

Allocation of fisheries management costs to Queensland's commercial fisheries for the 2017–18 and 2018–19 financial years

The process of allocation

2020

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Summary

In 2019, Fisheries Queensland engaged BDO EconSearch to complete a series of economic reports independently estimating the economic contributions made by Queensland's commercial fisheries to the State. The economic and social indicator reports prepared by BDO EconSearch represent the first comprehensive economic assessment of Queensland's commercial fisheries.

The economic analysis required the costs of managing each of the fisheries to be estimated and allocated to the respective sectors. This document explains how the fishery management costs were estimated and allocated to each fishery and their respective sectors in Queensland. BDO EconSearch used these allocations in the economic reports of commercial fisheries for the 2017–18 and 2018–19 financial years.

Fisheries Queensland welcomes stakeholder feedback on this topic and expects that it will lead to improvements in the future economic reports. The allocation of costs always has subjective elements. When revisiting this allocation in future years, this initial position will serve as a starting point from which to progress.

1 Background

1.1 Costs of managing fisheries

The costs of managing Queensland's fisheries are supported via government funding and fees collected from endorsement owners in accordance with Fisheries (General) Regulation 2019 and the recreational use fee for recreational water vessels. Costs are incurred in providing policy development services, regulatory/legislation and licensing services, compliance services, directorate services, extension services, monitoring and research activities, and fishery status reporting.

Currently, Queensland's fisheries are not managed under a full cost recovery 'user pays' model. Therefore, fees paid by endorsement owners will not represent the full cost of managing the respective fishery. To leverage work program efficiencies, many fisheries staff work across several different fisheries and sectors. This makes allocating staff time to different fisheries and sectors difficult as often the work affects several fisheries and sectors simultaneously and by varying amounts. This blending of work and subsequent cost requires a degree of subjective allocation to arrive at the management costs for each fishery as required in the relevant economic reports by BDO EconSearch.

1.2 Separating non-fishery management costs

Not all the expenditure incurred by Fisheries Queensland is attributable to managing Queensland's commercial fisheries; for example, the cost of delivering the Shark Control Program is related to public safety. These non-fishery management costs were identified and isolated from the total costs of managing Queensland's fisheries.

1.3 Allocating costs to fisheries

Fisheries Queensland applied its knowledge and experience within each cost centre of Fisheries Queensland (e.g. assessment and monitoring, Queensland Boating and Fisheries Patrol) to allocate the fishery management costs to the respective fisheries for the 2017–18 and 2018–19 financial years.

1.4 Allocating costs to sectors

The 'flow of benefits' principle underlies the allocation of costs to the commercial sector within each fishery. This principle allocates costs to the sectors based on their respective access to the managed fishery's benefits, or share of total landed catch.

1.5 Application

BDO EconSearch then applied these allocations of fishery management costs in the economic analysis of commercial fisheries for the 2017–18 and 2018–19 financial years. The allocation of costs always has subjective elements. When revisiting this allocation in future years, this initial position will serve as a starting point from which to progress.

2 Method

Allocation of costs were determined by the following steps:

2.1 Separating non-fishery management related costs

The total expenditure incurred by Fisheries Queensland was allocated by the cost centre groups for the 2017–18 and 2018–19 financial years as provided through the Department of Agriculture and Fisheries' accounting system. Cost centre groups are financial system groupings by the type of work being undertaken by Fisheries Queensland (**Table 1**).

Table 1: The attribution of Fisheries Queensland cost centre group expenditure to the costs of managing Queensland's fisheries (percentage of cost centre group and \$ value for 2018 and 2019 financial years)

Fisheries Queensland: cost centre group	Percentage attribution (%)		Costs attributed to fishery management (\$)	
	2017–18	2018–19	2017–18	2018–19
Business corporate services	75.2	74.3	\$852 363	\$1 106 753
Fishery assessment	100.0	100.0	\$1 305 253	\$1 515 578
Fishery monitoring	100.0	100.0	\$2 722 626	\$3 024 542
Impact assessment	100.0	100.0	\$1 288 365	\$1 528 150
Legacy Offset Program	0.0	0.0	-	-
Digital solutions and fishery information	100.0	100.0	\$2 091 701	\$2 601 183
Management and reform	90.0	90.0	\$2 724 486	\$3 574 441
Queensland Boat and Fisheries Patrol	70.0	70.0	\$9 447 512	\$9 122 824
Shark Control Program	0.0	0.0	-	-
Sustainable fisheries strategy	100.0	100.0	\$7 921 392	\$6 918 255
Information Technology Program (ITP)	75.2	74.3	\$704 915	\$851 803
Net free zone	100.0	100.0	\$367 498	\$401 976

2.2 Allocating costs to fisheries

Within each cost centre group, the fishery management costs were allocated to the different fisheries. This was done either evenly across all fisheries, or in proportion to a factor determined by the Fisheries Queensland director responsible. Where the administrative systems allowed, allocations could be made quantitatively; for example, QBFP was able to allocate costs based on characteristics of the inspection. Where the administrative systems were unavailable, then allocations were made qualitatively by the responsible directors or managers. The resultant cumulative percentages across all fisheries cost centres as allocated to the respective fishery are shown in **Table 2**. For a more detailed breakdown by cost centre refer to Appendix 1.

