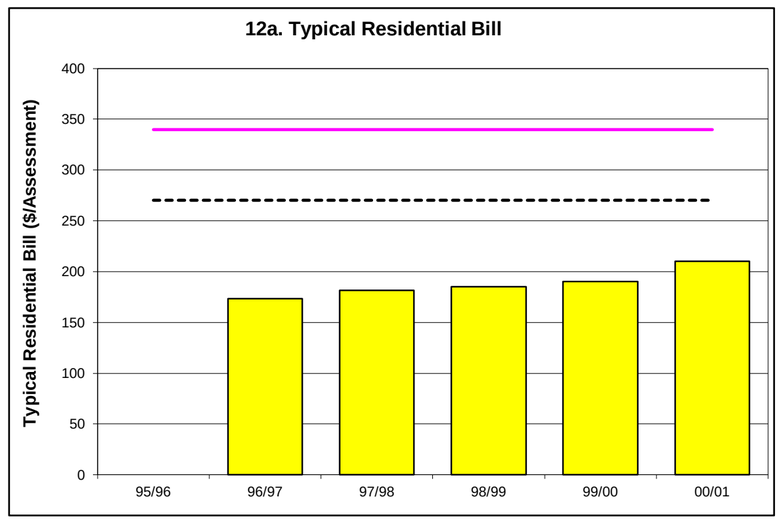
5 *Non-residential: Access charge based on land value (minimum $210); no usage charge.*

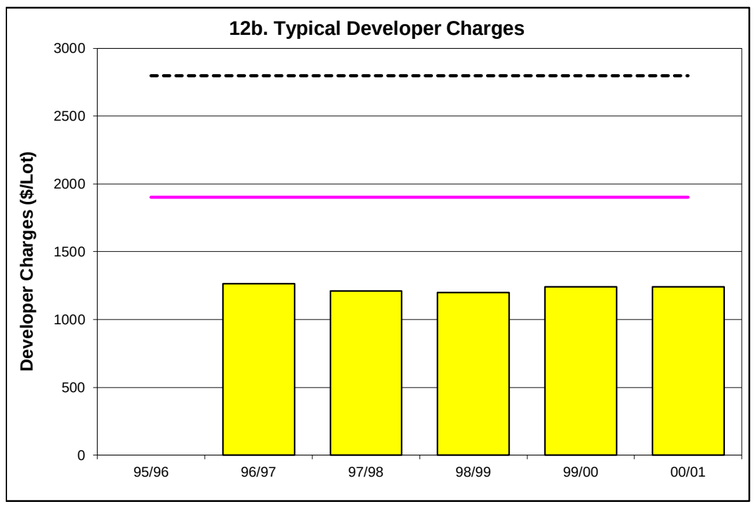
Armidale Dumaresq Council

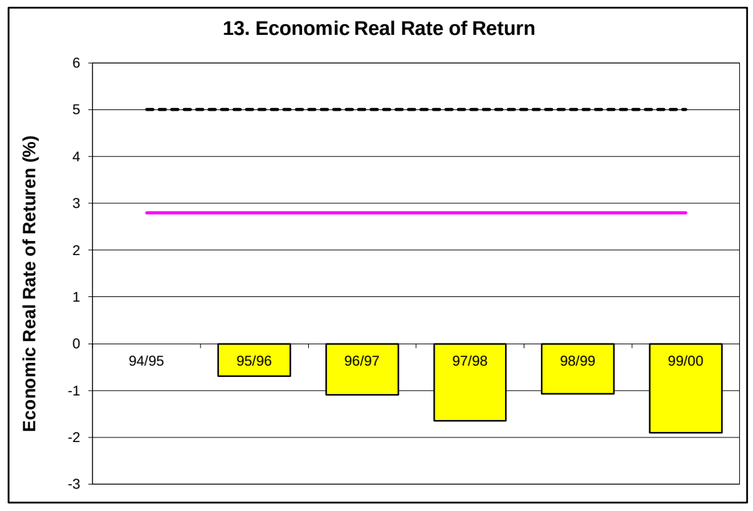
(Results shown for 6 years together with 1999/00 Statewide Median and Top 20%)

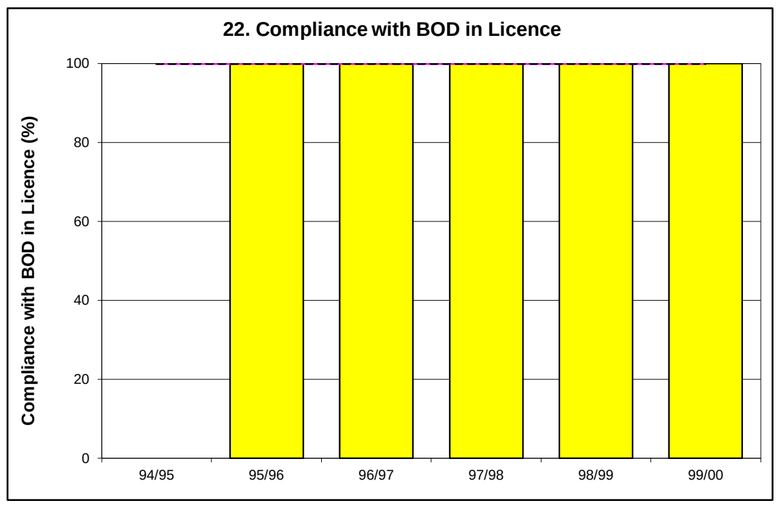


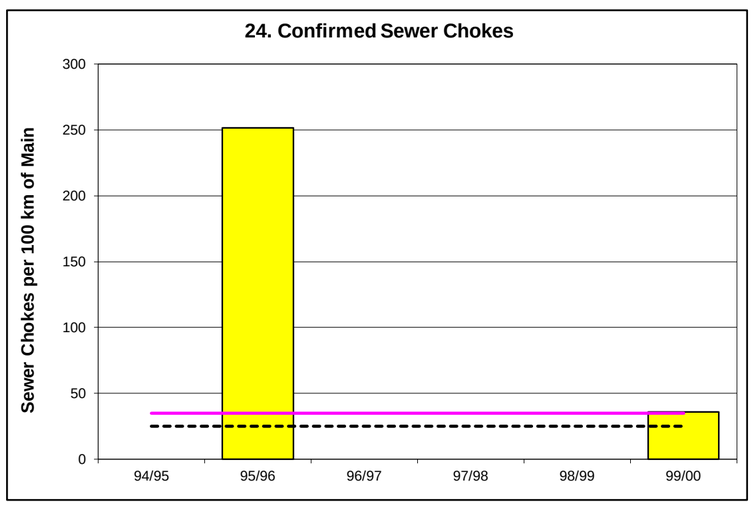


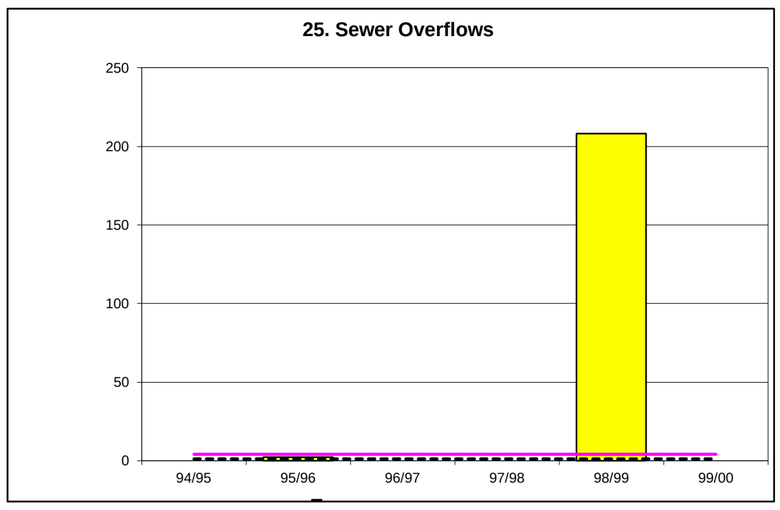


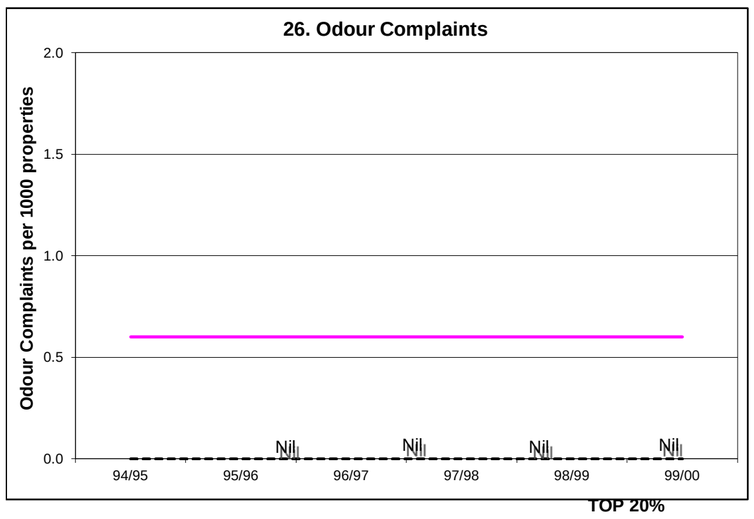


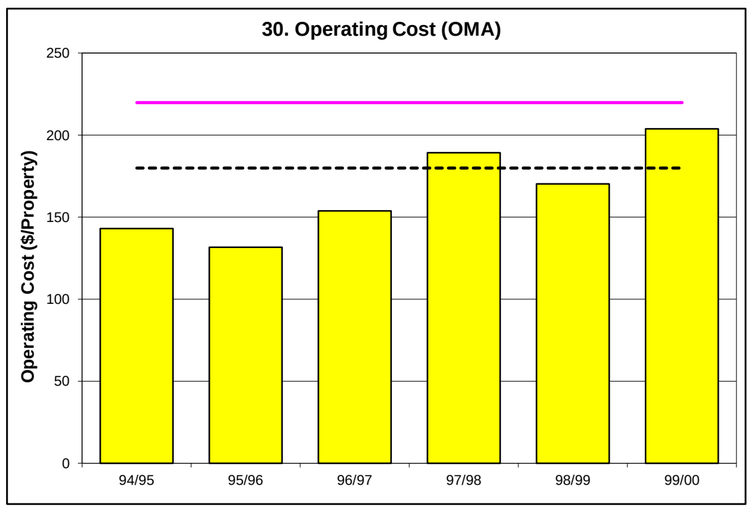


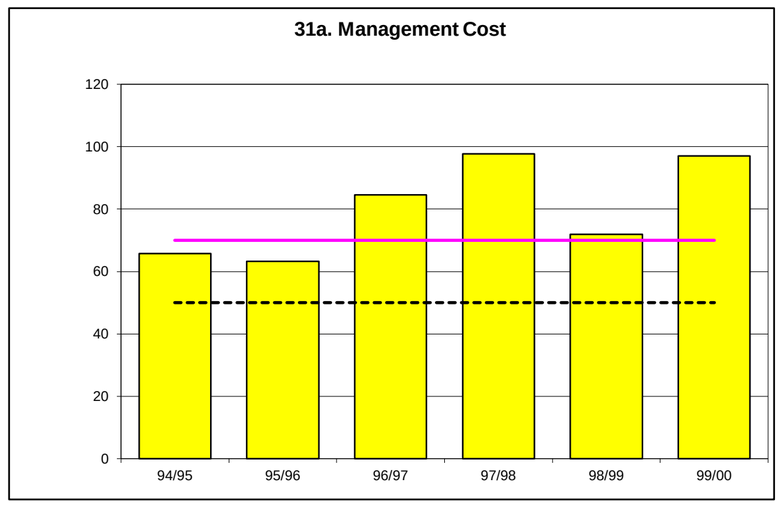


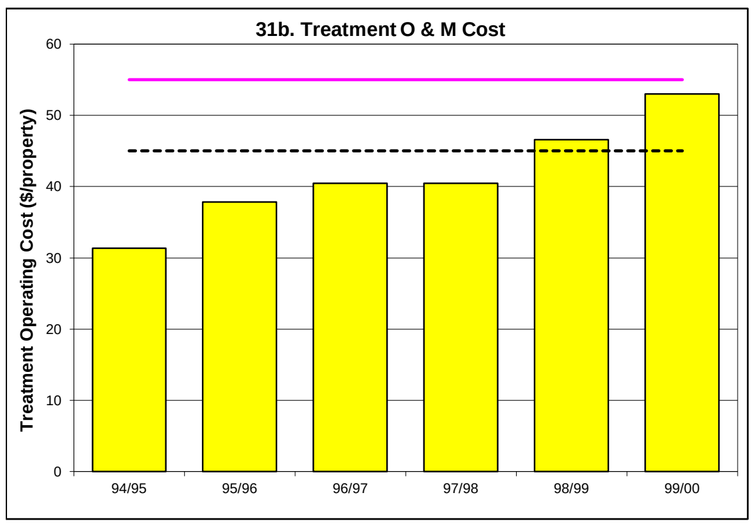


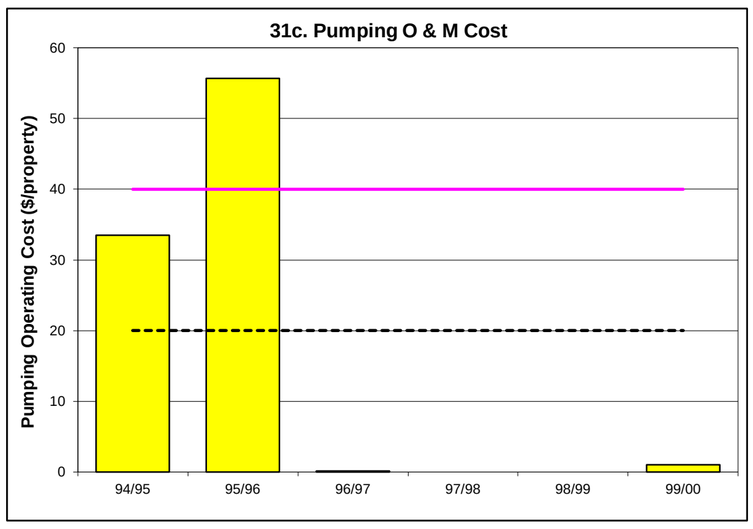


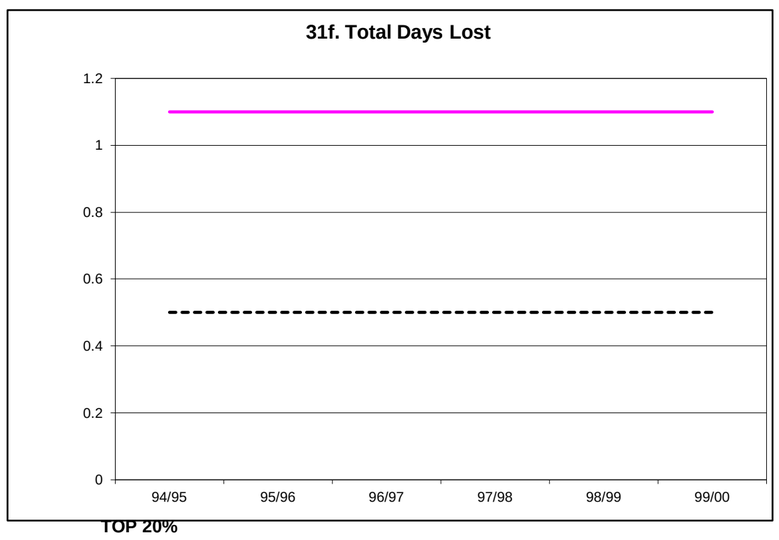












Costs are in 2000$.

LEGEND

1999/00 State Median

1999/00 Top 20%

1999/00 Water Supply Performance Percentiles on a % of Councils Basis

	20%	40%	Median (50%)	60%	80%
BUSINESS CHARACTERISTICS					
Urban Properties without Reticulated Public Water Supply	0	2	4	6	10
Residential Connections (% of total)	87	89	90	91	93
New Residential Dwellings Connected to Water Supply (%)	1.8	0.8	0.6	0.5	0.2
Properties Served per km of Main	35	30	25	23	16
Rainfall (% of average annual rainfall)	131	118	109	104	94
Annual Total Consumption (at Master Meters - ML)	4500	2300	1400	900	500
Average Annual Residential Consumption (kL/property)	200	250	270	310	420
Peak Week to Average Consumption (%)	170	230	250	265	370
Unnacounted for Water (including leakage %)	10	10	11	12	17
Energy Consumption (kWh/ML)	40	200	350	400	600
Energy Consumption (kWh/property)	10	120	150	170	280
Renewals Expenditure (% of current replacement cost of syster	0.2	0	0	0	0
Employees (per 1000 properties)	1.0	1.5	1.9	2.1	2.9
2000/01 CHARGES					
Water Usage Charge (c/kL)	95	70	65	60	45
Annual Water Allowance (kL/assessment)	0	0	120	270	400
Access Charge ($/assessment)	180	220	250	280	370
Typical Residential Bill ($/assessment)	270	320	340	370	470
Typical Developer Charge($/equivalent tenement)	3000	2000	1700	1300	800
1999/00 BILLS					
Average Residential Bill ($/per connected property)	300	340	360	390	450
Bill for Residential Customer using 200 kL/a ($/assessment)	250	300	310	330	410
Real increase over previous year's Bill for Residential Custo using 200 kL/a (%)	-2	-2	-2	0	3
FINANCIAL					
Revenue from Usage Charges (% of total)	40	28	22	19	10
Revenue from Access Charges (% of total)	36	50	55	62	71
Revenue from Other (% of total)	7	13	16	19	27
Economic Real Rate of Return (%)	3.8	2.0	1.6	1.0	-0.5
Return on Assets (%)	3.2	2.4	1.9	1.5	0.3
Debt to Equity (%)	10	5	3	2	0
Interest Cover (%)	>500	480	410	290	120
Loan Payment ($/property)	120	70	50	30	0
LEVELS OF SERVICE					
Physical and Chemical Water Quality Compliance (%)	100	100	98	90	60
Microbiological Water Quality Compliance (%)	100	100	100	95	89
Water Quality Complaints (per 1000 properties)	2	3	4	6	14
Service Complaints (per 1000 properties)	2	7	12	17	35
Customer Interruption Frequency (per 1000 properties)	3	8	12	21	70
Average Duration of Interruption (hr)	2	2	2	3	4
Average Customer Outage Time (min)	1	2	3	3	16
Number of Main Breaks (per 100 km of main)	5	12	15	20	35
Drought Water Restrictions (% of time)	0	0	0	0	0
EFFICIENCY					
Operating Cost (OMA) per 100 km of Main ($'000)	350	490	550	610	790
Operating Cost (OMA) ($/property)	160	195	225	250	290
Operating Cost (OMA) ($/ML)	340	470	530	580	750
Management Cost ($/property)	45	60	70	80	100
Treatment Cost ($/property)	12	24	30	37	50
Pumping Cost ($/property)	15	25	30	40	60
Energy Cost ($/property)	13	25	30	40	60
Water Main Cost ($/property)	20	45	55	65	90
Total Days Lost (%)	0	1	2	2	4

Notes:

1. ***20%*** ***top 20% of councils***
   Median (50%) median of councils
   80% bottom 20% of councils

2. The above performance indicators are on a ***percentage of councils*** basis which is relevant for ***comparing*** the performance of ***one council with other councils*** (refer also to Notes 1 to 3 on page xxix).

