

## Assessment Authors and Year

Schilling, H. T., Helidoniotis F., Liggins G. 2024. NSW Fishery Status Summary 2023/24 – Estuary General Hauling. NSW Department of Primary Industries. Fisheries. 18 pp

## Introduction

The purpose of this document is to provide catch and quota data to inform the TAE determination of the NSW Estuary General Fishery Hauling fisheries (Category 1 and Category 2). It uses data from the 5 most recent complete fishing seasons (2018/19 – 2022/23) and includes a summary of catch and quota usage for key species across the state and in each region.

Separate species-specific stock assessments have been conducted for several key species and these are referenced where relevant with key outcomes summarised in this document to help provide context to the catch composition data.

Provision of an assessment that directly informs determinations of regional TAEs for the Hauling fishery is particularly complex because:

- (i) the fishery is a multi-species fishery;
- (ii) the fishery interacts with other commercial and recreational fisheries in NSW and adjoining jurisdictions;
- (iii) there are no formal resource-sharing arrangements among these interacting fisheries;
- (iv) hauling occurs in multiple NSW estuaries with connectivity among these estuaries and adjacent inshore waters poorly understood;
- (v) there is currently no fishery-level harvest strategy for the Estuary General Hauling fisheries. Neither are there any species-specific harvest strategies for the principal species taken in this fishery;
- (vi) detailed models of stock and fishery dynamics for key species are in the early stages of development and are not yet of a standard for inclusion in a formal assessment.

These complexities justify the approach taken in this assessment, noting that this is the first time that an assessment of the Estuary General Hauling fishery has been provided to the Total Allowable Fishing Committee (TAFC) for determination of TAEs.

Despite the absence of specific harvest strategies relevant to the Hauling fishery, it is relevant to note that the *NSW Harvest Strategy Policy* and *NSW Harvest Strategy Guidelines* indicate the broad objectives that will eventually apply across fisheries under NSW jurisdiction. Key design elements for harvest strategies that are relevant to the Meshing fishery include:

- (i) maintenance of stocks above a biological limit reference point (where risk to the stock is regarded as unacceptable). Where information to support selection of a suitable stock-specific biological limit reference point is not available, the default should be 20% of the unfished biomass;

- (ii) maintenance of stocks, on average, at a target biological reference level that maximises long-term yield (eg. MSY, MEY, ...) from a fishery;
- (iii) in multi-species fisheries, it may be necessary to manage individual stocks to different target reference levels to avoid limit reference points for all species and enable the benefits from the multi-species fishery to be maximised over the longer term.

## Catch

### Category One Haul

Total annual catch in the Category 1 Hauling endorsement averaged 422 t over the last 5 years (range: 195 – 700 t). Sea Mullet formed the majority of catch in for Category 1 Hauling (averaging 56% of annual catch over the last 5 years). This is followed by Sand Whiting and Silverbiddy with 8.4 and 8.0% of annual catch respectively. Yellowfin Bream, Luderick, Fantail Mullet, Sandy Sprat, Trumpeter Whiting and Yellowtail Scad are the other species with >1 % of annual harvest, on average (Table 1).

### Category Two Haul

Total catch in the category 2 endorsement averaged only 6.6 t per annum over the last 5 years (range: 2.3 – 12.9 t). Catch composition by species in Category Two Hauling was dominated by River Garfish making up over 66% of the annual catch over the last 5 years (Table 2). The other commonly caught taxa: Yellowtail Scad, Sea Garfish and Snubnose garfish comprised 13 %, 11.5 % 3.4 % of the catch respectively. There are a large number of other taxa caught in small quantities (Table 2).

Table 1. Annual landings (tonnes) in the Category One Haul endorsement in the Estuary General Fishery. Species with greater than 1 tonne of annual catch are listed here. Note: All species are included in the total catch. SAFS represents the Status of Australian Fish Stocks report. (<https://www.fish.gov.au/>). \* SAFS 2023 classifications were not published at time of writing and subject to change.

