A decorative graphic at the top of the page features several stylized fish swimming in waves. The fish are composed of fine, overlapping lines, giving them a textured, almost ethereal appearance. The waves are also represented by fine, overlapping lines, creating a sense of movement and depth. The entire graphic is rendered in a light blue color against a darker blue background.

East coast inshore fishery
harvest strategy: 2021–2026
CONSULTATION DRAFT

Business Unit 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*

Revision history

Version no.	Approval date	Comments
1.0	September 2020	Draft harvest strategy for consultation

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What the harvest strategy is trying to achieve

This harvest strategy has been developed to manage Queensland's east coast inshore fishery (ECIF) resources. While there are currently no sustainability concerns for most target stocks in this fishery, many need some form of rebuilding to achieve the biomass targets set in the Sustainable Fisheries Strategy 2017-2027. Some key target species also need further information to inform how to meet those biomass targets, but still need effective management while this information is collected (e.g. king threadfin, black jewfish). To address a range of ecological, social and economic issues this harvest strategy has been developed to allow management of stocks at a regional scale.

The aim of this harvest strategy is to manage fishing mortality through setting of sustainable catch limits at a level that allows the stock to achieve biomass targets. The decision rules are designed to set catch limits at levels appropriate for achieving the spawning biomass of 60 per cent for species that drive fishing behaviour in this fishery, and to maintain catch shares amongst sectors. For species where biomass estimates are not available; and those that are not driving fishing behaviour, precautionary catch limits and triggers have been designed to allow for controlled expansion of fishing, and hence optimising economic yield, while monitoring changes in catch and effort within historic catch levels.

Fishery overview

The ECIF is a complex, multi-species, multi-gear fishery that harvests approximately 100 species along the east coast of Queensland. It is split into five management regions (Figure 1), with the target species ranging throughout the different regions of the fishery. The ECIF is the most diverse fishery in Queensland with commercial, recreational, charter and Aboriginal and Torres Strait Islander fishers accessing these fish stocks.

The commercial fishery comprises a diverse range of fishing operations that use net and hook and line gear to target regionally important species. There are differences in target species between the south (Management Region 5), which accesses large catches of sea mullet, whiting, flathead, bream and school mackerel, and the north (Management Regions 1-4) that primarily target barramundi, king threadfin and grey mackerel.

Recreational and charter fishers use hook and line, cast nets and small seine (bait net) nets. Some also target inshore finfish species using spears and spear guns. The recreational and charter component of the fishery target species for food and sport.

Fishing is also an important customary activity for Aboriginal people and Torres Strait Islanders. Traditional fishing is fishing to satisfy a personal domestic or non-commercial communal need in accordance with the traditional laws and customs of the Traditional Owners of the area being fished.

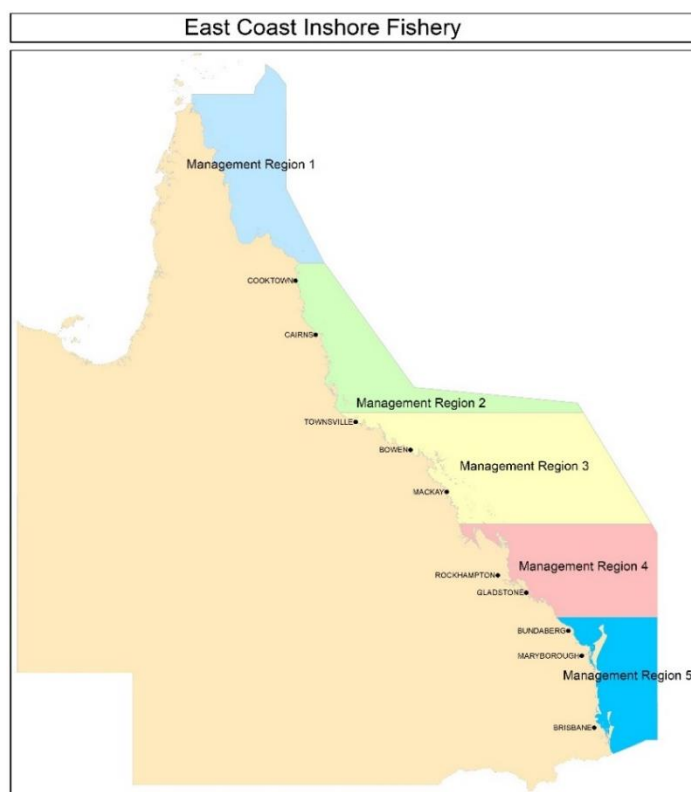


Figure 1: Area of the ECIF, including the five management regions.

