



## CAIRNS ESTUARIES REVIEW 2024

### INFORMATION RATING



Stocking group: Cairns Area Fish Stocking Group

Species stocked: Barramundi

Stocking timeframe: 2015-2024

Fish timeframe: 2015-2024

Fisher timeframe: 2020-2024

CAFSG Facebook link: <https://www.facebook.com/p/Cairns-Area-Fish-Stocking-Group-100065020501212/>

Cairns estuaries are mostly fished by local fishers who account for 91% of recaptures and the intrastate fishers are from nearby areas. There does not appear to be much difference in when fishing occurs during the week or during the months of the year however, this may change with more data. The wet season from Dec-Apr appears to only have a slight effect on effort. This is possibly due to the short nature of the rivers in the area (except for the Barron River) where flooding effects are generally short lived.

There appears to be little influence from the Barramundi season where in other areas there is increased activity at the opening of the season in Feb and at the end in Oct. Like many locations on the tropical east coast Barramundi are a key target species however only account for 26% of fish tagged. The other key species tagged is Mangrove Jack which account for 35% of the fish tagged.

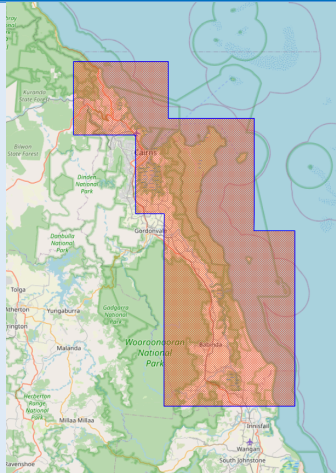
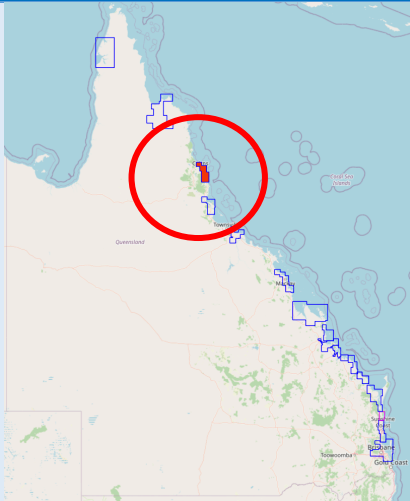
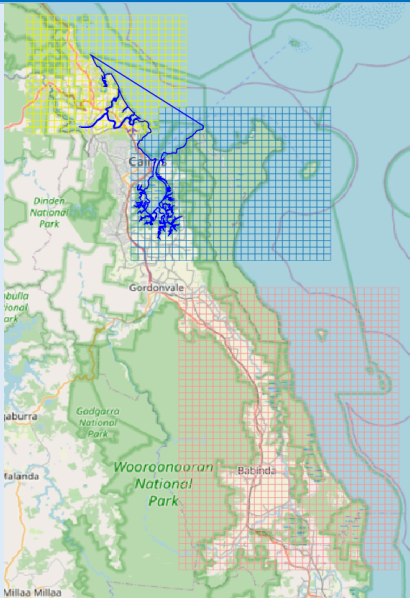
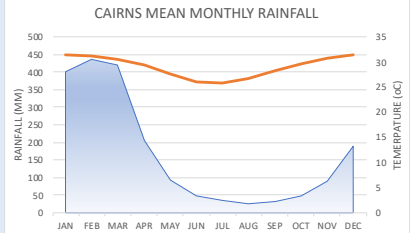
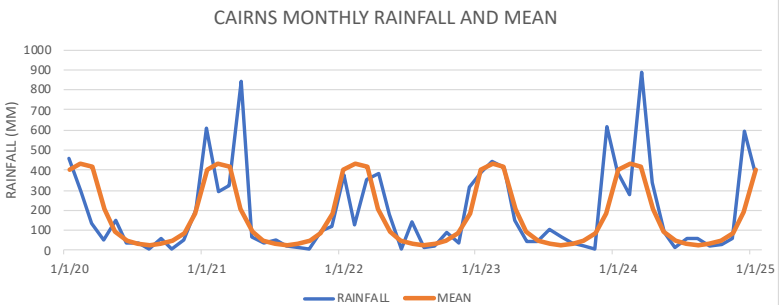
There was a large release of stocked tagged Barramundi in 2018 and further releases in 2023 and 2024. There were more tagged fish released in 2023 however no records were kept of that release with some fish being recaptured. Recaptures of fish released in 2023 and 2024 are likely to continue into the future.



Product of Infotish Australia



Supported by Suntag  
Department of Agriculture and Fisheries  
Cairns Area Fish Stocking Group

CAIRNS ESTUARIES		LOCATION
	Cairns 16.93°S 145.77°E	
WATERWAYS	ACTUAL	GRAPH or MAP
Grid maps Barron River BRC Trinity Inlet CNT Mulgrave RMR	Moon River Barron River Trinity Inlet Russell River Mulgrave River Cairns Net Free Zone (blue outline)	
ENVIRONMENTAL		
Cairns Aero Mean monthly rainfall (mm) Mean monthly temperature (oC)	Max monthly rainfall (mm) Feb 435 Mar 421 Jan 402 Max monthly temperature Nov-Mar 31	
Cairns Aero Monthly rainfall Mean monthly rainfall (mm) 2020-2024		

FISHERS		ACTUAL		GRAPH or MAP	
DATA RELIABILITY					
Sample size (days fished)					
Tag days (blue arrow)					
Recaptures (orange arrow)					
Confidence %					
Error %					
2020-2024					
TYPE OF FISHERY					
Seasonality					
Mean monthly rainfall (mm)					
Days fished					
Taggers					
Recapture fishers					
2020-2024					
Harvest or experiential fishery					
Release rate of recaptured legal Barramundi (ex-taggers)					
2020-2024					
Local or visitor fishery					
Where recapture fishers live					
2020-2024					
ACTIVITY					
Monthly activity					
Days fished					
Taggers (49)					
Recapture fishers (55)					
2020-2024					
Weekday activity					
Days fished					
Taggers (49)					
Recapture fishers (55)					
2020-2024					

