



TOWNSVILLE REVIEW 2025

INFORMATION RATING



Key species: Pikey Bream, Barred Javelin, Barramundi

Fish timeframe: 2016-2025

Fisher timeframe: 2021-2025

Scroll through the dashboard to cover all subjects or for information on a specific subject go to:

TOWNSVILLE ESTUARIES OVERVIEW

TOWNSVILLE LOCATION

ENVIRONMENTAL CONDITIONS

TYPE OF FISHERY

FISHER ACTIVITY

FISHER EFFORT

FISHER TRAVEL

WHERE RECAPTURE FISHERS LIVE

COMMERCIAL CATCH

KEY SPECIES

PIKEY BREEM

BARRED JAVELIN

BARRAMUNDI



Product of Infofish Australia



Supported by Suntag and
Department of Agriculture and Fisheries



TOWNSVILLE ESTUARIES OVERVIEW

Summary of 2025

- Townsville estuaries are limited, mostly fished by locals and predominantly a harvest fishery.
- Barramundi is a target species but not tagged in the same numbers as elsewhere.
- After a number of years of low tag numbers there has been a slight improvement this year.

The only rivers in the Townsville area are the Ross, Bohle and Black with several smaller creeks running into Cleveland Bay. The Ross River is highly regulated with the Ross Dam and 3 weirs between the dam and the tidal limit. The Bohle and Black are small rivers with limited water above the tidal limit. This provides a limited range of estuarine fishing options with the Bohle River heavily fished by locals.

Data from this area over the past decade has come substantially from the Bohle River and tagging effort has been aimed at the more prolific species such as Bream and Javelin. While Barramundi are targeted the effort on this species is not as focused as in other areas of the coast accounting for just 2% of the fish tagged.

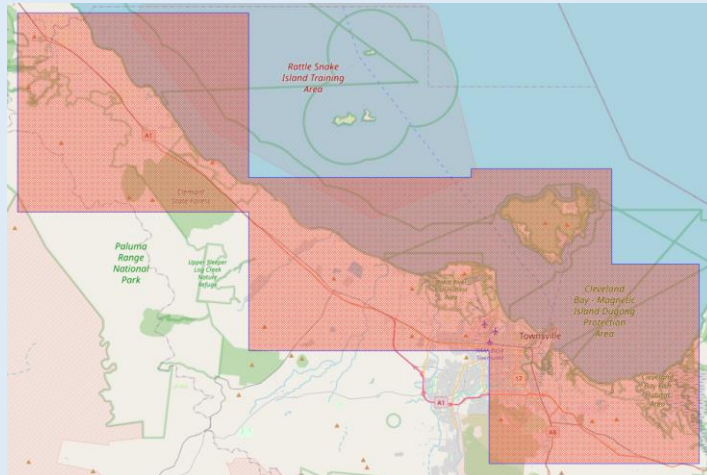
The loss of several keen taggers in 2020 due to ill health has resulted in a significant decline in tagging in the area for the last 3 years resulting in a drop in the information rating for the area. Local estuary fishers and the current group of taggers are more inclined to fish nearby areas such as Bowling Green Bay and the Hinchinbrook Channel. Beyond the estuaries there is significant offshore fishing effort.

Main target species are Bream and Javelin which accounted for 54% of the tagging effort. With the drop in tagging effort there has been a decline in recaptures. While the recapture rates for Bream and Javelin were high many recaptures were made by taggers recapturing their own fish adding to the rate.

Given the limited fishing estuary fishing opportunities it is not surprising that 96% of recaptures were made by locals. Given the fish sizes and the limited number of legal fish tagged this area is likely to be a predominantly harvest fishery.

TOWNSVILLE LOCATION

Townsville
19.25°S
146.82°E



WATERWAYS

Grid maps

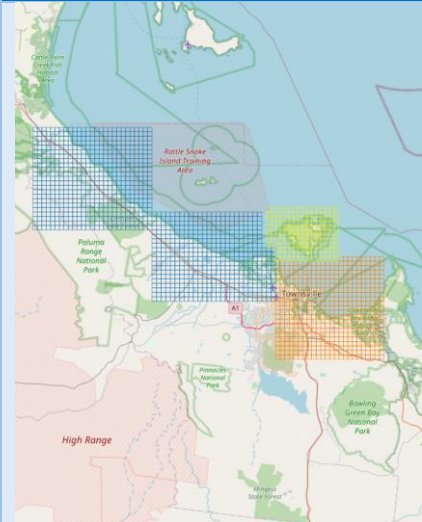
Cleveland Bay CBT

Bohle River HBT

Magnetic Island MIT

Rollingstone RST

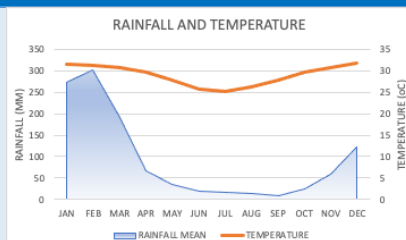
Cocoa Creek
 Crocodile Creek
 Alligator Creek
 Cleveland Bay creeks
 Ross River
 Ross Creek
 Bohle River
 Black River
 Bluewater Creek
 Sleeper Log Creek
 Leichhardt Creek
 Rollingstone Creek
 Crystal Creek



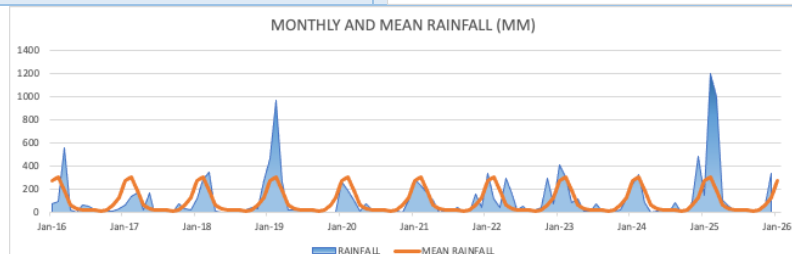
ENVIRONMENTAL CONDITIONS

Townsville
Mean monthly rainfall
(mm)

