



CAPRICORN COAST REVIEW 2025

INFORMATION RATING



Key species: Barramundi, Dusky Flathead, Barred Javelin, Red Emperor

Fish timeframe: 2016-2025

Fisher timeframe: 2021-2025

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CAPRICORN COAST OVERVIEW

Summary of 2025

- Fisher activity in 2025 has followed a similar pattern to that of the last few years providing an acceptable level of information with an additional 583 fish tagged and 28 recaptures.
- Live scope sounder technology has enabled a shift towards targeting of trophy length Barramundi and the focus on these has increased.

The Capricorn Coast fishery is in 2 parts. Estuary fishing is in small creek systems including Coorooman Creek, Causeway Lake, Ross Creek and Corio Bay. Offshore fishing for both pelagic and reef species with the focus around the Keppel Islands and islands off Emu Park.

Each year fishing in the creeks is influenced by the Barramundi season. There is a peak in activity in Feb at the start of the season and in Oct at the end of the season and the fishing pressure on Barramundi is high with a recapture rate of 19.9%.

The Capricorn Coast is mostly a local fishery with 92% of fishers recapturing fish being from the local coast area and Rockhampton with most visiting fishers coming from Central and SE Qld. The fishery is mostly a harvest fishery with over 60% of legal key species recaptured being kept.

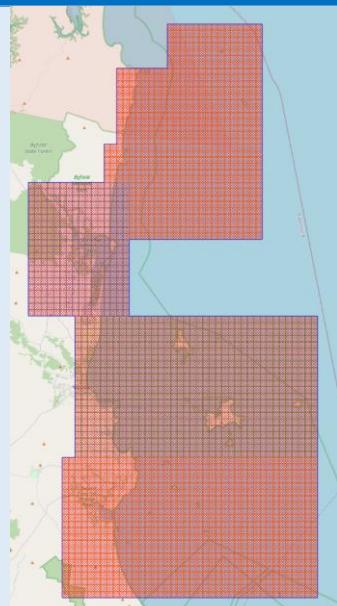
Key species in the estuaries are Barramundi, Flathead and Javelin accounting for 54% of the fish tagged. Following the introduction of the Net Free Zone in late 2015 there was a surge in Barramundi tagged and recaptured from 2016-2018 with an increase in effort, however that dropped off in 2020 due to the impact of Covid restrictions and remains lower. This could be a reflection of a reduction in the population with limited recruitment and/or a high harvest rate.

There has been an upsurge in the tagging of trophy Barramundi following the introduction of live scope sounder technology making it easier to find and target these fish. The tag rate for trophy Barramundi has risen from 2% in 2022 to 27% this year.

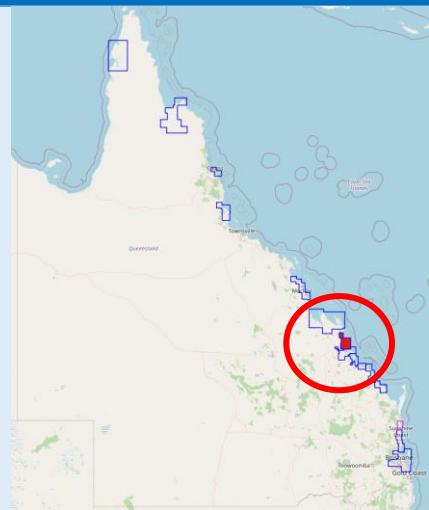
Barramundi is the only species where there have been recaptures outside the area with 1 fish being recaptured to the north and 3 fish recaptured to the south in the Fitzroy River.

Red Emperor, Coral Trout, Saddletail Snapper, and Crimson Snapper are key reef species where most of the legal catch is retained. Around the Keppel Islands is a key area for juvenile Red Emperor. It is likely that they move to deeper water as they mature as it is rare for legal sized fish to be recaptured around the islands. While the recapture rate for this species is high at 16.1% no legal sized fish have been recaptured. Red Emperor is a reef species that has a high survival rate on release with several fish being recaptured more than once. Sharks are reported to be a persistent problem.

CAPRICORN COAST LOCATION



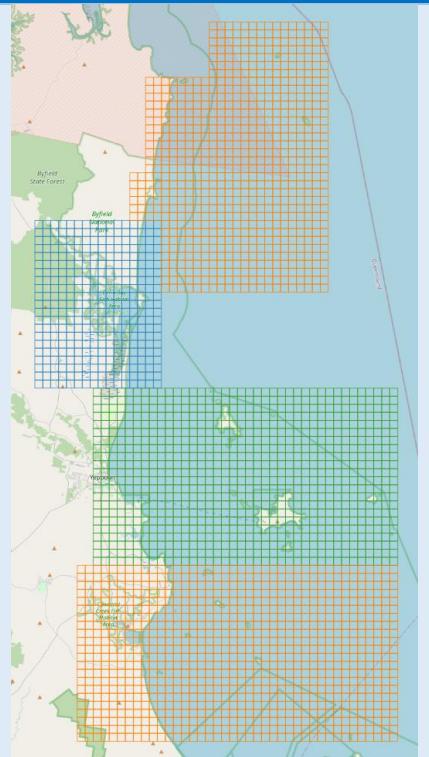
Yeppoon
23.13°S
129.74°E



WATERWAYS

Capricorn Coast
Grid maps
Byfield (BYF)
Corio Bay (CBY) blue
Keppel Bay (KBY) green
Emu Park (EMP) orange

Corio Bay and creeks
Ross Creek
Causeway Lake
Kinka Creek
Coorooman Creek
Pumpkin Creek
Keppel Bay
Keppel Islands



ENVIRONMENTAL CONDITIONS

Capricorn Coast (Yeppoon) Mean monthly rainfall and temperature All years	Rainfall High Feb 171 Mean Mar 149 Temp Month °C Jan 29 Feb 29	<p>RAINFALL AND TEMPERATURE</p> <p>RAINFALL (MM) TEMPERATURE (°C)</p> <p>JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC</p> <p>RAINFALL MEAN TEMPERATURE</p>
Waterpark Creek (Corio Bay) flows (ML) 2016-2025	<p>CREEK FLOW AND MONTHLY MEAN (ML)</p> <p>FLOW MEAN FLOW</p> <p>JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC</p>	
Waterpark Creek (Corio Bay) flows (ML) 2021-2025	<p>CREEK FLOW AND MONTHLY MEAN (ML)</p> <p>FLOW MEAN FLOW</p> <p>JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC</p>	
Capricorn Coast (Yeppoon) Mean monthly rainfall (mm) Monthly rainfall (mm) 2016-2025	<p>MONTHLY AND MEAN RAINFALL (MM)</p> <p>RAINFALL MEAN RAINFALL</p> <p>JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC</p>	

TYPE OF FISHERY

DATA RELIABILITY

Sample size (days fished)

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

Tag days (blue arrow)

Recaptures (orange arrow)

Confidence %

Error %

2021-2025



Seasonality

Mean rainfall (mm)

Temperature (oC)

Days fished combined

Taggers

Recapture fishers

2021-2025

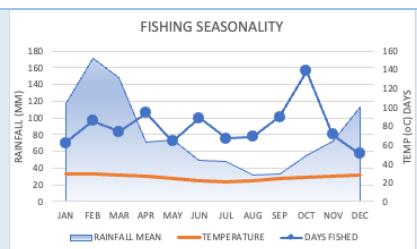
Months

Most effort

Oct

Apr

(Oct last month of Barramundi open season)



Harvest or experiential fishery

Release rate of recaptured legal fish of key species 2016-2025

2016-2025

Barramundi and Flathead legal fish kept rate

Legal fish

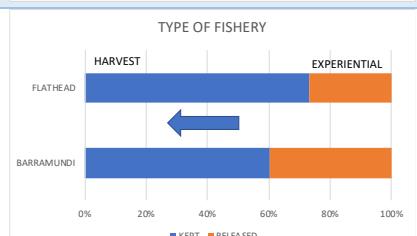
160

Kept

100 (62%)

Released

60 (38%)



Local or visitor fishery

Where recapture fishers live 2021-2025

Recapture fishers

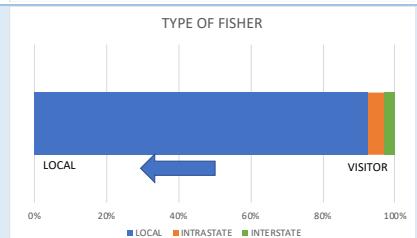
238

Local

220 (92%)

