Environmental Expenditure

LOCAL GOVERNMENT AUSTRALIA

1998–99

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PREFACE

BACKGROUND

This publication presents estimates of expenditures and revenues related to environment protection and natural resource management by local government authorities of Australia. The information is collected using an international framework known as the European System for the Collection of Economic Information on the Environment (SERIEE) developed in 1994 by the European Statistical Office (Eurostat).

The collection was developed in response to requests by local governments, local government associations and others for national information on local government financial transactions related to managing the environment and natural resources. Such information is not available in a detailed form in Public Finance Statistics.

The estimates presented will be useful to policy makers in State and Commonwealth governments, to local government associations, to local councils themselves as well as to any other parties interested in management of the environment by local government authorities. The estimates collected for both 1997–98 and 1998–99 demonstrate that local government is a significant player in managing the nation's environment and natural resources.

This is the second time this survey has been run in Australia. The ABS welcomes feedback from readers regarding the usefulness, range and quality of the data presented and explanations provided. Please send any comments to the Director, Environment and Energy Statistics Section, Australian Bureau of Statistics, PO Box 10, Belconnen, ACT 2616.

The results from the 1999–2000 survey are expected to be published in mid-2001.

Dennis Trewin
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SUMMARY OF FINDINGS

ENVIRONMENT PROTECTION AND NATURAL RESOURCES

INTRODUCTION

This is the second in a series of annual publications designed to provide environment expenditure and revenue statistics for local government authorities. It is a part of the environmental accounts series for Australia. In particular, these data are linked to the information presented in *Environment Protection Expenditure, Australia* (Cat. No. 4603.0).

There are two main types of expenditure considered to have an impact on the environment. These expenditures and related revenues are divided into two accounts, 'Environmental Protection' and 'Natural Resource Management'. The nature of the environment protection and natural resource management accounts is discussed in depth in the Explanatory Notes.

These statistics are based on a survey of local governments across Australia that measures expenditure on services and activities to protect the environment and to manage the natural resources within each municipality. The survey also measures councils' revenue related to provision of services in these areas.

This publication also includes details of the financial transfers that relate to the environment that occur between Commonwealth, State and local government.

OVERVIEW OF RESULTS

In 1998–99, revenue for environment-related activities accounted for 18% ($2.8 billion) of all council revenue. Current expenditure on the environment by local government amounted to $2.7 billion, or about 20% of all council current expenditure. Capital expenditure on the environment accounted for 21% ($729 million) of all capital expenses by local government. Activities related specifically at environmental protection accounted for about 12% of total council revenue and expenditure. The proportions of total council revenue and expenditure noted here are not directly comparable with the percentages reported in last year's publication (see Explanatory Notes paragraph 20).

Table 1 shows environmental revenue and expenditure by account, for the two years in which the survey has been run, 1997–98 and 1998–99. This table shows that there has been little change in the total amount of revenue and expenditure between the two years.

There was, however, an increase in government funding for environmental protection activities between the two years, due mainly to an increase in grants in 1998–99. Part of this increase could also be attributed to better classification of revenue by respondents. This is evident in the reported $61 million decrease in the 'other miscellaneous' category reported between the two years. There was also an increase of $33 million in capital expenditure for environmental protection activities between 1997–98 and 1998–99.

OVERVIEW OF RESULTS *continued*

There was a small decrease in total expenditure for natural resource management activities in both current and capital expenditure. This was in contrast to a small increase in revenue for these activities.

An increase in capital expenditure ($33 million) for environmental protection activities offset a decrease in capital expenditure ($29 million) for natural resource management activities. This resulted in little change to the total environmentally related capital expenditure.

1 ENVIRONMENTAL REVENUE AND EXPENDITURE, By account

	ENVIRONMENT PROTECTION..	NATURAL RESOURCES	
	Total	*Total*	*Total*
Transaction	*$m*	*$m*	*$m*
	1997–98		
Revenue			
Rates from household and industry	1 631	796	2 427
Government funding	91	45	136
Other miscellaneous revenue	98	107	205
Total	*1 820*	*948*	*2 768*
Current expenses			
Wages and salaries	434	425	859
Operational expenses	1 251	659	1 910
Total	*1 685*	*1 084*	*2 769*
Capital expenditure			
Acquisitions	143	100	243
Other	285	197	482
Total	*428*	*297*	*725*
	1998–99		
Revenue			
Rates from household and industry	1 639	867	2 505
Government funding	138	38	175
Other miscellaneous revenue	37	63	100
Total	*1 813*	*967*	*2 780*
Current expenses			
Wages and salaries	379	399	778
Operational expenses	1 286	664	1 950
Total	*1 665*	*1 063*	*2 728*
Capital expenditure			
Acquisitions	150	102	252
Other	311	166	477
Total	*461*	*268*	*729*

Note: Where figures have been rounded, discrepancies may occur within totals.

ENVIRONMENT PROTECTION

Environment protection data cover activities that prevent, reduce or eliminate pressures on the environment arising from social and economic activities. They also cover activities aimed at repairing or restoring damage after it has occurred. Graph 2 and table 3 show revenue and expenditure of councils by a break down of environment protection activity for 1998–99.

Approximately 90% of all environment protection revenue was from rates collection. State and Commonwealth government funding of environment protection activities contributed a further 8% ($138 million) of total environment protection revenue.

