



## BUNDABERG ESTUARIES REVIEW 2025

### INFORMATION RATING



Key species: Dusky Flathead, Yellowfin Bream, Goldspotted Rockcod

Fish timeframe: 2016-2025

Fisher timeframe: 2021-2025

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Supported by SunTag, Gladstone Ports Corporation, and  
Department of Primary Industries

## BUNDABERG ESTUARIES OVERVIEW

### Summary of 2025

- Bundaberg estuaries remain mostly a local and primarily a harvest fishery.
- Tagging effort has remained steady and the reliability of the data remains high.
- Trailer counts at key boat ramps continue to provide additional data on fishing activity.

Bundaberg estuaries range from Littabella Creek in the north to Coonarr Creek in the south and include the Kolan River, Burnett River and Elliott River. The Burnett and Kolan Rivers are highly regulated with barrages that separate the tidal and freshwater reaches which limit the estuaries.

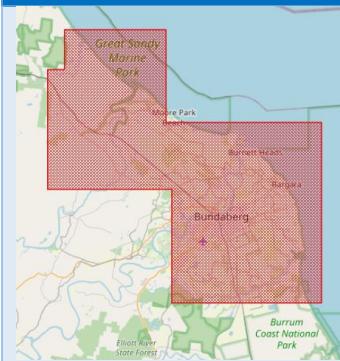
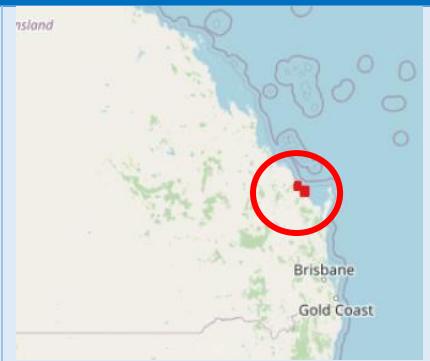
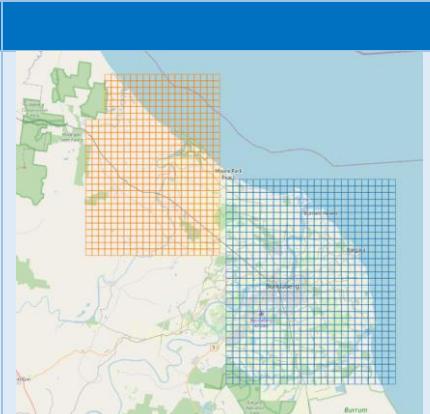
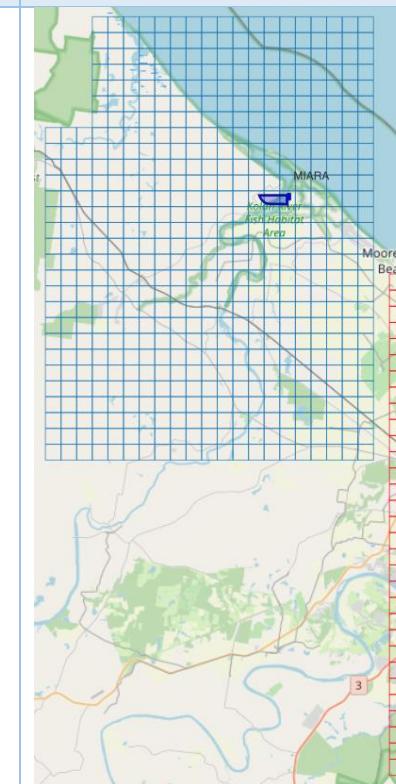
These estuaries are mostly fished by locals and fishers from Bundaberg and the immediate area catching mainly Flathead, Bream and Rockcod with those species accounting for 75% of fish tagged.

Activity by taggers and recapture fishers occurs throughout most of the year. Trailer counts at key boat ramps provide additional information on monthly and weekday activity. Burnett Heads boat ramp is primarily used for offshore fishing, particularly over the winter months when wind conditions are more favourable. Most activity occurs on weekends for taggers and those recapturing fish and is supported by trailer counts at the key boat ramps.

This is mainly a harvest fishery with a high retention rate of recaptured legal fish by recreational fishers (excluding taggers). For the key species the harvest rate of legal fish ranged from 56% for Rockcod to 75% for Flathead.

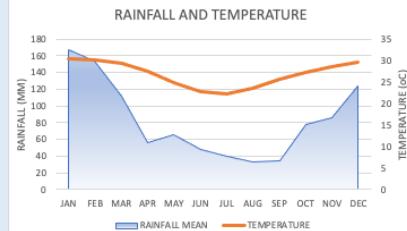
From 2019-2022 there were low flows resulting in reasonable conditions for fishing. Flows for much of 2022 made fishing conditions in the river very difficult resulting in restricted fishing activity and a consequent drop in the numbers of fish tagged and recaptured. The other rivers and creeks were also impacted however to a lesser extent. There was a rebound in effort in 2023 and has remained steady since then. There were high flow in early 2025 however the impact was less than in 2022.

## BUNDABERG ESTUARIES LOCATION

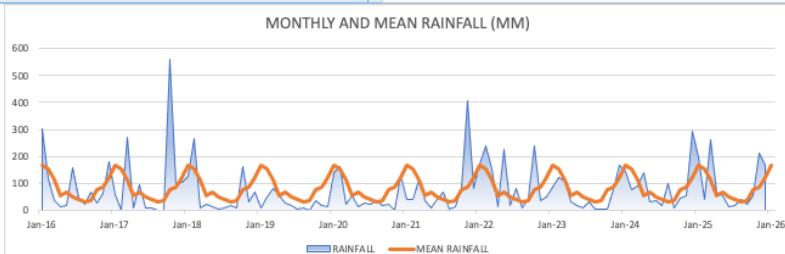
	<p>Bundaberg 24.87°S 152.35°E</p>	
<p><b>WATERWAYS</b></p> <p><b>Bundaberg Coast</b>  <b>Grid maps</b>  <b>Bundaberg (BND)</b>  <b>Kolan River (KRB)</b></p>	<p>Burnett River  Kolan River  Littabella Creek  Skyringville  Elliott River  Coonarr Creek</p>	
<p><b>Boat ramps</b>  <b>Miara</b>  <b>Burnett Heads</b>  <b>Strathdees</b>  <b>Kirby</b>  <b>Bundaberg</b>  <b>Riverview</b></p>		

## ENVIRONMENTAL CONDITIONS

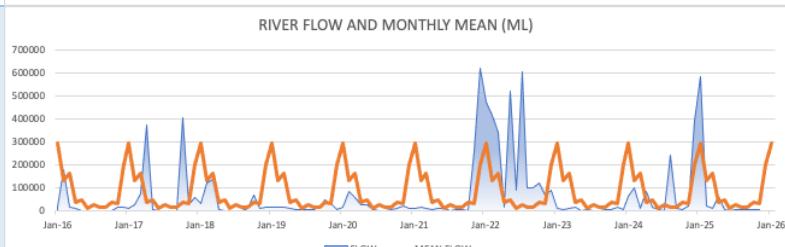
**Mean monthly rainfall (mm)**  
**Mean max temperature (°C)**  
**All years**



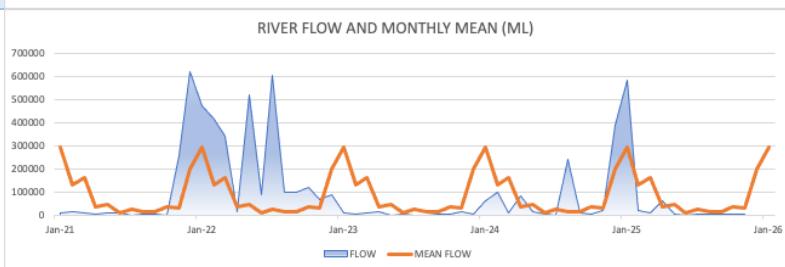
**Bundaberg monthly rainfall (mm)**  
**Mean monthly rainfall 2016-2025**



