

The top half of the cover features a light blue background with a pattern of wavy lines representing water. Several stylized blue swimmer crabs are scattered across this area. The crabs are depicted in a simple, line-art style. The background is divided into geometric sections of different shades of blue.

Queensland blue swimmer crab fishery harvest strategy: 2021–2026

Business area owner Management & Reform

Endorsed by Deputy Director-General (Fisheries & Forestry) in accordance with delegated powers under Part 2, Division 1 (Harvest Strategies) of the *Fisheries Act 1994*

Approved by Minister responsible for fisheries in accordance with section 16 of the *Fisheries Act 1994*

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What the harvest strategy is trying to achieve

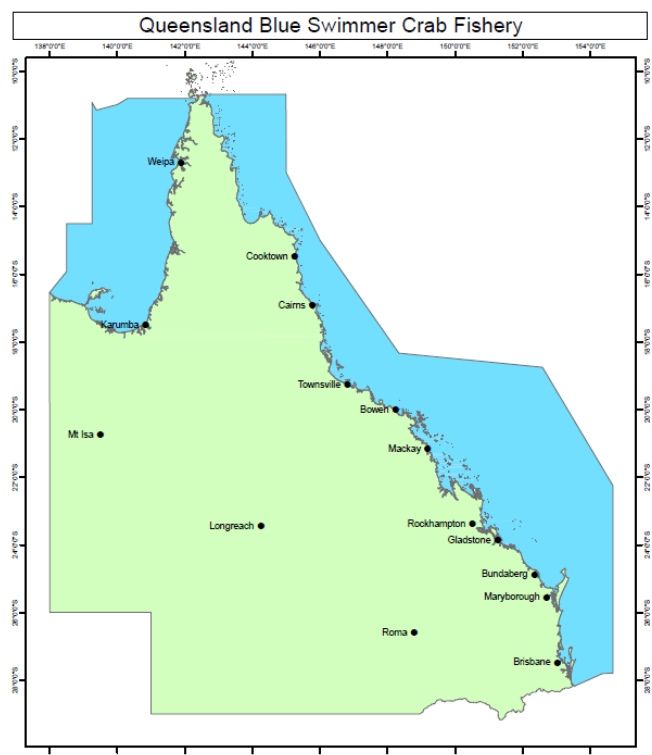
This strategy has been developed in line with the *Queensland harvest strategy policy* to manage the harvest of Queensland's blue swimmer crab resource. The harvest of blue swimmer crabs is currently considered sustainable, with the risk of overfishing low due to the management controls in place, including single sex harvest and minimum size limits. However, the fishery has displayed a decrease in commercial harvest in the 2017–18 and 2018–19 seasons, with an increase in harvest in 2019-20. The blue swimmer crab fishery (BSCF) is currently under a period of transition from a fishery with high potential effort and no effective catch limits, to a quota-managed fishery.

The aim of this harvest strategy is to manage the fishing mortality of blue swimmer crabs through setting a total allowable catch (TAC) at a level that allows the stock to achieve specified biomass targets. Through the transition to quota management, improved catch and effort data from all sectors will build confidence in a biomass-based management approach in the future. The strategy's decision rules are designed to set catch at levels appropriate for achieving a 60% exploitable biomass target for blue swimmer crab, as well as to maintain resource shares between commercial (pot and trawl), recreational and traditional fishing sectors. Exploitable biomass is the portion of a stock's biomass that is available to be harvested. In the case of blue swimmer crabs, exploitable biomass refers to legal size male mud crabs. Other management tools (e.g. size limits, spawning closures) may also be used to support the sustainable management of stocks under this harvest strategy.

Fishery overview

The BSCF includes commercial, recreational and traditional fishing that targets blue swimmer crabs. The blue swimmer crab stock currently experiences high local pressure in Moreton Bay, the Sunshine Coast and Hervey Bay from commercial fishers, while recreational fishing is more concentrated in the Moreton Bay region. These regions account for around 95% of the reported commercial pot harvest in Queensland. The total commercial pot catch of blue swimmer crabs in recent years has been between 350 and 400 tonnes, with the lowest recorded catch of 188 tonnes in the 2018–19 season, indicating the stock may be in decline. This is significantly lower than historical harvest levels of around 1300 tonnes in 2003 and 2004.

