

Discussion draft

Harvest Strategy Attachment 1: East coast inshore total allowable commercial catch setting rationale

The East Coast Inshore fishery reports in excess of 100 different species retained across the fishery. Under the Sustainable Fisheries Strategy management reforms for this fishery, a decision has been made to utilise a tiered system of management and to set regionally based catch limits.

Three tiers for harvested species from the fishery are as follows:

Tier 1: - These are the key species identified as driving fishing behaviour within the fishery. These species will be subject to Individual Transferrable Quotas (ITQ's) and will be managed regionally. There are 5 species in this tier; barramundi, king threadfin, grey mackerel, school mackerel and whiting.

Tier 2: - These species are of high commercial and recreational importance and are typically reflective of the co-caught species within the fishery. These species will have a Total Allowable Commercial Catch (TACC) and will be managed regionally. There are 8 species in this tier; yellowfin bream, dusky flathead, sea mullet, spotted mackerel, tailor, black jewfish, shark and ray and hammerhead shark.

Tier 3: - The remaining species will be monitored using catch triggers to ensure that increasing or shifting fishing pressure does not present an unacceptable level of risk.

TACCs have been calculated from TACs using the currently available catch shares as defined in the Harvest Strategy. Where possible the management region boundaries (1 – 5) have been determined to broadly reflect stock boundaries across the Tier 1 and Tier 2 species. However, there are other factors including population centres, complex coastlines and logbook reporting grids that also need to be considered in setting boundaries. Due to the many different stocks among the species caught in the fishery, stock boundaries can never perfectly align with the management region boundaries.

From a practical perspective, management region TACCs calculations needed to account for stocks that cross multiple management regions or management regions with multiple stocks within them and stocks that extend beyond Queensland waters (e.g. sea mullet).

Tier 1 Species				
Species	Current estimated biomass [^]	2018 catch	Proposed TACs	Current rec limit
Grey mackerel	48% NE stock; 51% SE stock	NE Comm 77t SE Comm 64t Rec 15t	MA1 – 1,087 kg MA2 – 26,752 kg MA3 – 67,162 kg MA4 – 13,606 kg MA5 – 20,393 kg	5
Sand whiting	29%	Comm 168t Rec 50t	MA1 – N/A MA2 – N/A MA3 – N/A MA4 – N/A MA5 – 162,000kg	30
School mackerel	65% SE stock; NE stock not assessed	Comm 102t Rec 17t	MA1 – 1,000 kg MA2 – 4,899 kg MA3 – 4,011 kg MA4 – 1,778 kg MA5 – 69,085 kg	10

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Species	Current estimated biomass [^]	2018 catch	Proposed TACs	Current rec limit
Barramundi	53-71% but with egg production ranging 25-50%	Comm 182t	MA1 – 5,580 kg MA2 – 34,612 kg MA3 – 128,388kg MA4 – 53,826 kg MA5t - 21,193 kg	5
King threadfin	NA	Comm 72t Rec 76t	MA1 – 2,136 kg MA2 – 13, 625kg MA3 – 11,195 kg MA4 – 23,623 kg MA5 – 21,421 kg	5
Yellowfin bream	34%	Comm 67t Rec 57t	MA1 – N/A MA2 – N/A MA3 – N/A MA4 – N/A MA5 – 81,000 kg	30
Dusky flathead	36% Moreton; 70% Hervey Bay	Comm 41t Rec 21t	MA1 – N/A MA2 – N/A MA3 – N/A MA4 – N/A MA5 – 41,003 kg	5
Sea mullet	~50%	Comm 1671t	MA1 – N/A MA2 – N/A MA3 – N/A MA4 – N/A MA5 – 1,614,000 kg	20
Spotted mackerel	21-41%	Comm 34t Rec 28t	MA1 – 19 kg MA2 – 24,521 kg MA3 – 2,151 kg MA4 – 659 kg MA5 – 20,650 kg	5
Tailor	50%	Comm 57t Rec 75t	MA1 – N/A MA2 – N/A MA3 – N/A MA4 – N/A MA5 – 120,000 kg	20
Black jewfish	NA	Comm 136t	MA1 – 0 kg MA2 – 45 kg MA3 – 10,093 kg MA4 – 9,593 kg MA5 – 269 kg	1
Shark and ray (not hammerhead shark)	NA	156 t	MA1 – 8,925 kg MA2 – 48,276 kg MA3 – 137,033 kg MA4 – 55,583 kg MA5 – 150,184 kg	1
Hammerhead shark	NA	17t	MA1 – 2,483 kg MA2 – 28,225 kg MA3 – 35,039 kg MA4 – 12,252 kg MA5 – 22,000 kg	1