**Burnett River monthly flows (ML)**  
**Mean monthly flow 2016-2025**



**Burnett River flows (ML)**  
**2021-2025**



## TYPE OF FISHERY

### DATA RELIABILITY

**Sample size (days fished)**

**Tag days (blue arrow)**

**Recaptures (orange arrow)**

**Confidence %**

**Error %**

**2021-2025**

Reliability level	LOW	MODERATE	MODERATE	HIGH
Samples	10	41	68	271
Confidence	80%	80%	90%	90%
Error	20%	10%	10%	5%



**Fishing conditions**

**Average rainfall (mm)**

**Days fished combined**

**Taggers**

**Recapture fishers**

**2021-2025**

Days

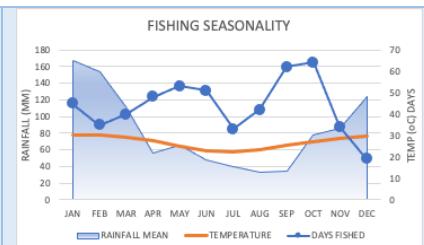
526

Months most

Oct

Days fished

Sep



**Harvest or experiential fishery - release rate of recaptured legal fish**

**Flathead, Bream, Rockcod**

**2016-2025**

Key species legal fish kept rate

105

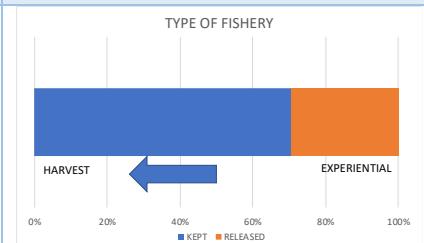
Legal fish

74 (70%)

Kept

31 (30%)

Released



**Local or visitor fishery**

**Where recapture fishers live**

**2021-2025**

Recapture fishers

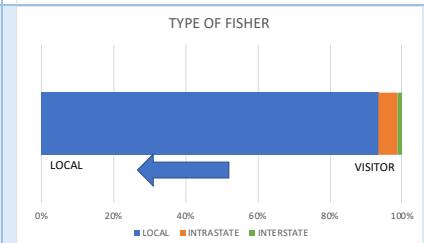
75

Local

70 (93%)

Visitor

5 (7%)



**Gender of recapture fishers (ex-taggers)**

**2021-2025**

Recaptures

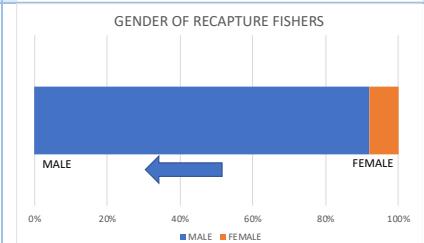
63

Male

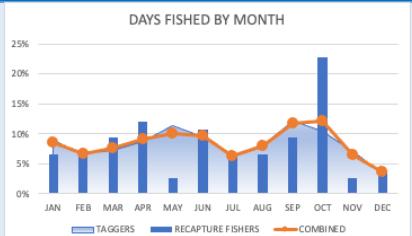
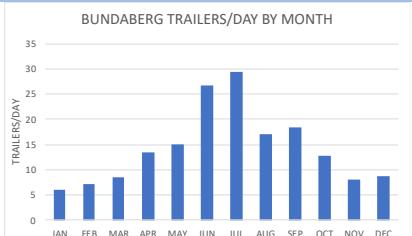
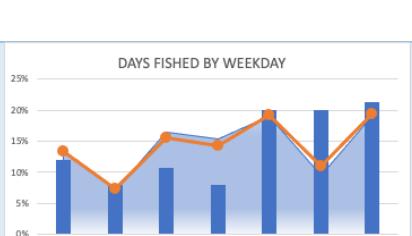
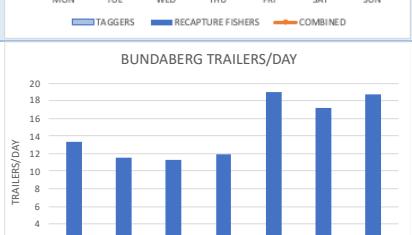
58 (92%)

Female

5 (8%)



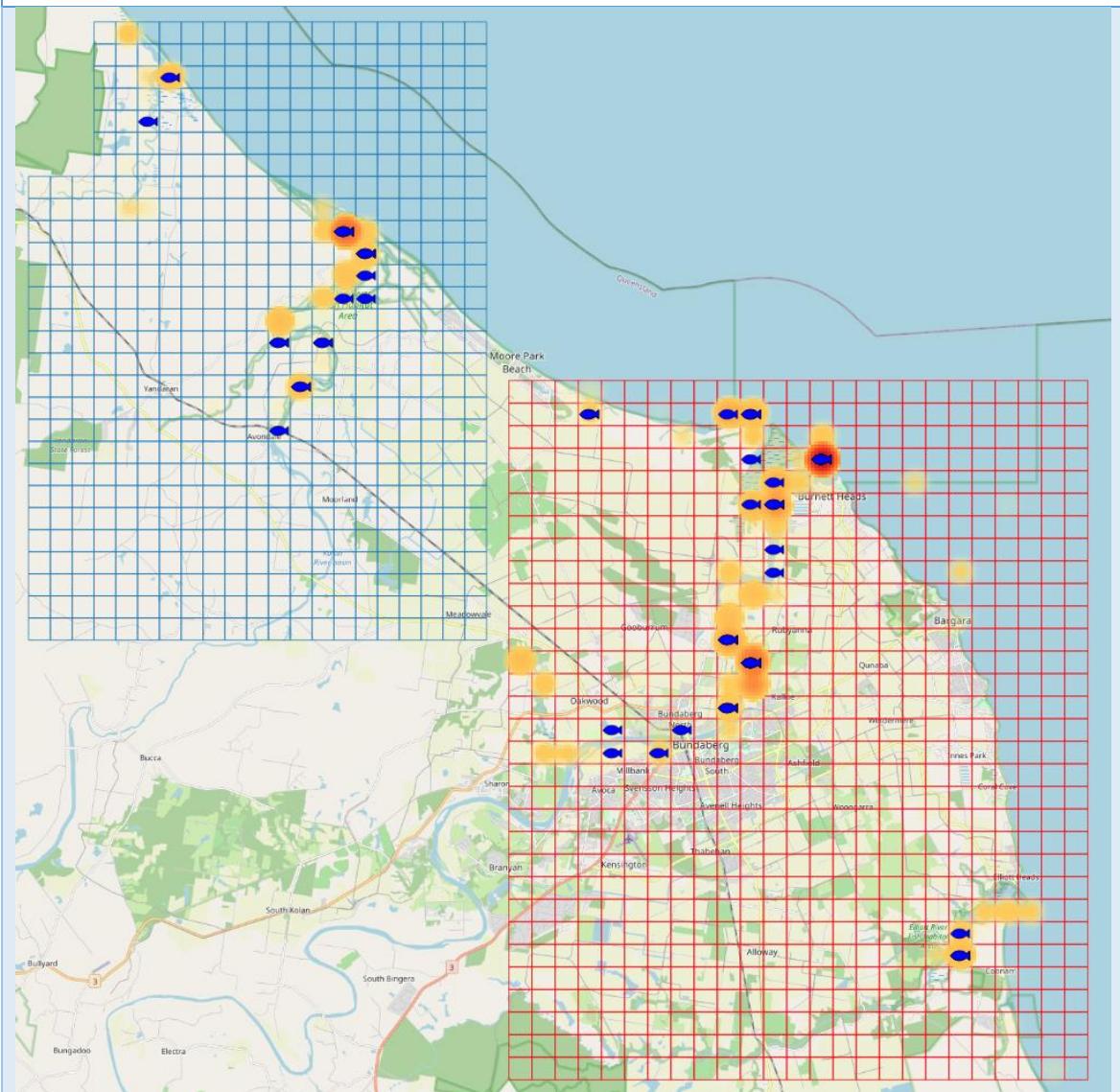
## FISHER ACTIVITY

<b>Monthly activity</b> <b>Days fished</b> <b>Taggers (451)</b> <b>Recapture fishers (75)</b> <b>2021-2025</b>	Taggers Recaps	Month	%	
		Sep	12%	
		Apr	11%	
		Oct	23%	
		Apr	12%	
<b>Monthly activity</b> <b>Trailers at 6 key boat ramps</b> <b>Burnett River and offshore</b> <b>Kolan River</b> <b>Elliott River</b> <b>2021-2025</b>	Count days Trailers Trailers/day Jun Jul (months of peak offshore fishing)	282		
		4256		
		27		
		29		
<b>Weekday activity</b> <b>Days fished</b> <b>Taggers (451)</b> <b>Recapture fishers (75)</b> <b>2021-2025</b>	Day Taggers Recaps	Day	%	
		Weekend	29%	
		Weekdays	71%	
		Weekend	41%	
		Weekdays	59%	
<b>Trailer counts at 6 key boat ramps</b> <b>Burnett River and offshore</b> <b>Kolan River</b> <b>Elliott River</b> <b>2021-2025</b>	Count days Trailers Trailers/day Fri Sat Sun	282		
		4256		
		19		
		17		
		19		