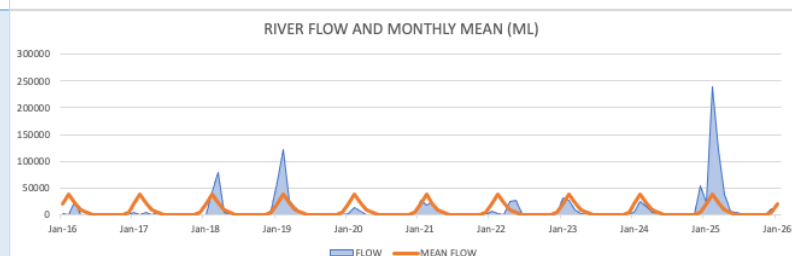
Rainfall	Month	mm
High	Feb	302
	Jan	272
Temp	Month	oC
	Nov-Mar	31


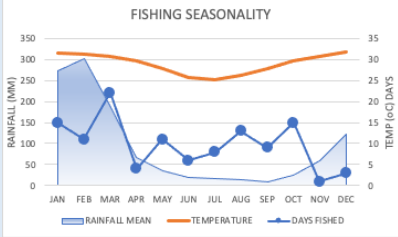
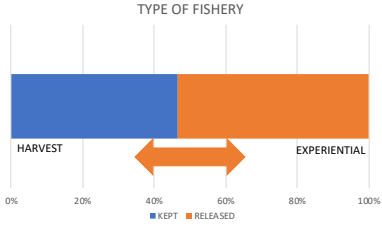
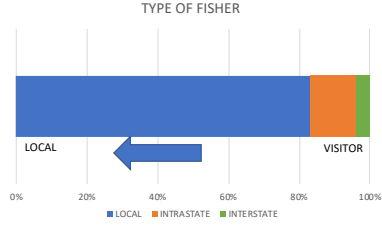
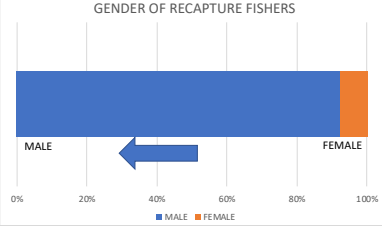


Townsville monthly
rainfall and mean monthly
rainfall (mm)
2016-2025



Black River monthly flow
and mean monthly flow
(ML)
2016-2025

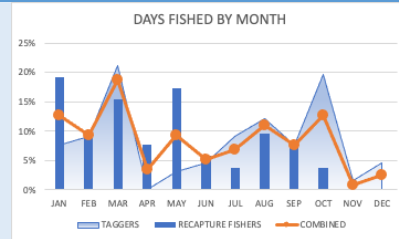


TYPE OF FISHERY					
DATA RELIABILITY					
Sample size (days fished) Tag days (blue arrow) Recaptures (orange arrow) Confidence % Error % 2021-2025	Reliability level	LOW		MODERATE	
	Samples	10	41	68	
	Confidence	80%	80%	90%	
	Error	20%	10%	10%	
					
Seasonality Days fished combined Taggers Recapture fishers 2021-2025	Most effort	Months Mar Oct			
					
	Harvest or experiential fishery Release rate of recaptured legal Bream (ex-taggers) 2016-2025	Bream legal fish kept rate			
		Legal fish	56		
		Kept	26 (46%)		
Released		30 (54%)			
					
Local or visitor fishery Where recapture fishers live 2021-2025	Recapture fishers	53			
	Local	44 (83%)			
	Visitor	9 (17%)			
					
	Gender of recapture fishers (ex-taggers) 2021-2025	Fishers	51		
Female		4 (8%)			
Male		47 (92%)			
					

FISHER ACTIVITY

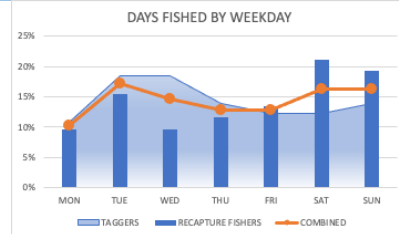
Monthly activity
Days fished combined
Taggers (66)
Recapture fishers (52)
2021-2025

	Month	Days
Combined	Mar	22 (19%)
	Oct	15 (13%)
	Jan	15 (13%)



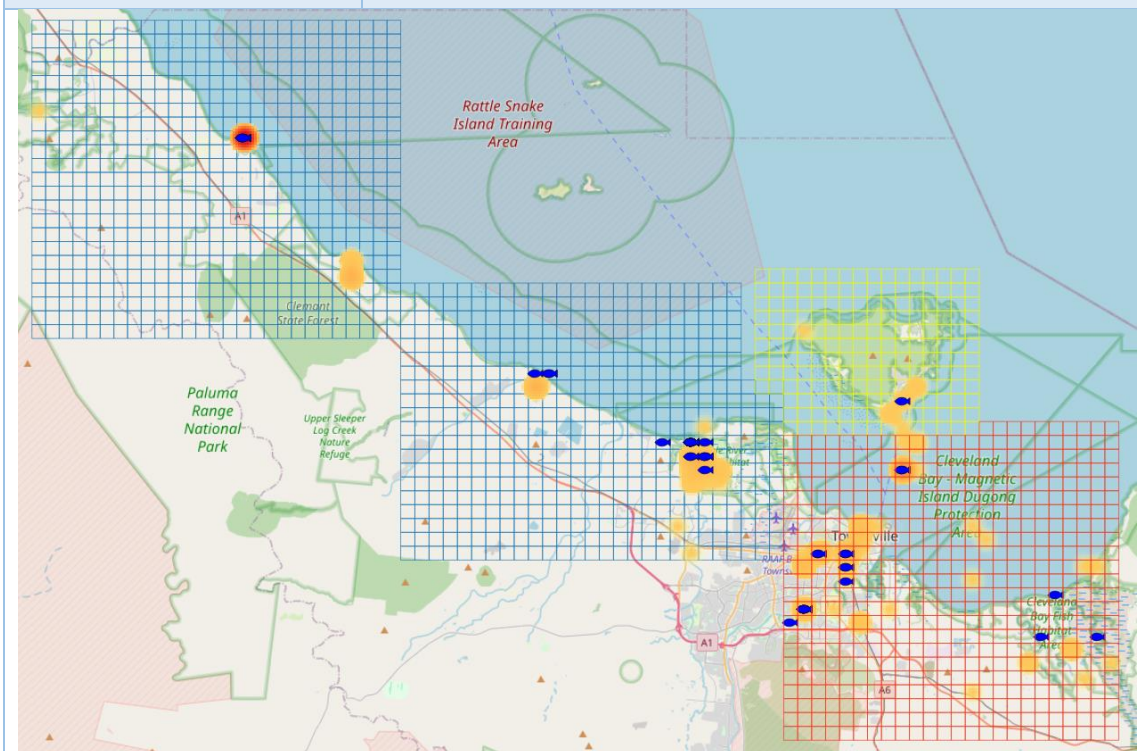
Weekday activity
Days fished combined
Taggers (66)
Recapture fishers (52)
2021-2025

