

# Aquaculture Cost Recovery Review

REPORT FOR THE DEPARTMENT OF PRIMARY INDUSTRIES AND  
REGIONS SOUTH AUSTRALIA

**SG Heilbron Economic & Policy Consulting**

February 2023

S G Heilbron Pty Ltd  
ABN 45 050 279 966

Unit 1, 113 Ormond Esplanade  
Elwood VIC 3184

Telephone: +61 418 548 099  
Email: [selwyn@bigpond.net.au](mailto:selwyn@bigpond.net.au)

## Table of Contents

Executive Summary.....	3
Introduction.....	7
Review and analysis .....	9
The proposed approach.....	11
Conclusions .....	17

## Executive Summary

The current system of recovering the costs of regulating aquaculture in South Australia (SA) is complex, resource-intensive and hence expensive to administer and can cause disputation with industry about the level of charges and how they are calculated.

The economic rationale for cost recovery has been based on concepts which may be clear in theory (although this too can be overstated) but are much less so in practice. The rationale had two aspects – cost recovery would maximise efficiency (giving signals to the governments and users to allocate resources) and equity (the notion that private beneficiaries of public services and resources should pay the full costs of delivering or regulating them).

But clearly demarcating private from public benefits and beneficiaries can be difficult. Signals to users of services have limited value if the services are provided by government as a monopoly and being required to pass on the full costs of the services provides little incentive for efficiency by government agencies. The most economically rational system would be to charge only the marginal cost of services, but this is difficult to calculate in practice and would result in significant revenue gaps for governments, which have become highly dependent on an activity-based cost recovery for their finances.

Whilst the aim of most cost recovery systems is to recover the full costs of activities, in practice less than full costs are commonly recovered. But in practice the biggest problems have been the increasing complexity and resource intensity of administering the system, and the conflicts generated with industries over the size and basis of the charges. In the South Australian aquaculture industry, the costs of all people, equipment and services are allocated in great detail to all the sectors, albeit some costs are excluded, and only direct costs are allocated (unlike for fisheries). This is a legacy of cost recovery being initiated decades ago when the aquaculture industry was embryonic, and it was considered it had an incapacity to pay full costs.

The current system has led to regular tension and disaffection between government and industry, partly reflecting opposition to paying for services that some industry members would consider have already been paid for by their taxes, such as compliance. There has been pressure by industry on government for increasing transparency about the basis for the costs they are charged. However, there are limits to how transparent government can be in relation to for example, the salaries of officials or underlying corporate agency costs which form the major costs being recovered. Yet this is what industries probably need to know more than anything to understand the models on which charges are based.

The South Australian aquaculture cost recovery approach has been reviewed multiple times, but these reviews have generally focussed on incremental improvements rather than assessing the underlying economic rationale and its practical implications. In fact, because of these problems, other jurisdictions (Western Australia) have moved to a system whereby industries pay a fee for accessing common resources in the form of a percentage of the industry Gross Value of Production (GVP) to cover regulatory costs or a lease fee.

A GVP system means the risks associated with varying industry conditions are shared between industry and government. It means government has to plan for periods when industry GVP and hence receipts decline. But it equally means government receives clear signals on the need for efficiency in service provision and is able to use the funds strategically and not entirely for the benefit of the industry who paid them.

This Review describes the way in which a GVP percentage approach could be applied in the South Australian aquaculture industry. The impacts for government and industry are identified through modelling of forecast costs that would be recovered under the current system and forecast GVP.

A Business as Usual (BAU) scenario would see the continuation of the current cost recovery system, calculated on the basis of the costs increasing over the 2023/24 to 2025/26 period as forecast by the Department of Primary Industries and Regions (PIRSA) and including an assumed inflation uplift of 2.5 per cent, and industries' GVP forecasts based on estimates derived from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES). This scenario would see the aquaculture industry paying an average of \$1.6 million a year in costs recovered, equivalent to around 0.7 per cent of GVP. In recent years the costs recovered from aquaculture have been the equivalent of around the same proportion of GVP (i.e. 0.7 per cent).

With the introduction of a GVP system, a forecast of GVP times 1.1 per cent for aquaculture has been applied from 2023/24 to 2025/26 to demonstrate how the GVP model could be implemented for a 3-year period. The aquaculture figure reflects the fact that initially only direct costs were recovered by government from what was considered to be an embryonic industry, whereas direct as well as indirect and corporate costs have been recovered from fisheries. This legacy has continued despite the aquaculture industry currently generating nearly as much GVP as fisheries (e.g. GVP in 2020/21 – aquaculture \$200m; fisheries \$209m).