Fish stocks covered by this harvest strategy

The ECIF harvests approximately 100 species, which are classified into three tiers of species as follows:

Tier 1: These are the key species identified as driving fishing behaviour within the fishery. These species are subject to individual transferrable quotas (ITQs), a Total Allowable Commercial Catch (TACC) and managed regionally. For recreational fisheries, these species have in-possession and size limits.

Tier 2: These species are of high commercial and recreational importance and are typically reflective of the target and co-caught species within the fishery. These species are subject to a competitive TACC and managed regionally. For recreational fisheries, these species have in-possession and size limits.

Tier 3: All other species are monitored using catch triggers to ensure that increasing or shifting fishing pressure does not present an unacceptable level of risk. For recreational fisheries, some of these species will have in-possession and size limits while all others are captured by the general in-possession limit.

The stock structure of Tier 1 and 2 species ranges from those with broad distributions along the east coast of Queensland (i.e. grey mackerel, spotted mackerel and school mackerel), as well as those which extend into adjacent management jurisdictions (i.e. tailor, yellowfin bream, sea mullet and several shark species into New South Wales). There are also several species within the fishery that have complex and/or finer scale stock structure (i.e. barramundi and king threadfin). Table 1 outlines the fish stocks covered by this harvest strategy and their associated Tiers.

Table 1: Fish stocks covered by this harvest strategy

Feature	Details
Target species	Tier 1 and Tier 2 species (barramundi (<i>Lates calcarifer</i>), king threadfin (<i>Polydactylus macrochir</i>), grey mackerel (<i>Scomberomorus semifasciatus</i>), school mackerel (<i>Scomberomorus queenslandicus</i>), whiting (<i>Sillago spp.</i>), sea mullet (<i>Mugil cephalus</i>), black jewfish (<i>Protonibea diacanthus</i>), sharks and rays, tailor (<i>Pomatomus saltatrix</i>), yellowfin bream (<i>Acanthopagrus australis</i>), dusky flathead (<i>Platycephalus fuscus</i>), spotted mackerel (<i>Scomberomorus munroi</i>))
Other species	Tier 3 (all remaining species)

Management units for this harvest strategy

Defining the fishery to which a harvest strategy will apply is a critical step in determining its scope. The management unit for this harvest strategy are as defined by the Fisheries (Commercial Fisheries) Regulation 2019. There are five management regions (Table 2) primarily based on stock boundaries which reflect the management units for this harvest strategy (although the fishery has many species with differing and/or unknown stock boundaries). Other considerations were:

- alignment with logbook gridline,
- allowing commercial fishers to maintain business flexibility,
- minimising social conflict,
- aAvoiding boundary lines through major population centres.

Table 2: Management region and associated Tier 1 species

Region	Boundary	Tier 1 Species
Management Region 1	10°30'S north of Cape York to 15°00'S, just north of Cooktown	Grey Mackerel Barramundi King Threadfin
Management Region 2	15°00'S, just north of Cooktown to 19°00'S, near Balgal Beach	Grey Mackerel Barramundi King Threadfin
Management Region 3	19°00'S, near Balgal Beach to 22°00'S, between Carmilla and Clairview	Grey Mackerel Barramundi King Threadfin
Management Region 4	22°00'S, between Carmilla and Clairview to 24°30'S, Baffle Creek	Grey Mackerel Barramundi King Threadfin
Management Region 5	24°30'S, Baffle Creek to the Queensland / NSW border	School Mackerel Grey Mackerel Barramundi King Threadfin Whiting

Summary of management information

A summary of the management arrangements for the ECIF are set out in table 3. Fishers should consult the relevant fisheries legislation for the latest and detailed fishery rules or visit www.fisheries.qld.gov.au.