Visitor

18 (8%)



Gender of recapture fishers (ex-taggers) 2021-2025

Recaptures

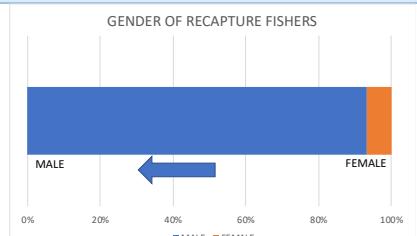
144

Male

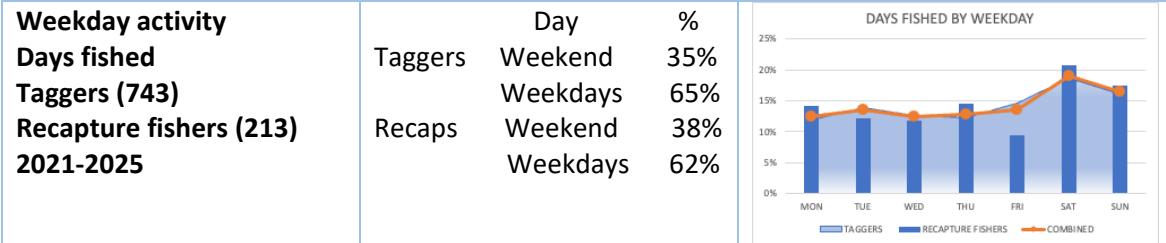
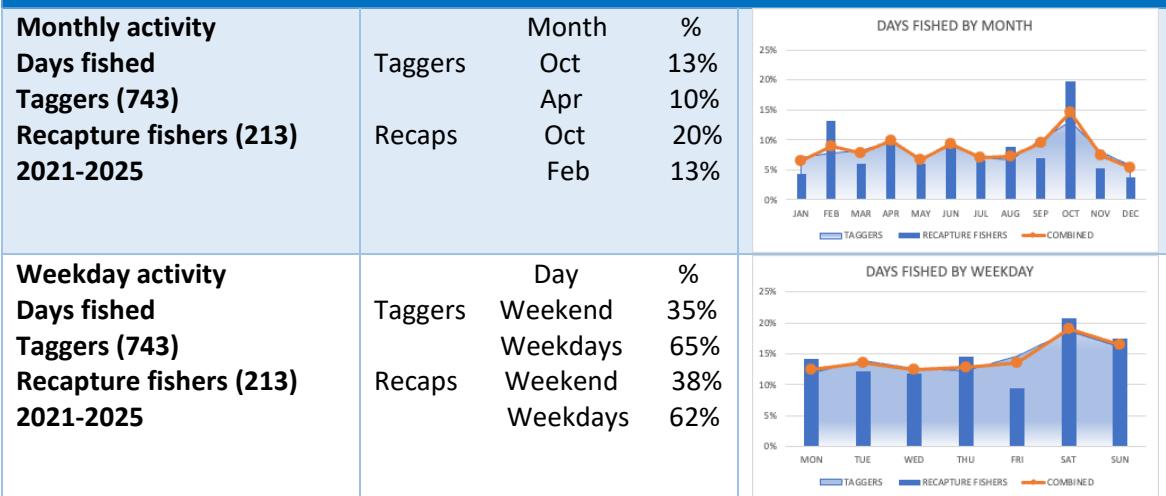
134 (93%)

Female

10 (7%)



FISHER ACTIVITY



Location activity

Taggers

(red-orange heat map)

Recapture fishers (blue fish)

GBRMPA zones

(No fishing green)

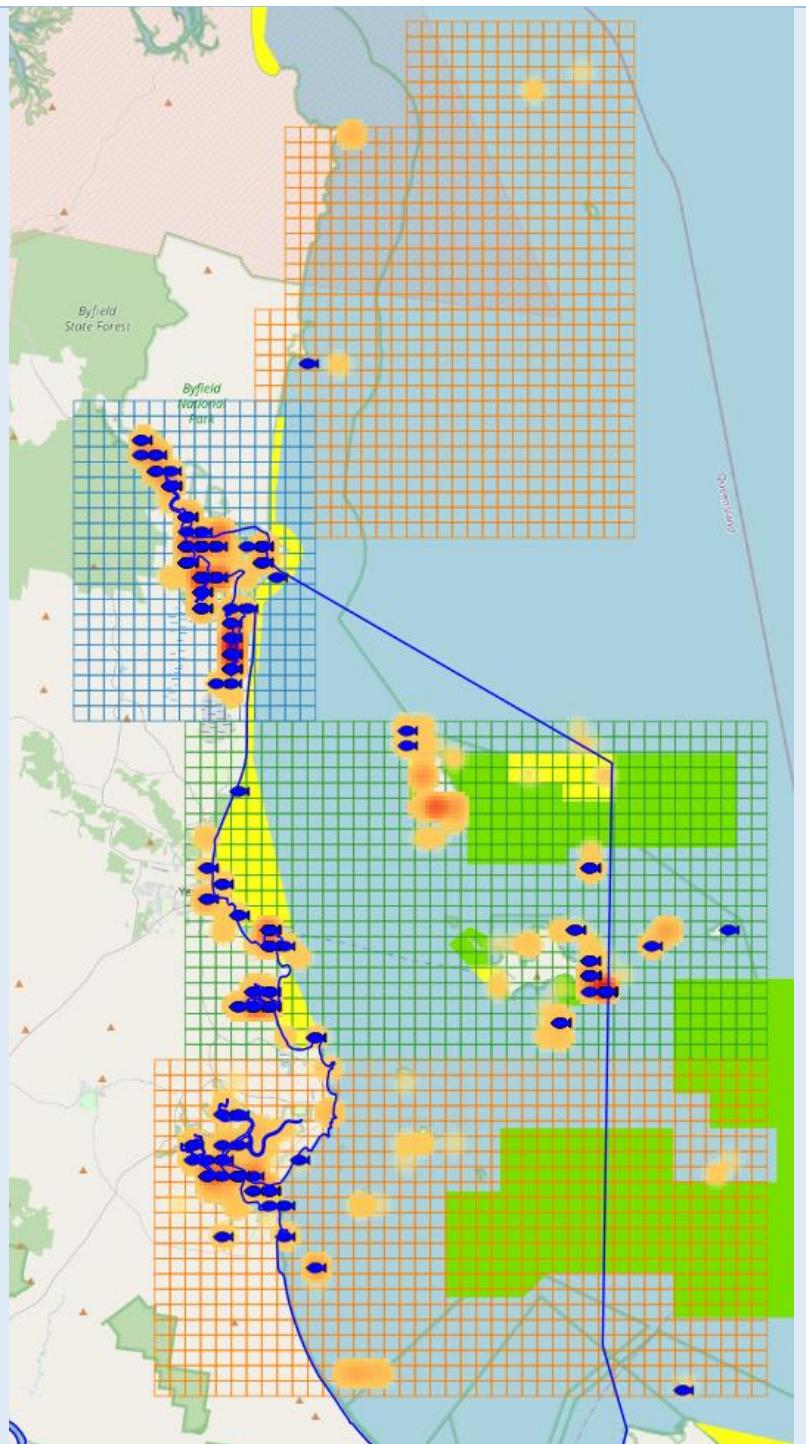
(Conservation yellow)

Net Free Zone (blue outline)

2021-2025

Taggers 2781

Recapture fishers 241



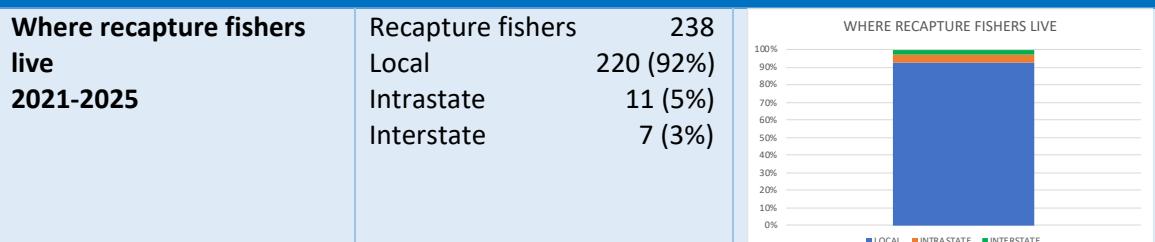
FISHER EFFORT

Total recaptures 2021-2025	Year	Recaps	
	2021	59	
	2022	58	
	2023	51	
	2024	42	
	2025	28	
Cumulative recaptures 2021-2025			
Recaptures last 3 years 2023-2025			
Fisher effort Corio Bay only Waterpark Creek flow (ML) Days fished Taggers 2021-2025			
Fisher effort Capricorn Coast Yeppoon rainfall (mm) Days fished Taggers 2021-2025			

