CRYSTALBOWL

BOWLING GREEN BAY ESTUARIES REVIEW 2025
INFORMATION RATING ⭐ ⭐
Key species: Barramundi, Barred Javelin, Mangrove Jack Fish timeframe: 2016-2025 Fisher timeframe: 2021-2025 The data are below the preferred reliability level however still provides useful data from the area. Scroll through the dashboard to cover all subjects of for information on a specific subject go to: BOWLING GREEN BAY ESTUARIES OVERVIEW BOWLING GREEN BAY LOCATION ENVIRONMENTAL CONDITIONS TYPE OF FISHERY FISHER ACTIVITY FISHER EFFORT FISHER TRAVEL WHERE RECAPTURE FISHERS LIVE STOCKED FISH KEY SPECIES BARRAMUNDI BARRED JAVELIN MANGROVE JACK

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Supported by Suntag and
Department of Primary Industries

BOWLING GREEN BAY ESTUARIES OVERVIEW

Summary of 2025

- Bowling Green Bay tagging continued at a low level this year so the information needs to be treated with caution.
- Stocking has been used to supplement the Barramundi population in the Haughton River and has previously been undertaken in the freshwater lagoons.

Bowling Green Bay estuaries include the Haughton River, Barratta Creeks, Morrisey Creek, Sheep Station Creek and other small creeks. The waterways are heavily modified, particular in the freshwater reaches which are mostly a series of lagoons.

Bowling Green Bay estuaries are mostly fished by local fishers who account for 77% of recaptures while visiting fishers are mainly from southern parts of the state. Most of the local fishers live in Townsville to the west and the Ayr-Home Hill area to the east.

Fishing occurs throughout the year with a slight peak at the start and end of the Barramundi season from Feb-Oct. It mostly occurs on weekends with 56% of tagger days and 41% of recapture fishers days on weekends.

Like many locations on the east coast Barramundi are a key target species accounting for 65% of fish tagged. Other key species tagged are Barred Javelin and Mangrove Jack which account for a further 12% and 4% of fish tagged respectively. These species account for 81% of the fish tagged.

The area is primarily a harvest fishery with low levels of legal fish tagged and 74% of legal Barramundi caught during the open season by recfishers (other than taggers) being kept. Data are not available for other species however it is likely that a high proportion of legal fish are kept.

The Cungulla Fishing Club stocked tagged Barramundi into Giru Weir from 2013-2017. The recapture rate for these fish so far is 1.1% compared with 6.3% for wild fish which suggests the survival rate for stocked fish is less than that for wild fish.
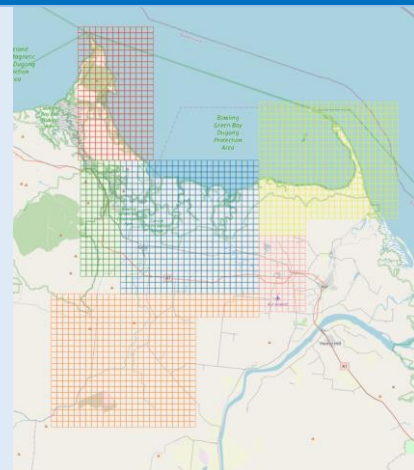
BOWLING GREEN BAY LOCATION
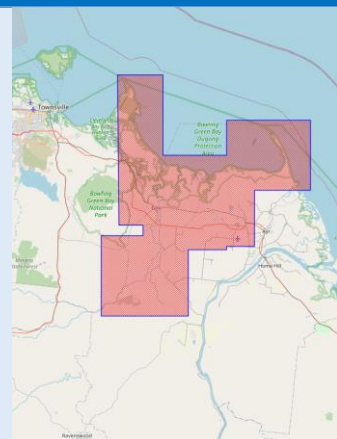
Giru
19.515°S
147.105°E
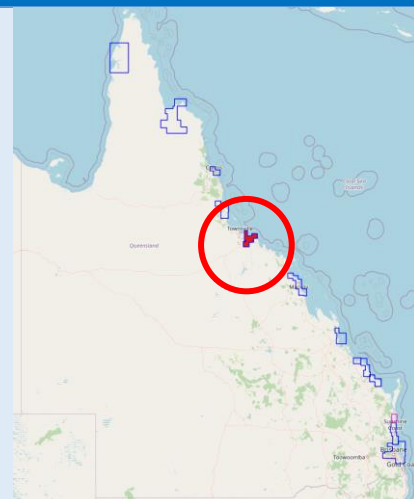
WATERWAYS