A possible future GVP approach of 1.1 per cent would place aquaculture on a more even footing relative to fisheries in terms of the percentage of costs recovered, whilst still leaving that percentage lower than the fisheries' level (in recent years 5.4 per cent). It should also be noted that there are significant differences in the payments that different sectors within the industry would pay under the BAU scenario. Costs recovered measured as an equivalent of GVP, for example historically Oysters have paid around 1.5 per cent and Mussels 2.1 per cent while the other sectors have paid only around 0.5 per cent. In the forecast period 2023-24 to 2025-26, these disparities would remain, with Oysters and Mussels percentages of GVP remaining well above the others relative to GVP.

It should be noted that the figures used for costs recovered in this analysis are those that are applied to industries, less co-management and Fisheries Research and Development Corporation (FRDC) costs. In the case of the aquaculture industry, government accounts for around 49 to 53 per cent and industry 47 to 51 per cent (compared to fisheries where industry account for 57 to 60 per cent of the costs). The lower industry contribution in aquaculture than in fisheries needs to be seen in the context that, as is noted above, only direct costs are recovered from aquaculture, whereas direct as well as indirect and corporate costs are recovered from fisheries.

In contrast, applying a GVP using 1.1 per cent (government services only) see aquaculture as a whole pay around \$1 million more per year than would have been the case using the amounts forecast to be recovered under the BAU cost recovery system

There would also be some sectors that would pay more than would otherwise have been the case under the BAU scenario and some that would pay less. For aquaculture, those sectors that would pay more on an annual average basis are Tuna (\$0.7m more), Finfish (\$0.1m more), Abalone (\$0.2m more) and Oysters (\$0.008m more), whilst Mussels would pay less (\$0.04m less).

The potential approach can be phased in by implementing it over a longer period than in the method above, in order to delay the impact on those sectors that would pay more. However, it should be noted that some sectors gain, and some sectors lose relative to the 2018/19 to 2022/23 period and delaying the implementation delays the reductions in payments for those sectors that will pay less, as well as delaying the increases for those sectors that will pay more.

In terms of addressing the issue of those who will pay more than would have been the case historically, the government might:

- Delay the application of the system in respect of one or more of those sectors which will pay more. The disadvantage of this approach is that if all these sectors (which will pay more) are charged discounted amounts the foregone recoveries to government will total up to around \$0.3 million a year for aquaculture each year over the period 2023/24 to 2025/26 compared with what would have been revenues to government if the GVP system was applied with no delays for those paying more. Relative to the BAU scenario, phasing in the increases over a 3-year period would mean aquaculture paying around \$0.7 million a year more.
- In addition, a three-year moving average of historical GVP could be used to calculate industry payments instead of a single year. This would have the effect of smoothing out volatility in the amounts paid by industry but also more significantly smooth out volatility in government revenues resulting from an unexpected sharp drop in GVP. Relative to BAU, aquaculture would pay \$0.3 million more under this approach (phasing in the increases over a 3-year period).

The potential approach modelled herein is therefore one of payments based on the percentage of GVP identified above with a 3-year phasing in of the percentage GVP for those sectors that will pay increased amounts under the system and application of a three-year moving average of historical GVP.

This balances the impacts between sectors within the industries concerned, and between industry and government. The impacts on industry payments and government revenues flowing from application of this potential approach system are outlined in the Review.

Maintaining the current cost recovery system entails the following risks:

- As costs of regulation continue to rise some sectors may find they are increasingly unable to afford the charges. This is especially likely to be the case in those sectors adversely affected by the impacts of COVID (e.g. through higher costs of labour) and/or trade restrictions (e.g. on exports to China). The same would apply if the current high inflationary environment was to persist and be reflected in higher costs recovered with all other factors remaining unchanged.
- The level of disputation and disaffection with the current system is likely to continue and increase, as those charged increasingly question the costs being recovered in more and more detail.
- The costs to government in terms of officers responsible for maintaining the cost recovery system are likely to continue rising.
- The inability of government to use funds from cost recovery for anything other than the sectors concerned reduces the ability of government to target services to those areas of highest risk and to invest strategically for the future.

The limitations of the current system are that it is expensive and consuming of government time to administer and is causing disaffection from and disputation with industry. Moreover, because the costs recovered are unrelated to industry economic conditions and capacity to pay, and to some extent are not related to service utilisation, the risks of paying costs of regulation fall disproportionately on the industry.

The proposed system would enable the following:

- Reduced need for addressing complaints from industry about transparency compared with the cost recovery system due to a simple GVP percentage calculation, and a sharing of the risks associated with changing industry economic conditions, leading to an improved relationship with industry.
- Reduced complexity and demand on government administration to manage both the resource and the relationships with industry.
- Improved signals to government on promoting an efficient use of administrative resources especially given that it will need to manage the risks associated with lower revenue when GVP falls.
- Government spends the revenue from industry to manage risks and returns, not linked to the costs of providing services.