1999/00 Sewerage Performance Percentiles on a % of Councils Basis

	20%	40%	Median (50%)	60%	80%
BUSINESS CHARACTERISTICS					
Urban Properties without Reticulated Sewerage (%)	2	7	8	11	18
Residential Connections (% of total)	87	89	90	91	93
New Residential Dwellings Connected to Sewerage (%)	2.1	1.0	0.7	0.6	0.3
Properties Served per km of Main	42	38	35	32	27
Volume of Sewage Treated per property (kL/a)	190	250	270	290	350
Energy Consumption (kWh/ML)	200	380	470	520	800
Energy Consumption (kWh/property)	50	90	120	130	210
Reclaimed Water (% of effluent reclaimed)	45	12	1	0	0
Biosolids Reuse (%)	100	0	0	0	0
Renewals Expenditure (% of current cost of system assets)	1.1	0.5	0.4	0.2	0
Employees (per 1000 properties)	1.1	1.5	1.7	1.8	2.6
2000/01 CHARGES/BILLS					
Access Charge ($/assessment)	220	275	310	330	395
Typical Residential Bill ($/assessment)	225	280	310	335	395
Typical Developer Charge ($/equivalent tenement)	2800	1850	1600	1300	700
1999/00 BILLS					
Average Residential Bill ($/connected property)	230	300	340	355	400
Real Increase over Previous Year's Average Residential I	-3	2	4	8	15
FINANCIAL					
Revenue from Access Charges (% of total)	88	84	81	78	70
Revenue from Trade Waste Charges (% of total)	0.7	0	0	0	0
Revenue from Other (% of total)	11	16	18	20	30
Economic Real Rate of Return (%)	3.9	2.1	1.0	0.6	-1.1
Return on Assets (%)	3.8	1.7	0.9	0.3	-1.1
Debt to Equity (%)	15	7	5	3	0
Interest Cover (%)	>500	350	250	150	-100
Loan Payment ($/property)	130	60	50	35	0
LEVELS OF SERVICE					
Compliance with BOD in Licence (%)	100	100	100	100	92
Compliance with SS in Licence (%)	100	100	99	94	75
Confirmed Sewer Chokes (per 100 km of main)	25	40	55	75	130
Sewer Overflows to the Environment (per 100 km of main	0	2	3	5	15
Odour Complaints (per 1000 properties)	0	0	0.2	0.7	2
Service Complaints (per 1000 properties)	8	19	23	30	50
Customer Interruption Frequency (per 1000 properties)	0	0	2	8	25
Average Duration of Interruptions (hr)	1	2	2	2	4
Average Customer Outage Time (hr)	0	0	0.4	1	3
EFFICIENCY					
Operating Cost (OMA) per 100 km of Main ($'000)	460	570	700	770	940
Operating Cost (OMA) ($/property)	150	190	200	215	250
Operating Cost (OMA) ($/ML)	540	660	750	810	1130
Management Cost ($/property)	30	50	55	65	90
Treatment Cost ($/property)	41	55	60	70	95
Pumping Cost ($/property)	18	28	32	36	50
Energy Cost ($/property)	6	12	13	15	19
Sewer Main Cost ($/property)	11	18	20	23	37
Total Days Lost (%)	0.4	0.9	1.1	1.3	2

Notes:

1. ***20%*** ***top 20% of councils***
   Median (50%) median of councils
   80% bottom 20% of councils

2. The above performance indicators are on a ***percentage of councils*** basis which is relevant for ***comparing*** the performance of ***one council with other councils*** (refer also to Notes 1 to 3 on page xxix).

APPENDIX D

1999/00 WATER TREATMENT PERFORMANCE REPORTS

1999/00 SEWAGE TREATMENT PERFORMANCE REPORTS

Blank Page

Appendix D1 - 1999/00 Water Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported compliance values have been pro-rated on the basis of the number of samples tested at each treatment works and are shown in bold in the final line for that water utility.
Totals are shown for capacity (37B), treated volume (38B), and number of samples (eg. 42B). The days of chlorination system failure (44), and days of major malfunction of treatment processes (45) shown are the weighted average based on treatment works capacity.
2. For "Type of Treatment Works"; C = Conventional Water Treatment, L = Lagoon Sedimentation, DAF = Dissolved Air Flotation, D = Direct Filtration, M = Microfiltration, CH = Chlorination Only, OZ = Ozonation, A = Aerated and Disinfected, UV = Ultra-Violet Disinfection

	Water Utility	Comment	Water Treatment Works/ Chlorination/ Aeration Station	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Volume Treated	Colour Units						Turbidity Units						Percentage Test Compliance With 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines												Chlorination System Failure	Major Malfunction of Treatment Processes
									Raw Water			Treated Water			Raw Water			Treated Water			Physical		Chemical		Turbidity		pH		Colour		Faecal Coliforms		Total Coliforms			
						ML/d		ML	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	days	days
			37A			37B	38A	38B	39A	39B	39C	39D	39E	39F	40A	40B	40C	40D	40E	40F	42A	42B	42C	42D	42E	42F	42G	42H	42I	42J	42K	42L	42M	42N	44	45
1	Albury		Albury	1	1991	140	D	8,930	114	25	51	2.5	0.0	0.0	11	3	5	0.9	0.0	0.2	100	10	40	10	100	10	100	10	100	10	94	35	89	35	0	0
2	Armidale Dumaresq		Armidale	1	1988	42	C	3,099	67	16	39	3.0	1.0	1.1	3	0	1	0.3	0.1	0.2	100	365	100	365	100	365	100	365	100	365	100	52	100	52	0	0
3	Ballina (Reticulator)	***Bulk Supply from Rous***																																		
			Marom Creek	1	1977	3	D	131	25	3	12	8.0	1.0	2.8	6	0	4	1.0	0.0	0.1	100	360	100	353	100	360	99	798	100	360	100	315	97	100	0	0
4	Balranald (Dual Supply)				1988		C																													
5	Barraba		Barraba	1	1995	4	DAF	249	100	8	60	25.0	2.5	2.5	110	1	20	2.6	0.1	0.2			100	11	90	195	99	195	90	195	***No Microbiological Samples***				0	0
6	Bathurst		Bathurst	1	1998	55	C	6,590	236	8	40	8.0	0.0	3.9	295	2	21	2.0	0.1	0.2	100	730	100	2	100	730	100	730	100	730	100	312	100	156	0	0
7	Bega Valley (Unfiltered)			1			CH														100	6	83	6	100	6	100	6	100	6	96	244	96	244		
8	Bellingen (Unfiltered)		Lower Bellinger		1993	12	CH	1,162			5	2.5	2.0	2.0			0	0.7	0.2	0.3	100	1	100	1	100	1	100	1	100	1	100	66	100	66	1.0	0
			Dorrigo	2	1993	2.7	L	159	80	15	45	2.0	2.0	2.0	5	3	5	0.4	0.4	0.4	100	3	100	3	100	3	100	3	100	3	100	66	100	66	0.0	0
			Total/ Weighted Average [1]			**15.0**		**1,321**	***80***	***15***	**5**	**2.5**	**2.0**	**2.0**	***5***	***3***	**0**	**0.7**	**0.2**	**0.3**	**100**	**4**	**100**	**4**	**100**	**4**	**100**	**4**	**100**	**4**	**100**	**132**	**100**	**132**	**0.8**	**0**
9	Berrigan (Dual Supply)		Tocumwal	1	1983	7	DAF	622	100	30	40	5.0	5.0	5.0	180	20	35	0.2	0.1	0.2	100	2	100	2	100	300	100	300	100	300	100	132	100	132	0	0
			Finley	2	1997	2	C	312	90	20	15	5.0	5.0	5.0	50	16	25	0.3	0.2	0.2	100	2	100	2	100	300	100	300	100	300	100	12	100	12	0	0
			Berrigan	3	1990	1.0	C	96	50	10	20	5.0	5.0	5.0	60	20	25	0.2	0.1	0.2	100	2	100	2	100	300	100	300	100	300	100	12	100	12	0	0
			Barooga	4	1999	1.0	DAF																								100	7	100	7		
			Total/ Weighted Average [1]			***11***		***1,030***	***92***	***25***	***31***	***5***	***5***	***5***	***129***	***19***	***31***	***0.2***	***0.1***	***0.2***	***100***	***6***	***100***	***6***	***100***	***900***	***100***	***900***	***100***	***900***	***100***	***43***	***100***	***43***	***0***	***0***
10	Bingara		Bingara	1																																
11	**Bland**	**NO WS**																																		
12	**Blayney**	**NO WS**																																		
13	Bogan		Bogan	1		9	C	3,130	250	50	155	5.0	5.0	5.0	150	25	116	2.1	0.3	1.3	98	365	96	365	97	365	98	365	97	365	98	12	98	12	0	0
14	Bombala		Bombala	1	1983	3	C	295				3.0	2.0	2.0				0.5	0.4	0.4	100	4	75	4	100	4	100	4	100	4	100	7	100	7	0	0
			Delegate	2		1.3	CH	112	17	7	10	17.0	7.0	10.0	9	3	5	8.7	3.1	5.0	100	4	0	4	75	4	100	4	50	4	75	8	75	8	0	0
			Total/ Weighted Average [1]			**5**		***407***	***17***	***7***	***10***	**7**	**3**	**4**	**9**	**3**	**5**	**3**	**1.1**	**1.7**	***100***	**8**	**38**	**8**	**88**	**8**	**100**	**8**	**75**	**8**	**87**	**15**	**87**	**15**	**0**	**0**
15	Boorowa		Boorowa	1	1993	3	L		350	20	40	5.0	1.0	3.5	80	2	5	0.5	0.1						100	350	100	350	100	350					0	0
16	Bourke (Dual Supply)		Bourke	1	1988	3	C	710	200	200	200				200	200	200	15.0	1.0	9.0	50	2	50	2							40	10	60	10	0	0
17	Brewarrina		Brewarrina	1	1990	0.8	C	210	50	25	37	5.0	5.0	5.0	120	17	82	0.9	0.4	0.6	100	3	67	3	100	3	100	3	100	3	100	3	100	3	0	0
			Goodooga	2		0.5		100	1	>1	>1	1.0	NA	NA	<1	<1	<1	0.2	<1	<1	0	2	100	2	100	2	0	2	100	2	100	2	100	2	14	14
			Total/ Weighted Average [1]			***1.3***		***310***	***34***	***17***	***25***	***4***	***5.0***	***5.0***	***82***	***12***	***56***	***0.7***	***0.6***	***0.7***	***60***	***5***	***80***	***5***	***100***	***5***	***60***	***5***	***100***	***5***	***100***	***5***	***100***	***5***	***5.4***	***5.4***
18	Broken Hill WB		Mica Street	1	1981	40	C	6,511	1,675	5	270	6.0	0.0	3.3	864	0	171	5.3	0.1	1.0	91	27	100	27	100	365	100	365			100	120	100	120	0	0
19	Byron (Reticulator)	***Bulk Supply from Rous***																																		
			Mullumbimby	1		5	C	437	65	2	17	67.0	0.0	16.8	23	2	12	7.8	0.0	0.9	100	20	93	15	100	20	90	100	100	20	100	104	100	104	0	0
20	Cabonne		Molong	1	1986	4	C	252				2.0	2.0	2.0				0.3	0.2	0.2	91	12	100	12	100	12	91	12	100	12	90	20	85	20	0	0
		Non-Potable	Cumnock	2		2	CH	39	3	2					4	1	2				100	12	100	12	100	12	100	12	100	12	100	12	91	12	0	
		Non-Potable	Yeoval	3		0.8	CH	85	11	1	6				11	0	2				91	12	9	12	91	12	100	12	100	12	91	12	91	12	0	
			Total/ Weighted Average [1]			***7***		***376***	***53***	***2***	***15***	***43***	***1***	***11***	***20***	***1***	***10***	***5***	***0.1***	***0.6***	***94***	***36***	***70***	***36***	***97***	***36***	***97***	***36***	***100***	***36***	***93***	***44***	***88***	***44***	***0***	***0***
21	Carrathool		Hillston	1		6	CH	398				6.0	6.0	6.0				0.4	0.4	0.4	100	1	100	1	100	1	100	1	100	1	100	49	100	49	0	0
			Langtree/Merriwagga	2			CH					5.0	4.0	4.0				0.5	0.2	0.3	100	1	100	1	100	1	100	1	100	1	100	7	100	7	0	0
			Carrathool	3			CH	30				7.0	7.0	7.0				2.5	2.5	2.5	100	1	100	1	100	1	100	1	100	1	100	8	100	8		0
			Total/ Weighted Average [1]			***6***		***428***				***6.1***	***6.1***	***6.1***				***0.5***	***0.5***	***0.5***	***100***	***3***	***100***	***3***	***100***	***3***	***100***	***3***	***100***	***3***	***100***	***64***	***100***	***64***	***0***	***0***
22	Central Darling		Wilcannia	1		0.6	C	290				10.0	2.0	6.0	160	30	60	1.5	0.3	0.6	93	NA	93	NA							95	NA	95	NA	0	0
			Ivanhoe	2		0.6	C								5	4	4	0.7	0.3	0.5	93	NA	93	NA							95	NA	95	NA	0	0
			White Cliffs	3		0.2	CH	32													93	NA	93	NA							95	NA	95	NA	0	0
			Total/ Weighted Average [1]			***1.3***		***322***													***93***	**NA**	***93***	**NA**							***95***	**NA**	***95***	**NA**	***0***	***0***
23	Central Tablelands		Carcoar	1		6	C	1,595	130	20	70	5.0	1.0	2.0	25	7	20	5.0	1.0	2.0	100	24	5	24	98	365	100	365	100	365	98	120	98	120	0	0
			Blayney	2	1977	6	C	695	130	20	70	5.0	1.0	1.0	25	7	4	3.0	1.0	1.0	100	2	100	2	100	365	100	365	100	365	100	12	100	12	0	0
			Total/ Weighted Average [1]			***12***		***2,290***	***130***	***20***	***70***	***5.0***	***1.0***	***2.0***	***25***	***7***	***15***	***5.0***	***1.0***	***2.0***	***100***	***26***	***12***	***26***	***99***	***730***	***100***	***730***	***100***	***730***	***98***	***132***	***98***	***132***	***0***	***0***
24	Cobar (Dual Supply)		Cobar	1	1983	7	C	1,264	1,500	20	46				500	5	25				100	330	100	330	100	330	100	330	100	330	100	22	95	22	0	0
			Euabalong Village	2																											NA	NA	NA	NA		
			Euabalong West	3																											NA	NA	NA	NA		
			Nymagee Village	4																											NA	NA	NA	NA		
			MT Hope	5																											NA	NA	NA	NA		
			Total/ Weighted Average [1]			***7***		***1,264***	***1,500***	***20***	***46***				***500***	***5***	***25***				***100***	***330***	***100***	***330***	***100***	***330***	***100***	***330***	***100***	***330***	***100***	***22***	***95***	***22***	***0***	***0***
25	Coffs Harbour (Unfiltered)		Karangi Dam	1		60	CH	5,333	12	1	4	11.0	1.0	4.0	1	1	1	1.1	0.3	0.8	100	95	100	161	100	23	100	23	100	23	100	269	87	269	0	0
			Nana Glen	2	1996	0.6	C	13	175	2	36	16.0	1.0	3.9	36	0	5	1.5	0.2	0.4	98	128	97	122	100	32	91	32	97	32	100	24	100	24	0	0
			Coramba				CH	33																							100	24	96	24	0	
			Total/ Weighted Average [1]			***61***		***5,346***	***12***	***1***	***4***	***11.0***	***1.0***	***4.0***	***1***	***1***	***1***	***1.1***	***0.3***	***0.8***	***99***	***223***	***99***	***283***	***100***	***55***	***95***	***55***	***98***	***55***	***100***	***317***	***89***	***317***	***0***	***0***
26	Coolah		Coolah	1				450													88	8	63	8	75	8	100	8	88	8	91	88	91	88	14	1
27	**Coolamon**	**NO WS**																																		

Appendix D1 - 1999/00 Water Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported compliance values have been pro-rated on the basis of the number of samples tested at each treatment works and are shown in bold in the final line for that water utility.
Totals are shown for capacity (37B), treated volume (38B), and number of samples (eg. 42B). The days of chlorination system failure (44), and days of major malfunction of treatment processes (45) shown are the weighted average based on treatment works capacity.
2. For "Type of Treatment Works"; C = Conventional Water Treatment, L = Lagoon Sedimentation, DAF = Dissolved Air Flotation, D = Direct Filtration, M = Microfiltration, CH = Chlorination Only, OZ = Ozonation, A = Aerated and Disinfected, UV = Ultra-Violet Disinfection

