



**PB ASSOCIATES**

**REVIEW OF CAPITAL AND OPERATING  
EXPENDITURE OF THE  
DEPARTMENT OF NATURAL RESOURCES**

Prepared for

**INDEPENDENT PRICING AND REGULATORY TRIBUNAL  
OF NEW SOUTH WALES**



**10 March 2006**

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## EXECUTIVE SUMMARY

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This report presents the results of an independent study of the capex and opex expenditure proposals of the Department of Natural Resources (DNR). The report provides the Independent Pricing and Regulatory Tribunal of New South Wales (IPART) with an opinion on whether the future operating and capital expenditures are clear and defensible with respect to establishing appropriate revenue targets. Historic operating and capital expenditures have been reviewed to provide background and supporting data for the review of future expenditure.

### SUMMARY OF FINDINGS

The terms of reference for this review require PB Associates to address four key areas. The four requirements and a summary of the findings are provided in this section.

PB Associates reviewed expenditure from the perspective that the business would identify obligations and define required service levels, assess the ability to deliver against these obligations and service levels and determine where shortcomings in ability to deliver existed. Based on the obligations and shortcomings identified a program of capital works and operating expenditures could be determined. Options and timing for solutions would be considered in reference to the obligations and an efficient expenditure program would result. The price service proposal should reflect the efficient expenditure program and the obligations and required service levels.

#### **1. The identification of major cost drivers and the subsequent recommendation of efficient cost levels for future years, consistent with maintaining service delivery capacity.**

DNR has identified the major costs drivers for forward work as legislative and institutional changes, and the State's responses to the National Water Initiatives (NWI). PB Associates believes that DNR has adequately identified these aspects in the list of Water Resource Management (WRM) activities provided for this review and has discussed activities expected to generate a change in the level of response and commitment by DNR.

Little evidence has been provided regarding consultation with stakeholders and development of stakeholder agreements including agreed levels of service to be provided. PB Associates believes that a price service negotiation to ensure that customers are willing to pay for the service levels agreed is a critical step in formulating defensible expenditure forecasts for various activities and recommends this negotiation be conducted by DNR.

#### **2. An assessment of DNR's asset management framework plans and practices.**

PB Associates has reviewed the classification and reporting of WRM costs, the development of the forecast expenditures and allocation of these forecasts and assessed the confidence in the forecasting models. PB Associates is of the view that DNR has satisfactorily established a system for management of costs which includes the redeveloped financial system, cost centres aligned with organizational structure, attribution of jobs for identification of costs, accumulation of direct and indirect costs and depreciation, and allocation of overheads.

PB Associates found that the 12 major activities identified for DNR were not cross referenced to a specific business plan which could explain the rationale and justification for the number of additional staff anticipated in the forecasts. However, overall PB Associates was satisfied that budgets were developed using an auditable model which could be used to check and adjust rates and activity budgets as staff allocations change.

PB Associates had some concerns over the use of unit costs per EFT for allocation of all types of all classifications of indirect and overhead costs, however in general after reviewing the model accept that it is an acceptable basis for allocating costs.

### 3. A retrospective review of capital and operating expenditures to reflect efficient and prudent expenditure.

Operating expenditure is by far the most significant component of expenditure for DNR. Information was provided for the historical operating expenditure at a valley and water source level. The period 2001/02 to 2004/05 included some significant changes in activities and number of EFTs employed by DNR which were reflected in the level of operating expenditure. PB Associates found that insufficient information was provided as to how the increased staffing levels related to specific activities and whether certain activities were expected to remain at higher activity levels into the future thus justifying a continuation of the higher levels of expenditure into the price period.

Very little information was provided regarding historical capital expenditure and PB Associates has not formed any conclusions regarding this expenditure.

### 4. An assessment of future capital costs and operating expenditure to enable consideration of the revenue requirement for DNR for the coming regulatory period.

The capital expenditure program is relatively small and involves on-going improvements to the monitoring network, especially groundwater. PB Associates is satisfied that the proposed expenditure is prudent and efficient and has not recommended any change to the proposed expenditure levels.

**Table A Recommended Capital Expenditure Levels (\$'000)**

Capital Program	2006/07 \$'000	2007/08 \$'000	2008/09 \$'000	2009/10 \$'000	2010/11 \$'000
<b>Current proposal from DNR</b>	<b>5,170</b>	<b>5,305</b>	<b>1,730</b>	<b>730</b>	<b>730</b>
<b>Recommended by PB Associates</b>	<b>5,170</b>	<b>5,305</b>	<b>1,730</b>	<b>730</b>	<b>730</b>

In the review of operating expenditure levels PB Associates found that the links between the expenditure and the activities listed in the submission were not sufficiently well defined to allow an assessment of the efficiency of the forecasts in delivering these activities. PB Associates has recommended adjustments to the operating expenditure forecasts based on the following reasons: DNR has not sufficiently demonstrated how efficiency and productivity gains have been factored into the forecast; options analysis is required for delivery of services including testing contestability of many tasks and services provided; and the need to undertake a risk based analysis including price service negotiations with stakeholders to determine willingness to pay for specified levels of service and timing of the provision of these services.

The recommended levels of expenditure are provided in Table B.

**Table B Recommended Operating Expenditure Levels (\$'000)**

Key Operations expenditures	2006/07 \$'000	2007/08 \$'000	2008/09 \$'000	2009/10 \$'000	2010/11 \$'000
<b>Current proposal from DNR</b>	<b>53,151</b>	<b>53,876</b>	<b>53,992</b>	<b>52,431</b>	<b>52,538</b>
<b>Recommended by PB Associates</b>	<b>46,000</b>	<b>47,000</b>	<b>47,000</b>	<b>46,000</b>	<b>46,000</b>

## SUMMARY OF REPORT

### Business Drivers

1. DNR states that the principal drivers for its forward work are: legislative and institutional changes resulting in amended responsibilities, and the State's responses to the National Water Initiatives being the next steps in the Council of Australian Governments' (COAG) water reform agenda which impact directly on the work of DNR. This impacts on the nature, intensity and mix of water resource management activities.
2. PB Associates concludes that these aspects have been adequately identified in the water resource management services activities. DNR discusses those activities expected to experience a change in response and commitment by DNR. However, there is little discussion about consultation processes with various stakeholders and beneficiaries of the DNR's services. Some activities such as Water Sharing Plans development require this consultation, which is mandated in the legislative framework.
3. Both existing and new obligations should be clear on what is mandatory work versus other activities to which there may be an element of discretion with respect to commitment levels and/or timing of outcomes. PB Associates accepts that the water resource management function is mandated. However, business case evidence is required on a risk-based analysis of the degree and rate of required effort to meet the needs of various stakeholders. This should be supported by evidence of the stakeholders understanding of the "price (or cost)-service" relationship and provide "sign off" by them agreeing the proposed effort by DNR.

### Business Planning and Procedures

4. The current financial system is being refined to classify and report specifically on Water Resource Management WRM costs. This redefinition is focused on reporting inputs to activities. However, in the end, cost must be attributable to services rendered to beneficiaries (users or Government on behalf of the community) and for which they are directly charged or asked to contribute. The means by which DNR proposes to relate the reporting to deliverables, and also provide quantified performance targets against activities so that efficiency can be gauged has yet to be completed.

### Development of Forecast Estimation and Allocations

5. The majority of DNR activities and associated costs are specific to a valley/water source. For the purposes of developing WRM costs, spreadsheets were used to calculate unit costs, which were applied to future equivalent full time employees. The cost elements established were as follows:
  - **Indirect costs**, being support costs for front-line staff involving supervision and administration. The figure is low (6%) and at such levels is unlikely to materially alter as the work load varies, unless this change was significant. PB Associates is satisfied that the basis of this model for estimating purpose is sound.
  - **B item costs**, including cash costs covering items such as materials, accommodation, vehicles, fees, etc. These comprised 28% of total costs in 2004/05 as shown in Figure 3-1. The use of a "per equivalent full time (EFT) approach" for future estimates may not be valid given substantial changes in staff. PB Associates is unable to comment further, other than to highlight a possible issue in the estimation model.
  - **Overhead** or shared services require evidence that a critical assessment has been undertaken for the 2005/06 forecast. IPART's determination adopted the 2001/02 forecast inflated by CPI to 2005 dollars. The overhead factor in the

2001 determination was 36.75% on direct salaries, and in this submission, based on \$30,260 per EFT per year, the percentage of shared services is 31.75%.

However, there are activities and associated costs that are attributable across more than one valley/water source, particularly those activities undertaken by the Water Management Division and the Office of Knowledge Science and Information. There are also DNR programs such as that for the Great Artesian basin where the costs are also applicable to more than one valley and water source. DNR has developed a method for attributing area-wide cost to individual valleys and water sources.

6. Overall PB Associates is satisfied that the development of budgets against allocated full time staff is based on an auditable model which can be used to check and adjust rates and activity budgets as staff allocations change.

#### **Confidence in forecast estimation and allocation**

7. PB Associates has had an opportunity to peruse DNR's cost forecasting model and believes that it is an acceptable basis for allocating costs subject to the assurances provided by DNR on validating the models.

#### **Efficiency**

8. DNR asserts that its operations are "*more focussed and efficient*" as a result of new business processes including financial systems, cost analysis and customer focussed business planning and reporting. Evidence of the efficiency gain targets that DNR hopes to achieve or how further efficiency gains will be carried forward into the price period and beyond are important factors in the price determination. DNR is spending \$921,000 on a new database system. The benefits of this need to be recognised in established and published performance targets (e.g. reduction in re-working due to errors, missing data, etc; increased response to queries and provision of information, etc.). These should flow through to the forecast operations expenditure.
9. PB Associates notes that there is an increasing trend in WRM expenditure. The WRM expenditure level rose by 19% in 2005/06 compared to the average of the previous 4 years and continues to rise during the price period by an average of 5%.
10. There are a wide range of activities listed under the 12 new program codes in DNR's submission. There is an increase of some 30 EFTs in the price period compared with historical work load. There is no assessment in either the submission or in documentation provided to PB Associates as to the results of an analysis that has occurred to justify the additional effort in dollar terms or the options for doing this work more efficiently.

#### **Separation of Consents Transactions**

11. It is intended there be full cost recovery for consent transactions. The principles of COAG require that full cost recovery should be achieved especially since there is economic benefit to users to have licenses and the ability to be able to transact these separate from the title. However, in the past, the costs have not been fully recovered with DNR advising that shortfalls have been met by Government. DNR has indicated that licensing transactions are currently fully funded by the NSW Treasury as part DNR's budget appropriation. Any licensing fee income collected from licence holders is remitted directly to the NSW Treasury; that is, as the income is not retained it does form part of DNR's budgeted revenue (these funding arrangements do not alter the need to achieve full cost recovery for this activity.). It is unclear in the information provided whether full cost recovery will be achieved in the forecast period considering the forecast further cost increases.

### **Contestability of Service Level Agreements**

12. There is no evidence in the submission that the cost of the Hydrometric Services provided across the State to State Water and others has been market tested. Similarly, PB Associates queries whether there has been a tendering process for the metering and billing services (currently provided under a “negotiated agreement” between State Water and DNR). This could be either for the whole of the metering and billing services or partitioned geographically. The market might be able to offer cost effective services in some of the less remote areas, with State Water offering services in more remote locations given that it has existing operational field staff in these areas.

### **Removal of Security Premiums and Wholesale Discounts**

13. Security of supply and bulk water supply is now State Water’s responsibility and DNR is recommending removal of security premiums from WRM charges. DNR advises that the historical data presented in the submission does not include the water delivery component. A similar issue relates to the removal of the previous “wholesale discount”; historically applied to “environmental management activities”. DNR provided an explanation as to how these factors have been dealt with and PB Associates concludes that forecasting of costs is appropriate in this regard.

### **Allocation of Overheads**

14. The basis for deployment of resources and allocation of overheads (called “shared services” in the submission) was provided in the costing database provided to PB Associates. The shared services are allocated to valleys on the basis of the direct equivalent full time staff. The rate was equated to \$30,200 per direct equivalent full time staff or about 36.75% of direct salary. This figure had been developed from an assessment of overheads relating to the DIPNR structure and associates 2005/06 budget. Future overheads will require confirmation of the efficiencies in these costs

### **Cost Incidence across Valleys**

15. DNR’s costs are based on fixed, rather than marginal, costs for each valley and water source on the basis that water resource management services are characterised as having a high proportion of fixed costs. DNR states that it manages its resources as a central pool for deployment around the State. This is an efficient strategy in circumstances where staff with similar skills can be grouped together to form “centres of excellence”. PB Associates accepts that the nature of work is essentially “baseline” establishment of the resource condition and rules for accessing and sustaining it and supports the basis for costing it.
16. While presently there is substantial work creating and implementing Water Sharing Plans, it is expected within the anticipated price period that this will stabilise. DNR does not indicate if it may be possible to reduce resources into the latter part of the price period and beyond.
17. The low volume of entitlement in such areas as the North Coast and South Coast regulated rivers results in a high average unit cost attribution (\$16-\$21/ML) for water resource management services which DNR recognises. DNR suggests either cross subsidy between valleys or a Government grant under Community Service Obligation could be used to lessen the impact on users in these regions. While not a cost issue of itself, PB Associates suggests that the transparency of the costs in conducting necessary water resource management in areas such as these needs to be highlighted against benefits achieved. PB Associates recommends that DNR should undertake an assessment of the risk of reducing resources in these regions and undertaking negotiation with stakeholders on this. If there are some “community good” aspects (e.g.



gaining knowledge of, and sustaining the health of, the rivers for the benefit of the current and future generations) of the services offered, then Government funding is warranted to cover the “fixed” costs.

### **Innovation**

18. The submission does not detail the use of new technology such as smart monitoring systems (e.g. remote sensing, data logging and transmission, instrument fault sensing and transmission, on-site water quality monitoring, and communications). DNR has stated that it had been using these technologies for many years (e.g. the fully automated Hunter Valley water information network) and that it had provided to IPART a 30 year graph of the improvement in productivity of their river gauging stations as a result of new work practices and technology. PB Associates believes that an estimate of these efficiencies should be provided in each year of the forecast.

### **Historical Operating Expenditure**

19. DNR has provided explanations concerning the major influences on the Department in 2004/05, but the reasons as to why this should affect expenditure to the extent stated is unclear. All costs identified for the pricing submission are DNR recurrent funded. Recurrent funding is a mixture of Government budget funds and user charged revenue.

### **Historical Water Resource Management Costs**

20. Historical WRM expenditure has varied from \$40 to \$45 million per annum, with an average of \$42.8 million over the four year period 2001/02 to 2004/05. The reason for the 12% increase in total WRM between 2001/02 and the next 2 years is unclear. DNR attributes the cost increase to an increased number of EFT and attendant costs for the WRM and Licensing transactions activities.

### **Asset Valuation and Depreciation Treatment**

21. The approach regarding the capitalisation of instrumentation and other relatively minor assets, depreciation and the allocation to indirect costs in regions appears to be consistently applied in the historical expenditures. The 2004/05 expenditure includes a category called “Other Costs” which amounts to 25% of the overall expenditure. The “other cost” category includes other indirect costs in the region and Head Office costs. Depreciation is a component of the “other cost” category.

22. PB Associates was able to assess the valuation and depreciation treatment of the bores asset register. For the purpose of the new arrangements for capitalisation of assets, DNR has depreciated assets over their assessed life with a minimum remaining life for the bores of 5 years from 2006/07. No information was provided on the condition of the assets. The written down replacement value for groundwater bores as at 1 July 2006 is estimated to be \$17.5 million. It will be important for DNR in future work to prepare an asset management strategy which prepares a long term optimised replacement program for bores and other monitoring equipment.