Longer term the proposed system would have the following implications:

- It provides a foundation for a progressive development of risk-based regulation and/or self-regulatory approaches.
- It necessitates government managing the risks associated with longer term variations in revenues associated with regulatory charges that reflect changes in GVP.
- It facilitates a shift towards focussing its investment in services on longer term, strategic challenges rather than on priorities driven by cost allocation.

## Introduction

The Department of Primary Industries and Regions (PIRSA) has been operating a cost recovery policy for approximately twenty years. It operates from the premise that South Australia's aquatic resources are owned by the State and managed by PIRSA on behalf of the South Australian community. Any costs associated with government services that arise as a direct result of commercial access to the resources, are recovered from commercial licence holders through regulated licence fees. These services include, but are not limited to, aquatic management, policy, scientific monitoring, compliance and licensing.

### **Current cost recovery system**

The current policy of recovering the costs of services provided by the South Australian Government to the aquaculture industry has become more challenging. The concept of activity-based cost recovery originated as part of the suite of reforms initiated by the Commonwealth Government around the turn of this century. The economic rationale for cost recovery has been based on concepts which may be clear in theory (although this too can be overstated) but are much less so in practice. The rationale had two aspects – cost recovery would maximise efficiency (giving signals to the governments and users to allocate resources) and equity (the notion that private beneficiaries of public services and resources should pay the full costs of delivering or regulating them).

But clearly demarcating private from public benefits and beneficiaries can be difficult. Signals to users of services have limited value if the services are provided by government as a monopoly and being required to pass on the full costs of the services provides little incentive for efficiency by government agencies. The most economically rational system would be to charge only the marginal cost of services, but this is difficult to calculate in practice and would result in significant revenue gaps for governments, which have become highly dependent on an activity-based cost recovery for their finances.

Whilst the aim of most cost recovery systems is to recover the full costs of activities, in practice less than full costs are commonly recovered. But in practice the biggest problems have been the increasing complexity and resource intensity of administering the system, and the conflicts generated with industry over the size and basis of the charges. In the South Australian aquaculture industry, the costs of all people, equipment and services are allocated in great detail to all the sectors, albeit some costs are excluded, and only direct costs are allocated (unlike for fisheries). This is a legacy of cost recovery being initiated decades ago when the aquaculture industry was embryonic, and it was considered to be an emerging industry with an incapacity to pay full costs.

### **Drivers of change**

The current system has led to regular tension and disaffection between government and industry. Part of this reflects opposition to paying for services that some industry members would consider have already been paid for by their taxes, such as compliance. There has

been pressure by industry on government for increasing transparency about the basis for the costs they are charged.

However, there are limits to how transparent government can be in relation to costs for example, the salaries of officials or underlying corporate agency costs which form the major part of costs being recovered. Yet this is what industries probably need to know more than anything to understand the models on which charges are based.

The South Australian aquaculture cost recovery approach has been reviewed multiple times, but overwhelmingly these have focussed on incremental improvements rather than assessing the underlying economic rationale and its practical implications. In fact, other jurisdictions and agencies are moving away from cost recovery because of the above problems.

Western Australia (WA) has a model based not on cost recovery but instead on charging an access fee for use of a common resource which is sustainably managed. This is based on a percentage of the Gross Value of Production (GVP) for fisheries and pearling aquaculture which were significant, marine-based sectors economically, with other small (fledgling) aquaculture sectors paying a per hectare lease fee. This has advantages of simplicity and substantially reduced administration costs and has resulted in significantly improved relations with industry. However, it does have distributional impacts – charging a percentage which is equivalent in revenue raising terms to the amount currently recovered means some sectors will pay more and some sectors pay less compared to what they are paying under the current system. This can be addressed by having a transitional period and potentially by capping payments at some level for those who will pay more.

The limitations of the current system in South Australia (SA) are that it is expensive and consuming of government time to administer and can cause disaffection from and disputation with industry. Moreover, because the costs recovered are unrelated to industry economic conditions and capacity to pay, and to some extent are not related to service utilisation the risks of paying costs of regulation fall disproportionately on the industry.

The GVP system by linking payments to the ups and downs of production serves to balance risks between government and industry. The GVP system means that revenues are not linked to expenditure, and that government can be more strategic and agile in directing funds to manage the risks facing the natural resources and industry and maximise returns, with input from industry but without the incessant tensions. But it also means government will need to manage the risks associated with lower revenues when GVP falls, which may entail mechanisms for smoothing or buffering revenues or for greater flexibility in cost management by government – in this regard, the GVP approach provides signals to government to enhance efficiency that are far stronger than under the current cost recovery model.