**Location activity**  
**Tagged fish (red-orange  
heat map)**  
**Recapture fishers (blue  
fish)**  
**2021-2025**

Tagged  
Recaptured

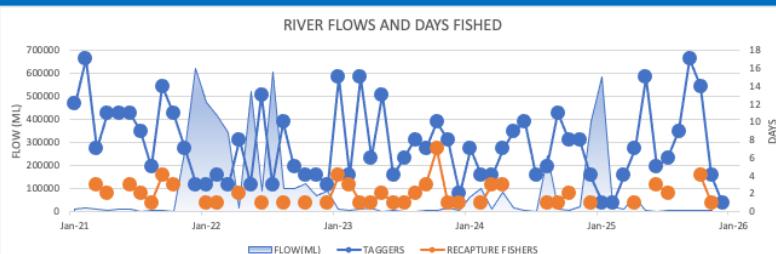
1923  
76



## FISHER EFFORT

### Fisher effort

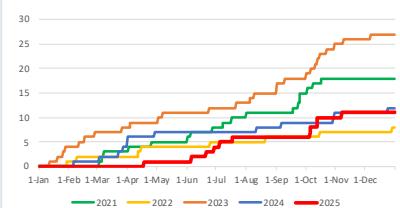
**Burnett River flow (ML)**  
**Days fished**  
**Taggers (blue dots)**  
**Recapture fishers (orange dots)**  
**2021-2025**



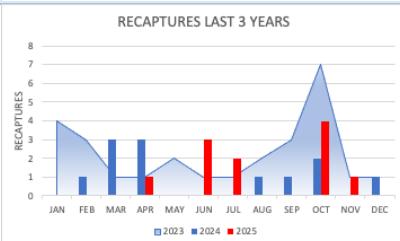
### Cumulative recaptures 2021-2025

Year	Recaps
2021	18
2022	8
2023	27
2024	12
2025	11

### CUMULATIVE RECAPTURES



### Recaptures last 3 years 2023-2025



## FISHER TRAVEL

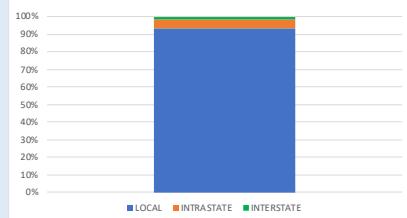
<b>Cumulative distance (km) home to recapture location (ex-interstate) 2021-2025</b>		<p>CUMULATIVE PROXY TRAVEL DISTANCE (KM)</p>
<b>Total distance (km) home to recapture location (ex-interstate) 2021-2025</b>	Year 2021 2022 2023 2024 2025	<p>TOTAL PROXY TRAVEL DISTANCE (KM)</p>
<b>Distance (km) home to recapture location (ex-interstate) 2021-2025</b>		<p>RECAPTURE FISHERS PROXY TRAVEL</p>
<b>Average distance (km) from home to recapture location 2021-2025</b>	Av distance (km) Local Intrastate Interstate	<p>RECAPTURE FISHER'S PROXY AVERAGE TRAVEL</p>
<b>Distance (km) home to recapture location Bars show distance range Dots show outliers 2021-2025</b>	Range (km) Local Intrastate Interstate	<p>RECAPTURE FISHERS PROXY TRAVEL</p>

## WHERE RECAPTURE FISHERS LIVE

Where recapture fishers live  
2021-2025

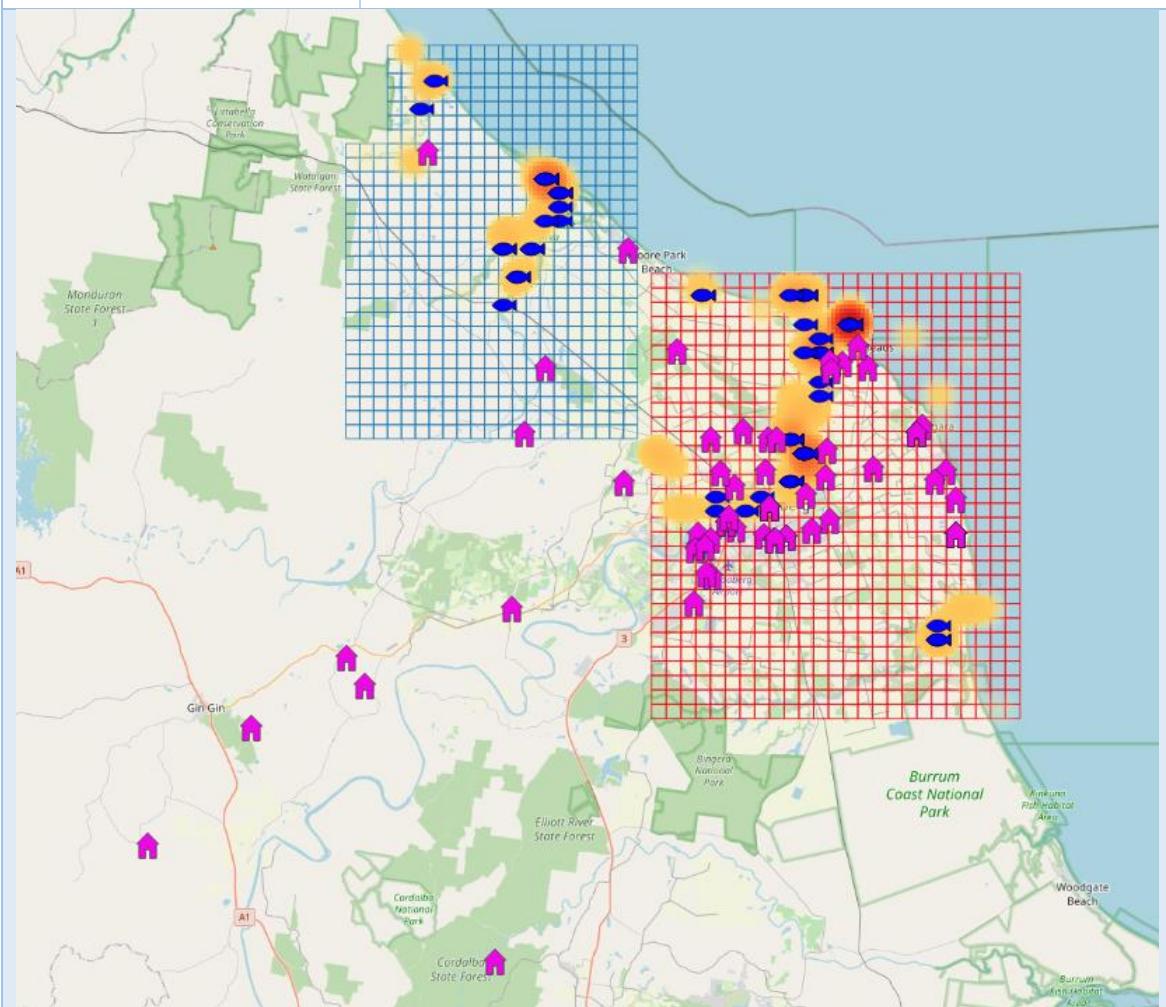
Recapture fishers	75
Local	70 (93%)
Intrastate	4 (5%)
Interstate	1 (1%)