Bowling Green Bay maps	Haughton River	
Bowling Green Bay BGB	Barratta Creeks	
Cape Cleveland MCT	Morrisey (Barramundi) Creek	
Cromarty CRM	Sheep Station Creek	
Cape Bowling Green BGC	Sheepwash Creek	
Brandon BRN	Christmas Creek	
Upper Haughton UHR	Hughes Creek	
	Giffard Creek	
	Alva Creek	

ENVIRONMENTAL CONDITIONS

Giru mean monthly rainfall (mm) Mean max temperature (°C)	Rainfall	Month	mm
	Max	Jan	263
	Min	Sep	60
	Temp	Month	°C
	Max	Dec	32
	Min	Jul	25

Chart: RAINFALL AND TEMPERATURE — RAINFALL MEAN, TEMPERATURE

Monthly rainfall (mm) Mean monthly rainfall 2016-2025

Chart: MONTHLY AND MEAN RAINFALL (MM) — RAINFALL, MEAN RAINFALL

Haughton River flow (ML) 2016-2025

Chart: RIVER FLOW AND MONTHLY MEAN (ML) — FLOW, MEAN FLOW

TYPE OF FISHERY		
DATA RELIABILTY		

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%	

Sample size (days fished)
Tag days (blue arrow)
Recaptures (orange arrow)
Confidence %
Error %
2021-2025

Seasonality
Average rainfall (mm)
Mean maximum day temperature (ºC)

Best Barramundi fishing
Feb-May
Sep-Oct

RAINFALL AND TEMPERATURE

Seasonality
Fish tagged
2021-2025

Most fish tagged
Oct (16%)
Nov (13%)
Dec (12%)

FISHING SEASONALITY

Harvest or experiential fishery
Fate of recaptured legal Barramundi
2021-2025

Legal Barramundi kept rate
Legal fish   39
 Kept   28 (72%)
Released   11 (28%)

TYPE OF FISHERY

Local or visitor fishery
Where recapture fishers live
2021-2025

 Recapture fishers   61
Local   51 (84%)
Visitor   10 (16%)

GENDER OF RECAPTURE FISHERS

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

Recapture fishers   58
Male   49 (84%)
Female   9 (16%)