Table 3: Summary table of ECIF management arrangements

Feature	Details
Commercial Access	Primary Commercial Fishing Licence with one or more of the following fishery symbols: N1, N2, N4, N10, N11, K1-K8, L1, L2, L3, S.
Relevant fisheries legislation	<i>Fisheries Act 1994</i> <i>Fisheries (General) Regulation 2019</i> <i>Fisheries (Commercial Fisheries) Regulation 2019</i> <i>Fisheries Declaration 2019</i>
Other relevant legislation	<i>Great Barrier Reef Marine Park Act 1975 and Regulation 2019</i> <i>Environment Protection and Biodiversity Conservation Act 1999 and Regulation 2000</i> <i>Nature Conservation Act 1992</i>
Working Group	East Coast Inshore Fishery Working Group Terms of Reference and Communiques are available online

Gear	<p>The following apparatus are permitted for use:</p> <p><i>Commercial</i> - Set mesh gillnets, haul (seine) nets, tunnel nets, small mesh gillnets, cast nets, hook and line apparatus.</p> <p><i>Recreational</i> – Recreational hook and line apparatus plus cast, dip and seine nets, spearfishing gear (excluding hookah / SCUBA).</p>
Main management methods	<p><i>Commercial only</i></p> <ul style="list-style-type: none"> • Primary management method is species-specific Individual Quota and competitive TACC's • Temporal closure (barramundi) • Spatial closures (various) • Limited access • Vessel restrictions • Gear restrictions <p><i>Recreational only</i></p> <ul style="list-style-type: none"> • In-possession limits • Combined boat limits • Temporal closure (barramundi) • Spatial closures (various) • Gear restrictions
Fishing year	1 January - 31 December
Stock Status	<p>The stock status of tier 1 and 2 species are:</p> <p>Barramundi listed as 'Sustainable' 2018</p> <p>Blacktip shark listed as 'Sustainable' 2018</p> <p>Dusky flathead listed as 'Sustainable' 2018</p> <p>Grey mackerel listed as 'Sustainable' 2018</p> <p>Hammerhead shark listed as 'Sustainable' 2017</p> <p>King threadfin listed as 'Sustainable' 2018</p> <p>Sand whiting listed as 'Sustainable' 2018</p> <p>School mackerel listed as 'Undefined' for NE stock, 'Negligible' for Central stock and 'Sustainable' for SE stock 2018</p> <p>Sea mullet listed as 'Sustainable' 2018</p> <p>Spotted mackerel listed as 'Sustainable' 2018</p> <p>Tailor listed as 'Sustainable' 2018</p> <p>Yellowfin bream listed as 'Sustainable' 2018</p> <p>All other species are listed as 'Undefined' or are yet to be assessed by SAFS</p>

	<p>https://www.daf.qld.gov.au/business-priorities/fisheries/monitoring-compliance/data/sustainability-reporting/stock-status-assessment</p> <p>Australian fish stocks (SAFS) www.fish.gov.au</p> <p>*Note the classification system used as part of the SAFS reporting is assessed against a 20 per cent 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 Sustainable Fisheries Strategy 2017-2027.</p>
<p>Accreditation under the EPBC Act (Part 13 & 13A)</p>	<p>Part 13: Accredited (expires 10 December 2021)</p> <p>https://www.environment.gov.au/marine/fisheries/qld/east-coast-fin-fish</p>

Fishery objectives

Fishery objectives set out the direction and aspirations to achieve in the long term. The objectives for this fishery are to:

- Maintain the target species in the east coast inshore fishery at, or returned to, a target spawning biomass level that aims to maximise economic yield (MEY) for the fishery.

While:

- minimising and mitigating high ecological risks arising from fishing related activities
- maximising profitability for the commercial sector
- monitoring the social and economic benefits of the fishery to the community
- monitoring localised depletion
- maintaining sectoral allocations for east coast inshore fishery resource.

Catch shares

This harvest strategy aims to maintain the existing catch shares between sectors. The existing resource allocation arrangements are set out in Table 4 to ensure that catch shares among sectors are maintained in response to changes in the Total Allowable Catch (TAC) and this harvest strategy will aim to maintain the existing catch shares between the sectors. Catch shares will be established if a species is escalated to a higher level of management (i.e. requiring a TAC).