Taxa	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*	Comments
Sea Mullet	246.33	159.96	177.27	sustainable	sustainable	Stewart, J. 2024
Sand Whiting	37.18	15.62	16.08	sustainable	sustainable	SAFS 2024, Helidoniotis, F & Schilling, H. 2024b
Common Silverbiddy	35.34	19.00	13.48			See raw CPUE in Appendix
Trumpeter Whiting	28.70	15.60	34.4		sustainable	SAFS 2024
Yellowfin Bream	18.20	8.94	8.24	sustainable	sustainable	SAFS 2024, Helidoniotis, F. & Schilling, H. 2024a
Luderick	11.70	4.92	4.72	sustainable	sustainable	SAFS 2024, Schilling, H. & Helidoniotis, F. 2024a
Fantail Mullet	10.22	2.55	6.72			
Sandy Sprat (Whitebait)	7.98	7.73	0			
Yellowtail Scad	7.21	3.41	8.27	sustainable	sustainable	SAFS 2024, Broadhurst, M. 2023
Mulloway	3.07	2.20	1.42	recovering	recovering	SAFS 2024, Hughes, 2024
Eastern Sea Garfish	3.96	3.75	0.64	sustainable	sustainable	SAFS 2024, Stewart, J. 2024
Tailor	3.44	1.21	2.71		sustainable	SAFS 2024
Silver Trevally	3.40	1.76	1.91	recovering	depleted	SAFS 2024 Burch et. al. 2023
Striped Scat (Butterfish)	3.12	2.21	1.23			
Sand Mullet	3.07	1.07	1.77			
Tarwhine	1.87	2.08	0.23			
Longfin Pike	1.51	0.59	1.01			
Eastern School Whiting	1.28	1.52	0.01		sustainable	SAFS 2024
Australian Salmon	1.28	0.56	1.82		sustainable	SAFS 2024
River Garfish	1.26	1.58	4.02			
Hardyhead	1.24	1.50	0			
Dusky Flathead	1.11	0.49	0.42	sustainable	sustainable	SAFS 2024, Schilling, H. & Helidoniotis, F. 2024b
Southern Herring	0.87	0.36	1.32			
Longtom	0.59	0.35	0.09			
Stingrays/Stingarees	0.58	0.40	0.13			
Yellowtail Kingfish	0.56	0.52	1.22		sustainable	SAFS 2024
Black Bream	0.55	0.87	0		undefined	SAFS 2024
Longfin Eel	0.55	0.48	0.15		sustainable	SAFS 2024
Southern Calamari	0.50	0.38	0.12		sustainable	SAFS 2024
Herring (other)	0.42	0.22	0.35		sustainable	SAFS 2024
Scallop	0.30	0.25	0			
<b>Total</b>	<b>441.5</b>	<b>8.51 (average)</b>	<b>290.9</b>			

Table 2. Annual catch (tonnes) in the Category Two Haul endorsement in the Estuary General Fishery. All species are included. SAFS represents the Status of Australian Fish Stocks report. (<https://www.fish.gov.au/>). \* SAFS 2023 classifications were not published at time of writing and subject to change.

Taxa	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*	Comments
River Garfish	4.41	1.67	2.23			
Yellowtail Scad	0.89	2.00	0.00		sustainable	SAFS 2024
Eastern Sea Garfish	0.77	1.64	0.00		sustainable	SAFS 2024
Snubnose Garfish	0.23	0.17	0.03			
Sandy Sprat (Whitebait)	0.12	0.16	0.00			
Longfin Pike	0.03	0.03	0.00			
Common Silverbidy	0.04	0.06	0.00			
Male Blue Swimmer Crab	0.01	0.02	0.00	depleting	depleting	SAFS 2024, Johnson, D., 2024
Longtom	0.01	0.01	0.00			
Sea Mullet	0.02	0.03	0.00		sustainable	SAFS 2024
Dusky Flathead	0.01	0.02	0.00	sustainable	sustainable	SAFS 2024, Schilling H. & Helidoniotis, F. 2024b
Sand Whiting	0.01	0.02	0.00	sustainable	sustainable	SAFS 2024, Helidoniotis F., 2024b
Hardyhead	0.03	0.06	0.00			
Female Blue Swimmer Crab	0.00	0.00	0.00		sustainable	SAFS 2024
Trumpeter Whiting	0.00	0.00	0.00		sustainable	SAFS 2024
Southern Herring	0.01	0.02	0.00			
Male Blue Swimmer Crab	0.01	0.02	0.00			
Luderick	0.01	0.01	0.00	sustainable	sustainable	SAFS 2024, Schilling H., 2024a
Tailor	0.01	0.01	0.00		sustainable	SAFS 2024
Eastern School Whiting	0.01	0.01	0.00		sustainable	SAFS 2024
Yellowtail Kingfish	0.00	0.01	0.00		sustainable	SAFS 2024
Southern Calamari	0.00	0.01	0.00			
Fantail Mullet	0.00	0.00	0.00			
Eastern Shovelnose Ray	0.00	0.00	0.00			
Yellowfin Bream	0.00	0.00	0.00	sustainable	sustainable	SAFS 2024, Helidoniotis 2024a
Flathead (other)	0.00	0.00	0.00			
Gould's Squid (Arrow)	0.00	0.00	0.00			
<b>Total</b>	<b>6.66</b>	<b>6.02 (average)</b>	<b>2.26</b>			

## Catch by region

### Category One Haul

Region 2 and Region 5 had the higher overall catch and Region 7 the lowest (Table 3). Sea mullet was the most common taxa in Regions 1- 5, Sand Whiting was the most common in region 6 and River Garfish was the most common in Region 7 (although is Region 7 had lowest catch over all regions). The top 10 taxa landed in each region under the Hauling endorsement Category 1 are shown in Table 3

Table 3. Annual landings (tonnes) for the top 10 species within each region in the Category One Haul endorsement in the Estuary General Fishery. SAFS represents the Status of Australian Fish Stocks report. \* SAFS 2023 classifications were not published at time of writing and subject to change.