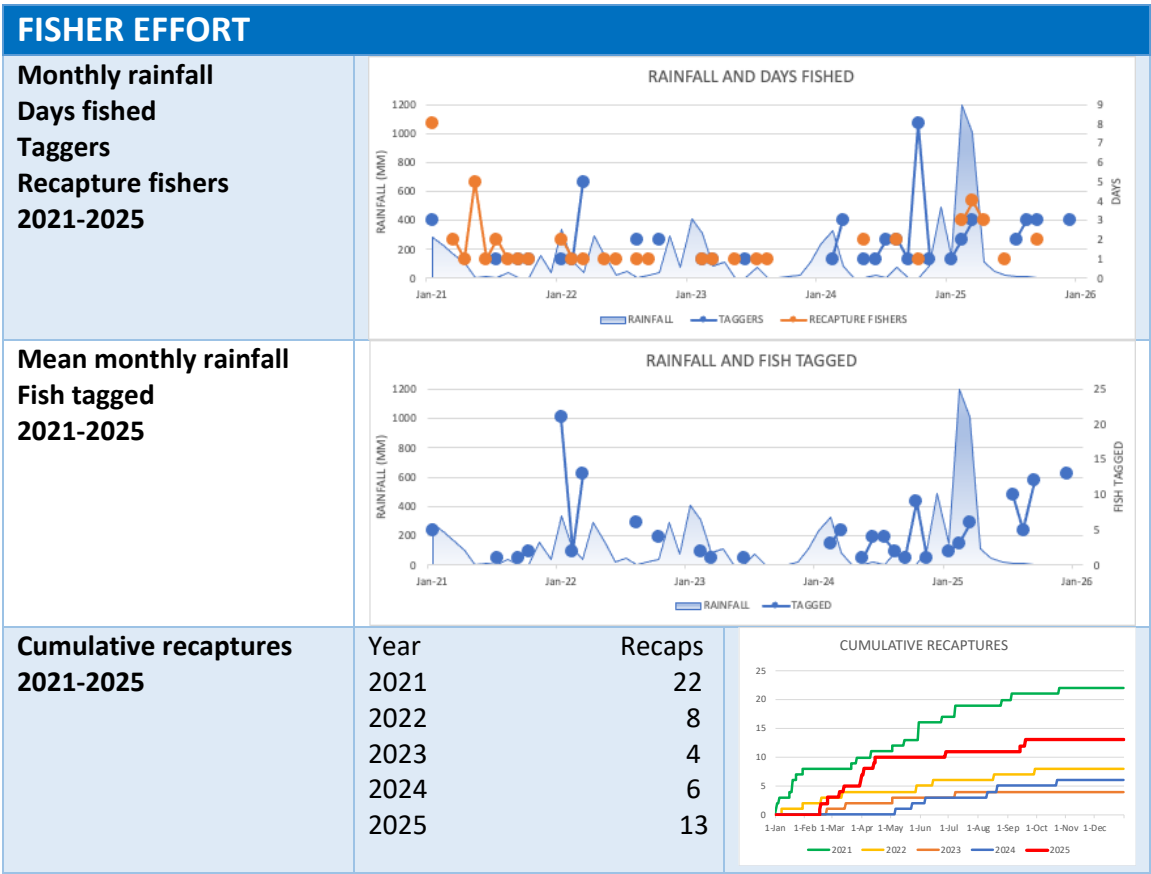
	Weekend	Weekdays
Combined	38 (32%)	79 (68%)



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

Tagged	253
Recaptured	53



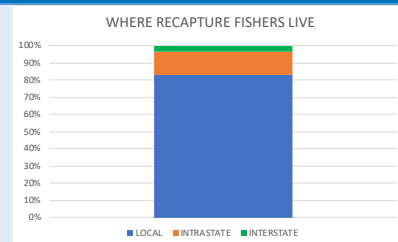


FISHER TRAVEL			
Cumulative distance (km) home to recapture location 2021-2025			<p>CUMULATIVE PROXY TRAVEL DISTANCE (KM)</p>
Total distance (km) home to recapture location 2021-2025	Year	Km	<p>TOTAL PROXY TRAVEL DISTANCE (KM)</p>
Distance (km) home to recapture location Bars show distance range Dots show outliers 2021-2025	Local (44) Intrastate (7) Interstate (2)	Range (km) 1-42 158-1140 1755-2460	<p>RECAPTURE FISHERS PROXY TRAVEL</p>
Average distance (km) from home to recapture location 2021-2025	Local Intrastate Interstate	Av distance (km) 9 553 2108	<p>RECAPTURE FISHER'S PROXY AVERAGE TRAVEL</p>