Table 2: The percentage of the total fisheries related management costs allocated to the respective fisheries (all sectors) 2018–19 financial years.

Fishery	Allocation of fisheries management costs (% of total fisheries related management costs)
Coral reef fin fish	7.6
East coast Spanish mackerel	6.6
Rocky reef fin fish	7.7
Gulf of Carpentaria inshore fishery	5.3
Coral harvest and marine aquarium	3.7
Sea cucumber	3.6
Crayfish and rock lobster	4.4
Other harvest	3.7
Moreton Bay trawl	4.4
Moreton Bay other	4.4
Blue swimmer crab	5.4
Mud crab east coast	8.9
Mud crab Gulf of Carpentaria	4.0
Spanner crab	4.6
East coast inshore fin fish	16.0
East coast trawl	6.2
Stout whiting (not included in BDO EconSearch reports)	3.6

2.3 Allocating costs to sectors

The cost allocated to each fishery includes the cost associated with managing the different sectors within the fishery: Indigenous, recreational, charter and commercial fisheries sectors. Within each fishery, the cost of managing the respective sectors was allocated as follows (**Table 3** and Table 4):

- Indigenous sector: 1% except for tropical rock lobster (2%), Moreton Bay trawl (0.5%).
- Charter, recreational, and commercial sectors: followed the ‘flow of benefits’ that the fishery provides to the different sectors. Queensland’s fisheries are a shared resource across all sectors, and all sectors benefit in the long term from the management of their fishery. Estimating the flow of benefits was achieved by using the sectoral resource allocation to key species from the draft harvest strategies. This method, however, was not able to be used for the Gulf of Carpentaria inshore fishery, Moreton Bay other fishery and the other harvest fisheries because draft harvest strategies were not available at the time of this work. For these fisheries, costs were allocated based on the estimates of the weight of the fish harvested by the different sectors.

Table 3: The allocation of the fisheries' management costs across each sector within each fishery as a percentage of the management costs allocated to each fishery for the 2017–18 financial year.

Fishery	Allocation to fisheries sector (%) 2017–18 financial year			
	Indigenous	Recreational	Charter	Commercial
Coral reef fin fish fishery	1.0	13.2	16.3	69.5
East coast Spanish mackerel fishery	1.0	39.8	4.7	54.5
Rocky reef fin fish fishery	1.0	36.2	23.3	39.5
Gulf of Carpentaria fishery	1.0	10.4	1.0	87.6
Coral harvest and marine aquarium fishery	1.0	0.5	0.0	98.5
Sea cucumber fishery	1.0	0.5	0.0	98.5
Crayfish and rock lobster fishery	2.0	3.6	0.4	94.0
Other harvest fishery	0.0	87.8	0.0	12.2
Moreton Bay trawl fishery	0.5	0.8	0.0	98.8
Moreton Bay other fishery	1.0	12.5	0.7	85.8
Blue swimmer crab fishery	1.0	14.5	0.0	84.5
Mud crab east coast fishery	1.0	29.5	0.0	69.5
Mud crab Gulf of Carpentaria fishery	1.0	9.4	0.1	89.5
Spanner crab fishery	1.0	0.5	0.0	98.5
East coast inshore fin fish fishery	1.0	26.4	2.0	70.6
East coast trawl fishery	1.0	1.0	0.0	98.0

Table 4: The 2018–19 fisheries management cost allocation within each fishery and across sectors.