	Water Utility	Comment	Water Treatment Works/ Chlorination/ Aeration Station	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Volume Treated	Colour Units						Turbidity Units						Percentage Test Compliance With 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines												Chlorination System Failure	Major Malfunction of Treatment Processes
									Raw Water			Treated Water			Raw Water			Treated Water			Physical		Chemical		Turbidity		pH		Colour		Faecal Coliforms		Total Coliforms			
						ML/d		ML	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	days	days
			37A			37B	38A	38B	39A	39B	39C	39D	39E	39F	40A	40B	40C	40D	40E	40F	42A	42B	42C	42D	42E	42F	42G	42H	42I	42J	42K	42L	42M	42N	44	45
28	Cooma-Monaro		Cooma	1	1985	15.4	C	1,326	70	10	30	15.0	<5	<5	1,000	1	12	30.3	0.0	0.6	75	4	50	4	99	470	74	264	100	470	84	48	82	48	0	0
			Nimmitabel	2			CH		40	<5	15				8	0	3				50	2	0	2	100	2	96	29	50	2	100	10	100	10	0	
			Bredbo	3			CH		2	<2	<2				3	2	3				100	2	50	2	100	2	100	170	100	2	100	12	84	12	0	
			Total/ Weighted Average [1]			***18***		***1,326***	***70***	***10***	***30***	***15.0***	***<5***	***<5***	***1,000***	***1***	***12***	***30.3***	***0.0***	***0.6***	***75***	***8***	***38***	***8***	***99***	***474***	***85***	***463***	***100***	***474***	***89***	***70***	***85***	***70***	***0***	***0***
29	Coonabarabran		Coonabarabran	1	1993	8	L	600	24	8	15	2.0	2.0	2.0	48	15	30	0.6	0.2	0.3	100	6	100	6	100	6	100	6	100	6	100	5	100	5	0	0
			Baradine	2		1.3	D		62	2	16	4.0	2.0	3.0	91	13	48	9.8	1.5	5.2	100	6	0	6	67	6	100	6	100	6	83	6	83	6		
			Binnway	3	1993	1.3	L		22	4	11	3.0	2.0	2.2	65	4	32	0.7	0.2	0.3	100	5	100	5	100	5	100	5	100	5	100	4	75	4		
			Bugaldie	4			CH		3	<2	<2	9.0	<2	3.5	0.6	4.2	0.3	4.6	0.2	1.9	100	8	75	8	100	8	100	8	100	8	100	4	75	4		
			Kenebri	5			CH		11	<2	5	19.0	<2	5.2	1.0	<0.2	0.5	13.0	<0.2	2.5	100	12	58	12	83	12	100	12	92	12	83	6	50	6		
			Total/ Weighted Average [1]			***10***		***600***	***29***	***7***	***15***	***2***	***2***	***2***	***56***	***13***	***33***	***2***	***0***	***1***	***100***	***37***	***73***	***37***		***37***	***100***	***37***		***37***	***92***	***25***	***76***	***25***	***0***	***0***
30	Coonamble (Groundwater)		Coonamble																		100	10	60	10							90	10	90	10		
31	Cootamundra (Reticulator)	***Bulk Supply from Goldenfields***																			NA	NA	NA	NA							NA	NA	NA	NA		
32	Copmanhurst (Unfiltered)		Copmanhurst Rodeo Gr	1			CH	33	19	5	12	19.0	5.0	12.0	140	0	4	140.0	0.0	4.0	50	2	50	2	50	2	100	171	50	2	89	63	92	63	3	3
33	Corowa		Corowa	2		18	CH	1,419							85	5	13														88	12	88	12	0	0
			Mulwala	1	1944	14	C	1,607							60	3	14	2.4	0.2	0.6	100	365	100	52	99	363					100	10	100	10	0	0
			Total/ Weighted Average [1]			***32***		***3,026***							***72***	***4***	***13***	***2.4***	***0.2***	***0.6***	***100***	***365***	***100***	***52***	***99***	***363***					***93***	***22***	***93***	***22***	***0***	***0***
34	Cowra				1987		D																												
35	Crookwell		Crookwell	1	1990	3	C	333	250+	30	150	15.0	2.0	5.0	15	2	8	1.0	0.1	0.2	100	2	50	2	100	2	100	2	100	2	98	53	85	53	0	0
36	Culcairn (Groundwater)		Culcairn	1		2	CH	179	2	2	2	2.0	2.0	2.0	0	0	0	0.3	0.3	0.3	100	1	100	1	100	1	100	1	100	1	90	12	80	12		0
37	Deniliquin		Deniliquin	1	1986	26	C	2,396	150	30	80	10.0	55.0	55.0	35	10	20	0.6	0.1	0.2	99	366	100	2	99	366	99	366	99	366	100	4	100	4	0	0
38	Dubbo		John Gilbert	1	1977	61	C	6,541	391	17	63	21.0	0.0	2.2	235	8	26	6.2	0.0	0.5	99	366	100	366	100	366	87	366	99	366	98	120	100	120	2	5
39	Dungog (Unfiltered)	***Bulk Supply from Hunter***																																	
40	Eurobodalla (Unfiltered)		Eurobodalla	1			CH		19	3	7				12	0	1				89	45	100	45	96	45	100	45	80	45	98	45	98	45	0	0
41	Fish River WS (Unfiltered, Bulk Supplier)		Duckmaroi	1																	99	165	84	165	99	165	76	165	100	165	100	164	98	164		
42	Forbes		Forbes	1	1966	28	C	2,833	300	15	50	5.0	0.0	2.5	180	6	30	1.0	0.2	0.4	100	2	50	2	100	2	100	2	100	2	94	36	92	36	0	0
43	Gilgandra (Groundwater)		Gilgandra	1	1984	6	D	665	3	1	2	0.5	0.0	0.3	60	1	10	0.3	0.1	0.2	100	2	100	2	100	2	100	2	100	2	100	2	100	2	1	1
44	Glen Innes		Glen Innes	1	1982	12	C	681	550	0	63	31.0	0.0	0.3	104	2	9	1.9	0.3	0.7	100	365	100	12	100	365	100	365	100	365	100	12	100	12	0	0
45	Gloucester		Gloucester	1	1981	5	D	607	250	10	41	15.0	5.0	5.0	85	0	3	1.0	0.1	0.1	100	52	100	52							100	52	100	52		
			Barrington	2		0.1	CH	39	250	10	41				85	0	3				***No Testing***										85	52	85	52		
			Total/ Weighted Average [1]			***5***		***646***	***250***	***10***	***41***	***15.0***	***5.0***	***5.0***	***85***	***0***	***3***	***1.0***	***0.1***	***0.1***	***100***	***52***	***100***	***52***							***93***	***104***	***93***	***104***	***0***	***0***
46	Goldenfields (Bulk Supplier)		Jugiong (Bulk)	1	1991	40	C	3,658	400	25	55	12.0	5.0	5.0	240	4	17	1.2	0.1	0.2	100	1,462	100	1,056	100	365	99	366	100	365	100	48	100	48	0	0
			Oura (Bulk)	2		26	A	3,329													100	291	98	2,384			99	156			97	59	93	57	1	0
			Total/ Weighted Average [1]			***66***		***6,987***	***400***	***25***	***55***	***12.0***	***5.0***	***5.0***	***240***	***4***	***17***	***1.2***	***0.1***	***0.2***	***100***	***1,753***	***99***	***3,440***	***100***	***365***	***99***	***522***	***100***	***365***	***98***	***107***	***96***	***105***	**0.4**	***0***
47	Goldenfields (Reticulator)																						98	1,126							95	558	96	561		
48	Goldenfields (Combined)					66															100		98								96		96			
49	Gosford		Somersby	1	1986	140	C	16,153	130	0	70	10.0	5.0	5.0	70	2	7	1.0	0.0	0.2	100	366	100	260	100	260	100	260	100	260	98	449	94	449	0	0
50	Goulburn		Goulburn	1	1975	26	C	4,142	1,590	5	62	15.0	1.0	7.4	212	0	4	1.0	0.1	0.3	100	738	100	404	100	366	100	366	100	366	93	56	96	56	0	0
51	Grafton		Rushforth Road Reserv	1		70	CH	6,491	97	1	10	50.0	1.0	19.7	250	10	25	13.0	0.9	2.7	100	NA	100	52	100	52	100	52	23	52	96	128	95	128	0	0
52	Griffith		Griffith	1	1987	60	DAF		70	25	125	15.0	3.0	5.0	30	5	13	0.4	0.0	0.2	100	1	100	1	100	366	100	366	100	366	99	100	99	100		
			Yenda	2	2001	2.5	M																												
			Total/ Weighted Average [1]			***63***			***70***	***25***	***125***	***15.0***	***3.0***	***5.0***	***30***	***5***	***13***	***0.4***	***0.0***	***0.2***	***100***	***1***	***100***	***1***	***100***	***366***					***99***	***100***	***99***	***100***		
53	Gundagai		Gundagai	1	1988	5	C	650	250	20	87	30.0	5.0	7.0	155	10	20	9.2	0.1	0.3	100	12	92	12	92	350	97	350	92	350	100	100	99	100	0	14
54	Gunnedah (Groundwater)	***Good Quality Untreated Groundwater***																																	
55	Gunning		Lachlan River (Pump S	1		0.2	OZ														100	3	100	3	100	3	100	3	100	3	81	16	81	16	12	
			Dalton	2		0.03	CH														0	3	0	3	100	3	100	3	67	3	88	16	88	16	0	0
			Total/ Weighted Average [1]			***0.23***		***86***													***50***	***6***	***50***	***6***	***100***	***6***	***100***	***6***	***83***	***6***	***84***	***32***	***84***	***32***	**10.2**	***0***
56	Guyra		Guyra	1	1983	3	D		250		100	5.0		5.0	30		8	0.8		0.4														0	0
57	Harden (Reticulator)	***Bulk Supply from Goldenfields***																			100	4	100	4	100	4	90	4	100	4	100	10	100	10		
58	Hastings (Unfiltered)		Hastings	1		132	CH	6,633													73	1,337	39	13	94	1,337	78	1,337	100	13	99	399	98	399	0	
59	Hay (Dual Supply)		Hay (Filtered)	1	1988	2	C	3,195	10	9	10	2.0	2.0	2.0	49	39	40	2.0	2.0	2.0	100	6	100	6	100	6	100	6	100	6	100	4	100	4	0	0
			Hay (Raw)	2																															
			Total/ Weighted Average [1]			***2***			***10***	***9***	***10***	***2.0***	***2.0***	***2.0***	***49***	***39***	***40***	***2.0***	***2.0***	***2.0***	***100***	***6***	***100***	***6***	***100***	***6***	***100***	***6***	***100***	***6***	***100***	***4***	***100***	***4***	***0***	***0***
60	**Holbrook**	**NO WS**																																	
61	Hume		Lake Hume	1		57	CH	44							6	1	2				100	12	100	12	100	12	100	12	100	12	NA	NA	NA	NA		
			Howlong	2	1989	6	L	339	500	35	85	5.0	0.0	0.0	154	5	15	3.8	0.2	2.0	100	12	100	12	100	12	100	12	100	12	NA	NA	NA	NA		
			Villages	3			CH	428													NA	NA	NA	NA							NA	NA	NA	NA		
			Table Top	4			CH	152													NA	NA	NA	NA							NA	NA	NA	NA	3	
			Total/ Weighted Average [1]			***63***		***963***	***500***	***35***	***85***	***5.0***	***0.0***	***0.0***	***137***	***4***	***13***	***3.8***	***0.2***	***2.0***	***100***	***24***	***100***	***24***	***100***	***24***	***100***	***24***	***100***	***24***	**NA**	**NA**	**NA**	**NA**	***3***	***0***

Appendix D1 - 1999/00 Water Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported compliance values have been pro-rated on the basis of the number of samples tested at each treatment works and are shown in bold in the final line for that water utility.
Totals are shown for capacity (37B), treated volume (38B), and number of samples (eg. 42B). The days of chlorination system failure (44), and days of major malfunction of treatment processes (45) shown are the weighted average based on treatment works capacity.
2. For "Type of Treatment Works"; C = Conventional Water Treatment, L = Lagoon Sedimentation, DAF = Dissolved Air Flotation, D = Direct Filtration, M = Microfiltration, CH = Chlorination Only, OZ = Ozonation, A = Aerated and Disinfected, UV = Ultra-Violet Disinfection

	Water Utility	Comment	Water Treatment Works/ Chlorination/ Aeration Station	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Volume Treated	Colour Units						Turbidity Units						Percentage Test Compliance With 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines												Chlorination System Failure	Major Malfunction of Treatment Processes
									Raw Water			Treated Water			Raw Water			Treated Water			Physical		Chemical		Turbidity		pH		Colour		Faecal Coliforms		Total Coliforms			
						ML/d		ML	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	days	days
			37A			37B	38A	38B	39A	39B	39C	39D	39E	39F	40A	40B	40C	40D	40E	40F	42A	42B	42C	42D	42E	42F	42G	42H	42I	42J	42K	42L	42M	42N	44	45
62	Hunter Water	*Metropolitan*																																		
63	Inverell		Copeton	1	1982	18	C	1,900	177	60	100	7.5	0.5	3.5	17	2	6	5.0	0.2	0.5	100	360	100	14	99	360	100	360	99	360	100	12	100	12	0	0
			Ashford	2	1984	1.2	C	103	250	30	60	10.0	0.0	0.0	130	1	5	3.0	0.2	0.3	100	360	100	14	99	360	100	360	99	360	100	14	100	14	0	0
			Yetman Bore	3		0.5	CH	14													100	NA	100	2							100	12	100	12	0	0
			Total/ Weighted Average [1]			***20***		***2,017***	***181***	***58***	***98***	***8***	***0.5***	***3***	***23***	***2***	***6***	***5***	***0.2***	***0.5***	***100***	***720***	***100***	***30***	***99***	***720***	***100***	***720***	***99***	***720***	***100***	***38***	***100***	***38***	***0***	***0***
64	Jerilderie (Dual Supply)		Jerilderie	1	1980	0.8	C	334				2.0	2.0	1.5				0.3	0.2	0.2	100	2	100	2	100	250	100	250	100	250	100	2	100	2	0	0
65	**Junee**	**NO WS**																																		
66	Kempsey (Groundwater)		Sherwood	1		15	CH	3,418	8			2.0	2.0					0.3	0.2		100	2	100	2	100	2	100	2	100	2	100	12	100	12	0	0
			Belgrave Falls	2		5	CH	334				2.0	2.0	2.0				1.1	0.2	0.7	100	2	100	2	100	2	100	2	100	2	100	12	83	12		
			South West Rocks	3		3	CH	535				4.0	2.0					1.9	0.5	1.2	100	2	100	2	100	2	100	2	100	2	100	12	100	12	0	0
			Crescent Head	4		3	CH	201				9.0	4.0	3.5				4.4	2.7	3.6	100	2	100	2	100	2	100	2	100	2	100	12	92	12	0	0
			Stuarts Point	5		3	D	290				2.0	2.0					0.3	0.2	0.3	100	2	100	2	100	2	100	2	100	2	100	12	100	12	0	0
		Emergency Supply	Kinchela			2	CH	0										4.9																	0	0
			Hat Head	6		2	CH	78				11.0	9.0	10.0				0.4	0.3	0.4	100	2	100	2	100	2	100	2	100	2	100	12	92	12	0	0
			Willawarrin	7		0.1	CH	14				2.0	2.0					0.8	0.5	0.7	100	2	100	2	100	2	100	2	100	2	100	12	100	12	0	0
			Bellbrook	8		0.1	CH	11				2.0	2.0					1.7	0.8	1.3	100	2	100	2	100	2	100	2	100	2	92	12	92	12	0	0
			Total/ Weighted Average [1]			***33***		***4,881***				***3.3***	***2.5***	***2.6***				***1.2***	***0.5***	***0.6***	***100***	***2***	***88***	***16***	***100***	***16***	***100***	***16***	***100***	***16***	***99***	***96***	***95***	***96***	***0***	***0***
67	Kyogle		Kyogle	1	1988	3	C	483	120	15	30	2.6	2.0	2.2	32	7	9	1.2	0.5	0.7	100	2	100	1	100	2	100	2	100	2	95	48	95	48	0	2
68	Lachlan		Condobolin	1		7	C	597				10.0	2.0	4.0				3.0	0.4	1.0	100	10	80	10	98		100		98		84	18	84	18	0	0
			Lake Cargelligo	2	1930	2	C	240	180	15	100				130	5	80						100	1	94	17	100		97	16	74	19	74	19	0	0
			Tottenham	3	1994	1.0	L	80						3.0						1.0	*No testing*				98		100		98		38	16	38	16	0	0
			Total/ Weighted Average [1]			***10***		***917***	***180***	***15***	***100***	***10.0***	***2.0***	***4.0***	***130***	***5***	***80***	***3.0***	***0.4***	***1.0***	***100***	***10***	***82***	***11***	***94***	***17***	***100***		***97***	***16***	***67***	***53***	***67***	***53***	***0***	***0***
69	Leeton		Leeton	1	1993	27	C	2,225	140	19	50				92	7	30	0.6	0.1	0.3	100	48	100	3	100	242	100	242	100	242	100	13	100	13	0	0
			Whitton	2		0.9	C	91	125	22	30				125	14	25	0.8	0.1	0.3	100	1	100	3	100	48	100	48	100	48	100	5	100	5	0	0
			Murrami	3	1993	0.3	L	15	120	24	32				125	14	23	0.8	0.1	0.3	100	1	100	3	100	45	100	45	100	45	100	4	100	4	0	0
			Yanco	4	1994	0.8	L																													
			Total/ Weighted Average [1]			***29***		***2,331***	***139***	***19***	***49***				***94***	***7***	***30***	***0.6***	***0.1***	***0.3***	***100***	***50***	***100***	***9***	***87***	***335***	***87***	***335***	***87***	***335***	***100***	***22***	***100***	***22***	***0***	***0***
70	Lismore (Reticulator)	***Bulk Supply from Rous***																			100	NA	100	NA							100	NA	100	NA		
71	Lithgow		Oakey Park	2	1985	12	C	1,499	300	30	30	5.0	0.0	2.5	50	5	5	0.5	0.0	0.1	100	NA	NA	NA	100				100		NA	NA	NA	NA	0	0
72	**Lockhart**	**NO WS**																																		
73	Lower Clarence (Unfiltered)	***Bulk Supply from Grafton***							250	20	40	35.0	15.0	20.0	100	1	6	13.0	1.6	3.9	88	51	45	51	89	193	100	235	0	19	96	479	64	479		
74	**Maclean**	**NO WS**																																		
75	Manilla		Manilla	1	1990	4	C	640	225	15	30	10.0	2.5	25.0	47	37	8	0.5	0.2	0.3	99	12	99	12	99	12	99	12	99	12	100	12	100	12	0	0
76	Merriwa (Groundwater)		Merriwa	1	1980	2	D	255	30	15	23	9.0	9.0	5.5	9	5	7	4.0	0.3	1.5	100	1	100	1	100	4	100	50	100	4	100	24	100	24	0	0
			Cassilis	2		0.6	CH	24				16.0	16.0	16.0				1.0	1.0	1.0	100	1	100	1	100	1	100	48	100	1	97	28	97	28	0	0
			Total/ Weighted Average [1]			***3***		***279***	***30***	***15***	***23***	***9.6***	***9.6***	***6.4***	***9***	***5***	***7***	***3.7***	***0.4***	***1.5***	***100***	***2***	***100***	***2***	***100***	***5***	***100***	***98***	***100***	***5***	***98***	***52***	***98***	***52***	***0***	***0***
77	MidCoast (Manning - Unfiltered)		Bootawa Dam	1		131	CH	8,736				5.0	3.0	3.8				3.3	0.9	1.9	98	3,504	99	4,098	99	1,259	92	952	99	1,259	98	1,309	88	1,309	0	0
78	MidCoast (Great Lakes - Unfiltered, Reticu		Tea Gardens	1		6	CH	551				15.0	1.0	10.8				1.8	0.4	1.1	99	651	49	821	99	217	97	217	100	217	99	217	93	217	1	0
			Bulahdelah	2		4	C	182	550	77	315	6.0	0.0	0.1	129	14	60	2.0	0.0	0.0	93	531	96	765	98	177	80	177	99	177	100	177	100	177	2	0
			Stroud	3	1997	2	L	124				13.0	0.0	0.5	86	3	17	4.0	0.0	0.2	98	711	80	895	100	237	93	237	100	237	99	237	95	237	0	0
79	MidCoast (Combined - Unfiltered)		***Total/ Weighted Average*** [1]			***143***		***9,593***				***5.6***	***2.8***	***4.0***				***3.3***	***0.8***	***1.8***	***98***	***5,397***	***90***	***6,579***	***99***	***1,890***	***92***	***1,583***	***99***	***1,890***	***98***	***1,940***	***91***	***1,940***	**0.0**	***0***
80	Moree Plains		Leeton	1		23	C	8,300	140	19	50				92	7	30	0.6	0.1	0.3	100	48	100	3	100	242	99	1,200	100	242	100	72	100	13	0	0
			Whitton	2		1.5	C	90	110	25	55	12.0	2.0	5.0	120	25	45	0.8	0.2	0.3	100	1	95	1,000	95	600	97	700	95	650	100	12	100	12	0	0
			Murrami	3		0.7	C	190	100	50	75	8.0	1.0	4.5	161	0	80	0.2	0.1	0.2	100	1	100	3	95	400	95	700	95	400	100	12	100	12	0	0
			Total/ Weighted Average [1]			***28***		***2,331***	***139***	***20***	***51***	***10.0***	***2.0***	***5.0***	***94***	***7***	***31***	***0.6***	***0.1***	***0.3***	***98***	***50***	***100***	***9***	***87***	***335***	***87***	***335***	***87***	***335***	***100***	***22***	***100***	***22***	***0***	***0***
81	Mudgee (Unfiltered)		Burrundulla	1		20	CH	1,800	9	1	5	10.0	1.0	5.0	30	3	6	25.0	1.0	5.0	30	72	80	72	80	72	95	72	80	72	98	72	98	72	1	
82	Mulwaree		Marulan	1	1997	1.3	M	97													100	1	100	1	100	1	100	1	100	1	100	12	100	12	0	0
			Taralga	2		1.2	UV	0				4.0	4.0	4.0				0.6	0.6	0.6	100	1	100	1	100	1	100	1	100	1	92	12	92	12		
			Total/ Weighted Average [1]			***3***		***97***				***4.0***	***4.0***	***4.0***				***0.6***	***0.6***	***0.6***	***100***	***2***	***100***	***2***	***100***	***2***	***100***	***2***	***100***	***2***	***96***	***24***	***96***	***24***	***0***	***0***
83	Murray		Moama	1		4	C	588	300	75	30	10.0	5.0	5.0	90	15	30	1.8	0.2	0.5	100	3	100	3	100	3	100	3	100	3	NA	NA	NA	NA	0	0
			Mathoura	2		2	C	237	60	18	34	9.0	4.0	6.0	40	7	22	0.4	0.1	0.1	100	3	100	3	100	3	100	3	100	3	NA	NA	NA	NA	0	0
			Total/ Weighted Average [1]			***6***		***825***	***300***	***75***	***30***	***9.0***	***4.0***	***6.0***	***90***	***15***	***30***	***0.4***	***0.1***	***0.1***	***100***	***6***	***100***	***6***	***100***	***6***	***100***	***6***	***100***	***6***	NA	NA	NA	NA	***0***	***0***

