

Policy, Strategy, Research & Innovation (PSRI)

Consulting Spend Context

The objectives of the Policy, Strategy, Research and Innovation group are to:

- Define Objectives and Targets for Asset Performance (Strategic Asset Management)
- Develop Evaluation Frameworks to evaluate whether objectives and targets are achieved
- Identify risks and develop strategic responses
- Implement research and innovation for operational efficiency

FY14 and FY15 Reconciliation

The table below presents the full PSRI Team consultancy spend (including natural account 522207 - Consultancy – Others) on a like-for like basis, that is including items which are in the FY14 actual data but are now captured under consultancies in FY15. Importantly some of these line items are discontinued in FY15 (ie, no double-counting).

WSSP - Water Policy, Strategy, Research and Innovation	\$ nominal			Comments
	FY14A	FY15 Q1	Change	
522207 - Consultancy - Others	138,976	1,965,797	1,826,821	FY15 includes FY14 items of 522238 - Consultancy - Strategy Planning, 522251 - Consult-Env - Specialist research, 522255 - Consult-Env - Modelling and optimisation, 522056 - WQEM - Aquatic Ecology, 530002 - Seqwater Partnership, 522203 - Contractor Others (total of \$1,804,092 in FY14).
522210 - Consultancy - Water Quality		50,000	50,000	FY15 was item 522254 - Consult-Env - Statistical advice in the FY14 actuals.
522213 - Consultancy - Engineering	15,429	109,602	94,173	FY15 includes FY14 item 522250 - Consult-Env-Integrated social, econ.
522217 - Consultancy – Natural Assets		27,804	27,804	FY15 includes part of FY14 item 522219 - Consultancy – Asset Management Planning.
522219 - Consultancy – Asset Management Planning	79,055		-79,055	
522230 - Consult-Eng - Asset Management		55,000	55,000	FY15 includes part of FY14 item 522219 - Consultancy – Asset Management Planning.
522238 - Consultancy - Strategy Planning	119,122		-119,122	
522240 - Consultancy - Economic & Regulatory	11,600		-11,600	
522241 - Consult-Economic and Financial Modelling		85,000	85,000	FY15 includes FY14 items of 522240 - Consultancy - Economic & Regulatory, 522243 - Consult-Economic Services.
522243 - Consult-Economic Services	9,120		-9,120	
522244 - Consult-Benchmarking & Engineering Cost		40,000	40,000	FY15 was item 522260 - Consult-Env - WTP technology in the FY14 actuals.
522250 - Consult-Env-Integrated social, econ.	129,039		-129,039	
522251 - Consult-Env - Specialist research	77,000		-77,000	
522253 - Consult-Env - Env. sustainability		30,000	30,000	FY15 was item 522259 - Consult-Env - Urban & regional planning in the FY14 actuals.
522254 - Consult-Env - Statistical advice	109,000		-109,000	
522255 - Consult-Env - Modelling and optimisation	36,000		-36,000	
522257 - Consult-Env - Aquatic ecology	86,100	225,000	138,900	FY15 includes FY14 item 522014 - Minor Materials and Consumables.
522259 - Consult-Env - Urban & regional planning	11,000		-11,000	
522260 - Consult-Env - WTP technology	40,000		-40,000	
522056 - WQEM - Aquatic Ecology	100,000		-100,000	
530002 - Seqwater Partnership	1,150,606		-1,150,606	
522014 - Minor Materials and Consumables	28,002		-28,002	
522203 - Contractor Others	210,390		-210,390	
Grand Total	2,350,439	2,588,203	237,764	
Net change (nominal)			10.1%	
Natural account codes consolidated on a like-for-like basis				
522207 - Consultancy - Others	1,832,094	1,965,797	133,703	
522210 - Consultancy - Water Quality	109,000	50,000	-59,000	
522213 - Consultancy - Engineering	144,468	109,602	-34,866	
522217 - Consultancy – Natural Assets	26,545	27,804	1,259	
522230 - Consult-Eng - Asset Management	52,510	55,000	2,490	
522241 - Consult-Economic and Financial Modelling	20,720	85,000	64,280	
522244 - Consult-Benchmarking & Engineering Cost	40,000	40,000	0	
522253 - Consult-Env - Env. sustainability	11,000	30,000	19,000	
522257 - Consult-Env - Aquatic ecology	114,102	225,000	110,898	
Grand Total	2,350,439	2,588,203	237,764	
FY14A to FY15 Q1 Reconciliation				
Inflation (@2.25%)		52,885		
Seqwater recommended reductions:				
Research Partnership Overhead		50,000		
Catchment Condition Assessment		30,000		
530003 - Grants Expense (FY14A reporting error)	80,000			
Revised totals (like-for-like basis)	2,430,439	2,455,318	24,879	
Net change (real)			24,879	
Net change (real)			1.1%	

