

2019–20 statewide recreational fishing survey

Social and attitudinal results

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Summary

This report presents results from Phase 3 (social and attitudinal survey; also referred to as the washup survey) of the 2019–20 statewide recreational fishing survey. The washup survey was conducted at the completion of the 12-month logbook survey (Phase 2), which is presented in the [Key results report](#) (Teixeira et al. 2021). The washup survey aimed to collect social and attitudinal data from recreational fishers on a range of fisheries topics to help inform the social dimensions of recreational fisheries management. Key results of the washup survey include:

- **Fishing frequency:** Most fishers (70 per cent) reported a decline in fishing frequency during the logbook survey relative to the previous five years.
- **Satisfaction with fishing:** Overall fishing satisfaction was high, with 70 per cent of fishers reporting that they were satisfied with fishing during the previous 12 months.
- **Catch orientation:** Most fishers were not highly catch-oriented, suggesting that people went fishing for more reasons than to just catch fish.
- **Centrality of fishing to lifestyle:** Most fishers agreed that while fishing is highly enjoyable, other recreational activities are also important and socialising with friends is not reliant on fishing.
- **Stocked Impoundments:** 22 per cent of fishers stated that they had fished in a stocked impoundment at any time.
- **Biosecurity:** 50 per cent of fishers said that they recalled hearing advice to not use supermarket prawns as bait.
- **Vessel ownership:** 53 per cent of fishing households owned a boat, kayak or jet ski.
- **Information:** Friends and family were the most common source of fishing information.
- **Engagement with Fisheries Queensland:** Over 75 per cent of fishers were extremely satisfied or somewhat satisfied with their engagement with Fisheries Queensland. 78 per cent of fishers stated that Fisheries Queensland was very genuine or somewhat genuine about engaging with recreational fishers.
- **Management performance:** 53 per cent of fishers thought that Fisheries Queensland does a good job managing Queensland's fisheries.
- **Management strategies:** When asked where money should be spent on recreational fisheries, over half of fishers mentioned fish stocking programs and fisheries science. 76 per cent of fishers thought that management should be based on fisheries science.
- **Enforcement:** 27 per cent of fishers mentioned the need to improve compliance and enforcement of regulations.

Introduction

The social and attitudinal survey (washup survey) formed Phase 3 of the 2019–20 statewide recreational fishing survey. Results of Phases 1 and 2 on recreational fishing participation, catch, effort and expenditure¹ are presented in the [Key Results report](#) (Teixeira et al. 2021). Results of the 2019–20 survey and previous surveys are also available on the statewide recreational fishing surveys dashboard via the [Fisheries Queensland website](#).

The washup survey aimed to collect social and attitudinal data on a range of fisheries topics. The survey included multiple choice and Likert scale questions to measure metrics like fishing satisfaction, catch orientation and the importance of fishing to peoples' lifestyles. Additionally, the survey included open-ended questions that collected qualitative data on fishers' opinions about the state of fishing, management, regulations and waterway health. This information can help inform the non-catch aspects of fisheries management, such as improving recreational fishers' satisfaction with recreational fishing, a target of the *Queensland sustainable fisheries strategy 2017–2027*.

Methods

Survey design and sampling

The 2019–20 statewide recreational fishing survey was conducted by the Social Research Centre (SRC) on behalf of Fisheries Queensland. The survey used a three-phase telephone-logbook method (Lyle et al. 2010) (Figure 1). The Phase 3 component (washup survey) was conducted after Phase 2 (logbook survey). Any household that completed the logbook survey, whether or not they went fishing, were eligible for the washup survey.

In total, 1358 households, or 72 per cent of eligible households, took part in the washup survey. The washup survey was completed by one member of each household. Households had the option to complete the survey via an online diary portal or by Computer Assisted Telephone Interview (CATI). Further details on data collection methods and the washup survey questionnaire are provided in the Methodological Report (Misson et al. 2020).

Statistical methods

Like Phases 1 and 2, estimates for Phase 3 were calculated by weighting raw data to a household's selection probability and population benchmarks. Demographic variables used were age, gender, residential location, country of birth and education level, and these conformed to benchmarks provided by the Australian Bureau of Statistics (ABS). Weights were adjusted to account for further non-response bias and fishing influx (non-intending households that reported fishing) and outflux (intending fishing households that reported no fishing). Data were weighted using a custom function provided by SRC and implemented in R statistical language (R Core Team, 2020). Detailed information on weighting methods is provided in the Methodological Report (Misson et al. 2020).

¹ The washup survey also collected data on non-trip expenditure (e.g. purchase of vessel), which were combined with trip-based expenditure data collected in Phase 2 to estimate total expenditure on recreational fishing. These results are presented in the [Key Results report](#).

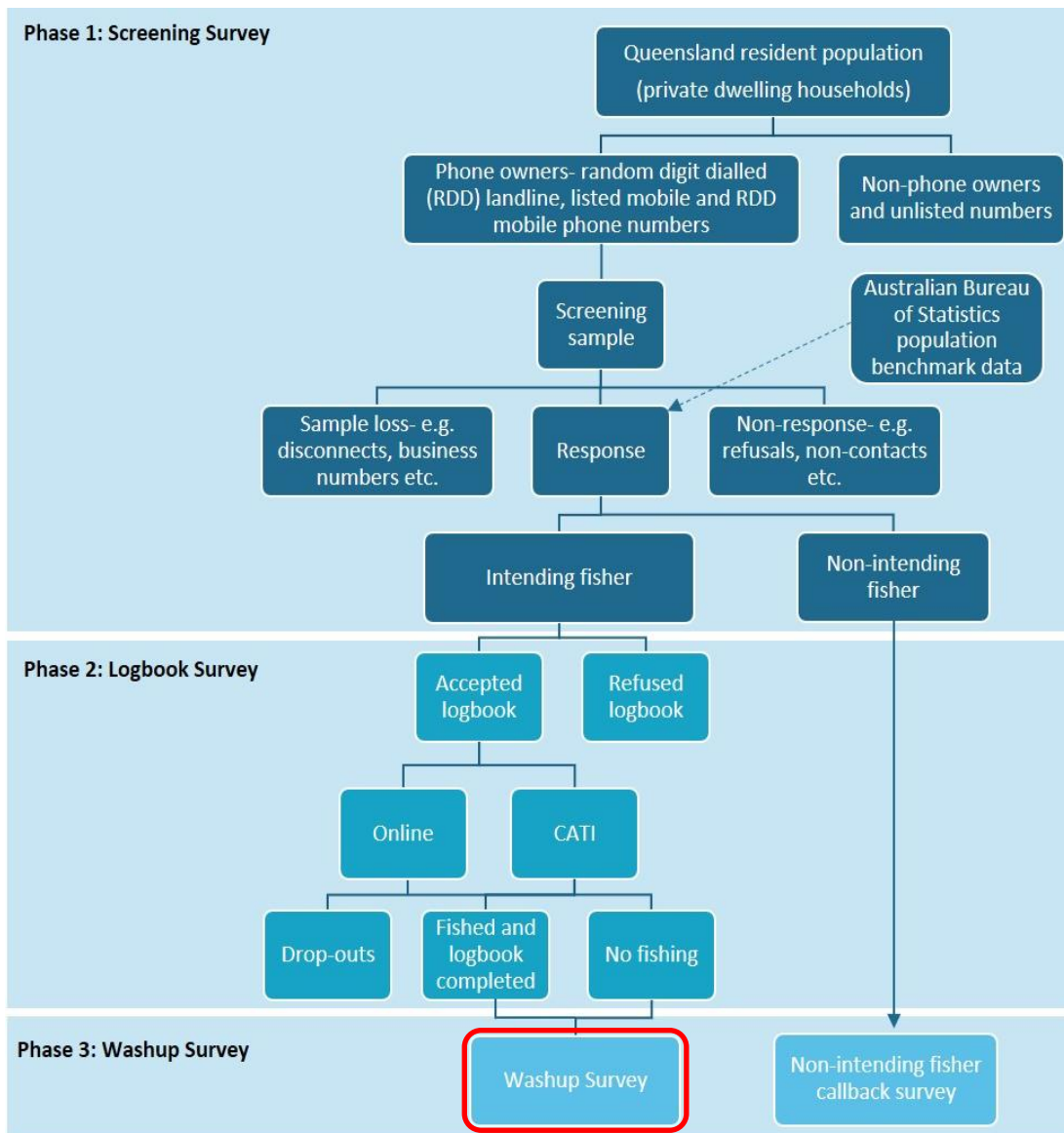


Figure 1 Phases of the 2019–20 statewide recreational fishing survey; the red box indicates the washup survey

Results

Ethnicity and language

Eight per cent of fishers stated that at least one person in their household identifies as Aboriginal, Torres Strait Islander or South Sea Islander. Ninety seven per cent of fishers stated that English was the main language spoken in their household.