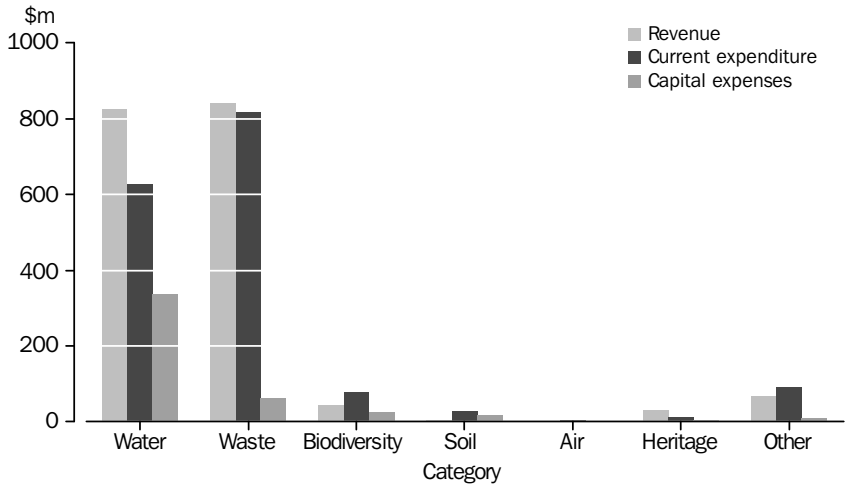
Environment protection expenditure was primarily for solid waste ($881 million) and waste water management ($965 million). These two categories amounted to $1.8 billion or 87% of total environment protection expenditure in 1998–99. 1998–99 figures included depreciation of assets which was not included in the 1997–98 figures.

The majority of current expenses for solid waste management activities was paid to contractors (about 61%) with 16% of expenses allocated to payments for council workers to provide waste services. The reverse is true for waste water management where payments to contractors were only 8% of total current expenses compared to 28% allocated to wages of council workers.

Expenditure on biodiversity and landscape was 5% ($106 million) of total environmental protection expenditure in 1998–99. Relevant activities which were reported under biodiversity and landscape include: protection of native vegetation and habitats, restoration of ecosystems, prevention of land degradation and weed control in areas of native vegetation. Protection of ambient air and climate (with a total of $4 million), was the least significant environmental activity reported by councils in both 1997–98 and 1998–99.

It can be seen clearly from graph 2 that, in most categories, total expenditure exceeded revenue for that particular environment protection activity. This was particularly so for activities relating to protection of biodiversity and landscape. The exception was cultural heritage where revenue exceeded expenditure by $10m.

2 ENVIRONMENT PROTECTION, By category



3 ENVIRONMENT PROTECTION, By category

	ENVIRONMENT PROTECTION CATEGORY							
Transaction	*Waste water* $m	*Solid waste* $m	*Biodiversity and landscape* $m	*Soil and groundwater* $m	*Air* $m	*Cultural heritage* $m	*Other* $m	*Total* $m
Revenue								
Rates from household and industry	734.1	829.4	16.7	0.7	0.1	(a)	58.0	1 639.0
Government funding								
Specific subsidies	14.2	4.4	20.2	2.4	(a)	14.8	12.4	68.4
Investment grants	52.6	1.0	3.1	2.0	—	3.4	6.9	69.1
Other revenue	24.6	5.5	3.6	0.1	(a)	0.2	2.7	36.6
Total	*825.6*	*840.4*	*43.6*	*5.2*	*0.1*	*18.4*	*79.9*	*1 813.2*
Current expenses								
Wages and salaries	173.6	127.8	34.0	9.4	2.8	5.0	27.1	379.5
Operational expenses								
Contractors	52.9	495.3	13.5	7.4	0.3	3.2	35.5	608.2
Materials	98.5	84.1	16.3	3.0	0.4	1.9	8.2	212.4
Government payments	13.9	55.8	4.2	1.2	(a)	0.1	7.1	82.2
Depreciation	165.1	20.1	3.4	0.8	(a)	1.0	5.3	195.7
Other expenses	124.2	34.8	8.8	7.0	0.1	2.9	9.4	187.2
Total	*628.0*	*817.9*	*80.3*	*28.8*	*3.6*	*14.0*	*92.6*	*1 665.2*
Capital expenditure								
Acquisitions	103.4	27.5	15.1	0.4	0.1	0.3	3.2	150.0
Own account work	97.2	13.1	6.2	4.9	—	0.7	4.0	126.1
Contracted payments	136.6	22.7	4.8	14.2	(a)	4.6	1.8	184.7
Total	*337.2*	*63.3*	*26.1*	*19.5*	*0.1*	*5.7*	*9.1*	*460.9*

(a) Included in 'Other' environment protection due to the size of sample.

— Nil or rounded to zero (including null cells).

Note: Where figures have been rounded, discrepancies may occur within totals.

ENVIRONMENT PROTECTION *continued*

Table 4 shows environment protection revenue and expenditure on a State basis by type of environment protection activity. These figures are presented graphically in Graphs 5 and 6. Variation in both total and per capita figures between States reflects a variety of factors including differing responsibilities of councils between States. For example in Queensland, councils are responsible for sewerage treatment, whereas, in some other States water boards have this responsibility.