Blue swimmer crabs are also harvested in Queensland's east coast trawl fishery as a permitted by-product species. The take in this fishery is variable, averaging around 50 tonnes per year over the last decade. This was considerably higher prior to 2004, when catches exceeded 100 tonnes in most years.



The take of blue swimmer crabs by the recreational sector has been estimated to be around 36 tonnes per year, although this is likely to be below actual recreational harvest levels as there was no possession limit prior to 2019 and effort is unrestricted. As part of the recreational boat ramp survey program, it has been estimated that ~90% of recreational fishers surveyed (over 1000 surveys) caught six or fewer crabs.

While catch and effort in the Indigenous fishing sector is the least understood, it is assumed this sector has comparatively low levels of effort in comparison to other sectors.

Stocks covered by the harvest strategy

Blue swimmer crabs are distributed from the south coast of Western Australia, north to the Northern Territory, across Queensland, down the east coast and to the New South Wales–Victoria border. They are also found in the warmer waters of the South Australian gulfs.

Stock structure on the east coast of Australia is uncertain, involving overlapping stocks or a semi-continuous stock. Due to the geographic separation between the major fishing grounds for blue swimmer crab in New South Wales and Queensland, they are managed as two separate biological stocks. Blue swimmer crabs in the Gulf of Carpentaria are also managed as part of the Queensland stock.

Table 1: Summary of the fish stocks covered by this harvest strategy

Feature	Details
Target species	Blue swimmer crabs (<i>Portunus armatus</i>).
Biology	Blue swimmer crabs are fast growing benthic carnivores and scavengers. They mature early (~1 year) and are a highly fecund species that exploit a broad ecological niche. Mating occurs throughout most of the year when the female crab is in the early post-moult. Female egg-bearing crabs occur throughout the year with the proportion of females bearing egg masses being greatest during early spring (August-October). Blue swimmer crab longevity is between 3 and 4 years.

Management units for the harvest strategy

The single management unit for this harvest strategy is all Queensland waters. The fishery area is defined by the Fisheries (Commercial Fisheries) Regulation 2019.

Summary of management information

A summary of the management arrangements for the BSCF is set out in Table 2 overleaf. Fishers may access copies of fisheries legislation at legislation.qld.gov.au or visit fisheries.qld.gov.au for the latest information on fishing rules.

Table 2: Summary of BSCF management arrangements

Feature	Details
Commercial access	Primary commercial fishing licence with a C1 fishery symbol
Relevant fisheries legislation	<p><i>Fisheries Act 1994</i></p> <p>Fisheries (General) Regulation 2019</p> <p>Fisheries (Commercial Fisheries) Regulation 2019</p> <p>Fisheries Declaration 2019</p> <p>Fisheries Quota Declaration 2019</p>
Other relevant legislation	<p><i>Great Barrier Reef Marine Park Act 1975</i> and Great Barrier Reef Marine Park Regulations 2019 (Cwlth)</p> <p><i>Marine Parks Act 2004</i></p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i> and Environment Protection and Biodiversity Conservation Regulations 2000 (Cwlth)</p>
Working group	<p>Crab fishery working group</p> <p>Terms of reference and communiques are available at fisheries.qld.gov.au</p>
Gear	<p>The following apparatus are currently permitted for use:</p> <p>Commercial</p> <ul style="list-style-type: none"> • Crab pot, collapsible trap or dilly • Pots can be arranged along a trotline (excluding some areas) • Commercial fishers are limited to a maximum 50 pots, traps or dillies per C1 fishery symbol • 100 pots can be used where a primary commercial fishing licence has two C1 fishery symbols attached • 150 pots are used in some offshore waters in BSCF where three C1 fishery symbols are attached <p>Recreational</p> <ul style="list-style-type: none"> • Wire-mesh traps, trawl-mesh crab pots, and hoop/dilly (with restrictions) • Recreational fishers are limited to a maximum of 4 pots/dillies per person <p>Refer to fisheries legislation for specific gear requirements and rules</p>
Main management methods	<p>Commercial</p> <p>The main management methods under the harvest strategy are:</p> <ul style="list-style-type: none"> • individual transferable quota (ITQ) and associated total allowable commercial catch (TACC) • limited access through primary commercial fishing licences • maximum vessel size (25 m) • the above-mentioned gear restrictions <p>Recreational</p> <ul style="list-style-type: none"> • The main management methods under the harvest strategy are in possession limits • The above-mentioned gear restrictions