The GVP approach potentially entails cross subsidisation, but that is already happening under the cost recovery system with its differential exclusions and partial cost recoveries. On balance, the current cost recovery system has become highly problematic, and the



South Australian Government should consider making the move to a GVP model for aquaculture. Other jurisdictions and agencies either have this in place (WA for the aquaculture pearling sector) or something similar (royalties or rent taxes in many resources and energy sectors).

### **Process being followed**

Reflecting the above:

1. The South Australian Government could consider moving to an access fee system to provide funds for regulating access to sustainably managed aquaculture resources.
2. The access fee could be based on a percentage of GVP for each sector.
3. Forecasts of GVP could be developed for each sector to project the likely revenue that will be generated from the new system.
4. The additional issues identified herein associated with a move to a GVP system could be investigated.

This Review has been prepared to further develop the policy for reforming aquaculture cost recovery and to serve as the basis for consultation with industry on advancing a possible reform agenda.

## **Review and analysis**

### **Previous reviews**

PIRSA's cost recovery policies have been reviewed on numerous occasions in recent times, both as part of the policy's review process and external to that process.<sup>1</sup> These reviews have confirmed that, overall, cost recovery in aquaculture is undertaken consistent with PIRSA's cost recovery policy, and in turn this is consistent with the Commonwealth's cost recovery guidelines.

However, these reviews overwhelmingly focus on how to make incremental improvements to, or streamlining, the existing system of cost recovery (e.g., improving transparency, or making more accurate the allocation of costs among users), and hence on the mechanics of the system rather than its inherent economic logic.

Some investigations of the cost recovery system used by PIRSA for aquaculture and those used in other States undertaken for the purposes of this Review suggest significant variability in the cost recovery models used in the various jurisdictions and differing estimates of the percentage of costs recovered. All States except one, Western Australia (WA), use some form of cost allocation based on activities – only WA uses a percentage of the GVP (which is characterised as a Resources Rent system).

---

<sup>1</sup> See, for example Deloitte Access Economics, "Review of PIRSA's Cost Recovery Policy and practices, including their application to the Fisheries and Aquaculture Industries", 2015

### Risk based management access fee system (WA Model)

The Western Australian system essentially differs from the South Australian one in the following respects:

- The WA model is an access regime with a fee being charged that is based on a percentage of the GVP for pearling aquaculture or a per hectare lease fee with licences for other (fledgling) aquaculture sectors. For the most part aquaculture in SA cannot be considered a fledgling industry; currently generating nearly as much GVP as fisheries (e.g. GVP in 2020/21 – aquaculture \$200m; fisheries \$209m).
- Beneficiaries of common resources essentially pay for access to the sustainably managed resource.
- The total costs recovered were originally set to recover an amount similar to that recovered under the full cost recovery system, but would fluctuate according to the GVP produced by the industry.
- The GVP approach also provides a clear and predictable cost to industry that can be factored into their business decisions.
- Revenue raised would not be linked to costs and would be invested by Government on the basis of risks and returns to the sector concerned.
- When GVP increases industry also benefits with increased funds going to the peak industry body, the Western Australian Fishing Industry Council (WAFIC).

### Pros

#### *Efficiency*

- Industry essentially pays for access to a sustainably managed common resource based on the value generated by their use of that resource. There is a reduced need for transparency (the need for which is arguable in the case of managing common resources by monopolies); less complexity and reduced demand on government administration to manage both the resource and the tense relationships with industry; the signals to government potentially improve for promotion of an efficient use of resources; and finally, the government spends the revenue from industry to manage risks and returns, not linked to the costs of providing services. It therefore allows a shift towards focussing government investment in services on longer term, strategic challenges rather than on cost allocation.
- It is estimated that the move to a GVP system saved at least three administration positions plus increased the productive time available for policy/research and compliance staff not having to fill in lots of detailed forms. This also reduced the number of meetings needed each year with sectors from multiple to one which would reduce cost overheads. The results were a conservatively estimated saving of around \$0.5 million per year.
- The benefits of increased efficiency through reduced administrative costs, and through better signals to government for resource allocation and investment (e.g., in cost-saving technology for monitoring and enforcement), can be passed on to

the aquaculture sector in the form of reduced access fees or re-invested into improved management and systems, or both.

#### *Equity*

- The GVP model better balances risks between government and industry, as it is linked more closely to capacity to pay (but revenue not profit – it is not a resources rent tax); it thus can help reduce tension with industry.