These indicative resource allocation arrangements may be updated if new information becomes available from the 2019 state-wide recreational fishing survey that indicates the defined sectoral proportions are no longer consistent with effective management of the fishery. An update of the resource sharing arrangements would only be undertaken in this instance to ensure that catch shares are based on the most recent and reliable information for all sectors. Post 2021, only approved resource reallocations would adjust the catch shares within this harvest strategy.

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

Aboriginal peoples and Torres Strait Islanders desire more economic opportunities through fishing, particularly in their own sea country. In line with the Indigenous Commercial Fishing Development Policy, up to 2 tonnes of catch for each management region (with no more than a combined limit of 10 tonnes) will be set aside to provide access through an Indigenous Fishing Permit, issued in accordance with section 54 of the Fisheries (General) Regulation 2019, to provide opportunities for communities to take part in fishing-related business.

Table 4: Resource allocation arrangements (%) for the ECIF.

Species	Tier	Commercial fishing	Recreational fishing* (including charter)
Grey mackerel**	1	90%	10%
Barramundi**	1	65%	35%
King threadfin*	1	50%	50%
Whiting**	1	75%	25%
School mackerel**	1	85%	15%
Sea mullet**	2	99%	1%
Shark and ray#	2	99%	1%
Hammerhead shark##	2	100%	0%
Yellowfin bream**	2	55%	45%
Tailor**	2	45%	55%
Dusky flathead**	2	35%	65%
Black jewfish***	2	TBC	TBC
Spotted mackerel**	2	55%	45%

* Recreational catch includes average harvest from 2013-14 recreational fishing survey and 2017 commercial catch

** represents share set by current stock assessment

***Prior to 2017 when prices rose, commercial and recreational catches were approximately the same. Given the special management arrangements recently implemented for this species, it is proposed that a fixed catch share not be set until a stock assessment is completed.

All proportions in the above table are indicative and so are subject to updates as new information become available. Shark and ray includes a large species complex, and catch shares cannot be reliably calculated based on current information but are likely to be almost all commercial.

Hammerhead shark are no take for recreational fishers.

Measuring performance of the fishery

Performance indicators and reference points for target species

Suitable performance indicators have been selected to describe fishery performance in relation to the objectives, with associated reference points identified to established acceptable performance. The primary performance indicator used to evaluate the stock status of the ECIF is stock biomass. Stock biomass is estimated periodically and is compared to the associated reference points. The default biomass reference points identified in this harvest strategy are:

- A target reference point of 60 per cent unfished spawning biomass (B_{TARG}) being the relative biomass level the harvest strategy aims to achieve for Tier 1 and some Tier 2 species within the fishery. This is also considered a proxy for achieving Maximum Economic Yield (B_{MEY}).
- A limit reference point of 20 per cent of the unfished spawning biomass (B_{LIM}) being the level that the harvest strategy aims to avoid. Where it has been demonstrated that a stock is susceptible to fishery depletion due to conservative life history characteristics a higher limit reference point (e.g. 30%) may be considered. If the stock is assessed to be below B_{LIM} the risk to the stock is unacceptably high and the stock is defined as “overfished”.

As individual fish stocks in a multi-species fishery are likely to be different in their biological and economic characteristics, the biomass levels that support MEY will vary according to species. The ECIF is a multi-species fishery with high species co-catch and multiple species where the distribution of stocks overlaps adjacent management jurisdictions (i.e. Northern Territory or New South Wales). Due to these complexities, attaining a consistent biomass target for all species in the inshore fishery is unlikely to be achievable without resulting in adverse consequences, such as a full fishery closure or high discard mortality. To avoid this, the strategy provides for a B_{TARG} level for Tier 2 species of between 50 - 60 per cent of unfished spawning biomass where 60 per cent may be impracticable. This approach is consistent with the Guidelines for Implementing the Queensland Harvest Strategy Policy and the proposed biomass level of 50 – 60 per cent as a relative abundance proxy for MEY as defined by Punt et al., (2014). The need to determine the multi-species MEY level in this fishery has been identified as a research priority for informing future management.

The decision rules for setting TAC limits are based on a ‘hockey stick’ approach. 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 is 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 TAC is calculated by applying the rate of fishing mortality to achieve B_{TARG} to the current spawning biomass level. As a result, the TAC represents the total catch from all sectors (including discards) that can be harvested over the following two years to move the biomass level towards the target level.