Fishery	Allocation to the fisheries sector (%) 2018–19 financial year			
	Indigenous	Recreational	Charter	Commercial
Coral reef fin fish fishery	1.0	13.4	16.1	69.5
East coast Spanish mackerel fishery	1.0	39.7	4.8	54.5
Rocky reef fin fish fishery	1.0	35.9	23.6	39.5
Gulf of Carpentaria fishery	1.0	12.6	1.2	85.3
Coral harvest and marine aquarium fishery	1.0	0.5	0.0	98.5
Sea cucumber fishery	1.0	0.5	0.0	98.5
Crayfish and rock lobster fishery	2.0	4.0	0.0	94.0
Other harvest fishery	0.0	76.2	0.0	23.8
Moreton Bay trawl fishery	0.5	0.8	0.0	98.8
Moreton Bay other fishery	1.0	15.8	1.1	82.1
Blue swimmer crab fishery	1.0	14.5	0.0	84.5
Mud crab east coast fishery	1.0	29.5	0.0	69.5
Mud crab Gulf of Carpentaria fishery	1.0	9.5	0.0	89.5
Spanner crab fishery	1.0	0.4	0.1	98.5
East coast inshore fin fish fishery	1.0	25.8	2.6	70.6
East coast trawl fishery	1.0	1.0	0.0	98.0

3 Results

For the 2017–18 financial year, a statewide total of \$21 255 848 was allocated to the commercial sector as the cost of managing the 16 commercial fisheries. For the 2018–19 financial year, a statewide total of \$22 297 333 was allocated to these commercial fisheries (**Table 5** and **Table 6**).

Table 5: Fishery management costs allocated the commercial sector for different fisheries for the 2017–18 financial year

Fishery	2017–18 fishery management costs allocated to the different sectors			
	Indigenous	Recreational	Charter	Commercial
Coral reef fin fish fishery	\$23 482	\$310,391	\$382,324	\$1,631,988
East coast Spanish mackerel fishery	\$19,783	\$787 347	\$92 987	\$1 078 162
Rocky reef fin fish fishery	\$24 365	\$882 457	\$567 283	\$962 432
Gulf of Carpentaria fishery	\$14 362	\$148 882	\$14 472	\$1 258 652
Coral harvest and marine aquarium fishery	\$10 430	\$5215	\$0	\$1 027 377
Sea cucumber fishery	\$10 248	\$5124	\$0	\$1 009 440
Crayfish and rock lobster fishery	\$24 899	\$45 312	\$4486	\$1 170 241
Other harvest fishery	\$0	\$946 375	\$0	\$131 116
Moreton Bay trawl fishery	\$6317	\$9475	\$0	\$1 247 572
Moreton Bay other fishery	\$12 410	\$154 928	\$8769	\$1 065 050
Blue swimmer crab fishery	\$16 568	\$240 237	\$4	\$1 400 021
Mud crab east coast fishery	\$27 057	\$798 190	\$0	\$1 880 482
Mud crab Gulf of Carpentaria fishery	\$10 881	\$102 084	\$1283	\$973 828
Spanner crab fishery	\$13 170	\$6079	\$506	\$1 297 264
East coast inshore fin fish fishery	\$47 281	\$1 247 512	\$96 067	\$3 337 278
East coast trawl fishery	\$18 214	\$18 214	\$0	\$1 784 943
Statewide	\$279 468	\$5 707 822	\$1 168 181	\$21 255 848

Table 6: Fishery management costs allocated the commercial sector for different fisheries for the 2018–19 financial year

Fishery	2018–19 fishery management costs allocated to the different sectors			
	Indigenous	Recreational	Charter	Commercial
Coral reef fin fish fishery	\$23 208	\$311 416	\$373 217	\$1 612 949
East coast Spanish mackerel fishery	\$20 119	\$797 755	\$97 524	\$1 096 465
Rocky reef fin fish fishery	\$23 702	\$851 211	\$559 087	\$936 248
Gulf of Carpentaria fishery	\$16 122	\$202 374	\$18 723	\$1 375 185
Coral harvest and marine aquarium fishery	\$11 186	\$5593	\$0	\$1 101 833
Sea cucumber fishery	\$10 961	\$5480	\$0	\$1 079 658
Crayfish and rock lobster fishery	\$26 825	\$53 140	\$511	\$1 260 797
Other harvest fishery	\$0	\$874 831	\$0	\$273 800
Moreton Bay trawl fishery	\$6780	\$10 170	\$0	\$1 339 097
Moreton Bay other fishery	\$13 392	\$211 556	\$15 064	\$1 099 284
Blue swimmer crab fishery	\$16 691	\$241 977	\$46	\$1 410 410
Mud crab east coast fishery	\$27 137	\$800 504	\$29	\$1 886 002
Mud crab Gulf of Carpentaria fishery	\$12 184	\$115 158	\$591	\$1 090 479
Spanner crab fishery	\$14 152	\$5180	\$1896	\$1 393 976
East coast inshore fin fish fishery	\$49 179	\$1 269 724	\$127 781	\$3 471 220
East coast trawl fishery	\$19 081	\$19 081	\$0	\$1 869 932
Statewide	\$290 720	\$5 775 151	\$1 194 467	\$22 297 333

4 Discussion

As part of determining the economic contribution of Queensland's fisheries, the costs of managing those fisheries needs to be determined. Not all costs incurred by Fisheries Queensland are associated with managing Queensland's commercial fisheries. Programs of work that were not considered to be associated with managing fisheries included the Shark Control Program and the Legacy Offset Program. Costs related to these programs were not allocated to any fishery.