23. DNR has proposed capitalising new flow monitoring metering equipment and installations at cost.

24. PB Associates notes that DNR has yet to validate its \$35.3 million asset portfolio<sup>1</sup>. DNR advised that it expects to strengthen its asset management processes with the development of the ring fenced WRM business.

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<sup>1</sup> (refer Submission p19)

25. PB Associates recommends that an asset management plan based on NSW guidelines be provided as part of the next price submission.

### **Future Operating Expenditure**

26. DNR has used the “building block” approach to providing the forecast of its operating expenditure, as follows:

- People and other direct costs required to undertake activities;
- Indirect costs (people and other costs required to supervise the above);
- Overhead costs of shared services to support the above; and
- return on assets (DNR’s costing estimates did not include a return on assets).

27. DNR has forecast significant increases in operating expenditure during the 2006/07 to 2009/10 Price Period compared to historical levels. The average of the annual forecast expenditures for 2006/07 to 2009/10 is \$53.3 million compared with an average of only \$42.8 million over the four years ending 2004/05. This translates to an average increase of approximately 25%. The 2005/06 pricing determination allowed a CPI based rise resulting in a forecast of \$50.8 million. The forecast expenditure anticipates further increases in addition to the CPI.

The estimated 2006/07 staffing levels are given (as amended Nov 2005) at 297 but the trends and deployment of staff against funding sources and activities is not provided. This makes it difficult to ascertain the efficiency of resource allocation to the stated activities.

28. DNR has new activities driven primarily by NWI/WMA and the associated WSPs and will incur expenditure in order to meet these responsibilities. However the decision on timing, of when and how quickly various changes will be implemented, will have a significant effect on the annual expenditure forecasts. PB Associates believes that further information explaining how decisions on timing of achievement of the new responsibilities and the basis of directives given by others or by DNR needs to be made apparent.
29. DNR explained to PB Associates that historically the department is funded on a net appropriations basis and therefore its WRM activities are constrained by the level of cost recovery from water users and the Government contribution though its budgetary appropriation. The NSW Treasury sets a budget for DNR activities each year. This budget is agreed at program level and is publicly available. PB Associates believes that if there are clearly agreed targets against deliverables, then cost follows and hence funding. If funding or prices/charges are constrained, then targets should be adjusted and agreed with stakeholders and the shareholder. Evidence of the results of a cost sensitivity analysis is also not apparent; such an analysis would assist in determining the degree of satisfaction of targets against cost. PB Associates’ believes that DNR should provide further evidence to IPART of the investigation of options to meet targets in more cost efficient ways, in order to be convinced of the efficacy of the DNR’s programmes, many of which have been long established.

### **Deployment of Expenditures to Valleys**

30. The expenditure level in each valley is generally rising in 2005/06 (using the 2005 IPART determination figures) and again in the forthcoming price period compared with the average over the four years 2001/02-2004/05. DNR has advised that the main reasons are the identification that some areas are over-exploited and require urgent action and the implementation of WSPs dictate that greater resources be deployed on monitoring all groundwater areas, some of which were previously not stringently monitored.

31. Proposed EFT levels remain reasonably constant throughout the price period reaching a peak of 302, compared with the 2006/07 resource level of 297 EFTs. There is no indication of how these resources are re-deployed to meet WRM demands. The forecast total is substantially above historical levels of between 240 and 274 EFTs.
32. Overall the increase in groundwater expenditure accounts for 53% of the total increase. A substantial portion of the expenditure is occurring for the monitoring of bores. This supports DNR's contention that an increased focus is required on groundwater assessment and management given the over exploitation of groundwater sources. Clarification of the relative risks of the focus on groundwater versus other priorities would be helpful in assessing the prudence of the proposed Valley allocations.

### **Linking Forecasts to Activity**

33. Forecasting for the Price Period has been undertaken on a "bottom-up building block" regional basis using the model with Corporate Shared Services (overhead) added. MDBC and DBBRC work has been suitably identified and costs can be captured.
34. There is substantial listing and defining of water resource management activities in the submission with details in the appendix of those items experiencing increased (or reduced) activity. While there is an explanation of how the forecasts are brought together PB Associates has noted some areas on how allocations are likely to change with time given apparent stability in the price period forecasts that have not been justified.

### **Stability of Expenditure over the Price Period**

35. PB Associates questioned the priority for the rate of development of the remaining 60 WSPs given that the completed 37 to be completed by the end of 2006 covers nearly 80% of the water resource with the remaining 20% of the water resource covering large areas of the State. PB Associates considers that this matter has not been demonstrated in the submission as a negotiated point with Government over the consequential additional resources needed to complete the work within "imposed" timelines. Evidence of directives to meet certain deadlines would satisfy this matter.
36. DNR acknowledges that it is difficult to estimate future consent transaction costs on the basis of limited history of operations under the new scheme and the associated costs of this new activity. Also the volume of work is dependant on such external factors as customer behaviour, commodity prices and climate changes. Factors influencing possible reduced transaction costs are also considered and historical and forecast estimates of various activities (consent transactions, new license issues and approvals, license renewals and types of transactions). PB Associates suggest on the basis of the processing workload as at past years and inability to quantify factors increasing or decreasing workload, that forecasts be adjusted to historic levels as shown for the two years 2003/04, 2004/05 i.e. constant at \$8.5 million.

### **Service Level Agreements**

37. Draft Service Level Agreements exist for Hydrometric Services provided to State Water and billing and metering services provided by State Water to DNR.
38. DNR provides hydrometric services under draft service level agreement to State Water. DNR has included the net costs of these services in its submission. DNR states in the submission that it recovers approximately \$4.1 million per annum from State Water, being the cost of providing information from the 299 stations from which State Water requires information for its business operations. However, there are another 520 stations in the network for which State Water is not the client and for which DNR is required to provide services to others and seek to recover costs. PB Associates notes that DNR plans to

recover the full costs of these stations in the future from users and other beneficiaries in the regions in line with COAG principles.

39. DNR has allowed \$0.215 million and \$0.87 million for billing and metering respectively in 2006/07 to be fully reimbursable to State Water. Currently billing and metering of unregulated streams and groundwater is undertaken by State Water on behalf of DNR under a draft service level agreement which is currently being negotiated between the parties. PB Associates recommends that these allowances be confirmed so that the fee for service component can be determined by IPART.
40. The expenditures for Murray Darling Basin Commission (MDBC) and Dumeresq Barwon Border Rivers Commission (DBBRC) during the price period are forecast to reduce substantially compared with historical expenditure levels (the final years of the price period are some 25% below the early historical years - \$3.3 million versus \$4.4 million approximately). DNR states that WRM services provided by MDBC and DBBRC are subject to inter-jurisdictional agreements, and as such, DNR has no control over these costs. For the initial submission MDBC has yet to approve forecasts and as a result "middle" range forecast was included, this has subsequently been updated following discussions between MDBC and DNR.
41. DNR has provided details on the current estimation of overhead. However, its estimation of future overhead does not appear to take into account future efficiencies that may result from contestability of corporate services is not discussed other than that implementation of the new structures in the two Government Departments is still occurring and proposed sharing of the corporate services is yet to be determined. PB Associates recommends that DNR continue to work towards the future estimation of overhead that takes into account future efficiency gains.

#### **Future Capital Expenditure**

42. DNR's capital expenditure is relatively small by comparison with its operating expenditure. The forecast figures over the next five years amount to \$8.7 million. The expenditure is attributed to hydrometric instrumentation, station costs, groundwater monitoring bores and associated equipment to support WRM activities. PB Associates is satisfied that the proposed capital expenditure levels are prudent and efficient.

## 1 INTRODUCTION

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### 1.1 BACKGROUND TO THE REVIEW

#### 1.1.1 The revised regulatory framework

The Independent Pricing and Regulatory Tribunal (IPART) was established in mid 1992 by the Government Pricing Tribunal Act to regulate the pricing of government monopoly services of New South Wales (NSW) government agencies. In its role as a regulator, IPART is responsible for determining water prices and charges for the State Water Corporation (State Water) and the Water Administration Ministerial Corporation (WAMC), which is a legal entity administered by the Department of Natural Resources.

The Department of Natural Resources (DNR) is a new entity resulting from the split of the old Department of Infrastructure, Planning and Natural Resources (DIPNR) into two new departments; DNR and the Department of Planning.

Included in DNR's responsibilities is the undertaking of Water Resource Management (WRM) activities, including water allocation, licensing and enforcement, in an integrated manner that sustains the State's water resources. These activities are undertaken on behalf of WAMC under the Water Management Act (WMA) and other associated Acts.

IPART previously determined a three-year price path for the period from 1<sup>st</sup> October 2001 to 30<sup>th</sup> June 2004 covering bulk water prices and WRM activities. IPART's 2001 determination was due to expire last year, on 30<sup>th</sup> June 2004, the year when both DNR and State Water were going through an institutional change. In 2004/05, regulated river charges were indexed by the CPI, but unregulated river and groundwater charges remained unchanged. This was done through the State Water Corporatisation Act. As a result IPART only determined the maximum charges to apply for 2005/06<sup>2</sup> - refer 2005/06 determination.

IPART found that the information provided by the State Water was not satisfactory to set prices for the next 3-4 years. Also due to the deferred submission of DIPNR, in February 2005, there was insufficient time for IPART and stakeholders to consider in detail the full range of issues involved in setting a medium-term price path and to undertake a full and comprehensive review. The deferred submission was a consequence of the need for Government deliberation with respect to broad WRM pricing arrangements in light of the substantial institutional and national changes in water management brought about by implementation of the WMA & the National Water Initiative (NWI).

Accordingly, the two separate organisations, State Water and DNR, were required to submit separate pricing submissions to IPART in order to establish a new price path for up to four years commencing from FY2006/07. These submissions were subsequently submitted in September 2005. IPART is required to assess these submissions and has sought an independent review of the submissions to determine whether the past four year (2001/02 to 2004/05) expenditures and proposed four year (2005/06 to 2008/09) forecasts are consistent with the requirements of the legislative framework. For the capital works program and projects the review period covers 1996/97 through to 2035/36. Based on this review IPART expects to set the

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<sup>2</sup> Independent Pricing and Regulatory Tribunal, State Water and Water Administration Ministerial Corporation, Bulk Water Prices for 2005/06, August 2005.

maximum prices for State Water and DNR for up to four years for the period commencing July 2006.

### 1.1.2 Objectives of the expenditure review

The objectives of the review include:

- A retrospective review of capital operating expenditures to reflect efficient and prudent expenditure.
- An assessment of future capital costs and operating expenditure to enable consideration of the revenue requirement for State Water and DNR for the coming regulatory period.
- The identification of major cost drivers and the subsequent recommendation of efficient cost levels for future years, consistent with maintaining service delivery capacity.
- An assessment of State Water's and DNR's asset management framework plans and practices.

## 1.2 TIMETABLE FOR REVIEW

### Review Timetable

14 November 2005	PB Associates was appointed to review DNR's capital and operating expenditure
8 December 2005	<p>PB Associates held meetings with DNR on 9 December 2005. The purpose of the meeting was to:</p> <ul style="list-style-type: none"> <li>• obtain an understanding of how DNR had derived its expenditure figures;</li> <li>• understand the business and expenditure planning processes, risk management practices and governance arrangements of DNR; and,</li> <li>• provision of additional supporting detailed cost information for both the capital and operating expenditures.</li> </ul>
21 / 22 December 2005	PB Associates meet with DNR to obtain detailed information relating to its capital expenditure program and the provision of further explanations relating to WRM operating activities.
30 January 2006.	PB Associates' Draft Expenditure Review Report was provided to DNR for its comment.
7 February 2006	Comments on PB Associates initial findings received from DNR.

### 1.3 METHODOLOGY

PB Associates has approached this review by first defining the process flow that we would expect a well managed utility to follow in developing capital and operating expenditure forecasts. Figure 1-1 and Figure 1-2 illustrate the process flow charts for developing Capital Works Plan and an Operational Expenditure Plan.

PB Associates has then reviewed detailed data provided by the businesses in order to determine whether information has been gathered and analysed by the business in order to develop prudent and efficient expenditure forecasts. As shown in both the flow charts we believe that strong links between identification of service obligations and the strategies proposed to deliver them are critical in developing robust and defensible expenditure forecasts.