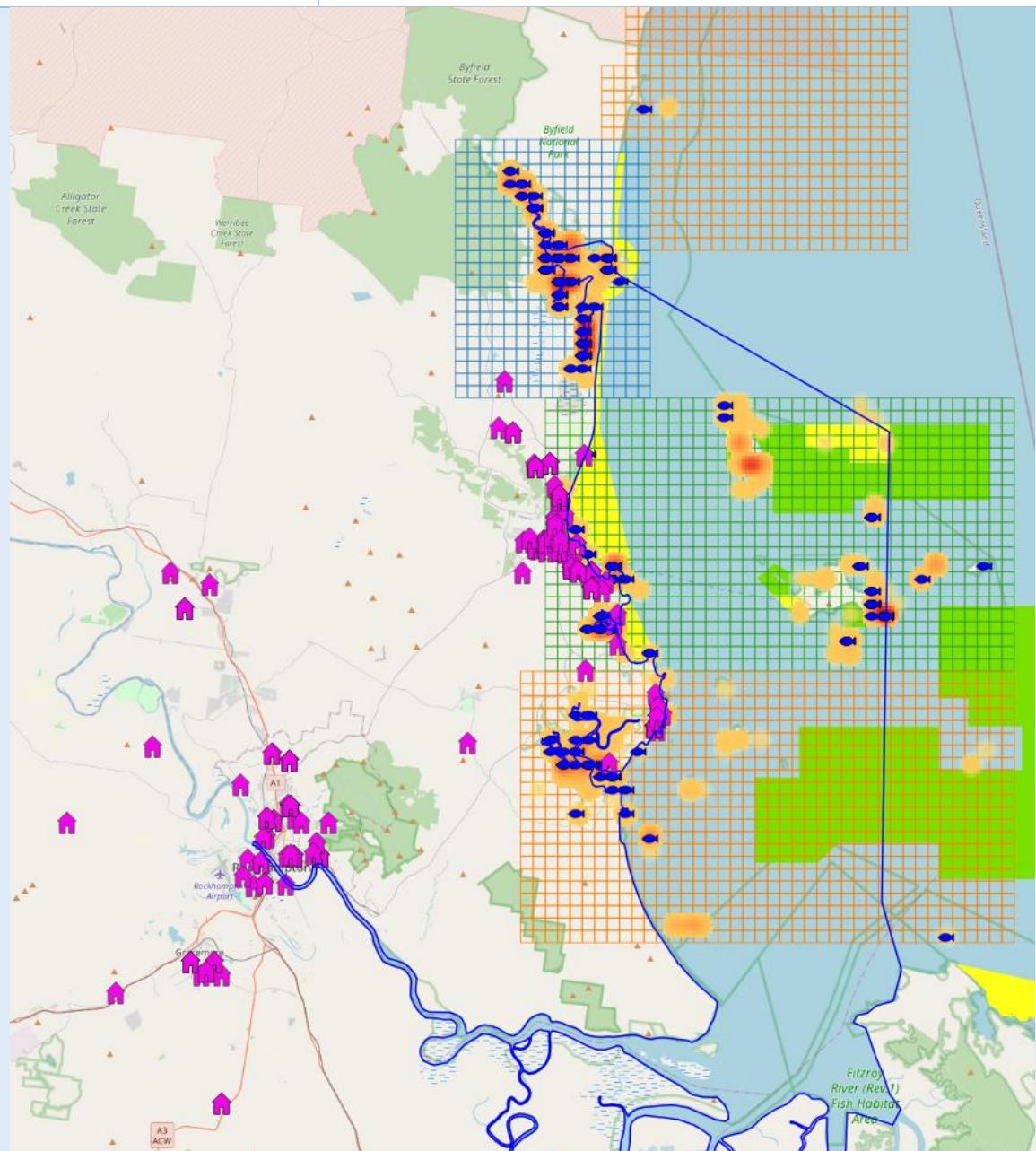
FISHER TRAVEL

Total distance (km) home to recapture location 2021-2025	Year	Km	
	2021	4386	
	2022	6592	
	2023	1684	
	2024	9501	
	2025	1937	
Cumulative distance (km) home to recapture location 2021-2025			
Distance (km) home to recapture location Local Intrastate 2021-2025			
Distance (km) home to recapture location Bars show distance range Dots show outliers 2021-2025	Local	Range (km)	
	Intrastate	1-66	
	Interstate	85-1200	
		1117-3605	
Average distance (km) from home to recapture location 2021-2025	Local	Av distance (km)	
	Intrastate	29	
	Interstate	499	
		1747	

WHERE RECAPTURE FISHERS LIVE



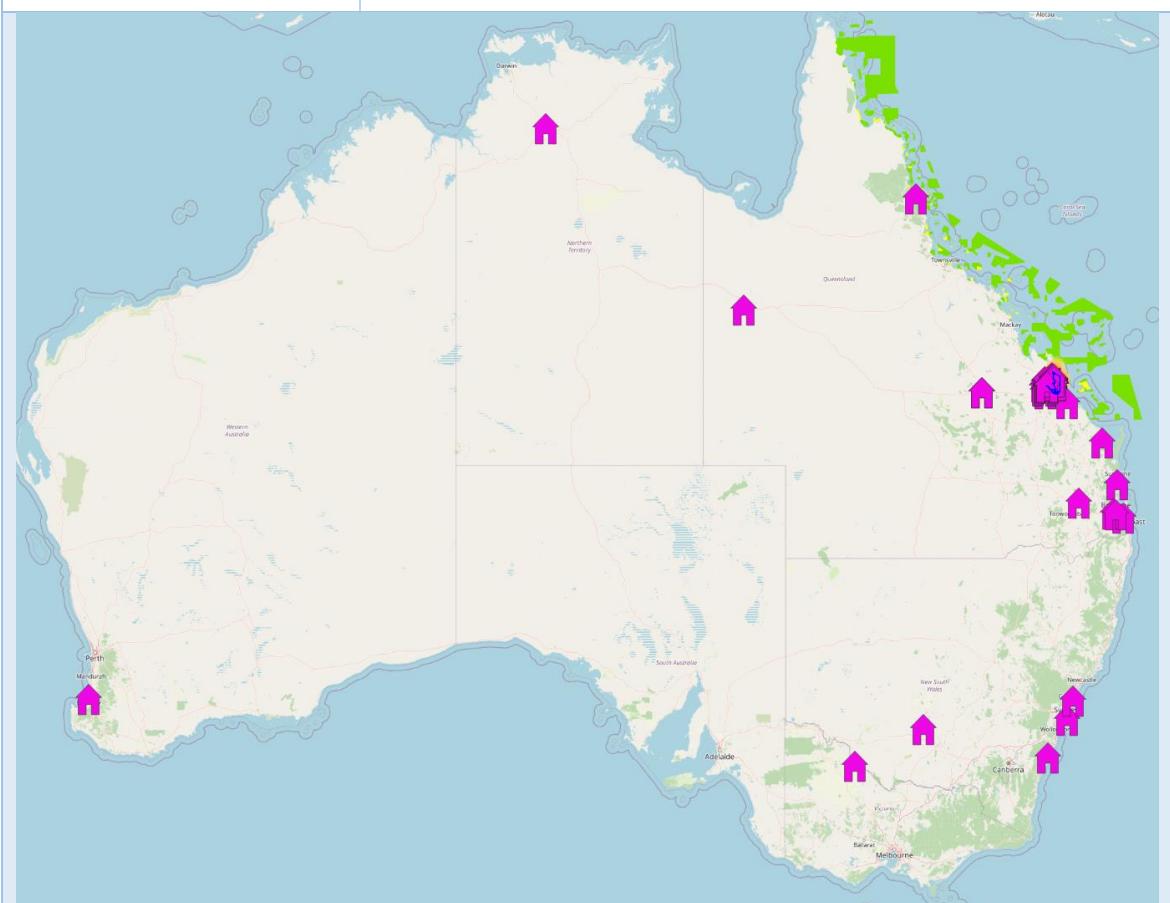
Where fishers recapturing fish live (pink houses) Local 2021-2025	Local	238
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**Where fishers recapturing
fish live (pink houses)**
Intrastate
Interstate
2021-2025