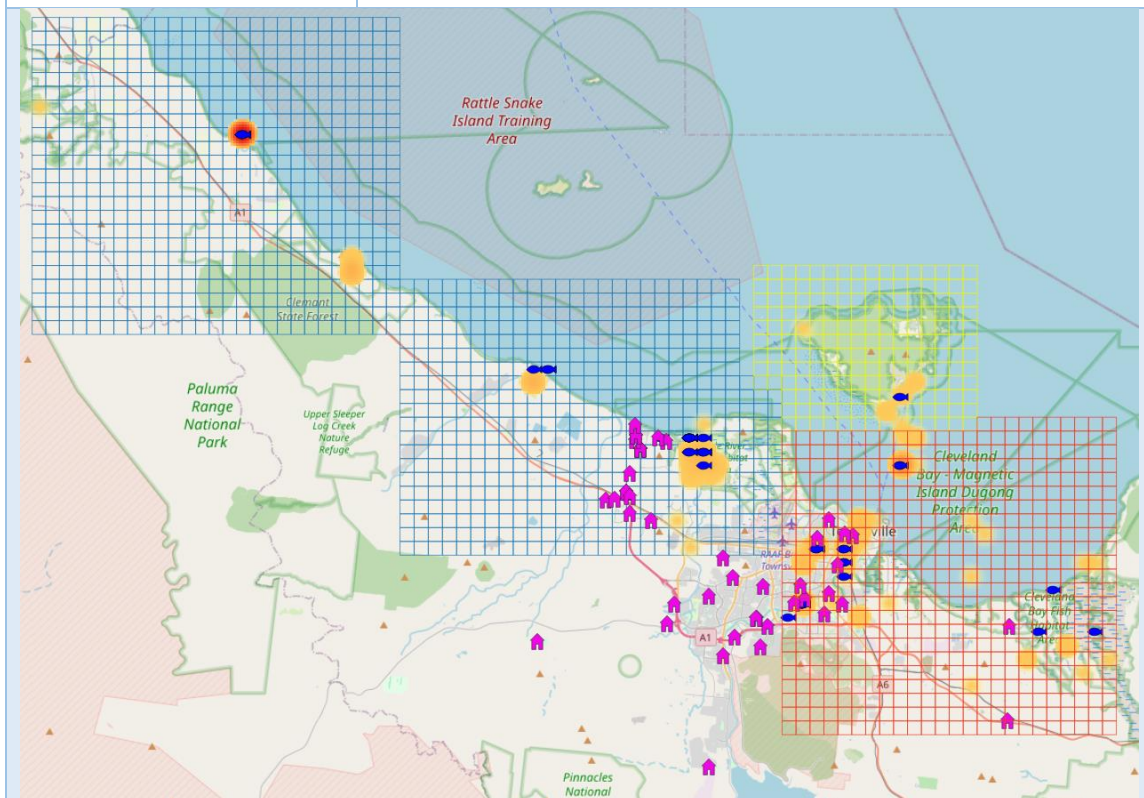
WHERE RECAPTURE FISHERS LIVE

Where recapture fishers live
2021-2025

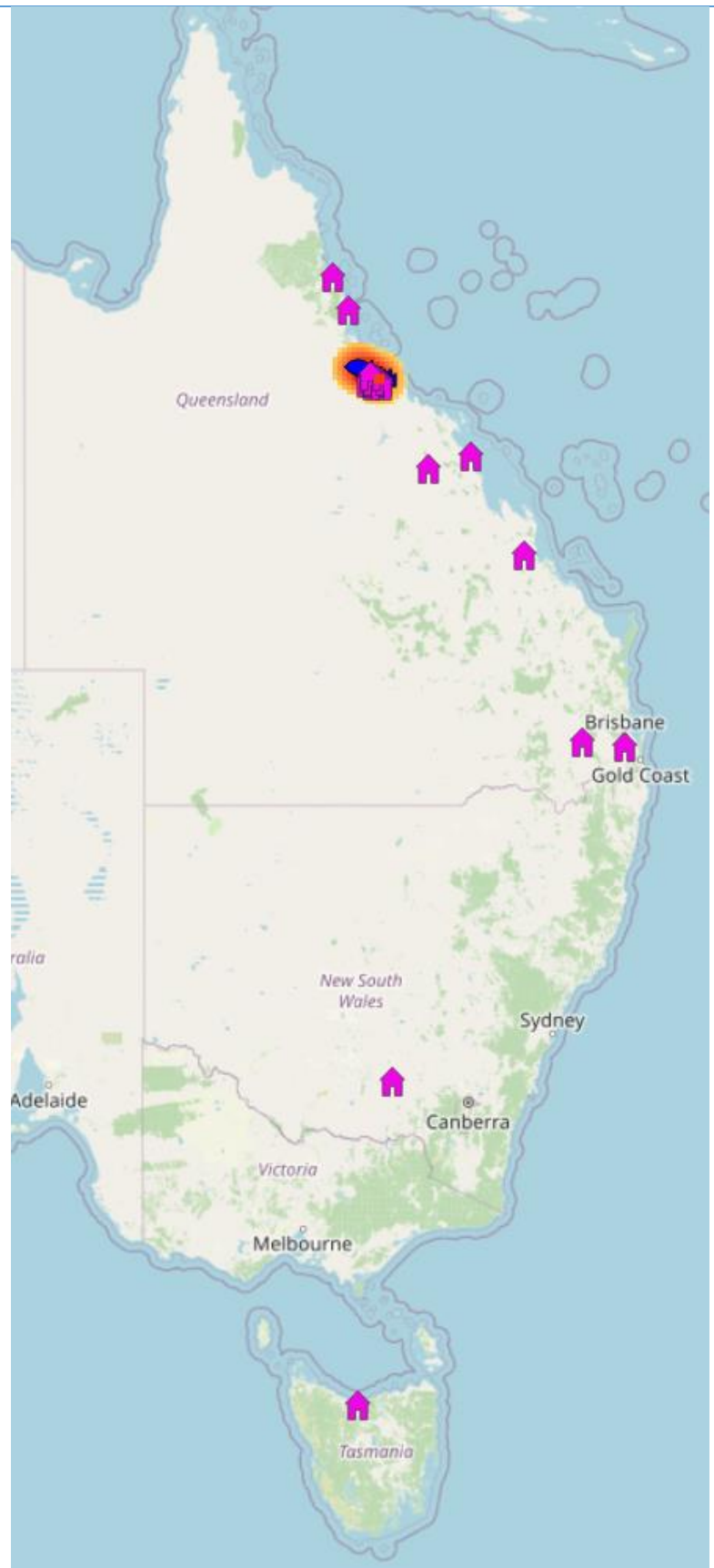
Recapture fishers	
Local	44 (83%)
Intrastate	7 (13%)
Interstate	2 (4%)