GENDER OF RECAPTURE FISHERS

FISHER ACTIVITY

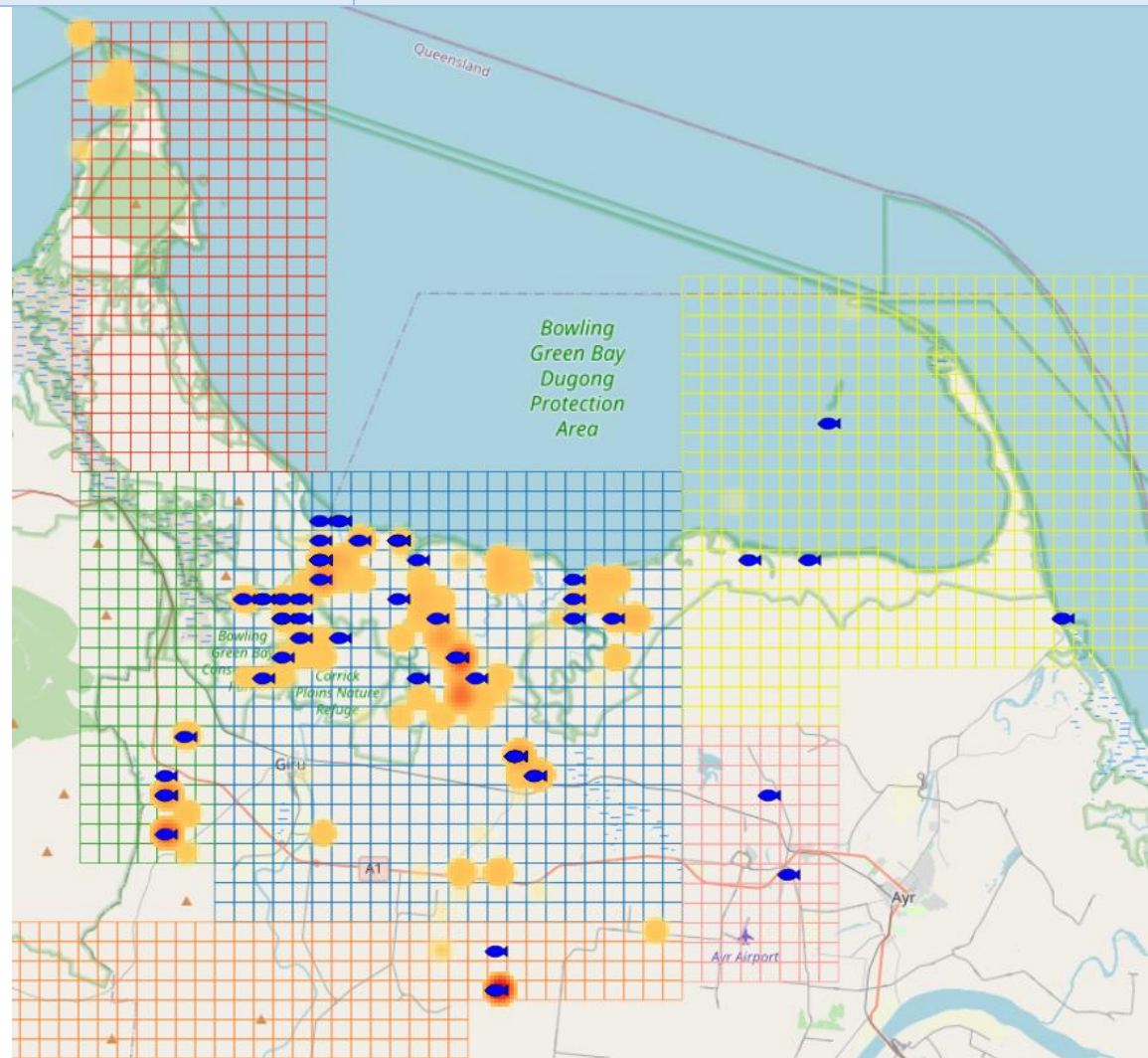| Monthly activity Days fished combined Taggers (284) Recapture fishers (63) 2021-2025		Month	%	DAYS FISHED BY MONTH
	Most days	Oct	13%	
		Nov	11%	
		Sep	11%	
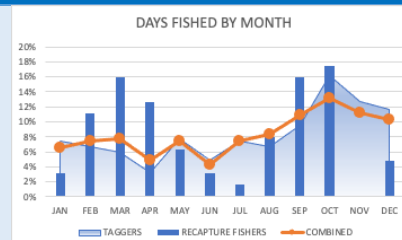
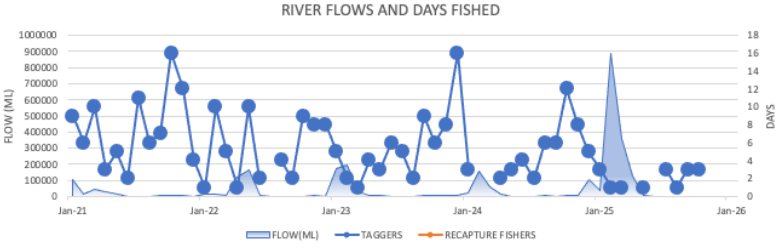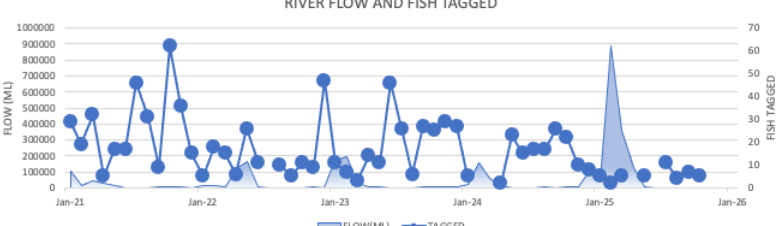| Weekday