Appendix D1 - 1999/00 Water Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported compliance values have been pro-rated on the basis of the number of samples tested at each treatment works and are shown in bold in the final line for that water utility.
Totals are shown for capacity (37B), treated volume (38B), and number of samples (eg. 42B). The days of chlorination system failure (44), and days of major malfunction of treatment processes (45) shown are the weighted average based on treatment works capacity.
2. For "Type of Treatment Works"; C = Conventional Water Treatment, L = Lagoon Sedimentation, DAF = Dissolved Air Flotation, D = Direct Filtration, M = Microfiltration, CH = Chlorination Only, OZ = Ozonation, A = Aerated and Disinfected, UV = Ultra-Violet Disinfection

	Water Utility	Comment	Water Treatment Works/ Chlorination/ Aeration Station	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Volume Treated	Colour Units						Turbidity Units						Percentage Test Compliance With 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines												Chlorination System Failure	Major Malfunction of Treatment Processes
									Raw Water			Treated Water			Raw Water			Treated Water			Physical		Chemical		Turbidity		pH		Colour		Faecal Coliforms		Total Coliforms			
						ML/d		ML	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	days	days
			37A			37B	38A	38B	39A	39B	39C	39D	39E	39F	40A	40B	40C	40D	40E	40F	42A	42B	42C	42D	42E	42F	42G	42H	42I	42J	42K	42L	42M	42N	44	45
84	Murrumbidgee		Coleambally	1		5	A	370			2						1				100	2	100	2	100	2	100	4	100	4	100	4	100	4		10
			Darlington Point	2																	50	2	0	2	50	2	100	2	100	2	50	2	50	2		
			Total/ Weighted Average [1]			***5***		***801***			***2***						***1***				***75***	***4***	***50***	***4***	***75***	***4***	***100***	***4***	***100***	***4***	***83***	***6***	***83***	***6***	***0***	***10***
85	Murrurundi (Unfiltered)		Murrurundi	1		2	L	149				3.0	2.0	2.0				1.8	0.6	1.0			69	16	100	8	63	8	100	8	91	22	91	22	3	3
			Willow Tree	2		0.7	CH	34				12.0	2.0	8.0				4.7	1.9	0.8			100	16	100	8	100	8	100	8	85	26	92	26	2	2
			Total/ Weighted Average [1]			***3***		***183***				***4.7***	***2.0***	***3.1***				***2.3***	***0.8***	***0.9***			***84***	***32***	***100***	***16***	***82***	***16***	***100***	***16***	***88***	***48***	***92***	***48***	***2.8***	***2.8***
86	Muswellbrook		Muswellbrook	1	1988	15	C	2,071	>30	0		25.0	0.0	5.0	>1000	0	300	6.4	0.0	1.0	87	839	94	1,123	71	55	88	337	91	43	99	245	98	253	0	1
		Intake System	Denman	2		5	CH	294				12.0	0.0	3.0	>1000	0		4.0	0.0	0.0	58	229	99	311	88	40	98	47	96	27	96	50	94	50	0	0
		Non-Potable	Sandy Hollow	3		1.0	CH					45.0	0.0	5.0				10.0	0.0	0.9	50	216	98	20	68	37	100	45	84	25	74	53	17	46	365*	365*
			Total/ Weighted Average [1]			***21***		***2,365***				***23.4***	***0.0***	***4.8***				***6.1***	***0.0***	***0.9***	***75***	***1,284***	***95***	***1,454***	***75***	***132***	***90***	***429***	***90***	***95***	***95***	***348***	***86***	***349***	***0***	***0.8***
87	Nambucca		Nambucca	1		23	CH	1,758				2.0	2.0	2.0				0.6	0.3	0.4	100	3	100	3	100	3	100	1,700	100	3	98	234	95	234	0	0
88	Narrabri (Groundwater)		Narrabri				CH	2,284	10	10	10				2	2	2								100	1	100	1	100	1	86	22	82	22		
			Wee Waa				CH	675																							43	42	29	42		
			Boggabri				CH	353	8	8	8				1	1	1								100	1	100	1	100	1	82	17	41	17		
			Pilliga				CH	21																							100	7	100	6		
			Bellata				CH	56																							88	8	38	8		
			Gwabegar				CH	16																							100	9	67	9		
			Total/ Weighted Average [1]					***3,405***	***10***	***10***	***10***				***2***	***2***	***2***								***100***	***2***	***100***	***2***	***100***	***2***	***70***	***105***	***50***	***104***		
89	Narrandera (Groundwater)		Narrandera	1		24	CH	1,873				12.0	2.0	4.5				4.2	0.3	1.1	100	8	88	8	100	8	100	8	100	8	100	44	100	44	0	0
90	Narromine (Groundwater)		Narromine	1		15	A	1,173													100	44	100	44	96	44	100	44	93	44	NA	NA	85	71		
91	Nundle (Groundwater)		Nundle	1	1995	1	L																													
92	Oberon (Unfiltered, Reticul	***Bulk Supply from Fish River***																																		
93	Orange		Icely Road	1	1982	38	C	5,980	15	5	8				24	2	4	1.0	0.1	0.4	100	180	100	180	100	180	100	180	100	180	100	180	100	180	0	0
94	Parkes		Parkes	1	1987	7	C	2,013	145	15	23	8.0	2.0	2.0	125	8	15	9.0	1.0	2.0											95	50	90	50		
95	Parry		Werris Creek	1	1991	4	C	345				2.0	2.0	2.0				0.4	0.2	0.3	100	2	100	2	100	2	100	2	100	2	97	23	100	23	0	0
			Kootingal/Moonbi	2			CH					12.0	<2	2.0				0.3	0.2	0.2	100	3	100	3	100	3	100	3	100	3	97	33	100	33	0	0
			Bendemeer	3			CH					28.0	6.0	19.0				23.0	2.3	5.0	0	5	100	5	20	5	100	5	0	5	77	6	85	6	0	0
			Attunga	4			CH					10.0	9.0	9.0				0.4	0.2	0.3	100	2	100	2	100	2	100	2	100	2	100	11	100	11	0	0
			Total/ Weighted Average [1]			***4***		***1,019***				***2.0***	***2.0***	***2.0***				***0.4***	***0.2***	***0.3***	***58***	***12***	***100***	***12***	***67***	***12***	***100***	***12***	***58***	***12***	***96***	***73***	***99***	***73***	***0***	***0***
96	Pristine Waters (Unfiltered)		Coutts Crossing	1		0.2	CH																								100	7	100	7		
			Glenreagh	2			CH																		1	133	99	132			100	2	100	2		
			Minnie Water	3			CH																		99	143	100	140			100	2	100	2		
			Waterview Heights	4			CH																								90	10	90	10		
			Wooli	5			CH	125																	97	144	100	141			100	2	50	2		
		Bulk Supply from Coffs Harbour																							81	133	99	132			100	1	100	1		
			Total/ Weighted Average [1]			***0.2***		***511***																	***71***	***553***	***100***	***545***			***96***	***24***	***92***	***24***		
97	Queanbeyan (Reticulator)	***Bulk Supply from ACTEW***																			100	7	100	7	100	7	100	7	100	7	98	84	87	84		
98	Quirindi (Groundwater)	***Good Quality Untreated Groundwater***		1				604	2	<1	1				0	0	0				90	3	100	3	100	3	100	3	100	3	100	36	95	36		
99	Richmond Valley (Reticulator)		Casino	1	1985	23	C	2,396	500	25	58	5.0	2.0	2.0	194	1	16	0.4	0.1	0.2	100	366	50	2	100	366	100	366	100	366	99	101	94	101	0	0
100	Riverina (Groundwater)		Wagga Wagga	1	1961	44	C	3,762	>100	14	38	12.0	1.0	2.0	400	15	40	4.0	1.0	1.0	100	8	100	97	100	21	100	25	100	21	98	96	100	96	0	0
			North Wagga	2		25	A	2,663	5	1	1	8.0	1.0	1.0	5	1	1	1.0	1.0	1.0	100	8	100	70	100	21	100	24	100	21	100	75	100	75	0	0
			West Wagga	3		25	A	6,018	5	1	1	9.0	1.0	2.0	5	1	1	2.0	1.0	1.0	100	8	90	67	100	19	100	22	100	19	100	100	100	100	0	0
			Oura	4		9	A	31				19.0	1.0	4.0				4.0	1.0	2.0	100	8	100	61	100	30	100	23	97	30	100	25	100	25	0	0
			Ralvona	5		4	A	274				6.0	1.0	1.0				1.0	1.0	1.0	50	8	100	63	100	16	95	22	100	16	88	24	92	24	0	0
			Bulgary	6		3	A	431				34.0	1.0	4.0				11.0	1.0	2.0	100	8	93	145	94	16	69	48	94	16	99	79	100	79	0	0
			Gardiners Crossing	7		2	A	147				4.0	1.0	1.0				1.0	1.0	1.0	100	4	100	24	100	7	80	10	100	7	100	9	100	9	0	0
			Urana	8		1.1	C	83				4.0	1.0	1.0				1.0	1.0	1.0	100	8	100	44	100	6	100	14	100	6	100	16	100	16	0	0
			Tarcutta	9		0.8	C	67				3.0	1.0	1.0				2.0	1.0	1.0	63	8	100	36	100	16	100	11	100	16	96	24	92	24	0	0
			Collingullie	10		0.6	A	52				34.0	1.0	2.0				6.0	1.0	1.0	100	8	100	79	100	16	100	22	94	16	100	24	100	24	0	0
			Humula	11		0.2	CH	15				12.0	1.0	4.0				2.0	1.0	1.0	100	8	98	61	100	15	100	11	100	15	100	24	100	24	0	0
			Morundah	12		0.2	C	8				10.0	1.0	2.0				3.0	1.0	1.0	100	8	100	56	100	16	95	22	100	16	100	24	100	24	0	0
			Rand	13		0.2	C	24				73.0	1.0	3.0				13.0	1.0	2.0	25	8	100	57	93	15	100	22	93	15	100	24	100	24	0	0
			Walbundrie	14		0.2	C	9				9.0	1.0	1.0				13.0	1.0	2.0	38	8	96	83	93	14	100	23	93	14	92	24	88	24	0	0
			Woomargama	15		0.2	CH	17				40.0	1.0	4.0				8.0	1.0	1.0	100	8	95	63	88	16	100	25	88	16	92	24	96	24	0	0
			Total/ Weighted Average [1]			***115***		***13,601***	***34***	***5***	***12***	***10.6***	***1.0***	***2.0***	***124***	***5***	***13***	***5.8***	***1.0***	***1.8***	***85***	***116***	***98***	***1,006***	***98***	***244***	***94***	***324***	***97***	***244***	***98***	***592***	***99***	***592***	***0***	***0***

Appendix D1 - 1999/00 Water Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported compliance values have been pro-rated on the basis of the number of samples tested at each treatment works and are shown in bold in the final line for that water utility.
Totals are shown for capacity (37B), treated volume (38B), and number of samples (eg. 42B). The days of chlorination system failure (44), and days of major malfunction of treatment processes (45) shown are the weighted average based on treatment works capacity.
2. For "Type of Treatment Works"; C = Conventional Water Treatment, L = Lagoon Sedimentation, DAF = Dissolved Air Flotation, D = Direct Filtration, M = Microfiltration, CH = Chlorination Only, OZ = Ozonation, A = Aerated and Disinfected, UV = Ultra-Violet Disinfection