Intrastate
Interstate

11
7



KEY SPECIES

BARRAMUNDI



DUSKY FLATHEAD



BARRED JAVELIN



RED EMPEROR



TAG AND TAG RATE

Tag and effort taggers number of tagged fish days fished 2016-2025

High Low Now

Tagged fish

2017 2020 2025

599 329 583

Days

2017 2020 2025

233 75 181



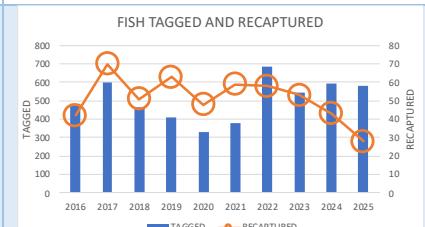
Fish tagged and recaptured 2016-2025

Tagged 5086

Recaptured 515

Recapture rate 10.1%

Tagged 2025 583



Tag rate All tagged fish Fish/day 2016-2025

High Low Now

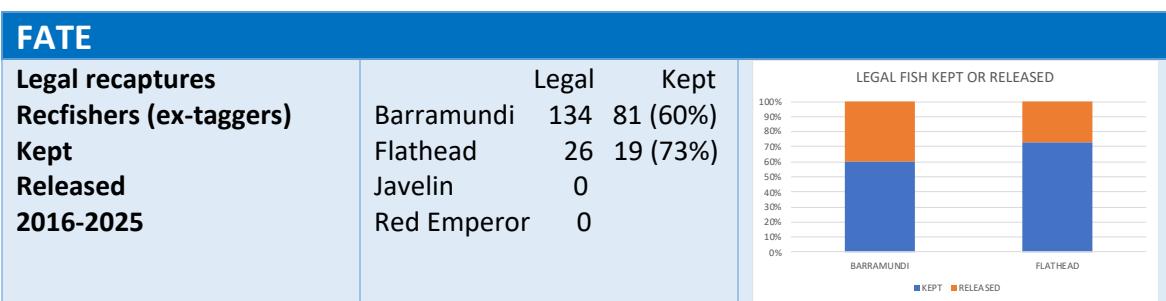
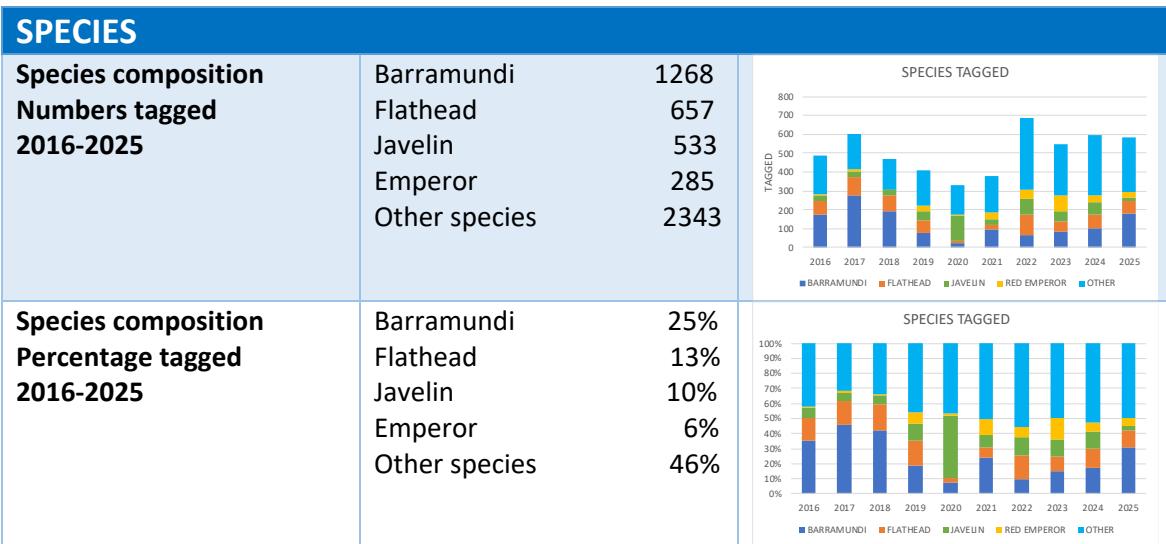
Tag rate

2020 2017 2025

4.4 2.6 3.2

10 year average 3.3

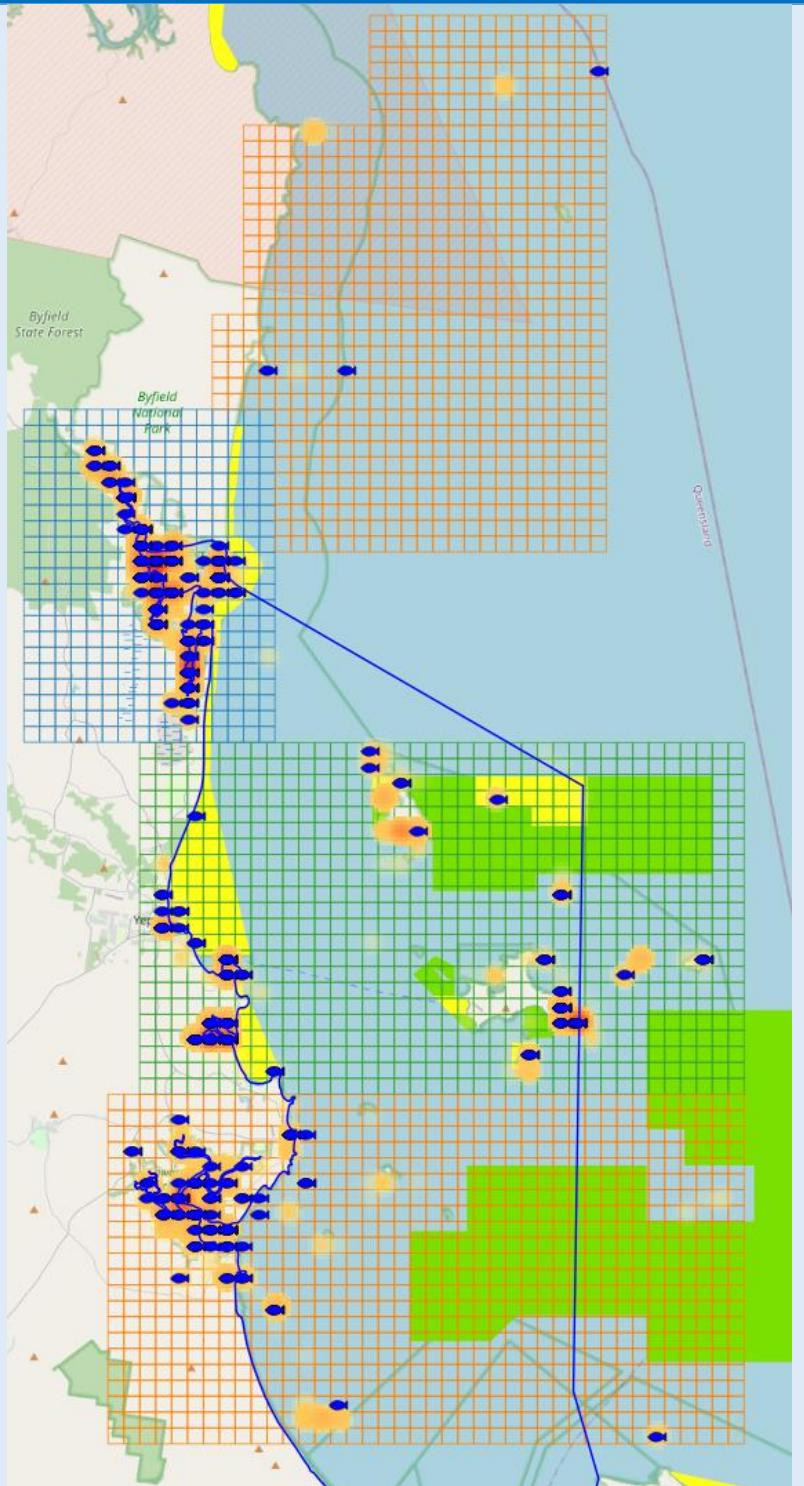




LOCATIONS

All fish
Tagged
(red-orange heat map)
Recaptured
(blue fish)
GBRMPA zones
(No fishing green)
(Conservation yellow)
Net Free Zone (blue
outline)
2016-2025