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

Months most effort	
Taggers and recapture fishers combined	
Days	104
Feb (Barra season start)	
Oct (Barra season end)	

CAIRNS RAINFALL AND FISHER DAYS

TYPE OF FISHERY	
HARVEST	EXPERIENTIAL
0%	100%

TYPE OF FISHER	
LOCAL	VISITOR
0%	100%

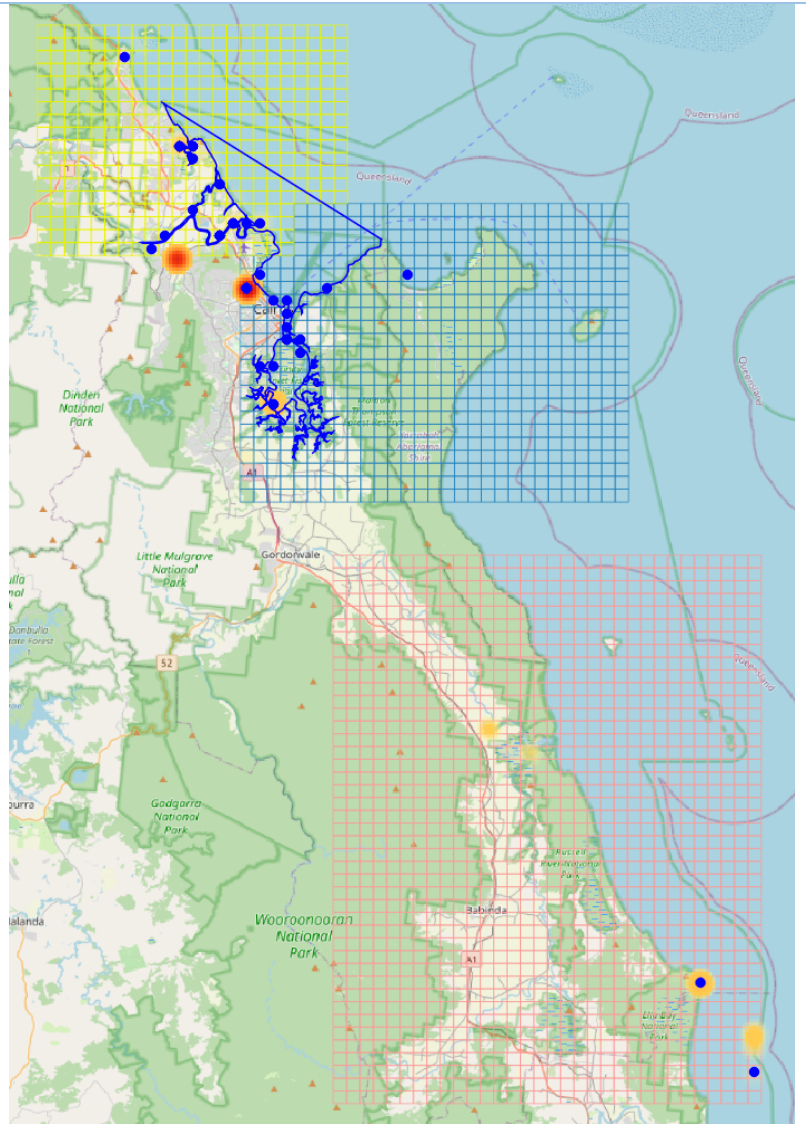
Month	%
Oct	16%
Jan	10%
Jul	10%
Feb	18%
Jul	13%

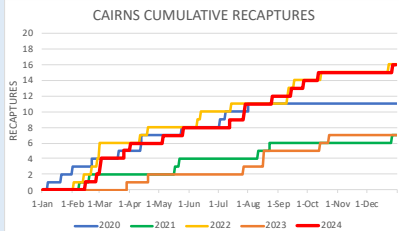
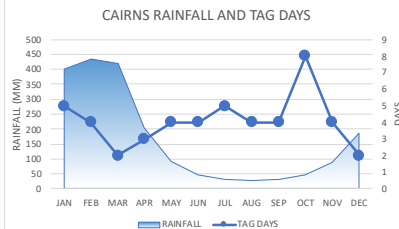
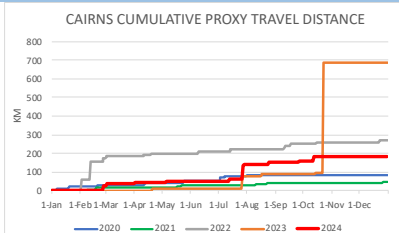
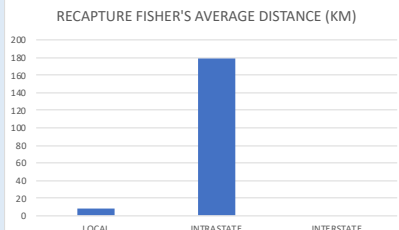
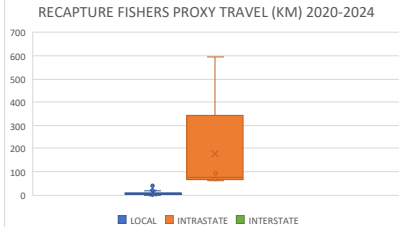
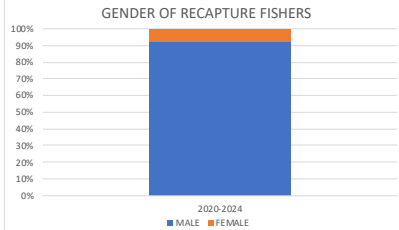
CAIRNS MONTHLY ACTIVITY