activity Days fished Taggers (284) Recapture fishers (63) 2021-2025		Day	%	DAYS FISHED BY WEEKDAY
	Most	Weekend	50%	
		Weekdays	50%	
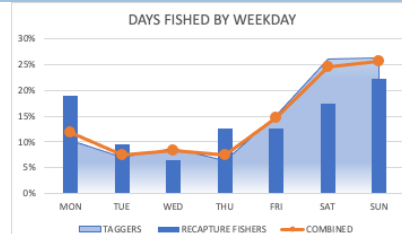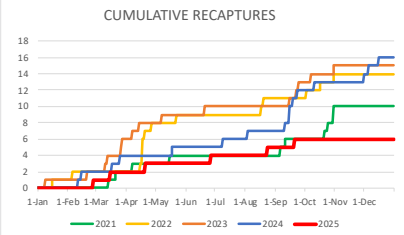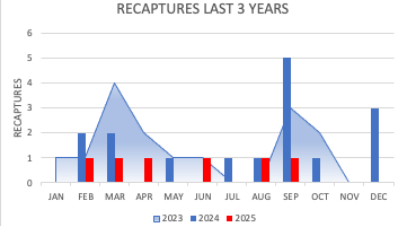
Location activity Taggers (red-orange heat map) Recapture fishers (blue fish) 2021-2025		
	Tagged	902
	Recaptured	61