Region 1					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Sea Mullet	27.72	18.91	27.27	sustainable	sustainable
Fantail Mullet	3.41	2.59	1.38		
Sand Whiting	1.87	1.07	0.47	sustainable	sustainable
Yellowfin Bream	0.16	0.06	0.11	sustainable	sustainable
Luderick	0.12	0.10	0	sustainable	sustainable
Bigeye Trevally	0.05	0.09	0		
Silver Trevally	0.05	0.04	0.03	recovering	depleted
Giant Trevally	0.04	0.05	0		
Dusky Flathead	0.03	0.02	0.01	sustainable	sustainable
Tailor	0.03	0.01	0.04		sustainable
Region 2					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Sea Mullet	116.82	52.55	124.91	sustainable	sustainable
Sand Whiting	5.71	2.94	2.61	sustainable	sustainable
Yellowfin Bream	3.41	1.21	2.16	sustainable	sustainable
Luderick	0.74	0.80	0.31	sustainable	sustainable
Common Silverbidy	0.46	0.25	0.34		
Forktail Catfishes	0.36	0.34	0.88		
Black Bream	0.34	0.62	0		
Dusky Flathead	0.18	0.08	0.15	sustainable	sustainable
Mulloway	0.08	0.05	0.06		
Eastern School Whiting	0.06	0.11	0		
Region 3					

Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Sea Mullet	3.46	3.36	0.41	sustainable	sustainable
Sand Whiting	1.39	1.65	0.16	sustainable	sustainable
Fantail Mullet	1.32	1.44	0.99		
Sandy Sprat (Whitebait)	0.74	1.66	0		
Sand Mullet	0.53	0.53	1.03		
Eastern School Whiting	0.45	0.83	0		
Luderick	0.38	0.33	0.07	sustainable	sustainable
Bluespotted Flathead	0.25	0.55	1.24		
Yellowfin Bream	0.16	0.16	0	sustainable	sustainable
Common Silverbiddy	0.11	0.13	0		
<b>Region 4</b>					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Sea Mullet	39.76	27.30	20.49	sustainable	sustainable
Common Silverbiddy	27.26	15.96	9.56		
Sand Whiting	20.06	9.08	7.74	sustainable	sustainable
Yellowfin Bream	12.65	7.25	5.28	sustainable	sustainable
Luderick	9.29	4.09	3.59	sustainable	sustainable
Yellowtail Scad	6.92	3.85	2.37		
Trumpeter Whiting	4.03	2.92	2.66		
Eastern Sea Garfish	3.92	3.71	0.62		
Striped Scat (Butterfish)	3.09	2.21	1.2		
Sand Mullet	2.27	1.23	0.71		
<b>Region 5</b>					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Sea Mullet	58.19	109.57	3.86	sustainable	sustainable
Sandy Sprat (Whitebait)	7.24	6.24	0		
Common Silverbiddy	1.64	1.07	0.34		
Silver Trevally	1.56	0.98	0.13	recovering	depleted
Hardyhead	1.15	1.37	0		
Yellowfin Bream	0.85	0.73	0.02	sustainable	sustainable
Sand Whiting	0.49	0.46	0.04	sustainable	sustainable
Anchovy	0.46	0.44	0		
Australian Salmon	0.40	0.39	0		
Scallop	0.28	0.26	0		
<b>Region 6</b>					

Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Sand Whiting	7.524	3.496653	5.07	sustainable	sustainable
Common Silverbidy	5.87	2.582876	3.24		
Fantail Mullet	3.818	1.200529	3.47		
Trumpeter Whiting	3.132	2.104892	5.56		
Mulloway	2.03	2.199784	1.07		
Silver Trevally	1.666	0.970247	1.73	recovering	depleted
Tailor	1.538	0.764016	1.57		sustainable
Yellowfin Bream	0.938	0.280036	0.66	sustainable	sustainable
River Garfish	0.852	1.47764	3.46		
Luderick	0.844	0.302952	0.73	sustainable	sustainable
<b>Region 7</b>					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
River Garfish	0.072	0.160997	0.36		
Black Bream	0.142	0.176409	0		
Longfin Eel	0.188	0.2749	0		
Luderick	0.138	0.142899	0	sustainable	sustainable
Sand Whiting	0.138	0.211471	0	sustainable	sustainable
Sea Mullet	0.128	0.275173	0		
Silver Trevally	0.062	0.080747	0	recovering	depleted
Australian Salmon	0.04	0.07874	0		
Tailor	0.036	0.046152	0		sustainable
Yellowfin Bream	0.02	0.024495	0	sustainable	sustainable

## Category Two Haul

The annual catch in Category Two haul, across all species, was less than 3 t in 2022/2023. Snubnose Garfish and River Garfish were the most commonly caught species over the last 5 years albeit at very low quantities. The topmost taxa landed in each region under the Hauling endorsement Category 1 are shown in Table 4.

Table 4. Annual landings (tonnes) for the topmost species within each region in the Category Two Haul endorsement in the Estuary General Fishery. SAFS represents the Status of Australian Fish Stocks report. \* SAFS 2023 classifications were not published at time of writing and subject to change.

Region 1					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Snubnose Garfish	0.01	0.01	0.02		
Eastern Sea Garfish	0.00	0.00	0	sustainable	sustainable
Region 2					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Snubnose Garfish	0.07	0.11	0		
Eastern Sea Garfish	0.02	0.05	0	sustainable	sustainable
Longtom	0.00	0.01	0		
Sea Mullet	0.00	0.00	0	sustainable	sustainable
Dusky Flathead	0.00	0.00	0	sustainable	sustainable
River Garfish	0.00	0.00	0		
Sand Whiting	0.00	0.00	0	sustainable	sustainable
Yellowfin Bream	0.00	0.00	0	sustainable	sustainable
Region 3					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
Snubnose Garfish	0.16	0.13	0.01		
Sandy Sprat (Whitebait)	0.12	0.16	0		
River Garfish	0.07	0.06	0		
Sea Mullet	0.02	0.03	0	sustainable	sustainable
Dusky Flathead	0.00	0.01	0	sustainable	sustainable
Sand Whiting	0.00	0.01	0	sustainable	sustainable
Fantail Mullet	0.00	0.00	0		
Eastern Sea Garfish	0.00	0.00	0	sustainable	sustainable
Luderick	0.00	0.00	0	sustainable	sustainable
Longtom	0.00	0.00	0		
Region 4					
Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
River Garfish	0.98	0.53	0.4		