#### Cons

#### *Efficiency*

- It could be claimed that the GVP system undermines price signalling to users for allocative efficiency, but it is arguable whether this happens in a cost recovery system anyway in the case of government being a monopoly service provider; the potential for cross subsidisation of sectors (which already most likely happens to some extent under the current cost recovery system).
- Finally, government also would need to manage potential volatility in revenues especially where it has a substantial fixed cost base, although this can be addressed in certain ways (e.g. increased efficiency in administration that reduces the fixed cost load, application of an insurance premium or buffer fund approach, application of a three-year rolling average to smooth out variances across years).

#### *Equity*

- There would need to be a transitional period to address distributional aspects of the new system (some paying less, some paying more than under the old system), but this is quite normal in the case of moves to a new policy. The new approach would apply a system that is similar to that already operating in SA with respect to mineral royalties.

Based on an analysis of the pros and cons of each system it is considered that the WA approach has clear advantages.

## The proposed approach

### **Principles**

Reform of the cost recovery system should be based on a number of key principles:

- Rationale – there should be a clear rationale for the new system, providing a clear justification for recovering the funds. This should be based on a fee for access to use public waters (and access natural resources) to ensure a return to the community for the use of those waters (and resources).
- Impact on development – there should be consideration of impact of the fees charged on the development and economic sustainability of the industry, including the costs of complying with fees requirements.
- Comparability – the level of fees should take into account other comparable jurisdictional arrangements.

- Efficiency – an efficient method and, or process for fee determination should be considered.
- Effectiveness – the delivery of fee arrangements should be consistent with the objects of the relevant legislative instruments which should include the sustainable growth of the industry and benefits to the community.
- Transparency and accountability – a process should be adopted that enables industry, government and the general public to readily enquire about and obtain easily understandable information about fees and services.
- Clarity – there should be clarity regarding the nature of the right and the responsibilities of both government and industry associated with the access fee.
- Review – a proper mechanism needs to be determined including provision for input by relevant stakeholders.

Reflecting these suggested principles, the following elements of the new system could be as follows. Note these are indicative only and for demonstration purposes.

### **Elements of the approach**

The key elements of the approach that could be considered are:

- Access fees to be considered for the aquaculture industry based on recovery of a percentage of the individual sectors' GVP from 2023/24 (as an illustrative example only).
- It should be noted that the figures used for costs recovered in this analysis are those that are applied to sectors, less co-management and Fisheries Research and Development Corporation (FRDC) costs. In the case of the aquaculture industry, government accounts for around 49 to 53 per cent and industry 47 to 51 per cent.
- The access fee for aquaculture could be set at 1.1 per cent of GVP which would place aquaculture on a more even footing relative to fisheries in terms of the percentage of costs recovered, as only direct costs are currently recovered from aquaculture, whereas direct as well as indirect and corporate costs are recovered from fisheries, whilst still leaving that percentage lower than the fisheries' level (in recent years 5.4 per cent), and not increasing that burden by an excessive amount.
- The 1.1 per cent of GVP level would also still remain well below that of fisheries to reflect the much higher level of costs associated with regulation and enforcement of wild caught fishing.
- The costs recovered by government from aquaculture would increase from the 0.7 per cent of recent years to 1.1 per cent.
- Future fees recovered would fluctuate with movements in GVP of the individual sectors concerned, those sectors facing increased payments would have the GVP percentage phased in over a three-year period (those facing decreased payments would have them applied in the first year however), and the percentages of GVP to be paid would be applied to a three-year moving average of historical GVP to smooth out payments.

## Impact analysis

In order to analyse the initial impact of the approach, a model was developed. The assumptions for this were:

- Costs to be recovered up to 2022/23 were costs actually recovered under the current cost recovery system.
- For the years to 2025/26, costs are those forecast by PIRSA to have been recovered under the current system.
- The GVP for 2018/19 to 2020/21 were the actual figures for each sector produced by BDO.
- For the years 2021/22 to 2025/26 GVP was forecast, derived from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) (which forecasts for Australia as a whole and only some sectors – with other sectors estimated).
- The forecast costs/GVP percentages were calculated based on above.
- For 2023/24-2025/26, costs recovered were set at 1.1 per cent of GVP for all aquaculture sectors.
- An alternative scenario entailed longer term forecasts for an additional two years 2026/27-2027/28. The forecasts for GVP were derived from ABARES for 2026/27 and for 2027/28 no change from the previous year was assumed in the absence of an ABARES forecast for that year. Costs recovered are forecast to continue increasing in these years at the same rate as for the previous years based on CPI. The generally applicable caution that should be exercised in the use of longer-term forecasts applies too in this case.

The impacts of these assumptions are as indicated in Table 1. This Table assumes that the percentage GVP system is applied from year 1 with no phase in or moving averages applied.