**Figure 1-1 Process Flow Chart for developing Capital Works Plan**

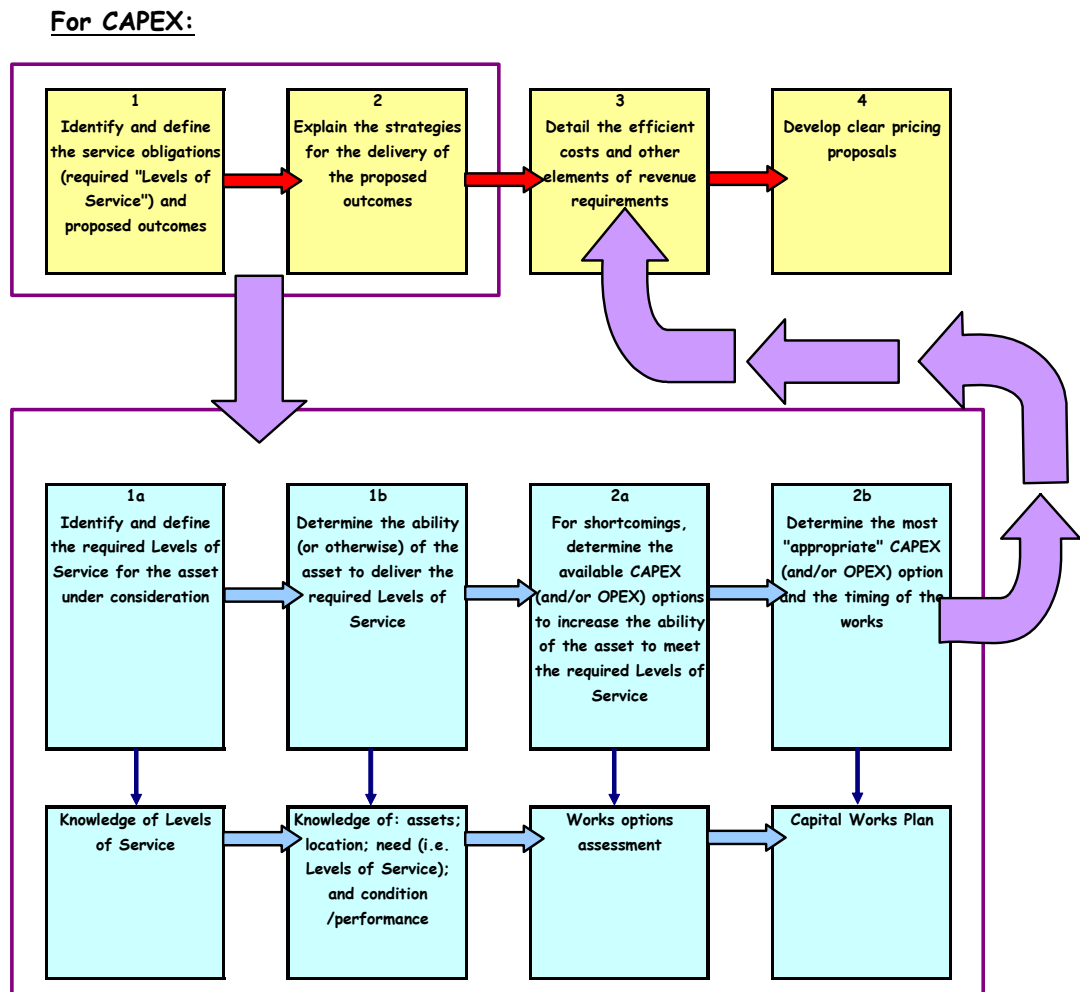
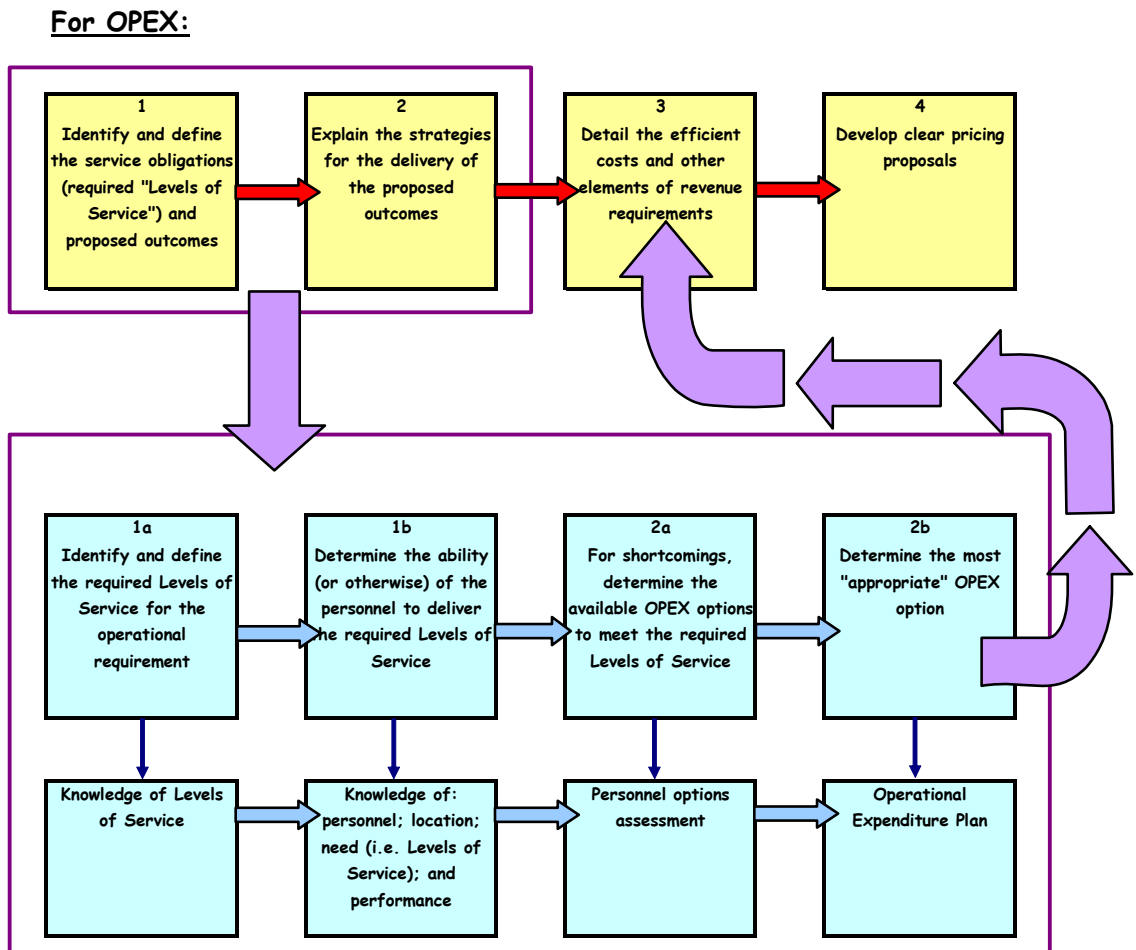


Figure 1-2 Process Flow Chart for developing Operational Expenditure Plan



## 1.4 FORMAT OF THIS REPORT

This report has been structured to include the following sections:

- **Executive Summary** - includes a high level summary of the recommendations with respect to DNR's expenditure proposal as well as a summary of each section of the report.
- **Introduction** – describes the background to the review, the terms of reference and time line and PB Associates approach and methodology for the review.
- **Business Drivers** – provides a high level overview of the environment in which the business operates and identifies the main business drivers.
- **Business and Expenditure Planning Process** – Reviews specific aspects of the management framework, plans and practices currently used by the business and comments on the appropriateness of these processes with respect to delivery of the service obligations of the business. PB Associates has recommended improvements in a number of areas where either the processes or information provided regarding the processes were lacking.
- **Historical Expenditure** – reviews the historical capital and operating expenditure data provided by DNR and comments on the efficiency of the expenditure in specific areas.



- **Forecast Expenditure** – Reviews the forecast capital and operating expenditure proposed by DNR and provides recommendations for consideration of the revenue requirement for the business in the coming regulatory period.

A number of conclusions and recommendations have been made in various sections of the report and these are summarized in the Executive Summary.

## 2 BUSINESS DRIVERS

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### 2.1 BACKGROUND

The Department of Natural Resources (DNR) operates water management services principally under the Water Management Act 2000 (WMA), (although certain activities are still governed by the Water Act 1912) and, the Water Management Amendment Act (WMAA). It has responsibility for water resource management services (WRM) and regulatory activity with respect to water resource access rights and the regulation of the bulk water use and sustenance on behalf of the State. The work is undertaken by DNR on behalf of the Water Administration Ministerial Corporation (WAMC).

DNR's operating mandate is such that the stakeholders or beneficiaries of the Department's work extend beyond water users (principally agricultural users). These include passive and active recreational users, indigenous communities, cultural/ societal/ interest groups, Government and its agencies charged with protecting aquatic environments and ecosystems, and to future local, State-wide and National users and communities. This wide beneficial impact is funded by a sharing of costs of its services between direct users and the wider community (via funds allocation from Government).

The current prices for WRM services were set by IPART for 2005/06 only, having been determined on a CPI escalated 2001 cost base, plus 10% in many cases.<sup>3</sup>

DNR states in its most recent submission to IPART (September 2005) that, as a result of NSW's implementation of the National Water Initiatives (NWI's) and COAG<sup>4</sup> reforms; "it is in a better position to estimate its future WRM costs for the purpose of setting charges for its WRM services".

This report sets out PB Associates' findings having reviewed the submission and supporting documentation.

#### 2.1.1 Changes in WRM Activities

The various regulatory and institutional reforms impact on the way water resources are managed into the future. This impacts on the nature, level and mix of WRM activities. Some responsibilities have been devolved<sup>5</sup>.

The particular issues that arise include:

- The allowance for, and justification of the magnitude of, "efficiency gains over the medium term". While "medium term" is not defined, PB Associates has assumed this equates to a 5 year period.
- Catchment Management Authorities (CMA) work that is WRM related, is claimed to be small<sup>6</sup>. Historically, DNR assistance (and some proportion of the total CMA costs) was apparently included in DNR's budget appropriation; CMA costs are

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<sup>3</sup> IPART determination for 05/06

<sup>4</sup> Council of Australian Governments

<sup>5</sup> Part B, p15,16 of the DNR submission

<sup>6</sup> DNR advised (7 Feb 2006) that "CMAs are still in the implementation phase, so their involvement in WRM is still being determined. However, a review of their current activities and the status of their funding was undertaken as part of the submission preparation. This confirmed that CMA WRM activities are very minor and specific CMA funding has been separately provided by government for the next three years".

not included in either the historical cost analysis or the forecast costs in the submission<sup>7</sup>.

DNR suggests it will continue to offer assistance to CMA's and "in the longer term" DNR may seek to recover the CMA's WRM related assistance via bulk tariffs/charges consistent with NWI directions. DNR advised PB Associates that consultation with stakeholders would occur prior to such a decision in such a circumstance.

- The NWI and WMA impact on WRM work (principally Water Sharing Plans (WSP)) in the next 5 years. Part A of DNR's submission (p10) states that the impact on the cost base of the NSW plan for implementing the NWI provisions affects "the cost base as outlined in Part B".

While zero based forecasts are given in the submission and evidence was provided in forecast files concerning the models for establishing budget and allocating resources between users, PB Associates was unable to ascertain the incremental costs, or redirected effort, arising from changes in operating environment imperatives as suggested by the new institutional arrangements and the State's changing and emerging water related obligations.

- The separation of on-going existing obligations versus new obligations should be transparent in the submission for operations expenditure. For example, DNR claims (p7) that it is now required, under statutory obligations, to do "certain things which it did not have to do before, and in the case of groundwater and unregulated rivers, did not do so". Tables in the submission show historical WRM operating costs (Tables A2.1 to A2.4) that can be compared to Forecast WRM operating costs (Tables A2.7 to A2.10). These show substantial increases in the post 2004/05 years compared to previous years. Evidence is given in Appendix Table A2.14 concerning possible shifts in the workload. This increased demand is largely undefined. PB Associates was unable to ascertain, from the additional data given, how the forecast additional work has been identified and resourced in the budgeting models. PB Associates also expected substantial evidence of a cost analysis for options on the work load required, and as a consequence, budget options.

Both existing and new obligations should be clear on what is mandatory work versus other activities to which there may be an element of discretion with respect to commitment levels and/or timing of outcomes. PB Associates accepts that the WRM function is mandated. However, evidence is required on a risk-based analysis of the degree and rate of required effort to meet the needs of various stakeholders. This should be supported by evidence of the stakeholders understanding of the "price (or cost)-service" relationship and provide "sign off" by them agreeing to the proposed effort by DNR.

While most of DNR's activities are mandated by the Acts and by Ministerial, WAMC or other Agency directives, evidence as to authorisation of delivery deadlines for completion of new products or, the rate of delivery of these, is required.

An example of this is the rate of completion of WSPs (p16 of DNR's submission). The task is mandated, but the effort (or timetable) for completion and/or implementation requires a similar directive.

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<sup>7</sup> Explained at the 9 December 2005 workshop with DNR.

- The bottom-up or zero based budget estimating<sup>8</sup> method used to prepare the overall forecasting is considered to be a valid budgeting process. However this method does not appear to have given substantial consideration to the risk impacts of varying the work effort for certain tasks. For example consideration could be given (and negotiated with appropriate stakeholders) to reducing or deferring certain long-standing / legacy activities in order to accommodate new demands within overall historic budget levels. The budgeting method also does not appear to question the range of listed activities in the budget forecast.

### 2.1.2 Drivers for the Scope Of Work

DNR states the principal drivers for its forward work are:

- (a) legislative and institutional changes resulting in amended responsibilities; and,
- (b) the State's responses to the National Water Initiatives being the next steps in the COAG water reform agenda which impact directly on the nature, intensity and mix of the work of DNR.

PB Associates concludes that these aspects have been adequately identified in the WRM activities listed in Appendix 1 of DNR's submission and again in Table A2.14 where a discussion occurs on those activities expected to generate a change in response and commitment by DNR.

There is little discussion about consultation processes with various stakeholders and beneficiaries of DNR's services. Some activities such as WSP development require this consultation (mandated in the legislative framework).

There is a wide range of associated and ongoing activities in the Department's list of activities given in the Appendices of its submission. Stakeholder agreements would assist in developing a firm basis for expenditures. Activities such as the provision of water related information to numerous individuals, groups and industry sectors within the State and interstate/nationally require a basis for the proposed expenditures founded on levels of service agreements (in a similar manner to those developed with State Water for hydrometric services and billing and metering by State Water on DNR's behalf).

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<sup>8</sup> For example: .DNR docs: Barwon (Nth Coast) Revised Forecast.xls and similar forecast files for each valley.

### 3 BUSINESS PLANNING AND PROCEDURES

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#### 3.1 CLASSIFICATION AND REPORTING OF WRM COSTS

PB Associates' review indicates that DNR has satisfactorily provided evidence of the establishment and management of costs using:

1. The financial information system.
2. Aligning cost centres with the organisational structure.
3. Attributing jobs sufficiently to enable cost to be identified by these.
4. Accumulating all direct and indirect costs and depreciation to jobs.
5. Allocating overheads (including shared services) using a "settlement" model.

The financial system is being redeveloped to classify and report specifically on WRM costs. This redefinition is focused on reporting inputs to activities. However, in the end, cost must be attributable to services rendered to beneficiaries (users or Government on behalf of the community) and for which they are directly charged or asked to contribute. The means by which DNR proposes to relate the reporting to deliverables, and also provide quantified performance targets against activities so that efficiency can be gauged has not been indicated in the submission, however, DNR has indicated to PB Associates that it is currently developing processes to address this issue.

Appendix 1 of DNR's submission provides a list of DNR's WRM activities. The 12 major activities are not cross referenced to an agreed business plan and PB Associates has been unable to establish whether a full justification business case is available for each of the 12 key activities as would be expected.

In a response to this observation DNR has made the following comment<sup>9</sup>; *"The relevance of business planning for DNR needs to be put in perspective. DNR is not a corporate entity and many of its functions are determined by legislation. In many respects, the Water Management Act prescribes the activities that DNR must undertake and the desired products/outcomes are set by the WSPs. DNR also has commitments under the NWI. The performance of DNR in achieving the WSP outcomes will be assessed through an established process (viz the NRC), and the National Water Commission will be assessing NSW's progress against the NWI objectives. Thus, DNR will be subject to external performance monitoring."*

PB Associates contends that this is "post-event assessment" and that business case arguments documenting actual directives, targets and deliverables program would contribute to a stronger case for price determination.

Further, DNR advises that, *"internally, there is further scope to monitor the efficiencies with which particular activities are undertaken and develop business plans for achieving mandatory activities at least cost. Action to progress this aspect of planning will be undertaken as part of the development of the ring-fenced WRM business entity within DNR"*.

DNR has provided explanation as to how the Equivalent Full Time (EFT) staff estimates were obtained (page 17 of the submission), and forecast files for each valley provide details of the EFT allocation to each activity.

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<sup>9</sup> Response to draft report, 7 February 2006

(PB Associates notes that the estimate of 71 additional EFT's was revised to 57 additional EFT's in DNR's amendment to the submission<sup>10</sup>).

In order to better understand the rationale and the justification for the additional staff, PB Associates would prefer to see the link to DNR's business case, or other appropriate obligations.

### 3.2 DEVELOPMENT OF FORECAST EXPENDITURE AND ALLOCATIONS

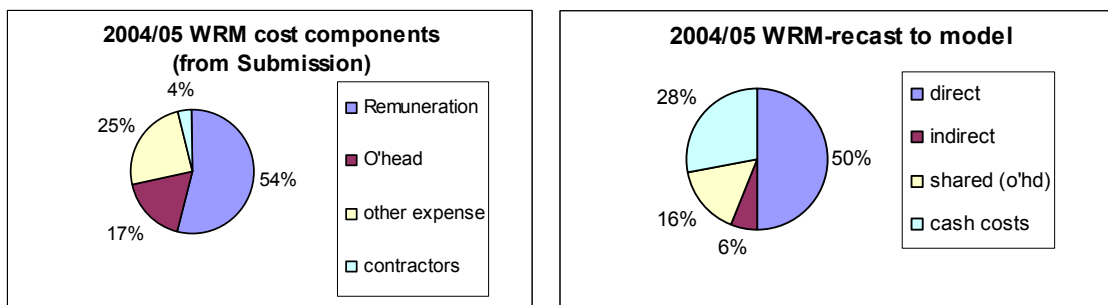
DNR has adopted a revised structure for forecasting WRM operations expenditure costs as shown in Table 3-1<sup>11</sup>.