WHERE RECAPTURE FISHERS LIVE

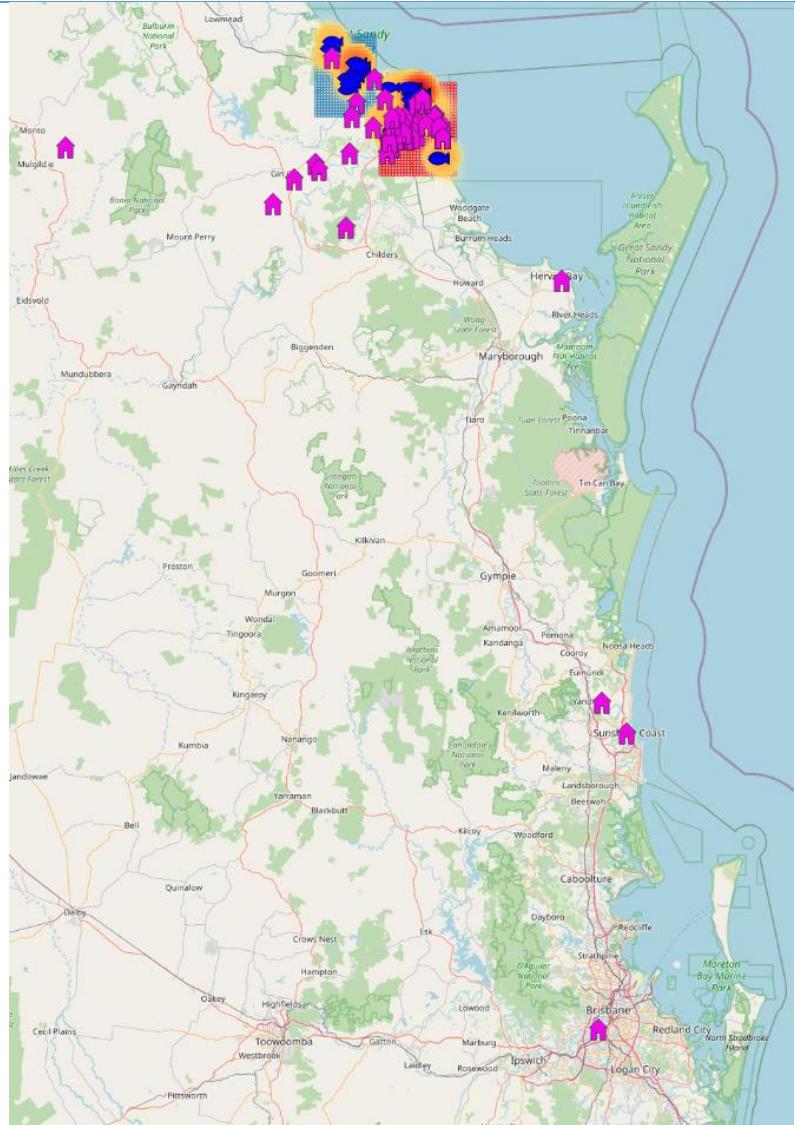


Where fishers recapturing fish live (pink houses)

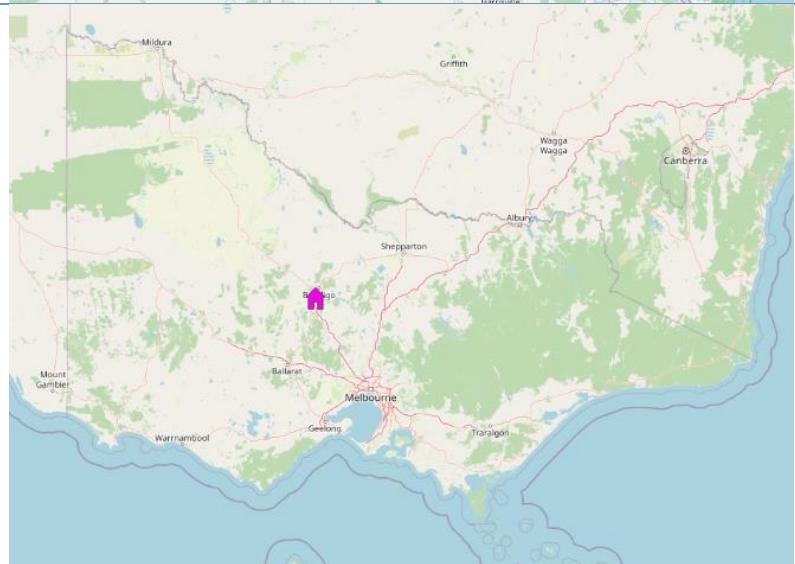
Local  
2021-2025



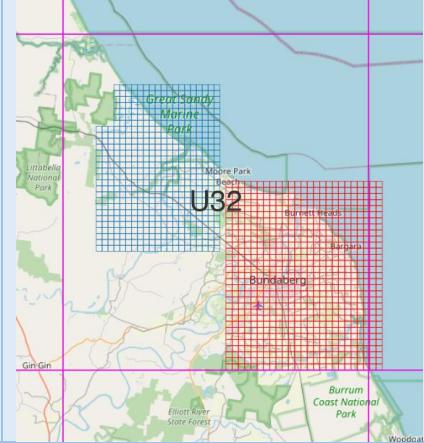
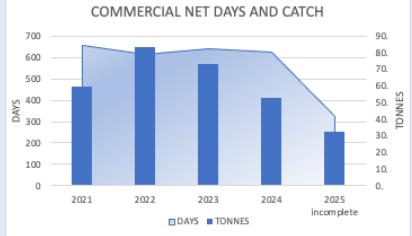
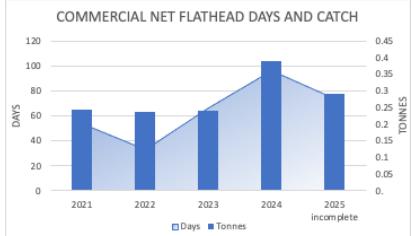
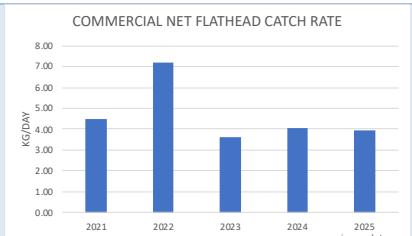
**Where fishers recapturing  
fish live (pink houses)**  
**Local**  
**Intrastate**  
**2021-2025**



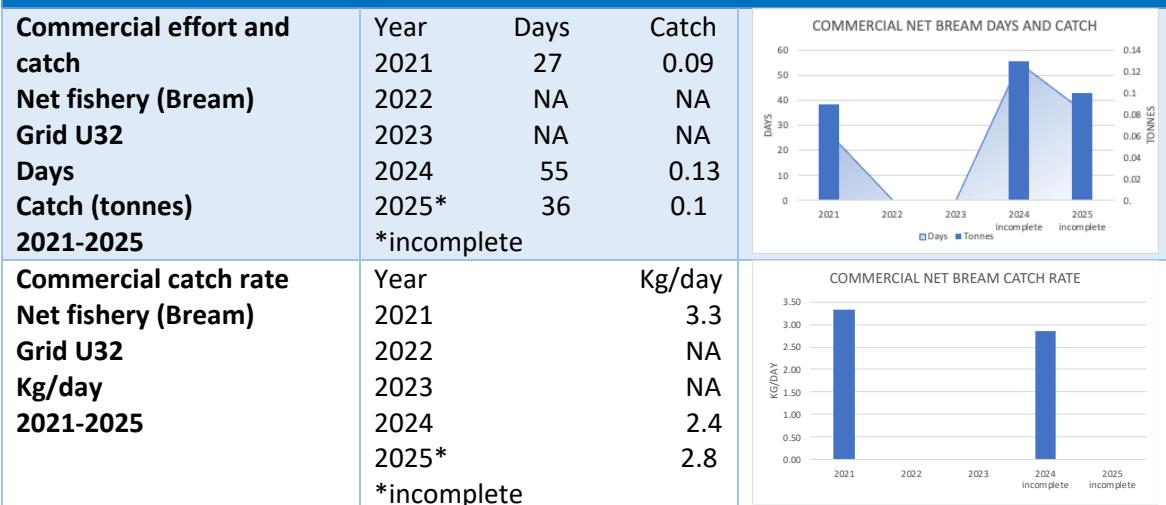
**Where fishers recapturing  
fish live (pink houses)**  
**Interstate**  
**2021-2025**