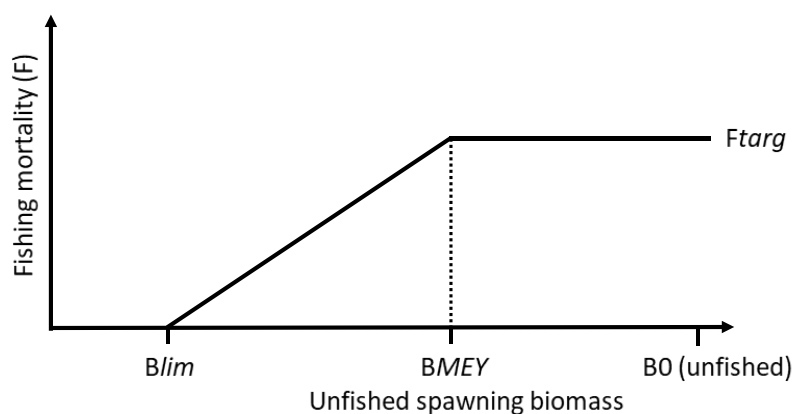


Figure 2: The “hockey stick” rule. B_{lim} is limit reference point, B_{MEY} is the biomass at MEY, B_0 is the unfished biomass, F is fishing mortality and F_{targ} is the level of fishing mortality to achieve B_{mey} .

TACCs for each management region are then calculated from TACs using the catch shares in table 4. There are many different stocks among the species caught in the fishery so the stock boundaries sometimes do not align with the management region boundaries. From a practical perspective, management region TACCs calculations need to be able to account for stocks that cross multiple management regions or management

regions with multiple stocks within them. The approach that has been taken is to apportion the TACC within a stock to each logbook grid according to reported commercial logbook catch in the period 2013-17 (i.e. calculate a 'grid TACC'). The grid TACCs are then summed according to which management region to give a regional TACC. This process is repeatable for all stocks with known stock boundaries.

If the spawning biomass of a stock falls below B_{LIM} , targeted fishing of the stock must cease and a rebuilding strategy be developed to rebuild the spawning biomass above B_{LIM} within one mean generation time (where a generation is defined as the average age of full maturity for the fish species). The rebuilding timeframe of one mean generation time takes into account the productivity and life span of the fish species. Where the fishery is unable to avoid catching the species while targeting other species, a low level of fishing mortality may be accepted through a nominal bycatch limit, and additional management measures should be considered to prevent further targeting.

To meet the objectives of the fishery, the harvest strategy will also act to constrain all sectors within their allocated catch share. Should a new estimate of recreational harvest or catch from charter fishing logbooks indicate that a sector has increased their catch share outside of their allocated proportion for any TAC species, then an adjustment will be made to constrain harvest within this share. Adjustments to the recreational fishing limits may be undertaken if large changes are made to the TAC for a species.

Tier 3 species management

For Tier 3 species or regions where Tier 1 and 2 species are not managed under a TACC, trigger reference points are used to manage fishing mortality:

1. If the annual commercial catch exceeds 20 tonnes for an individual species; and
2. If the annual commercial catch has increased to 1.5 or 2 times above historical levels (from the defined reference period).

An annual catch level of 20 tonnes per species has been determined as a default point at which increasing catches may present an increased risk to the sustainability of Tier 3 species. Given this, a catch trigger has been developed where species may be subject to increased management if increases in fishing mortality are detected above this point. The trigger will be used to detect shifts in fishing effort by comparing annual catches against the average catch level from the reference period of 2013-2017. This reference period represents a stable period of operation, which includes weather events such as cyclones, fishing effort and number of licences and has been evaluated for its use as a reference period using retrospective analysis.

Management of target Species

Decision rules for Tier 1 and 2 species

The decision rules used in this harvest strategy are designed to provide clear guidance to setting TACCs. The decision rules for Tier 1 and 2 use the outputs of stock assessments and aim to achieve B_{TARG} at 60 per cent of unfished spawning biomass as a proxy for MEY for Tier 1 species, and a proxy of between 50 – 60 per cent for Tier 2 species. Tier 1 and 2 species will be assessed at least every 3 years and the harvest control rules below will be used to adjust the TACC in response to stock assessment outputs (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 as inferred by the hockey stick approach, where fishing mortality is reduced to the rate that allows the biomass to increase effectively back to B_{TARG} .