**Table 3-1 WRM operations expenditure costs**

Key Cost	Source
Direct EFTs undertaking WRM activities	Regions/ Divisions resource estimates
Indirect EFTs supporting the Direct EFTs	Historical levels of support
Non employee costs required for WRM (so called "B costs" <sup>12</sup> ) (non salary costs)	Historical costs plus specific costs identified by Regions/Divisions allowing for MDBC and DBBRC costs, billing & metering costs for State Water, income for hydrometric services and depreciation.
Overhead costs (Shared Costs)	Calculation based on DIPNR 05/06 forecast

The submission provides the estimation of the 2004/05 distribution of costs as a result of using this model. These costs are redistributed as shown in **Figure 3-1** using the data provided<sup>13</sup> to reflect the components in the **Table 3-1**.

**Figure 3-1 Key cost components**



The majority of DNR WRM activities and associated costs are specific to a valley/water source. For purposes of developing the WRM costs, spreadsheets were used to calculate unit costs, which can be applied to future equivalent full time employees. The cost elements established were as follows:

**Indirect costs**, cover support costs for front-line staff and involves supervision and administration. The calculation for indirect salary costs was based upon 2004 data

<sup>10</sup> DNR advised that this correction was due to an error in the original models supporting the original Submission and that the correction did not affect the estimates. Refer also to doc: "IPART\_addendum\_2311.pdf"  
<sup>11</sup> IPART 2006 Bulk Water Price Determination. Briefing workshop 9<sup>th</sup> December 2005, The Allen Consulting Group with Danu Consulting.  
<sup>12</sup> Reference as for 1 above.  
<sup>13</sup> 2004/05 WRM recast model based on slide in Presentation given to PB Associates 9th December by DNR. The Allen Group and Danu Consulting

as, due to a change in the basis of recording costs, the level of indirect salaries was not available for 2005.

The indirect cost figure is low (6%) and at such levels is unlikely to materially alter as the work load varies, unless this change was significant.

PB Associates is satisfied that the basis of this model for estimating purposes is sound.

**B Cost items** including cash costs covering items such as materials, accommodation, vehicles, fees, etc. These costs comprised 28% of total costs in 2004/05 (as shown in Figure 3-1). The use of a “per equivalent full time approach” for **future** estimates may not be valid given any substantial changes in staff. For example 5 more staff in a region may generate different cash costs to the existing 10. That is, the relationship for many of the items under this category is possibly not linear and given the current use of historical rates per EFT for this item may generate invalid estimates.

PB Associates is unable to comment further, other than to highlight a possible issue in the estimation model.

**Overhead** or shared services require evidence that a critical assessment has been undertaken for the 2005/06 forecast. The last IPART determination adopted the 2001/02 forecast inflated by CPI to 2005 dollars. The overhead factor in the 2001 determination was 36.75% on direct salaries, and in this submission, based on \$30,260 per EFT per year, the percentage of shared services is 31.75%.

PB Associates has accepted the EFT allocation model developed by DNR which calculates the above movements. In doing so, PB Associates queried whether an increase in direct EFTs required to meet new or changed obligations should result in an automatic increase in the Regional and divisional indirect and overhead amounts (the latter of which is formula based).

In response to this, DNR has advised<sup>14</sup> that “*Regional and Divisional overheads are assessed and spread automatically according to the configuration contained in DNR’s SAP costing system.*”

*Shared corporate services were analysed and identified for forecast WRM activities. The cost drivers for these activities were reviewed and most were determined to be EFT driven, hence it was determined that shared costs would be allocated by EFT.*

*Another factor supporting the cost allocation basis is that a significant proportion of the WRM EFT increase is expected to be provided by reallocating existing DNR resources together with their share of shared corporate services.*

*The budget has been subject to full and extensive assessment by NSW Treasury and DNR executive.”*

**State-wide activity:** There are activities and associated costs that are attributable across more than one valley/water source, particularly those activities undertaken by the Water Management Division (WMD) and the Office of Knowledge Science and Information (OKSI). There are also DNR programs such as for the Great Artesian Basin (GAB) where the costs are also applicable to more than one valley and water source. DNR has developed a method for attributing area-wide cost to individual valleys and water sources.

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<sup>14</sup> Response to draft report by DNR 7 Feb 2006

**Overall PB Associates is satisfied that the development of budgets against allocated full time staff is based on an auditable model which can be used to check and adjust rates and activity budgets as staff allocations change.**

### **3.3 CONFIDENCE IN FORECAST EXPENDITURE AND ALLOCATION**

A short time after the DNR's submission to IPART in October 2005, an addendum was submitted containing significant adjustments to the forecast totals (about 4% per annum lower for the price period) and allocations (of the order of  $\pm 10\%$  for the broad WRM products).

These adjustments were attributed to software errors, data entry mistakes and model amendments.

This raises questions as to commitment to QA procedures on data entry and validation, and the verification of forecasting models used. On the other hand, the fact that these problems were found may confirm adequate procedures are in place.

In response to this issue DNR advised<sup>15</sup> that: *"The costing model was developed for the current IPART pricing determination process, so the amendments identified will not have applied to any prior submissions. DNR is not currently aware of any further formulaic errors in the forecast costing model."*

PB Associates has had an opportunity to peruse this model and accepts that it is an acceptable basis for allocating costs subject to the assertion provided by DNR and the earlier comments made concerning the validity of the model for basing unit cost/EFT in all cases.

#### **3.3.1 Efficiency of new WRM business development**

DNR asserts (p11) that its operation is *"more focussed and efficient"* as a result of new business processes including financial systems, cost analysis and customer focussed business planning and reporting.

Evidence of the efficiency gain targets that DNR hopes to achieve or how further efficiency gains will be carried forward into the price period and beyond are important factors in the price determination.

For example, DNR is spending \$921,000 over 2 years on a new Corporate Water database system planned to be complete in 2005/06<sup>16</sup>. The benefits of this need to be recognised in established and published performance targets (e.g. reduction in re-working due to errors, missing data, etc; increased response to queries and provision of information, etc.). These should flow through to the forecast operations expenditure.

Further, there are a wide range of activities listed under the twelve (12) new program codes in Appendix 1 of DNR's submission. The Appendix table A2.14 explains in general terms those WRM activities expecting some increase (and in some cases decrease). While the justification for changes in activities is well documented the magnitude of the increases (decreases) allowed for in the budget is not specified.

There is an increase of some 30 EFTs in the price period compared with historical staffing levels which clearly shows allowance has been made for activities expecting increased inputs.

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<sup>15</sup> Response to draft report by DNR 7 Feb 2006

<sup>16</sup> Refer DNR file: Capital expenditure forecast.xls.



There is no assessment in either the submission or in documentation provided to PB Associates as to the results of any analysis to justify the additional effort in dollar (or EFT) terms, or the options for doing this work more efficiently.

PB Associates accepts that there is new work (e.g. WSPs development and implementation) but does not accept expenditure (or EFT) rises without justification by DNR.

PB Associates is unable to comment further, other than to note that there is an increasing trend in WRM expenditure. The WRM expenditure level rose by 19% in 2005/06 compared to the average of the previous 4 years and continues to rise during the price period by an average of 5%.

This level of expenditure is discussed further in Section 5 of this report.

### **3.3.2 Separation of consents transactions and other WRM activities for pricing purposes**

The comments in the previous section do not apply to the Water Consents Transactions costs.

As stated in DNR's submission, all licence administration activities are included as WRM and all licence transaction costs are excluded. DNR has advised that "*The principle for the 2001 price determination was that licence transaction costs were excluded from the IPART determined cost base (licence consent administration was included)*".

Licensing costs have been separately analysed as set out in the Accounting Processes Report (Dec 2005). The historical cost provided to PB Associates in the costing database identified the Licensing Consent Administration and License Transactions as separately costed activities. The costs are separately recorded in the forecasts. There is therefore no question about attribution of licensing costs.

DNR has provided a forecast of the expected workload arising for license transactions (section E and associated appendices) and has costed this accordingly using their EFT estimating model. There is substantial uncertainty in the forecasts due to the relative newness of the market for licence trading.

Although not a costing issue, PB Associates notes that the consent transaction activity is intended to be a full cost recovery activity. In the past, the costs have not been fully recovered with DNR advising that shortfalls have been met by Government. Part E of the DNR submission discusses this and proposes a "framework" for cost recovery<sup>17</sup>.

The principles of COAG would require that full cost recovery should be achieved especially since there is an economic benefit to users to have licenses and the ability to be able to transact these separately from the title.

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<sup>17</sup> DNR has indicated that licensing transactions are currently fully funded by the NSW Treasury with licensing fee revenue collected from users remitted to Treasury as a cost recovery against the budget allocation. The amount of 'shortfall' is identified in Table E1 on p. 38 of DNR's submission.

### 3.3.3 Contestability of Services

#### Service Level Agreements with State Water and other bodies:

There is no evidence in the submission that the cost of the Hydrometric Services provided across the State to State Water<sup>18</sup> and others has been market tested.

Similarly, it is queried whether there has been a tendering process for the metering and billing services (currently provided under a “negotiated agreement” between State Water and DNR). This could be either for the whole of the services or partitioned geographically. Here the market might be able to offer cost effective services in some of the less remote areas, with State Water offering services in more remote locations given that it has existing operational field staff in these areas.

#### Corporate or shared services:

Contestability of corporate services is not discussed other than that implementation of the new structures in the two Government Departments is still occurring and proposed sharing of the corporate services is yet to be determined. The basis for the level and the expected efficiencies to be gained from sharing of the corporate services was not complete at the time of this review but is understood to be still under discussion between the two parties.

### 3.3.4 Removal of security premiums and wholesale discounts

Security of supply and bulk water supply is now State Water’s responsibility and DNR is recommending removal of security premiums from WRM charges.

DNR advised that the historical data presented in the submission does not include costs associated with the water delivery component<sup>19</sup>.

A similar issue relates to the removal of the previous “wholesale discount”; historically applied to “environmental management activities”.

PB Associates queried whether the new responsibility and proposed changes in cost allocations arrangements affected the cost base

DNR advised “*The WRM cost base stays the same because DNR’s WRM activities do not change. The WRM activities stay the same regardless of the security of supply. The new arrangement will mean that attribution in the WRM charge will occur to users requiring high level security. Likewise the volume of extraction by a specific user does not impact on WRM activities.*”

PB Associates is satisfied with this explanation and that forecasting of costs is appropriate in this regard.

### 3.3.5 Allocation of overheads

The basis for deployment of resources and allocation of overheads (called “shared services” in the submission) was provided in the costing database provided to PB Associates on 9 December 2005. The shared services are allocated to valleys on

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<sup>18</sup>State Water requires 299 stations for its operations (and could test the market for service providers for these). There are another 520 hydrometric stations used by DNR and others. Section 5.1.8 discusses expenditures further.

<sup>19</sup>Historically (prior to 1st July 2005) the supply charges were recovered in a charge, consolidated with the WRM charges, which included the premiums and discounts. The share of revenue was based on the WRM share of IPART determined costs in the same manner that IPART has separated the costs in its 2001 determination.

the basis of the direct EFTs. The rate was equated to \$30.2k per direct EFT or about 31.75% of direct salary. This figure had been developed from an assessment of overheads relating to the DIPNR structure and associated 2005/06 budget. Future overheads will require confirmation of the efficiencies in these costs.

### 3.3.6 Cost incidence across valleys

DNR states (p 26 of the submission) that average, rather than marginal costs, are used for each valley and water source on the basis that WRM services are characterised as having a high proportion of fixed costs.

DNR states that it manages its resources as a central pool for deployment around the State. It believes this is an efficient strategy in circumstances where staff with similar skills can be grouped together to form “centres of excellence”. Further, if resources additional to those available are needed in another location they are transferred accordingly.

PB Associates accepts that the nature of work is essentially “baseline” establishment of the resource condition and rules for accessing and sustaining it. It is not dependant on water use with perhaps some variation in monitoring and information provision workloads during periods of extreme conditions. The basis of costing is therefore supported.

While presently there is substantial amount of work creating and implementing WSPs, it is expected within the price period that this will stabilise and work will move to managing the implemented plans. DNR does not indicate if it may be possible to reduce resources into the latter part of the price period and beyond.

Finally, the low volume of entitlement in such areas as the North Coast and South Coast regulated rivers results in a high average unit cost attribution (\$16-\$21/ML) for WRM services which DNR recognises in its discussion of cost implications (p31).

DNR suggests either cross subsidy between valleys or a Government grant under Community Service Obligation (CSO) could be used to lessen the impact on users in these regions.

While not a cost issue of itself, PB Associates suggests that the transparency of the costs in conducting necessary WRM in areas such as these needs to be highlighted against benefits achieved. While WSPs identify the required outcomes, are agreed with stakeholders and are approved and sanctioned by Government, PB Associates recommends that DNR should undertake an assessment of the risk of changing the priority or extent of DNR effort in these regions and undertaking negotiation with key stakeholders on this. If there are some “community good” aspects of the services offered, then CSO (i.e. Government) funding is warranted to cover the “fixed” costs (e.g. gaining knowledge of, and sustaining the health of, the rivers for the benefit of the current and future generations). This CSO cost should be transparently made during the WSP development process and discussions with these stakeholders so that agreements are achieved based on a fully informed constituency.

## 3.4 INNOVATION

No mention has been made in the submission of the use of new technology such as smart monitoring systems. For example, remote sensing, data logging and transmission, instrument fault sensing and transmission, on-site water quality monitoring, and communications between DNR and State Water and other clients requiring access to information.

PB Associates was advised by DNR that it had been using these technologies for many years (e.g. the fully automated Hunter Valley water information network) and that it had provided to IPART a 30 year graph of the improvement in productivity of their river gauging stations as a result of new work practices and technology.

The forecast expenditure should show the allowance made for further efficiencies in each year of the forecast and identify where these gains are expected to be made.

## 4 HISTORICAL EXPENDITURE

### 4.1 HISTORICAL OPERATING EXPENDITURE

#### 4.1.1 General

In general:

- DNR has provided explanations concerning the major influences on the Department in 2004/05, but the reasons as to why this should affect expenditure to the extent stated is unclear. DNR states that redeployment has and will continue to occur from DNR's non WRM services to WRM services to cope with the new work relating to licence administration work but it is unclear as to how this has affected the overall cost rise in 2004/05, especially since EFTs were lower than in previous years by some 30 EFTs.
- Data for operations expenditure in 2005/06 has not been provided apart from the summary information in Table A1 of the DNR submission. These 2005/06 figures are based on the 2001 IPART determined cost base.
- All costs identified for the pricing submission are DNR recurrent funded. Recurrent funding is a mixture of Government budget funds and user charged revenue.
- All Licence Transactions Costs are recurrent funded. All Licence Transaction revenue is remitted directly to NSW Treasury as an offset for the allocated budget funding of these activities (i.e. it is not retained revenue as with WRM charges).
- PB Associates notes that the planned installation of meters on unregulated rivers did not occur, with resources being diverted into the management of regulated rivers. The reason for this reallocation is not given but could be surmised as being related to the low flow issues associated with the drought period. DNR advised that *"Metering installation is essentially dependent on specific purpose Government funding rather than diversion of funds in say periods of drought."*

#### 4.1.2 Historical WRM costs by product

Table 4-1 shows the total historical WRM expenditures. Highly Managed Groundwater for 2002/03 and 2003/04 have been amended using the figures given in the November 2005 addendum to DNR's submission. The separate licensing transaction costs are shown for comparison. The 2005/06 numbers are based on the previous IPART determination. DNR did not provide the actual budget for 2005/06 and accordingly, PB Associates has used figures provided for comparison purposes.