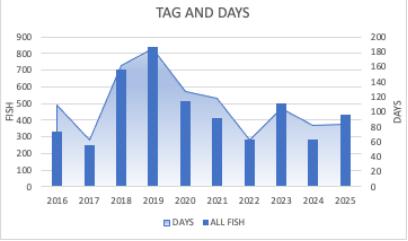
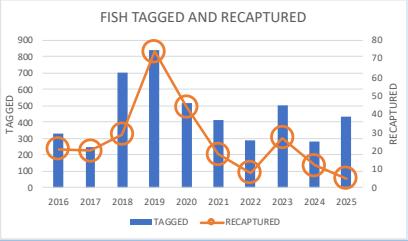
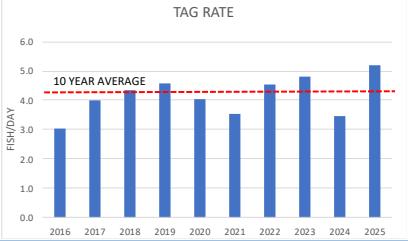
## COMMERCIAL CATCH

Commercial QFISH Grid	Grid U32	
<b>ALL CATCH</b>		
<b>Commercial effort and catch</b>	Year 2021 2022 2023 Days 2024 Catch (tonnes) 2021-2025	Days 658 612 638 626 324 59.3 83.4 73.4 53.0 32.2 *incomplete
<b>Commercial catch rate</b>	Year 2021 2022 2023 2024 2025*	Kg/day 90.2 136.3 115.0 84.7 99.4 *incomplete
		
<b>FLATHEAD</b>		
<b>Commercial effort and catch</b>	Year 2021 2022 2023 Days 2024 Catch (tonnes) 2021-2025	Days 54 33 66 96 74 0.24 0.24 0.24 0.39 0.29 *incomplete
<b>Commercial catch rate</b>	Year 2021 2022 2023 2024 2025*	Kg/day 4.5 7.2 3.6 4.1 3.9 *incomplete
		
		

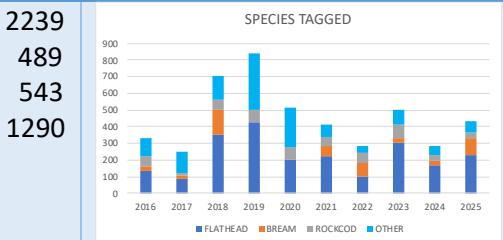
## BREAM



## KEY SPECIES

DUSKY FLATHEAD	YELLOWFIN BREAM	GOLDSPOOTTED ROCKCOD
		
TAGGED AND TAG RATE		
<b>Catch and effort taggers</b> Tagged fish (4561) Days fished (1095) 2016-2025	High Low Now Tagged fish 2019 2017 2025 841 247 436 Days 2019 2022 2025 187 64 84	
<b>Tagged fish</b> <b>Recaptured</b> 2016-2025	Tagged Recaptured Recapture rate Tagged 2025 4561 258 5.7% 436	
<b>Tag rate</b> All tagged fish Fish/day 2016-2025	High Low Now Tag rate 2023 2016 2025 4.7 3.0 7.5 10 year average 4.1	

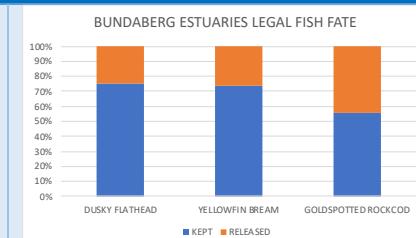
## SPECIES

<b>Species composition</b> <b>Numbers tagged</b> 2016-2025	Dusky Flathead Yellowfin Bream Goldspotted Rockcod Other species 2239 489 543 1290	
<b>Species composition</b> <b>Percentage tagged</b> 2016-2025	Dusky Flathead Yellowfin Bream Goldspotted Rockcod Combined 49% 11% 12% 72%	

## FATE

**Legal recaptures kept or released by recfishers (ex-tagger)**  
**2016-2025**

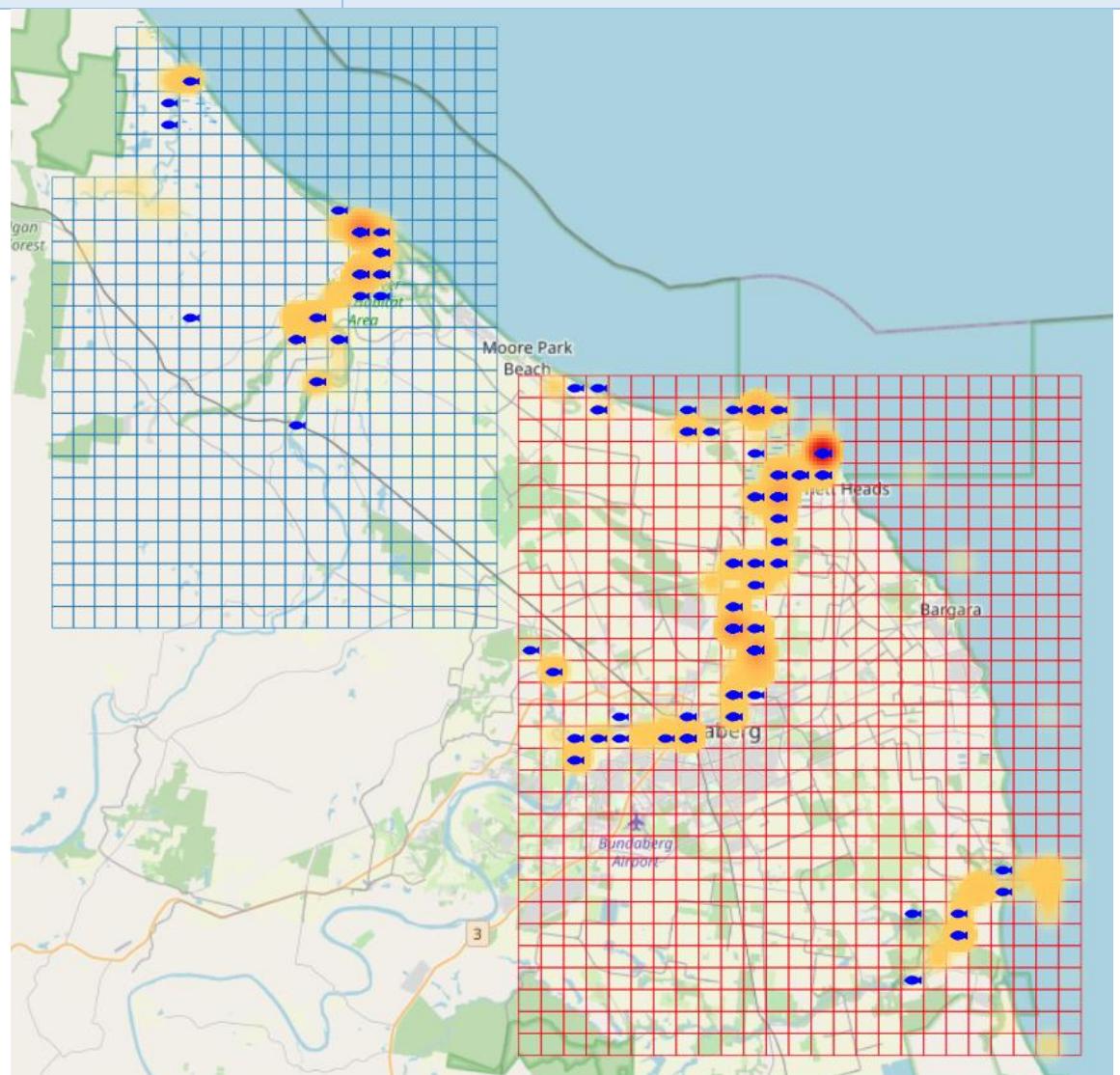
	Legal	Kept
Flathead	61	46 (75%)
Bream	19	14 (74%)
Rockcod	25	14 (56%)