- 1.3 If biomass is below BLIM, there will be no targeted fishing permitted for that species, and a rebuilding strategy will be developed to increase the stock biomass to above BLIM within one mean generation.
- 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 BTARG (i.e. F60);
 - 1.6 The TAC should not exceed the level of fishing mortality required to maintain a stock at MSY; and
 - 1.7 While the hockey stick approach should be used as the default harvest control rule, alternatives may be adopted for some stocks to better pursue the objectives of this strategy.
-

Decision rules for the recreational and charter sector for Tier 1 and 2 species

The below decision rules have been designed to maintaining catch shares between sectors. If a new estimate of recreational harvest or catch from charter fishing logbooks indicate that either sector have increased their catch share outside of their allocated proportion for any Tier 1 or 2 species, then adjustments will be made to constrain them within this share. Adjustments to the recreational fishing limits may also be undertaken if large changes are made to the TAC for a species. These decision rules only apply once a TACC is in place and catch shares have been formalised.

- 2.1 If a recreational harvest estimate is no more than 10 per cent above the allocated recreational catch proportion, then no management action is required.
- 2.2 If a recreational harvest estimate exceeds the catch share by greater than 10 per cent the recreational in possession limit will be decreased to return catch to allocated proportions.
- 2.3 If a stock assessment recommends an increase in the TACC to a level that would increase the commercial catch share by 10 per cent or more then the recreational in possession limit will be increased to return catch shares to allocated proportions.

Notwithstanding that:

- 2.4 If the TACC is equal to zero, the species will be no take for all sectors.
-

Rules for managing the overharvest of east coast inshore species

The harvest strategy contains the below rules to disincentive the overharvest of regional TACCs either through discarding or illegal retention. These rules provide guidance to additional management that may be required to account for excess levels of fishing mortality. Monitoring of discards will be progressed through a combination of fishery dependent reporting and independent monitoring, as required.

- 3.1 If the reported discards or illegal fishing is found to be at a level that increases the fishing mortality for a species above the amount that will allow the stock to rebuild to the target biomass levels, then the management changes will be considered to reduce the discarding or illegal fishing, including; quota minimum holdings; regional closures; gear restrictions and other penalties to de-incentivise fishing once a TACC is reached.
 - 3.2 If the reported total harvest for any Tier 1 or 2 species exceeds any regional TACC by less than 1 per cent, then no additional management action is required.
-

- 3.3 If the reported total harvest for any Tier 1 or 2 species exceeds any regional TACC by between 1 and 5 per cent, then the TACC for the following year will be reduced by the amount that the TACC was exceeded.
 - 3.4 If the reported total harvest for any Tier 1 or 2 species exceeds any regional TACC by more than 5 per cent then the TACC for the following year will be reduced by two times the amount that the TACC was exceeded.
-

Management of secondary and byproduct species

Decision rules for Tier 3 species and Tier 1 and 2 species or regions that are not managed under a TAC

The secondary, byproduct and bycatch species in this fishery are classified as Tier 3 species and do not have TACs to manage catches. For some Tier 1 and 2 species (mullet, whiting, flathead and yellowfin bream) there are no TACs in regions 1 to 4, as they represent a different species, stock or have negligible catches. The harvest control rules (below) are to ensure that fishing does not result in unacceptable levels of fishing pressure or effort shift into Tier 3 species or regions where Tier 1 and 2 species are not managed under a TAC.