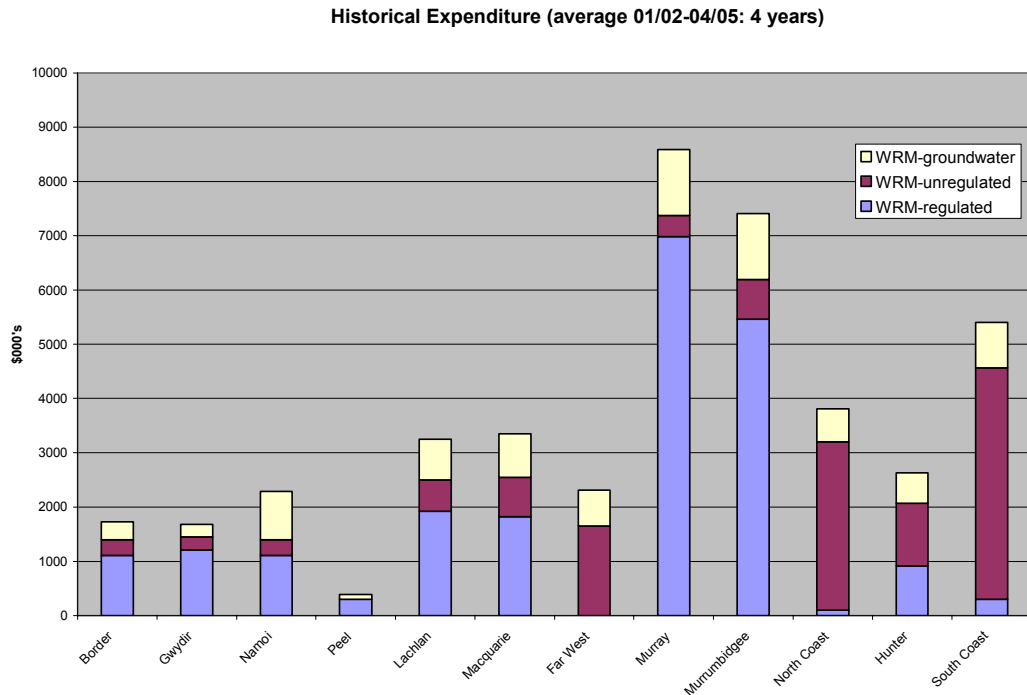
**Table 4-1 Historical WRM Expenditures (2005\$)**

	2001/02 \$'000	2002/03 \$'000	2003/04 \$'000	2004/05 \$'000	Ave 2001-04 \$'000	2005/06 \$'000
WRM-regulated rivers	\$18,770	\$22,976	\$22,188	\$21,072	\$21,252	\$21,439
WRM-unregulated	\$13,350	\$14,062	\$14,043	\$12,211	\$13,417	\$18,861
WRM-High Mged GW	\$6,813	\$7,201	\$7,727	\$7,361	\$7,276	\$10,597
WRM-Other GW	\$1,191	\$872	\$890	\$715	\$917	
<b>WRM Total</b>	<b>\$40,124</b>	<b>\$45,111</b>	<b>\$44,848</b>	<b>\$41,359</b>	<b>\$42,861</b>	<b>\$50,897</b>

Licensing Transactions	\$6,750	\$7,213	\$8,611	\$8,543
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Figure 4.1 shows the average 4 year expenditures in 2005\$'s across Valleys for each of the summarized WRM activities.

**Figure 4-1 Historical Expenditures (4 yr average 01/02-04/05)**



Historical WRM expenditure has varied from \$40 to \$45 million per annum, with an average of \$42.8 million over the four year period 2001/02 to 2004/05.

The reason for the 12% increase in total WRM between 2001/02 and the next 2 years is unclear. DNR attributes the cost increase to an increased number of EFT and attendant costs for the following broad activities:

- For WRM, the EFT's have increased from 240 (in 2001/02) to 274 and 273 in the ensuing two years, and
- For licensing transactions, the EFT's have increased from 51 EFTs in 2001/02 to 53 and then 62 in 2003/04.

Further explanation of the continuation of trends in required or obligated work that has commenced in the 3 years to 2004/05 would assist in understanding how these influence the forecasts in the price period. This matter is further discussed below in the section on forecast operating expenditure.

The ability to show efficiencies (e.g. in terms of EFT/task or product code) has not been possible for this analysis.

#### 4.1.3 Asset valuation and depreciation treatment

The policies and practices regarding the capitalisation of instrumentation and other relatively minor assets, depreciation, and the allocation to indirect costs in regions, are briefly described by DNR. Historically the approach described appears to have been consistently applied to the operating expenditures. Changes to the capitalisation policy will occur for future asset procurements.

The 2004/05 expenditure includes a category called "Other Costs" which amounts to 25% of the overall expenditure. The "other cost" category includes other indirect costs in the region and Head Office costs. Depreciation is also a component of the "other cost" category.

PB Associates was able to assess the valuation and depreciation treatment of the bores asset register. For the purpose of the new arrangements for capitalisation of assets, DNR has depreciated assets over their assessed life with a minimum remaining life for the bores of 5 years from 2006/07. No information was provided on the condition of the assets. The Written Down Replacement Value for groundwater bores as at 1 July 2006 is estimated to be \$17.5 million. It will be important for DNR in future work to prepare an asset management strategy which prepares a long term optimised replacement program for bores and other monitoring equipment.

DNR has proposed, that in future, it will capitalise the cost of new flow monitoring metering equipment and installations.

DNR advised PB Associates that motor vehicles are currently leased, but that it is anticipated a change in policy will result in them being purchased, and that the assumption has been made that current lease costs would be similar to depreciation and return on the value of these assets.

It is noted that gauging stations have not historically been capitalised. PB Associates questions whether this is correct under the Treasury Financial Framework. DNR has advised that its *"accounts were audited and the audit report is required to comment on any departure from standards. The audits do not indicate capitalisation of this equipment is required"*.

PB Associates notes that DNR has yet to validate its \$35.3 million asset portfolio<sup>20</sup>. DNR advised that it expects to strengthen its asset management processes with the development of the ring fenced WRM business.

PB Associates recommends that a suitable Asset Management Plan based on NSW guidelines be provided as part of the next price submission.

## **4.2 HISTORICAL CAPITAL EXPENDITURE**

### **4.2.1 2005/06 Budget**

The budget for 2005/06 capital expenditure and associated activities is based on what is achievable given the one year price determination. The budget appears to be based on a forecast in the order of \$50 million<sup>21</sup>. There is little evidence on the make up of this expenditure to assist the reviewers for the new price period.

It is noted that the 2005/06 capital expenditures for Water Extraction Monitoring/Metering (\$273,000) are proposed to be expensed.

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<sup>20</sup> (refer Submission p19)

<sup>21</sup> It is noted in the submission that the 2005/06 forecast is based on a CPI indexed 2001 IPART determined WRM cost and that Reference to the 2001 IPART determination cost information for more detail should be made.

## 5 FORECAST EXPENDITURE

### 5.1 FORECAST OPERATING EXPENDITURE

DNR has used the “building block” approach to providing the forecast of its operating expenditure, as follows:

1. People and other direct costs required to undertake activities;
2. Indirect costs (people and other costs required to supervise the above); and
3. Overhead costs of shared services to support the above.
4. Return of assets (depreciation). Return on assets was not included in the cost estimates in the DNR submission.

Costs are allocated by Valley and Water Source. Table 5-1 draws together the historical and forecast operating expenditure costs provided by DNR.

**Table 5-1 Summary of historical and forecast expenditures (2005\$)**

	HISTORICAL EXPENDITURE \$'000				AVERAGE 2001/02- 04/05	FORECAST EXPENDITURE \$'000					
	2001/ 02	2002/ 03	2003/ 04	2004/ 05		2005/ 06	2006/ 07	2007/ 08	2008/ 09	2009/ 10	2010/ 11
Licensing transactions	6,750	7,213	8,611	8,543		?	11,662	11,645	11,605	11,608	11,609
WRM-regulated rivers	18,770	22,976	22,188	21,072	21,252	21,439	23,215	23,661	22,994	22,131	22,203
WRM-unregulated	13,350	14,062	14,043	12,211	13,417	18,861	16,153	16,330	17,456	16,748	16,804
WRM-High Managed GW	6,813	7,201*	7,727*	7,361	7,276	10,597	11,690	11,599	11,564	11,554	11,552
WRM-Other GW	1,191	872	890	715	917		2,093	2,286	1,978	1,998	1,979
<b>WRM Total</b>	<b>40,124</b>	<b>45,111</b>	<b>44,848</b>	<b>41,359</b>	<b>42,861</b>	<b>50,897</b>	<b>53,151</b>	<b>53,876</b>	<b>53,992</b>	<b>52,431</b>	<b>52,538</b>

*\*02/03 and 03/04 Highly Managed groundwater were modified in the November 2005 addendum*

#### 5.1.1 Increases in price period

DNR has forecast significant increases in operating expenditure during the 2006/07 to 2009/10 Price Period compared to historical levels. The average of the annual forecast expenditures for 2006/07 to 2009/10 is \$53.3 million compared with an average of only \$42.8 million over the four years ending 2004/05. This translates to an average increase of approximately 25%.

The 2005/06 pricing determination allowed a CPI based rise resulting in a forecast of \$50.8 million. The forecast expenditure anticipates further increases in addition to the CPI.

Additional WRM activities required to be done by DNR are detailed in Appendix 2, Table A2.14 of the DNR submission. As stated previously the magnitude of these increases is undefined.

PB Associates needs to better understand how the new requirements translate into new expenditures and resources and the basis for the estimates.



The estimated 2006/07 staffing (EFTs) are given (as amended Nov 2005) at 297 but the basis for the deployment of staff against the (un-quantified) trends in work load for each of the activities, as suggested in Appendix 2, Table A2.14, is not apparent. DNR has provided its models to PB Associates showing the allocation of EFTs to the activities into the future but the reasons for the allocation as a function of forecast workload is not given. This makes it difficult to ascertain the efficiency of resource allocation to the stated activities.

DNR has new activities, driven primarily by NWI / WMA and the associated WSPs, and will incur expenditure in order to meet these responsibilities. However the decision on timing, of when and how quickly various changes will be implemented, will have a significant effect on the annual expenditure forecasts.

PB Associates believes that further information explaining how decisions on timing of achievement of the new responsibilities and the basis of directives given by others or established by DNR needs to be made apparent. The WRM direct cost increases are attributed (on pages 17/18 of DNR's submission) to consideration of:

- existing resources (how are these deployed and optimised for delivery of obligations is not discussed);
- changes to WRM imposed by WSP (Changes and cost/resourcing impacts are not discussed);<sup>22</sup>
- the high priority by the Government on WRM especially the creation of WSPs for 31 water sources commencing from 1 July 2004. DNR proposes completion of these by 2008 but does not demonstrate how this will be achieved and measured by milestones; and
- funding constraints.

With respect to the last point, DNR explained to PB Associates that historically the department is funded on a net appropriations basis and therefore its WRM activities are constrained by the level of cost recovery from water users and the Government contribution through its budgetary appropriation. The NSW Treasury sets a budget for DNR activities each year. This budget is agreed at program level and is publicly available.

PB Associates believes that if there are clearly agreed targets against deliverables, then cost follows and hence funding. If funding or prices/charges are constrained, then targets should be adjusted and agreed with stakeholders and the shareholder. Evidence of the results of a cost sensitivity analysis is not apparent. Such an analysis would assist in determining the degree of satisfaction of targets against cost.

PB Associates recommends that the "service-cost" equation be enhanced in budgeting deliberations since the present price determination exercise is about convincing users to meet their share of total costs.

DNR should provide further evidence to IPART of the investigation of options to meet targets in more cost efficient ways, in order to be convinced of the efficacy of DNR's programmes, many of which have been long established.

PB Associates notes that the WSP's are due to be fully implemented by 2008/09 and ongoing management (review/update) would follow in subsequent years. DNR indicates that, as all WSPs are progressively completed over the period to 2008/09, WSP work will move into the implementation and ongoing management phases. Each Plan is expected to have a life of 10 years before major revision is undertaken.

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<sup>22</sup> DNR gave a presentation to PB Associates on 8 December 2005 which provided insights into changes in WRM.

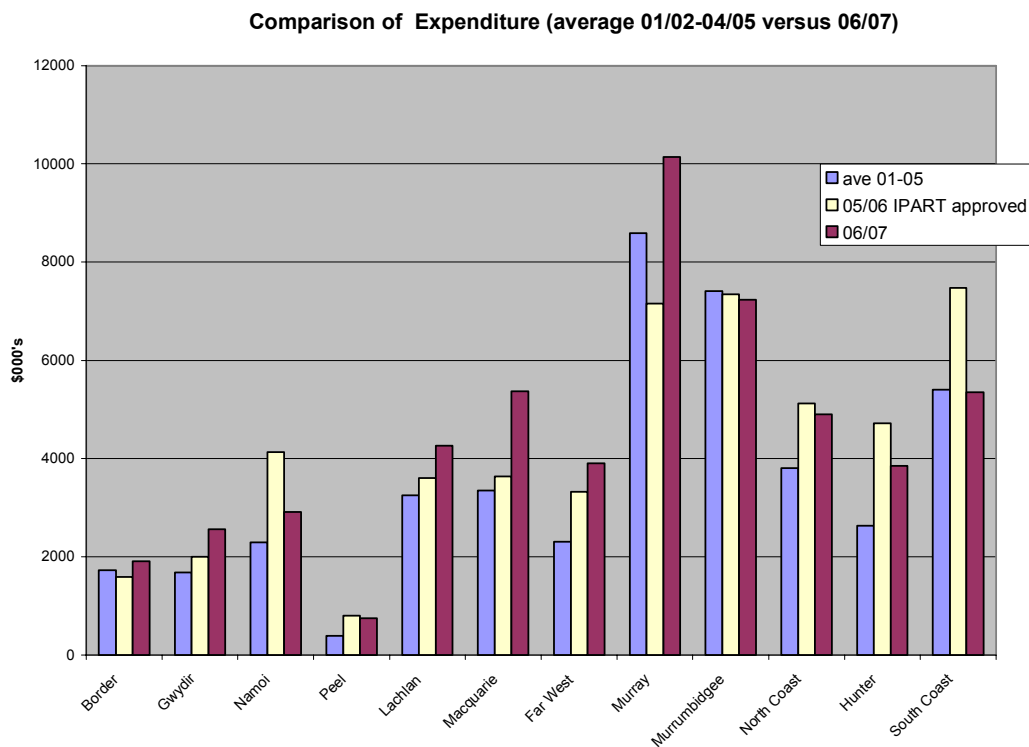
Given these aspects, the justification for DNR’s proposition to expend the same level of cost in this work category beyond 2008/09 is queried.

The development of the new water access/rights consents has incurred additional effort. The costs associated with the ongoing operation of these needs to be assessed.

**5.1.2 Valley expenditures**

Figure 5-1 shows historical and future trends in expenditure across the valleys. The expenditure level in each valley is generally rising in 2005/06 (using the 2005 IPART determination figures) and again in the forthcoming price period compared with the average over the four years 2001/02-2004/05.

**Figure 5-1 Comparison of Expenditures (4 yr historical average vs. 2006/07)**



All valleys and water sources with the exception of Murrumbidgee are experiencing a rise in real WRM operating expenditure for the 2006/07 to 2009/10 period compared with the 2001/02 to 2004/05 period.

Table 5-2 shows those Valleys for which an increase of more than 20% is forecast for 2006/07 compared to the average spend during 2001/02 to 2004/05, while Table 5-3 shows those with an increase of greater than 40%.