## LOCATIONS

**All fish**  
**Tagged (red-orange heat map)**  
**Recaptures (blue fish)**  
**2016-2025**

Tagged Recaptures	4561
	258



## FLATHEAD



### DATA RELIABILITY

Sample size (av fish/year)

Reliability level	LOW	MODERATE	MODERATE	HIGH
Samples	10	41	68	664
Confidence	80%	80%	90%	95%
Error	20%	10%	10%	5%

Tagged (blue arrow)

Recaptures (orange arrow)

Confidence %

Error %

2021-2025



### TAGGED AND TAG RATE

Flathead

High      Low      Now

Tagged

Tagged

Recaptured

2016-2025      2019      2017      2025

2016-2025

423

87

233

Tagged

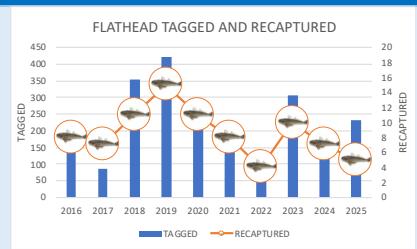
2239

Recaptured

86

Recapture rate

3.8%



Tag rate

High      Low      Now

Fish/day

Tag rate

2016-2025

2023

2016

2.9

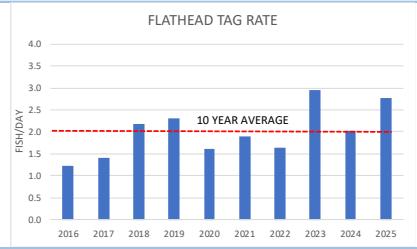
1.2

2.8

2025

10 year average

2.0



### LENGTHS

Average length (mm)

High      Low      Now

Bars show length range

Average length

2016-2025

2018

2020

2025

466

410

445

Max

2016

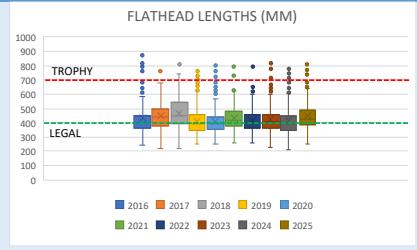
2019

2025

870

760

810



Fish lengths percentage

High      Low      Now

Undersize <400mm

Legal-Trophy

2016-2025

2018

2024

2025

70%

45%

66%

Trophy

2016

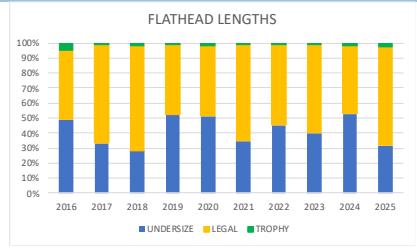
2023

2025

4%

1%

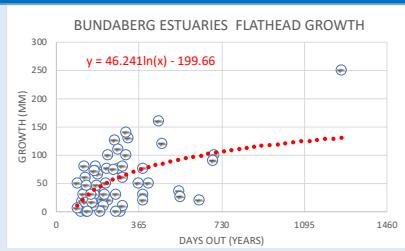
3%



## GROWTH

**Flathead growth at the end of each year based on recaptures of fish tagged 2016-2025**

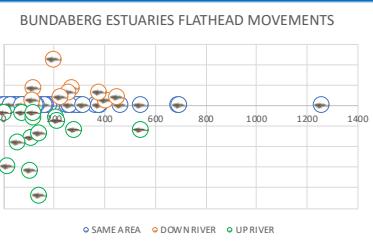
Recaptures	0
Growth (mm)	
Year 1	73
Year 2	105
Year 3	124
Year 4	137
Year 5	147



## MOVEMENT

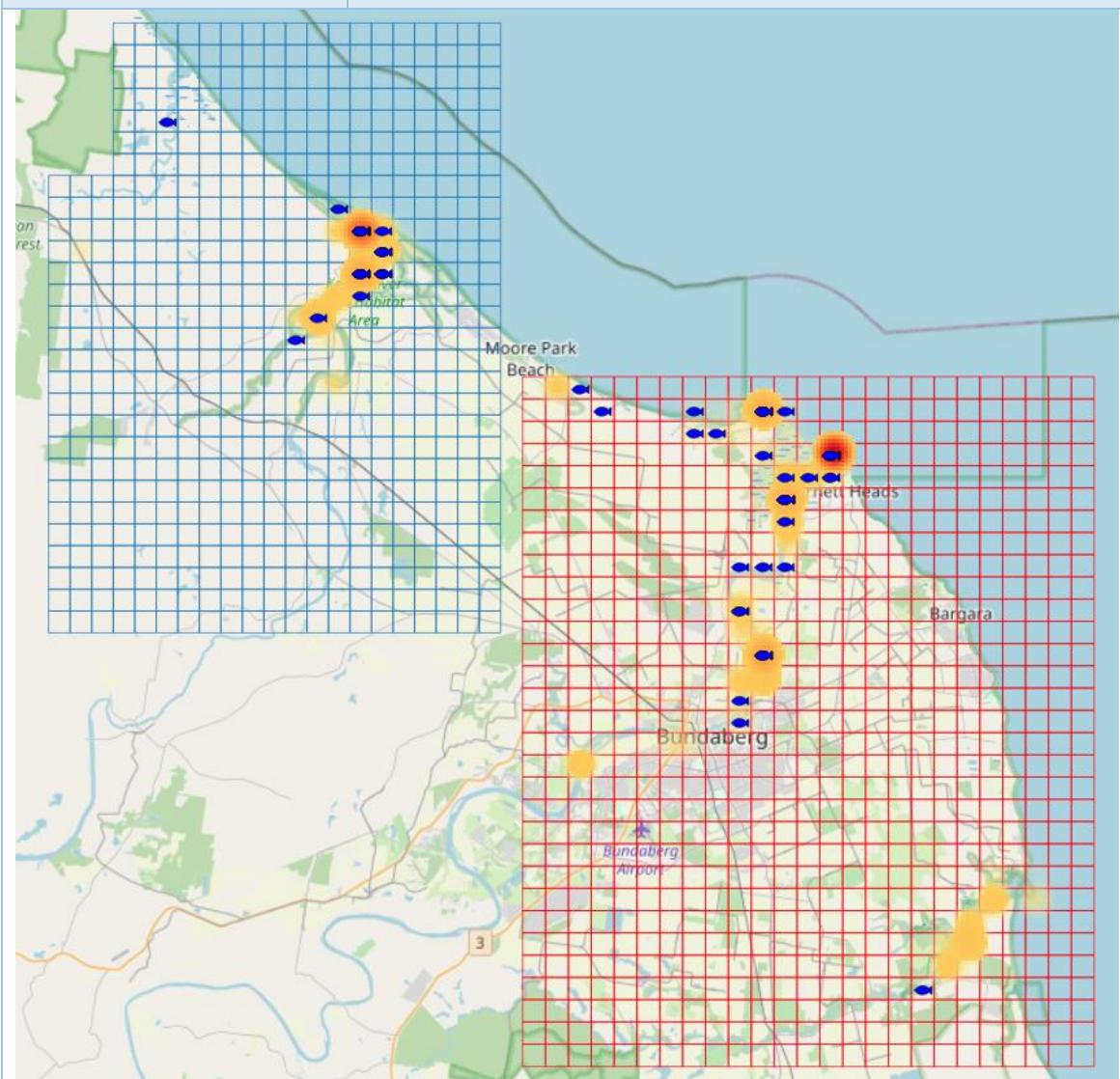
**Flathead movement Distance moved (km) 2016-2025**

Recaptures	86
Same area	58 (67%)
Down river	9 (10%)
Up river	14 (16%)
Outside river	5 (6%)



## LOCATIONS

<b>Flathead</b> <b>Tagged (red-orange heat map)</b> <b>Recaptured (blue fish)</b> <b>2016-2025</b>	Tagged Recaptured	2239 86
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## BREAM