Total expenses and revenue were greatest in New South Wales and Queensland. Tasmania, however, had the largest per capita expenditure ($202), followed by Queensland ($187 per capita) and New South Wales ($131 per capita). Queensland councils received the largest revenue per capita for environment protection activities ($209), with Western Australian councils receiving the least ($27 per capita). Western Australia also spent the least per capita on environment protection activities ($44).

4 ENVIRONMENT PROTECTION, By State and category

	Waste water		*Waste*		*Biodiversity & landscape*		*Soil & groundwater*		*Other(a)*		*Total*	
	Total	*Per capita*	*Total*	*Per capita*	*Total*	*Per capita*	*Total*	*Per capita*	*Total*	*Per capita*	*Total*	*Per capita*
	$m	*$*	*$m*	*$*	*$m*	*$*	*$m*	*$*	*$m*	*$*	*$m*	*$*
REVENUE												
NSW	274.8	43	398.6	62	21.8	3	*2.0	—	50.9	8	748.1	116
Vic.	*9.0	2	126.2	27	4.6	1	0.9	—	*12.3	3	152.9	33
Qld	472.0	134	218.3	62	*13.5	4	0.5	—	32.2	9	736.5	209
SA	14.4	10	*28.2	19	1.5	1	**0.2	—	2.0	1	46.2	31
WA	3.6	2	43.8	24	0.8	—	1.1	1	*0.6	—	49.9	27
Tas.	51.6	110	17.6	37	1.5	3	0.5	1	0.4	1	71.6	152
Aust.(b)	*825.6*	*44*	*840.4*	*45*	*43.6*	*2*	*5.2*	—	*98.4*	*5*	*1 813.2*	*96*
CURRENT EXPENSES												
NSW	259.3	40	334.7	52	33.9	5	7.1	1	54.9	9	690.0	107
Vic.	33.5	7	200.9	43	14.5	3	1.3	—	19.5	4	269.7	57
Qld	257.2	73	145.0	41	19.1	5	17.7	5	21.6	6	460.6	130
SA	20.4	14	59.1	40	4.4	3	**0.8	1	*9.3	6	93.9	64
WA	7.7	4	48.0	26	4.7	3	1.9	1	4.2	2	66.5	36
Tas.	46.6	99	23.4	50	3.6	8	—	—	0.7	2	74.4	159
Aust.(b)	*628.0*	*34*	*817.9*	*44*	*80.3*	*4*	*28.8*	*2*	*110.2*	*6*	*1 665.2*	*90*
CAPITAL EXPENDITURE												
NSW	114.1	18	23.5	4	9.0	1	*0.5	—	*3.6	1	150.6	24
Vic.	*15.8	3	18.4	4	2.5	1	**1.1	—	*6.4	1	44.3	9
Qld	174.6	50	8.1	2	*13.2	4	(c)	(c)	18.3	1	214.3	57
SA	11.1	7	*2.4	2	*0.2	—	*2.8	2	0.8	1	17.4	12
WA	*3.8	2	*8.4	5	0.9	1	*0.5	—	*0.1	—	13.7	8
Tas.	17.7	38	2.5	5	(c)	(c)	—	—	0.3	—	20.5	43
Aust.(b)	*337.2*	*18*	*63.3*	*3*	*26.1*	*1*	*4.9*	*1*	*(d)29.5*	*1*	*460.9*	*24*

(a) This column includes Air, Cultural heritage and Other environment protection activities.

(b) Includes Northern Territory.

(c) Included in 'Other' environment protection due to size of sample.

(d) Includes Soil and groundwater for Queensland.

* Indicates that the relative standard error was between 25–50%.

** Indicates that the relative standard error was greater than 50%.

– Nil or rounded to zero (including null cells).

Note: i) Where figures have been rounded, discrepancies may occur within totals.

ENVIRONMENT PROTECTION *continued*

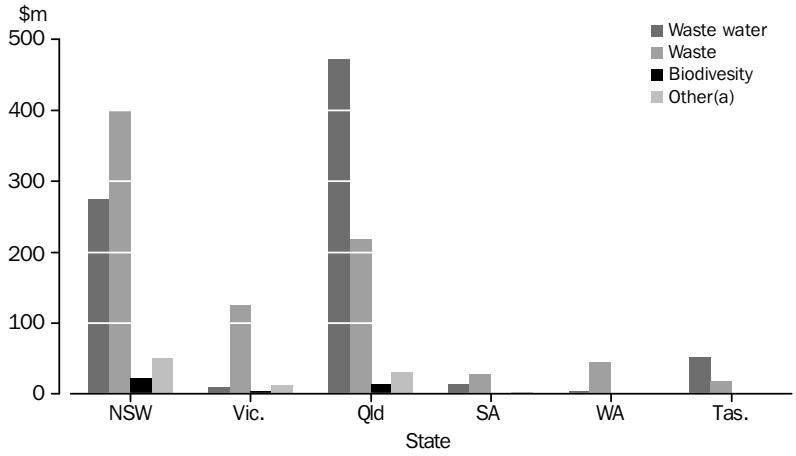
Waste water management and water protection activities were the dominant environmental protection activities undertaken by councils in New South Wales, Queensland and Tasmania. In this category, Queensland and Tasmanian councils had the largest revenue and expenditure per capita (see table 4). These comparatively high figures reflect the fact that Queensland and Tasmanian councils treat their own sewage and, therefore, have higher revenue and expenditure related to waste water management. In the other States, a combination of councils and other agencies are responsible for sewage infrastructure, treatment and water protection.