On a total, like-for-like basis, PSRI consultancies is forecast to increase by 10% (nominal) in FY15. Drivers for this overall increase are discussed below. Specifically addressing natural account 522207

- Consultancy – Others, the \$1.83M increase is reduced to \$0.1M or 7% nominal, once values are reconciled on a like-for-like basis.

Note the table above also outlines a reconciliation of FY14A to FY15 Q1 forecast expenditure on a total basis for the PSRI Team. The rationale behind this is discussed below.

FY15 Justification

The narratives below address the drivers and justifications for the \$237k (nominal) increase in total PSRI Team consultancy costs. The following documents are attached in support of specific elements of the forecast expenditure:

- Research Partnership Agreement - Griffith University and the University of Queensland: Strategic Research Partnership Contract executed 100611
- Non-indigenous Cultural Heritage Strategy (final draft)
- Value of Research Survey 2013
- Independent consultant review of value of a sample of research projects: Final report GHD research portfolio evaluation
- 2014-15 Research Partnership Workplan: Annual Work Plan 2014_2015 Final Signed (Partnership)
- Independent consultant review of value of international research expenditure: GreenIce report to Support WSAA research strategy

Research Partnership Overhead: The Research Partnership agreement (refer attachment) allows for a cap on overhead of \$300,000 and a planning budget of \$100,000, hence the FY15 forecast was \$400,000. This cap was not reached in FY14 and after 5 months in FY15 it is unlikely this will be reached in FY15 either (based on the detailed business cases completed for individual projects and subsequent agreement in the Annual Workplan- refer Annual Workplan 2014-2015 Final Signed which contains detailed justification for each project - with the list of business cases for all projects and file references below). Given Seqwater has the opportunity in the draft QCA response phase to lower costs, it hence recommends a reduction of \$50,000 to natural account 522207 - Consultancy – Others for FY15. This reduction in overhead is likely to be a permanent saving in the budget going forward as Seqwater seeks to cap research performed under the partnership (note this overhead was also allocated to the 522207 consultancy other in the FY15 budget and to 530002 Seqwater Partnership in the FY14 actuals).

AWP Project No.	Project Title	Partner	Cash Contributions	TRIM Reference for Business case
Strategic Planning Process				
1	Strategic planning	UQ, GU	\$75,000	No business case – this is a non-negotiable amount agreed in the header agreement with specific deliverables agreed in workplan each year
Program 1: Partnering				
2	Assessing, understanding and influencing customer perceptions of water quality	UQ, GU	\$30,000	D14/87082 AWP2 Business Case (PSRI) Assessing, understanding and influencing customer perceptions of water quality 30/7/2014 at 9:23 AM Yee, Shion
Program 2: Productivity				