FISHER EFFORT

Cumulative recaptures 2021-2025	Year	Recaps	
	2021	10	
	2022	14	
	2023	15	
	2024	16	
	2025	6	

Recaptures last 3 years 2023-2025	

Haughton River flow Taggers Days fished by month 2021-2025	

Haughton River flow Fish tagged by month 2021-2025	

FISHER TRAVEL

Cumulative distance (km) home to recapture location 2021-2025		CUMULATIVE PROXY TRAVEL DISTANCE (KM)

Total distance (km) home to recapture location 2021-2025	Year	Dist	TOTAL PROXY TRAVEL DISTANCE (KM)
	2021	587	
	2022	3221	
	2023	2425	
	2024	1589	
	2025	468	

Average distance (km) from home to recapture location 2021-2025		Av distance (km)	RECAPTURE FISHER'S PROXY AVERAGE TRAVEL
	Local	31	
	Intrastate	558	
	Interstate	1663	

Distance (km) home to recapture location Bars show distance range Dots show outliers 2021-2025		Range (km)	RECAPTURE FISHERS PROXY TRAVEL
	Local	1-78	
	Intrastate	110-1076	
	Interstate	1663	

WHERE RECAPTURE FISHERS LIVE

Where recapture fishers live 2021-2025	Recapture fishers 61 Local 51 (84%) Intrastate 9 (15%) Interstate 1 (1%)	
Bowling Green Bay Where fishers recapturing fish live (red stars) Local Intrastate Interstate 2021-2025		
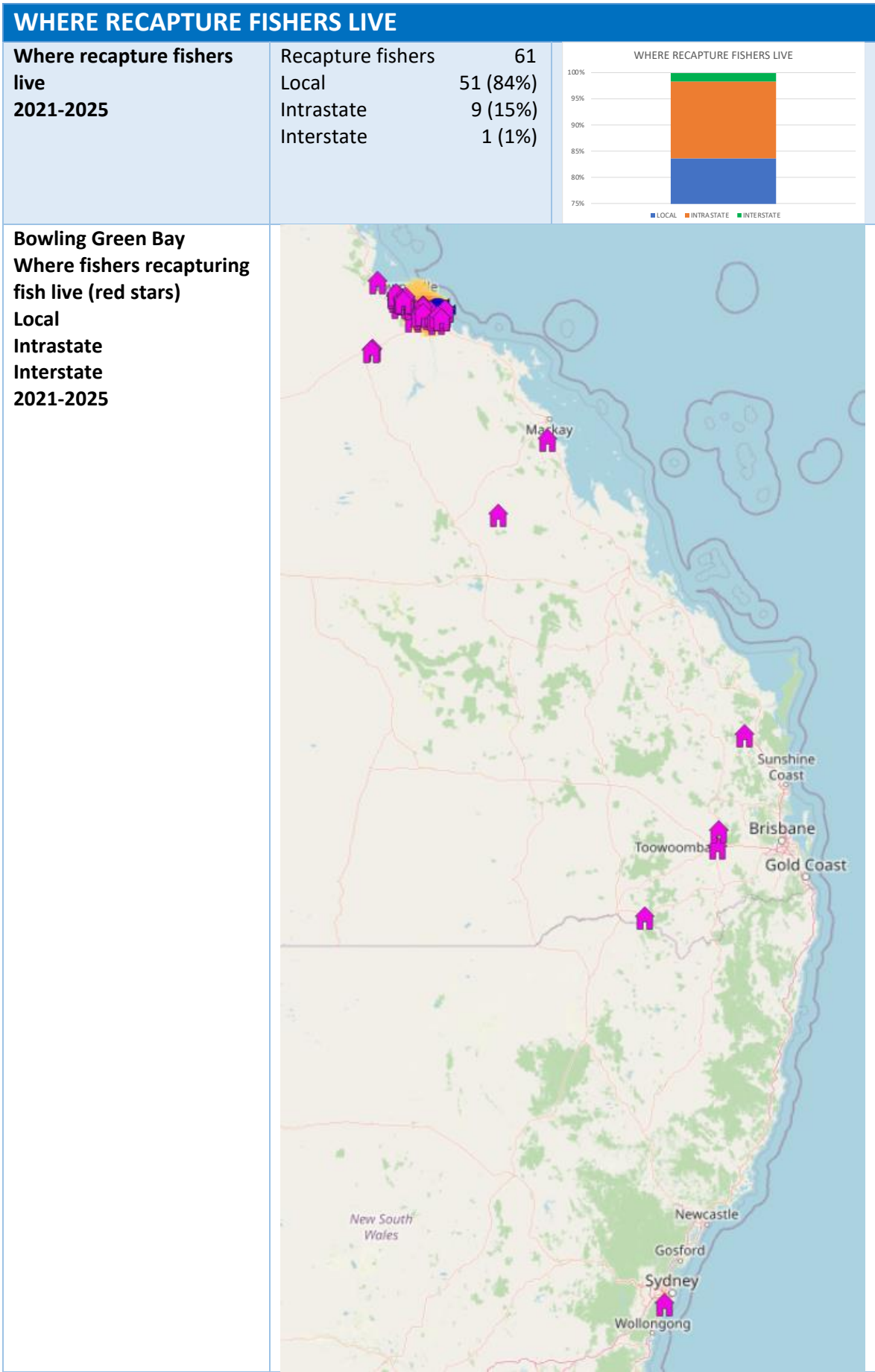
Bowling Green Bay
Where fishers recapturing
fish live
Local (pink houses)
2021-2025
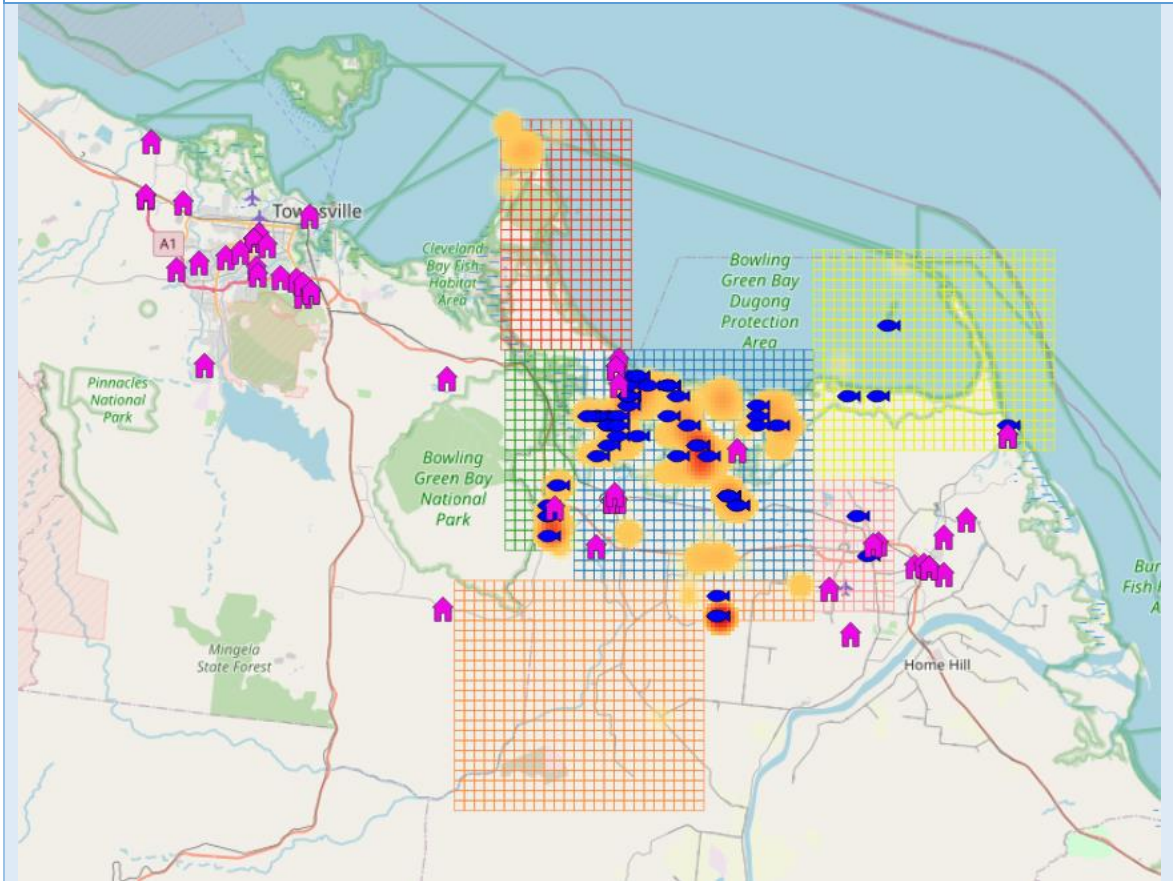
COMMERCIAL CATCH