ENVIRONMENT PROTECTION *continued*

For the waste category, New South Wales councils' total revenue comprised 47% of total revenue for all States ($399 million) and expenditure was 41% of total expenditure for all States ($358 million). Queensland and New South Wales councils received the most revenue per capita ($62), and New South Wales had the highest per capita total expenditure ($56). South Australian councils had both the lowest per capita revenue and the second lowest expenditure of any of the States for waste management services. Waste management was the dominant environmental protection activity in Victoria, South Australia and Western Australia.

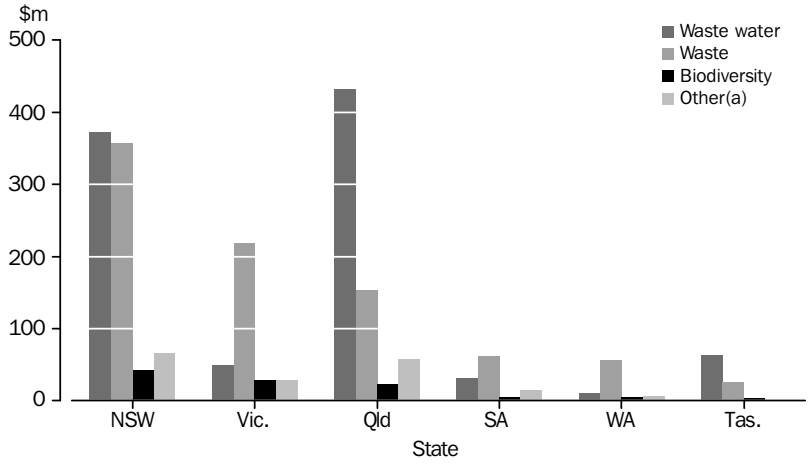
New South Wales councils also spent the most overall on activities to protect biodiversity and landscape ($43 million or $6 per capita in 1998–99). Queensland councils spent the most on capital expenditure aimed at biodiversity and landscape protection.

5 ENVIRONMENT PROTECTION REVENUE, By State and category



(a) Contains Soil and groundwater, Air and Heritage categories.

6 ENVIRONMENT PROTECTION TOTAL EXPENDITURE, By State and category



(a) Contains Soil and groundwater, Air and Heritage categories.

NATURAL RESOURCE MANAGEMENT

Natural resource management activities include the management of natural assets (trees, land, water, minerals, biodiversity) and activities aimed at making more efficient use of these resources. Also included in this account are the activities associated with the recreational use of the environment, such as management of parks, beaches and reserves.

Table 7 and graph 8 show natural resource management transactions by type of activity. The majority of councils' revenue came from inland water activities (78% of total natural resources revenue or $749 million) in 1998–99, whereas the largest expenditure occurred on land management activities ($704 million, or 53% of total expenditure on natural resource management activities).

In comparison, activities related to land management received a relatively small amount in revenue ($189 million, or 20% of revenue on natural resource management). This probably reflects the fact that some councils received more in revenue from ratepayers for inland water services than they needed to spend to provide water services to their communities due to some water supply infrastructure and services being provided by State governments or other agencies. The majority of revenue for all natural resource management activities came from rates paid by households and industry (about 90%) .

7 NATURAL RESOURCE MANAGEMENT, By category

	CATEGORY			
	Inland water	*Land management*	*Other*	*Total*
Transaction	*$m*	*$m*	*$m*	*$m*
Revenue				
Rates from household and industry	699.4	146.3	20.2	865.8
Government funding				
Specific subsidies	9.7	4.0	0.4	14.2
Investment grants	19.2	3.5	0.6	23.4
Other revenue	21.2	35.4	6.5	63.1
Total	*749.5*	*189.2*	*27.7*	*966.4*
Current Expenses				
Wages and salaries	118.4	263.8	17.1	399.2
Operational expenses				
Contractors	24.6	108.7	10.6	144.0
Materials	105.0	93.4	11.5	209.9
Government payments	48.4	13.6	1.5	63.4
Depreciation	79.3	17.3	0.9	97.5
Other Expenses	42.2	101.2	5.6	149.0
Total	*417.8*	*598.0*	*47.3*	*1 063.1*
Capital expenditure				
Acquisitions	59.8	39.3	3.2	102.2
Own account work	40.4	25.1	1.6	67.1
Contracted payments	55.8	41.7	1.2	98.7
Total	*156.0*	*106.1*	*5.9*	*268.0*

Note: Where figures have been rounded, discrepancies may occur within totals.