**Table 1 Costs recovered under historical and GVP system (immediate application – no phase in period)**

<b>COSTS RECOVERED</b>	<b>Actual \$</b>	<b>Actual \$</b>	<b>Actual/Forecast \$</b>	<b>Forecast %</b>	<b>Forecast \$</b>	<b>Forecast \$</b>	<b>Forecast \$</b>
	<b>Costs recovered</b>	<b>Costs recovered</b>	<b>GVP</b>	<b>Costs/GVP</b>	<b>BAU Costs recovered</b>	<b>GVP Costs recovered</b>	<b>GVP system cf BAU</b>
	<b>2022/23</b>	<b>Av 2018/19-2022/23</b>	<b>Av 2018/19-2022/23</b>	<b>Av 2018/19-2022/23</b>	<b>Av 23/24-25/26 at GVP %</b>	<b>Av 23/24-25/26 at GVP %</b>	<b>\$ change at GVP %</b>
<b>Aquaculture</b>						<b>1.1</b>	<b>1.1</b>
Abalone	133,775	60,774	16,345,702	0.4	46,053	221,684	175,631
Finfish	256,166	278,305	37,945,913	0.7	305,283	453,021	147,737
Tuna	494,902	528,600	108,777,181	0.5	574,020	1,260,767	686,748
Oysters	452,514	508,202	37,927,189	1.5	581,896	590,574	8,678
Mussels	67,323	75,910	3,693,095	2.1	83,246	42,252	-40,995
<b>Total</b>	<b>1,404,680</b>	<b>1,451,791</b>	<b>204,689,080</b>	<b>0.7</b>	<b>1,590,498</b>	<b>2,568,297</b>	<b>977,800</b>

Note: Costs recovered include all costs net of co-management and FRDC.

Note: Land-based costs not included in (aquaculture) abalone.

Key points to note are:

- Aquaculture costs (overall) as a percentage of GVP for the period 2018/19 to 2022/23 averaged 0.7 per cent with Oysters and Mussels well above that average figure and other sectors around average or lower.
- The forecast costs/GVP to be recovered for aquaculture (overall) from 2023/24 to 2025/26 increase from 0.7 per cent to 1.1 per cent, with all sectors paying more than they would have under the current cost recovery model except Mussels. (Oyster payments are virtually unchanged compared with under the BAU system because their percentage of GVP under the BAU scenario works out at 1.1 per cent, but this is lower than the 1.5 per cent they paid in the 2018/19 to 2022/23 period).
- For aquaculture, those sectors that would pay more on an annual average basis are Tuna (\$0.7m more), Finfish (\$0.1m more), Abalone (\$0.2m more) and Oysters (\$0.008m more), whilst Mussels would pay less (\$0.04m less)
- If a comparison is done of the amounts the sectors will pay under the new system with what they paid in 2022/23 all would pay more except Mussels which would pay around \$0.03 million less.

Applying a GVP approach using 1.1 per cent (government services only) would see aquaculture as a whole pay around \$1 million more per year than would have been the case using the amounts forecast to be recovered under the BAU cost recovery system.

It should also be noted that the forecasts for costs to be recovered from 2023/24 to 2025/26 assume a CPI-based increase of 2.5 per cent a year. In the event that the high inflationary environment prevailing at the time of writing this Review persists, and this is reflected in PIRSA costs to be recovered, those costs would be higher than the forecasts contained herein. Assuming all else remains the same, the industry would be required to pay more to the government than is indicated above based on a higher CPI. Under a GVP system, the amounts to be paid by industry would not be linked to the costs of delivering the services.

### **Timing and adjustment**

In order to ameliorate the impacts of moving to the GVP model, a series of adjustments were modelled.

The method and timing for implementing the possible approach are as follows:

- Forecast GVP times 1.1 per cent for aquaculture.
- From 2023/24 to 2025/26 the GVP percentage is applied to the GVP in that year.
- A three-year phasing in of the percentage GVP for those sectors that will pay increased amounts under the system, with those paying less receiving immediate relief.
- Alternatively, a three-year phasing in period for both those paying more and those paying less.
- Application of a three-year moving average of historical GVP with the GVP to apply in 2023/24 being the average of the previous three years.

An alternative scenario of a five-year phase in was also modelled as noted above.