Fishing frequency

Almost 70 per cent of fishers stated that they fished less often during the logbook survey than in the preceding five years. Only 7 per cent of people said that they fished more during the survey. Work/business was the most reported reason for fishing less, followed by home/family reasons and personal health/fitness reasons (Table 1). The most reported reasons for fishing more were home/family, followed by location-related reasons.

Table 1 Top 10 reasons for changes in fishing frequency during the 12-month logbook survey relative to the previous five years

	% respondents	% SE
Reasons for fishing less		
<i>Work/business related</i>	33	3
<i>Home/family related</i>	16	2
<i>Personal health/fitness</i>	11	1
<i>Fishing quality/catch rates</i>	8	2
<i>Weather/environmental</i>	7	1
<i>Personal preference</i>	5	1
<i>Location related</i>	5	1
<i>Access related</i>	4	1
<i>COVID-19</i>	2	1
<i>Social related</i>	2	0
Reasons for fishing more		
<i>Home/family related</i>	26	8
<i>Location related</i>	23	10
<i>Personal preference</i>	12	5
<i>Work/business related</i>	8	4
<i>Access related</i>	7	4
<i>Social related</i>	6	2
<i>Time</i>	5	3
<i>More opportunity</i>	3	3
<i>Weather/environmental</i>	3	2
<i>Retired</i>	2	2

Satisfaction with fishing

Fishers were asked to rate their overall satisfaction with fishing during the 12-month logbook survey. The scale rated satisfaction from 1 (not at all satisfied) to 7 (extremely satisfied). Almost 70 per cent of fishers scored their overall satisfaction as 5, 6 or 7 (greater than a neutral score of 4), while less than 20 per cent of fishers scored their satisfaction as 1, 2 or 3 (Figure 2). This indicates that most fishers are satisfied with fishing.

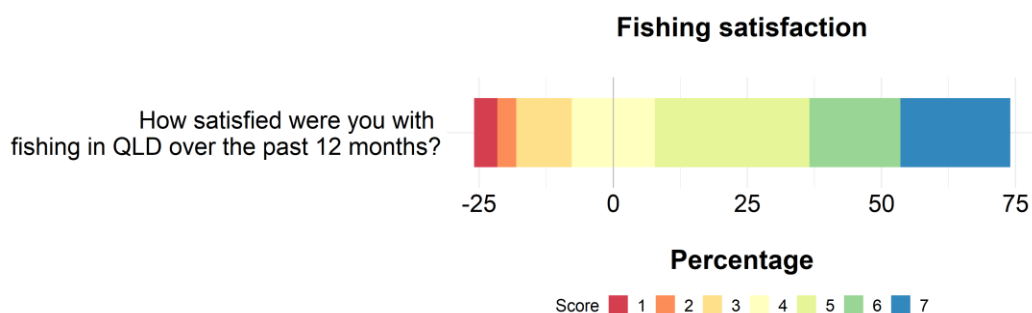


Figure 2 Overall satisfaction with fishing during the 12-month logbook survey. Satisfaction is rated on a scale of 1 to 7 from 'not at all dissatisfied' to 'extremely satisfied'. A score of 4 represents a neutral response of 'neither satisfied nor dissatisfied'.

Fishers were asked to state reasons for their satisfaction rating (Table 2). These open-ended responses were manually categorised. Among satisfied fishers, the most common reasons for their satisfaction rating were that they had had an enjoyable experience when fishing or that they were generally happy with fishing. Another common response was poor fishing quality, which was often cited among fishers who rated their satisfaction as 5. As such, this represents reasons for not scoring higher, rather than a reason for satisfaction per se. Indeed, among dissatisfied fishers, poor fishing quality was the most common reason for dissatisfaction. Fishers were also dissatisfied when they did not fish enough. Commercial fishing concerns was another reason for dissatisfaction.

Table 2 Reasons for satisfaction rating among satisfied (scores 5, 6, 7) and dissatisfied (scores 1, 2, 3) fishers

	% of respondents	% SE
Satisfied with fishing		
<i>Enjoyable experience</i>	23	3
<i>Generally happy with fishing</i>	14	2
<i>Poor fishing quality</i>	12	2
Dissatisfied with fishing		
<i>Poor fishing quality</i>	53	8
<i>Did not fish enough</i>	15	5
<i>Commercial fishing concerns</i>	10	4

Additionally, fishers were asked to score their satisfaction with several fishing-related items (Figure 3). Those that related to accessibility—specifically, parking spaces, boat ramp access, and uncrowded fishing spots—scored highly (greater satisfaction). Satisfaction was lowest for the number of big fish caught and the size of fish caught.

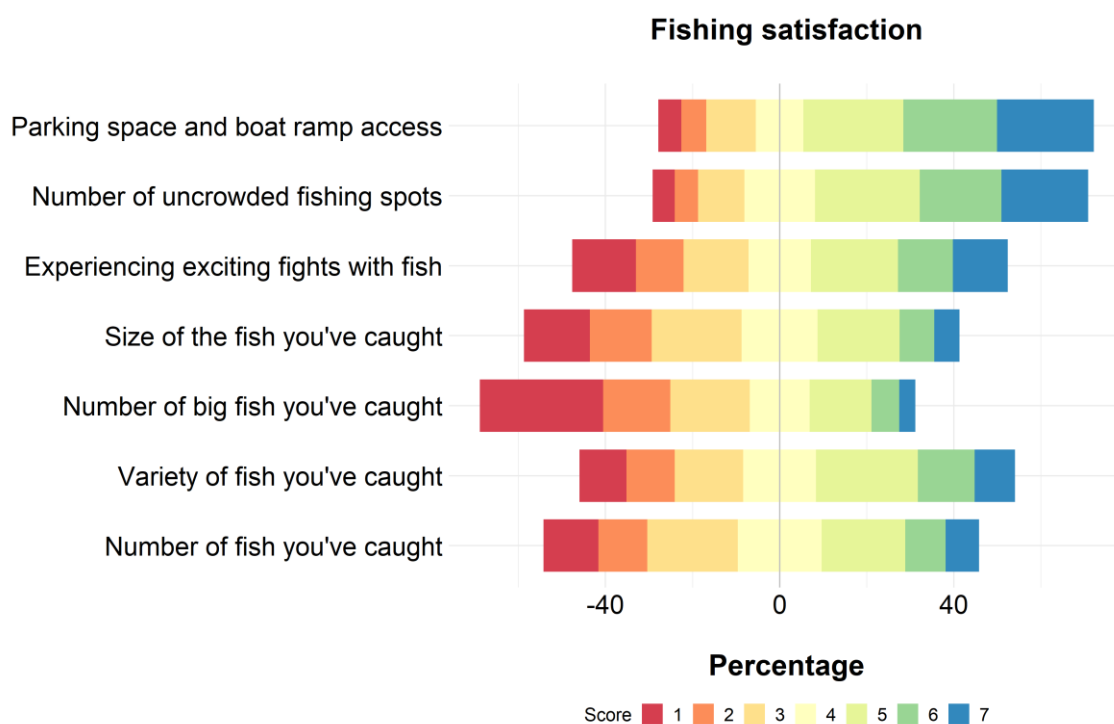


Figure 3 Satisfaction with fishing-related items. Satisfaction is rated on a scale of 1 to 7 from 'not at all satisfied' to 'extremely satisfied'. A score of 4 represents a neutral response of 'neither satisfied nor dissatisfied'.