**Table 5-2 Valleys demonstrating upgrades in real expenditure in the 3 WRM categories greater than 20% above historical 4 year average**

	Regulated streams	Unregulated streams	Groundwater
Border		yes	yes
Gwydir		yes	yes
Namoi		yes	yes
Peel	yes	yes	yes
Lachlan		yes	yes
Macquarie	yes		yes
Far West		yes	yes
Murray		yes	
Murrumbidgee			
North Coast	yes		yes
Hunter		yes	yes
South Coast			

**Table 5-3 Valleys demonstrating upgrades in expenditure in the 3 WRM categories greater than 40% above historical 4 year average**

	Regulated streams	Unregulated streams	Groundwater
Border			yes
Gwydir		yes	yes
Namoi			
Peel		yes	yes
Lachlan			yes
Macquarie			yes
Far West		yes	yes
Murray			
Murrumbidgee			
North Coast	yes		yes
Hunter		yes	yes
South Coast			

It appears to PB Associates that the emphasis of cost increase is related to groundwater activities.

DNR has advised that the main reasons are:

- the identification that some groundwater source areas are over-exploited and require urgent action and;
- the implementation of WSPs dictate that greater resources be deployed on monitoring all groundwater areas, some of which were previously not stringently monitored.

General references are made to the quantum of the increased activity in the WRM and other categories (refer Table A2.14 of DNR's submission).

Figure 5-2 shows that the proposed EFT levels remain reasonably constant throughout the price period reaching a peak of 302, compared with the 2006/07 resource level of 297 EFTs. There is no indication of how these resources are re-deployed to meet WRM demands. The forecast total is substantially above historical levels of between 240 and 274 EFTs.

For licensing, DNR is required to target recovery of costs of licence transactions from beneficiaries. It is accepted that additional resources are required to match the stated estimated volume of transaction work (refer Section E of DNR submission).

**Figure 5-2 EFT trends<sup>23</sup>**

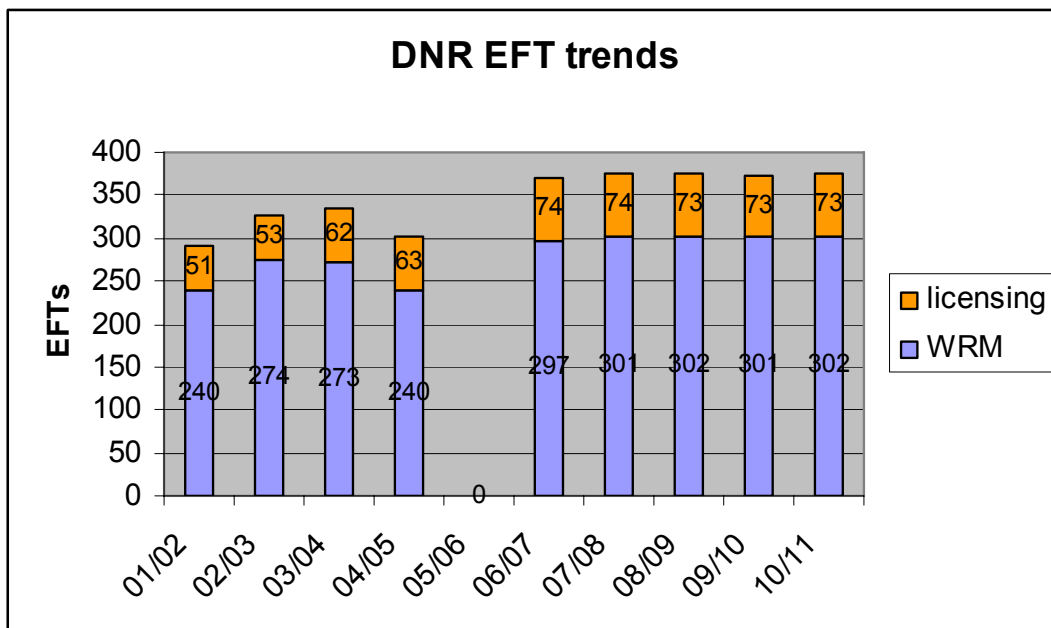


Table 5-4 shows the magnitude of the increases in forecast expenditure compared with historical levels (all in 2005\$). Increases in 2006/07 that are greater than \$1 million are shaded (orange) as well as those between \$500,000 and \$1 million (yellow). These totals include depreciation.

**Table 5-4 Magnitude of increases throughout Valleys in 06/07 over the average of the historical 4 years (2001/02 to 2004/05) (2005\$000's)**

	Regulated streams \$'000	Unregulated streams \$'000	Groundwater \$'000	Total \$'000
Border	-50	60	170	180
Gwydir	100	260	520	880
Namoi	200	110	310	620
Peel	100	99	160	359
Lachlan	-110	120	1,000	1,010
Macquarie	490	20	1,510	2,020
Far West	0	1,000	590	1,590
Murray <sup>note</sup>	1,260*	110	180	1,550

<sup>23</sup> Presentation to PB Associates by DNR, The Allen Group and Danu Consulting to PB Associates, 9 December 2005.

	Regulated streams \$'000	Unregulated streams \$'000	Groundwater \$'000	Total \$'000
Murrumbidgee	-30	-130	-20	-180
North Coast	300	150	640	1,090
Hunter	-60	840	440	1,220
South Coast	-200	90	60	-50

	Increase \$500,000 & \$1 million
	Increase > \$1 million

Note \*: \$0.5million of the increase in Murray Valley comes from the increase in MDBC costs for the valley.

Overall the increase in groundwater expenditure accounts for 53% of the total increase. A substantial portion of the expenditure is occurring for the monitoring of bores. This supports DNR's contention that an increased focus is required on groundwater assessment and management given the over exploitation of groundwater sources.

A clarification of the relative risks of the focus on groundwater versus other priorities would be helpful in assessing the prudence of the proposed Valley allocations.

PB Associates believes that proposed level of EFTs should be adequate "to meet the needs of rivers" and manage the ground water areas.

### 5.1.3 Linking forecasts to activity

DNR has adequately identified the WRM and licensing activities.

Historical costs over the past 4 years have been extracted for each of the activities and units costs derived from a zero based forecasting model were used in a forecasting model to estimate future expenditure on these continuing activities.

Forecasting for the Price Period has been undertaken on a "bottom-up building block" regional basis using the model with Corporate Shared Services (overhead) added.

MDBC and DBBRC work is suitably identified and costs can be captured.

There is substantial listing and defining of WRM activities in the submission. The appendices contain details of those items experiencing increased (or reduced) activity.

There is also an explanation of how the forecasts are brought together (figure B2).

However it is not apparent:

- a) How the allocations are likely to change with time given apparent stability in the price period forecasts.
- b) What is the assessed and justified basis of the magnitude of resource allocation?

It is noted that an additional 57 EFTs are required in 2006/07 bringing total human resources up to 297 EFTs (as per Addendum statement 23<sup>rd</sup> Nov 2005). The models<sup>24</sup> for regions show the EFT allocations to the programs and these allocations have been prepared by the Regions however the justification for the magnitude of the increased allocations is queried.

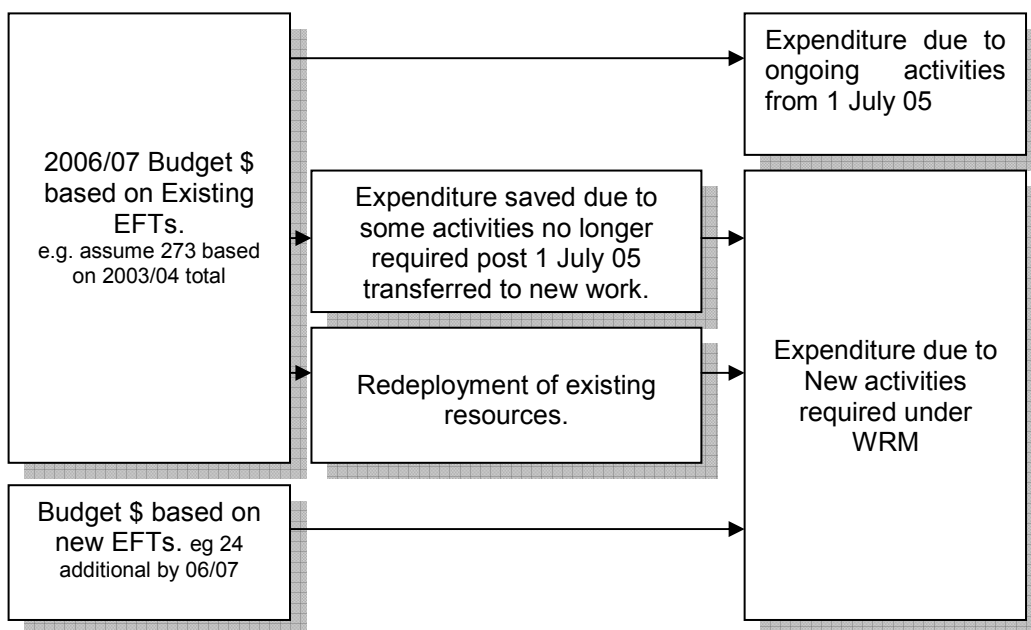
<sup>24</sup> For example: [Barwon IPART Forecast.xls](#)

- c) The component of the forecast expenditure allocated to each new activity compared with ongoing requirements and savings from old activities no longer being undertaken has not been provided.

DNR has advised that *“this is hard to quantify because of the change from sub-products to new WRM activities, a mapping of old activities to new allows a broad comparison of the costing database only. Some of the new activities don’t have prior counterparts, so can be treated as new costs to be funded”*.

With respect to point (c) it would be helpful to have a table which elaborates on the deployment of resources to activities. Such a table covering each activity listed by DNR might, for example, be structured as shown in Table 5-5 and summarised in Figure 5-3.

**Figure 5-3 Example of model for basis of expenditure (re-)allocations**



DNR has advised that this has been done to a degree because the costing database combines historical and forecast expenditures in one Excel pivot reporting structure.

**Table 5-5 Suggested breakdown of expenditure forecasts**

Activity	Existing, ongoing obligated activities.	Existing activity proposed to be modified (±) into 06/07 and beyond.	New obligated activity	Ancillary/discretionary services (not IPART price regulated)
Basis	Pre- 1 July 2005 and included in 2005/06 determination.	Modified obligation as a result of NWI, institutional changes, other (including extra working due to drought conditions, seeking efficiency gains)	New obligation as a result of NWI, institutional changes, other (including efficiency gains)	Existing and proposed
Examples <sup>1</sup> :	C05-01? C05-04 C07-06, 14, 15, 16?, 17 C08-01, 02 C09-01, 02 C11-02	C01-01 (\$1.9m over 3 years?) <sup>4</sup> , 02, 03? C02-01?, 02? C05-03 C06.. C07-01 C09-03, 04, 06? C10-01	C01-04 C07-02 C07-05?, 08, 09, 10, 11, 13 C09-05, 07 c10-02	C04-01? C07-12? C11-01?

Activity	Existing, ongoing obligated activities.	Existing activity proposed to be modified ( $\pm$ ) into 06/07 <u>and beyond</u> .	New obligated activity	Ancillary/discretionary services (not IPART price regulated)
		C11-03		
Delivery method: own HR (% and existing and additional EFT numbers) and/or contractors /consultants (%).				
Chargeable or recoverable <sup>2</sup> from: beneficiaries (%) Government sources (%) and/or Other (%)	E.g.: C07-03 C07-07	C07-12	C07-09	
Associated /consequential Capital works		E.g. application for \$4m over 3 years for hydrometric station installation (p18) <sup>4</sup> to support C01-01 ,etc		
Source of Capital expenditure		E.g.: C06-01?		
Business case reference or other formal approval document.				

Notes on the table:

1. Selections from text in Table A2.14 are not complete. Dollar amounts should be placed against each activity for each price period year
2. e.g. water charges, contributions (e.g. C07-03), fee for service (hydrometric), Licensing/consents management ,etc
3. Trends in expenditure should be shown as well as carry over into future years beyond the immediate price period.

#### 5.1.4 Rate of implementation of WSPs

The text on page 16 of the DNR submission states that there are 31 WSPs in operation, a further 6 WSP's are to commence in 2006 with the remainder (60) under development and due for commencement in 2009. Table A2.14 in the DNR submission indicates that all WSPs should be developed by mid 2006.

While DNR must demonstrate progress and that the work is prudent, PB Associates questioned the priority for the rate of development of the remaining 60 WSPs given that the completed 37 to be completed by the end of 2006 covers nearly 80% of the water resource with the remaining 20% of the water resource covering large areas of the State.

The issue is also related to the redeployment of staff away from development to managing implemented WSPs in the future, which was discussed in an earlier section of this report.

In response DNR has advised that *"The WSPs commenced in July 2004 are for inland surface water regulated rivers. Groundwater WSPs are being developed. The NWI requires NSW to demonstrate progress in establishing WSPs for all water sources. The development & implementation of WSPs is guided by timing impositions under the WMA, NWI & Government policy"*

*Not all WSPs could be developed simultaneously given resource constraints; therefore, a development program over several stages had to be put in place. WSPs were developed on a priority basis, with initial plans established for the major*

*(regulated river) water sources covering the most significant water usage and many of the environmentally sensitive areas. Following this, WSPs are being developed for remaining water sources, including 6 specific plans for the major inland GW aquifers and Macro plans covering most of the remainder of the unreg systems. There are also a number of specific plans being finalised covering areas including the Barwon-Darling, Border Rivers and Sydney Metro”.*

PB Associates considers that this matter has not been demonstrated in the submission as a negotiated point with Government over the consequential additional resources needed to complete the work within “imposed” timelines. Evidence of directives to meet certain deadlines would satisfy this matter.

### **5.1.5 Licence transaction cost forecast**

With respect to Licence transactions it is noted that:

- (a) To date 7,000 Water Act consents (WAs) have been converted to Water Access Licences (WALs) and Approvals under the terms of the new WM Act provisions; the activity commencing on 1 July 2004;
- (b) Some planned progress on conversions of a further 1,400 licenses was deferred for 2 years by Government direction;
- (c) Historically the licence consents and transactions activity was under-recovering;
- (d) The nature of the licences and consequential administration has changed; and
- (e) The fees charged for this activity are regulated by IPART.

DNR acknowledges (p38) that it is difficult to estimate future Consent Transaction costs on the basis of limited history of operations under the new scheme and the associated costs of this new activity. Also the volume of work is dependant on such external factors as customer behaviour, commodity prices and climate changes. DNR has provided some estimates of the degree and nature of work leading to a forecast. Factors influencing possible reduced transaction cost are also considered and historical and forecast estimates of various activities (consent transactions, new license issues and approvals, license renewals and types of transactions) are listed in the Appendix.

PB Associates queried the basis of the model used to accommodate the factors described above.

*In response DNR advised that “it did attempt to develop unit costs for transactions that could then be modelled for pricing purposes. However, the short history with the new transactions, and the ‘noise’ imposed by debugging of procedures and IT systems as well as staff and public learning to use the new systems, meant the level of variation in unit time spent by staff on the transactions varied significantly. For this reason, robust unit costings could not be adequately developed.*

*Forecast costs were based on estimates of staff required by licensing units in regional offices. These were based on estimates of resources required to bring processing up to a level where processing times would be four weeks or less (apart from those cases where specific statutory requirements forced the time to be extended e.g. where advertising is required), and processing backlogs could be eliminated.*

*Of necessity, the staffing forecasts assumed a processing workload which continued to be the same as in past years. The submission lists factors which will in future years increase the workload, and factors which alternatively will reduce the workload. It was not possible, however, to quantify those impacts. The regional forecasts were*



*adopted unchanged on the basis that the increases will largely offset reductions in the workload; however, the net change could not readily be quantified”.*

Generalised “project activity” comments, given in Table A6.7, should be converted to quantum of effort (e.g. person days, and program targets, etc). The priority for the completion of conversions and customer service commitments, for responding to requests for transaction and licence renewal should be established and should be supported by a risk assessment so that resource allocation over the pricing period and beyond is optimised.