**Table 2 Costs recovered under BAU and GVP system (with phase in of increases/decreases over three years and three-year moving average (or not) GVP)**

COSTS RECOVERED	Forecast \$		Forecast \$		Forecast \$		Forecast \$	
	BAU Costs recovered Av 23/24-25/26 at GVP %	GVP Costs recovered Av 23/24-25/26 at GVP %	GVP Costs recovered Av 23/24-25/26 at GVP %	GVP Costs recovered Av 23/24-25/26 at GVP %	GVP Costs recovered Av 23/24-25/26 at GVP %	GVP Costs recovered Av 23/24-25/26 at GVP %	GVP Costs recovered Av 23/24-25/26 at GVP %	GVP Costs recovered Av 23/24-25/26 at GVP %
		Immediate application	Phase increases, use mov. av.	Phase all, use mov. av.	Phase increases	Phase all		
<b>Aquaculture</b>		1.1	1.1	1.1	1.1	1.1		
Abalone	46,053	221,684	159,053	159,053	164,764	164,764		
Finfish	305,283	453,021	350,646	350,646	408,731	408,731		
Tuna	574,020	1,260,767	836,923	836,923	1,042,383	1,042,383		
Oysters	581,896	590,574	537,269	614,880	590,574	595,090		
Mussels	83,246	42,252	41,003	54,207	42,252	55,912		
<b>Total</b>	<b>1,590,498</b>	<b>2,568,297</b>	<b>1,924,895</b>	<b>1,986,087</b>	<b>2,248,703</b>	<b>2,266,952</b>		

As is indicated by Table 2 above, the application of these changes based on a three-year phase in leads to the Abalone, Finfish and Tuna sectors paying more than they would have under BAU but less than under immediate application of the GVP system with no moving average GVP used. This also means that for government, revenues over the period are \$1.6 million under BAU, \$2.6 million under the immediate application of the GVP system, just under \$2 million under the 3-year phase in (both for those sectors who pay more and those who pay less)/moving average system and \$1.9 million under the phased in (only for those sectors who pay more)/moving average system.

The impacts on industry payments and government revenues flowing from application of the approach are illustrated below.

**Chart 1 Aquaculture payment scenarios first year of period 2023/24 to 2025/26**

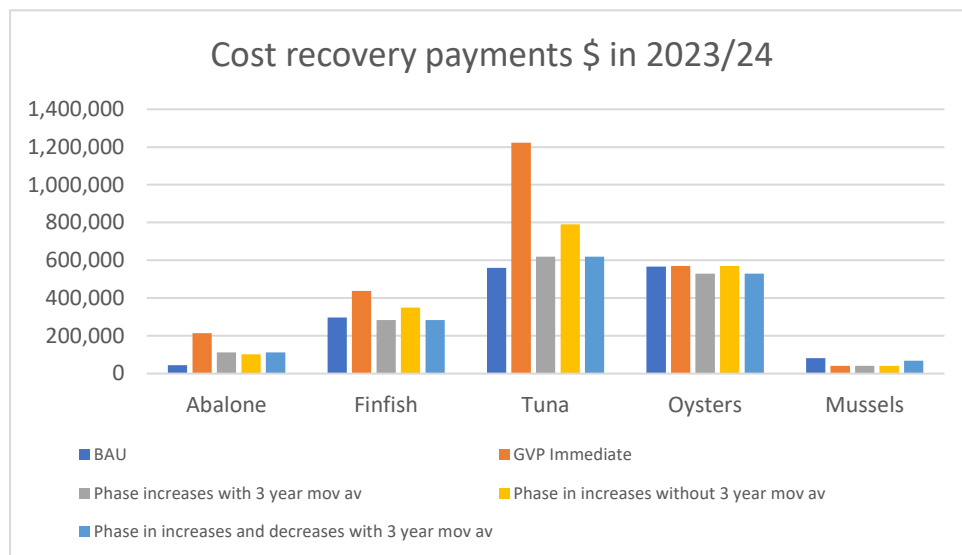
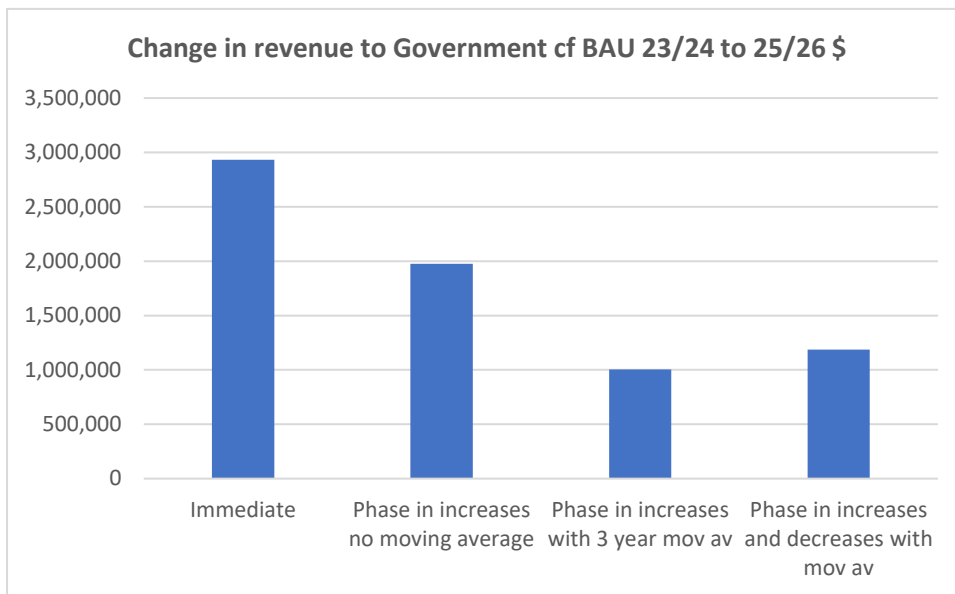