Catch orientation and importance of fishing to lifestyle

The survey measured fishers' catch orientation, which quantifies the importance of actually catching a fish to their overall satisfaction with fishing². Highly catch-oriented fishers are happier when they catch a fish. Less catch-oriented fishers may get more satisfaction from other aspects of the overall fishing experience. For example, they may get more satisfaction from being in nature or being with friends than they do from actually catching a fish. Catch orientation was measured through responses to five statements, which were scored on a scale from 1 (strongly disagree) to 7 (strongly agree).

Just over 50 per cent of fishers agreed (score 5, 6, or 7) with the statement, 'The main reason I go fishing is to catch a fish' (Figure 4). However, few fishers (20 per cent) agreed with the statement 'When I go fishing, I'm not happy unless I catch something', suggesting that most fishers are not highly catch-oriented. There was strong agreement with the statement, 'I usually have a good time fishing even if no fish are caught'.

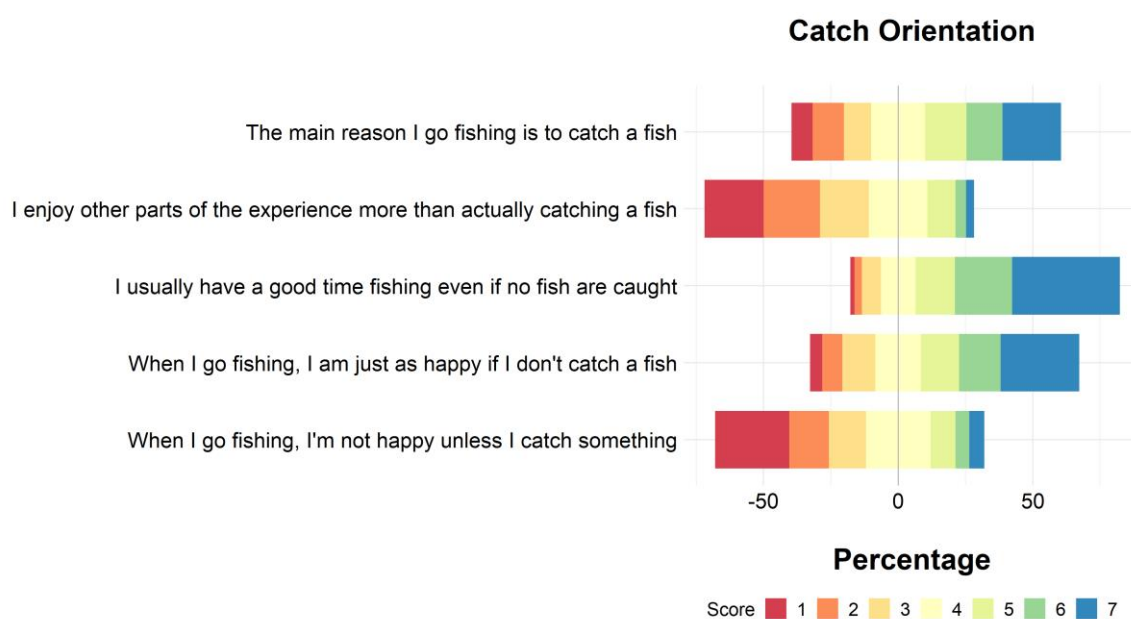


Figure 4 Agreement with catch orientation statements scored on a scale of 1 to 7 from 'strongly disagree' to 'strongly agree'. A score of 4 represents a neutral response of 'neither agree nor disagree'

The survey also measured the centrality of fishing to fishers' lifestyle³ through five statements (Figure 5). For some people, fishing is highly central to their life; for instance, it may be the most enjoyable activity they do and the main way they interact with friends. For others, fishing may be just one of several activities they enjoy and less central to their overall lifestyle. Almost 60 per cent of fishers agreed with the statement 'Going fishing is one of the most enjoyable things I do', yet only 30 per cent agreed that 'Other leisure activities do not interest me as much as fishing'. Almost 50 per cent of fishers agreed that 'Many of my friends go fishing'; however, the agreement the statements 'If I couldn't go fishing, I wouldn't know what else to do' and 'I would see some of my friends less often if I stopped fishing' was low. These results suggest that, for most fishers, fishing is an enjoyable activity, but other activities are also important and socialising with friends is not reliant on fishing.

For each construct, responses to the five statements were averaged by household to provide an overall measure of catch orientation and the centrality of fishing to lifestyle. For catch orientation, three negatively worded statements were reverse-scored prior to analysis. Figure 6 shows the spread

² Adapted from Arlinghaus (2006).

³ Adapted from Beardmore et al. (2015)

of mean scores for both constructs on a scale of 1 to 7. Both constructs are skewed towards having a low-moderate catch orientation and centrality to lifestyle.

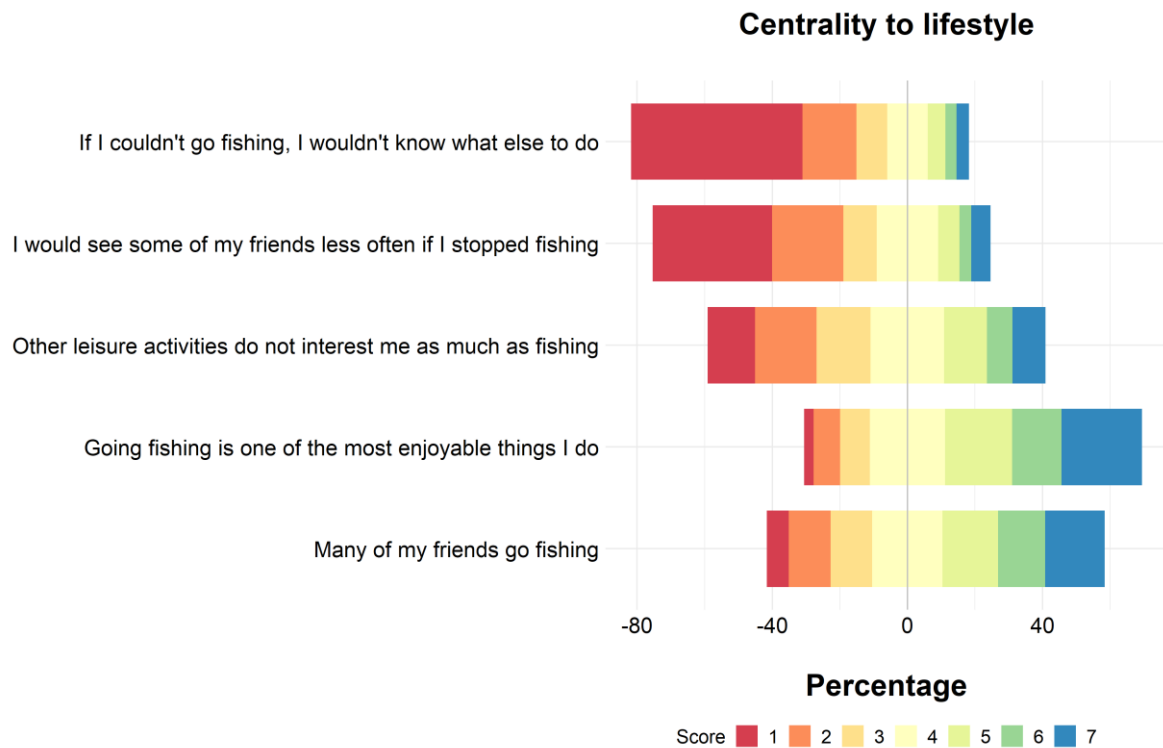


Figure 5 Agreement with centrality to lifestyle statements scored on a scale of 1 to 7 from 'strongly disagree' to 'strongly agree'. A score of 4 represents a neutral response of 'neither agree nor disagree'.