PB Associates suggests on the basis of the processing workload as at past years levels and the inability to quantify factors increasing or decreasing workload, that forecasts be adjusted to historic levels as shown for the two years 2003/04, 2004/05 i.e. constant at \$8.5 million.

Further, given that in time DNR will progressively have a better idea of the workloads arising from the licence transaction activity and that, it seeks to recover costs (refer below) that the forecast be applied for a shorter period than the 4 years of the price period.

### **5.1.6 Licence Transactions and water consents administration in WRM**

The WRM activity “Water consent administration” is \$4.78 million or 9% of the total WRM costs forecast for 2006/07 (DNR Figure B3).

There are two activities associated with licences: one is license transaction (activity code C10) for which DNR seeks cost recovery from beneficiaries and Licence administration (C09) which DNR claims back from the State Government.

DNR has advised that Licence administration is a fixed cost that is incurred regardless of how much trading activity (or dealings) or other transactions take place. The activity covered by this item is given in Appendix 1 under Code C09 and is separate from the License Consent Transaction activity (Code C10) which is estimated at \$11.662 million for 2006/07. This gives a total expenditure attributed in some way to managing this regulatory function at some \$16.5 million, which is significant.

PB Associates sought clarification as to why the opportunity was not taken to include the former cost (i.e. Water consent administration) in the proposed “fee for service” (i.e. licence transactions) proposals.

*DNR advised that: “All licence holders benefit from licence administration activities and thus should share the cost. From a cost attribution perspective, then, these activities can be grouped with WRM costs & the costs recovered through the WRM charge. It should also be noted that these costs are essentially WRM related given that they provide the regulatory and operational framework for water management & WSPs in particular. As a broad criteria for cost attribution, licence administration covers those regulatory activities that must be undertaken irrespective of whether licensing transactions take place.*

*Management of consent transactions are, by definition, a variable cost only incurred when a consent holder initiates a transaction. Much of Code C09 activity would not occur if the licensing functions were not undertaken. Beneficiaries are those directly gaining commercial advantage from having licences and approvals. The cost of this activity as measured through EFTs employed - is therefore a function of the volume of transactions undertaken. The only costs recoverable are those related to the direct & indirect costs of undertaking the transaction.”*

From PB Associates review of the model that DNR has developed the "shared services" (or administration overhead) is applied to both activities in proportion to the direct EFT.

PB Associates accepts that the basis of the license administration and transaction costs are prudent and supports DNR's stated intent to seek to recover costs from beneficiaries in a transparent manner (Refer to Section 3.3.5 of this report).

As a future consideration in pricing submissions<sup>25</sup>, PB Associates contends that the activities listed under the activity code C09 :Licence Administration are operations and overhead associated with the licensing business and would not occur if Licences did not exist. While the licensing function assists in giving effect to the goals of the WSPs, the costs would be borne by the licence holders (i.e. if there were no demand for the resource from users there would be no need for a WSP).

### 5.1.7 Productivity and Efficiency gains.

There is little evidence of a cost-benefit sensitivity analysis showing the impacts on delivery of each WRM obligation, in each Valley for a range of increase or decreases to resource levels. There is also a need to show in this analysis the quantified trends in the deliverables in each of the price period years.

DNR has not proposed any measures aimed at achieving productivity gains and/or savings in order to offset the increases in expenditures due to the forecast workload.

Contestability also impacts on productivity and, as discussed in section 3.3 earlier. No assessment has been made as to how further savings might be achieved into the price period through contestability of services.

No allowance has been made for any expected Salary Award/Employment rises net above CPI<sup>26</sup>.

### 5.1.8 Hydrometric services

Draft Service Level Agreements (SLAs) exist for Hydrometric Services provided to State Water and billing and metering services provided by State Water to DNR.

DNR provides hydrometric services under contract to State Water. DNR has included the net costs of these services in its submission.

DNR states in the submission that it recovers approximately \$4.1 million per annum from State Water, being the cost of providing information from the 299 stations from which State Water requires information for its business operations.

However, there are another 520 stations in the network for which State Water is not the client and for which DNR is required to provide services to others and seeks to recover costs.

DNR advised that these stations are on unregulated rivers, which require monitoring for WRM purposes and are subject to direct cost recovery from the users concerned.

The network of 520 stations is largely funded through State recurrent funds, and exists to support WRM activities. The cost of most of these stations is recovered directly by DNR through WRM charges.

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25 (see recommended cost path in Section 5.1.13 for licensing which recommends a review of this item in 2 years time)

<sup>26</sup> It is noted for example that State Water has indicated that remuneration costs are scheduled to rise by 4% within each of the next 2 years (by Government agreement)

There are 140 stations, servicing MDBC (80 stations), DBBRC (30 stations) and some utilities and local government groups (30 stations), that are also funded from State recurrent funds. However, the cost of these is recovered either directly from the users concerned or recovered from MDBC & DBBRC.

Both NSW share of MDBC costs and the 380 stations supporting WRM activity are included in DNRs forecast for this activity.

DNR proposes to increase or upgrade the network by 178 stations for WRM purposes but states that funding for the proposed at the time of its submission. The proposal is subject to a successful application to the Australian Water Fund for a \$4 million grant for capital expenses (p18 of the Addendum).

PB Associates notes that DNR has proposed that the shortfall in recovery of network costs be included in its estimates of the operations expenditure (an amount of \$1.9 million being allowed) should the AWF application be successful.

PB Associates notes that DNR plans to recover the full costs of these stations in the future from users and other beneficiaries in the regions in line with COAG principles.

### 5.1.9 Billing and metering

DNR has allowed \$0.215 million and \$0.87 million for billing and metering respectively in 2006/07 to be fully reimbursable to State Water. Currently billing and metering of unregulated streams and groundwater is undertaken by State Water on behalf of DNR under a draft service level agreement which is currently being negotiated between the parties.

PB Associates recommends that these allowances be confirmed so that the fee for service component can be determined by IPART.

### 5.1.10 Reduction in MDBC and DBBRC

The expenditures for MDBC and DBBRC during the price period are forecast to reduce substantially compared with historical expenditure levels (the final years of the price period are some 25% below the early historical years - \$3.3 million versus \$4.4 million approximately). DNR states that WRM services provided to MDBC and DBBRC are subject to inter-jurisdictional agreements, and as such, DNR has no control over these costs.

It is noted (p19 of DNR's submission) that MDBC has yet to approve forecasts at the time of the DNR submission and that a "middle" range forecast estimate has been included. Subsequently (7 February 2006) DNR provided a forecast for 2006/07 following discussions with MDBC. There is a slight adjustment to the total for 2006/07, see Table 5-6.

**Table 5-6 Basis of adjustments to MDBC budget 2006/07 (\$'000)**

Activity Code	Description	Valley Identifier	Original \$'000	Revised \$'000	Difference	% change
C07-06	Living Murray Initiative implementation	MD-03	0	0	0	
C05-02	Basin Salinity Management	MD-02	780	894	-114	-13%
C05-03	Modelling and supporting water delivery	MD-03	385	292	92	32%
C07-17	Protection and enhancement of the Basin shared water resources - (excluding Native Fish Strategy)	MD-02	1,490	1,341	149	11%
C07-17	Coordination and implementation of Native Fish Strategy	MD-03	563	1,179	-616	-52%

C07-17	Improve Environmental and consumptive use outcomes by improved management tools	MD-01	106	89	17	19%
C11-02	Business Development and Improvement	MD-01	80	53	27	50%
C11-03	Administration	MD-01	400	593	-193	-33%
<b>Total</b>			<b>3,803</b>	<b>4,441</b>	<b>-638</b>	<b>-14%</b>

With respect to this information DNR advised (9 February 2006) that:

1. The new budget contains a number of new activities, has deleted some of the original activities and has changed the description of others. The basis of allocation of these activities to WRM or non WRM is as based on the original information.

2. There is no capex related to WRM.

3. Detailed budgets that allow for a dissection of the costs to DNR's activities and water source have been provided for 2006/07. We have provided a table on the forecast worksheet of the changes at a total MDBC level. If it is required to extend the detailed information to 2007/08 - 2009/10, detailed schedules of information similar to that for 2006/07 will need to be obtained from MDBC.

The impact of these adjustments on the total WRM per Valley area is shown in Table 5-7.

**Table 5-7 Amended 2006/07 Total WRM forecast due to MDBC revised budget**

2006/07	WRM total cost –regulated \$'000			WRM total cost- unregulated \$'000			WRM total cost- all groundwater \$'000		WRM total \$'000	
	Original forecast	MDBC adjust	Amended Forecast	Original forecast	MDBC adjust	Amended Forecast	Original forecast	Amended Forecast	Original forecast	Amended Forecast
Border	1,216.0	-	1,216.0	319.0	-	319.0	478.0	478.0	2,013.0	2,013.0
Gwydir	1,323.0	4.5	1,318.5	498.0	6.0	492.0	769.0	769.0	2,590.0	2,579.5
Namoi	1,280.0	1.5	1,278.5	341.0	4.5	336.5	1,164.0	1,164.0	2,785.0	2,779.0
Peel	306.0	1.5	304.5	82.0	-	82.0	286.0	286.0	674.0	672.5
Lachlan	1,882.0	1.5	1,880.5	730.0	13.5	716.5	1,727.0	1,727.0	4,339.0	4,324.0
Macquarie	2,218.0	1.5	2,216.5	721.0	13.5	707.5	2,344.0	2,344.0	5,283.0	5,268.0
Far West	-	-	-	2,674.0	1.5	2,672.5	1,232.0	1,232.0	3,906.0	3,904.5
Murray	8,135.0	6.0	8,129.0	498.0	498.8	0.8	1,415.0	1,415.0	10,048.0	9,543.2
Murrumbidgee	5,436.0	1.5	5,434.5	594.0	76.2	517.8	1,166.0	1,166.0	7,196.0	7,118.3
North Coast	422.0	-	422.0	3,244.0	-	3,244.0	1,264.0	1,264.0	4,930.0	4,930.0
Hunter	882.0	-	882.0	2,034.0	-	2,034.0	1,005.0	1,005.0	3,921.0	3,921.0
South Coast	116.0	-	116.0	4,420.0	-	4,420.0	936.0	936.0	5,472.0	5,472.0
<b>TOTAL</b>	<b>23,216.0</b>	<b>17.9</b>	<b>23,198.1</b>	<b>16,155.0</b>	<b>613.9</b>	<b>15,541.1</b>	<b>13,786.0</b>	<b>13,786.0</b>	<b>53,157.0</b>	<b>52,525.2</b>

Original forecast as per DNR Addendum November 2005  
Adjustment from MDBC advice received 9 February 2006

As a detailed budget for the years subsequent to 2006/7 has not been provided any analysis of the WRM costs to be attributed to NSW is not possible. This is an outstanding issue since it effects users and the Government cost share, and hence the charges proposed.

#### 5.1.11 Funding of CMA work

It is noted that expenditure occurs on CMA work but is not recoverable from water charges.<sup>27</sup> An earlier comment in item 2.2.1 refers to a decision by DNR to exclude CMA WRM activity costs from the current submission. While DNR undertakes some CMA work, the extent of which is difficult to determine, DNR states that the costs are minor and in future it may seek to recover the cost of this "service" from the CMA's. The CMAs are a relatively new arrangement and time will tell if cost recovery occurs.

Government funding of these activities is referenced in the 2005 DIPNR Annual

#### 5.1.12 Depreciation estimation

It was suggested by DNR in the 9 December 2005 workshop presentation to PB Associates that capital is depreciated over the life of the water sharing plans as the assets resulting from the WSP are for the successful implementation of the plan and their continued use after the term of the WSP is uncertain. Therefore a 10 year life has been adopted for new assets.

This is a realistic figure for hydrometric monitoring instrumentation/stations assuming there is no substantial weir pool construction associated with these.

For bores however much longer lives are possible depending on bore type, construction material, depth of bore and ground conditions. The asset register file indicated that bores are depreciated over their anticipated design life which in general is longer than 10 years. It was noted that for bores within 5 years of the "end of design life" the model has adopted a default 5 years remaining. Confirmation of the actual condition of bores and hence estimated remaining service life will enhance the depreciation calculation.

A long term asset replacement forecast is required for future price submissions.

#### 5.1.13 Proposed Expenditures

##### Future WRM expenditures

**PB Associates concludes that, based on DNR's submission and supporting information provided directly to PB Associates it is unable to make a firm recommendation on the allocations proposed as to their efficiency in delivering the many activities listed in the submission.**

Accordingly PB Associates recommends that operational expenditure on WRM activities be modified.

The basis of the modification is to adjust forecasts using the \$ per EFT approach adopted by DNR and re-estimate Operating expenditure using an EFT of 273 as based on 2002/03 and 0203/04 figures. Depreciation<sup>28</sup> is removed before this adjustment and then re-added to allow comparison between DNR's forecast and the new proposal.

<sup>27</sup> DNR's submission, p 61, states activity code C07-12 that "this activity is not recovered from water charges".

<sup>28</sup> Based on figures provided in .DNR document "Assets\_IPART.xls"

The reasons for the recommended adjustment are, in summary:

- The need for DNR to demonstrate efficiency and productivity gains;
- The need to conduct substantial options analysis for delivery of services including testing contestability of many routine tasks and services;
- The need to undertake a risk based assessment of effort within the zero based validation budgeting process, including negotiations with stakeholders about the cost-sensitivity of meeting desired outcomes within various timelines and then achieving an agreement on either willingness to pay (for users) and an acceptance of funding provision in the case of Government.

These issues have not been sufficiently demonstrated in the evidence provided by DNR and are of cause to recommend adjusted expenditure levels.

The resulting proposed expenditures versus those forecast by DNR are shown in Table 5-8.

**Table 5-8 Recommended Operating expenditure**

\$'000 (2005\$)	2006/07	2007/08	2008/09	2009/10	2010/11	Reference
Regulated Rivers	23,215	23,661	22,994	22,131	22,203	
Unregulated Rivers	16,153	16,330	17,456	16,748	16,804	
Groundwater Highly managed	11,690	11,599	11,564	11,554	11,552	
Other Groundwater	2,093	2,286	1,978	1,998	1,979	
<b>Total WRM</b>	<b>53,151</b>	<b>53,876</b>	<b>53,992</b>	<b>52,431</b>	<b>52,538</b>	Submission Addendum (23 Nov 05)
less MDBC	4,441	3,913	3,652	2,965	2,965	Original Submission
less DBBRC	388	388	388	388	388	Original Submission
Forecast Direct EFTs	297	301	302	301	302	Submission Addendum (23 Nov 05) & DNR presentation to PB Assoc'n Dec 2005 includes depreciation of shared assets in the cost overhead from
less shared services (pro-rata-refer to note)	8,987	9,108	9,139	9,108	9,139	ASSET_IPART.xls (8 Dec 2005)
less Regional assets depreciation	1,309	3,769	3,709	3,643	3,572	
<b>Net WRM for Regions (Valleys/waters sources)</b>	<b>38,026</b>	<b>36,698</b>	<b>37,104</b>	<b>36,327</b>	<b>36,474</b>	WRM direct EFTs adjusted from Addendum
Baseline EFTs	257	257	257	257	257	Historical average of 4 yrs 01/02-04/05
WRM Adjusted for direct EFTs	32,872	31,724	32,076	31,404	31,531	
Add MDBC modified	3,803	3,913	3,652	2,965	2,965	DNR advice to PBAssoc (7th February). Other years retained as per original submission in absence of revision by MDBC.
Add back DBBRC	388	388	388	388	388	
Add back depreciation	1,309	3,769	3,709	3,643	3,572	

\$'000 (2005\$)	2006/07	2007/08	2008/09	2009/10	2010/11	Reference
Add shared services (prorata)	7,262	7,262	7,262	7,262	7,262	
Resulting forecast	45,635	47,057	47,087	45,662	45,719	
<b>PB Associates recommendation (rounded)</b>	<b>46,000</b>	<b>47,000</b>	<b>47,000</b>	<b>46,000</b>	<b>46,000</b>	

*Note: Cost of shared services overhead is calculated at \$30.26K per EFT based on advice from DNR to PB Associates (refer elsewhere in this report).*

**PB Associates has not recommended a split of the above forecast on a Region valley and water source basis. We expect that DNR would reallocate its resources on the basis of the finally adopted total WRM budget.**

The amended forecast should be spread uniformly across the WRM programs and regions/valleys in proportion to the original allocations.