	Water Utility	Comment	Water Treatment Works/ Chlorination/ Aeration Station	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Volume Treated	Colour Units						Turbidity Units						Percentage Test Compliance With 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines												Chlorination System Failure	Major Malfunction of Treatment Processes
									Raw Water			Treated Water			Raw Water			Treated Water			Physical		Chemical		Turbidity		pH		Colour		Faecal Coliforms		Total Coliforms			
						ML/d		ML	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	days	days
			37A			37B	38A	38B	39A	39B	39C	39D	39E	39F	40A	40B	40C	40D	40E	40F	42A	42B	42C	42D	42E	42F	42G	42H	42I	42J	42K	42L	42M	42N	44	45
101	Rous (Bulk Supplier)		Nightcap	1	1991	70	DAF	11,595	30	18	25	0.3	0.0	0.2	3	2	2	0.3	0.1	0.2	100	52	100	52	100	52	100	52	100	52	100	52	100	52	0	0
102	Rylstone		Rylstone	1	1971	5	C	1,816													100	365	100	4							100	72	100	72	0	0
103	Scone (Unfiltered)	*No Treatment Works*							9	2	5				1	0	0				21	14	100	14	100	14	100	14	100	14	98	192	98	192	0	
104	Severn		Deepwater	1			CH		41	17	13				9	2	6				54	114	NA	NA	50	6	83	6	0	6						
105	Shoalhaven		Bamarang	1		75	C	8,269	40	10	27	2.5	2.5	2.5	3	1	1	0.9	0.0	0.2	76	55	100	55	100	55	76	55	100	55	98	164	90	164	0	0
			Flatrock	2		28	C	3,450	40	10	27	2.5	0.0	2.5	33	1	1	1.2	0.0	0.2	96	24	100	24	100	24	96	24	100	24	98	42	95	42	0	0
			Milton	3	1997	11	D	1,719	50	5	30	15.0	0.0	4.3	4	1	2	4.3	0.1	1.1	97	29	35	29	100	29	97	29	100	29	99	66	96	66	0	365**
			Kangaroo Valley	4	1993	1.3	M	71	40	10	18	12.0	0.0	2.7	6	1	3	0.5	0.0	0.2	100	11	100	11	100	11	100	11	100	11	98	51	92	51	0	0
			Total/ Weighted Average [1]			***115***		***13,510***	***40***	***10***	***27***	***2.5***	***2.5***	***2.5***	***3***	***1***	***1***	***0.9***	***0.0***	***0.2***	***87***	***119***	***84***	***119***	***100***	***119***	***87***	***119***	***100***	***119***	***98***	***323***	***92***	***323***	***0***	***3***
106	Singleton		Obanvale	1	1993	30	D	2,600	10	5	5	5.0	5.0	5.0	11	1	2	2.2	0.2	0.4	100	600	100	600	100	600	100	600	100	600	99	158	99	158	0	0
107	Snowy River (Unfiltered)		East Jindabyne	1		9	CH	55																							NA	NA	NA	NA	0	0
			Berridale	2		9	CH	102																											0	0
			Jindabyne	3		8	CH	433																											0	0
			Adaminaby	4		1.1	CH	31																											0	0
			Dalgety	5		0.6	CH	30																											0	0
			Kalkite	6		0.4	CH	12																											0	0
			Total/ Weighted Average [1]			***27***		***664***																											***0***	***0***
108	Sydney Water	**Metropolitan**																																		
109	Tallaganda		Braidwood	1		10	CH	220	12	3	7	6.0	5.0	5.0	7	7	7	6.0	5.0	5.0	100	12	100	4	100	12			100	12	100	12	92	12	1	1
110	Tamworth		Calala Lane	1	1991	80	C	8,714	60	3	26	20.0	2.5	2.5	35	1	3	16.0	0.0	0.4	100	366	100	366	100	366	100	366	100	366	100	204	99	204	0	0
111	Temora	NO WS																																		
112	Tenterfield		Tenterfield	1	1986	7	C	454	520	92	189	69.0	<1	11.0	55	2	10	7.4	0.1	0.5	100	366	90	10	100	366	98	366	80	366	100	18	94	18		0
			Urbenville	2		2	CH	123													100	22	74	22			100	22			83	18	94	18	0	0
		Water from Stanthorpe																			NA	NA	NA	NA							NA	NA	NA	NA		
			Total/ Weighted Average [1]			***8***		***577***													***100***	***388***	***79***	***32***	***100***	***366***	***98***	***388***	***80***	***366***	***92***	***36***	***94***	***36***	***0***	***0***
113	Tumbarumba		Tumbarumba	1		2	CH	306													NA	NA	100	2			100	2			99	72	99	72	0	0
			Khancoban	2		1.0	CH	65													NA	NA	100	NA			100				100	NA	100	NA	0	0
			Total/ Weighted Average [1]			***3***		***371***													NA	NA	***100***	***2***			***100***	***2***			***99***	***72***	***99***	***72***	***0***	***0***
114	Tumut		Tumut	1	1987	16	C	1,364	220	5	12	40.0	5.0	6.0	56	1	3	22.0	0.0	0.5	100	2	100	2	100	2	100	2	100	2	100	12	100	12	0	0
			Adelong	2	1996	3	L	145	400	10	67	30.0	5.0	9.0	148	3	11	6.0	0.2	1.0	100	2	100	2	100	2	100	2	100	2	100	12	100	12	0	0
			Batlow	3		3	CH	192	200	63	87	110.0	49.0	81.0	25	5	10	20.0	8.0	12.0	100	2	0	2	100	2	50	2	100	2	100	12	100	12	0	0
			Talbingo	4		2	D	70	125	10	28	<5	<5	<5	10	1	2	1.6	0.0	0.3	50	2	100	2	100	2	50	2	100	2	100	12	100	12	0	0
			Total/ Weighted Average [1]			***23***		***1,771***	***242***	***14***	***31***	***47.0***	***11.0***	***16.0***	***62***	***2***	***5***	***19.0***	***1.1***	***2.1***	***88***	***8***	***75***	***8***	***100***	***8***	***75***	***8***	***100***	***8***	***100***	***48***	***100***	***48***	***0***	***0***
115	Tweed		Bray Park	1		60	C	8,499	84	11	34	12.0	0.0	3.0	112	2	11	2.0	0.2	0.3	100	692	99	3,093	98	321	71	847	97	337	99	381	99	381	0	0
			Uki	2	1998	0.7	D																													
			Total/ Weighted Average [1]			***61***															***100***	***692***	***99***	***3,093***	***98***	***321***	***71***	***847***	***97***	***337***	***99***	***381***	***99***	***381***	***0***	***0***
116	Uralla		Uralla	1	1984	5	C	333	240	5	20	5.0	3.0	4.0	12	3	5	2.1	0.4	0.6	100	14	100	14	100	14	100	14	100	14	100	14	100	14	0	0
			Bundarra	2	1994	1.0	L	56	250	5	2	24.0	3.0	4.0	32	3	5	26.0	0.4	0.6	86	14	100	14	100	14	100	14	100	14	100	14	100	14	0	0
			Total/ Weighted Average [1]			***6***		389																											***0***	***0***
117	Wagga Wagga	NO WS																																		
118	Wakool (Unfiltered)		Barham	1	1993	2	L	1,320							50	8		0.3	0.2		NA	NA	NA	NA							NA	NA	NA	NA	4	4
119	Walcha		Walcha	1	1985	5	C	259	175	15	45	7.5	2.5	2.8							NA	NA	100	1							100	9	100	9	0	0
120	Walgett (Dual Supply)		Walgett	1	1964	1	C																													
			Collarenebri	2	1996	0.5	M																													
			Total/ Weighted Average [1]			2																														
121	Warren (Dual Supply)		Warren	1			CH	529													100	8	75	8	100	8	100	8	100	8	100	8	100	8	3	
122	Weddin	NO WS																																		
123	Wellington		Wellington	1	1993	15	L	900	9	4	5				96	6	15				100	260	100	2	100	260	100	260	100	260	100	52	100	52	0	0
124	Wentworth (Dual Supply)		Wentworth	1	1991	1.4	C																													
			Buronga/ Gol-Gol/ Dareton	2	1994	3.7	L																													
			Guerie	3	1994	1.5	M																													
			Pooncarie	4	1994	0.2	L																													
			Total/ Weighted Average [1]			7																														
125	Wingecarribee		Wingecarribee	1		40	DAF	3,636	35	5	15	2.5	2.5	2.5	5	1	2	0.7	0.1	0.3	100	4	100	4	100	4	100	4	100	4	98	122	94	122	0	0
			Bundanoon Creek	2	1988	10	DAF	915	150	40	65	2.5	2.5	2.5	28	1	5	0.3	0.1	0.2	100	3	100	3	100	3	100	3	100	3	100	40	98	40	0	0
			Medway	3		8	C	568	250	25	70	2.5	2.5	2.5	28	1	3	0.6	0.2	0.3	100	3	100	3	100	3	100	3	100	3	100	29	97	29	0	0
			Total/ Weighted Average [1]			***58***		***5,119***	***35***	***5***	***15***	***2.5***	***2.5***	***2.5***	***5***	***1***	***2***	***0.7***	***0.1***	***0.3***	***100***	***10***	***100***	***10***	***100***	***10***	***100***	***10***	***100***	***10***	***99***	***191***	***95***	***191***	***0***	***0***
126	Wyong		Mardi	1	1994	160	D	15,661	91	18	53	9.0	0.0	2.9	7	1	3	1.1	0.2	0.8	100	343	100	343	100	343	95	343	100	343	100	357	96	357	0	0
127	Yallaroi (Groundwater)		Gravesend	1				60													**No Testing**															
	Good Quality Untreated Groundwater		North Star	2				26													**No Testing**															
	Good Quality Untreated Groundwater		Warialda	3				291													**No Testing**															

Appendix D1 - 1999/00 Water Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported compliance values have been pro-rated on the basis of the number of samples tested at each treatment works and are shown in bold in the final line for that water utility.
Totals are shown for capacity (37B), treated volume (38B), and number of samples (eg. 42B). The days of chlorination system failure (44), and days of major malfunction of treatment processes (45) shown are the weighted average based on treatment works capacity.
2. For "Type of Treatment Works"; C = Conventional Water Treatment, L = Lagoon Sedimentation, DAF = Dissolved Air Flotation, D = Direct Filtration, M = Microfiltration, CH = Chlorination Only, OZ = Ozonation, A = Aerated and Disinfected, UV = Ultra-Violet Disinfection

	Water Utility	Comment	Water Treatment Works/ Chlorination/ Aeration Station	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Volume Treated	Colour Units						Turbidity Units						Percentage Test Compliance With 1996 NHMRC/ARMCANZ Australian Drinking Water Guidelines												Chlorination System Failure	Major Malfunction of Treatment Processes
									Raw Water			Treated Water			Raw Water			Treated Water			Physical		Chemical		Turbidity		pH		Colour		Faecal Coliforms		Total Coliforms			
						ML/d		ML	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	%	Samples	days	days
			37A			37B	38A	38B	39A	39B	39C	39D	39E	39F	40A	40B	40C	40D	40E	40F	42A	42B	42C	42D	42E	42F	42G	42H	42I	42J	42K	42L	42M	42N	44	45
			Total/ Weighted Average [1]					***377***																												
128	Yarrowlumla (Unfiltered)		Bungendore	**1**		2	**CH**	477															100	52	100	2	100	2	100	2	100	39			0	0
			Captains Flat	**2**		0.9	**CH**	77															94	52	50	2	100	2	100	2	98	39			0	0
			Total/ Weighted Average [1]			***3***		***554***															***97***	***104***	***75***	***4***	***100***	***4***	***100***	***4***	***99***	***78***			***0***	***0***
129	Yass		Yass	**1**	**1989**	14	**DAF**	964	250	10	50	7.5	0.0	2.5	500	2	15	2.0	0.2	0.8	100	365	100	8	100	365	100	365	100	365	99	144	99	144	0	0
130	Young (Reticulator)	**Bulk Supply from Goldenfields**																															90	20		

***** Non-Potable Supply, Health Department notified, 'Boil Water' notices have been issued.

****** The CO_2 injection systems for this new water treatment works failed to operate properly during 1999/00; this problem was rectified in June 2000.

Note: The samples reported for physical, chemical and microbiological water quality compliance with the 1996 Australian Drinking Water Guidelines should be those taken for system performance monitoring from representative locations in the water supply system. However, it appears that the data reported by a number of water utilities includes sampling for operational monitoring of their system. Only the samples taken for monitoring compliance with the Guidelines should be reported ie. the reported number of chemical samples should exclude daily fluoride and chlorine testing and the number of physical samples should exclude daily pH, turbidity and colour testing. This matter will be clarified in the 2000/01 NSW performance reporting forms.

Appendix D2 - 1999/00 Sewage Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported Licence Compliance values have been pro-rated on the basis of the number of sampling days at each treatment works and are shown in bold in the final line for that utility.
Totals are shown for capacity (37B), volume treated (38A), and sampling days (52). The days of major malfunction of treatment processes (53) shown are the weighted average based on treatment works capacity.
2. 90 Percentile Licence Limits have been reported for questions 50a, 50b, 50c, 50d, 50e, 50f and 50g.
3. For each licence limit, the value shown in the final line for each water utility is that required to be met for at least 50% of the utility's total licenced treatment works capacity.
4. For "Type of Treatment Works"; C = Conventional Activated Sludge, CEA = Continuous Extended Aeration (Activated Sludge), IEA = Intermittent Extended Aeration (Activated Sludge), TF = Trickling Filter, A= Oxidation Pond, AN = Anaerobic Pond, AL = Aerated Lagoons, BNR = Biological Nutrient Removal
5. For "Effluent Discharge"; L = Land, O = Ocean, R = River.

	Water Utility	Comment	Sewage Treatment Works	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Effluent Discharge	Volume of Sewage Receiving Treatment	90 Percentile Licence Limits and percentage of samples complying with EPA Licence												Sampling Days	Major Malfunction of Treatment Processes
										BOD		SS		Total N		NH_3N		Oil & Grease		Total P		Faecal Coliforms			
			Name	Licenced		EP			ML	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	cfu /100mL	% Samples	days	days
						37B	38A		41	50A	51A	50B	51B	50C	51C	50D	51D	50E	51E	50F	51F	50G	51G	52	53
1	Albury		Kremur Street	1	1975	40,000	CEA/BNR	L	2,429	35	100	40	98	25	100	20	100			3	100			365	0
			Waterview	2	1999	26,500	CEA/BNR	L	2,858	35	100	40	60	25	100	20	100			5	98			365	NA
			Total/ Weighted Average [1,3]			***66,500***			***5,287***	***35***	***100***	***40***	***79***	***25***	***100***	***20***	***100***			***3***	***99***			***730***	***0***
2	Armidale Dumaresq		Armidale	1	1989	18,500	TF	R/L	1,286	No Limit	100	30	100					10	100					52	0
3	Ballina	***100% Limits***	Lennox	1	1982	18,000	IEA	O	1,559	20	100	30	100					10	100			600	100	26	0
		100% Limits	Ballina	2	1975	12,000	TF/IEA	R	1,347	20	96	30	73					10	100			300	96	26	0
		100% Limits	Alstonville	3	1986	8,000	IEA	R	609	20	100	30	100					10	100	1.0	100			14	0
		100% Limits	Wardell	4		1,750	IEA	R	78	15	92	20	100					10	100			200	65	26	0
			Total/ Weighted Average [1,3]			***39,750***			***3,593***	***20***	***97***	***30***	***92***					***10***	***100***	***1.0***	***100***	***600***	***87***	***92***	***0***
4	Balranald	***No Discharge Licence***	Balranald			2,000	A	L																	
5	Barraba		Barraba	1	1956	1,500	TF	L	162	20	100	30	100											14	0
6	Bathurst		Bathurst	1		55,000	IEA/BNR	R	4,368	20	96	25	100	15	98			10	100	1.0	0			52	0
7	Bega Valley		Merimbula	1	1992	19,500	IEA	O	805	20	100	30	92											16	0
			Eden	2	1988	8,000	IEA	O	283	20	100	30	92											16	0
			Bega	3		6,000	TF	R	409	20	100	30	92											16	0
			Tura Beach	4		3,000	IEA	L	147	20	100	30	92											16	0
			Bermagui	5		2,000	IEA	O	90	20	100	30	92											16	0
			Tathra	6		2,000	IEA	L	76	20	100	30	92											16	0
			Total/ Weighted Average [1,3]			***40,500***			***1,810***	***20***	***100***	***30***	***92***											***96***	***0***
8	Bellingen		Urunga	1		5,000	TF	R	300	10	100	15	92	10	100	2	100	2	100	0.3	96	200	88	28	0
			Bellingen	2		4,000			300	10	88	15	96	10	96	2	69	2	100	0.3	65	200	96	28	0
			Dorrigo	3		1,550			90															15	10
			Total/ Weighted Average [1,3]			***10,550***			***690***	***10***	***94***	***15***	***94***	***10***	***98***	***2***	***85***	***2***	***100***	***0.3***	***81***	***200***	***92***	***71***	***1.5***
9	Berrigan		Tocummual	1		4,000	TF	L	150	20	100	30	100											5	0
			Finley	2		3,200	TF	L	190	20	100	30	100											5	0
		No Licence Limits	Barooga	3	1992	3,000	A	L	65	NL	100	NL	100											5	0
			Berrigan	4		2,000	TF	L	90	20	100	30	100											5	0
			Total/ Weighted Average [1,3]			***12,200***			***495***	***20***	***100***	***30***	***100***											***20***	***0***
10	Bingara		Bingara	1	1970	2,500	TF	R	170	20	100	30	100					10	100					3	1
11	Bland		West Wyalong	1	1986	4,000	TF/IEA	R	236	20	100	30	100											6	2
			Ungarle	2	1961	600	IEA	L	44	20	100	30	100											4	0.0
			Barmedman	3	1940	400	TF	L	21	20	100	30	100											2	0.0
			Total/ Weighted Average [1,3]			***5,000***			***301***	***20***	***100***	***30***	***100***											***12***	***1.6***
12	Blayney		Blayney	1	1991	4,000	IEA	R	262	30	100	30	100	15	100			10	100	10	100	NA	NA	7	0
13	Bogan	***No Discharge Licence***	Bogan	1		3,735	IEA	L	456															4	0
14	Bombala		Bombala	1		3,000	TF	R	146	20	75	30	100					10	100					4	0
		No Licence Limits	Delegate	2		680	IEA	R	30	NL	100	NL	100					NL	100					2	0
			Total/ Weighted Average [1,3]			**3,680**			**176**	**20**	**83**	**30**	**100**					**10**	**100**					**6**	**0**
15	Boorowa		Boorowa	1		2,400	TF	L	110	20	100							10	100					12	0
16	Bourke	***No Discharge Licence***	Bourke	1		5,000	A	L	NA															2	0
17	Brewarrina		Brewarrina	1	1971	1,600	TF	R	215	20	100	30	100					10	100					3	0
		No Discharge Licence	Goodooga	2		500	A	L																	
		No Discharge Licence	Barwon Four	3		400	A	L																	
			Total/ Weighted Average [1,3]			***2,500***			***215***	***20***	***100***	***30***	***100***					***10***	***100***					***3***	***0***
18	Broken Hill WB		Wills Street	1		NA	TF	L	1,704	40	100	45	100											25	0
			South	2		NA	TF	L	412	40	100	45	100											25	0
			Total/ Weighted Average [1,3]			NA			***2,116***	***40***	***100***	***45***	***100***											***50***	***0***
19	Byron		West Byron	1	1990	11,000	IEA	L	914	20	100	25	100											26	0
			Ocean Shores	2	1980	8,000	IEA	R	237	15	100	20	100	15	100	5	100			1.0	100	200	40	26	0
			South Bryon	3	1973	4,700	TF	R	598	15	100	20	100							1.0	51	200	100	26	0
			Mullumbimby	4	1976	3,200	TF	R	724	30	100	30	100									200	83	26	0
			Brunswick Heads	5	1971	1,600	TF	R	254	30	100	30	100									200	100	26	0
			Bangalow	6	1977	1,400	IEA	R	110	30	100	30	100											26	0
			Total/ Weighted Average [1,3]			***29,900***			***2,837***	***20***	***100***	***25***	***100***	***15***	***100***	***5***	***100***			***1.0***	***75***	***200***	***81***	***156***	***0***
20	Cabonne		Molong	1	1978	2,000	IEA	R	109	20	100	25	93	15	100			10	100	10	93			14	0
			Canowindra	2	1966	2,500	TF	R	NA	20	79	25	65											14	0
			Total/ Weighted Average [1,3]			***4,500***			***109***	***20***	***90***	***25***	***79***	***15***	***100***			***10***	***100***	***10***	***93***			***28***	***0***
21	Carrathool	***No Discharge Licence***	Hillston	1		1,000	IEA	L	NA															1	NA
		No Discharge Licence	Goolgowie	2		300	A	L	NA															1	NA
		No Discharge Licence	Rankins Springs	3		200	A	L	NA															NA	0
			Total/ Weighted Average [1,3]			***1,500***			NA															***2***	***0***
22	Central Darling	***No Discharge Licence***	Wilcannia	1		1,510	A	L	95															0	0

Appendix D2 - 1999/00 Sewage Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported Licence Compliance values have been pro-rated on the basis of the number of sampling days at each treatment works and are shown in bold in the final line for that utility.
Totals are shown for capacity (37B), volume treated (38A), and sampling days (52). The days of major malfunction of treatment processes (53) shown are the weighted average based on treatment works capacity.