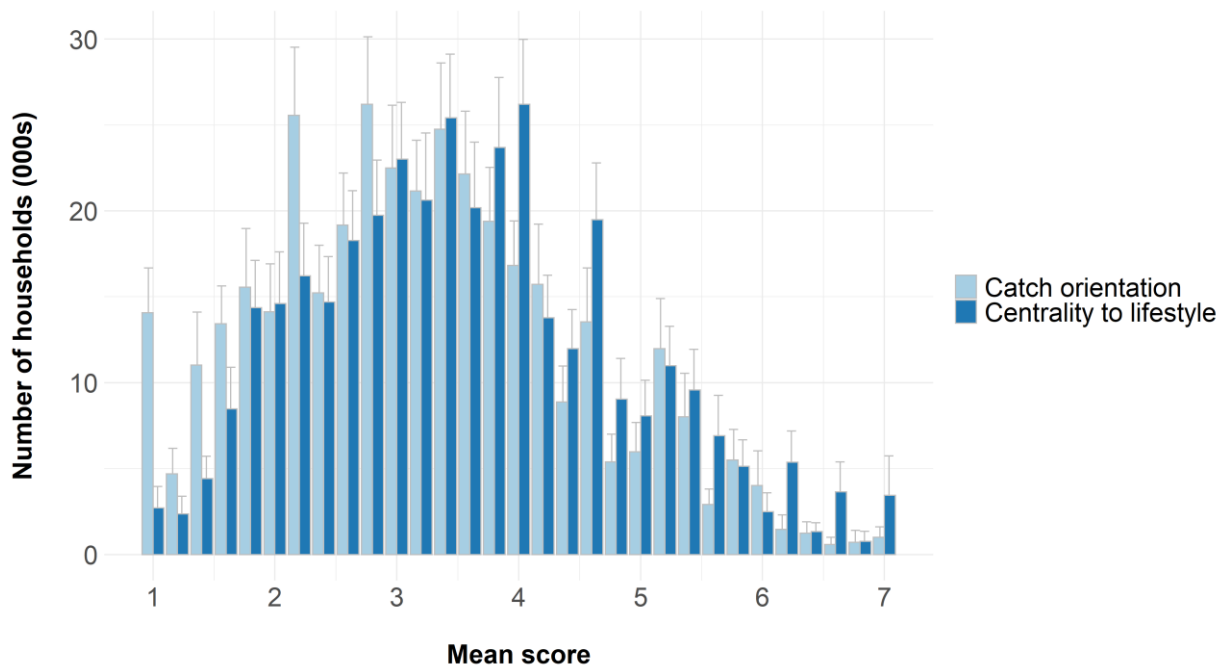


Figure 6 Mean household score for catch orientation and centrality to lifestyle.

Stocked impoundments

In Queensland, 63 impoundments are stocked with native fish for recreational fishing purposes. Fishing these impoundments (or dams) requires a Stocked Impoundment Permit Scheme (SIPS) permit, with 22 per cent of fishers stated that they had fished in a stocked dam at any time. For these fishers, the survey collected information about the reasons for choosing to fish in a stocked dam. Fishers rated each item on a scale of 1 (not at all important) to 7 (extremely important) (Figure 7).

The most important reasons for choosing to fish in a stocked dam were water quality in the dam and campsite facilities (68 per cent and 67 per cent of fishers scored this item 5, 6 or 7, respectively). Species of fish in the dam and noise and safety from other water users were also important reasons, with 62 per cent of fishers scoring these items 5, 6, or 7. The least important reasons were the location of fishing competitions (72 per cent of fishers scored this item 1, 2 or 3) and other recreational facilities (53 per cent of fishers scored this item 1, 2 or 3).

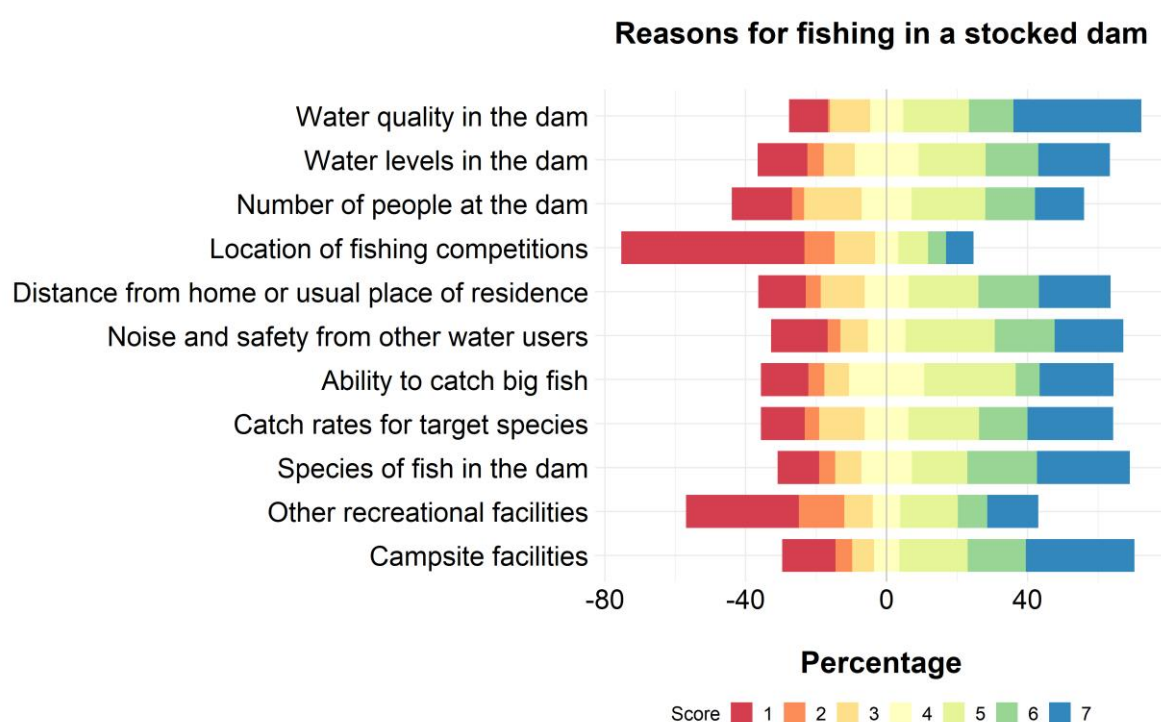


Figure 7 Importance of reasons for choosing to fish in a stocked impoundment (dam). Importance was scored on a scale of 1 to 7 from 'not at all important' to 'extremely important'. A score of 4 represents a neutral response of 'neither important nor unimportant'.

Bait and berley use

The survey included questions about bait and berley use. These were included to measure fishers' awareness of the biosecurity risks of using prawns sold for human consumption as bait. Sixty five per cent of fishers stated that they had used prawns of any kind for bait or berley over the previous 12 months. Of those fishers, eighteen per cent stated that at least some prawns used for bait were purchased from a supermarket where they were being sold for human consumption. Of these fishers, 67 per cent of fishers stated that they only used local prawns (Australian) while 28 per cent of fishers stated they were unsure of the origin. Most fishers stated that they used uncooked whole prawns (not shelled) most times or sometimes (Figure 8).

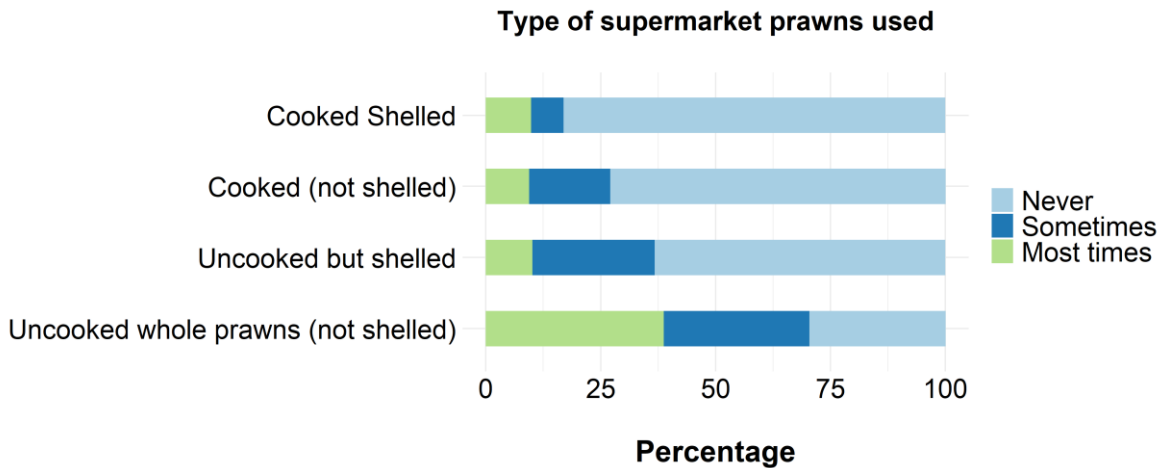


Figure 8 Frequency of use of various types of supermarket prawns by people who used supermarket prawns

Fishers who used prawns that were sold for human consumption were asked to provide reasons for purchasing these prawns instead of those sold specifically as bait. The most common reasons were that they're better quality than bait prawns, they're fresher than bait prawns, and prawns were cheaper from the supermarket/fish shop (Table 3).