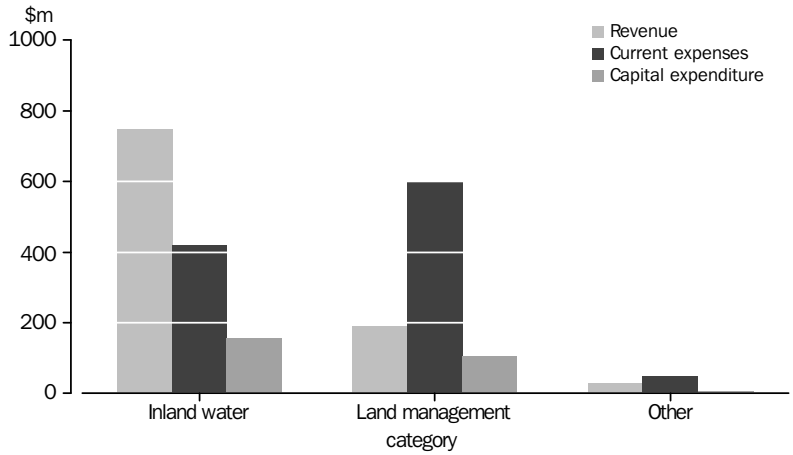
NATURAL RESOURCE MANAGEMENT *(cont.)*

Contracting out of services was much more prevalent for land management activities ($109 million) than for inland water activities ($25 million). Expenses on wages and salaries were also higher for land management than for inland water activities, with $264 million (44% of total natural resource management current expenses) allocated to land management compared to $118 million (28% of total natural resource management expenses) allocated to inland water activities. These figures indicate that land management activities were generally more labour intensive for councils than supplying inland water services.

A majority of capital expenditure by local government on natural resource management activities was related to inland water supply, accounting for 58% ($156 million) of total natural resource management capital expenditure in 1998–99. Capital expenditure on land management contributed nearly 40% ($106 million) of total capital expenditure on natural resource management.

The remaining 4% ($53 million) of natural resource management expenses was on 'other activities', which included such activities as quarrying to provide raw materials for council works (e.g. gravel) and measures to reduce energy consumption.

8 NATURAL RESOURCE MANAGEMENT, By category



NATURAL RESOURCE MANAGEMENT RESULTS *continued*

Overall, Queensland councils received the greatest revenue ($532 million or 55% of total revenue received by all States), and spent the most for natural resource management activities (table 9 and graphs 10 and 11). Queensland and Tasmanian councils spent the most on a per capita basis ($145 and $151, respectively).

9 NATURAL RESOURCE MANAGEMENT, State and category

	Inland water		*Land management*		*Other*		*Total*	
	Total	*Per capita*	*Total*	*Per capita*	*Total*	*Per capita*	*Total*	*Per capita*
Transaction	*$m*	$	*$m*	$	*$m*	$	*$m*	$
				REVENUE				
NSW	200.8	31	99.9	16	13.6	2	314.3	49
Vic.	*0.9	—	30.1	6	*1.2	—	32.2	6
Qld	492.1	140	30.6	9	*9.2	3	531.9	152
SA	3.0	2	*12.7	9	1.0	1	16.7	12
WA	0.1	—	12.1	7	*2.4	1	14.6	8
Tas.	52.3	111	3.6	8	*0.5	1	56.4	120
Aust.(a)	*749.5*	*40*	*189.2*	*10*	*27.7*	*1*	*966.4*	*51*
				CURRENT EXPENSES				
NSW	145.0	23	189.0	29	17.3	3	351.3	55
Vic.	*3.9	1	122.3	26	*2.0	—	128.2	27
Qld	219.8	63	165.3	47	17.9	5	402.9	115
SA	*4.1	3	52.8	35	6.5	4	63.3	42
WA	3.0	2	48.8	26	1.9	1	53.7	29
Tas.	42.0	89	18.9	40	*1.4	3	62.3	132
Aust.(a)	*417.8*	*22*	*598.0*	*32*	*47.3*	*3*	*1 063.1*	*57*
				CAPITAL EXPENDITURE				
NSW	63.4	10	47.6	7	0.6	—	111.6	17
Vic.	*1.0	—	23.9	5	*1.6	—	26.5	5
Qld	85.3	24	*19.8	6	**0.3	—	105.4	30
SA	*0.5	—	4.3	3	2.0	1	6.6	4
WA	**0.8	—	6.6	4	*1.5	1	8.8	5
Tas.	5.1	11	3.8	8	**0.2	—	9.1	19
Aust.(a)	*156.0*	*8*	*106.1*	*6*	*5.9*	—	*268.0*	*14*

(a) Includes the Northern Territory.

* Indicates that the relative standard error was between 25–50%.

** Indicates that the relative standard error was greater than 50%.

— Nil or rounded to zero (including null cells).

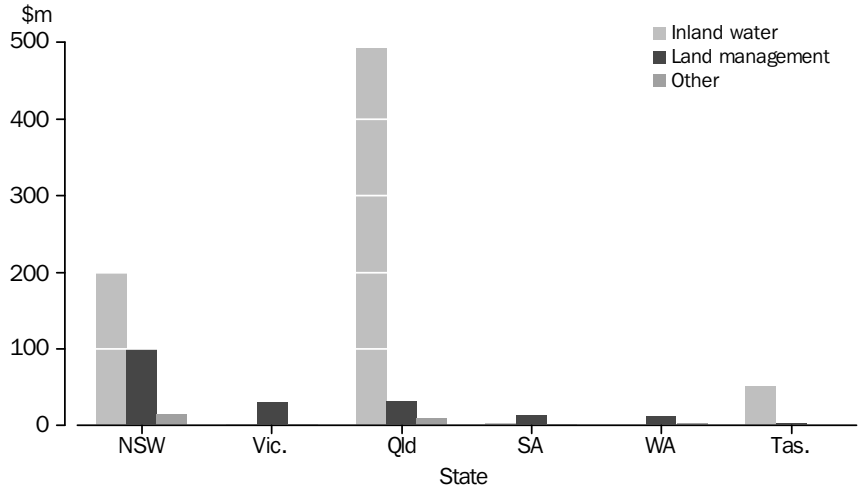
Note: i) Where figures have been rounded, discrepancies may occur within totals.