Feature	Details
	Other management methods <ul style="list-style-type: none"> • Minimum size limit • No take of female crabs • Trip limit for the east coast trawl fishers
Fishing year	1 July – 30 June
Stock status	<p>Stock status is assessed using the nationally agreed Status of Australian Fish Stocks (SAFS) classification framework – blue swimmer crab is currently listed as ‘sustainable’ (SAFS 2018)</p> <p>*Note: The classification system used as part of SAFS reporting is assessed against 20% biomass sustainability criteria. Therefore, although a species may be classified as ‘sustainable’ in SAFS, this does not mean that the biomass is meeting the targets set out in the <i>Queensland Sustainable Fisheries Strategy: 2017–2027</i>. For more specific species biomass estimates, consult the relevant stock assessment for that species.</p>
Accreditation under the Environment Protection and Biodiversity Conservation Act 1999	Part 13: Accredited (expires 2022) Part 13A: Accredited (expires 2022) Visit environment.gov.au

Fishery objectives

The objective of the harvest strategy is to manage the fishery in accordance with the objectives of the *Fisheries Act 1994* and the *Queensland Sustainable Fisheries Strategy: 2017–2027*.

Fishery objectives set out the direction and aspirations to achieve in the long term. The primary objective is to:

- maintain the blue swimmer crab resource at, or returned to, a target exploitable biomass level that aims to maximise economic yield (MEY) for the fishery.

In pursuing the primary objective, the harvest strategy aims to:

- minimise and mitigate any unacceptable ecological risks arising from fishing-related activities
- maintain appropriate sectoral allocations for the BSCF resource
- maximise economic performance of the commercial sector
- manage excess capacity to improve social and economic benefits
- monitor the broader social and economic benefits of the fishery to the community.

Catch shares

This harvest strategy aims to maintain the existing catch shares between sectors. The resource allocation arrangements set out in Table 3 ensure that catch shares among sectors can be maintained in response to changes in the TAC.

Future reviews of the TAC will take into account the results from the latest statewide recreational fishing survey, any other available information relating to recreational harvest, and validated commercial catch over corresponding years. Table 3 outlines **indicative** catch shares (rounded to nearest 5%) for all sectors for blue swimmer crab, based on available data up to 2018.

The traditional fishing rights of Aboriginal peoples and Torres Strait Islanders are protected under native title legislation and relate to harvest for domestic, communal and non-commercial purposes. Accordingly, traditional and customary fishing is recognised in Queensland and is not a defined allocation.

Aboriginal peoples and Torres Strait Islanders and their communities continue to express a desire for more economic opportunities through fishing, particularly in their own sea country. The *Aboriginal and Torres Strait Islander commercial fishing development policy* provides for an Indigenous fishing permit to be issued, on a case-by-case basis and in accordance with section 54 of the Fisheries (General) Regulation 2019, to provide opportunities to take part in fishing-related business.

Table 3: Resource allocation arrangements for the BSCF

Sector	Commercial fishing*		Recreational fishing [#]
Proportion of total harvest	85%		15%
Within sector proportions	Pot fishing	Trawl fishing**	N/A
	90%	10%	
Indigenous commercial fishing development	10 tonnes		

* Commercial catch information collected through commercial logbook requirements.