Table 3 Reasons for using supermarket prawns as bait⁴.

Reason	% of respondents	% SE
<i>They're better quality than bait prawns</i>	44	8
<i>They're fresher than bait prawns</i>	43	9
<i>Prawns were cheaper from the supermarket/fish shop</i>	40	8
<i>I had bought the prawns to eat</i>	30	8
<i>I needed prawns of the right size</i>	30	7
<i>I couldn't buy bait prawns easily</i>	19	7
<i>I needed prawns of the right form/shape</i>	17	6
<i>I wanted to buy fewer prawns than I could get in a bait pack</i>	13	5
<i>I wanted to use particular prawn species not available as bait</i>	13	4
<i>I wanted to buy more prawns than I could get in a bait pack</i>	13	4
<i>Other</i>	11	4

Half of all recreational fishers surveyed said that they recalled seeing or hearing advice not to use supermarket prawns as bait. The Mackay Hinterland region had the greatest proportion of fishers (71 per cent) who recalled seeing this advice Table 4 Percentage of fishers by residential region who recalled hearing advice to not use supermarket prawns as bait (Table 4).

⁴ Respondents selected all applicable reasons.

Table 4 Percentage of fishers by residential region who recalled hearing advice to not use supermarket prawns as bait

Residential region	% of fishers	% SE
<i>Brisbane</i>	52	5
<i>Cairns</i>	51	12
<i>Central West / South West / North West</i>	51	13
<i>Darling Downs</i>	41	7
<i>Far North Hinterland</i>	46	13
<i>Fitzroy Hinterland</i>	68	30
<i>Gladstone</i>	53	18
<i>Gold Coast</i>	48	10
<i>Mackay</i>	63	14
<i>Mackay Hinterland</i>	71	24
<i>Northern Hinterland</i>	43	19
<i>Rockhampton</i>	53	12
<i>Sunshine Coast</i>	45	10
<i>Townville</i>	43	10
<i>Wide Bay Burnett</i>	49	11
<i>West Moreton</i>	49	11

Vessels

Fishers were asked to provide information about their household's boat use. Fifty three per cent of households owned a vessel of any kind. Of those households, 77 per cent owned boat/s, 41 per cent owned kayak/s and 6 per cent owned jet ski/s⁵.

Eighty per cent of households that owned a boat used their boat for recreational fishing (cf. 31 per cent for kayaks and 28 per cent for jet skis), and most fishers used their boat for fishing on at least 75 per cent of their trips (Figure 9). Of the boats used for fishing, 85 per cent were up to 6 metres in length, 14 per cent were 6–10 metres and 1 per cent were >10 metres. Boat owners were asked whether their boat had side scan sonar and/or an electric motor. Twenty three per cent of boats had side scan sonar, 8 per cent had an electric motor, 13 per cent had both, and 56 per cent had neither.

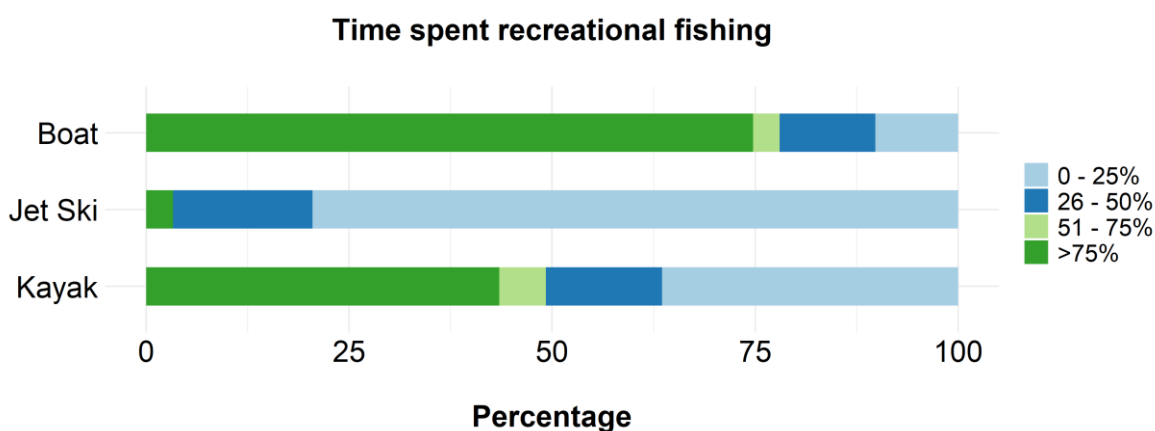


Figure 9 Proportion of time that vessels are used for recreational fishing

⁵ Multiple responses were accepted.

Information and engagement with Fisheries Queensland

Fishers were asked about their main sources of information about fishing in Queensland (e.g. how they find out about rules and regulations). 'Other fishers, including friends and family', was the main information source for most fishers (Table 5). Fisheries Queensland's website, tackle/bait shops, other internet sites and other social media (not Fisheries Queensland) were also important information sources.

Table 5 Recreational fishers' main sources of fishing information⁶.

Source	% of respondents	% SE
<i>other fishers (including friends/family)</i>	36	2
<i>Fisheries Queensland website</i>	31	2
<i>tackle/bait shop</i>	26	2
<i>other internet sites</i>	26	2
<i>other social media</i>	16	2
<i>television</i>	15	1
<i>Fisheries Queensland brochures/publications</i>	13	1
<i>fishing magazines</i>	10	1
<i>other print media</i>	7	1
<i>Fisheries Queensland social media</i>	7	1

Fishers were asked about their satisfaction with the engagement with Fisheries Queensland, fishers were asked to rate their satisfaction on a scale of 1 (not at all satisfied) to 5 (extremely satisfied) (Figure 10). Over 75 per cent of fishers were extremely satisfied or somewhat satisfied (i.e. score 5 or 4).

Fishers were also asked to rate their opinion of Fisheries Queensland's sincerity in engaging with recreational fishers on a scale of 1 (very insincere) to 5 (very genuine) (Figure 11). Seventy eight per cent of fishers stated that Fisheries Queensland was very genuine or somewhat genuine about engaging with recreational fishers (i.e., score 5 or 4).

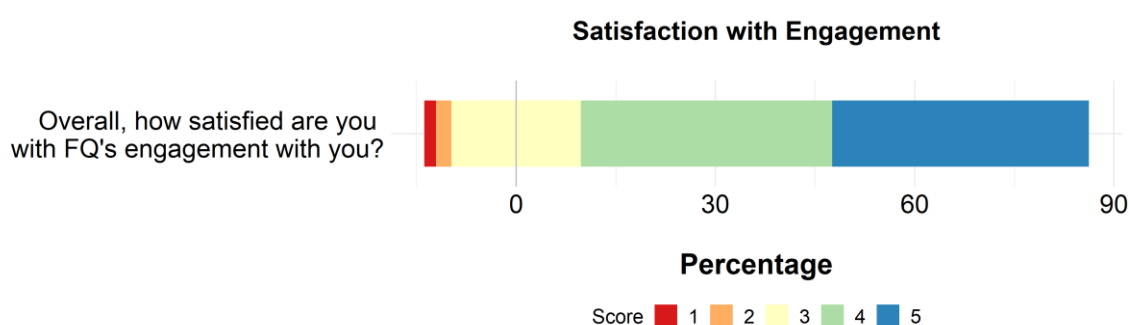


Figure 10 Fishers' satisfaction with engagement with Fisheries Queensland. Satisfaction was scored on a scale of 1 to 5 from 'not at all satisfied' to 'extremely satisfied'. A score of 3 represents a neutral response of 'neither satisfied nor dissatisfied'.