NATURAL RESOURCE MANAGEMENT RESULTS *continued*

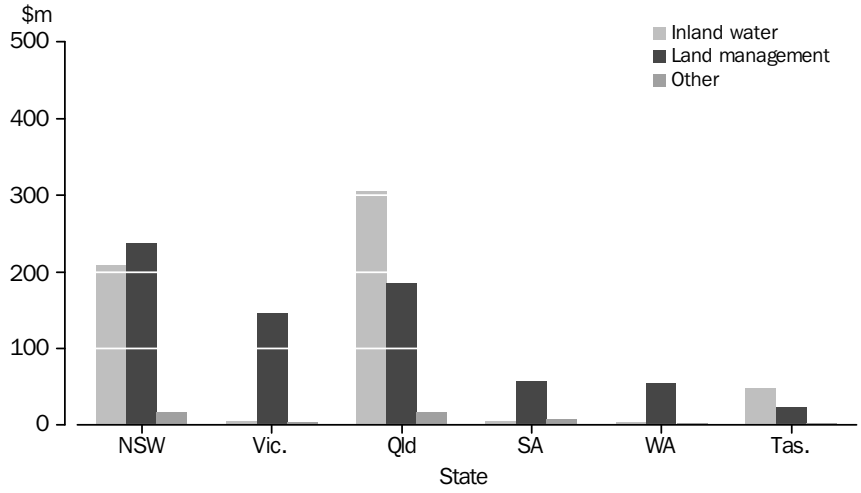
Queensland councils had the largest revenue for the provision of inland water services ($140 per capita or $492 million) in 1998–99, followed by Tasmania which received $111 per person for these activities (table 9). As Catchment Management Authorities have the responsibility for inland waters in Victoria, Victorian councils had very little revenue to report in this category.

For the land management category, New South Wales had the largest revenue in terms of both per capita ($16) and total revenue ($100 million). Graph 11 shows that New South Wales also had the highest total expenditure on land management activities ($237 million or $36 per capita), although Queensland spent the most per person on these activities ($53).

10 NATURAL RESOURCE MANAGEMENT REVENUE, By State and category



11 NATURAL RESOURCE MANAGEMENT TOTAL EXPENDITURE, By State and category



INTERGOVERNMENT TRANSFERS

Table 12 shows part of the interaction between local, State and Commonwealth governments from the local government perspective. This focuses on the subsidies and investment grants given to local government for environment related activities and on the payments by local governments to State and Commonwealth government related to the environment.

Total Commonwealth and State government funding represented only about 6% ($175 million) of revenue received by local government for these activities in 1998–99. The vast majority was funded from rates paid by households and industry.

Of total government funding provided to local government for environmental related activities, State government was the major contributor providing $153 million (around 6% of total revenue received) in 1998–99. Commonwealth funding to local government accounted for only around 1% of total revenue received ($22 million).

The payments made by councils to State and Commonwealth governments for environmental related activities in 1998–99 amounted to $146 million. These payments include payments to Environmental Protection Agencies. Payments made to State and Commonwealth governments was equivalent to 83% of the total value of the grants and subsidies received that year.

12 INTERGOVERNMENT TRANSFERS, By account

	Environment protection	*Natural resource*	*Total*
Transfers	*$m*	*$m*	*$m*
Funding to Local Government			
Commonwealth			
Subsidies	11.4	1.8	13.1
Grants	8.2	0.5	8.7
Total	*19.6*	*2.3*	*21.9*
State			
Subsidies	57.1	12.4	69.5
Grants	60.9	22.8	83.7
Total	*118.0*	*35.2*	*153.2*
Payments by Local Government			
Local			
Payments(a)	82.2	63.4	145.7

(a) Combined State and Commonwealth figures.

Note: Where figures have been rounded, discrepancies may occur within totals.

Environment protection

Environment protection subsidies accounted for 83% ($68 million) of total environment related subsidies provided to local government in 1998–99. Similarly, investment grants for environment protection contributed nearly 75% ($69 million) of total environment related investment grants.

The majority (86%) of grants and subsidies received for environmental protection by local government was from State governments which collectively contributed $118 million for environmental activities. This amount was split fairly evenly between specific purpose subsidies and investment grants. The Commonwealth government contributed $20 million, mainly in the form of specific purpose subsidies ($11 million).

Councils paid other levels of government $82 million for activities related to environmental protection; this was 56% of all environment related payments made to other levels of government.

Natural resource management

Natural resource management subsidies accounted for nearly 17% ($14 million) of total environment related subsidies in 1998–99.

State government contributions to natural resource use and management by local government accounted for 94% ($35 million) of total natural resource intergovernment funding in 1998–99. Payments for subsidies and investment grants were unevenly distributed. State government spent $12 million on subsidies and $23 million on investment grants for natural resource management services and activities.

Councils paid other levels of government $63 million dollars for activities related to natural resource management. This was 44% of all environment related payments to other levels of government.