Yellowtail Scad	0.89	2.00	0		
Eastern Sea Garfish	0.62	1.40	0	sustainable	sustainable
Common Silverbidy	0.03	0.07	0		
Longfin Pike	0.03	0.03	0		
Hardyhead	0.03	0.06	0		
Eastern School Whiting	0.01	0.01	0		
Dusky Flathead	0.00	0.01	0	sustainable	sustainable
Longtom	0.00	0.01	0		
Southern Calamari	0.00	0.01	0		

#### Region 5

Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
River Garfish	0.16	0.33	0		
Southern Herring	0.01	0.02	0		
Sand Whiting	0.01	0.01	0	sustainable	sustainable
Longfin Pike	0.01	0.01	0		
Tailor	0.00	0.01	0		sustainable
Yellowtail Kingfish	0.00	0.01	0		
Luderick	0.00	0.00	0	sustainable	sustainable
Trumpeter Whiting	0.00	0.00	0		
Eastern Shovelnose Ray	0.00	0.00	0		
Common Silverbidy	0.00	0.00	0		

#### Region 6

Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
River Garfish	3.01	1.77	0.89		
Eastern Sea Garfish	0.12	0.26	0	sustainable	sustainable
Common Silverbidy	0.01	0.02	0		
Male Blue Swimmer Crab	0.01	0.02	0		
Longtom	0.00	0.00	0		

#### Region 7

Common Name	5 year Average Landings (t)	5 year SD (t)	2022/23 Landings (t)	NSW Status	SAFS 2023 Status*
River Garfish	0.39	0.52	0		
Common Silverbidy	0	0	0		

# Effort

## Overall and Regional Quota Usage

Between 2018/19 and 2022/23, the overall quota usage averaged 17.3 % in Category 1 Haul and 12% in Category 2 Haul (Table 5, Table 7). The average quota usage in the individual regions ranged from 0.6 – 24% in Category 1 (Figure 1, Table 6) and 2.1 – 30.3 % in Category 2 (Figure 4, Table 7). While there are large differences in quota usage among regions, the proportions of quota usage are generally less than 30 % but with 41.7 % of quota used in Category 2 Haul Region 7 in 2022-23. Details of quota size and usage are presented in (Table 5, Table 6, Table 7, Table 8).

### Category 1 haul endorsement

In 2022/23, the percentage of quota used for the Category 1 hauling fishery was 16.67 % (Table 5). Over the last 5 year period (2018/19 - 2022/23) quota usage for Regions 4 and 6 were similar and had the greatest percentage of quota used compared to other regions. Region 7 had very low usage (Figure 1, Table 6). The majority of fishing businesses in the Category 1 hauling fishery used less than 25 % of their quota (Figure 2) and only within region 4 was there evidence (only a few) of fishing businesses using 100 % of their quota (Figure 3).

Table 5 Total number of quota days allocated and used in the Estuary General Fishery Category 1 haul endorsement

Year	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	Average	SD
Quota	9628	9628	9628	9628	9628	9628	0
Used	1701	2023	1617	1382	1605	1665.6	207.58
% Used	17.67	21.01	16.79	14.35	16.67	17.30	2.16