2. 90 Percentile Licence Limits have been reported for questions 50a, 50b, 50c, 50d, 50e, 50f and 50g.

3. For each licence limit, the value shown in the final line for each water utility is that required to be met for at least 50% of the utility's total licenced treatment works capacity.

4. For "Type of Treatment Works"; C = Conventional Activated Sludge, CEA = Continuous Extended Aeration (Activated Sludge), IEA = Intermittent Extended Aeration (Activated Sludge), TF = Trickling Filter, A= Oxidation Pond, AN = Anaerobic Pond, AL = Aerated Lagoons, BNR = Biological Nutrient Removal

5. For "Effluent Discharge"; L = Land, O = Ocean, R = River.

	Water Utility	Comment	Sewage Treatment Works	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Effluent Discharge	Volume of Sewage Receiving Treatment	90 Percentile Licence Limits and percentage of samples complying with EPA Licence												Sampling Days	Major Malfunction of Treatment Processes
										BOD		SS		Total N		NH_3N		Oil & Grease		Total P		Faecal Coliforms			
			Name	Licenced		EP			ML	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	cfu /100mL	% Samples	days	days
						37B	38A		41	50A	51A	50B	51B	50C	51C	50D	51D	50E	51E	50F	51F	50G	51G	52	53
23	**Central Tablelands**	***NO SGE***																							
24	Cobar	***No Licence Limits***	Cobar	**1**	**1952**	9,000	**AL**	**L**	700															12	0
25	Coffs Harbour		Coffs Harbour	**1**	**1986**	42,000	**IEA/TF**	**O**	4,147	50	100	50	100					10	100					52	0
			Sawtell	**2**	**1986**	18,000	**IEA**	**O**	1,300	20	100	30	100					10	100					52	0
			Woolgoolga	**3**	**1998**	10,000	**IEA**	**R**	637	20	100	30	100	15	98			10	100	1.0	96	1000	94	52	0
			Total/ Weighted Average [1,3]			***70,000***			***6,084***	***50***	***100***	***50***	***100***	***15***	***98***			***10***	***100***	***1.0***	***96***	***1000***	***94***	***156***	***0***
26	Coolah	***No Licence Limits***	Coolah	**1**	**1970**	1,000	**A**	**R**	109	NL	100	NL	100					NL	100					6	0
			Dunedoo	**2**	**1970**	1,000	**IEA**	**R**	110	20	0	30	0					10	100					6	0
			Total/ Weighted Average [1,3]			***2,000***			***219***	***20***	***50***	***30***	***50***					***10***	***100***					***12***	***0***
27	Coolamon		Coolamon	**1**	**1965**	1,400	**TF**	**L**	85	20	100	15	70											16	0
		No Licence Limits	Ganmain	**2**		800	**A**	**L**	100	NL	100	NL	100											12	0
			Total/ Weighted Average [1,3]			**2,200**			**185**	**20**	**100**	**30**	**83**											**28**	**0**
28	Cooma-Monaro		The Glen	**1**	**1998**	15,000	**IEA**	**R**	738	10	100	15	100	10	100	2	100	2	100	0.3	100	200	100	115	0
			Nimmitabel	**2**		500	**IEA**	**R**	18	20	100	30	100					10	100					14	0
			Total/ Weighted Average [1,3]			**15,500**			**756**	**10**	**100**	**15**	**100**	**10**	**100**	**2**	**100**	**2**	**100**	**0.3**	**100**	**200**	**100**	**129**	**0**
29	Coonabarabran		Coonabarabran	**1**	**1964**	3,200	**TF**	**L/R**	351	20	100	25	100	20	100					10	92			12	2
		No Licence Limits	Baradine	**2**		850	**AN**		NA	NL	100	NL	100	NL	100					NL	100			1	0
			Total/ Weighted Average [1,3]			**4,050**			**351**	**20**	**100**	**25**	**100**	**20**	**100**					**10**	**96**			**13**	**2**
30	Coonamble		Coonamble	**1**	**1964**	4,050	**TF**	**L**	264	20	95	30	95											7	NA
31	Cootamundra		Cootamundra	**1**	**1992**	12,000	**CEA**	**R**	749	20	86	30	100	15	100			10	71	1.0	100	600	100	16	0
32	Copmanhurst		Junction Hill 3	**1**	**1982**	600	**IEA**	**R**	36	20	85	30	100					10	100					13	0
			Junction Hill 2	**2**	**1978**	500	**IEA**	**R**	27	20	92	30	100					10	100					13	0
			Junction Hill 1	**3**	**1982**	450	**TF**	**R**	27	20	92	30	100					10	100					13	0
			Total/ Weighted Average [1,3]			***1,550***			***90***	***20***	***90***	***30***	***100***					***10***	***100***					***39***	***0***
33	Corowa		Corowa	**1**	**1988**	12,200	**TF**	**R**	610	20	92	30	100											14	0
			Mulwala	**2**	**1968**	1,200	**TF**	**R**	217	20	92	30	33											12	0
			Total/ Weighted Average [1,3]			***13,400***			***827***	***20***	***92***	***30***	***69***											***26***	***0***
34	Cowra		Cowra	**1**		12,000	**TF**	**R**																	
35	Crookwell		Crookwell	**1**		5,000	**TF/IEA**	**L/R**	395	20	100	30	100	15	100	5	100	5	100	1.0	100	NA	NA	14	0
36	Culcairn	***No Licence Limits***	Culcairn	**1**	**1971**	1,000	**IEA**	**L**	108	NL	100	NL	100											7	0
		No Licence Limits	Henty	**2**	**1971**	1,000	**IEA**	**L**	60	NL	100	NL	100											7	0
			Walla Walla	**3**	**1981**	1,000	**IEA**	**R**	64	20	100	30	86											7	0
			Total/ Weighted Average [1,3]			**3,000**			**233**	**20**	**100**	**30**	**95**											**21**	**0**
37	Deniliquin		Deniliquin	**1**		11,500	**TF**	**L**	1,099	20	100	30	40					10	100					16	0
38	Dubbo		Troy Junction	**1**	**1985**	25,000	**CEA**	**L/R**	1,798	30	100	30	50	15	92	5	75			10	100			18	0
			Bunglegumbie	**2**		10,500	**TF**	**L**	1,072	50	33	60	92											18	0
			Total/ Weighted Average [1,3]			***35,500***			***2,870***	***40***	***67***	***45***	***71***	***15***	***92***	***5***	***75***			***10***	***100***			***36***	***0***
39	Dungog	***No Discharge Licence***	Dungog	**1**		2,000	**TF**	**L**	400															0	0
40	Eurobodalla		Batemans Bay	**1**	**1991**	15,000	**CEA**	**O**	1,460	30	100	40	100							10	100			26	0
			Narooma	**2**		12,000	**CEA/IEA**	**O**	582	30	100	20	100											26	0
			Tomakin	**3**		8,000	**CEA**	**O**	298	20	100	30	100											26	0
			Moruya	**4**		6,500	**CEA**	**R**	239	30	100	20	100											26	0
			Tuross	**5**		4,000	**IEA**	**L**	178	30	100	20	100											26	0
			Total/ Weighted Average [1,3]			***45,500***			***2,757***	***30***	***100***	***40***	***100***							***10***	***100***			***130***	***0***
41	**Fish River WS**	***NO SGE***																							
42	Forbes		Forbes	**1**	**1987**	10,000	**TF**	**L**	1,036	20	75	30	83					10	92					12	0
43	Gilgandra		Gilgandra	**1**		3,000	**TF**	**L**	302	50	95	No Limit	100											4	2
44	Glen Innes		Glen Innes	**1**	**1930**	6,000	**TF**	**R**	709	20	100	30	100					10	100					8	0
45	Gloucester		Gloucester	**1**	**1988**	3,100	**TF**	**R**	350	20	100	30	100											12	NA
46	**Goldenfields (Bulk Supplier)**	***NO SGE***																							
47	**Goldenfields (Reticulator)**	***NO SGE***																							
48	**Goldenfields (Combined)**	***NO SGE***																							
49	Gosford		Kincumber	**1**		180,000	**C**	**O**	11,406	No Limit	100	50	100					10	100					366	0
			Woy Woy	**2**	**1989**	50,000	**CEA**	**O**	4,028	No Limit	100	50	100					10	100					366	0
			Total/ Weighted Average [1,3]			***230,000***			***15,434***	**NL**	***100***	***50***	***100***					***10***	***100***					***732***	***0***
50	Goulburn		Goulburn	**1**		29,000	**TF**	**R**	2,372	20	50	30	41	NA	NA	NA	NA	10	100	NA	NA	NA	NA	12	0

Appendix D2 - 1999/00 Sewage Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported Licence Compliance values have been pro-rated on the basis of the number of sampling days at each treatment works and are shown in bold in the final line for that utility.
Totals are shown for capacity (37B), volume treated (38A), and sampling days (52). The days of major malfunction of treatment processes (53) shown are the weighted average based on treatment works capacity.

2. 90 Percentile Licence Limits have been reported for questions 50a, 50b, 50c, 50d, 50e, 50f and 50g.

3. For each licence limit, the value shown in the final line for each water utility is that required to be met for at least 50% of the utility's total licenced treatment works capacity.

4. For "Type of Treatment Works"; C = Conventional Activated Sludge, CEA = Continuous Extended Aeration (Activated Sludge), IEA = Intermittent Extended Aeration (Activated Sludge), TF = Trickling Filter, A= Oxidation Pond, AN = Anaerobic Pond, AL = Aerated Lagoons, BNR = Biological Nutrient Removal

5. For "Effluent Discharge"; L = Land, O = Ocean, R = River.

	Water Utility	Comment	Sewage Treatment Works	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Effluent Discharge	Volume of Sewage Receiving Treatment	90 Percentile Licence Limits and percentage of samples complying with EPA Licence												Sampling Days	Major Malfunction of Treatment Processes
										BOD		SS		Total N		NH_3N		Oil & Grease		Total P		Faecal Coliforms			
			Name	Licenced		EP			ML	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	cfu /100mL	% Samples	days	days
						37B	38A		41	50A	51A	50B	51B	50C	51C	50D	51D	50E	51E	50F	51F	50G	51G	52	53
51	Grafton		North Grafton	1	1989	16,000	TF	R	1,262	20	96	30	92					10	100					26	0
			South Grafton	2	1989	5,500	TF	R	266	20	100	30	88					10	100					26	0
			Clarenza	3	1988	5,250	IEA	R	399	20	100	30	100					10	100					26	0
			Total/ Weighted Average [1,3]			***26,750***			***1,927***	***20***	***99***	***30***	***93***					***10***	***100***					***78***	***0***
52	Griffith		Griffith	1	1992	75,000	TF/A	R		20	100	20	100					10	100					13	0
			Yenda	2	1981	17,000	AL	R																	
			Bilbul	3	1990	2,000	A	R																	
			Total/ Weighted Average [1,3]																						
53	Gundagai		Gundagai	1	1972	3,500	TF	R	105	20	95	30	95											12	0
54	Gunnedah		Gunnedah	1	1969	11,000	TF	R	722	20	90	30	50											14	0
		No Discharge Licence	Curlewis	2		1,650	A	L	NA	NA	NA	NA	NA											2	0
			Total/ Weighted Average [1,3]			**12,650**			**722**	**25**	**90**	**25**	**50**											**16**	**0**
55	Gunning		Bilala Street	1		1,000	IEA	R	NA	20	75	30	75					10	100					4	0
56	Guyra		Guyra	1	1968	2,200	TF	R	350	20	100	30	100											14	0
57	Harden		Harden	1		4,000	TF	L/R	110	20	92	30	75											12	0
58	Hastings		Port Macquarie	1	1993	52,000	IEA/BNR	R	4,435	10	100	15	100	20	100	5	100	2	100	1.0	90	200	100	50	NA
			Camden Haven	2		9,000	TF	O	860	20	62	30	94					10	100					50	NA
			Wauchope	3	1991	8,000	IEA	R	630	30	100	30	100											50	NA
			Lake Cathie/Bonny Hills	4	1989	6,000	IEA	L	361	20	63	30	100					10	100					50	NA
			Total/ Weighted Average [1,3]			***75,000***			***6,286***	***10***	***81***	***15***	***99***	***20***	***100***	***5***	***100***		***100***	***1.0***	***90***	***200***	***100***	***200***	NA
59	Hay		Hay	1		3,000	TF	L	425	20	100	30	100									200	100	10	0
60	Holbrook		Holbrook	1	1984	1,600	TF	R																	
61	Hume		Howlong	1		2,500	A	L	132															14	0
			Jindera	2	1986	1,000	A	L	47															14	0
			Lake Hume	3	1980	500	IEA	R	NA															32	0
		No Discharge Licence	Burrumbuttock	4	1990	100	A	L	4															32	0
			Lara Lakes	5		100	A	L	2															14	0
			Total/ Weighted Average [1,3]			**4,200**			**186**															**106**	**0**
62	Hunter Water	***Metropolitan***																							
63	Inverell		Inverell	1	1986	12,000	IEA	R	672	20	100	30	100					10	100					28	0
			Ashford	2	1970	1,000	IEA	R	35	20	90	30	70					10	100					14	0
		No Licence Limits	Gilgai	3		500	A	L	30	NL	100	NL	100					NL	100					14	0
			Delungra	4		50	IEA	R	25	20	90	30	70											14	0
			Total/ Weighted Average [1,3]			**13,550**			**762**	**20**	**96**	**30**	**88**					**10**	**100**					**56**	**0**
64	Jerilderie		Jerilderie	1		2,000	TF	L	350	20	100							10	100					305	0
65	Junee		Junee	1	1992	7,000	TF/IEA	R	192	20	100	20	100					10	100					14	0
66	Kempsey		South West Rocks	1		6,000	IEA	L	416	15	100	20	100											13	0.0
			South Kempsey	2	1991	5,400	TF/IEA	R	330	20	100	30	100					10	100					26	NA
			Crescent Head	3		2,000	IEA	O	147	15	100	20	100	15	100	5	100			1.0	100	200	100	13	1.0
			Smithtown/Gladstone	4		2,000	IEA	R	148	20	100	30	100					10	100					13	0.0
			North Street (West Kempsey)	5	1991	13,000	TF	R	1,103	15	100	20	100	15	100	5	100	10	100	1.0	100			26	7.0
			Frederickton	6		1,000	IEA	R	565	20	100	30	100					10	100					13	0.0
			Total/ Weighted Average [1,3]			***29,400***			***2,709***	***15***	***100***	***30***	***100***	***15***	***100***	***5***	***100***	***10***	***100***	***1.0***	***100***	***200***	***100***	***104***	***3.2***
67	Kyogle		Kyogle	1	1952	3,500	TF	R	321	20	100	30	60					10	100					16	0
			Bonalbo	2	1969	300	IEA	L	27	20	85	30	10					10	100					16	0
			Woodenbong	3	1969	300	IEA	L	28	20	75	30	30					10	90					16	0
			Total/ Weighted Average [1,3]			***4,100***			***375***	***20***	***87***	***30***	***33***					***10***	***97***					***48***	***0***
68	Lachlan	***No Discharge Licence***	Tottenham	1	1981	2,000	IEA	L	75	NL	100	NL	100					NL	100			NL	100	50	0
		No Discharge Licence	Lake Cargelligo	2	1979	2,000	IEA	L	280	NL	100	NL	100					NL	100			NL	100	50	0
			Condobolin	3	1982	4,000	TF/IEA	L	360	20	100	30	100					10	100			1250	100	40	0
			Total/ Weighted Average [1,3]			***8,000***			***715***	***20***	***100***	***30***	***100***					***10***	***100***			***1250***	***100***	***140***	***0***
69	Leeton		Leeton	1	1987	8,000	TF	L	890	50	100	50	100											27	0
			Yanco	2	1980	1,000	IEA	R	117	20	100	30	100					10	100					14	0
			Total/ Weighted Average [1,3]			**9,000**			**1,007**	**50**	**100**	**50**	**100**					**10**	**100**					**41**	**0**
70	Lismore		East Lismore	1	1978	30,500	TF/BNR	R	2,263	15	100	20	100	15	100	5	100	10	100	1.0	33			55	0
			South Lismore	2	1977	22,000	TF	R	1,885	15	100	20	100	15	100	5	100	10	100	1.0	100	500	20	52	0
			Nimbin	3	1993	500	IEA	R	21	0	100	0	100	0	100	0	100	0	100	1.0	100	0	100	16	0
			Total/ Weighted Average [1,3]			***53,000***			***4,169***	***15***	***100***	***20***	***100***	***15***	***100***	***5***	***100***	***10***	***100***	***1.0***	***70***	***500***	***38***	***123***	***0***
71	Lithgow		Lithgow	1	1987	23,000	TF	R	1,664	20		30		15		5		10		10.0				12	0
			Portland	2		2,500	TF	R		15	75			15	25			10	75	1.0	25			12	0
			Wallerawang	3	1990	2,500	TF	L	0	15	75			15	75			10	75	1.0	0			12	0
			Total/ Weighted Average [1,3]			***28,000***			***3,328***	***20***	***75***	***30***		***15***	***50***	***5***		***10***	***75***	***10.0***	***13***			***12***	***0***

Appendix D2 - 1999/00 Sewage Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported Licence Compliance values have been pro-rated on the basis of the number of sampling days at each treatment works and are shown in bold in the final line for that utility.
Totals are shown for capacity (37B), volume treated (38A), and sampling days (52). The days of major malfunction of treatment processes (53) shown are the weighted average based on treatment works capacity.