Day	%
Weekend	38%
Weekdays	62%
Weekend	36%
Weekdays	64%

CAIRNS WEEKDAY ACTIVITY

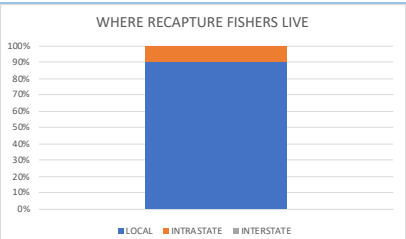
**Fisher location activity**  
**Taggers (red-orange heat**  
**map)**  
**Recapture fishers (blue**  
**dots)**  
**2020-2024**



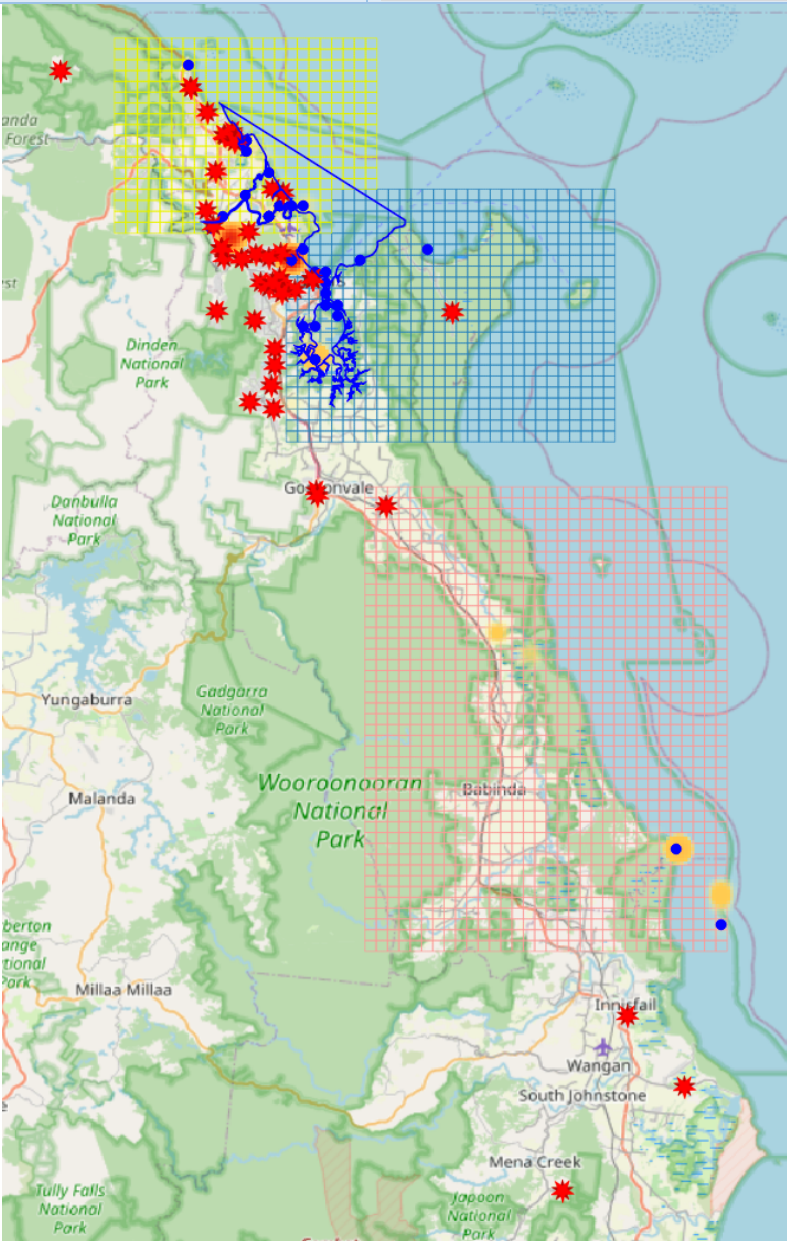
EFFORT			
Cumulative recaptures 2020-2024	Year	Recaps	
	2020	11	
	2021	7	
	2022	16	
	2023	7	
	2024	16	
Mean monthly rainfall Days fish tagged 2020-2024	Month most fish tagged Oct		
TRAVEL			
Cumulative distance (km) address to recapture location 2020-2024	Year	Dist	
	2020	86	
	2021	49	
	2022	270	
	2023	689	
	2024	183	
Average distance (km) from home to recapture location 2020-2024	Av distance (km)		
	Local	8	
	Intrastate	179	
	Interstate	NA	
Distance (km) address to recapture location Bars show distance range Dots show outliers 2020-2024	Range (km)		
	Local	1-40	
	Intrastate	61-596	
	Interstate	NA	
DEMOGRAPHICS			
Gender of recapture fishers (ex-taggers) 2020-2024	Fishers	52	
	Female	4 (8%)	
	Male	48 (92%)	

Where recapture fishers live  
2020-2024


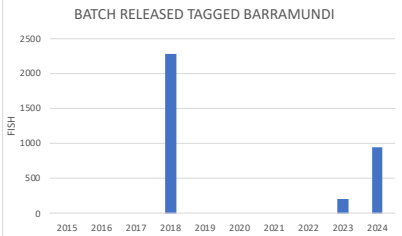
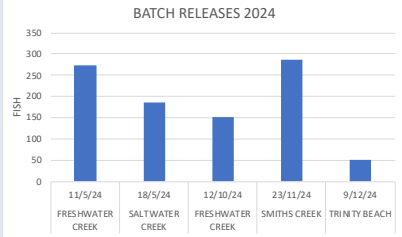
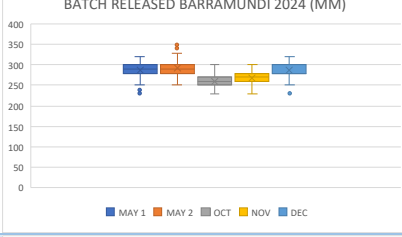
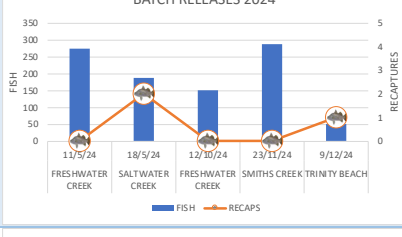
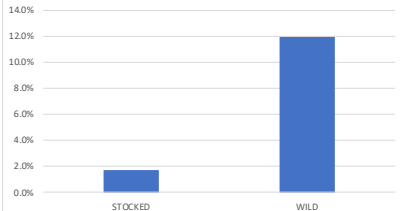
Recapture fishers 54  
Local 49 (91%)  
Intrastate 5 (9%)  
Interstate 0 (0%)