⁶ Respondents selected all applicable information sources.

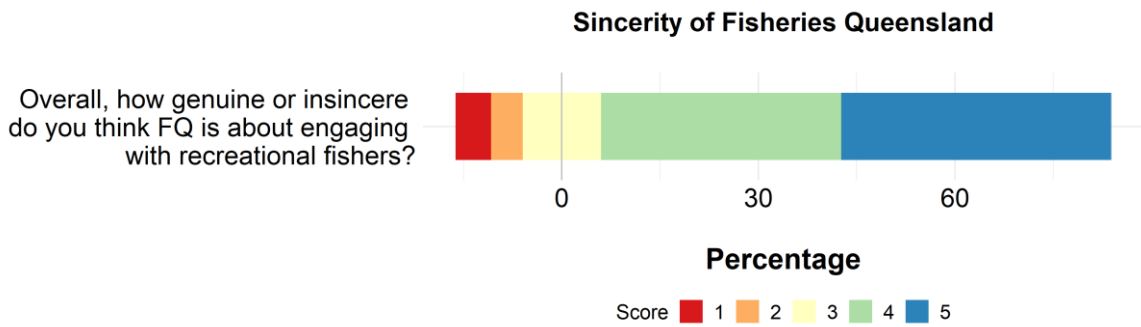


Figure 11 Fishers' opinions of Fisheries Queensland's sincerity in engaging with recreational fishers. Sincerity was scored on a scale of 1 to 5 from 'very insincere' to 'very genuine'. A score of 3 represents a neutral response of 'neither genuine nor insincere'.

Management of Queensland's fisheries

Fishers were asked several questions relating to the sustainability and management of Queensland's fisheries. Fifty three per cent of fishers thought that Fisheries Queensland does a good job managing Queensland's fisheries (Figure 12), 58 per cent of fishers thought that, generally, Queensland's fisheries are sustainable, while 12 per cent thought they were not sustainable (Figure 13). Fifty two per cent of fishers stated that sustainability influences the species they fish for (Figure 14).

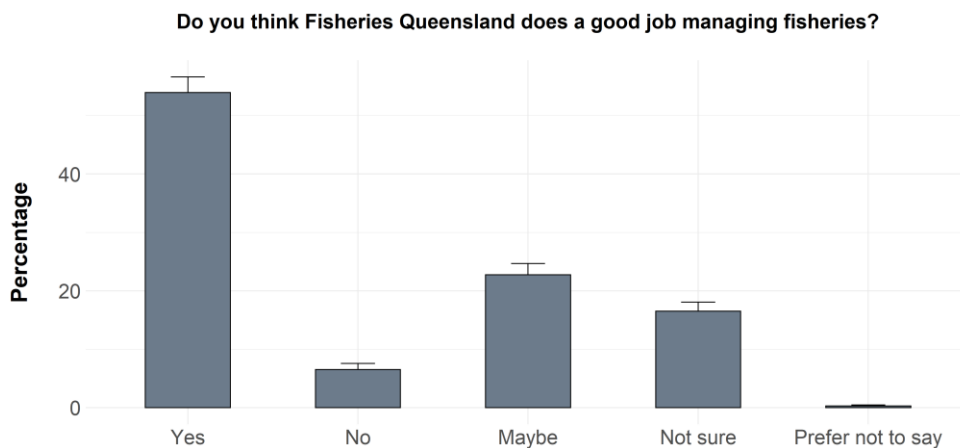


Figure 12 Fishers' opinions on Fisheries Queensland's management of fisheries

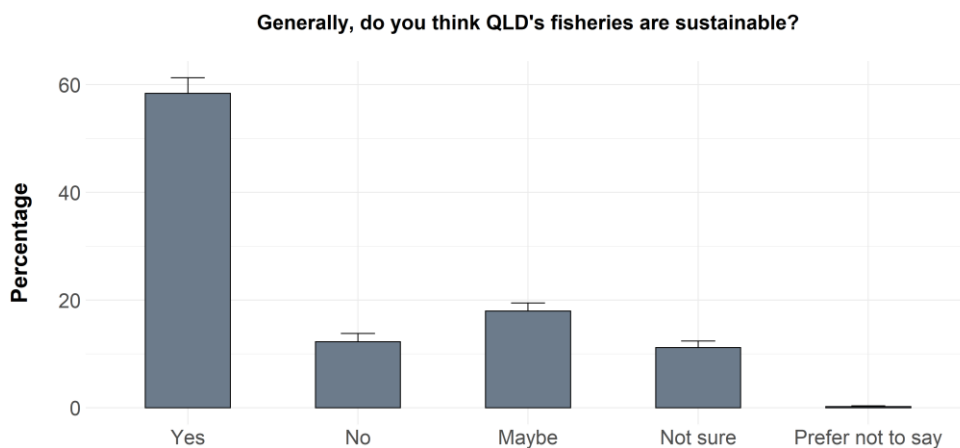


Figure 13 Fishers' opinions on whether Queensland's fisheries are sustainable

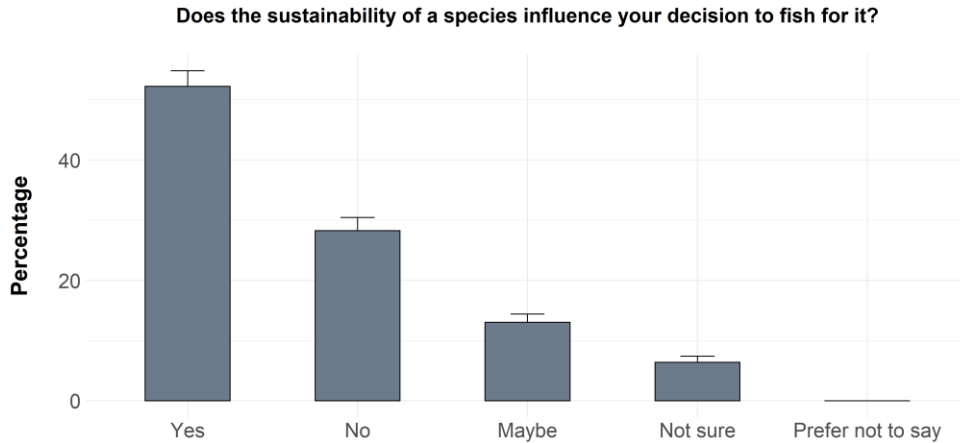


Figure 14 Fishers' opinions on whether sustainability influences their choice of fishing

Fishers were asked what they think the management of fish stocks should be primarily based on (Table 6). Fishers could nominate as many categories as they wanted to; 76 per cent of fishers thought that management should be based on fisheries science. On a separate question, 46 per cent of respondents rated Fisheries Queensland's ability at doing fisheries science as good (Figure 15).

Table 6 Fishers' opinions on what fisheries management should be primarily based on⁷

Management should be based on:	% of respondents	% SE
<i>fisheries science</i>	76	3
<i>public opinion</i>	18	2
<i>economics</i>	14	1
<i>not sure</i>	10	1
<i>rules from other states/overseas</i>	5	1
<i>sustainability</i>	5	1
<i>environmental factors</i>	1	0

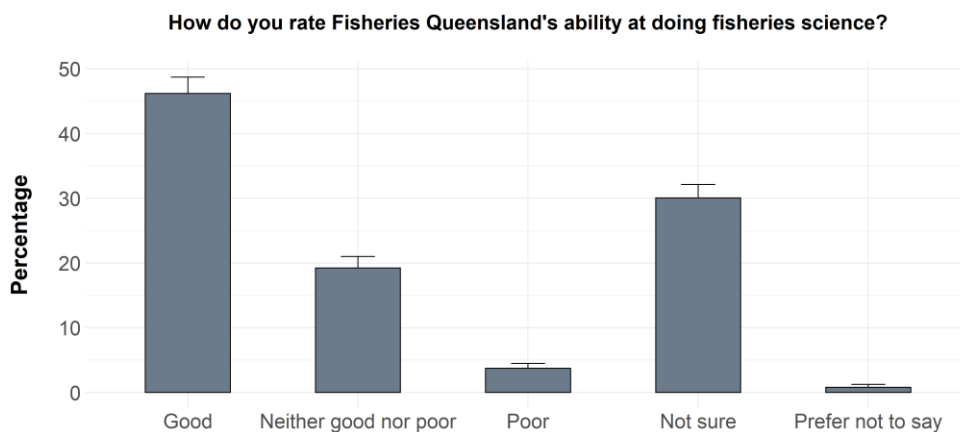


Figure 15 Fishers' opinions on Fisheries Queensland's ability at doing fisheries science

⁷ Multiple responses were allowed.