AWP Project No.	Project Title	Partner	Cash Contributions	TRIM Reference for Business case
3	Intelligent data mining of VPS readings to predict Mn concentrations in water reservoirs	GU	\$50,000	D14/87382 AWP3 Business Case (PSRI) Intelligent Data Mining of Vertical Profiler Readings to Predict Manganese Concentrations in Water Reservoirs 30/7/2014 at 2:12 PM Gale, Deb
4	Riverbank Filtration and Biological Treatment	UQ	\$27,650	D14/87450 AWP4 Business Case (PSRI) Riverbank biofiltration and biological treatment 30/7/2014 at 2:44 P Gale, Deb
5	Optimise DBP formation control	UQ	\$218,217	D14/87758 AWP5 Business Case (PSRI) Optimise DBP formation control 30/7/2014 at 3:15 PM Gale, Deb
Program 3: Water Supply Assets				
6.1	Optimising Fishway Operations and Water Storage Management Regimes - Alternative flow release scenarios	GU	\$25,000	D14/90125 AWP6 Business Case (PSRI) Optimising Fishway Operations and Water Storage Management Regimes 6/8/2014 at 9:36 AM Roberts, David T
6.2	Optimising Fishway Operations and Water Storage Management Regimes - Migratory Responses to Flow	UQ	\$35,000	
Program 4: Safe Secure Water				
7	Quantification of reservoir storage capacity	UQ	\$101,457	D14/87778 AWP7 Business Case (PSRI) Quantification of reservoir storage capacity 31/7/2014 at 10:45 AM Gale, Deb
8.1	Ecological Engineering Options – Mid Brisbane raw water quality deterioration	GU	\$30,000	D14/87698 AWP8 Business Case (PSRI) Ecological Engineering - Raw Water Improvement Options 31/7/2014 at 9:03 AM Roberts, David T
8.2	Ecological Engineering Options – Reservoir draw down effects on raw water quality	GU	\$60,000	
9	Turbidity and particle size distribution related to treatability	UQ	\$59,973	D14/87728 AWP9 Business Case (PSRI) Turbidity and particle size distribution related to treatability 31/7/2014 at 9:25 AM Gale, Deb
10	Predicting events that are likely to cause significant turbidity issues in the Mt Crosby catchment	GU	\$61,653	D14/87752 AWP10 Business Case (PSRI) Predicting events that are likely to cause significant turbidity issues in the Mt Crosby Catchment 31/7/2014 at 10:23 AM Smolders, Kate
Program 5: Catchment and Environment Services				
11	Lungfish management plan research -	GU	\$20,000	14/87028, AWP11 Business

AWP Project No.	Project Title	Partner	Cash Contributions	TRIM Reference for Business case
	Lungfish breeding failure risk assessment			Case (PSRI) Lungfish Management Plan Actions 29/7/2014 at 4:28 PM Roberts, David T
12	Geomorphology and groundwater-surface water interactions in the Mid Brisbane River	GU	\$104,244	D14/91246 AWP12 Business Case (PSRI) Geomorphology and groundwater-surface water interactions in the Mid Brisbane River: the relationship with water quality 8/8/2014 at 12:32 PM Smolders, Kate
13	Catchment management actions to reduce diffuse pollutants (nitrogen and phosphorous)	GU	\$129,507	D14/87731 AWP13 Business Case (PSRI) Management actions to reduce diffuse pollutants and improve channel stability 31/7/2014 at 9:45 AM Smolders, Kate
14	Predicting the carbon sequestration associated with catchment and riparian revegetation programs	UQ	\$18,681	D14/87737 AWP14 Business Case (PSRI) Predicting the carbon sequestration associated with catchment and riparian revegetation programs 1/7/2014 at 10:00 AM Simms, Ava
	Overhead (25%)	UQ	\$128,370	Total overhead \$261,596
		GU	\$133,226	
Total			\$1,307,977 Breakdown: GU: \$666,129 UQ: \$641,848	

Table 1: List of research projects agreed to in the Annual Research Workplan and business case references

Watershed Modelling and Catchment Condition Assessment: Due to lack of rain during FY14 the bulk of the measurements forecast for FY14 could not be performed and expenditure was a mere fraction of what was budgeted. \$30,000 was forecast under natural account 522207 consultancy other for FY15 but due to the restructuring of the catchment teams and accountabilities this work is being reviewed and will be done (if it continues) within the new source protection planning unit. Owing to this uncertainty and continuing internal cost efficiency drives Seqwater recommends this \$30,000 be a permanent saving until/if demonstrated otherwise. Note the expenditure item in FY14 was under natural account 522014- Minor Materials and Consumables. In the FY15 Q1 forecast it was allocated against 522207 - consultancy other to be consistent with how other research activities were assigned.