Chart 1 indicates the first-year immediate effects of the various alternatives to indicate the short-term impacts. For those sectors facing increases compared to BAU like Tuna which have historically paid much less than 1.1 per cent of GVP, the increase of paying that amount with no phase in or moving average would mean more than doubling its payments in the first year of the new system. Phasing in the GVP system over three years and applying a three-year moving average GVP would then nearly halve its payments in the first year relative to not making these adjustments. Not applying the moving average would

increase the Tuna sector payments compared with applying the moving average because of a big increase in GVP over the period.

The impact of the alternative approaches on government revenues are illustrated below. Compared with the BAU, immediate application of the GVP system results in revenues collected by Government increasing by nearly \$3 million over the three-year period concerned. Applying the phase in of the system for those facing increased payments and application of the moving average for GVP results in the revenues to Government being almost \$1 million higher over the period. Phasing in increases and decreases with the moving average the revenue increases by \$1.2 million.

**Chart 2 Change in revenue to Government over 2023/24 to 2025/26**



In the scenario whereby the move to a percentage of GVP system was introduced over five years rather than three years, those sectors that would pay less under the GVP system than under BAU would see their payments decrease more slowly and those sectors that would pay more under the GVP system would see the payments increase more slowly. Given that all sectors except Mussels would pay more under the GVP system, slowing the application of the GVP system by two additional years would be of benefit to these sectors.

These impacts could be significant. For example, Tuna would see its payments in 2023/24 at \$0.6 million under BAU, increasing to \$1.2 million under the GVP system if applied immediately, but \$0.8 million if phased in over three years and \$0.7 million if phased in over five years (no moving average). If other adjustments were made through applying the phase-in to those facing increasing payments only, or using moving average GVPs, similar patterns of outcomes would occur with a five year phase in as a three year phase in, only more gradually.



## **Risk of not proceeding**

Maintaining the current cost recovery system entails the following risks:

- As costs of regulation continue to rise some sectors may find they are increasingly unable to afford the charges. This is especially likely to be the case in those sectors adversely affected by the impacts of COVID (e.g. through higher costs of labour) and/or trade restrictions (e.g. on exports to China). The same would apply if the current high inflationary environment was to persist and be reflected in higher costs recovered with all other factors remaining unchanged
- The level of disputation and disaffection with the current system is likely to continue and increase, as those charged increasingly question the costs being recovered in more and more detail.
- The costs to government in terms of officers responsible for maintaining the cost recovery system are likely to continue rising.
- The inability of government to use funds from cost recovery for anything other than the sectors concerned reduces the ability of government to target services to those areas of highest risk and to invest strategically for the future, as well as enable opportunities for further co-management/self-regulation mechanisms to be explored.

## **Conclusions**

### **Addressing current limitations**

The limitations of the current system are that it is expensive and consuming of government time to administer, can cause disaffection from and disputation with industry, and imposes all the risks of paying costs of regulation on the industry.

The proposed approach would enable the following:

- Reduced need for addressing complaints from industry about transparency compared with the current cost recovery system due to a simple GVP percentage calculation, and a sharing of the risks associated with changing industry economic conditions, leading to an improved relationship with industry.
- Reduced complexity and demand on government administration to manage both the resource and the relationships with industry.
- Improved signals to government on promoting an efficient use of administrative resources especially given that it will need to manage the risks associated with lower revenue when GVP falls.
- Government spends the revenue from industry to manage risks and returns, not linked to the costs of providing services.

### **Longer term implications**

Longer term the proposed approach would have the following implications:

- It provides a foundation for more strategic initiatives, such as the development of risk-based regulation and/or self-regulatory approaches.
- It necessitates government managing the risks associated with longer term variations in revenues associated with regulatory charges that reflect changes in GVP.
- It facilitates a shift towards focussing its investment in services on longer term, strategic challenges rather than on priorities driven by cost allocation, as well as enable opportunities for further co-management/self-regulation mechanisms to be explored.

**SG Heilbron Economic & Policy Consulting**  
**February 2023**