- 4.1 If the annual harvest of any species is less than 1.5 times the average historical reference period (2013-2017), or the annual catch of any species is less than 20 tonnes, then no management action is required.
 - 4.2 If the annual harvest of any species is greater than 1.5 times the average historical catch (reference period 2013-2017) and the annual catch of any species is more than 20 tonnes, an assessment (e.g. ecological risk assessment [ERA] or stock assessment) will be undertaken to determine whether there is unacceptable risk to the stock if ongoing catch levels continue.
 - 4.3 If the annual harvest of any species exceeds greater than 2 times the average historical catch (reference period 2013-2017) and the annual catch of any species is more than 20 tonnes, then an assessment (e.g. ERA or stock assessment) will be undertaken and an interim competitive TACC will be set at the average of the previous three years catch level.
-

Minimising ecological risks from fishing

The foundation of sustainable fisheries management is managing the impact of fishing activities on non-target species and the broader marine ecosystem. ERAs identify and measure the ecological risks of fishing activity and identify issues that must be further managed under harvest strategies. The below decision rules are in place to minimise and mitigate high ecological risks arising from fishing related activities.

- 5.1 If an ERA identifies fishing impacts that are considered to generate an unacceptable level of risk to any secondary or byproduct species' populations, a review is triggered to investigate the reason for the increased risk, and appropriate management action taken to reduce the risk to acceptable level.
-

There are a number of high risks to protected species associated with interaction with netting apparatus used in this fishery. A Protected Species Management Strategy (PSMS) has been developed to manage these

risks. The PSMS includes rules for adjusting management to reduce the ecological risk from fishing as well as mitigation measures to prevent or reduce interactions with protected species.

The most recent ERA (level 1) for the fishery was completed in July 2019. It can be found at <http://era.daf.qld.gov.au/id/eprint/6969/1/ERA%20-%20ECIFFF%20Level%201%20%5B2019%5D.pdf>

The next ERA (level 2) is scheduled for completion in 2020. Fisheries Queensland's Ecological Risk Assessment Guideline is published online at <https://www.daf.qld.gov.au/business-priorities/fisheries/monitoring-research/data/sustainability-reporting/ecological-risk-assessment>.

Future risk assessments will be undertaken periodically to reassess any current or new issues that may arise in the fishery. Risk assessments 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 Sustainable Fisheries Strategy outlines the target to set sustainable catch limits based on achieving B_{MEY} , usually around 60 per cent of unfished spawning biomass, to support the most economically efficient use of the resource, improve the fishing experience for all sectors and promote resilience to adverse environmental conditions (e.g. floods, cyclones and bleaching). The harvest strategy rules have been set up to maintain the key stocks to this target biomass level.

The objectives and performance indicators in Table 5 will be used to support 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 if fishery trends are of concern.

Table 5: Social and economic indicators for the ECIF

Objective	Performance indicators	Management actions
Maximise economic performance of the commercial sector	<p>Potential indicators to monitor include:</p> <ul style="list-style-type: none"> • CPUE (average per day) • Costs, earnings and net financial and economic profit • Quota sale and lease price 	Consider regulatory and non-regulatory options. Adjust management as needed. Options include minimum quota holding, latent effort review.
Enhance 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) • Percent of quota/licenses that are owned (rather than leased) • Income generated (crew plus profit – gross value added) • Proportion of catch sold locally • Fish prices <p>Number of platforms/number of active licenses/total capacity</p>	Consider regulatory and non-regulatory options. Adjust management as needed.
Maintain Wildlife Trade Operation (WTO) accreditation under the EPBC Act	Number of conditions and recommendations met as required through WTO accreditation.	Amend fisheries legislation as required to align with best practice and maintain accreditation.

Monitoring and assessment

Commercial catch and effort data are obtained from compulsory logbook reporting. ECIF logbooks can be found at <https://www.business.qld.gov.au/industries/farms-fishing-forestry/fisheries/monitoring-reporting/requirements/logbooks>. Fishers are also required to report any interactions with species of conservation interest (SOCl) in a mandatory SOCl logbook. Monitoring of discards will be progressed through a combination of discard reporting and independent monitoring (including electronic monitoring). All commercial fishing vessels are required to have vessel tracking systems installed and active on their vessels. 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.

Surveys of recreational fishers at boat ramps and the state-wide recreational fishing and logbook program data help provide important information on recreational fishing. Charter operators also record catch information in logbooks which are included as recreational harvest.

Fisheries Queensland conducts biological monitoring on a range of important species. Sampling focuses on collecting length, sex and age data. Collecting this information from commercial catches, as well as similar

information from the [recreational sector](#), helps Fisheries Queensland develop a clear picture of the whole fishery for each species (see <https://www.business.qld.gov.au/industries/farms-fishing-forestry/fisheries/monitoring-reporting/monitoring/biological-monitoring>).