Other Fisheries Queensland cost centres deliver services related to managing fisheries and services that are not. For example, Queensland Boating and Fishery Patrol (QBFP) is concerned with fisheries compliance (a fishery management cost) as well as the safe operation of recreational fishing vessels and commercial fishing vessels (a public safety activity not considered to be a cost of managing

fisheries). After reviewing QBFP work assignments, 30% of QBFP expenditure was not attributable to fisheries management. Likewise, a proportion of the management and reform, business corporate services and the ITP cost centre groups were not attributable to fisheries management. The proportion of costs allocated to fishery management activities for the respective cost centres are shown in Table 1.

Compliance (QBFP) and monitoring costs (fishery monitoring) were the management activities that drove differences in total cost allocated among the fisheries. The East Coast inshore fin fish fishery had the largest allocation of fishery management costs in both financial years. In the 2018–19 financial year 38.7% of QBFP and 10% of fishery monitoring costs related to fishery management were incurred managing the East Coast inshore fin fish fishery (see Appendix 1). The mud crab fishery east coast was the next highest cost fishery being responsible for 17.4% of QBFP fishery management related costs in the 2018–19 financial year. The smallest allocation to the commercial sector in the both the 2017–18 and 2018–19 financial years was with the other harvest fishery due to low levels of fishery monitoring and QBFP activity and a high relative recreational sector allocation.

The allocation of management costs for the Indigenous sector was a subjective decision given the absence of data. Fisheries Queensland is seeking to work with Indigenous communities to address this. Fishers in the recreational and commercial sector could also identify as being Indigenous persons but this was not possible to quantify.

The harvest allocations described in the draft harvest strategies were used to allocate the costs of managing the fishery to its respective sectors. These harvest strategies were in draft at the time and may change before being implemented; therefore the allocation of costs may change in future years.

As the reform process continues, it is also likely that the management costs attributable to the different fisheries and sectors within fisheries will change. For example, as reforms are completed, there may be a lower need for management and reform services to work as intensively on a fishery where reform has completed. Monitoring activities are always being reviewed, and the effort spent monitoring different fisheries and sectors can change over time. Therefore, the allocation of management costs should be reassessed periodically (e.g. every three years) to ensure that the allocation reflects the true cost of managing the fisheries.

Appendix 1

The percentage of the fisheries related management costs allocated to the respective fisheries by cost centre for the 2018–19 financial years.

	Coral reef fin fish fishery	East coast Spanish mackerel fishery	Rocky reef fin fish fishery	Gulf of Carpentaria fishery	Coral harvest and marine aquarium fishery	Sea cucumber fishery	Crayfish and rock lobster fishery	Other harvest fishery	Moreton Bay trawl fishery
Business corporate services	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Fishery assessment	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Fishery monitoring	8.50%	8.80%	8.60%	9.80%	0.00%	0.00%	8.30%	0.00%	8.30%
Impact assessment	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Legacy Offset Program	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Digital solutions and fishery information	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Management and reform	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Queensland Boat and Fisheries Patrol	10.69%	7.21%	11.20%	2.50%	0.33%	0.09%	0.02%	0.66%	0.19%
Shark Control Program	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Sustainable fisheries strategy	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Information Technology Program (ITP)	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%
Net free zone	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%

	Moreton Bay other fishery	Blue swimmer crab fishery	Mud crab east coast fishery	Mud crab Gulf of Carpentaria fishery	Spanner crab fishery	East coast inshore fin fish fishery	East coast trawl fishery	Stout whiting ⁱ	Statewide
Business Corporate Services	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Fishery Assessment	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Fishery Monitoring	8.30%	8.30%	1.40%	1.40%	10.00%	10.00%	8.30%	8.30%	100%
Impact Assessment	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Legacy Offset Program	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Digital solutions and fishery information	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Management and reform	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Queensland Boat and Fisheries Patrol	0.00%	3.62%	17.35%	0.96%	0.27%	38.66%	6.24%	0%	100%
Shark Control Program	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Sustainable fisheries strategy	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Information Technology Program (ITP)	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%
Net Free Zone	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	5.88%	100%

ⁱ Stout whiting was not included in the BDO EconSearch reports.