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Currently available stock assessments for East Coast Inshore species are located at www.daf.qld.gov.au/business-priorities/fisheries/monitoring-compliance/data/sustainability-reporting/fish-stock-status-reports.

Grey mackerel

- This species will be quota managed in all management regions.
- There are two east coast stocks of grey mackerel that divide around the Whitsunday region.
- There is a recent stock assessment for both these stocks.
- The current north east stock biomass is 48% and the current south east stock biomass is 51%.
- Note that these stocks do not map directly to the management regions.
- The recommended TACCs to rebuild stocks to 60% biomass in 8 years are 76 t (NE stock) and 53 t (SE stock), for total east coast TACC of 129 t.
- The previous TACC for grey mackerel was 250 t.

Sand whiting

- This species will be quota managed in Management Region 5 only, where the majority of the catch is taken.
- There is a single stock of sand whiting that corresponds to Management Region 5
- There is a recent stock assessment of this stock.
- The current biomass is 29%.
- The recommended TACC to rebuild the stock to 60% biomass in 7 years is 162 t
- There was no previous TACC for sand whiting.

School mackerel

- This species will be quota managed in all management regions – Tier 1 (ITQ) in MR5 and competitive TACC in other Management Regions.
- There are two east coast stocks of school mackerel that divide around the Whitsunday region.
- There is a recent stock assessment for the south east stock but not the north east stock.
- The current south east stock biomass is approximately 65%, however the assessment notes a low level of confidence and the need for a precautionary approach. The current biomass for the north east stock is unknown.
- Note that these stocks do not map directly to the management regions.
- The recommended TACCs to maintain the south east stock around 60% biomass is approximately 71 t.
- TACCs for the north east stock are based on commercial catch averages for 2013-17.
- There was no previous TACC for school mackerel.

Barramundi

- This species will be quota managed in all management regions.
- There are five east coast stocks of barramundi.
- There is a recent stock assessment for three of these stocks, with the northern-most and southern-most east coast stock not able to be adequately assessed.
- The current north east coast stock biomass is 53%, but egg production is much lower at 25%.
- The current Mackay stock biomass is 59%, but egg production is lower at 43%.
- The current central east coast stock biomass is 71%, but egg production is lower at 50%. The assessment notes a low level of confidence and the need for a precautionary approach for this stock.
- Note that these stocks do not map directly to the management regions.
- The recommended TACCs to rebuild stocks to 60% biomass in 7 years are <88 t (NEC stock), <75 t (Mackay stock) and <75 t (CEC stock).
- TACCs for the Princess Charlotte Bay and South East Coast stocks are based on commercial catch averages for 2013-17.
- There was no previous TACC for barramundi.

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King threadfin

- This species will be quota managed in all management regions.
- There are many king threadfin stocks on the east coast.
- There is no stock assessment (but one is planned for 2020).
- There are some concerns about the sustainability of the stock and the lack of protection for females (they change sex from male to female as they grow but all females are above the minimum legal size).
- A precautionary approach to TACC setting has been taken, with the TACC set to the 2018 east coast commercial catch.
- There was no previous TACC for king threadfin.