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



**Where fishers recapturing
fish live (red stars)
Intrastate
Interstate
2021-2025**



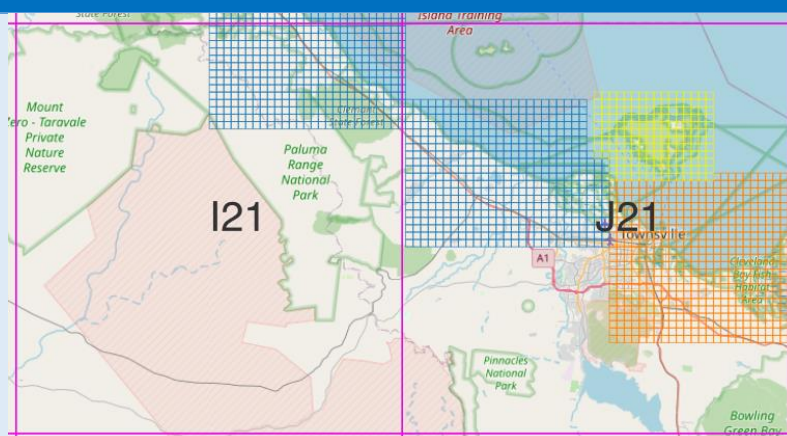
COMMERCIAL CATCH

Commercial QFISH

Grids

I21

J21



Commercial effort and catch

Net fishery (all)

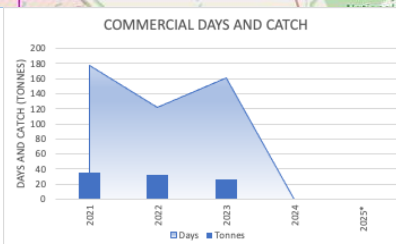
Days

Catch (tonnes)

2021-2025

Year	Days	Catch
2021	178	34.63
2022	122	32.84
2023	161	26.53
2024	NA	NA
2025*	NA	NA

*incomplete



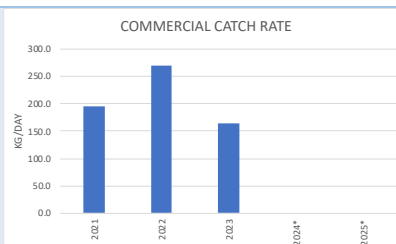
Commercial catch rate


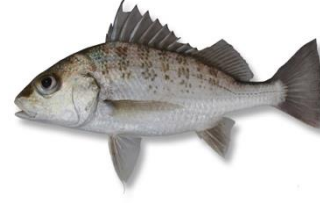

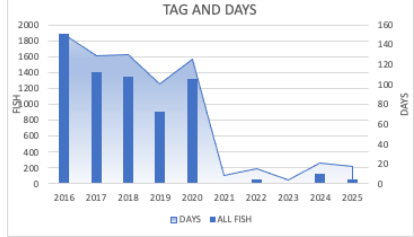
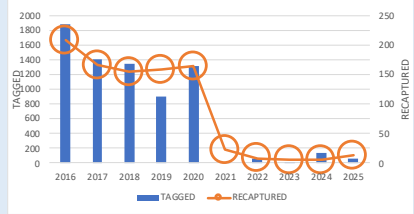
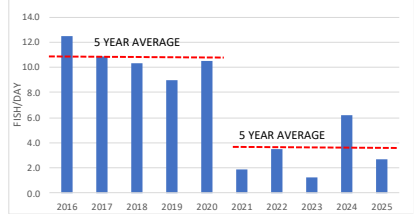
Kg/day

2021-2025

Year	Kg/day
2021	194.6
2022	269.2
2023	164.8
2024	NA
2025*	NA

*incomplete



KEY SPECIES			
PIKEY BREAM	BARRED JAVELIN		BARRAMUNDI
			
TAGGED AND TAG RATE			
Tag and effort taggers	High	Low	Now
Fish tagged (7106)	Tagged fish		
Days fished (698)	2016	2023	2025
2016-2025	1889	5	51
	Days fished		
	2016	2023	2025
	151	4	17
Fish tagged	Tagged		7106
Recaptures	Recaptured		903
2016-2025	Recapture rate		12.7%
	Tagged 2025		51
Tag rate	High	Low	Now
All fish tagged	Tag rate		
Fish/days fished	2016	2023	2025
2016-2025	12.5	1.3	2.7
	5 year average		10.8
	5 year average		3.9
			
			
			