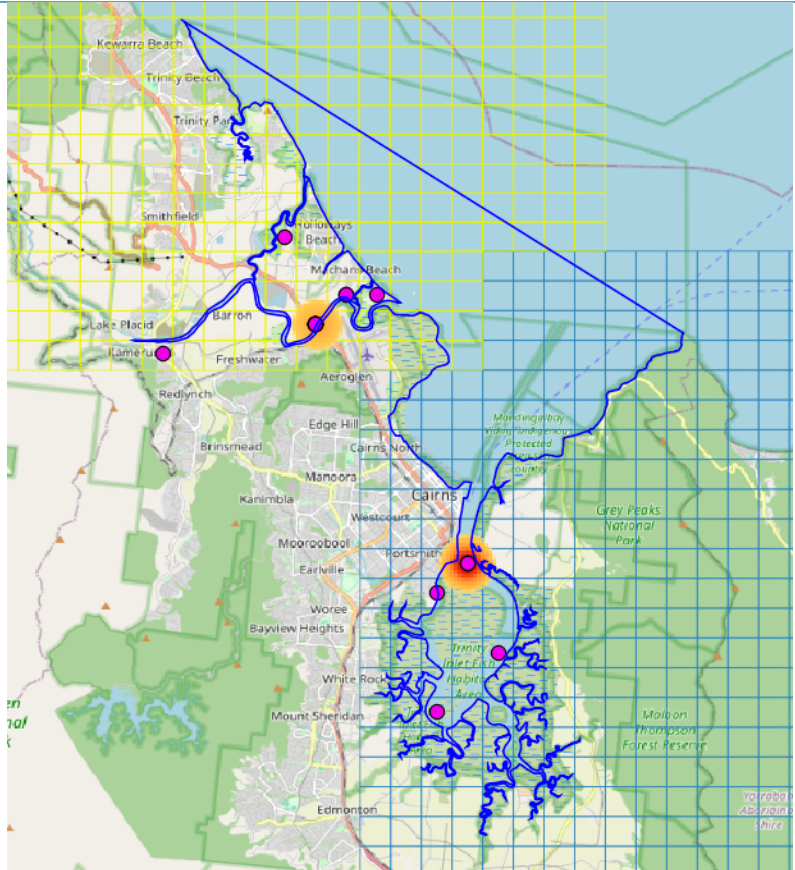
Cairns  
Where recapture fishers live (red stars)  
Local  
Intrastate  
Not included Mackay 1  
2020-2024