### DATA RELIABILITY

Sample size (av fish/year)

Tagged (blue arrow)

Recaptures (orange arrow)

Confidence %

Error %

2021-2025

Reliability level	LOW	MODERATE	MODERATE	HIGH
Samples	10	41	68	271
Confidence	80%	80%	90%	95%
Error	20%	10%	10%	5%



### TAGGED AND TAG RATE

Bream

High Low Now

Tagged

Tagged

Recaptured

2016-2025

2018

2017

149

18

Tagged

2025

2019

101

Recaptured

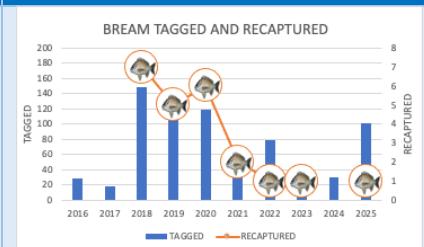
739

2020

23

Recapture rate

3.1%



Tag rate

High Low Now

Bream

Tag rate

Fish/day

2020

2016-2025

0.9

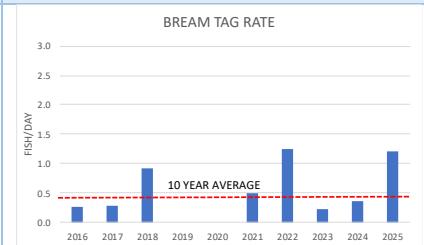
2023

0.2

2025

10 year average

1.2



### LENGTHS

Average length (mm)

High Low Now

Bars show length range

Average length

2024

2019

303

2025

Max

294

2021

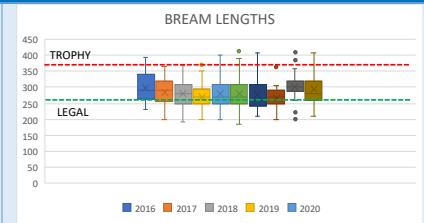
2017

415

2025

365

410



Fish lengths percentage

High Low Now

Undersize <250mm

Legal-Trophy

2016

2022

97%

2025

Trophy

61%

2022

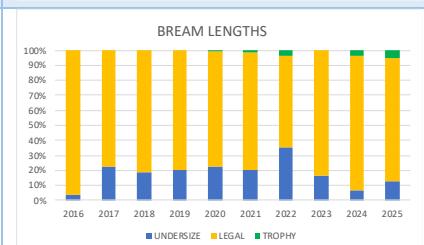
2023

4%

2025

0%

5%

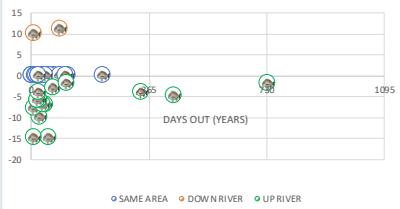


## MOVEMENT

**Bream movement**  
**Distance moved (km)**  
**2016-2025**

Recaptures	41
Same area	21 (51%)
Down river	4 (10%)
Up river	16 (39%)
Outside river	0

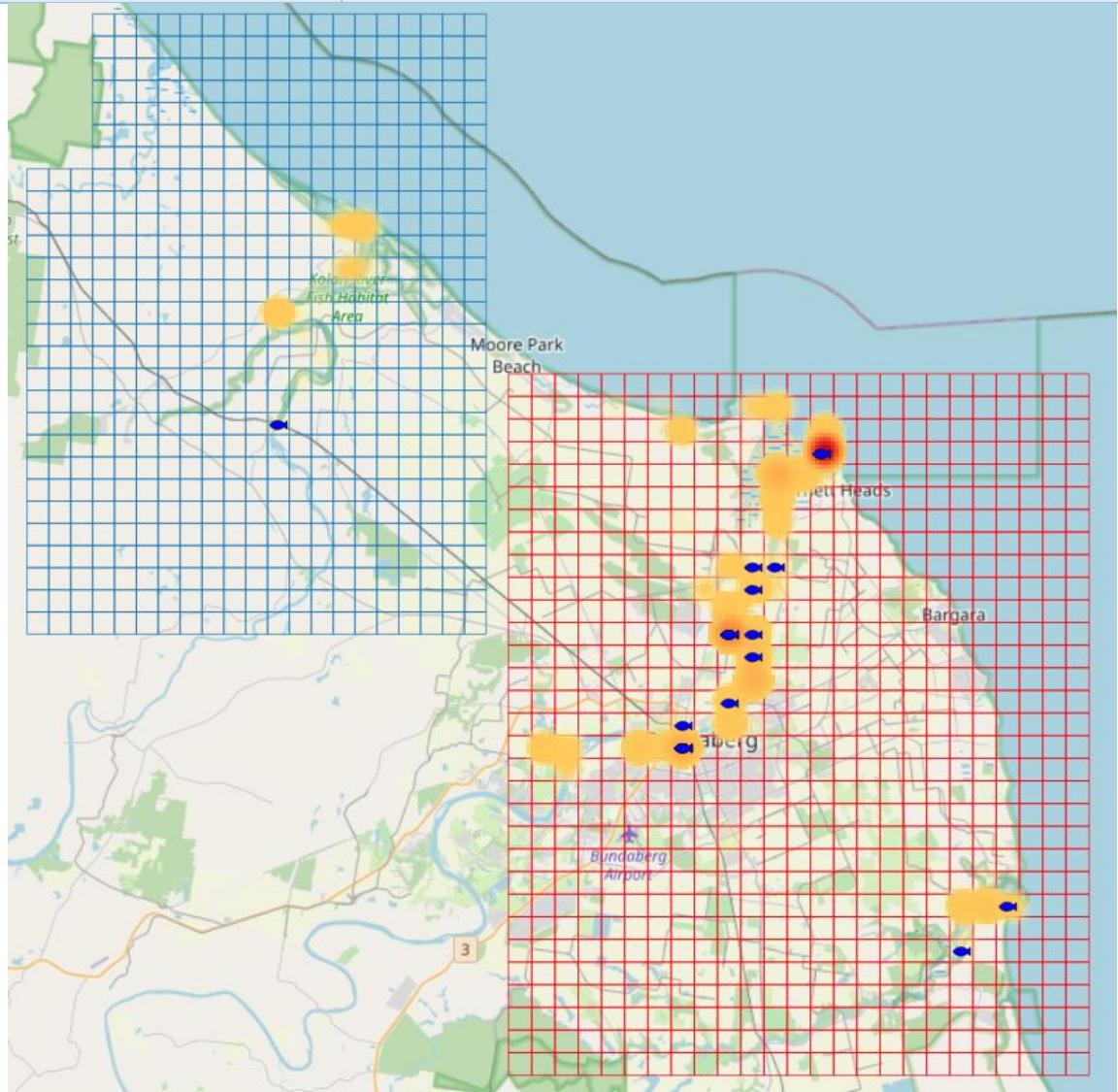
BUNDABERG ESTUARIES BREAM MOVEMENTS



## LOCATIONS

**Bream**  
**Tagged (red-orange heat map)**  
**Recaptured (blue fish)**  
**2016-2025**

Tagged	739
Recaptured	23



## ROCKCOD



### DATA RELIABILITY

Sample size (av fish/year)

Tagged (blue arrow)

Recaptures (orange arrow)

Confidence %

Error %

2021-2025

Reliability level	LOW	MODERATE		MODERATE		HIGH
Samples	10	41	68	271	384	664
Confidence	80%	80%	90%	90%	95%	99%
Error	20%	10%	10%	5%	5%	5%