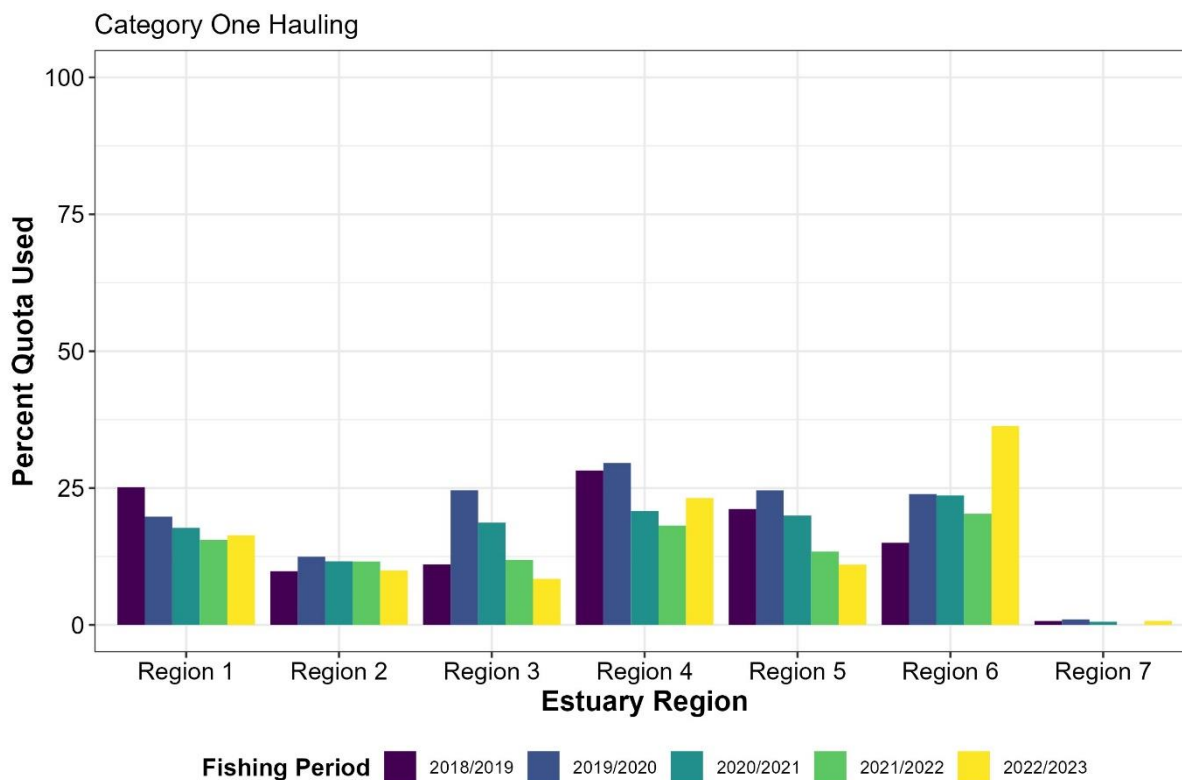


Figure 1. Category One Hauling quota usage in each estuary general region by financial year.

Table 6. Total number of quota days allocated and used in each region of the Estuary General Fishery Category 1 Hauling

Region	Interim Quota	5 year average usage	5 year SD	Usage in 2022/23	5 years % used average	% used in 2022/23
Overall	9629	1666	48.98	1605	17.30	16.67
1	593	112	20.34	97	18.89	16.36
2	2498	278.4	24.12	258	11.14	10.33
3	606	90.4	35.73	51	14.92	8.42
4	3018	722	130.75	699	23.92	23.16
5	1217	218.6	60.93	134	17.96	11.01
6	994	240	68.67	361	24.14	36.32
7	703	4.2	2.32	5	0.60	0.71

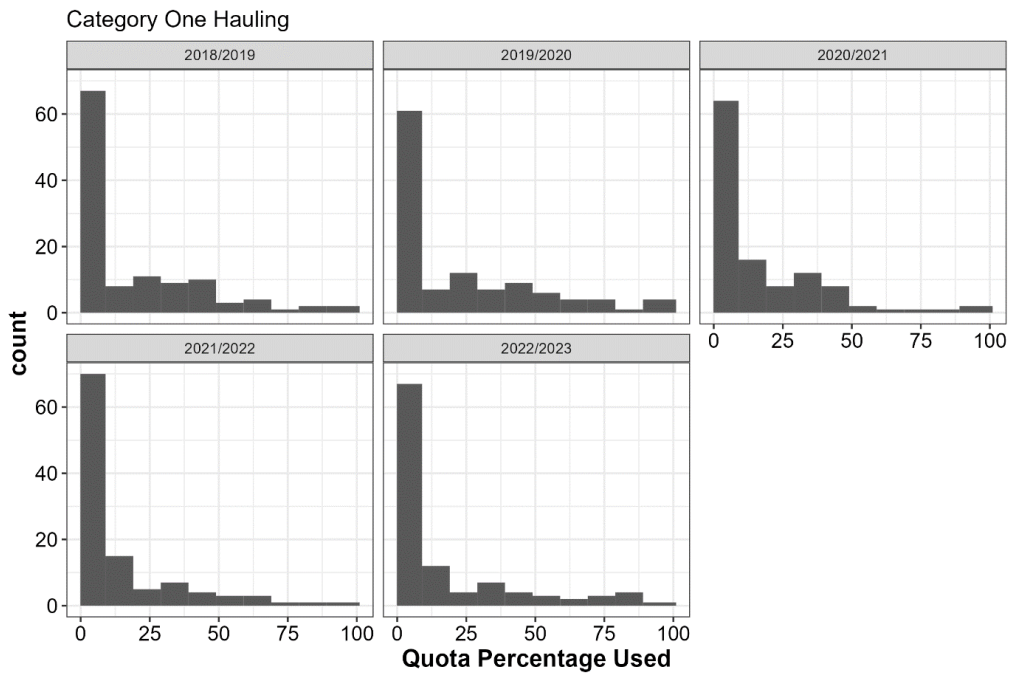


Figure 2. Distribution of quota usage by fishing business ID for each financial year for the Category One Hauling endorsements.