Implement European Cultural Heritage Strategy: A significant portion of the difference in consultancy expenditure between FY14 actuals and the FY15 forecast (\$77,000) for the 522207 - Consultancy – Others natural account is due to delays in implementing expenditure on developing cultural heritage manuals and cultural heritage surveys. The delay was due to additional consultation that was required to get the policy approved and due to lack of resources as a position in the team was not filled. This is a one-off activity and will not be a recurring expenditure however an amount of \$50,000 has been allowed for in the FY16 to complete a cultural heritage management plan. This will again be budgeted under the “consultancy other” category as there is no other category for cultural heritage consultancy work. Following delivery of the manuals, surveys (FY15) and management plan

(FY16), the management of European Cultural Heritage will be operationalised and this will not be a recurring element of PSRI Team expenditure. Prudence and efficiency of this expenditure is supported by the Non-indigenous cultural heritage strategy (attachment 1), refer Table 8 for implementation plan actions, note the document is in final draft, pending Executive approval).

Research Grants: Actual expenditure for FY14 included an amount of \$80,000 allocated to 530003 - Grants Expense. This expenditure was not submitted to the QCA because it was viewed as cost neutral expenditure because Seqwater obtains collaborative funding from the Australian Research Council (ARC- Federal Government) for the three projects for which expenditure was allocated under this account code. This was an error as Seqwater makes cash contributions (recurrent for 3 years with the first payment being in FY14 continuing to FY16). Seqwater has entered into 3-year contracts for this funding.

In the FY15 budget this expenditure was also budgeted against 522207 - consultancy other. The reason this was done was to reflect the nature of the funding agreement which reverted in FY15 to an arrangement where all the Seqwater contribution being directed to a third party research organisation, with the ARC co-funding also being directed to the same third party, and therefore not entering the Seqwater books.

Separately contracted research: Approximately \$400k of the \$1.83M forecast for FY15 under natural account 522207 - Consultancy – Others is for research expense contracted separately (external to the partnership agreement) and which is co-funded by the Australian Research Council (ARC). These projects and their financial commitments and approximate end dates (plus supporting documentation) demonstrating Seqwater's commitments is shown below.

Project Title	Seqwater FY15 contribution	Contract agreement of commitment reference
An integrated approach to coagulant application in urban water systems	\$50,000 (annual until FY17)	D13/75552 Linkage Project LP140100386 - Ferric recycling / Integrated coagulation - memo of support 14/117857 Signed letter of support for integrated coagulant recycling project
On-line monitoring of cyanobacteria to predict coagulant doses and powdered activated carbon application in water treatment	\$30,000 (until FY16)	D14/28985 Linkage Project LP130100033 - Final partner agreement - All counterparts
Innovative approaches to understanding and limiting the public health risks of Cryptosporidium and Giardia in animals in Australian catchments	\$25,000 (annual until FY15)	01555 -ARC Linkage Project Collaboration Agreement - Final (Una Ryan) (inc annexures) Signed Letter of Support for HBT ARC
The big flood: Will it happen again?	\$60,000 (annual until FY15)	D14/11662 Full contract ARC Linkage the big flood will it happen again
Can we see the wood for the trees? Effective restoration strategies in rapidly changing subtropical river systems	\$120,000 (annual until FY17)	D14/11652 Business Case ARC Linkage Proposal: Can we see the wood for the trees? Effective restoration strategies in rapidly changing subtropical river systems D14/12024 Signed letter of support ARC Linkage: Can we see the wood for the trees?
Have we already lost the Australian Lungfish	\$100,000 (annual until FY15)	D14/67148 20140313 Signed Contract Execution Seqwater Jim Pruss ARC Linkage Agreement
Adaptive ecotyping of the toxic cyanobacteria to predict its invasive capacity	\$20,000 (annual until FY15)	D14/3868 Cyano ARC LP130100311 Neilan Research Agreement fully signed

In some cases Seqwater has signed a collaboration agreement and in other cases has executed a letter of commitment with contracts currently in draft.