EXPLANATORY NOTES

INTERNATIONAL FRAMEWORKS

1 The ABS Environment and Natural Resources survey was developed in the mid to late 1990s in response to calls from councils themselves, local government associations and agencies and other interested parties for comprehensive information on the financial activities of local government authorities related to managing the environment and natural resources. While all local governments keep financial records of their activities, there has in the past been limited information available on the financial transactions related specifically to managing local environments and natural resources.

2 Development of the Environment and Natural Resources Survey was based on international guidelines on environmental accounting. These guidelines are contained in the United Nations System of Integrated Environmental and Economic Accounting (SEEA 1993). SEEA, which is currently being revised, proposes that countries use both physical and financial measures to analyse environment-economy interactions. The SEEA manual provides detailed guidelines on how environmental accounts can be compiled using both physical and financial measures, and how these data can be linked to better inform decision-making.

3 The Environment and Natural Resources Survey of local government collects only financial information, and was developed to be consistent with the financial accounting guidelines provided in SEEA. The survey also drew upon guidelines on measuring financial transactions related to environmental management contained in the European Statistical Agency's (Eurostat's) European System for the Collection of Economic Information on the Environment (known by the French acronym, SERIEE 1994). SERIEE proposes that relevant financial transactions can be grouped under two main headings, 'environmental protection', and 'natural resources management'. For each of these activities it is possible to compile a separate account of relevant financial transactions.

4 The main distinction between the 'environment protection' and 'natural resource management' accounts is that natural resource management covers activities which involve using (and conserving) natural resources for social and economic purposes (such as providing drinking water and water for industrial purposes). The environment protection account covers activities related specifically to protecting the environment from the harmful effects of socio-economic activities, by preventing, reducing or repairing damage where it occurs.

5 For the local government collection, these international guidelines were used for the following purposes:

- to help define the activities that are included in the survey
- to ensure comprehensive coverage of relevant activities
- to determine the types of financial information collected, and
- to avoid double-counting.

6 Use of these guidelines also ensures that information published from the local government collection is comparable between local governments in different States, between levels of government, and between the local government sector and other industry sectors. It also permits international comparisons.

ENVIRONMENT PROTECTION EXPENDITURE ACCOUNT

7 The Environment Protection Expenditure Account is the most developed of the monetary accounts proposed by SEEA. It describes the activities occurring in an economy aimed at protecting the environment; that is, the cost of protecting the environment from damage from development and the cost of remediating damage after it has occurred.

8 Environment protection activities are classified into a number of categories based upon the UN Classification of Environmental Protection Activities, including:

- Waste water management and water protection
- Solid waste management
- Protection of biodiversity and landscape
- Protection of soil and groundwater
- Protection of ambient air and climate
- Other environmental protection activities.

9 For the local government survey, the ABS added a category of 'protecting cultural heritage' in response to requests from councils involved in piloting the survey for this information to be collected as a distinct category of activity. The activities covered by each of these categories are outlined in the Glossary.

10 In seeking to comprehensively measure economic transactions related to these categories of activity, the environment protection account focuses upon identifying and measuring three distinct types of economic activity:

- the purchase or use of environment protection products and services;
- the supply of the environment protection products and services; and
- the financing of environment protection products and services.

11 To obtain this information in relation to local government requires detailed measures of councils' current expenses (such as wages and salaries, payments to contractors, materials and fuels, etc) related to environmental protection services or products for each category of activity. Information is also required on councils' capital expenditure on fixed assets (such as machinery and equipment) needed to undertake these activities. Information was also collected on revenue received for supplying such services in order to measure the extent to which local governments supply environment protection services. In addition, information was collected on how much money local government received both from other levels of government, from businesses and from households, to finance its activities in this area.

12 The survey showed that councils are major suppliers of services related to waste water (sewage) and solid waste management. They are often — with the exception of some metropolitan councils — the only provider of these services. For these environment protection activities it is often possible to recover some or all of the costs of providing the service, mainly in the form of rates paid by households and businesses.

13 Other environmental protection activities, such as protecting biodiversity and landscape or soil and groundwater are typically carried out at a net cost to councils, that is, expenditure usually exceeds revenue in these areas of activity. Revenue for such activities comes from a range of sources, including subsidies and grants from State and Commonwealth governments earmarked for environmental protection activities and other areas of council budgets not related to environmental protection.

ENVIRONMENT PROTECTION EXPENDITURE ACCOUNT *continued*

14 The concepts and methodologies used to estimate environment protection expenditure for Australia as a whole, and for local government, are discussed in more detail in *Environment Protection Expenditure, Australia* (Cat. No. 4603.0).

NATURAL RESOURCE MANAGEMENT ACCOUNT

15 The natural resource management account describes the extraction of natural resources and the expenditure on prolonging the use of a resource through improvements in resource efficiency. SERIEE proposes three main categories of natural resource management:

- Inland water
- Land management
- Other resource management.

The activities covered by each of these categories are outlined in the Glossary.

16 Councils often have a dual role in the management of natural resources. For example, many councils are involved in supplying water for use by householders while at the same time restrictions are imposed to limit that usage. Land is developed for expansion of townships and for industrialisation while controls are placed on the use of land taking into account economic, social and environmental considerations. Management decisions by councils on such issues as the rate at which resources like water and land are used for socio-economic purposes, and the locations from which such resources are drawn, can have a significant impact on the local environment.