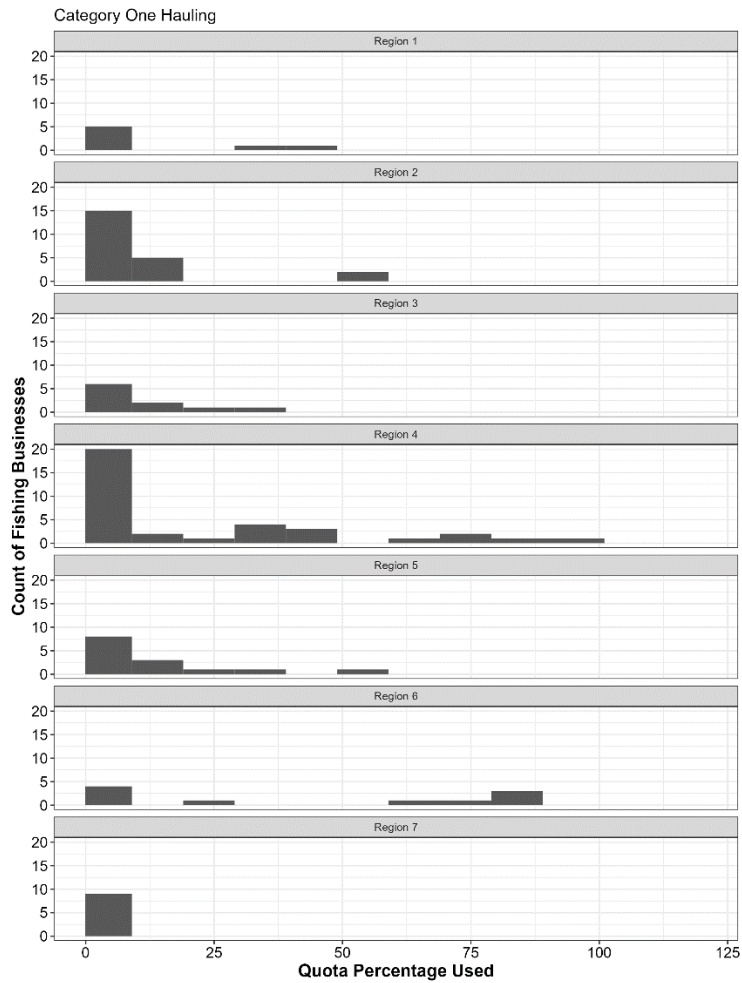


Figure 3. Distribution of quota usage by fishing business ID in each region in 2022/23 for the Category One Hauling endorsement.

### Category 2 haul endorsement

In the year 2022/23 the percentage usage of quota for Category 2 hauling was 11.86% (Table 7). Over the last 5 year period (2018/19 - 2022/23) Region 6 consistently had the highest percentage of quota used compared to other regions for the 4 years 2018/19 – 2021/22 (Figure 4, Table 8). In 2022/23, the greatest proportion of quota used occurred in in Region 7 (41.7%, Figure 4). The majority of fishing businesses in the Category 2 hauling endorsement used less than 2% of their quota with only one instance in Region 7 of a fishing business using 100 % of its quota (Figure 5, Figure 6)

Table 7. Total number of quota days allocated in the Estuary General Fishery Category 2 haul endorsement

Year	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	Average	SD
Quota	936	936	936	936	936	936	0
Used	126	118	122	84	111	112.2	14.95
% Used	13.46	12.61	13.03	8.97	11.86	11.99	1.60

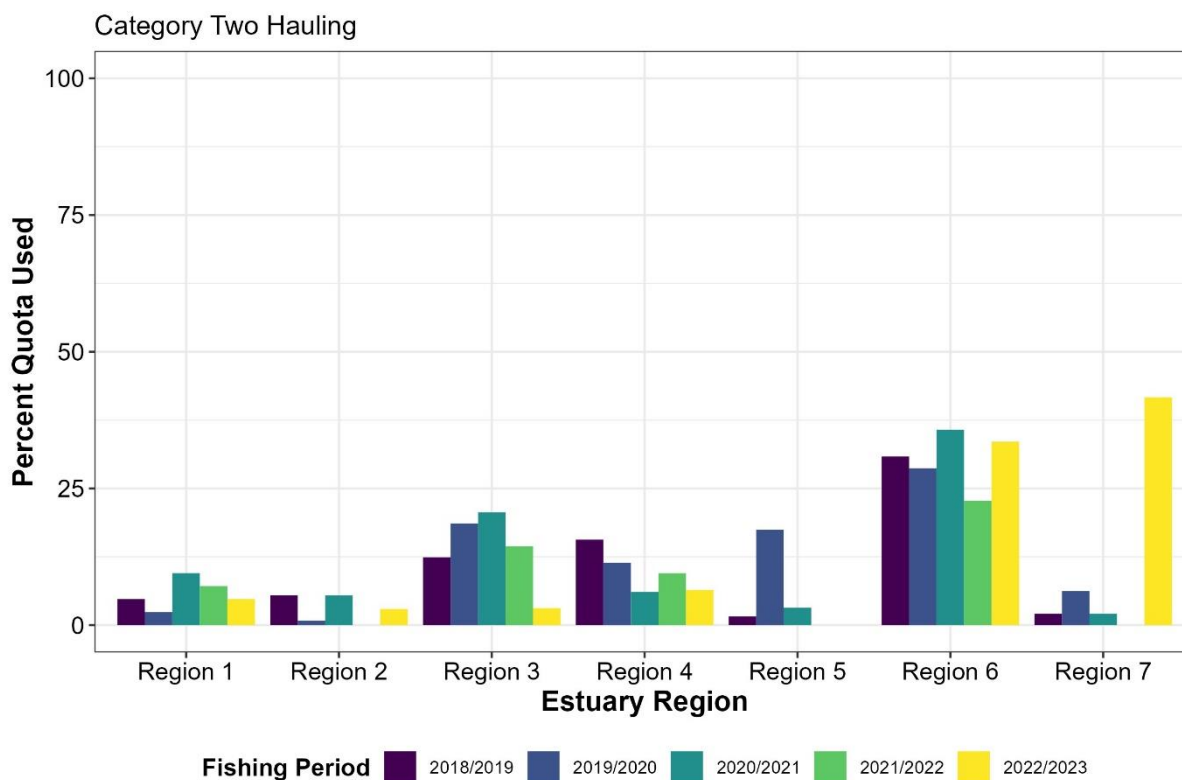


Figure 4. Category Two Hauling quota usage in each estuary general region by financial year.