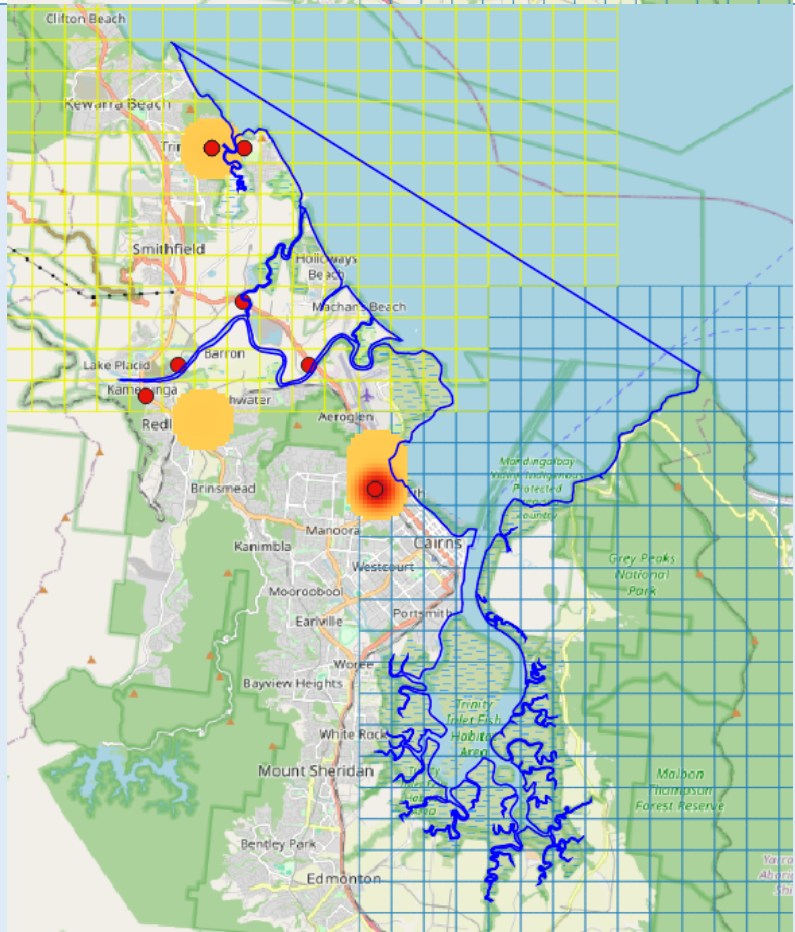


STOCKED FISH		ACTUAL		GRAPH or MAP	
BARRAMUNDI					
		Cairns Area Fish Stocking Group		Note: More tagged Barramundi were released in 2023 but no records were maintained.	
STOCKED					
Batch releases of tagged Barramundi Lengths (estimated average) 2015-2024		2018	2023	2024	
		Tagged			
		2284	210	949	
		Length			
		300	200	278	
		Recaptured			
		36	13	3	
Batch releases Freshwater Creek (FC) Saltwater Creek (SC) Smiths Creek(SMC) Trinity Beach (TB) 2024		Location	Date	Tagged	
		FC1	11/5/24	274	
		SC	18/5/24	186	
		FC2	12/10/24	152	
		SMC	23/11/24	287	
		TB	9/12/24	50	
Batch releases Lengths 2024		Location	Date	Av TL	
		FC1	11/5/24	289	
		SC	18/5/24	293	
		FC2	12/10/24	260	
		SMC	23/11/24	267	
		TB	9/12/24	278	
Batch releases recaptures 2024		Location		Recaps	
		FC1		0	
		SC		2	
		FC2		0	
		SMC		0	
		TB		1	
Barramundi recapture rates Wild Stocked 2015-2024		Wild		Stocked	
		151		2954	
		Recaptured			
		21 (13.9%)		52 (1.7%)	

**Release locations (2284)**  
**(red-orange heat map)**  
**Recaptures (36)**  
**(pink dots)**  
**2018**

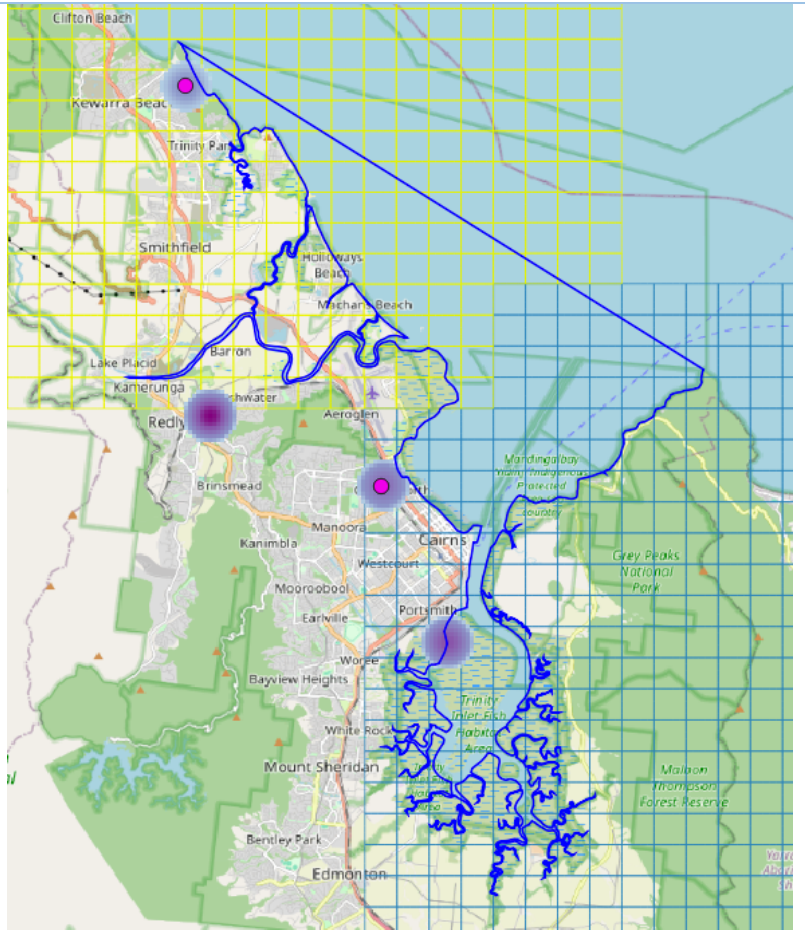




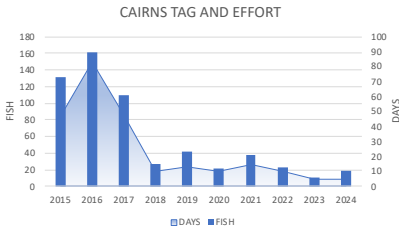
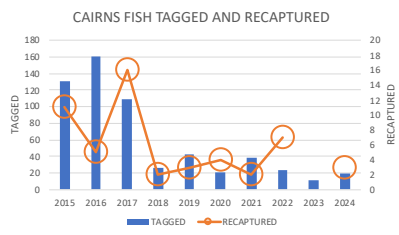
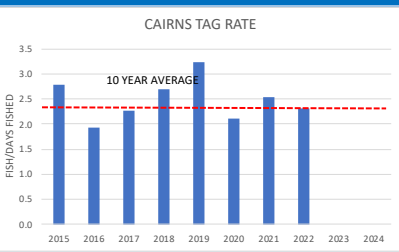
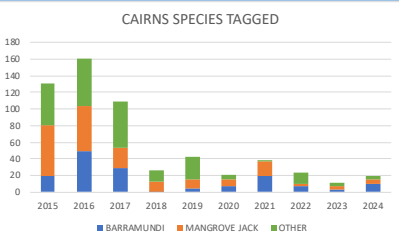
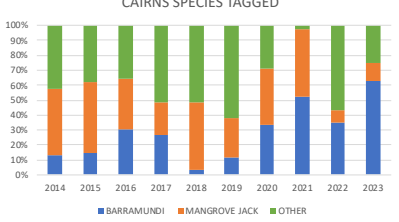
**Release locations (209)**  
**(red-orange heat map)**  
**Recaptures (13)**  
**(red dots)**  
**2023**