Fishers were asked to specify where money should be spent on managing recreational fishing (Table 7)⁸. A list of items was provided, and fishers could specify other items that were not listed. Over 50 per cent of fishers stated that money should be spent on fish stocking programs and fisheries science. Forty five per cent of fishers stated that money should be spent on enforcement and compliance.

Table 7 Fishers' opinions on where money should be spent on recreational fishing⁹

	% of respondents	% SE
Money should be spent on:		
<i>fish stocking programs</i>	53	3
<i>fisheries science</i>	51	3
<i>enforcement/compliance</i>	45	3
<i>land-based infrastructure</i>	44	3
<i>education</i>	40	2
<i>water-based infrastructure</i>	38	2
<i>removal of commercial effort</i>	27	2
<i>not sure</i>	7	1
<i>sustainability</i>	2	0
<i>habitat sustainability/restoration</i>	2	1

Open-ended questions

The survey included a section of open-ended questions, where fishers could provide comments of any length on fisheries-related topics. Questions prompted fishers to comment on (1) anything else about recreational fishing in Queensland, (2) anything about regulations or management (e.g., bag/size limits or fish numbers), or (3) anything about the health of the waterways or environment. Questions were otherwise unstructured. Responses varied in length from a few words, a single sentence, to several paragraphs (e.g. Figure 16).

Open-ended statements were manually categorised. Categories were applied to all questions. For example, if a fisher mentioned water quality concerns in question 1 (anything about recreational fishing), their response was analysed for question 3 (anything about waterways or environment) instead of question 1. This is important because many fishers provided many details for the first open-ended question and did not necessarily repeat them in subsequent questions. Likewise, if any reasons for fishing satisfaction and dissatisfaction (see above) related to these open-ended questions, responses were analysed here. Duplicate responses were removed to ensure that fishers who mentioned issues multiple times were not counted more than once for the open-ended questions.

Tables 8, 9 and 10 present summaries of all responses received¹⁰. Responses are shown as a percentage of fishers who provided a response to each question. It is important to note that, because open-ended questions were unstructured, responses represent only those fishers who mentioned a given topic. Other fishers may have the same or similar opinion but did not mention it in these unstructured survey questions.

⁸ Top 10 categories shown. Other categories had very few responses.

⁹ Multiple responses were allowed.

¹⁰ Excluding categories with a Residual Standard Error over 50 per cent.

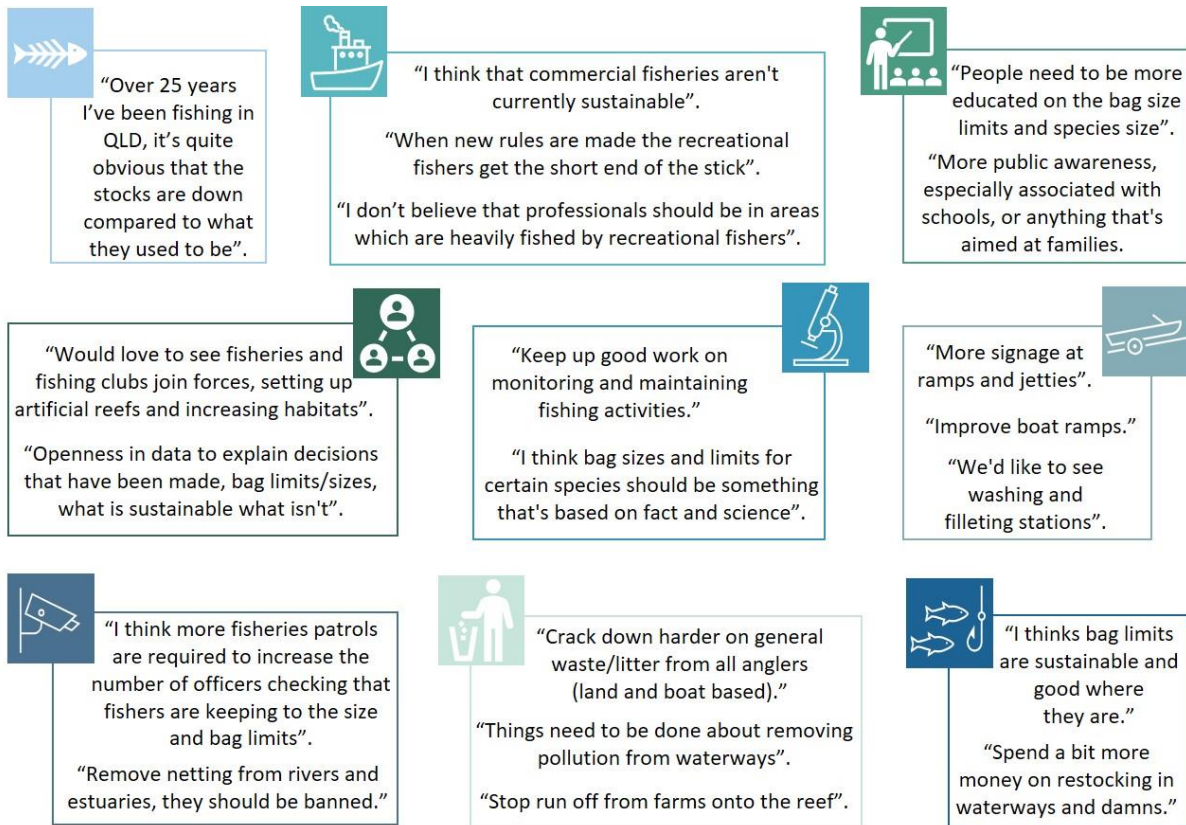


Figure 16 Examples of salient open-ended comments

Recreational fishing in Queensland

The most frequent comments received about recreational fishing (generally) related to improvements to boat ramps or other facilities (17 per cent of respondents) (Table 8). These comments mostly identified issues of accessibility (e.g., construct more boat ramps) and facilities at existing ramps (e.g., more parking, toilets, fish cleaning stations).

Nine per cent of respondents commented on the need for more engagement in fishing, such as through school activities and competitions to promote fishing to children. Many respondents commented on the poor quality of recreational fishing and, relatedly, raised concerns about net fishing (recreational or commercial), commercial fishing generally or overfishing generally. Nine per cent of fishers explicitly commented on poor fishing quality, such as low catch rates or a decline in catch over time. Comments on net fishing (8 per cent of respondents) related to reducing or banning netting, both commercial and recreational. Comments on commercial fishing (7 per cent of respondents) related to general concerns about impacts on fish stocks. Likewise, 7 per cent of respondents mentioned concerns about overfishing or sustainability, and 8 per cent of respondents commented on the need for more fish stocking, both in freshwater and marine habitats.

Table 8 Comments received about recreational fishing generally. Comments are coded from open-ended statements¹¹

	% of respondents	% SE
Anything about recreational fishing?		
<i>Improve boat ramps or other facilities</i>	17	4
<i>Other</i>	9	3
<i>More engagement is needed</i>	9	4
<i>Poor fishing quality</i>	9	2
<i>More stocking</i>	8	3
<i>Net fishing concerns</i>	8	3
<i>Overfishing or sustainability concerns</i>	7	3
<i>Commercial fishing concerns</i>	7	3
<i>Shark concerns</i>	4	2
<i>More artificial reefs</i>	3	1
<i>Improve accessibility</i>	2	1
<i>Happy with fishing</i>	2	1
<i>Improve information/communication</i>	2	1

Regulations and management

A large range of comments were received about regulations and management (Table 9). The most common concerns raised (27 per cent of respondents) related to the need for improved compliance and enforcement. Examples of concerns raised were the need for better enforcement of bag and size limits, a greater number of inspectors and the improved visibility of inspectors on the water and on beaches.