Yellowfin bream

- This species will be quota managed in Management Region 5 only, where the majority of the catch is taken.
- There is a single stock of yellowfin bream that corresponds to Management Region 5
- There is a recent stock assessment of this stock.
- The current biomass is 34%.
- The recommended TACC to rebuild the stock to 60% biomass in 7 to 12 years is 81 t
- There was no previous TACC for yellowfin bream.

Dusky flathead

- This species will be quota managed in Management Region 5 only, where the majority of the catch is taken.
- There is a single stock of dusky flathead that corresponds to Management Region 5
- There is a recent stock assessment of this stock.
- The current biomass estimates range from 36% to 70% within different areas of the stock (Moreton Bay and Hervey Bay).
- Due to this uncertainty, the TACC was set using the 2013-17 commercial catch average, noting some risk to Moreton Bay stock recovery if this was not done.
- The recommended TACC is expected to rebuild the stock to 60% biomass in less than 8 years.
- There was no previous TACC for dusky flathead.

Sea Mullet

- This species will be quota managed in Management Region 5 only, where the majority of the catch is taken.
- There is a single stock of sea mullet that corresponds extends along the whole east coast to southern NSW
- There is a recent stock assessment of this stock.
- The current biomass estimate is approximately 50% (but biomass is cyclic and it is currently on a downward trend within the cycle).
- Rebuilding the stock to 60% biomass requires joint management with NSW to cut catch in both Queensland and NSW. Setting the Queensland target in isolation to achieve the 60% target would require the species to be zero-take in Queensland
- The proposed TACC is set using the 2013-17 commercial catch average and would maintain biomass at 50%.
- This is an initial TACC and the future TACC will be informed by discussions with NSW.
- The recommended TACC is expected to rebuild the stock to 60% biomass in less than 8 years.
- There was no previous TACC for sea mullet.

Spotted mackerel

- This species will be quota managed in all management regions.
- There is a single east coast stocks of spotted mackerel and it is shared with northern NSW, although Queensland takes the majority of the catch.
- There is a recent stock assessment for this stock.
- The current biomass is 21 to 41% depending on the model used, with considerable uncertainty. Ring netting in the early 2000s resulted in fishing mortality that was 5-7 times higher than recommended and this resulted in large population declines
- Note that this stock does not map directly to the management regions.

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- The recommended TACC to rebuild the stock to 60% is 48 t, (with an unknown timeframe due to the model uncertainty).
- There was no previous TACC for spotted mackerel but various trip limits have been in place, based on commercial catch, for more than a decade.

Tailor

- This species will be quota managed in Management Region 5 only, where the majority of the catch is taken.
- There is a single stock of tailor that corresponds extends along the whole east coast to southern NSW.
- There is a stock assessment but it does not have targets to rebuild the stock to 60% biomass.
- The current biomass estimate is approximately 50%.
- It is proposed to maintain the TACC of 120t. This is proposed to be reviewed when the stock assessment is updated.
- The majority of this species is taken by recreational fishers.

Black jewfish

- This species will be quota managed in all management regions.
- Stock structure is unknown.
- There is no stock assessment for this species, however one is scheduled for 2021 (after sufficient data is collected).
- The current TACC of 20 t will be maintained pending the stock assessment.

Shark and ray

- This species group will be quota managed in all management regions.
- There is no reliable stock assessment for this species group.
- The previous TACC for shark and ray was 600 t but this also included hammerhead shark, which had a TACC of 100 t.
- It is proposed to remove hammerhead from the shark and ray TACC and further reduce the TACC by 100 t to 400 t across the east coast.
- This reduction is temporary on the basis that more shark species-specific TACCs will be set in the next few years as more information is available (e.g. ERAs).

Hammerhead shark

- This species group will be quota managed in all management regions.
- Stock structure is unknown.
- There is no stock assessment for this species, however one is scheduled for 2020.
- The current TACC of 100 t will be maintained, pending the stock assessment and Commonwealth Government approvals.