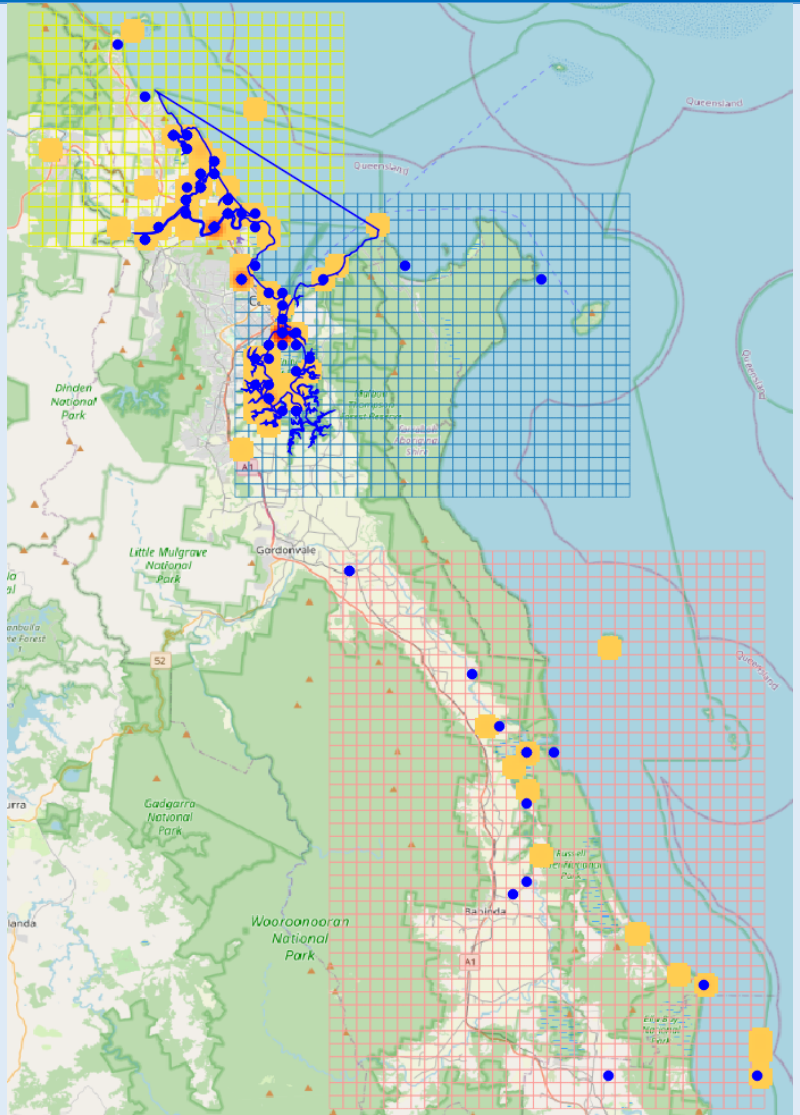
**Release locations (949)  
(purple-blue heat map)  
Recaptures (3)  
(pink dots)  
2024**



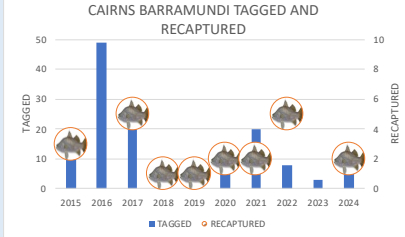
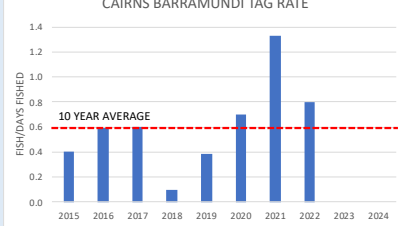
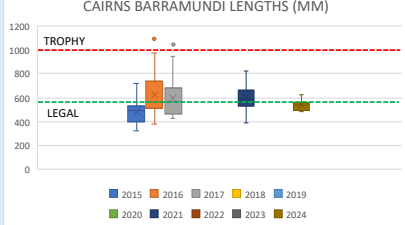
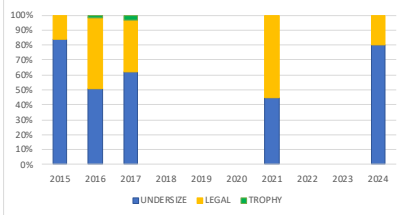


KEY SPECIES		ACTUAL	GRAPH or MAP																				
BARRAMUNDI	MANGROVE JACK																						
			Wild fish only – excluded batch releases of tagged Barramundi																				
TAGGED																							
Tagging effort Days fished (335) Fish tagged (866) (ex-stocked) 2015-2024	<table><tr><td>High</td><td>Low</td><td>Now</td></tr><tr><td>Fish tagged</td><td></td><td></td></tr><tr><td>2016</td><td>2023</td><td>2024</td></tr><tr><td>161</td><td>11</td><td>19</td></tr><tr><td>Days fished</td><td></td><td></td></tr><tr><td>2014</td><td>2023</td><td>2024</td></tr><tr><td>96</td><td>5</td><td>5</td></tr></table>	High	Low	Now	Fish tagged			2016	2023	2024	161	11	19	Days fished			2014	2023	2024	96	5	5	
High	Low	Now																					
Fish tagged																							
2016	2023	2024																					
161	11	19																					
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96	5	5																					
Fish tagged (ex-stocked) Recaptured 2015-2024	<table><tr><td>Tagged</td><td>Recaptured</td></tr><tr><td>582</td><td>53</td></tr><tr><td>Recapture rate</td><td></td></tr><tr><td>9.1%</td><td></td></tr></table>	Tagged	Recaptured	582	53	Recapture rate		9.1%															
Tagged	Recaptured																						
582	53																						
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TAG RATE																							
Tag rate Fish tagged/day 2015-2024	<table><tr><td>High</td><td>Low</td><td>Now</td></tr><tr><td>Tag rate</td><td></td><td></td></tr><tr><td>2019</td><td>2016</td><td>2024</td></tr><tr><td>3.2</td><td>1.9</td><td>NA</td></tr><tr><td>10 year average</td><td></td><td>2.4</td></tr></table>	High	Low	Now	Tag rate			2019	2016	2024	3.2	1.9	NA	10 year average		2.4							
High	Low	Now																					
Tag rate																							
2019	2016	2024																					
3.2	1.9	NA																					
10 year average		2.4																					
SPECIES																							
Species tagged 2015-2024	<table><tr><td>Fish</td><td>Tagged</td></tr><tr><td>All fish</td><td>586</td></tr><tr><td>Barramundi</td><td>151</td></tr><tr><td>Mangrove Jack</td><td>201</td></tr><tr><td>Other species</td><td>3230</td></tr></table>	Fish	Tagged	All fish	586	Barramundi	151	Mangrove Jack	201	Other species	3230												
Fish	Tagged																						
All fish	586																						
Barramundi	151																						
Mangrove Jack	201																						
Other species	3230																						
Percentage species tagged 2015-2024	<table><tr><td>Fish</td><td>Percent</td></tr><tr><td>Barramundi</td><td>26%</td></tr><tr><td>Mangrove Jack</td><td>35%</td></tr><tr><td>Other species</td><td>40%</td></tr></table>	Fish	Percent	Barramundi	26%	Mangrove Jack	35%	Other species	40%														
Fish	Percent																						
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## TAG LOCATIONS