Commercial QFISH Grids	Grid K21	
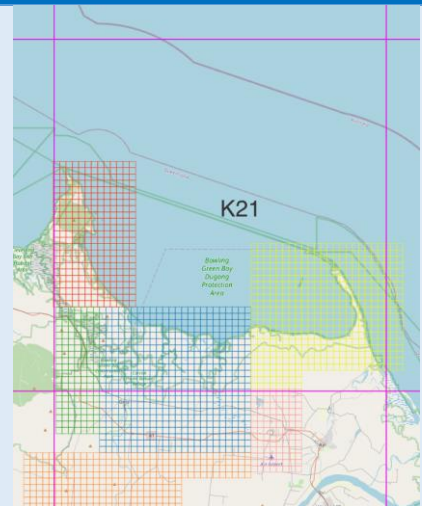
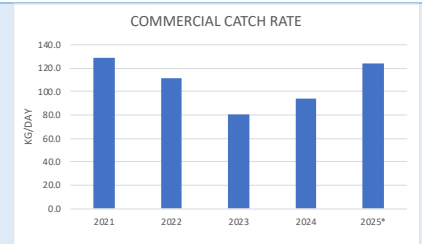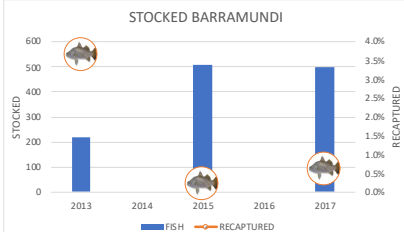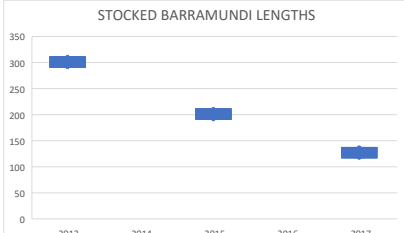| Commercial effort and catch Net fishery (all) Days Catch (tonnes) 2021-2025	Year Days Catch 2021 252 32.51 2022 203 22.59 2023 352 28.4 2024 174 16.4 2025* 182 22.53 *incomplete	
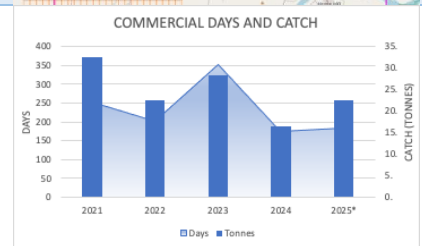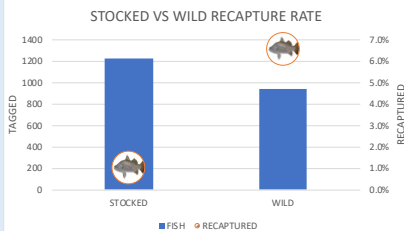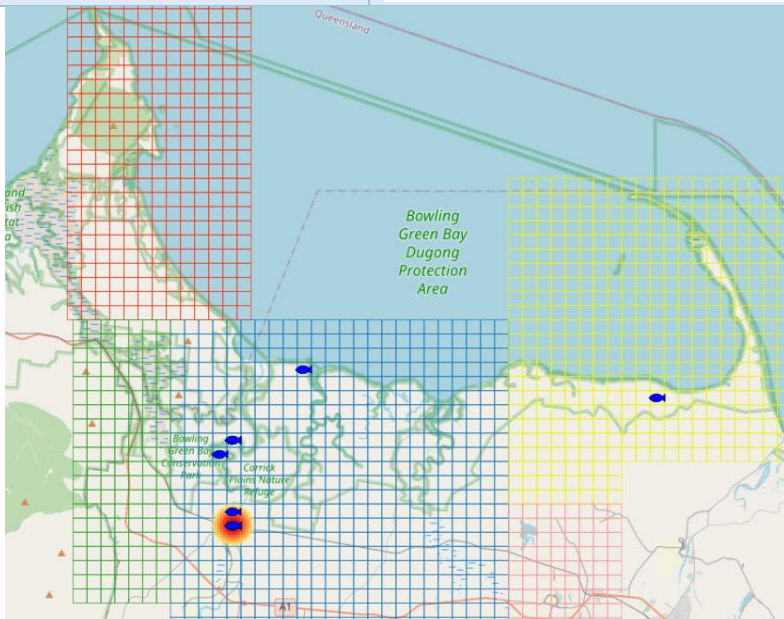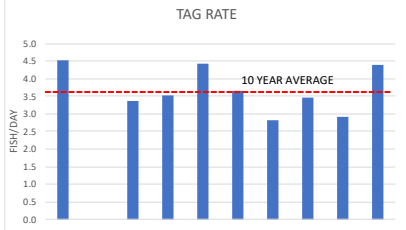
Commercial catch rate Kg/day	Year Kg/day 2021 129.0 2022 111.3 2023 80.7 2024 94.3 2025* 123.8 *Incomplete	