** Trawl fishery percent target is based on maintaining around 10% of the total commercial harvest (i.e. commercial pot and commercial trawl).

[#] The indicative recreational harvest range is based on the 2013 recreational harvest estimate plus or minus 2 x 25% being the reported standard error.¹ The recreational range is based on the estimated harvest from the 2013 Statewide Recreational Survey (36 tonnes) plus or minus 50%. The blue swimmer crab recreational estimate has a high level of uncertainty (around 25%) compared with many other recreational estimates.

¹ Webley, J, McInnes, K, Teixeira, D, Lawson, A & Quinn, R 2015, *Statewide Recreational Fishing Survey 2013–14*, technical report, Department of Agriculture and Fisheries, Queensland, <<http://era.daf.qld.gov.au/id/eprint/6513/>>.

Managing the performance of the fishery

Key indicators measure how the fishery is performing. The indicators relate to the objectives and use reference points to establish acceptable performance (Table 4 overleaf). The indicators measure the relative amount of fish biomass of key stock(s) against target and other reference points. The default biomass reference points identified in this harvest strategy are:

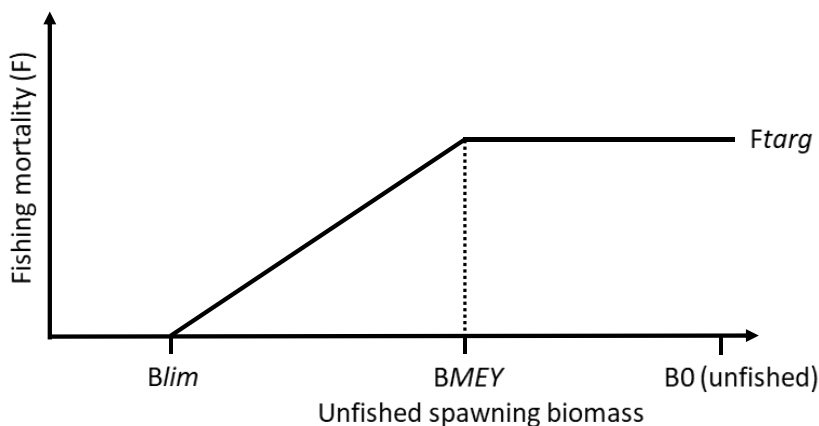
- a target reference point (B_{targ}) of 60% of the exploitable biomass being the relative biomass level the harvest strategy aims to achieve for key target species – this is also considered a proxy for achieving maximum economic yield (B_{mey}) =
- a limit reference point of 20% of the exploitable biomass (B_{lim}) being the biomass level that the harvest strategy aims to avoid. If the stock is assessed to be below B_{lim} the risk to the stock is unacceptably high and the stock is defined as “depleted”.

For key stocks, performance indicators and sustainable harvests for all sectors will be estimated from a stock assessment. The aim is to measure the capability for the stock to attain the target biomass level (B_{targ} 60%), and at which point the harvest strategy will be considered as meeting its objectives.

The decision rules for setting a sustainable harvest in the blue swimmer crab harvest strategy are based on a ‘hockey stick’ approach for setting the TAC. This is where the TAC is set based on a linear relationship between B_{lim} , where the level of fishing mortality (F) is equal to zero, and B_{targ} , where the exploitation rate and TAC are set at the level to achieve MEY (Figure 1).

The decision rule takes into account the current biomass level of the stock for determining the TAC to achieve the B_{targ} . The recommended TAC is calculated by applying the rate of fishing mortality to achieve B_{targ} to the current exploitable biomass level. As a result, the recommended TAC represents the total catch from all sectors that can be harvested in the following years, to move the current biomass level towards the target level. A discount factor may also be included to account for uncertainty and to reduce the risk of a fishery not achieving its objectives.

If the exploitable biomass falls below the limit reference point (B_{lim} 20%), there will be no more targeted fishing of the stock until a rebuilding strategy is developed to increase the exploitable biomass above the limit within a biologically reasonable timeframe (e.g. based on mean generation time²) and as informed by the *Queensland Harvest Strategy Policy*.