Tagged 5075
Recaptured 515



BARRAMUNDI



DATA RELIABILITY

Sample size (fish/year)

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 (blue arrow)



Recaptures (orange arrow)



Confidence %

Error %

2021-2025

TAGGED AND TAG RATE

Tag and effort taggers

High Low Now

number of tagged fish

Tagged fish



days fished

2017 2020 2025

2016-2025

275 25 180

Days

2017 2020 2025

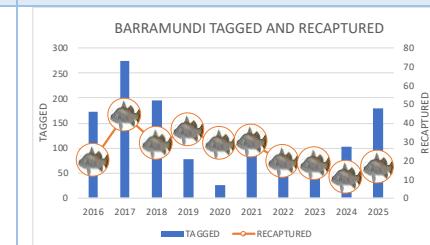
193 70 138

Barramundi tagged and recaptured

1268

2016-2025

Recaptured



Recapture rate

19.9%

Tagged

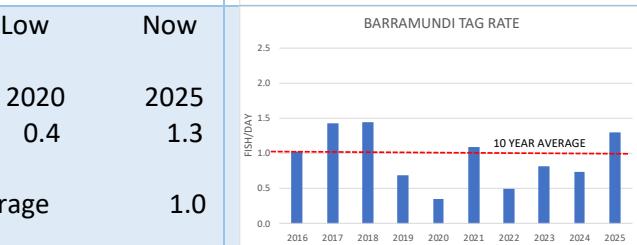
180

Tag rate

High Low Now

Barramundi

Tag rate



Fish/day

2018 2020 2025

2016-2025

1.4 0.4 1.3

10 year average

1.0

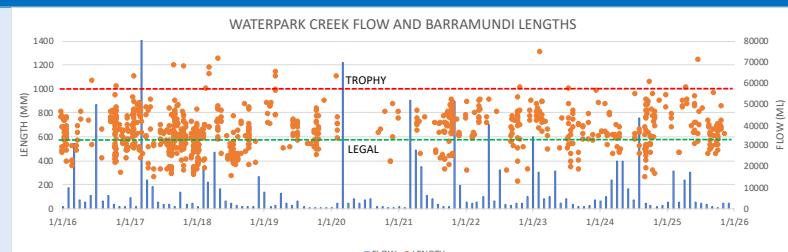
TAG TIMELINE

Waterpark Creek flow and

Barramundi lengths

(Corio Bay only)

2016-2025



LENGTHS

Average length (mm) Bars show length range Dots show outliers 2016-2025	High	Low	Now	
	Average length			
	2021	2018	2025	
	684	581	886	
	Max			
	2021	2022	2025	
	1340	1005	1240	

SURVIVAL

Barramundi survival based on recaptures by years out after tagging All years	Year	Recaptures	
	1	430	
	5	41	
	10	1	
	Longest time out (years)	9.1	
Barramundi survival rate per year All years	Average survival rate per year	0.54 (54%)	

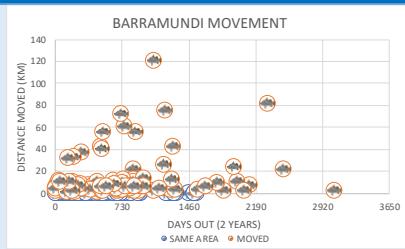
GROWTH

Barramundi growth at the end of each year based on recaptures of fish tagged <580mm 2016-2025	Recaptures	74	
	Growth (mm)		
	Year 1	95	
	Year 2	193	
	Year 3	251	
	Year 4	292	
	Year 5	323	

MOVEMENT

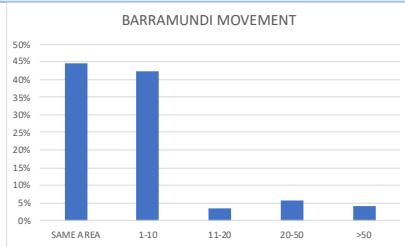
Barramundi movement
Distance moved (km)
2016-2025

Recaptures 177
 Same area 78 (44%)
 Moved 99 (56%)

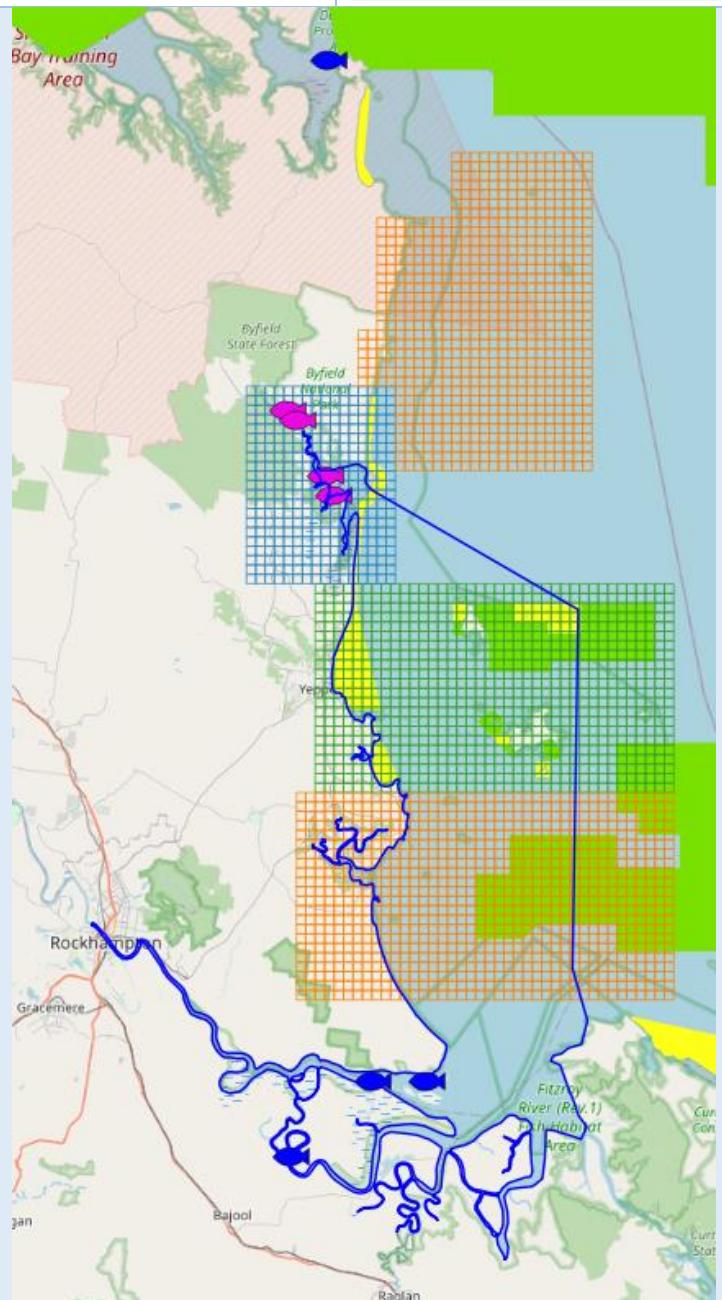


Barramundi movement
Distance moved (km)
2016-2025

Recaptures 177
 Same area 79 (45%)
 1-10km 75 (42%)
 11-20km 6 (3%)
 21-50km 10 (6%)
 51+km 7 (4%)