### Licence Transactions

Licence cost forecasts were discussed in section 5.1.5. Due to the uncertainty in workload it is recommended that expenditures be trained at historic levels for two years into the price period with a review to be undertaken in the second year as to workload trends and also the outcomes of investigations DNR proposes to undertake to seek to achieve 100% cost recovery for this activity. A new price determination may be generated for the remaining years of the price period with respect to this activity.

**Table 5-9 Recommended Licence Transaction expenditure**

	2006/07 \$'000	2007/08 \$'000	2008/09 \$'000	2009/10 \$'000	2010/11 \$'000
<b>Licence forecast</b>					
Forecast (adjusted by DNR Addendum)	\$11,662	\$11,645	\$11,605	\$11,608	\$11,609
Modified due to DMBC revision (see 5.1.10)	\$10,996	ND*			
PB Associates recommendation	<b>\$8,500</b>	<b>\$8,500</b>	<b>Subject to future review</b>		

\* impacts of future MDBC budgets not yet determined by DNR

## 5.2 FUTURE CAPITAL EXPENDITURE

### 5.2.1 Forecast Expenditure

DNR's capital expenditure is relatively small by comparison with its operating expenditure. The forecast figures over the next five years amount to \$8.7 million. The expenditure is attributed to hydrometric instrumentation and station costs and, installation of groundwater monitoring bores and associated equipment to support WRM activities. Table 5-10 provides details of the proposed capital program.

**Table 5-10 Forecast Capital Expenditure Program<sup>29</sup> (2005\$'000s)**

WRM Capital expenditure		Total Program \$'000	2004/05 \$'000	2005/06 \$'000	2006/07 \$'000	2007/08 \$'000	2008/09 \$'000	2009/10 \$'000	2010/11 \$'000
				IPART 05/06	IPART price period (max)				
Water Extraction Metering and data systems	Commenced 04/05; and ongoing <sup>(footnote)</sup>	9,500	nd	730	1,097	730	730	730	730
Groundwater Monitoring Networks	Completed in 07/08	9,528	807	2,573	3,073	3,075	0		
Corporate data base	Is allocated to each Region. Targeted for completion in 05/06	921	421	500	0	0	0	0	0
Capital - water monitoring network enhancement	Dependant on AWF funding approval <sup>30</sup>	4,000		500	1,000	1,500	1,000		

The funding of the ongoing operating & maintenance of the water monitoring network enhancement program should the AWF application be successful, will be from State recurrent funds, & recoverable on the same basis as the existing network.

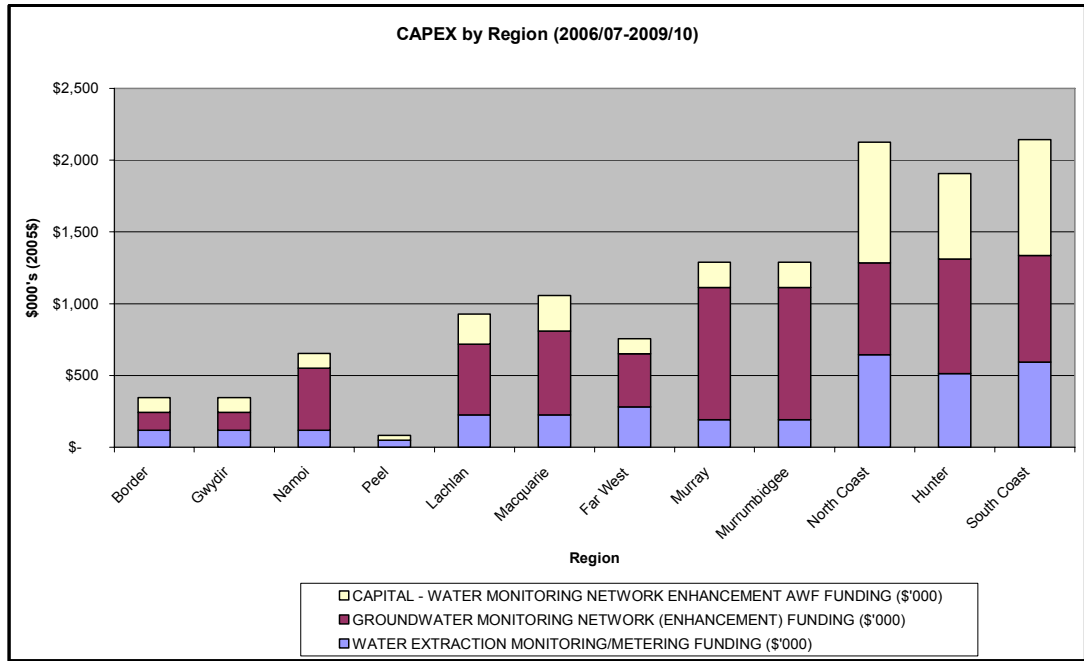
Figure 5-4 shows the total expected capital expenditure by Region

<sup>29</sup> PB Associates notes that the forecast capital expenditures in Table B1 have transposed figures when compared with the figures provided by DNR in spreadsheet file "ASSETS\_IPART.xls". Also this file suggests that the "metering and data systems Capital expenditure will continue into 2009/10 and beyond at the same levels. PB Associates has adopted the File figures.

<sup>30</sup> Refer to DNR Submitted Addendum 23Nov 2005



**Figure 5-4 Capital Expenditure by Region**



The distribution of the proposed Capital expenditure by program and valley is shown in Table 5-11 for each of the main programs.

The tables show the allocation within each program to unregulated rivers and groundwater resources, including the sought after Australian Water Fund (AWF)<sup>31</sup> funded Network enhancement program.

<sup>31</sup> part of the National Water Initiative (NWI) program

**Table 5-11 Capital Expenditure by program and Valley for years 2005/06 to 2009/10**

	WATER EXTRACTION MONITORING/METERING FUNDING (\$'000)											
	2005/06		2006/07		2007/08		2008/09		2009/10		UNREG	TOTAL
	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW		
Border	\$ 18	\$ 9	\$ 26	\$ 13	\$ 40	\$ 18	\$ 9	\$ 18	\$ 9	\$ 26	\$ 18	\$ 27
Gwydir	\$ 18	\$ 9	\$ 26	\$ 13	\$ 40	\$ 18	\$ 9	\$ 18	\$ 9	\$ 26	\$ 18	\$ 27
Namoi	\$ 18	\$ 9	\$ 26	\$ 13	\$ 40	\$ 18	\$ 9	\$ 18	\$ 9	\$ 26	\$ 18	\$ 27
Peel	\$ 8	\$ 3	\$ 11	\$ 5	\$ 18	\$ 8	\$ 3	\$ 8	\$ 3	\$ 11	\$ 8	\$ 11
Lachlan	\$ 34	\$ 16	\$ 50	\$ 25	\$ 77	\$ 34	\$ 16	\$ 34	\$ 16	\$ 50	\$ 34	\$ 50
Macquarie	\$ 34	\$ 16	\$ 50	\$ 25	\$ 77	\$ 34	\$ 16	\$ 34	\$ 16	\$ 50	\$ 34	\$ 50
Far West	\$ 42	\$ 21	\$ 63	\$ 32	\$ 94	\$ 42	\$ 21	\$ 42	\$ 21	\$ 63	\$ 42	\$ 63
Murray	\$ 29	\$ 14	\$ 43	\$ 21	\$ 64	\$ 29	\$ 14	\$ 29	\$ 14	\$ 43	\$ 29	\$ 43
Murrumbidgee	\$ 29	\$ 14	\$ 43	\$ 21	\$ 64	\$ 29	\$ 14	\$ 29	\$ 14	\$ 43	\$ 29	\$ 43
North Coast	\$ 95	\$ 48	\$ 144	\$ 73	\$ 215	\$ 95	\$ 48	\$ 95	\$ 48	\$ 144	\$ 96	\$ 144
Hunter	\$ 76	\$ 38	\$ 114	\$ 58	\$ 171	\$ 76	\$ 38	\$ 76	\$ 38	\$ 114	\$ 76	\$ 114
South Coast	\$ 89	\$ 44	\$ 133	\$ 66	\$ 199	\$ 89	\$ 44	\$ 89	\$ 44	\$ 133	\$ 88	\$ 131
	\$ 487	\$ 243	\$ 730	\$ 366	\$ 1,097	\$ 487	\$ 243	\$ 490	\$ 240	\$ 730	\$ 490	\$ 730

GROUNDWATER MONITORING NETWORK (ENHANCEMENT) FUNDING (\$'000)

	GROUNDWATER MONITORING NETWORK (ENHANCEMENT) FUNDING (\$'000)											
	2005/06		2006/07		2007/08		2008/09		2009/10		UNREG	TOTAL
	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW		
Border	\$ 32	\$ 61	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62
Gwydir	\$ 32	\$ 61	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62	\$ 62
Namoi	\$ 129	\$ 184	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246
Peel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lachlan	\$ 193	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246
Macquarie	\$ 193	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246
Far West	\$ 129	\$ 184	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246	\$ 246
Murray	\$ 322	\$ 430	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492
Murrumbidgee	\$ 322	\$ 430	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492	\$ 492
North Coast	\$ 386	\$ 369	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271	\$ 271
Hunter	\$ 386	\$ 430	\$ 369	\$ 369	\$ 369	\$ 369	\$ 369	\$ 369	\$ 369	\$ 369	\$ 369	\$ 369
South Coast	\$ 450	\$ 430	\$ 314	\$ 314	\$ 314	\$ 314	\$ 314	\$ 314	\$ 314	\$ 314	\$ 314	\$ 314
	\$ 2,573	\$ 3,073	\$ 3,075	\$ 3,075	\$ 3,075	\$ 3,075	\$ 3,075	\$ 3,075	\$ 3,075	\$ 3,075	\$ 3,075	\$ 3,075

CAPITAL - WATER MONITORING NETWORK ENHANCEMENT AWF FUNDING (\$'000)

	2005/06		2006/07		2007/08		2008/09		2009/10	
	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW
Border	13.5	1.5	15.0	3.0	30.0	40.5	4.5	27	3	30
Gwydir	13.5	1.5	15.0	3.0	30.0	40.5	4.5	27	3	30
Namoi	13.5	1.5	15.0	3.0	30.0	40.5	4.5	27	3	30
Peel	4.5	0.5	5.0	1.0	10.0	13.5	1.5	9	1	10
Lachlan	27.0	3.0	30.0	6.0	60.0	81.0	9.0	54	6	60
Macquarie	31.5	3.5	35.0	7.0	70.0	94.5	10.5	63	7	70
Far West	13.5	1.5	15.0	3.0	30.0	40.5	4.5	27	3	30
Murray	22.5	2.5	25.0	5.0	50.0	67.5	7.5	45	5	50
Murrumbidgee	22.5	2.5	25.0	5.0	50.0	67.5	7.5	45	5	50
North Coast	108.0	12.0	120.0	24.0	240.0	324.0	36.0	216	24	240
Hunter	76.5	8.5	85.0	17.0	170.0	230.0	25.0	153	17	170
South Coast	103.5	11.5	115.0	23.0	230.0	310.0	35.0	207	23	230
	<b>450</b>	<b>50</b>	<b>500</b>	<b>100</b>	<b>1000</b>	<b>1350</b>	<b>150</b>	<b>900</b>	<b>100</b>	<b>1000</b>

The AWF funded program is designed to renew or create 178 new monitoring points. The initiative has commensurate operations expenditure amounting to \$7.4 million over the 6 year period 2005/06 to 2010/11 as follows:

OPERATING - WATER MONITORING NETWORK ENHANCEMENT FUNDING (\$'000)

	2005/06		2006/07		2007/08		2008/09		2009/10		2010/11	
	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW	UNREG	GW
Border	5.5	0.5	16	2	18	36	43	5	48	51	6	57
Gwydir	5.5	0.5	16	2	18	36	43	5	48	51	6	57
Namoi	5.5	0.5	16	2	18	36	43	5	48	51	6	57
Peel	2	0	2	1	6	12	14	2	16	17	2	19
Lachlan	10	2	32	4	36	72	86	10	96	102	12	114
Macquarie	12.5	1.5	38	4	42	84	100	12	112	120	13	133
Far West	5.5	0.5	16	2	18	36	43	5	48	51	6	57
Murray	9	1	27	3	30	60	72	8	80	85	10	95
Murrumbidgee	9	1	27	3	30	60	72	8	80	85	10	95
North Coast	43	5	130	14	144	288	345	39	384	410	46	456
Hunter	31	3	90	12	102	204	254	28	282	290	33	323
South Coast	41	5	124	14	138	276	320	38	358	393	44	437
	<b>179.5</b>	<b>20.5</b>	<b>537</b>	<b>63</b>	<b>600</b>	<b>1200</b>	<b>1435</b>	<b>165</b>	<b>1600</b>	<b>1706</b>	<b>194</b>	<b>1900</b>

Some particular issues arising from PB Associates' assessment of forecast future capital expenditure are outlined in the following sections.

### **5.2.2 Consequential Recurrent costs from additional capital works**

DNR proposes to allow additional operating expenditure of \$1.24 million (in 2006/07) or 2.3% of the total WRM operating costs in support of the Government funded capital program.

PB Associates queried whether this was attributed appropriately, on the basis that if this was internal costs associated with creation of the assets (bores, monitoring stations), then this should be capitalised and only the depreciable amount included in the WRM estimate under the building block approach, or because each asset is a small cost and could be expensed.

PB Associates sought clarification of this treatment and DNR has advised that: *"Whilst the capital program is Government funded and not recoverable from users, the costs associated with the operations and data gathering from these assets is recoverable and this allowance covers these costs. It represents the recurrent cost of running the additional capital assets installed. DNR has recorded it separately to the existing WRM recurrent activity for existing assets."*

PB Associates accepts this arrangement.

### **5.2.3 Confidence of Estimated Capital costs**

Details of the number of assets being created under the expenditure program were not provided apart from the proposed enhanced program to be funded by the AWF grant (if successful).

The assets being procured are either instrumentation with well established prices in the market place or relatively simple constructions. There is a long history of installations of hydrometric and bores and costs are known leading to reliable estimation. Thus whilst the detail of the programme is unclear we have some confidence that the estimates are appropriate.

### **5.2.4 Recommended Capital expenditure**

The Capital expenditure program is relatively small and involves on going improvements to the monitoring network especially for groundwater. PB Associates is satisfied that the proposed capital expenditure levels are prudent and efficient.