² a generation is defined as the average age of full maturity for the fish species.

Figure 1: Showing the ‘hockey stick’ rule – *Blim* is limit reference point, *Bmey* is the biomass at MEY, *B0* is the unfished biomass at 100%, *F* is fishing mortality and *Ftarg* is the level of fishing mortality for *Bmey*

To pursue the objectives of the fishery, the harvest strategy also constrains all sectors to their allocated catch share. If new information on recreational or charter harvest indicates that the sectors harvest has increased outside of their allocated catch share for any TAC species, decision rules are triggered to constrain harvest to within this share. Adjustments to the recreational fishing limits may be undertaken if large changes are made to the TAC for a species.

To account for the catch of blue swimmer crabs by the trawl sector a separate set of decision rules has been developed to ensure that the commercial trawl sector is maintained within the 10% allocated commercial trawl catch share. Trawl trip limits will be adjusted if the sector is found to be catching outside of their catch share. Any change to trip limits will be informed by an assessment that takes into account a range of factors including the location of the catch, catch rates, likely mortality rates of trawl caught harvest, modelling to indicate the level of the reduction required, and other relevant information to make an informed decision.

Table 4: Performance indicators and reference points for the BSCF

Performance indicator	Type of reference point	Reference level
Blue swimmer crab biomass	Target (<i>Btarg</i>)	60% exploitable biomass
Blue swimmer crab biomass	Limit Reference Point (<i>Blim</i>)	20% exploitable biomass
Commercial trawl harvest	Target harvest	< 12% of commercial catch
Commercial trawl harvest	Maximum change buffer	20 crabs in Moreton Bay / 100 crabs on the east coast (excluding Moreton Bay)
Estimated recreational harvest	Target harvest	2013 recreational survey \pm 2SE (standard error)
Recreational harvest	Upper limit	20 crabs in possession
Recreational harvest	Lower limit	5 crab in possession
Estimated recreational harvest	Maximum change buffer	5 crabs

Management of target species

1.0 Decision rules for the commercial harvest of blue swimmer crab (BC1)

The decision rules provide guidance on setting the TACC based on estimate of biomass being available. The decision rules use the outputs of a stock assessment and aim to achieve a *B_{targ}* of 60% of exploitable biomass. The decision rules determine the annual catch limits for the pot and trawl sectors. See Appendix A.

- 1.1 If the biomass is at or above *B_{targ}*, set the TACC at a level that maintains biomass at *B_{targ}*.
- 1.2 If biomass is below *B_{targ}* and above *B_{lim}*, the TACC should be set at a level where fishing mortality is reduced to the rate that allows the biomass to increase effectively back to *B_{targ}*.
- 1.3 If biomass is at or below *B_{lim}*, there will be no further targeted fishing for that species, and a rebuilding strategy will be developed to increase the stock biomass to above *B_{lim}* within a biologically reasonable timeframe and as informed by the *Queensland Harvest Strategy Policy*.
- 1.4 If any new information becomes available indicating that the assessment and TACC-setting arrangements are not consistent with the sustainable management of the fishery, decision rules must be reviewed and, if appropriate, the reference points or timeframes should be adjusted.

Notwithstanding that:

- 1.5 The rate of fishing mortality should not exceed that required to achieve *B_{targ}* .
AND
 - 1.6 The TAC should not exceed the level of fishing mortality required to maintain a stock at maximum sustainable yield (MSY) at equilibrium.
-

2.0 Decision rules for the east coast trawl harvest of blue swimmer crab

The decision rules used in this harvest strategy aim to maintain sectoral shares between the commercial pot and trawl fisheries, and includes a process for adjusting the catch of blue swimmer crabs to maintain the trawl harvest within its historical catch share of 10% of commercial harvest. A change in the allowable trawl harvest may be triggered through a change in the TACC for the commercial fishery, or through an increase in reported trawl harvest.