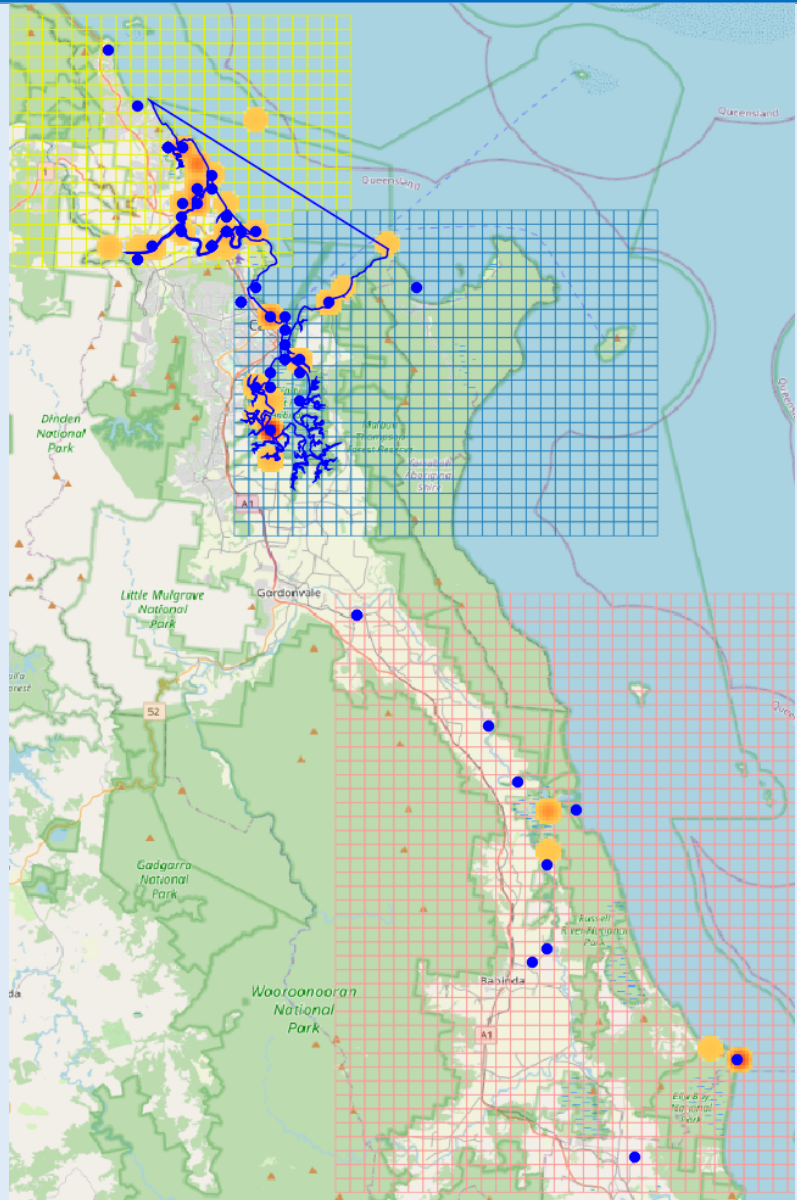
All fish (ex-stocked)  
Tagged (red-orange heat  
map)  
Recaptured (blue dots)  
2015-2024





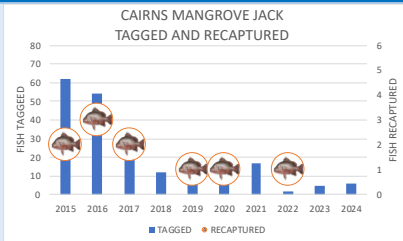
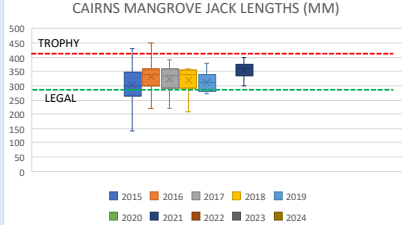
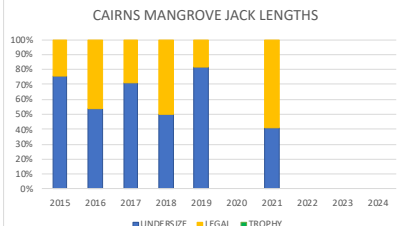
BARRAMUNDI		ACTUAL		GRAPH or MAP	
					
DATA RELIABILITY					
Sample size (av fish/year)		Reliability level		MODERATE	
Tagged (blue arrow)		Samples		MODERATE	
Recaptures (orange arrow)		Confidence		HIGH	
Confidence %		Error			
Error %					
2020-2024					
					
TAGGED					
Barramundi tagged and recaptured (ex-stocked)		Tagged		Recaptured	
2015-2024		151		21	
		Recapture rate			
		13.9%			
		Tagged 2024			
		10			
					