Twelve per cent of respondents mentioned the need for more education and information about rules and regulations through improved technology (3 per cent of respondents) and signage (1 per cent of respondents). Five per cent of respondents were concerned about the take of undersized fish and people exceeding bag limits, and 11 per cent of respondents said that commercial fishing, crabbing and/or netting needs to be reduced.

Nine per cent of respondents said they were happy with current regulations, and 2 per cent said they were happy with current enforcement and/or management. Other respondents suggested changes to regulations, such as

- reducing bag limits (7 per cent of respondents),
- increasing bag limits (2 per cent of respondents),
- changing green zones (3 per cent of respondents),
- allowing the take of female mud crabs (3 per cent of respondents),
- allowing the take of pest fish (3 per cent of respondents)
- increasing closures (2 per cent of respondents).

Five per cent of fishers mentioned an objection to a recreational fishing licence, while 4 per cent mentioned they would support a fishing licence. Four per cent of respondents mentioned that they support experts and science in management and regulations.

¹¹ Multiple responses were allowed.

Table 9 Comments received about regulations and management. Comments are coded from open-ended statements¹².

	% of respondents	% SE
Anything about regulations and management?		
<i>improve compliance/enforcement</i>	27	4
<i>more education/information about rules</i>	12	2
<i>reduce commercial fishing/crabbing/netting</i>	11	2
<i>happy with regulations</i>	9	2
<i>reduce bag limits</i>	7	2
<i>concerns with undersized fish/exceeding bag limits</i>	5	2
<i>Does not support fishing licence</i>	5	2
<i>support fishing licence</i>	4	1
<i>support experts/science</i>	4	1
<i>disagree with regulations</i>	3	1
<i>changes to green zones</i>	3	2
<i>allow take of female mud crabs</i>	3	1
<i>review regulations</i>	3	1
<i>higher infringement penalties</i>	3	1
<i>allow take of pest fish</i>	3	1
<i>improve technology for rules and regulations</i>	3	1
<i>increase bag limits</i>	2	1
<i>increase closures</i>	2	1
<i>support bag/size limits</i>	2	1
<i>other</i>	2	1
<i>happy with enforcement/management</i>	2	1
<i>stop changing regulations</i>	2	1
<i>improve signage for rules and regulations</i>	1	1
<i>none</i>	1	1
<i>more lenient enforcement</i>	1	0

Waterways and the environment

Sixteen per cent of respondents mentioned that water quality and/or waterways are healthy, while 14 per cent mentioned that waterways need improvement (Table 10). Two per cent of respondents felt that waterways are improving.

Pollution was a common concern raised, with 6 per cent of respondents were concerned about pollution and rubbish generally, 7 per cent were concerned about plastic pollution specifically, and 5 per cent were concerned about farm runoff specifically. Six per cent of respondents mentioned the need for more education about waterways and pollution.

Six per cent of respondents were concerned about the impact of boating and jet skis on waterway health, 4 per cent of respondents mentioned the need for improved compliance/enforcement of waterway issues, and 3 per cent mentioned that they were happy with waterway management.

¹² Multiple responses were allowed.

Table 10 Comments received about waterways and the environment. Comments are coded from open-ended statements¹³.

	% of respondents	% SE
<i>Anything about waterways or the environment?</i>		
<i>water quality/waterways are healthy</i>	16	4
<i>waterways need improvement</i>	14	3
<i>plastic pollution concerns</i>	7	3
<i>pollution/rubbish concerns</i>	6	2
<i>more education about waterways/pollution</i>	6	2
<i>boating/jet ski concerns</i>	6	2
<i>farm runoff concerns</i>	5	2
<i>more clean ups</i>	4	2
<i>improve compliance/enforcement</i>	4	1
<i>improve rubbish bins</i>	4	2
<i>drought concerns</i>	3	1
<i>happy with management</i>	3	1
<i>waterways improving</i>	2	1
<i>concerned about great barrier reef</i>	2	1
<i>protect mangroves</i>	2	1
<i>supports monitoring/research</i>	2	1

Discussion

Understanding the social dimensions of recreational fisheries is important for effective and equitable management. A key aim of the current Queensland Sustainable Fisheries Strategy is to improve stakeholder satisfaction. For recreational fishers, this requires knowledge of the factors that influence fishing satisfaction. In this survey, almost 70 per cent of recreational fishers were satisfied with fishing, despite most reporting a decline in fishing frequency over the previous 12 months relative to the preceding five years—23 per cent of satisfied fishers cited an enjoyable fishing experience as a reason for their satisfaction. Such responses were largely unrelated to catch; comments like ‘It’s good to get out and relax’ and ‘I’m just happy to be on the water’ were common.

Indeed, most fishers were not highly catch-oriented. Few fishers agreed with the statement ‘When I go fishing, I’m not happy unless I catch something’. Likewise, agreement was low for the statement that ‘Other leisure activities do not interest me as much as fishing’. These results highlight the importance of considering non-catch factors in recreational fisheries management. Nonetheless, poor catch was a common concern among dissatisfied fishers and those who were only moderately satisfied—comments about poor fishing quality mostly related to low or declining catch rates.

To support recreational fishing, 63 dams across Queensland are stocked with native fish. Fishing in these dams is regulated under the Stocked Impoundment Permit Scheme (SIPS)—22 per cent of fishers reported that they had fished in a stocked dam. Fish stocking programs had strong support from fishers—when asked where money should be spent on recreational fishing, 53 per cent of fishers mentioned fish stocking programs in freshwater and marine environments.

Over 50 per cent of fishers thought that Fisheries Queensland does a good job managing fisheries and that, generally, Queensland’s fisheries are sustainable. However, many fishers raised concerns

¹³ Multiple responses were allowed.

about regulations and management, such as the need for improved compliance, more education about rules, and reducing the impacts of commercial fishing.

When asked about waterways and the environment, 16 per cent of respondents mentioned that water quality and/or waterways are healthy, while 14 per cent mentioned that they need improvement. Pollution, including plastic pollution and farm runoff, was another common concern. When asked about general recreational fishing issues, the need for improved boat ramps or other facilities was mentioned by 17 per cent of fishers.

The survey included questions about bait and berley use, to determine whether fishers understand the biosecurity risks of using food-grade prawns as bait:

- 65 per cent of fishers stated that they had used prawns for bait or berley over the previous 12 months, of which 18 per cent stated that at least some prawns used had been sold to them for human consumption.
- 28 per cent of fishers said that they were unsure whether the prawns were local or imported.

Cooked prawns were rarely used. The most common reason for choosing food-grade prawns was that they're better quality than bait prawns, however, 50 per cent of fishers recalled hearing advice not to use supermarket prawns.

Fishers were asked about their sources of fishing information, such as rules and regulations. Other fishers, including friends and family, was the most common information source, followed by Fisheries Queensland's website. Social media was not a common source of information for fishers. Over 75 per cent of fishers reported being extremely satisfied or somewhat satisfied when asked about their satisfaction with Fisheries Queensland engagement. Similarly, 78 per cent of fishers thought that Fisheries Queensland was very genuine or somewhat genuine about engaging with recreational fishers.

Fishers were asked about vessel ownership, with 53 per cent of households owned a vessel, of which 77 per cent owned boat/s, 41 per cent owned kayak/s and 6 per cent owner jet ski/s. Twenty per cent of households that owned a boat did not use it for recreational fishing. Those that did use their boat/s for recreational fishing did so on at least 75 per cent of their boating trips. Most boats were < 6 metres in length. Over half of boats (56 per cent) had neither an electric motor nor side scan sonar.

This survey provides detailed social information about Queensland's recreational fishers. With stakeholder engagement and satisfaction a priority for fisheries management, this information should be considered alongside [catch, effort and expenditure data](#) to ensure that Queenslanders can continue to enjoy high-quality fishing for generations to come.

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