- 2.1 If the average trawl harvest of blue swimmer crabs over three consecutive years is no more than 2% above the commercial trawl sector catch proportion, then no management action is required.
- 2.2 If the average trawl harvest of blue swimmer crabs over three consecutive years exceeds the commercial trawl sector catch proportion by greater than 2%, the trawl trip limit will be decreased to return catch to allocated proportions.

Notwithstanding that:

- 2.3 In any given year, the trip limit must not change by more than 20 crabs in the Moreton Bay trawl fishery and by no more than 100 crabs in the east coast trawl fishery.
AND
 - 2.4 If management action is triggered to return the trawl sector catch of blue swimmer crabs to within its allocated catch range more than once during this harvest strategy, then the trawl harvest of blue swimmer crab will be limited by a competitive TACC based on the commercial trawl sector catch proportion.
-

3.0 Decision rules for the recreational and charter sector harvest of blue swimmer crab

The below decision rules have been designed to maintain catch shares between sectors. If a new estimate of recreational or charter harvest indicate that either sector have increased their catch outside of their allocated catch share, then management action will be taken to constrain them within this share..

- 3.1 If a recreational harvest estimate is no more than 15% above the allocated recreational catch proportion, then no management action is required.
- 3.2 If an estimate of recreational harvest exceeds the catch share by greater than 15%, the recreational in-possession limit will be decreased to return catch to allocated proportions.
- 3.3 If a stock assessment recommends an increase in the TACC to a level that would result in an increase or decrease to the commercial catch share by 25% or more, then the recreational in-possession limit will be adjusted to ensure catch shares match allocated proportions.

Notwithstanding that:

- 3.4 The recreational limit must not change by more than five crabs in any given year.
 - 3.5 If a stock is below *Blim* and a stock assessment recommends a TAC of zero, no targeted fishing for the species will be permitted for all sectors.
-

Management of ecological risks from fishing

A foundation of sustainable fisheries management is managing the impact of fishing activities on non-target species and the broader marine ecosystem. Ecological risk assessments (ERA) identify and measure the ecological risks of fishing activity and identify issues that require further management. The decision rules below are in place to minimise and mitigate high ecological risks arising from fishing-related activities.

- 4.1 If an ERA identifies fishing impacts that result in an undesirable level of risk to any ecological component, a review is triggered to investigate the reason for the increased risk, and appropriate management action taken to reduce the risk to an acceptable level.
-

The most recent ERA for the BSCF was completed in 2019 (level 1) and 2020 (level 2). It identified two ecological components at higher risk, target and by-product species and marine turtles, that are being progressed to a species-specific level 2 ERA.

Fisheries Queensland developed the [Ecological risk assessment guideline](#) to assess ecosystem impacts of fishing activities. Future risk assessments will be undertaken in line with the guideline to reassess any current or new ecological risks that may arise in the fishery. ERAs can be undertaken more frequently if there are significant changes identified in fishery operations, management activities or controls that are likely to result in a change to previously assessed risk levels.

Monitoring social and economic performance

The *Queensland Sustainable Fisheries Strategy: 2017–2027* outlines the target to set sustainable catch limits based on achieving maximum economic benefits of the resource – taken initially to correspond to around 60% of unfished biomass. This is to support the most economically efficient use of the resource, improve the fishing experience for all sectors and promote a resilient system that can bounce back from other adverse environmental conditions (e.g. floods). The harvest strategy rules have been set up to maintain the stock to this target biomass level.

The objectives listed in Table 5 will be used to monitor the social and economic performance of this fishery. The management options outlined are intended to provide some guidance on the options that could reasonably be considered, alongside the decision rules, if fishery trends are of concern.