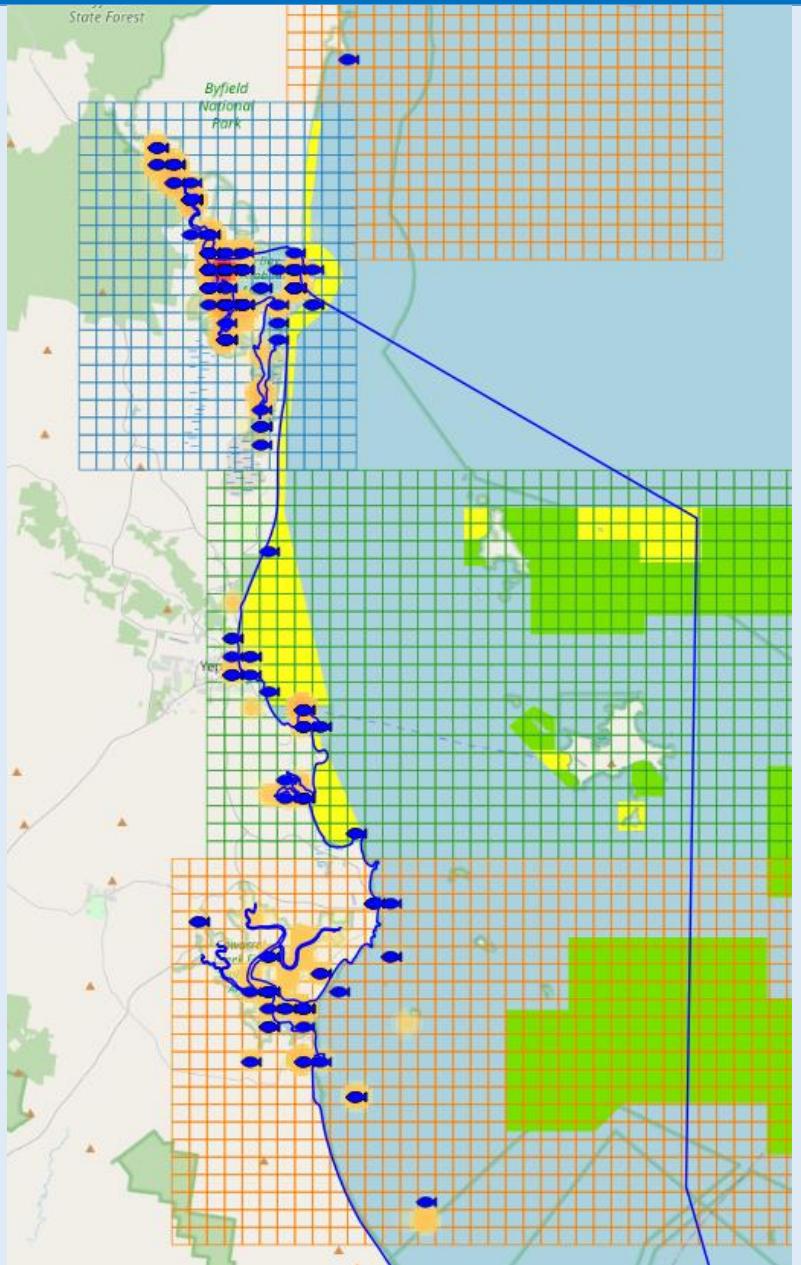
Barramundi movement outside area
Tagged (pink fish)
Recaptured (blue fish)
North (1 fish)
South (3 fish)
2016-2025



LOCATIONS

Barramundi
Tagged
(red-orange heat map)
Recaptured
(blue fish)
GBRMPA zones
(No fishing green)
(Conservation yellow)
Net Free Zone (blue outline)
2016-2025

Tagged 1268
Recaptured 252



FLATHEAD



DATA RELIABILITY

Sample size (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

Tag and effort taggers

High Low Now

number of tagged fish

Tagged fish

days fished

2022 2020 2025

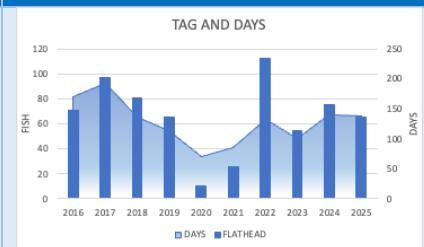
2021-2025

112 10 21

Days

2017 2020 2025

193 70 138



Flathead tagged and recaptured by year

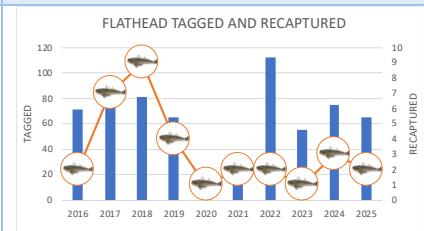
2016-2025

Tagged 657

Recaptured 33

Recapture rate 5.0%

Tagged 2025 65



Tag rate

High Low Now

Flathead

Tag rate

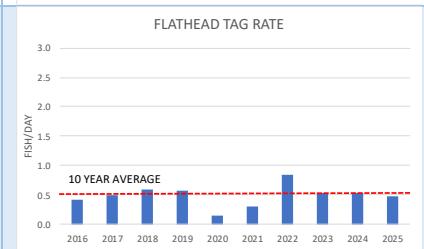
Fish/day

2022 2020 2025

2016-2025

0.8 0.1 0.5

10 year average 0.5



LENGTHS

Average length (mm)

High Low Now

Bars show length range

Average length

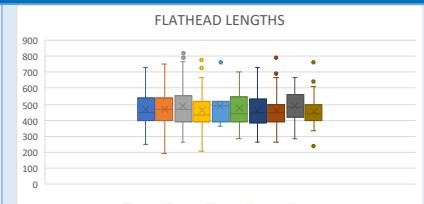
2020 2019 2025

488 458 451

Max

2018 2024 2025

820 670 760



Fish lengths percentage

High Low Now

Undersize <400mm

Legal-Trophy

Legal 400-700mm

2024 2021 2025

Trophy 700+mm

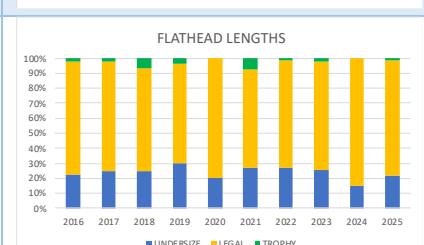
85% 65% 77%

2016-2025

Trophy

2021 2024 2025

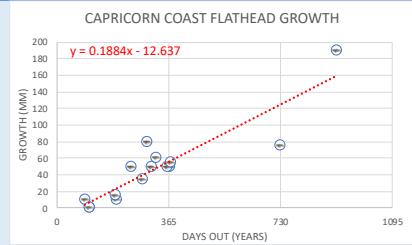
8% 0% 2%



GROWTH

Flathead growth at the end of each year based on recaptures of fish tagged <400mm 2016-2025

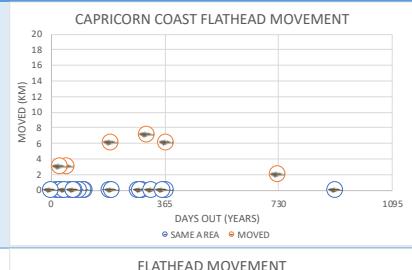
Recaptures	15
Growth (mm)	
Year 1	56
Year 2	125
Year 3	193



MOVEMENT

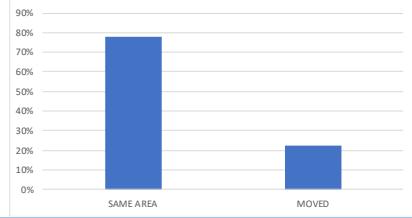
Flathead movement Distance moved (km) 2016-2025