2. 90 Percentile Licence Limits have been reported for questions 50a, 50b, 50c, 50d, 50e, 50f and 50g.

3. For each licence limit, the value shown in the final line for each water utility is that required to be met for at least 50% of the utility's total licenced treatment works capacity.

4. For "Type of Treatment Works"; C = Conventional Activated Sludge, CEA = Continuous Extended Aeration (Activated Sludge), IEA = Intermittent Extended Aeration (Activated Sludge), TF = Trickling Filter, A= Oxidation Pond, AN = Anaerobic Pond, AL = Aerated Lagoons, BNR = Biological Nutrient Removal

5. For "Effluent Discharge"; L = Land, O = Ocean, R = River.

	Water Utility	Comment	Sewage Treatment Works	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Effluent Discharge	Volume of Sewage Receiving Treatment	90 Percentile Licence Limits and percentage of samples complying with EPA Licence												Sampling Days	Major Malfunction of Treatment Processes
										BOD		SS		Total N		NH_3N		Oil & Grease		Total P		Faecal Coliforms			
			Name	Licenced		EP			ML	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	cfu /100mL	% Samples	days	days
						37B	38A		41	50A	51A	50B	51B	50C	51C	50D	51D	50E	51E	50F	51F	50G	51G	52	53
72	Lockhart			1	1967	3,000	TF	R	71	20	100	30	100					10	100					44	0
			The Rock	2	1979	2,000	IEA	R	55	20	100	30	100					10	100					44	0
			Total/ Weighted Average [1,3]			***5,000***			***126***	***20***	***100***	***30***	***100***					***10***	***100***					***88***	***0***
73	**Lower Clarence**	***NO SGE***																							
74	Maclean		Yamba	1	1983	7,500	IEA	L	623	20	43	30	100					10	100					14	0
			Maclean	2	1976	3,000	TF	R	233	20	77	30	92					10	100					13	0
			Townsend	3	1983	500	A	L	44	50	92	50	92					10	100					13	0
			Ilarwill	4	1991	160	A	R	9	50	100	50	85					10	100					13	0
			Total/ Weighted Average [1,3]			***11,160***			***909***	***20***	***77***	***15***	***92***					***10***	***100***					***53***	***0***
75	Manilla		Manilla	1	1955	2,850	TF	L	230	20	100	30	100											3	0
76	Merriwa		Merriwa	1		1,600	TF	R	76	20	100	30	75					10	100					6	0
77	MidCoast (Taree)		Dawson	1		30,000	CEA	R	2,146	30	100	30	100			5	98							47	0
			Taree	2		14,000	TF	R	69	20	100	30	100											8	0
			Harrington	3		8,800	IEA	R	185	20	100	30	100											12	0
			Wingham	4		7,100	TF/IEA	R	470	30	100	30	96			10	100							29	0
		No Licence Limits	Hallidays Point	5		5,000	IEA	L	221	NL	100	NL	100			NL	100	NL	100					7	0
			Old Bar	6		4,000	IEA	L	264	20	100	30	100					10	93					14	0
			Total/ Weighted Average [1,3]			***68,900***			***3,355***	***20***	***100***	***30***	***99***			***5***	***99***	***10***	***95***					***117***	***0***
78	MidCoast (Great Lakes)		Forster	1		32,000	IEA	O	2,454	30	100	30	100					10	92					33	0
			Hawks Nest	2		14,000	IEA	L	287	10	100	15	94	10	71	2	84	5	79	1.0	52	10	36	30	1
			Tuncurry	3		10,000	TF	L	993	25	80	25	100	30	100	20	100	12	100	8.0	100			0	0
			Bulahdelah	4		3,000	IEA	R	94	10	90	15	87	10	86	1	87	10	96	0.5	100	200	100	31	0
			Stroud	5		1,000	IEA	R	70	20	100	30	100	10	93	1	60	10	92					15	0
			Total/ Weighted Average [1,3]			***60,000***			***3,897***	***30***	***97***	***30***	***95***	***10***	***82***	***2***	***80***	***10***	***89***	***1.0***	***76***	***10***	***68***	***109***	***0.2***
79	MidCoast (Combined)		***Total/ Weighted Average*** [1,3]	11		***128,900***			***7,252***	***25***	***99***	***30***	***97***	***10***	***82***	***3***	***90***	***10***	***90***	***1.0***	***76***	***10***	***68***	***226***	***1***
80	Moree Plains		Moree	1	1986	11,000	TF/IEA	R	1,085	20	95	30	95											10	60
			Mungindi	2	1974	1,100	IEA	R	58	20	100	30	NA											10	6
			Total/ Weighted Average [1,3]			***12,100***			***1,143***	***20***	***98***	***30***	***95***											***20***	***55***
81	Mudgee		Mudgee	1		10,000	TF	R	1,150	80	100	28	90					10	10					14	0
		No Discharge Licence	Gulgong	2	1970	3,000	IEA	L	250															14	0
			Total/ Weighted Average [1,3]			***13,000***			***1,400***	***80***	***100***	***28***	***90***					***10***	***10***					***28***	***0***
82	Mulwaree		Marulan	1		NA	AL	L	28	No Limit	100	No Limit	100											12	0
83	Murray	***No Discharge Licence***	Moama	1		10,000	TF	L	421															10	0
		No Discharge Licence	Mathoura	2		NA	A	L	63															10	0
			Total/ Weighted Average [1,3]			***10,000***			***0***															***20***	***0***
84	Murrumbidgee		Darling Point	1		1,000	IEA	R	102	10	50	15	50	10	75	2	25			10	100			6	0
			Coleambally	2		600	A	L	89																0
			Total/ Weighted Average [1,3]			***1,600***			***191***	***10***	***50***	***15***	***50***	***10***	***75***	***2***	***25***			***10***	***100***			***6***	***0***
85	Murrurundi		Murrurundi	1		1,000	IEA	R	200	5	100	13	100	1	100					2.4	100			4	0
86	Muswellbrook		Muswellbrook	1	1986	20,000	TF	R	1,336	20	100	30	100					10	100					52	0
		No Licence Limits	Denman	2		2,000	IEA	R	84	NL	100	NL	100					NL	100					0	0
			Total/ Weighted Average [1,3]			***22,000***			***1,420***	***20***	***100***	***30***	***100***					***10***	***100***					***52***	***0***
87	Nambucca		Nambucca	1	1986	9,000	TF/IEA	R	815	20	92	30	81					10	100					27	0
			Macksville	2	1998	5,500	IEA	R	426	15	100	20	65	15	96	5	96	10	100	1.0	100	200	77	28	0
			Scotts Head	3	1985	2,000	IEA	L	104	20	100	30	64					10	100					12	0
			Bowraville	4	1968	1,200	TF	R	113	20	100	30	92					10	100					12	0
			Total/ Weighted Average [1,3]			***17,700***			***1,458***	***20***	***97***	***15***	***74***	***15***	***96***	***5***	***96***	***10***	***100***	***1.0***	***100***	***200***	***77***	***79***	***0***
88	Narrabri		Narrabri	1	1969	8,300	TF	R		30	100	30	100					10	100					30	NA
		Testing by DLWC	Wee Waa	2	1972	2,400	TF	L	230															4	0
		Testing by DLWC	Boggabri	3	1956	1,350	TF	L	43															4	0
			Total/ Weighted Average [1,3]			***12,050***			***1,370***	***30***	***100***	***30***	***100***					***10***	***100***					***38***	***0***
89	Narrandera		Narrandera	1	1977	6,000	IEA	R	570	20	88	30	24											25	0
90	Narromine	***No Discharge Licence***	Narromine	1	1959	4,350	TF	L																2	0
		No Discharge Licence	Trangie	2	1979	1,000	IEA	L																2	0
			Total/ Weighted Average [1,3]			***5,350***																		***4***	***0***
91	**Nundle**	***NO SGE***																							
92	Oberon		Oberon	1	1989	7,334	TF	L	350	20	100	25	100	15						1.0	NA			52	0

Appendix D2 - 1999/00 Sewage Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported Licence Compliance values have been pro-rated on the basis of the number of sampling days at each treatment works and are shown in bold in the final line for that utility.
Totals are shown for capacity (37B), volume treated (38A), and sampling days (52). The days of major malfunction of treatment processes (53) shown are the weighted average based on treatment works capacity.
2. 90 Percentile Licence Limits have been reported for questions 50a, 50b, 50c, 50d, 50e, 50f and 50g.
3. For each licence limit, the value shown in the final line for each water utility is that required to be met for at least 50% of the utility's total licenced treatment works capacity.
4. For "Type of Treatment Works"; C = Conventional Activated Sludge, CEA = Continuous Extended Aeration (Activated Sludge), IEA = Intermittent Extended Aeration (Activated Sludge), TF = Trickling Filter, A= Oxidation Pond, AN = Anaerobic Pond, AL = Aerated Lagoons, BNR = Biological Nutrient Removal
5. For "Effluent Discharge"; L = Land, O = Ocean, R = River.

	Water Utility	Comment	Sewage Treatment Works	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Effluent Discharge	Volume of Sewage Receiving Treatment	90 Percentile Licence Limits and percentage of samples complying with EPA Licence												Sampling Days	Major Malfunction of Treatment Processes
										BOD		SS		Total N		NH_3N		Oil & Grease		Total P		Faecal Coliforms			
			Name	Licenced		EP			ML	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	cfu /100mL	% Samples	days	days
						37B	38A		41	50A	51A	50B	51B	50C	51C	50D	51D	50E	51E	50F	51F	50G	51G	52	53
93	Orange		Orange	1	1988	60,000	TF/CEA	R	6,328	15	100	20	98	10	88			10	100	1.0	67	400	93	43	0
			Spring Hill	2	1990	1,000	CEA	R	39	20	100	30	100											12	0
			Total/ Weighted Average [1,3]			***61,000***			***6,367***	***15***	***100***	***20***	***98***	***10***	***88***			***10***	***100***	***1.0***	***67***	***400***	***93***	***55***	***0***
94	Parkes		Parkes	1	1966	12,500	TF	R	660	30	66	30	60	10	90			5	100	1.0	0			15	5
		No Discharge Licence	Peak Hill	2	1969	2,000	TF	R	114																0
			Total/ Weighted Average [1,3]			***14,500***			***774***	***30***	***66***	***30***	***60***					***5***	***100***					***15***	***4.3***
95	Parry		Werris Creek	1		3,200	TF	L/R	128	20	66	30	50					10	100					12	0
		No Licence Limits	Kootingal	2	1993	2,000	A	L	75	NL	100	NL	100					NL	100					2	0
			Total/ Weighted Average [1,3]			***5,200***			***203***	***20***	***71***	***30***	***57***					***10***	***100***					***14***	***0***
96	Pristine Waters		Coutts Crossing	1		500	IEA	R	38	20	100	30	54					10	100			NA	100	13	0
97	Queanbeyan		Queanbeyan	1	1986	31,100	TF/CEA	R	3,869	10	100	30	100	35	100					0.3	100	1000	100	365	0
98	Quirindi		Quirindi	1	1984	7,000	TF/IEA	R	355	20	100	30	42					10	100					28	0
99	Richmond Valley		Casino	1		13,300	TF/IEA	L	1,798	20	100	30	77					10	100					26	30
			Richmond River																						
			Total/ Weighted Average [1,3]																						
100	Riverina	***NO SGE***																							
101	Rous	***NO SGE***																							
102	Rylstone		Rylstone	1	1972	3,750	TF	R	287	20	NA	25	NA	15	NA			0	NA	6	NA			13	NA
103	Scone		Scone	1	1988	7,000	TF/IEA	R	833	20	100	30	100					10	100					11	0
			Aberdeen	2		4,000	IEA	R	204	20	100	30	100					10	100					11	0
			Total/ Weighted Average [1,3]			***11,000***			***1,037***	***20***	***100***	***30***	***100***					***10***	***100***					***22***	***0***
104	Severn		Deepwater	1	1987	500	A	L	NA	40	83	45	75											12	NA
105	Shoalhaven		Nowra	1	1989	21,000	TF/CEA	R	1,811	20	92	30	75											16	0
			St Georges Basin	2	1992	16,000	IEA	O	879	***(Vincentia/Huskinson)***														16	0
			Bomaderry	3	1990	12,500	TF/IEA	R	963	15	92	30	75											16	0
			Ulladulla	4		12,500	TF/IEA		1,072	50	100	80	100											16	0
			Culburra	5		8,000	IEA	O	479	20	100	20	92											16	0
			Sussex Inlet	6	1990	8,000	IEA	O	351	20	100													16	0
			Vincentia (Huskisson)	7		8,000	IEA	O	516	20	100	40	100			5	100							16	0
			Shoalhaven Heads	8	1982	4,000	IEA	O	237	20	92	20	50											16	0
			Berry	9		2,000	IEA	R	193	15	83	20	58											16	0
			Callala	10		600	IEA		129	***(Culburra)***														16	0
			Total/ Weighted Average [1,3]			***92,600***			***6,630***	***20***	***95***	***30***	***79***			***5***	***100***							***160***	***0***
106	Singleton		Singleton	1	1988	20,000	IEA	R	1,230	30	100	30	100	15	100			10	100	10	100			25	0
107	Snowy River		Jindabyne	1		12,000	IEA	R	300	10	100	15	95	10	100	2	100	2	100	0.3	100	200	100	20	0
			Adaminaby	2		1,000	TF	R	20	20	100	30	85											15	0
		No Licence Limits	Kalkite	3		1,000	IEA	L	15	NL	100	NL	100	NL	100	NL	100	NL	100	NL	100	NL	100	12	0
			Berridale	4		750	IEA	R	80	20	69	30	54											13	0
			Total/ Weighted Average [1,3]			***14,750***			***415***	***10***	***93***	***15***	***85***	***10***	***100***	***2***	***100***	***2***	***100***	***0.3***	***100***	***200***	***100***	***60***	***0***
108	Sydney Water	***METROPOLITAN***																							
109	Tallaganda		Braidwood	1		3,000	TF	R	90	20	75	30	75					10	75					16	0
110	Tamworth		Westdale	1	1983	33,000	TF/IEA	R	2,622	30	88	25	65											51	0
		No Licence Limits	Swan Street	2	1968	15,000	TF	L	1,374	NL	100	NL	100											12	0
			Total/ Weighted Average [1,3]			***48,000***			***3,996***	***30***	***90***	***25***	***72***											***63***	***0***
111	Temora		Temora	1	1931	4,200	TF	L	500	20	100	30	80									600	100	200	0
112	Tenterfield		Tenterfield	1	1983	2,250	TF	L/R	261	40	100	45	58											12	1
			Urbenville	2	1981	500	IEA	L/R	20	20	94	30	85					10	100					12	0
			Total/ Weighted Average [1,3]			**2,750**			**281**	**20**	**97**	**30**	**72**					**10**	**100**					**24**	**0.8**
113	Tumbarumba		Tumbarumba	1	1984	3,500	TF	R	350	20	100	30	90					10	90					12	0
			Khancoban	2		1,500	TF	R	45															9	0
			Total/ Weighted Average [1,3]			***5,000***			***395***	***20***	***100***	***30***	***90***					***10***	***90***					***21***	***0***
114	Tumut		Tumut	1		7,500	TF	R	852	40	100	45	100					10	100					16	0
			Batlow	2	1968	1,400	TF	R	110	40	100	45	100					10	100					16	0
			Talbingo	3		1,100	CEA/BNR	R	58	25	100	35	100	25	100	10	100	10	100	2	100			16	0
			Adelong	4		1,000	IEA	R	113	40	100	45	100					10	100					16	0
			Total/ Weighted Average [1,3]			***11,000***			***1,133***	***40***	***100***	***15***	***100***	***25***	***100***	***10***	***100***	***10***	***100***	***2***	***100***			***64***	***0***

Appendix D2 - 1999/00 Sewage Treatment Data

Notes: 1. Where a water utility has more than one treatment works, the reported Licence Compliance values have been pro-rated on the basis of the number of sampling days at each treatment works and are shown in bold in the final line for that utility.
Totals are shown for capacity (37B), volume treated (38A), and sampling days (52). The days of major malfunction of treatment processes (53) shown are the weighted average based on treatment works capacity.