Table 5: Social and economic indicators for the BSCF

Objective	Performance indicators	Management options
Maximise economic performance of the commercial sector	<p>Potential indicators to monitor include:</p> <ul style="list-style-type: none"> • capacity utilisation • catch per unit effort (average per day) • costs, earnings and net financial and economic profit • net economic returns, gross state product, gross value of production • quota sale and lease price • profit decomposition (using profit or lease price) to determine impacts of prices, costs and stock/catch rates on changes in profits 	<p>Consider regulatory and non-regulatory options</p> <p>Adjust management as needed</p> <p>Options include minimum quota holding, latent effort review</p>
Monitor the broader social and economic benefits of the fishery to the community	<p>Potential indicators to monitor include:</p> <ul style="list-style-type: none"> • fisher satisfaction (with their fishing experience – commercial and recreational) • Recreational fisher participation and economic information • percentage of quota/licences that are owned (rather than leased) • Gini coefficient of quota owner (measure of concentration) • percentage of total costs/inputs purchased from local businesses/residents • income generated (crew plus profit – gross value added) • proportion of catch sold locally • fish prices • number of platforms / number of active licences / total capacity • community satisfaction (with their fisheries and the way in which they are managed) 	<p>Consider regulatory and non-regulatory options</p> <p>Adjust management as needed</p>

Data collection, validation and assessment

Fishery-dependent data (self-reported)

Catch and effort data is obtained through commercial logbook returns and real-time landing reports. The catch and effort data required to determine the standardised commercial catch rate for key species is obtained from catch and effort logbook returns and vessel tracking data. The BSCF logbook is available at business.qld.gov.au. Charter operators also record catch information in logbooks, which is included as recreational harvest.

Fishery-dependent data (independent validation)

All commercial fishing vessels are required to have vessel tracking systems installed and active on their vessel. Vessel tracking data is used to verify effort information reported in commercial fishing logbooks. As a quota-managed fishery, compulsory quota unload reports provide an accurate record of the catch. Queensland Boating and Fisheries Patrol undertake routine and intelligence-based at-sea and landing (unload) inspections to check compliance and validate reported information.

Surveys of recreational fishers at boat ramps and data from the statewide recreational fishing surveys and Keen Angler Program help provide important information on recreational harvest.

Fishery-independent information

Fisheries Queensland has been undertaking fishery-independent trawl surveys of eastern king prawns, blue swimmer crabs and snapper since 2006. Although the objectives and logistics of the sampling have changed over time, there has been a relatively consistent schedule for sampling in November and December each year, using beam trawl apparatus.

Data from the survey was used in the 2015 blue swimmer crab stock assessment model as an index of relative abundance in the fishery and is an important component of blue swimmer crab monitoring. Ideally, the Fisheries Queensland pre-recruit trawl survey could inform quota increases in the future (or an in season 'boom trigger'). However, a mechanism to facilitate this has yet to be developed.

Information and research priorities

Key information and research priorities have been identified in Table 6 to help meet the objectives of this harvest strategy. These will be updated as required.

Table 6: Information and research priorities for the BSCF

Project description	Explanation of need	Priority	Funding
Updated target reference points	Use of recent economic data to inform fishery-specific maximum economic yield-based target reference points	High	Undetermined
Development of a pre-recruit index	Research to establish whether the independent trawl survey can be used as an effective pre-recruit index to inform TAC setting for blue swimmer crabs.	High	Undetermined

Schedule of performance monitoring, assessment and review

Annual performance monitoring and assessment

The performance of the BSCF will be reviewed against this harvest strategy **annually**. This will include convening the crab fishery working group to provide operational advice on the fishery’s performance and any matters that may need addressing.

The primary performance measure will be exploitable biomass, which will be used to review the TAC every three years, with a review of catch and effort data in intervening years. Table 7 summaries the key review and decision points for the BSCF.