Table 8. Total number of quota days allocated and used in each region of the Estuary General Fishery Category 2 haul endorsement.

Region	Interim Quota	5 year average usage	5 year SD	Usage in 2022/23	5 years % used average	% used in 2022/23
Overall	936	108.8	6.2	104.0	11.6	11.1
1	42	2	1.41	2	4.8	4.8
2	238	5	6.13	0	2.1	0
3	97	13.4	5.92	3	13.8	3.1
4	263	25.8	9.2	17	9.8	6.4
5	63	2.4	4.3	0	3.8	0
6	185	56	8.27	62	30.3	33.5
7	48	4.2	7.91	20	8.8	41.7

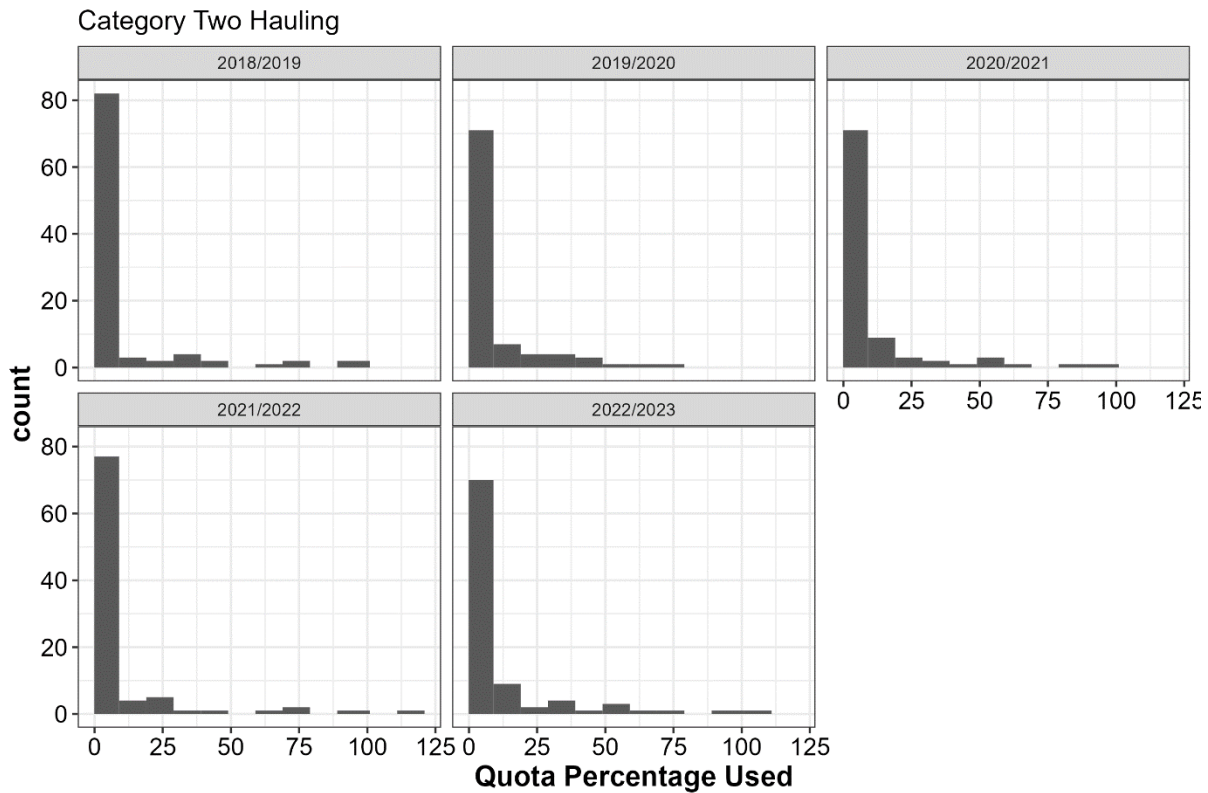


Figure 5. Distribution of quota usage by fishing business ID for each financial year for the Category Two Hauling endorsements. The y axis is the count of Fishing Business ID