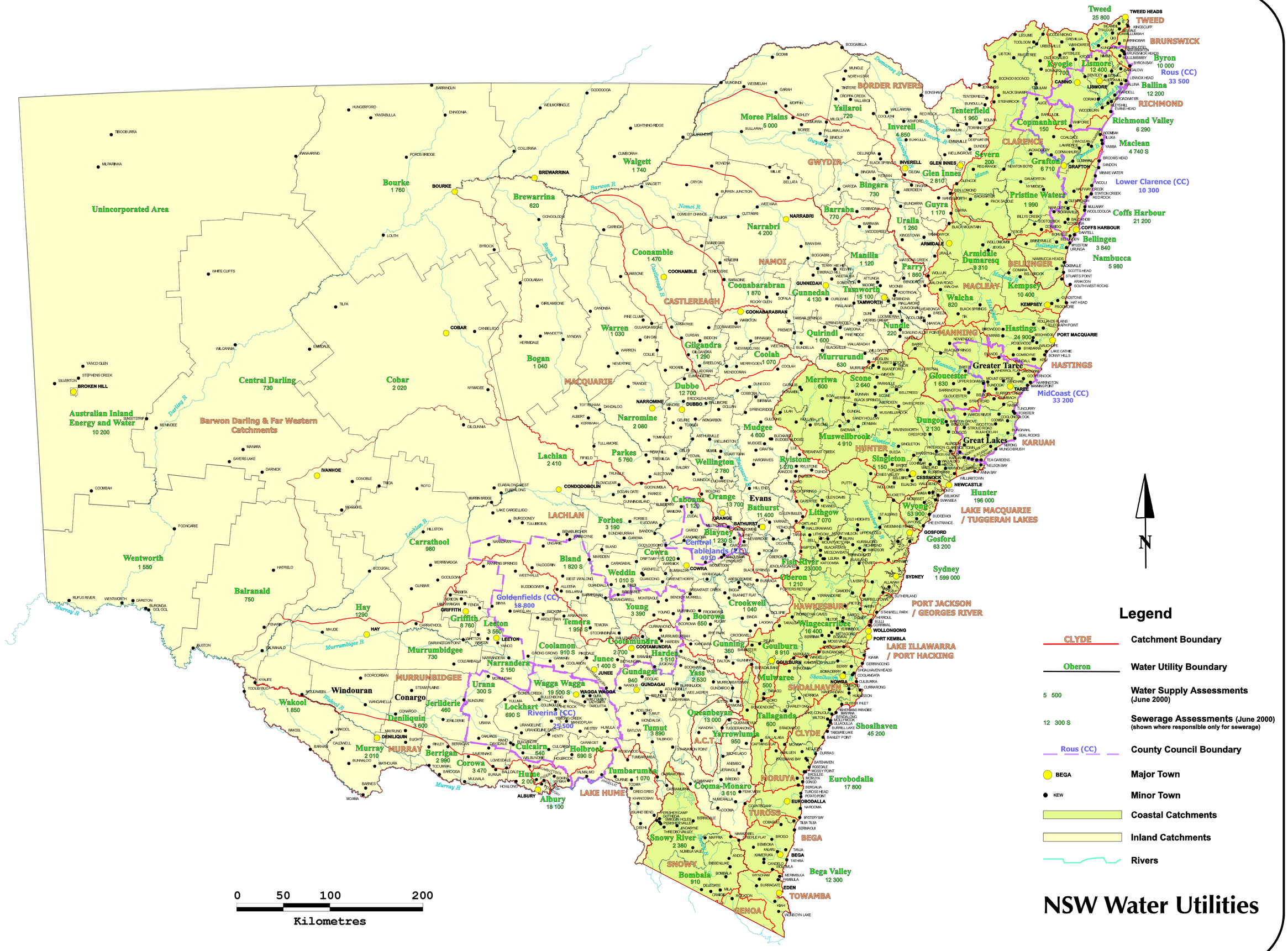
2. 90 Percentile Licence Limits have been reported for questions 50a, 50b, 50c, 50d, 50e, 50f and 50g.

3. For each licence limit, the value shown in the final line for each water utility is that required to be met for at least 50% of the utility's total licenced treatment works capacity.

4. For "Type of Treatment Works"; C = Conventional Activated Sludge, CEA = Continuous Extended Aeration (Activated Sludge), IEA = Intermittent Extended Aeration (Activated Sludge), TF = Trickling Filter, A= Oxidation Pond, AN = Anaerobic Pond, AL = Aerated Lagoons, BNR = Biological Nutrient Removal

5. For "Effluent Discharge"; L = Land, O = Ocean, R = River.

	Water Utility	Comment	Sewage Treatment Works	Treatment Works No.	Year built or Augmented	Capacity	Type of Treatment Works	Effluent Discharge	Volume of Sewage Receiving Treatment	90 Percentile Licence Limits and percentage of samples complying with EPA Licence														Sampling Days	Major Malfunction of Treatment Processes
										BOD		SS		Total N		NH_3N		Oil & Grease		Total P		Faecal Coliforms			
			Name	Licenced		EP			ML	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	mg/L	% Samples	cfu /100mL	% Samples	days	days
						37B	38A		41	50A	51A	50B	51B	50C	51C	50D	51D	50E	51E	50F	51F	50G	51G	52	53
115	Tweed		Banora Point	1	1994	50,000	CEA/BNR	R	4,113	15	100	20	100					10	100			10000	98	56	56
			Tweed Heads	2	1991	12,000	TF	R	825	25	90	25	83					10	100					30	0
			Kingscliff	3	1988	10,500	IEA/TF	R	847	25	100	25	100					10	100					30	30
			Murwillumbah	4	2000	10,000	TF/IEA	R	1,443	25	100	25	100					10	100					30	30
			Hastings Point	5	1985	8,000	IEA	R	642	25	100	25	100					10	100					30	30
			Tumbulgum	6		700	IEA	R	32	15	100	20	100	15	87	5	100	10	100	1.0	70	200	100	30	30
			Tyalgum	7	1990	500	IEA	L	13	25	93	50	100					10	100					30	30
			Total/ Weighted Average [1,3]			***91,700***			***7,915***	***15***	***98***	***20***	***98***	***15***	***87***	***5***	***100***	***10***	***100***	***1.0***	***70***	***10000***	***98***	***236***	***40***
116	Uralla		Uralla	1	1995	3,960	IEA	R	185	15	100	20	100	10	100	1	100	10	100	1.0	100	200	100	14	0
117	Wagga Wagga	***100% Limits***	Narrung Street	1	1992	69,000	TF/CEA	L/R	4,660	20	95	30	89						89					19	2
		100% Limits	Kooringal	2	1992	20,000	TF/CEA	L/R	1,042	20	100	30	83											12	0
		100% Limits	Forest Hill	3	1974	3,500	IEA	L	220	20	75	30	100											4	0
		No Discharge Licence	Uranquinty	4		1,000	A	L	67																0
		No Discharge Licence	Tarcutta	5		500	A	L	40																0
			Total/ Weighted Average [1,3]			***94,000***			***6,029***	***20***	***94***	***30***	***89***						***89***					***35***	***1.5***
118	Wakool	***No Discharge Licence***	Moulamein	1		1,000	IEA	L	NA															6	0
		No Discharge Licence	Murray Downs	2		750	A	L	NA															3	1
		No Discharge Licence	Tooleybuc	3		500	A	L	NA															NA	NA
			Total/ Weighted Average [1,3]			***2,250***			NA															***9***	***0.3***
119	Walcha		Walcha	1	1971	2,200	TF	R	204	20	100	30	92					10	100					12	0
120	Walgett						TF	L																	
121	Warren	***No Discharge Licence***	Warren	1	1958	2,180	TF	L	237															3	0
122	Weddin		Grenfell	1	1943	2,500	TF	R	137	20	100													4	3
123	Wellington		Wellington	1	1984	8,000	TF	R	643	20	100	30	85					10	100					14	0
124	Wentworth				1991																				
125	Wingecarribee		Bowral	1		10,500	TF/IEA	R	1,021	20	100	30	100							2.0	100			12	0
			Moss Vale	2		9,000	IEA	R	825	20	100	30	100	15	100	2	100	NA	100	1.0	100	200	100	27	0
			Mittagong	3		5,200	TF	R	557	20	100	30	100											12	0
			Berrima	4	1990	2,000	IEA	R	130	20	100	30	100	15	100	2	100			1.0	100			12	0
			Bundanoon	5		2,000	IEA	R	237	20	100	30	100	15	100	2	98			2.0	100			12	0
			Total/ Weighted Average [1,3]			***28,700***			***2,770***	***20***	***100***	***30***	***100***	***15***	***100***	***2***	***100***	NA	***100***	***1.0***	***100***	***200***	***100***	***75***	***0***
126	Wyong		Bateau Bay	1		58,000	TF/IEA	O	2,955	No Limit	100	50	100					10	100					61	0
		Discharge to Toukley	Charmhaven	2		40,000	IEA	O	1,000	No Limit	100	50	100					10	100					52	0
			Toukley	3		40,000	TF	O	2,800	No Limit	100	50	100					10	100					61	0
		Discharge to Toukley	Wyong South	4		40,000	IEA	O	4,500	No Limit	100	50	100					10	100					52	0
		Discharge to Toukley	Gwandalan	5		12,000	IEA	O	200	No Limit	100	50	100					10	100					52	0
		Discharge to Toukley	Mannering Park	6		12,000	IEA	O	550	No Limit	100	50	100					10	100					52	0
			Total/ Weighted Average [1,3]			***202,000***			***12,005***	NL	***100***	***50***	***100***					***10***	***100***					***330***	***0***
127	Yallaroi		Warialda	1	1969	1,500	TF	R	0	20	98	30	99					10	100					6	0
128	Yarrowlumla		Bungendore	1		2,000	IEA	R	139	10	100	15	75					10	100					6	0
			Captains Flat	2		500	IEA	R	32	20	100	30	92					10	100					5	0
			Total/ Weighted Average [1,3]			***2,500***			***171***	***10***	***100***	***15***	***83***					***10***	***100***					***11***	***0***
129	Yass		Yass No. 1	1		4,000	IEA	L/R	449	20	100	20	100											16	0
			Yass No. 2	2		3,500	TF	L/R	110	20	100	20	100											16	0
			Total/ Weighted Average [1,3]			***7,500***			***559***	***20***	***100***	***20***	***100***											***32***	***0***
130	Young		Young	1		7,000	TF	L/R	789	28	100	8	100	25	100			10	100	6	100			52	0


Unincorporated Area
Australian Inland Energy and Water
10 200
Barwon Darling & Far Western Catchments
Central Darling
730
Cobar
2 020
Bourke
1 760
Brewarrina
620
Bogan
1 040
Walgett
1 740
Warren
1 030
Gilgandra
1 290
Coonamble
1 470
Narrabri
4 200
Moree Plains
5 000
Gwydir
Namoi
Castlereagh
Macquarie
Lachlan
2 410
Wentworth
1 550
Balranald
750
Hay
1290
Murrumbidgee
730
Murrumbidgee
Griffith
8 760
Leeton
3 560
Goldenfields (CC)
18 800
Lachlan
Carrathool
980
Forbes
3 190
Parkes
5 760
Narromine
2 080
Dubbo
12 700
Coolah
1 070
Coonabarabran
1 870
Gunnedah
4 130
Quirindi
1 600
Murrurundi
630
Barraba
770
Yallaroi
720
Border Rivers
Tenterfield
1 960
Inverell
4 850
Glen Innes
2 810
Severn
200
Bingara
730
Guyra
1 170
Uralla
1 260
Manilla
1 120
Parry
1 860
Tamworth
15 100
Nundle
220
Scone
2 640
Merriwa
600
Mudgee
4 600
Rylstone
1 270
Lithgow
7 070
Singleton
5 150
Muswellbrook
4 910
Hunter
Great Lakes
Karuah
Wyong
53 900
Gosford
63 200
Central Tablelands (CC)
49 10
Cabonne
1 120
Orange
13 700
Bathurst
11 400
Blayney
1 230 S
Cowra
5 020
Weddin
1 010 S
Bland
1 820 S
Temora
1 950 S
Young
3 390
Boorowa
650
Harden
1 510
Coolamon
910 S
Junee
1 400 S
Gundagai
Wagga Wagga
19 500 S
Riverina (CC)
25 500
Lockhart
690 S
Urana
300 S
Jerilderie
460
Deniliquin
3 600
Murray
2 010
Berrigan
2 990
Corowa
3 470
Culcairn
540
Holbrook
690 S
Tumut
3 890
Tumbarumba
1 070
Hume
2 000
Albury
18 100
Lake Hume
Snowy River
2 380
Snowy
Bombala
910
Cooma-Monaro
3 610
Queanbeyan
13 000
A.C.T.
Yarrowlumla
950
Tallaganda
600
Shoalhaven
45 200
Shoalhaven
Mulwaree
500
Yass
2 530
Crookwell
1 040
Goulburn
8 910
Gunning
360
Wingecarribee
16 400
Hawkesbury
Port Jackson / Georges River
Lake Illawarra / Port Hacking
Wollongong
Port Kembla
Sydney
1 599 000
Fish River
23 000
Oberon
1 210
Lithgow
Bathurst
Orange
Evans
Cessnock
Newcastle
Lake Macquarie / Tuggerah Lakes
Gosford
Wyong
Hunter
196 000
Tweed
25 800
Tweed
Brunswick
Byron
10 000
Rous (CC)
33 500
Ballina
12 200
Richmond
Richmond Valley
6 290
Maclean
4 740 S
Clarence
Kyogle
1 700
Lismore
12 400
Casino
Grafton
6 710
Lower Clarence (CC)
10 300
Pristine Waters
1 990
Coffs Harbour
21 200
Bellingen
3 840
Nambucca
5 980
Armidale Dumaresq
9 310
Bellinger
Macleay
Kempsey
10 400
Walcha
820
Hastings
24 900
Manning
Port Macquarie
Greater Taree
Hastings
Gloucester
1 630
Taree
MidCoast (CC)
33 200
Dungog
2 130
Karuah
Eurobodalla
17 800
Moruya
Bega
Bega Valley
12 300
Towamba
Eden
Genoa
Tuross
Broken Hill
Wentworth
Balranald
Hay
Griffith
Leeton
Murrumbidgee
Wakool
Deniliquin
Murray
Berrigan
Corowa
Albury
Lachlan
Carrathool
Forbes
Parkes
Narromine
Dubbo
Gilgandra
Warren
Bourke
Brewarrina
Walgett
Coonamble
Narrabri
Moree Plains
Gwydir
Inverell
Glen Innes
Tenterfield
Yallaroi
Barraba
Bingara
Guyra
Uralla
Armidale Dumaresq
Walcha
Nundle
Quirindi
Gunnedah
Coonabarabran
Coolah
Murrurundi
Merriwa
Scone
Muswellbrook
Rylstone
Lithgow
Singleton
Cessnock
Newcastle
Gosford
Wyong
Fish River
Oberon
Bathurst
Orange
Cabonne
Central Tablelands (CC)
Blayney
Cowra
Weddin
Bland
Temora
Young
Boorowa
Harden
Coolamon
Junee
Gundagai
Wagga Wagga
Lockhart
Riverina (CC)
Urana
Jerilderie
Deniliquin
Murray
Berrigan
Corowa
Culcairn
Holbrook
Tumut
Tumbarumba
Hume
Albury
Lake Hume
Snowy River
Snowy
Bombala
Cooma-Monaro
Queanbeyan
A.C.T.
Yarrowlumla
Tallaganda
Shoalhaven
Mulwaree
Yass
Crookwell
Goulburn
Gunning
Wingecarribee
Hawkesbury
Port Jackson / Georges River
Lake Illawarra / Port Hacking
Wollongong
Port Kembla
Sydney
Eurobodalla
Moruya
Bega
Bega Valley
Towamba
Eden
Genoa
Tuross
Lake Macquarie / Tuggerah Lakes
Hunter
Great Lakes
Karuah
Dungog
Gloucester
Taree
MidCoast (CC)
Manning
Port Macquarie
Hastings
Kempsey
Macleay
Bellinger
Nambucca
Coffs Harbour
Pristine Waters
Lower Clarence (CC)
Maclean
Richmond Valley
Richmond
Ballina
Rous (CC)
Byron
Tweed
Kyogle
Lismore
Casino
Clarence
Grafton
Border Rivers
Moree Plains
Namoi
Castlereagh
Macquarie
Lachlan
Murrumbidgee
Barwon R
Darling R
Murray R
Lachlan R
Macquarie R
Castlereagh R
Namoi R
Gwydir R
Dumaresq R
Severn R
Macintyre R
Boyne R
Clarence R
Richmond R
Tweed R
Brunswick R
Wilsons R
Manning R
Hastings R
Camden Haven R
Macleay R
Bellinger R
Kalang R
Nambucca R
Coffs Harbour
Orara R
Shoalhaven
Wollondilly R
Wingecarribee
Mulwaree
Yass
Crookwell
Goulburn
Gunning
Tallaganda
Queanbeyan
Yarrowlumla
Shoalhaven
Eurobodalla
Moruya
Bega
Bega Valley
Towamba
Eden
Genoa
Tuross
Snowy River
Snowy
Bombala
Cooma-Monaro
Lake Hume
Albury
Hume
Tumbarumba
Holbrook
Culcairn
Berrigan
Murray
Deniliquin
Jerilderie
Urana
Lockhart
Riverina (CC)
Wagga Wagga
Gundagai
Junee
Coolamon
Harden
Temora
Young
Boorowa
Weddin
Bland
Cowra
Central Tablelands (CC)
Blayney
Cabonne
Orange
Bathurst
Evans
Lithgow
Oberon
Fish River
Wyong
Gosford
Sydney
Wollongong
Port Kembla
Lake Illawarra / Port Hacking
Port Jackson / Georges River
Hawkesbury
Wingecarribee
Goulburn
Gunning
Crookwell
Mulwaree
Yass
Shoalhaven
Tallaganda
Queanbeyan
Yarrowlumla
A.C.T.
Cessnock
Newcastle
Lake Macquarie / Tuggerah Lakes
Hunter
Great Lakes
Karuah
Dungog
Gloucester
Taree
MidCoast (CC)
Manning
Port Macquarie
Hastings
Kempsey
Macleay
Bellinger
Nambucca
Coffs Harbour
Pristine Waters
Lower Clarence (CC)
Maclean
Richmond Valley
Richmond
Ballina
Rous (CC)
Byron
Tweed
Kyogle
Lismore
Casino
Clarence
Grafton
Border Rivers
Moree Plains
Namoi
Castlereagh
Macquarie
Lachlan
Murrumbidgee
Barwon R
Darling R
Murray R
Lachlan R
Macquarie R
Castlereagh R
Namoi R
Gwydir R
Dumaresq R
Severn R
Macintyre R
Boyne R
Clarence R
Richmond R
Tweed R
Brunswick R
Wilsons R
Manning R
Hastings R
Camden Haven R
Macleay R
Bellinger R
Kalang R
Nambucca R
Coffs Harbour
Orara R
Shoalhaven
Wollondilly R
0 50 100 200
Kilometres
N
Legend
CLYDE
Catchment Boundary
Oberon
Water Utility Boundary
5 500
Water Supply Assessments (June 2000)
12 300 S
Sewerage Assessments (June 2000) (shown where responsible only for sewerage)
Rous (CC)
County Council Boundary
BEGA
Major Town
KEW
Minor Town
Coastal Catchments
Inland Catchments
Rivers
NSW Water Utilities