While harvest strategies provide certainty and transparency in terms of management decisions in response to certain fishery information, there must also be flexibility to allow new information or changing circumstances to be appropriately considered. There may be instances in which a stock assessment may need to be available prior to, or delayed beyond, the scheduled date. Any change to the stock assessment schedule should be considered by the harvest strategy workshop and decided on by the chief executive based on the below conditions:

- If during the period between scheduled stock assessments the chief executive is concerned that a performance indicator (e.g. stock status, standardised commercial catch rate, total harvest) suggests the stock is not performing in a way that will achieve the target biomass level, the chief executive may decide that a stock assessment will be undertaken before the scheduled timeframe.
- If the chief executive is satisfied that (1) indicators for the stock suggest it is achieving, or rebuilding to, target biomass levels, and that there is a low ecological risk to the stock under the current management arrangements, or (2) if resourcing requirements prohibit the ability for an assessment to be delivered in the scheduled timeframe, the chief executive may decide that a scheduled stock assessment will be delayed.

Table 7: Anticipated performance monitoring schedule for the BSCF

	Year 1 2021–22	Year 2 2022–23	Year 3 2023–24	Year 4 2024–25	Year 5 2025–26
Monitoring and assessment activity	Catch and effort monitoring	Catch and effort monitoring	Modelled assessment	Catch and effort monitoring	Catch and effort monitoring
Management activity	Review of catch and effort data Bring forward TAC decision if needed	Review of catch and effort data Bring forward TAC decision if needed	Review of TAC and in-possession limits Declaration made if required	Review of catch and effort data Bring forward TAC decision if needed	Review harvest strategy Reset reference points and TAC if required

Harvest strategy review

This harvest strategy will remain in place for a period of five years, after which time it will be fully reviewed in accordance with the *Fisheries Act 1994*.

The harvest strategy may be subject to further review and amendment as appropriate within the five-year period if any of the following circumstances arise:

- there is new information that substantially changes the status of the fishery, leading to improved estimates of indicators relative to reference points
- drivers external to management of the fishery increase the risk to fish stock/s
- a new recreational harvest estimate becomes available that suggests the defined sectorial catch shares may have been set incorrectly or may be unrepresentative
- it is clear the harvest strategy is not working effectively and the intent of the *Queensland harvest strategy policy* is not being met.

For more information on the processes for amending harvest strategies, refer to the [Queensland harvest strategy policy](#).

Acronyms and definitions

Acronym/term	Definition
Biomass	Total weight or volume of a stock or component of a stock (e.g. spawning stock biomass would refer to all adult (reproductively mature) fish in a population)
B0	Biomass at zero fishing, or unfished biomass
Biomass at maximum economic yield (Bmey)	The average biomass that corresponds to maximum economic yield
Biomass limit reference point (Blim)	The point beyond which the risk to the stock is regarded as unacceptably high
Biomass target (Btarg)	The desired biomass of the stock
BSCF	Blue swimmer crab fishery
Bycatch	<p>A species that is incidentally:</p> <ul style="list-style-type: none"> • taken in a fishery and returned to the sea or • killed or injured as a result of interacting with fishing equipment in the fishery, but not taken <p>Bycatch can include protected species</p>
By-product	<p>Any part of the catch that is kept or sold, but is not the target species</p> <p>By-product makes some contribution to the value of the catch in a fishery but less than that of key commercial species</p>
Catch per unit effort	<p>The number or weight of fish caught by a unit of fishing effort</p> <p>Can be used as an index of relative abundance or indicator of change in the fishery</p>
Ecological risk assessment (ERA)	An assessment process that evaluates the relative risk posed by fishing on species, habitats and communities within a fishery
F	Fishing mortality
Ftarg	Fishing mortality target
Individual transferable quota (ITQ)	Amount of catch or effort allocated to an individual fisher or company
Maximum economic yield (MEY)	Sustainable level of harvest that allows net economic returns (profit) to be maximised
Maximum sustainable yield (MSY)	Maximum average sustainable annual fishing mortality that can occur on a stock over an indefinite period under prevailing environmental conditions
SAFS	Status of Australian Fish Stocks
Total allowable catch (TAC)	The harvest limit set as an output control on fishing for all fishing sectors
Total allowable commercial catch (TACC)	The harvest limit set for the commercial fishing sector usually achieved through setting TACC, but sometimes through input controls

Appendix A: Decision rules for blue swimmer crabs