Summary

For natural account 522207 - Consultancy – Others in the PSRI Team, \$1,693,118 of the apparent \$1,826,821 growth in this natural account (93%) arises from natural account code classifications. Of the remaining \$133,703 increase, \$80,000 is due to natural account 530003 - Grants Expense not being reported correctly in the FY14 actuals while Seqwater is recommending a further \$80,000 reduction owing to internally identified cost reduction arising from the opportunity presented by the draft QCA response phase. On this basis natural account 522207 - Consultancy – Others in the PSRI Team is decreasing by \$26,297 (nominal) over the FY14 actual to FY15 Q1 forecast period.

Post FY15 Forecast

Consultancy Expenditure Forecast

Because of the nature of the team's objectives the type of consultancies or research agencies used to inform the strategies, policies and objectives that need to be developed will change over time depending on the strategic risks and gaps identified. Therefore, it is not appropriate to expect recurrent expenditure in exactly the same consultancy categories. As a reasonable forecast to future years it is expected that the expenditure of consultancies (non-research) will remain at a similar level to that of the expenditure in FY14, but that the nature of the consultancy expenditure will change over time.

Research Expenditure Forecast

Similarly, research may be contracted using different mechanisms. Seqwater has engaged in a 5-year partnership with Griffith University and the University of Queensland in 2011 to conduct research to support strategic asset management decisions as well as improve operational performance. During FY14 Seqwater pursued different mechanisms for delivery of research projects, principally driving greater flexibility in contracting of research activities to specific service providers to increase efficiency of spend in an environment of downward pressure on costs. This is reflected in the FY15 budget where all research expenditure was allocated to the 522207 - Consultancy – Others category (ie, not specifically to 530002 - Seqwater Partnership).

Benchmarking

Seqwater employs research to identify risks, develop appropriate responses (and then capturing these in strategies and policies), develop quantifiable targets and evaluation method to measure if risks are addressed and also to inform strategies to increase operational efficiency. Examples of research contracted in F15 are:

- Measuring reservoir storage capacity using novel technologies which will allow for more rapid and accurate assessment of our critical storage capacities;
- Quantifying the treatment efficiency improvement that can be gained through biofiltration to off-set water treatment cost;
- Quantifying the effectiveness of restoration of natural systems to prevent increasing loads of silt and other contaminants from entering our water treatment systems with impacts on operational cost and capacity of treatment.

Research is regarded as an essential component of expenditure to support risk management in large utilities such as Seqwater that provides critical services, with failure potentially having severe implications to public health, in a highly regulated environment. Research and benchmarking conducted in 2010 and 2013 by the Water Services Association of Australia showed that Seqwater's

expenditure in 2013 on research as a portion of revenue (0.32%) were well within the benchmark of similar utilities (note the qualifier regarding bulk service providers) in Australia (refer attached file Value of Research Survey 2013). Further, a review by an independent consultant found that a realistic expenditure on research internationally for similar utilities is 1% of revenue, rather than the average of 0.27% found for Australian water utilities in 2013 (refer attached file D14/150781 GreenIce report to Support WSAA research strategy).

Since Seqwater is operating in a financially constrained environment this level of expenditure will be difficult to justify. Seqwater therefore is developing a revised approach to contracting research which will aim to reduce the total budget of research to around 0.2% of revenue over the long term.

Summary

Seqwater recommends that the FY15 Q1 forecast for natural account 522207 - Consultancy – Others be reduced by \$80,000 owing to internally identified savings opportunities:

- Research Partnership Overhead: \$50,000
- Watershed Modelling and Catchment Condition Assessment: \$30,000