SPECIES

Species composition

Numbers tagged

2016-2025

Pikey Bream

Barred Javelin

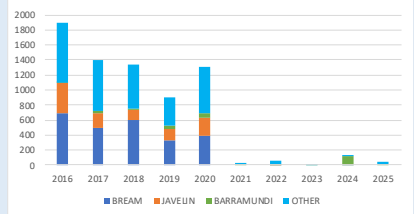
Barramundi

2528

1120

309

SPECIES TAGGED



Species composition

Percentage tagged

2016-2025

Pikey Bream

Barred Javelin

Barramundi

Combined

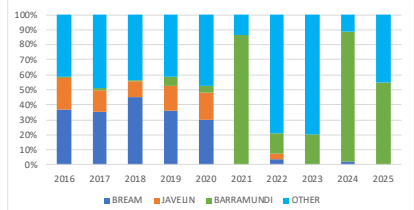
36%

16%

4%

56%

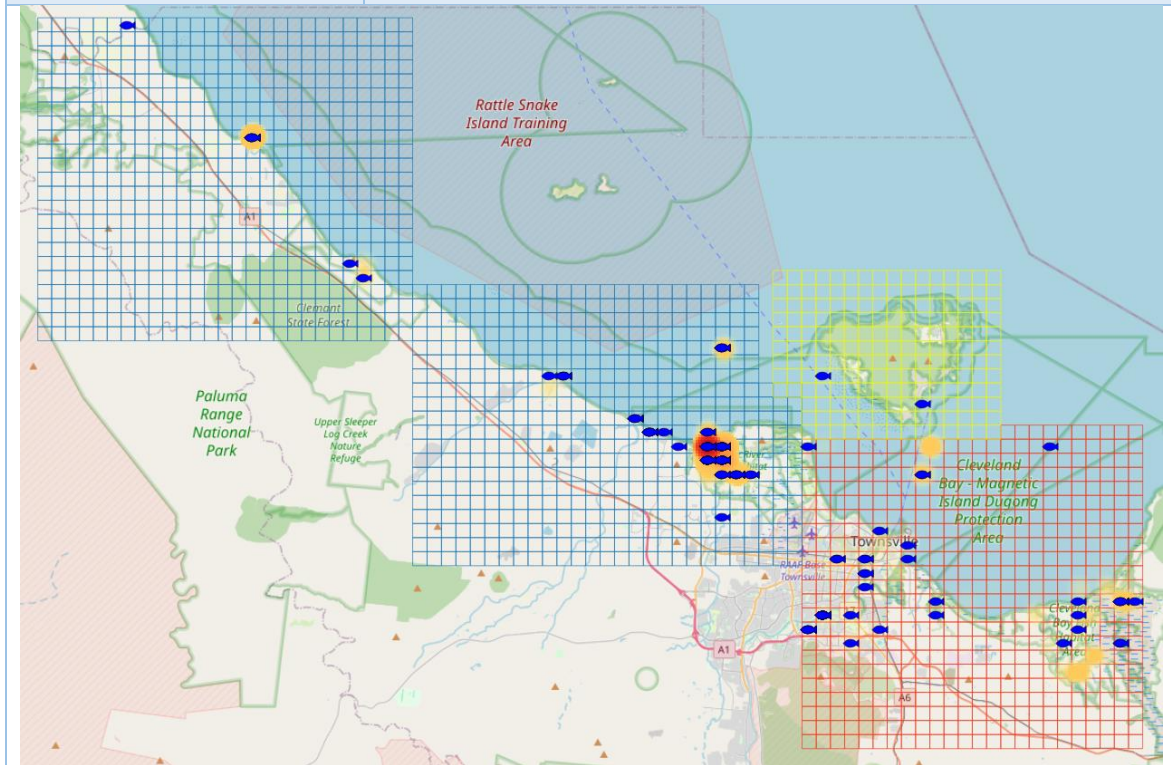
SPECIES TAGGED



LOCATIONS

All tagged fish (red-orange heat map)
Recaptured (blue fish)
2016-2025

Tagged	7106
Recaptured	885



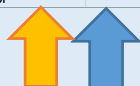
PIKEY BREAM



DATA RELIABILITY

Sample size (av fish/year)
Tagged (blue arrow)
Recaptures (orange arrow)
Confidence %
Error %
2021-2025

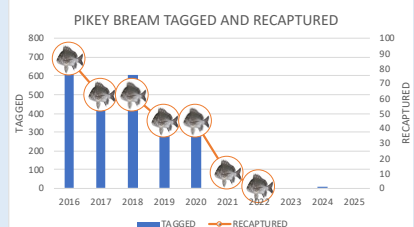
Reliability level	LOW		MODERATE		MODERATE		HIGH
Samples	10	41	68	271	384	664	
Confidence	80%	80%	90%	90%	95%	99%	
Error	20%	10%	10%	5%	5%	5%	



TAGGED

Tagged
Recaptures
2016-2025

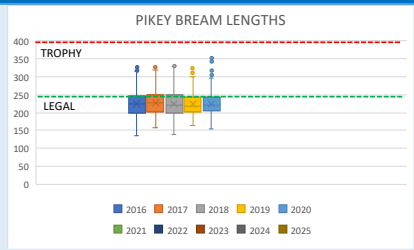
Tagged 2528
Recaptured 309
Recapture rate 12.2%
Tagged 2025 0



LENGTHS

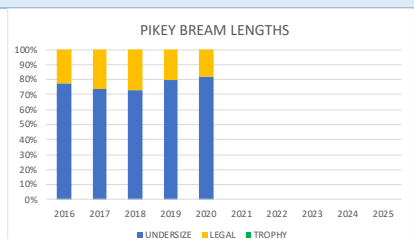
Average length (mm)
Bars show length range
Dots show outliers
2016-2025

High	Low	Now
Average length		
2017	2018	2025
228	224	NA
Largest		
2020	2019	2025
353	324	NA



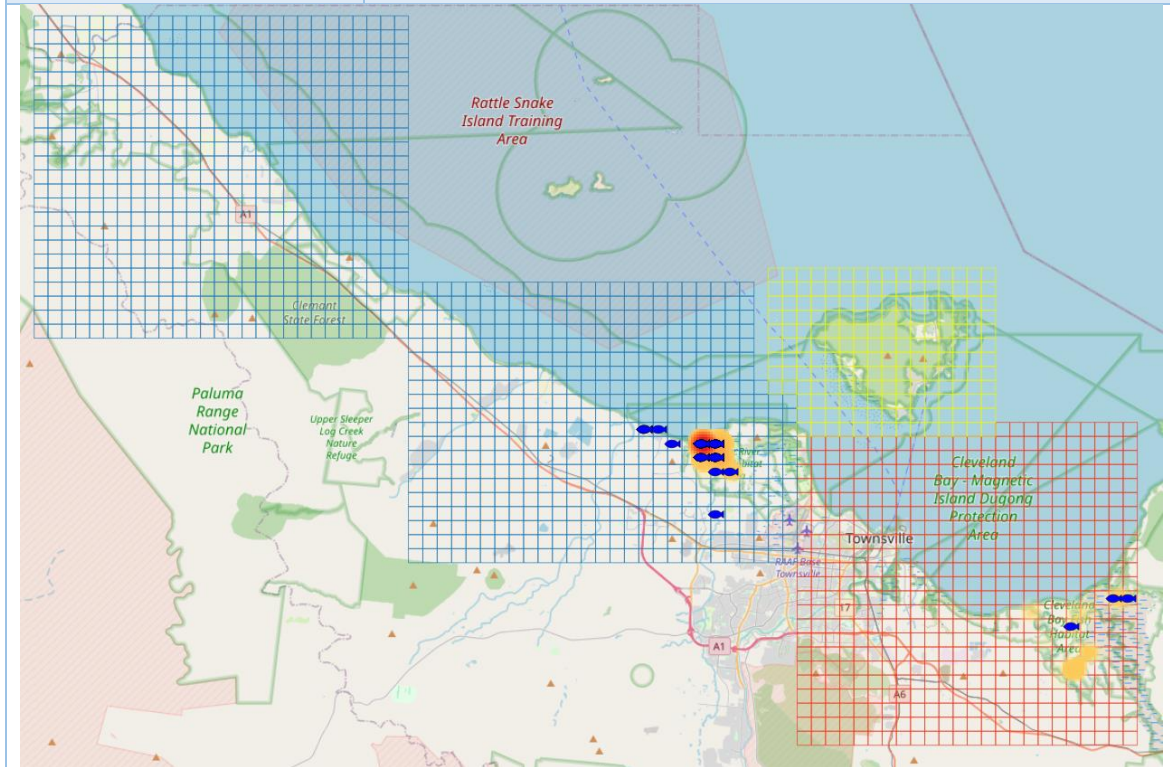
Fish lengths percentage
Undersize <250mm
Legal 250-400mm
Trophy 400+mm
2016-2025