### TAGGED AND TAG RATE

Rockcod

High      Low      Now

Tagged

Tagged

Recaptured

2023      2017      2025

2016-2025

79

15

31

Tagged

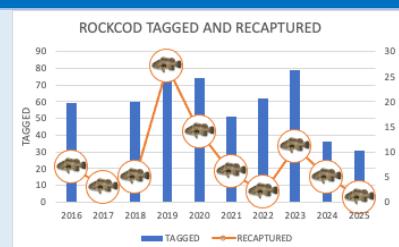
543

Recaptured

81

Recapture rate

14.9%



Rockcod

High      Low      Now

Tag rate

Tag rate

Fish/day

2022

2017

2025

2016-2025

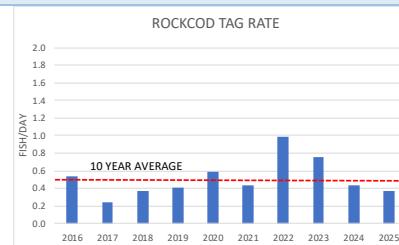
1.0

0.2

0.4

10 year average

0.5



### LENGTHS

Average length (mm)

High      Low      Now

Bars show length range

Average length

2020      2016      2025

2016-2025

321

289

338

Max

2020

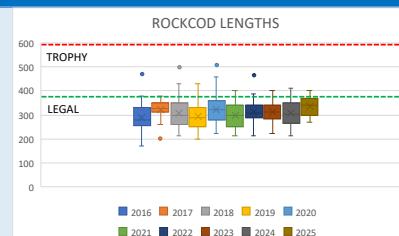
2017

2025

500

380

400



Fish lengths percentage

High      Low      Now

Undersize <400mm

Legal -Trophy

Legal 400-600mm

2020

2022

2025

2016-2025

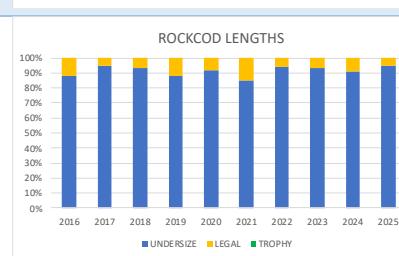
15%

6%

6%

Trophy

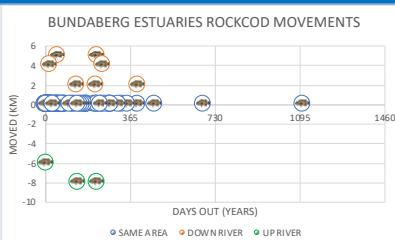
No trophy length fish any year



## MOVEMENT

### Rockcod movement 2016-2025

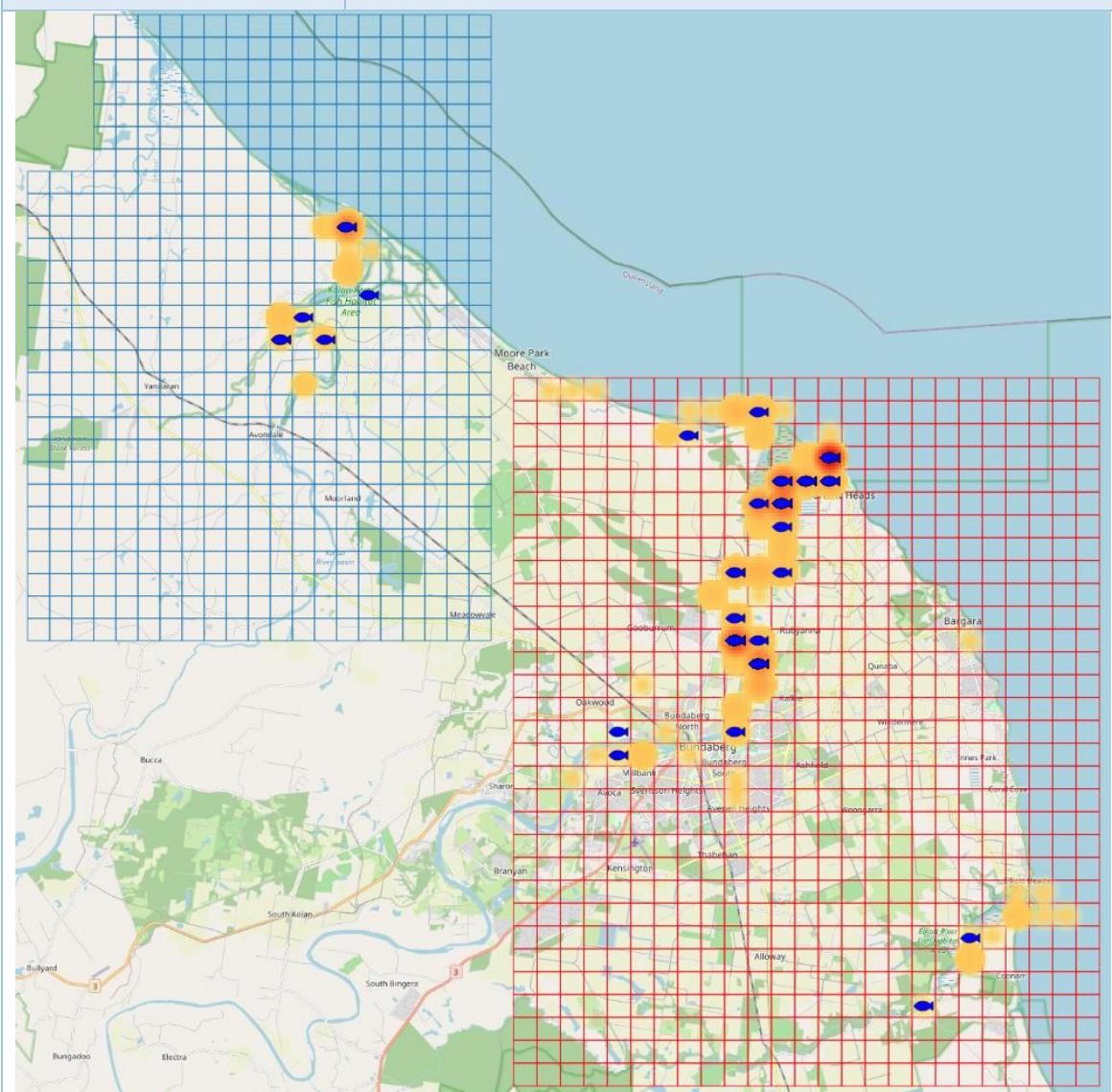
Recaptures	83
Same area	73(88%)
Down river	7 (9%)
Up river	3 (4%)
Outside river	0



## LOCATIONS

### Rockcod Tagged (red-orange heat map) Recaptured (blue fish) 2016-2025

Tagged	543
Recaptured	81



## Data sources

Data used in the Bundaberg estuaries Crystal Bowl are:

- Tag records and recapture records for the river at <http://crystalbowl.infofishaustralia.com.au/>.
- Boat ramp trailer count from Infofish surveys at Burnett Heads (includes offshore trips), Bundaberg city, Kirby, Strathdees on Burnett River, Miara on Kolan River, and Riverview on Elliott River. Counts from mid-morning to mid-afternoon.
- River flow records for Burnett River at Stn 136007A at Figtree Creek from <https://water-monitoring.information.qld.gov.au/> .
- Rainfall and temperature records for Bundaberg at Bundaberg Aero station 039128 from <http://www.bom.gov.au/climate/data/>.

## Basis for analysis

- Data reliability for fishers based on the sample size over the past 5 years for days fished by taggers and by fishers recapturing fish.
- Data reliability for fish based on average number of fish tagged and recaptured per year over the past 5 years.
- Catch rates calculated as number of fish tagged/day for taggers with a minimum of 12 days (at least 1 per month) to provide an acceptable catch rate.
- For Dusky Flathead undersized fish are <400mm, legal fish are >=400 and <700mm and trophy fish are >=700mm.
- For Yellowfin Bream undersized fish are <250mm, legal fish are >=250mm and <400mm and trophy fish are >=400mm.
- For Goldspotted Rockcod undersized fish are >380mm, legal fish are >=380mm and <600 and trophy fish are >=600mm.
- Growth calculated using logarithmic curve from recaptures where fish were out for 90 days or more and had positive growth.
- Locations based on Infofish grid map BND and KRB for the estuaries and other grid maps where fish were recaptured outside the river.
- Movement distance calculated as the shortest distance by water from the tag to the recapture location using Google Earth.
- Distance from fisher's address to recapture location is the straight-line distance between locations based on Google Earth coordinates with Local <80km, Intrastate >=80km and Qld postcodes, Interstate postcodes other than Qld.