METHODOLOGY

17 The statistics presented in this publication are estimated from a survey of local councils, conducted under the *Census and Statistics Act 1905*. The survey is a mail out questionnaire on environment protection and natural resources management.

18 The survey was mailed to approximately half of the total number of local government authorities, not including Aboriginal regional councils, which existed in October 1999. The sample was representative of councils in all States, of councils with large, medium and small populations, and of councils in urban, provincial metropolitan and rural locations. This sample, together with a high response rate from participating councils, means that it has been possible to produce reliable State level estimates for the first time.

19 The estimation process used the number raised estimator. The majority of aggregated data presented in the results have a standard error of less than 15%. Most of the totals presented have a standard error of less than 10%. Standard errors for the State level estimates are sometimes high because of the smaller sample of councils contributing to the estimates. Estimates with a standard error of more than 25% have been marked with a *. Estimates with a standard error of more than 50% have been marked with a **. Estimates marked with either one or two stars should be used with caution. Some cells have been combined due to confidentiality and high standard errors.

METHODOLOGY *continued*

20 Implementation by councils of Australian Accounting Standard 27 has resulted in a change in the accounting systems used by local governments from cash accounting to accrual accounting. This means that estimates of the proportion of total council transactions related to environment and natural resource management presented in the overview of results section of this publication are not directly comparable with the proportions presented in the earlier edition of this publication *(Environment Expenditure, Local Government, Experimental Estimates, Australia: 1997–98)*. The change to accrual based accounting may also have influenced some of the estimates presented for 1998–99.

21 Per capita figures are based on the State population figures (estimated residential population as at June 1999). These figures were derived from *Australian Demographic Statistics, ABS* cat. no. 3101.0.

FUTURE DIRECTIONS AND ADDITIONAL INFORMATION

22 The collection of information on local government environment-related transactions were initially a collaborative effort with the National Office of Local Government, University of Canberra and the Australian Bureau of Statistics, as well as numerous local government councils that voluntarily participated in piloting the survey between 1996 and 1999.

23 An aim of this collection is to contribute to the development by local governments of accounting tools which may assist with improved management of local environments and natural resources. They also measure and demonstrate the significant financial contribution being made each year by the local government sector to the wider effort by all Australian governments aimed at protecting the environment and managing natural resources sustainably. These statistics also contribute to the development of more detailed environment protection expenditure information for Australia as a whole.

24 Limited additional data may be available from the collection. Inquiries about data services can be made to Bob Harrison, Director, Environment and Energy Statistics Section, on Canberra 02 6252 7369.

GLOSSARY

Biodiversity The variety of life forms on earth: the different plants, animals and micro-organisms, the genes they contain, and the ecosystems they form. It is usually considered at four levels:

- genetic diversity;
- species diversity;
- ecosystem diversity; and
- community diversity.

Environment Protection All activities aimed at the prevention, reduction or elimination of pollution or any other degradation of the environment.

The UN Classification of Environmental Protection Activities divides these activities into 7 main categories.

Waste water management. Activities that correspond to sewerage operations and the reduction of waste elements reaching water bodies. Waste water reuse by council.

Waste management. Landfill and solid operations by council and the implementation of programs to reduce the amount of materials entering the solid waste stream.

Protection of soil and groundwater. Remediation of contaminated soils. Protection of existing soil and groundwater areas from contamination by wastes and degradation. Remediation of degraded (salinated, eroded) soils in crown land and national park regions.

Protection of biodiversity and landscape. Programs that focus on the preservation of natural species and landscape. Programs to re-establish native species back into the environment. The construction of barriers to halt damage from developments entering areas specified as having a value for biodiversity. Clean up and establishment of catchment zones for water bodies.

Ambient air and climate protection. Activities that encourage the reduction of air pollutants by the council, by business or by the householder.

Protection of cultural heritage. Establishment and maintenance of cultural heritage sites. Programs to encourage the implementation of cultural heritage preservation by business and householders.

Other environmental protection. Includes any environmental protection activity not broken down in the above categories, noise and vibration control, education on environmental protection and measures to protect the environment from radiation.

Household sector In general terms, private households or the Australian community. Some definitions include sole proprietorship and partnerships, but for the use of these statistics they are excluded from households.

Investment grants Unrequited capital payments received (usually from government) and intended to finance acquisition of fixed assets for environmental purposes.

Natural Resource Management All activities which manage natural resources and activities aimed at making more efficient use of natural resources.
The categories of natural resource management are:

Inland water use and management. The supply and use of inland water stocks. Maintenance of quality and purification of water supply. Programs to encourage water conservation plans. Application of water restrictions.

Land management and development. The development by zoning of land resources. The management of recreational parks and sporting fields. Management of crown land not reserved for native biodiversity. The processing of development applications and associated costs.

Other resource management. The quarrying to provide raw materials for council works. Activities or programs aimed at developing alternative energy resources. Measures to reduce energy consumption.

Subsidies Government grants to local government which relate to their provision of specific environmental services and activities which are intended to allow the provision of goods and services at a reduced cost to the consumer.

Transfers A transaction in which one business or organisation provides a good, service or asset to another business or organisation without receiving from the latter any good, service or asset in return.

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