High	Low	Now
Legal-trophy		
2018	2020	2025
27%	18%	NA
Trophy		
No trophy fish in any year		



LOCATIONS

Pikey Bream	Tagged	2528
Tagged (red-orange heat map)	Recaptured	309
Local recaptures (blue fish)		
2016-2025		



BARRED JAVELIN



DATA RELIABILITY

Sample size (av fish/year)
Tagged (blue arrow)
Recaptures (orange arrow)
Confidence %
Error %
2021-2025

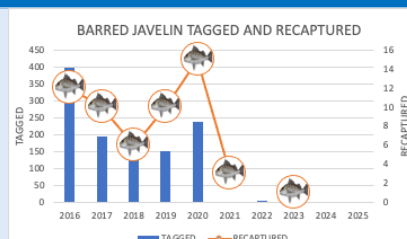
Reliability level	LOW		MODERATE		MODERATE	HIGH	
Samples	10	41	68	271	384	664	
Confidence	80%	80%	90%	90%	95%	99%	
Error	20%	10%	10%	5%	5%	5%	



TAGGED

Tagged
Recaptures
2016-2025

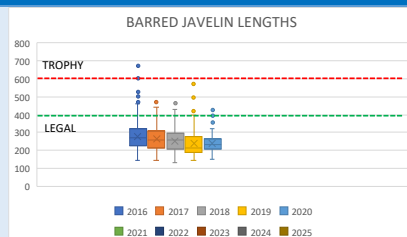
Tagged 1120
Recaptured 57
Recapture rate 5.1%
Tagged 2025 0



LENGTHS

Average length (mm)
Bars show smallest to largest fish
Dots show outliers
2016-2025

High	Low	Now
Average length		
2016	2020	2025
278	237	NA
Largest		
2016	2020	2025
670	430	NA



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

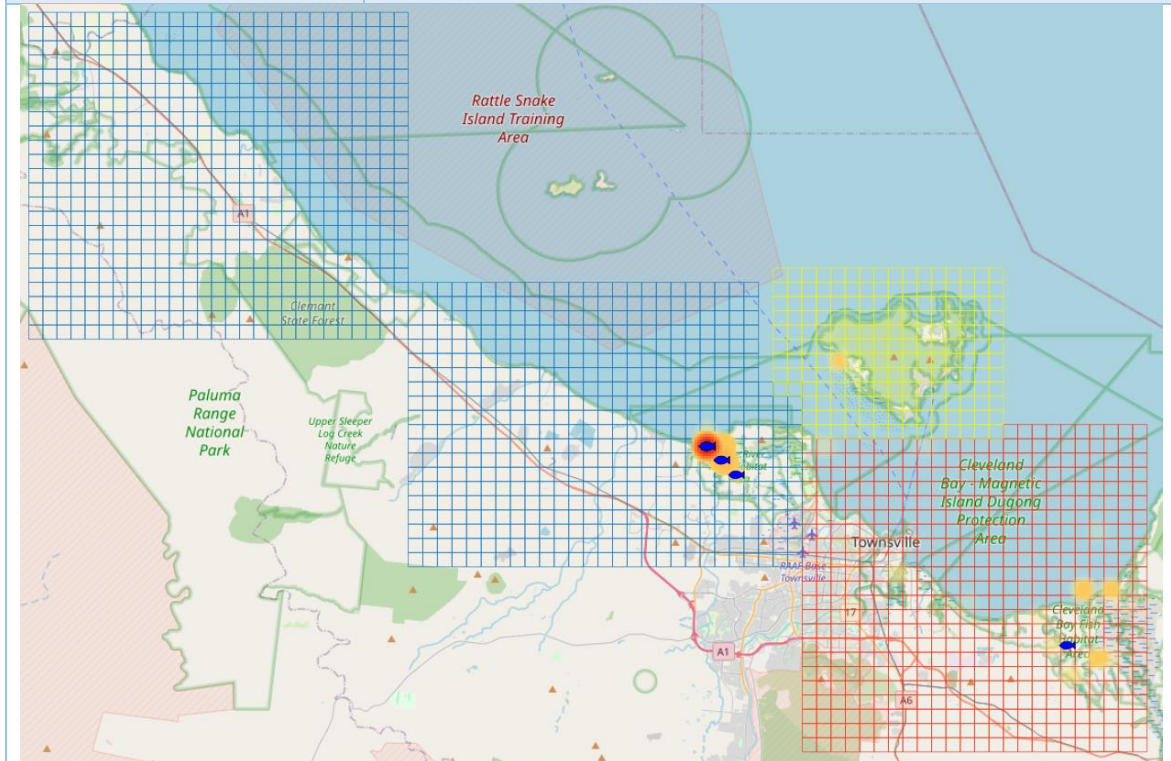
High	Low	Now
Legal-trophy		
2016	2020	2025
6%	1%	NA
Trophy		
2016		
1%	only year	