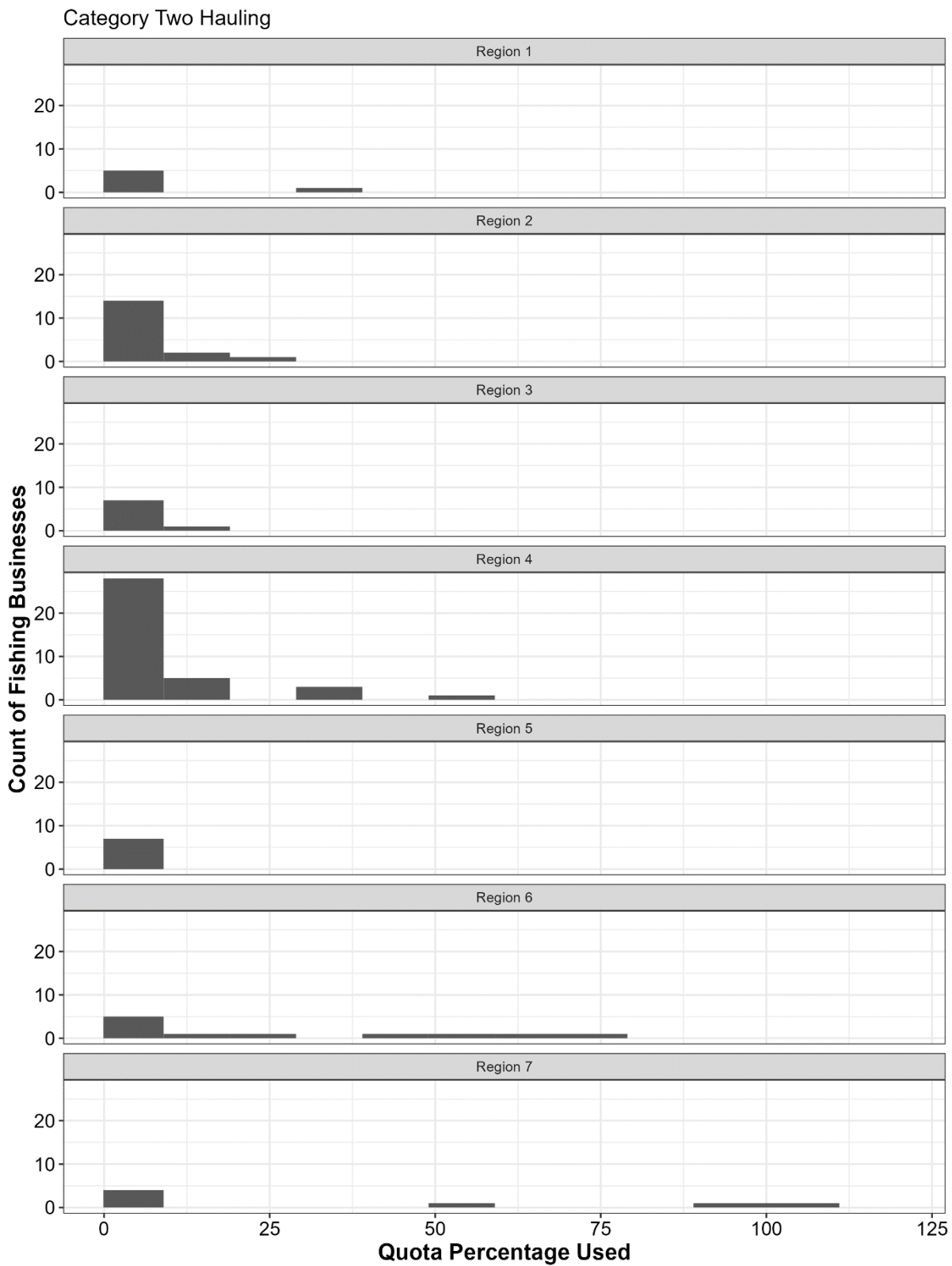


Figure 6. Distribution of quota usage by fishing business ID in each region in 2022/23 for the Category Two Hauling endorsement.

## Discussion and matters for consideration by the TAFC

In the mixed species Estuary General Hauling fisheries, a large number of species are reported but the bulk of the catch (> 85%) is represented by only 6 species: Sea mullet, Sand whiting, Silverbiddy, Trumpeter whiting, Yellowfin bream and Luderick. Each of these species, excluding Silverbiddy, has been assessed as 'sustainable', based on current NSW stock assessments and/or recent SAFS assessments. Silverbiddy has not undergone formal stock assessment in NSW. Neither has it been assessed under SAFS. However, we note that there are no concerning trends apparent in raw catch rates between 1998/99 to 2022/23, based on data supplied by NSW Estuary General fishers via logbooks (see Appendix 1).

Species which are less commonly caught (but with mean annual catches > 1 t from the hauling fisheries) that have current stock status classifications other than 'sustainable' include Silver trevally (recovering) and Mulloway (recovering). However, catches of these species from the hauling fisheries represent very small proportions of the total NSW catch and/or inter-jurisdictional catches so they do not represent a significant fishing mortality.

Between 2018/19 and 2022/23, the effort quotas for the Estuary General Hauling fisheries were grossly underutilised. Under the current quotas (*Transitional Fishing Determinations*) there are substantial levels of latent effort in all regions. The current assessment methods for the key species caught under the hauling endorsements do not allow forecasting of the impact that full use of the current quotas may have on the sustainability of species but a potential quadrupling of effort would substantially increase fishing mortality on all species. Development of more advanced integrated model-based assessments has commenced (as detailed in the species assessments) using 'Stock Assessment Continuum' and 'Stock Synthesis' software tools and, subject to acceptance of the modelling, it will be possible to forecast biomass trajectories for key species. In the meantime, the levels of latent effort in the Hauling fisheries and the potential for increased fishing mortality if it is deployed represents a key issue for consideration by the TAFC. Associated with this consideration are the potential economic and social impacts of reductions in TAE on the fishing businesses that have been using a high proportion of their quotas allocated under the *Transitional Fishing Determinations*.

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Appendix 1

Annual catch rate trends of Silverbiddy in the Estuary General Fishery