Fisheries Queensland conducts regular stock assessments on key species. Species relevant to ECIF are:

- Barramundi – <http://era.daf.qld.gov.au/id/eprint/7003/>
- Grey mackerel – <http://era.daf.qld.gov.au/id/eprint/7127/>
- Sea mullet – <http://era.daf.qld.gov.au/id/eprint/6757/>
- King threadfin – planned for 2021
- Bream, whiting and flathead – <http://era.daf.qld.gov.au/id/eprint/7041/>
- School mackerel – <http://era.daf.qld.gov.au/id/eprint/7128/>
- Spotted mackerel – <http://era.daf.qld.gov.au/id/eprint/6758/>
- Tailor – <http://era.daf.qld.gov.au/id/eprint/5689/>

This list was current as at September 2020. Updated and new stock assessments can be found by going to <http://era.daf.qld.gov.au/> and searching by species name.

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 ECIF

Project Description	Explanation of Need	Priority
Black jewfish	Stock assessment, biological information, post capture survivability, stock structure and monitoring	High
SOCI interactions	Better understand fishery interactions with SOCI and how to mitigate them	High
King threadfin	Stock assessment, post capture survivability and stock structure	High
Determine multi-species maximum economic yield	Important for setting appropriate biomass target reference points	High
School mackerel	Updated biological monitoring	Medium
Grey mackerel	Updated biological monitoring	Medium
Shark depredation	Better understand the scale and impact of shark depredation on target fish stocks	Medium
Scalloped hammerhead	Stock assessment for scalloped hammerhead shark	High

Schedule of performance assessment and review

The ECIF's performance will be reviewed against this harvest strategy annually. This review will include convening the East Coast Inshore Working Group to provide operational advice on the fishery's performance and any matters that may need addressing. The below schedule outlines planned assessments and management review timeframes for Tier 1 and 2 species (i.e. TAC setting), while monitoring of relevant

fisheries and biological data will be undertaken annually for all species. Table 7 summarises the key review and decision points for this fishery.

Table 7: Schedule of performance assessment and review for the ECIF.

	Year 1 - 2021	Year 2 - 2022	Year 3 - 2023	Year 4 - 2024	Year 5 - 2025
Assessment & monitoring activity	Review of relevant fisheries and biological monitoring data and scheduled stock assessments for: - school mackerel - tailor - king threadfin - shark	Review of relevant fisheries and biological monitoring data and scheduled stock assessments for: - dusky flathead - sand whiting - sea mullet - spotted mackerel	Review of relevant fisheries and biological monitoring data and scheduled stock assessments for: - barramundi - grey mackerel - yellowfin bream	Review of relevant fisheries and biological monitoring data and scheduled stock assessments for: - school mackerel - tailor - king threadfin - shark	Review of relevant fisheries and biological monitoring data and scheduled stock assessments for: - dusky flathead - sand whiting - sea mullet - spotted mackerel
Management activity	Review, TAC decision scheduled for assessment species	Review, TAC decision scheduled for assessment species	Review, TAC decision scheduled for assessment species	Review, TAC decision scheduled for assessment species	Review of harvest strategy, Assessment & TACC decision Monitoring catch levels

While harvest strategies provide certainty and transparency in terms of management decisions in response to fishery information, there must be flexibility to allow new information or changing circumstances to be considered. There may be instances where an assessment may need to be available prior to or delayed beyond the scheduled date. Any change to the schedule should be considered by the working group 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, length frequency distributions, standardised commercial catch rates, total harvest, age distributions etc.) suggests that 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 suggests that it is achieving, or rebuilding to, target biomass levels, and that there is a low ecological risk to the stock under the current management arrangement (i.e. TAC levels); (2) or 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.

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 also be subject to further review and amendment as appropriate within the five-year period if the following circumstances arise:

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

Further explanation and information on the processes for amending harvest strategies can be found in the Queensland Harvest Strategy Policy published at <https://www.daf.qld.gov.au/business-priorities/fisheries/sustainable-fisheries-strategy/harvest-strategy>.

Appendix A: indicative flow diagram of decision rules for target species