LOCATIONS

Barred Javelin
Tagged (red-orange heat
map)
Local recaptures (blue fish)
2016-2025

Tagged 1120
Recaptured 57



BARRAMUNDI



DATA RELIABILITY

Sample size (av fish/year)
Tagged (blue arrow)
Recaptures (orange arrow)
Confidence %
Error %
2021-2025

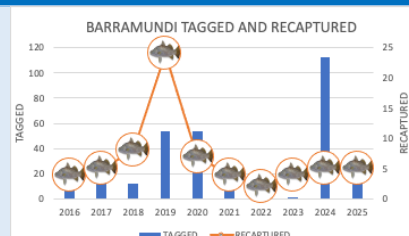
Reliability level	LOW		MODERATE		MODERATE		HIGH
Samples	10	41	68		271	384	664
Confidence		80%	80%	90%	90%	95%	99%
Error		20%	10%	10%	5%	5%	5%



TAGGED

Barramundi
Tagged
Recaptures
2016-2025

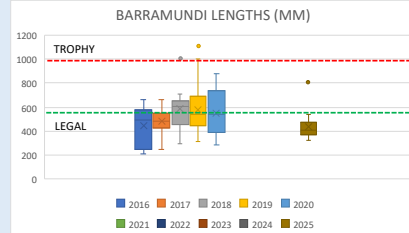
Tagged 309
Recaptured 68
Recapture rate 22.0%
Tagged 2025 25



LENGTHS

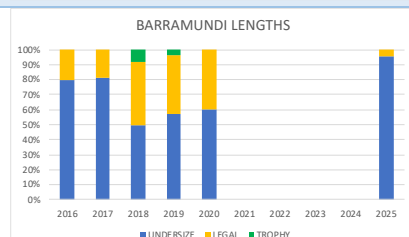
Average length (mm)
Bars show length range
Dots show outliers
2016-2025

	High	Low	Now
Average length			
2018	589	441	434
Largest			
2019	1115	660	810



Fish lengths percentage
Undersize <580mm
Legal 580-1000mm
Trophy 1000+mm
2016-2025

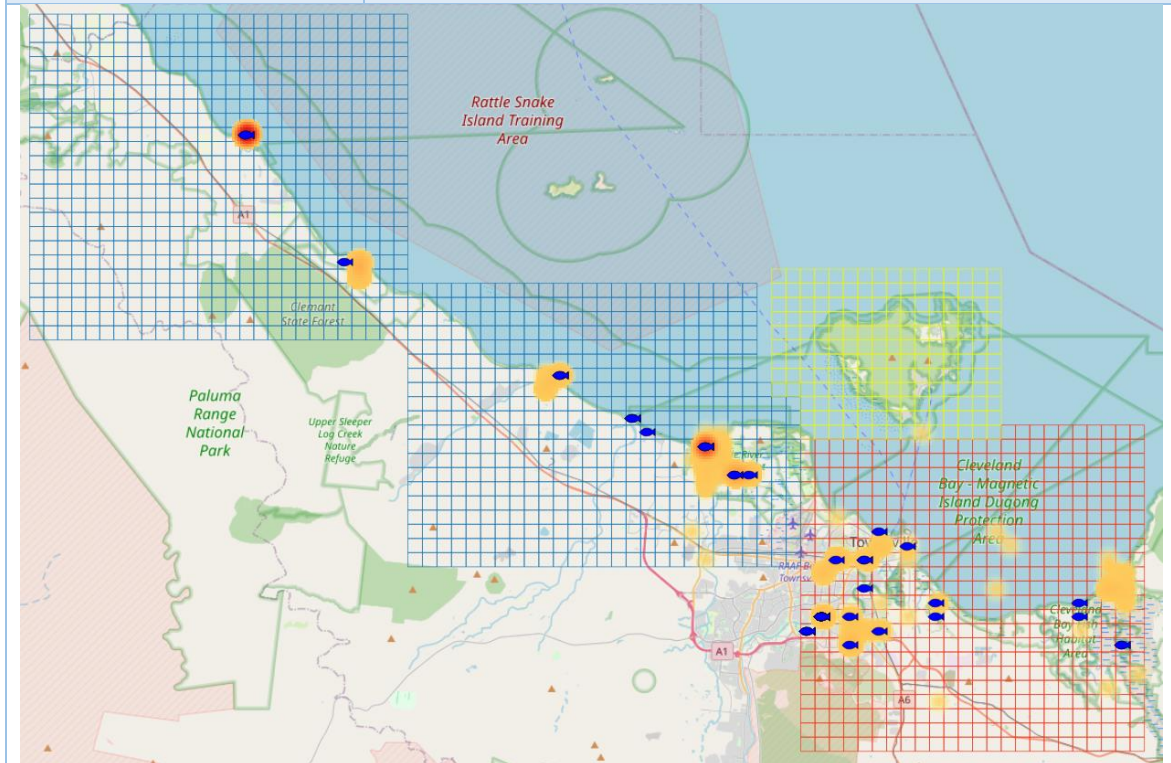
	High	Low	Now
Legal-trophy			
2018	42%	19%	4%
Trophy			
2018	8%	0%	0%



LOCATIONS

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

Tagged	309
Recaptured	68



Data sources

Data used in the Townsville Crystal Bowl are:

- Tag records and recapture records for the river at <http://crystalbowl.infofishaustralia.com.au/>.
- Rainfall and temperature records obtained for Townsville Aero station 032040 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/fisher day for taggers with a minimum of 12 fisher days (at least 1 per month) to provide an acceptable catch rate.
- For Pikey Bream undersized fish are <250mm, legal fish are ≥250mm and <400mm and trophy fish are ≥400mm.
- For Barred Javelin undersized fish are <400mm, legal fish are ≥400mm and <600 and trophy fish are ≥600mm.
- For Barramundi undersized fish are <580mm, legal fish are ≥580 and <1000mm and trophy fish are ≥1000mm.
- Locations based on Infofish grid map CBT, HBT and MIT and other grid maps where fish were recaptured outside the area.
- 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 <60km, Intrastate ≥60km and Qld postcodes, Interstate postcodes other than Qld.