TAG RATE					
Tag rate		High		Low	
Barramundi		Tag rate		Now	
Fish/day		2021		2018	
2015-2024		1.3		0.1	
		10 year average		0.6	
					
LENGTHS					
Average length (mm)		High		Low	
Bars show length range		Average length		Now	
Dots show outliers		2016		2015	
2015-2024		624		483	
		Largest			
		2016		2014	
		1095		670	
					
Fish lengths percentage		High		Low	
Undersize <580mm		Legal-trophy		Now	
Legal 580-1000mm		2021		2014	
Trophy 1000+mm		55%		10%	
2015-2024		Trophy			
		2017		2021	
		3%		0%	
					

## TAG LOCATIONS

**Barramundi (ex-stocked)**  
**Tagged (red-orange heat map)**  
**Recaptured (blue dots)**  
**2015-2024**





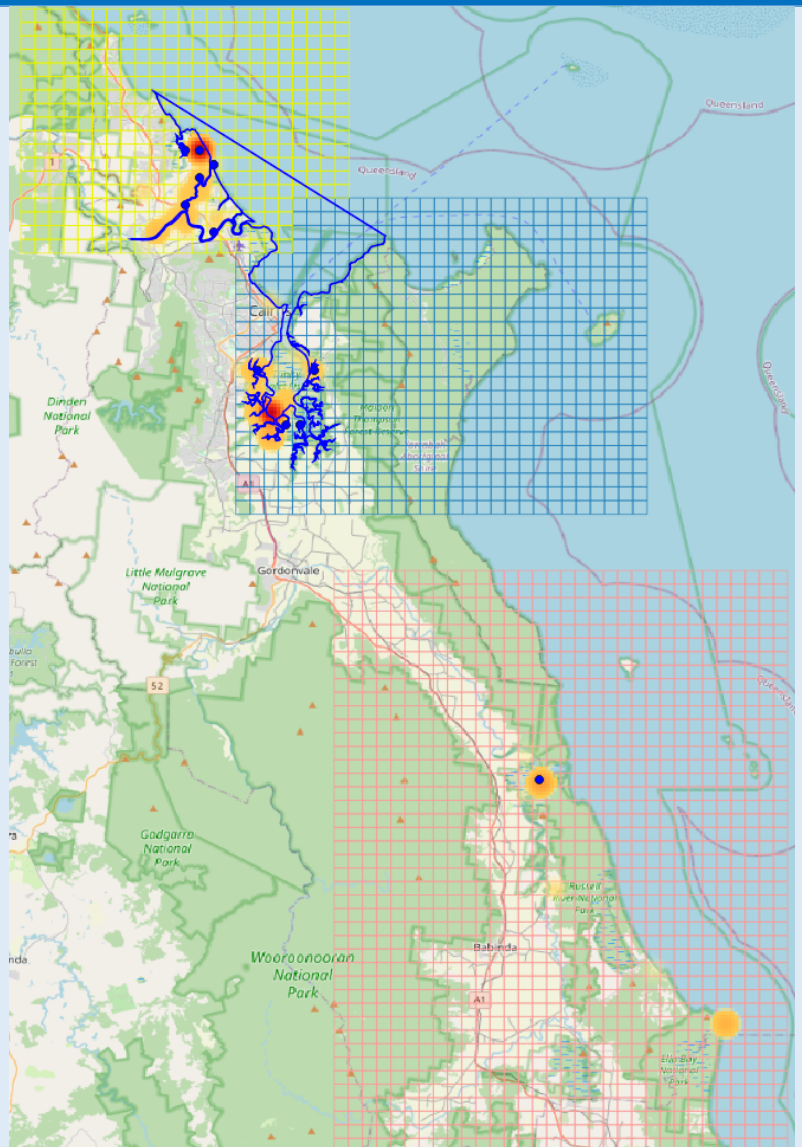
MANGROVE JACK		ACTUAL		GRAPH or MAP	
					
DATA RELIABILITY					
Sample size (av fish/year)		Reliability level		MODERATE	
Tagged (blue arrow)		Samples		MODERATE	
Recaptures (orange arrow)		Confidence		HIGH	
Confidence %		Error			
Error %					
2020-2024					
					
TAGGED					
Mangrove jack		Tagged		Recaptured	
Tagged		201		10	
Recaptured		Recapture rate			
2015-2024		5.0%			
		Tagged 2024			
		6			
LENGTHS					
Average length (mm)		High		Low	
Bars show length range		Average length		Now	
Dots show outliers		2021		2015	
2015-2024		356		303	
		Largest			
		2014		2018	
		550		360	
				2023	
				NA	
					
Fish lengths percentage		High		Low	
Undersize <350mm		Legal-trophy		Now	
Legal 350-500mm		2021		2019	
Trophy 500+mm		59%		18%	
2015-2024		Trophy			
		2014		15-21	
		1%		0%	
				2023	
				NA	
					

## TAG LOCATIONS

Mangrove Jack

Tagged (red-orange heat map)

Recaptured (blue dots)  
2015-2024



## Data sources

Data used in the Cairns Crystal Bowl are:

- Stocked fish records from Cairns Area Fish Stocking Group.
- Tag records and recapture records for the area at <http://crystalbowl.infofishaustralia.com.au/>.
- Cairns rainfall and temperatures from Cairns Aero station 031011 at <http://www.bom.gov.au/>.

## 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/days fished.
- Recapture rates relate to fish tagged in a particular year.
- Undersized Barramundi are <580mm, legal-trophy fish are ≥580 and <1000mm and trophy fish are ≥1000mm. Legal fish are 580-1200mm.
- Undersized Mangrove Jack are <350mm, legal-trophy are ≥350 and <500mm and trophy fish are >500mm.
- Locations based on Infofish grid map BRC, CNT and RMR and other grid maps where fish were recaptured outside the area.
- Travel proxy distance is the distance between where the fisher lives (address, suburb, town or postcode) and the recapture location. Local <60km, intrastate Qld elsewhere, interstate other than Qld.