Recaptures	27
Same area	21 (78%)
Moved	6 (22%)
Max	7km



Flathead movement 2016-2025

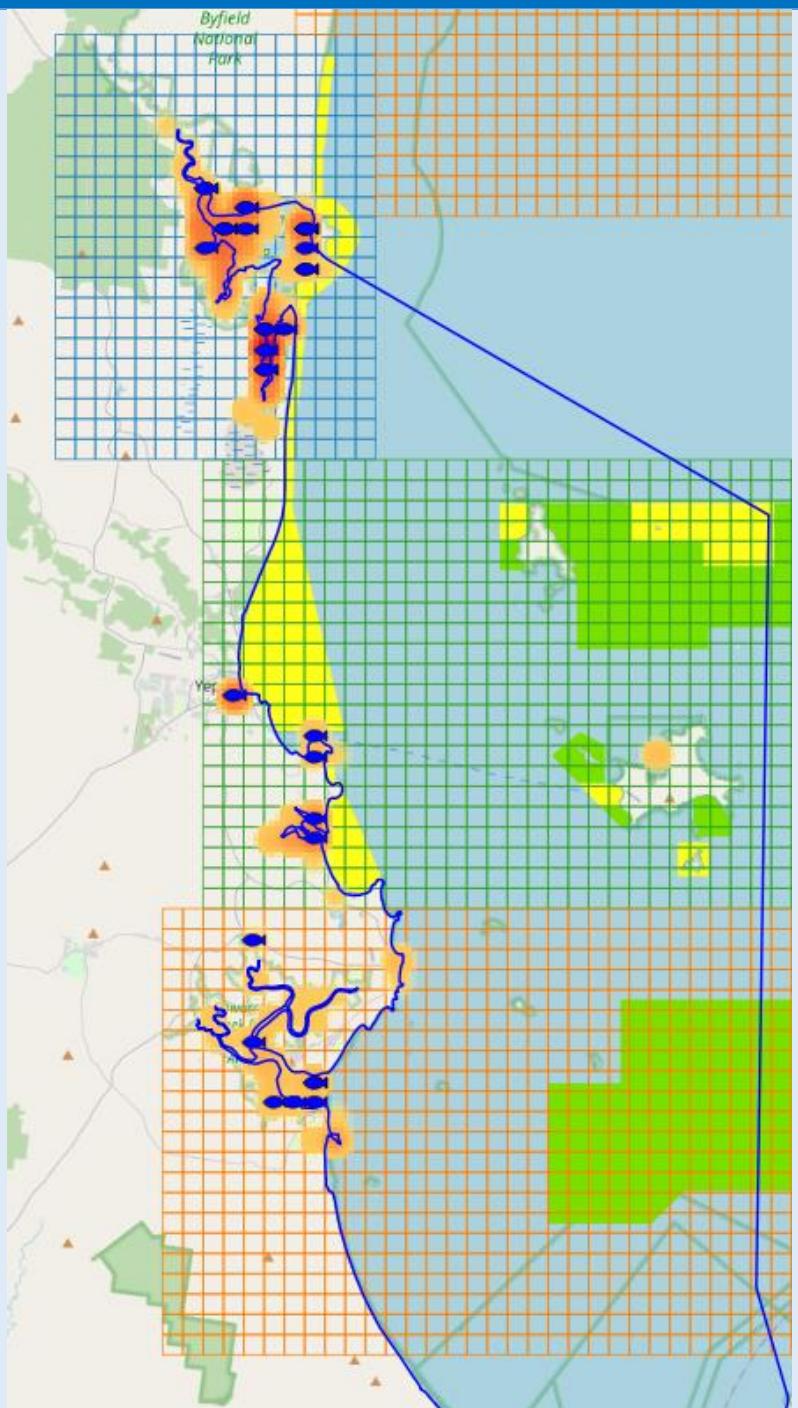
FLATHEAD MOVEMENT



LOCATIONS

Flathead
Tagged
(red-orange heat map)
Recaptured
(blue fish)
GBRMPA zones
(No fishing green)
(Conservation yellow)
Net Free Zone (blue
outline)
2016-2025

Tagged 657
Recaptured 33



JAVELIN



DATA RELIABILITY

Sample size (fish/year)

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Samples	10	41	68	271
Confidence	80%	80%	90%	90%
Error	20%	10%	10%	5%

Tagged (blue arrow)

Recaptures (orange arrow)

Confidence %

Error %

2021-2025



TAGGED AND TAG RATE

Tag and effort taggers

High Low Now

number of tagged fish

Tagged fish

days fished

2020 2021 2025

2016-2025

136

Days

2017

193

30

2020

70

2025

20

Tagged 2025



Javelin tagged and

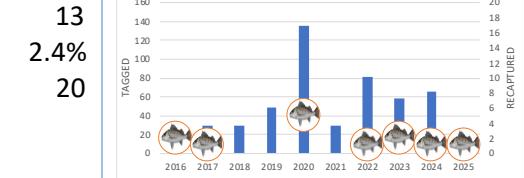
recaptured

2016-2025

Tagged

JAVELIN TAGGED AND RECAPTURED

Recaptured



Recapture rate

2.4%

Tagged 2025

20

Tag rate

High Low Now

Javelin

Tag rate

Fish/day

2020 2017 2025

2016-2025

1.9

2017

0.2

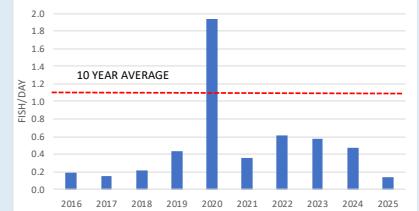
2025

0.1

10 year average

JAVELIN TAG RATE

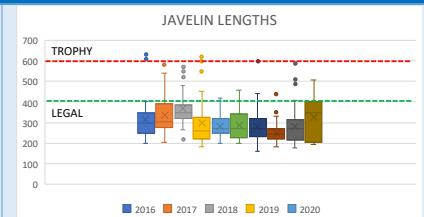
0.4



LENGTHS

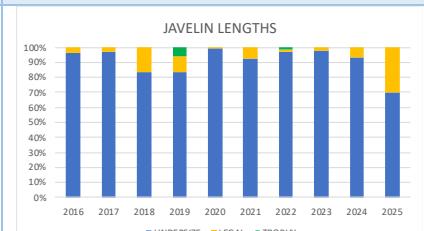
Average length (mm)
Bars show length range
Dots show outliers
2016-2025

	High	Low	Now
Average length			
2018	2023	2025	
368	247	323	
Max			
2016	2020	2025	
630	420	510	



Fish lengths percentage
Undersize <400mm
Legal 400-600mm
Trophy 600+mm
2016-2025

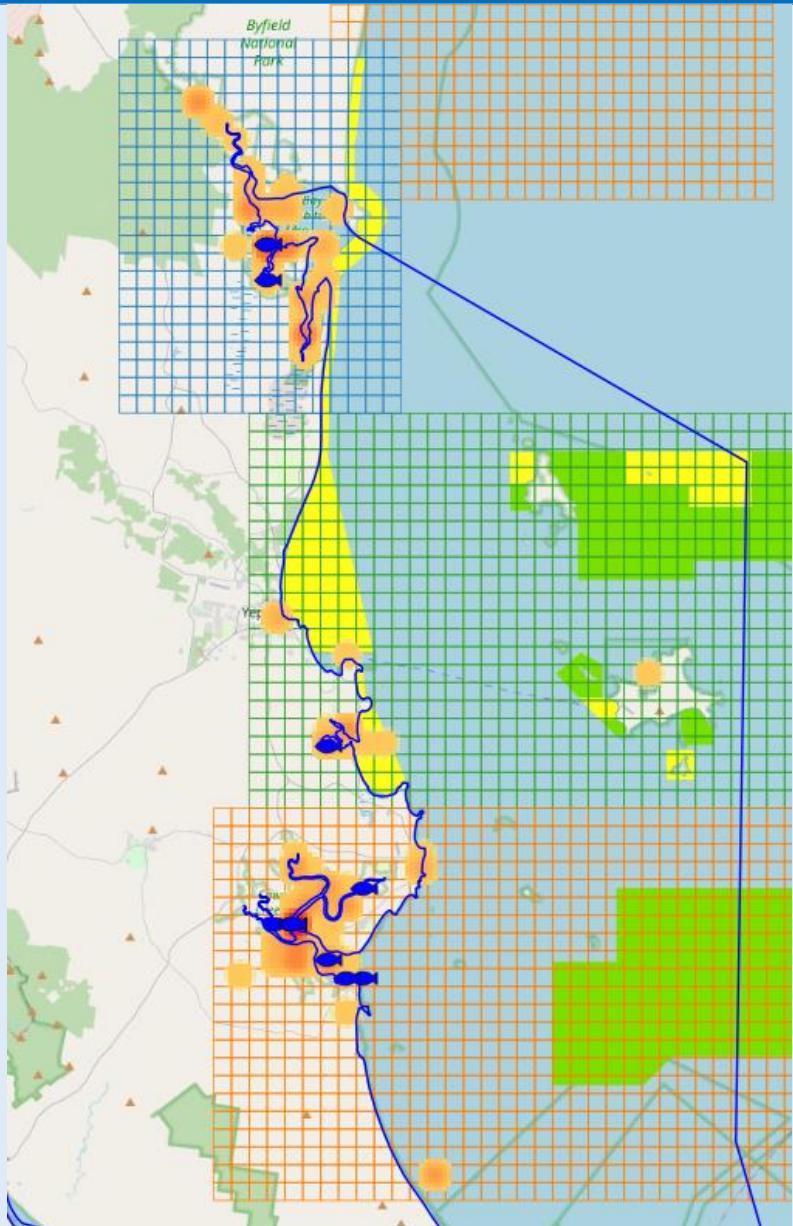
	High	Low	Now
Legal-Trophy			
2018	2020	2025	
17%	1%	30%	
Trophy			
2018	23-24	2025	
6%	0%	0%	



TAG LOCATIONS

Javelin
Tagged
(red-orange heat map)
Recaptured
(blue fish)
GBRMPA zones
(No fishing green)
(Conservation yellow)
Net Free Zone (blue
outline)
2016-2025

Tagged 533
Recaptured 13



RED EMPEROR



DATA RELIABILITY

Sample size (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

Tag and effort taggers

High Low Now

number of tagged fish

Tagged fish

days fished

2023 2018 2025

2016-2025

81 2 28

Days

2023 2018 2025

2016-2025

40 7 43



Red Emperor tagged and recaptured

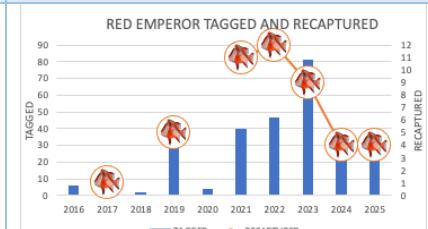
2016-2025

Tagged 285

Recaptured 46

Recapture rate 16.1%

Tagged 28



Tag rate

Red Emperor

Fish/day

2016-2025

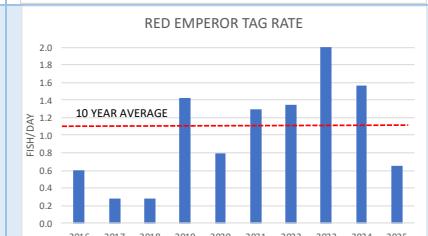
High Low Now

Tag rate

2023 2017 2025

2.0 0.3 0.7

10 year average 1.1



LENGTHS

Average length (mm) Bars show length range Dots show outliers 2016-2025	High	Low	Now	
	Average length			
	2017	2019	2025	
	398	316	385	
	Max			
	2022	2019	2025	
	550	390	460	
Fish lengths percentage Undersize <550mm Legal 550-700 Trophy 700+mm 2016-2025	All fish under legal limit except 1 in 2022			

GROWTH

Red Emperor growth (mm) 2016-2025	Recaptures	22	
	Growth (mm)		
	Year 1	110	
	Year 2	193	

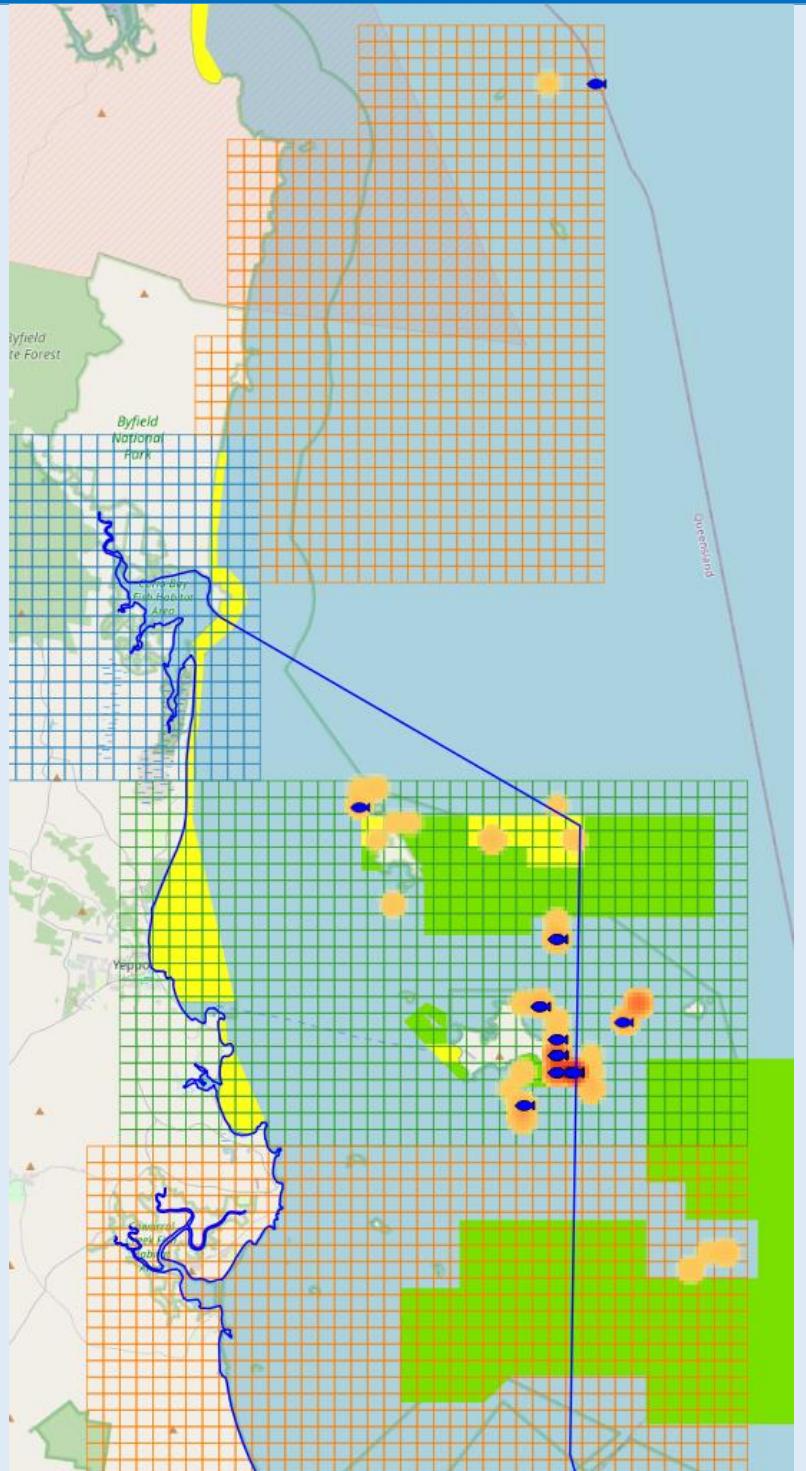
MOVEMENT

Red Emperor movement 2016-2025			
Red Emperor movement 2016-2025	Recaptures	48	
	Same area	47 (98%)	
	Moved	1 (2%)	

LOCATIONS

Red Emperor
Tagged
(red-orange heat map)
Recaptured
(blue fish)
GBRMPA zones
(No fishing green)
(Conservation yellow)
Net Free Zone (blue
outline)
2016-2025

Tagged 285
Recaptured 46



Data sources

Data used in the Capricorn Coast Crystal Bowl are:

- Tag records and recapture records for the Capricorn Coast at <http://crystalbowl.infofishaustralia.com.au/>.
- Creek flows for Waterpark Creek at Station 129001A at Byfield from <https://water-monitoring.information.qld.gov.au/>.
- Rainfall and temperature for Capricorn Coast from Station 33294 at Yeppoon 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 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 Barramundi undersized fish are <580mm, legal fish are >=580 and <1000mm and trophy fish are >=1000mm.
- For Dusky Flathead undersized fish are <400mm, legal fish are >=400 and <700mm and trophy fish are >=700mm.
- For Barred Javelin undersized fish are <400mm, legal fish are >=400mm and <600mm and trophy fish are >=600mm.
- For Red Emperor undersized fish are <550mm, legal fish are >=550mm and <700 and trophy fish are >=700mm.
- 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 maps CBY, KBY, and EMP for the Capricorn Coast.
- Movement distance calculated as the shortest distance by water from the tag to the recapture location.
- Distance from fisher's address to recapture location is the straight-line distance between locations based on Google Earth coordinates with Local <80km, Intra-state >=80km and Qld postcodes, Interstate postcodes other than Qld.