STOCKED FISH

BARRAMUNDI

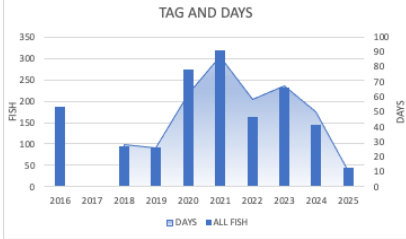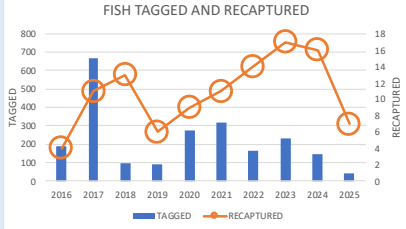| **Batch releases of tagged Barramundi 2013-2017**		Stocked	Recap	
	2013	220	8 (3.6%)	
	2015	506	1 (0.2%)	
	2017	500	3 (0.6%)	
	Total	1226	12 (1.0%)	

Batch released Barramundi Estimated average length 2013-2017		

Barramundi recapture rates Wild Stocked 2013-2025	Wild Tagged Recaptured Stocked Recaptured	947 62 (6.5%) 1226 12 (1.0%)	

Release location Giru weir (red-orange heatmap) Recaptured (blue fish) 2013-2017	

KEY SPECIES

BARRAMUNDI	BARRED JAVELIN	MANGROVE JACK

TAGGED AND TAG RATE

Tagging effort Days fished (429) Fish tagged (1548) (ex-stocked) 2016-2025	High Low Now Fish tagged 2021 2019 2025 318 92 44 Days fished 2021 2019 2025 87 26 10	
Fish tagged (inc-stocked) Recaptured 2016-2025	Tagged 2217 Recaptured 108 Recapture rate 4.9%	
Tag rate Fish tagged/day 2016-2025	High Low Now Tag rate 2016 2022 2025 4.5 2.8 4.4 10 year average 3.6	

SPECIES

Species tagged 2016-2025	Fish Tagged All fish 2217 Barramundi 1327 Barred Javelin 288 Mangrove Jack 88 Other species 384	
Percentage species tagged 2016-2025	Fish Percent Barramundi 60% Barred Javelin 13% Mangrove Jack 4% Other 23%	
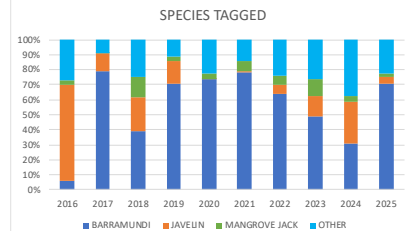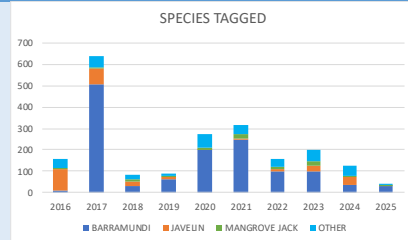
LOCATIONS		
All fish (ex-stocked) Tagged (red-orange heat map) Recaptured (blue fish) 2016-2025	Tagged Recaptured	1717 108
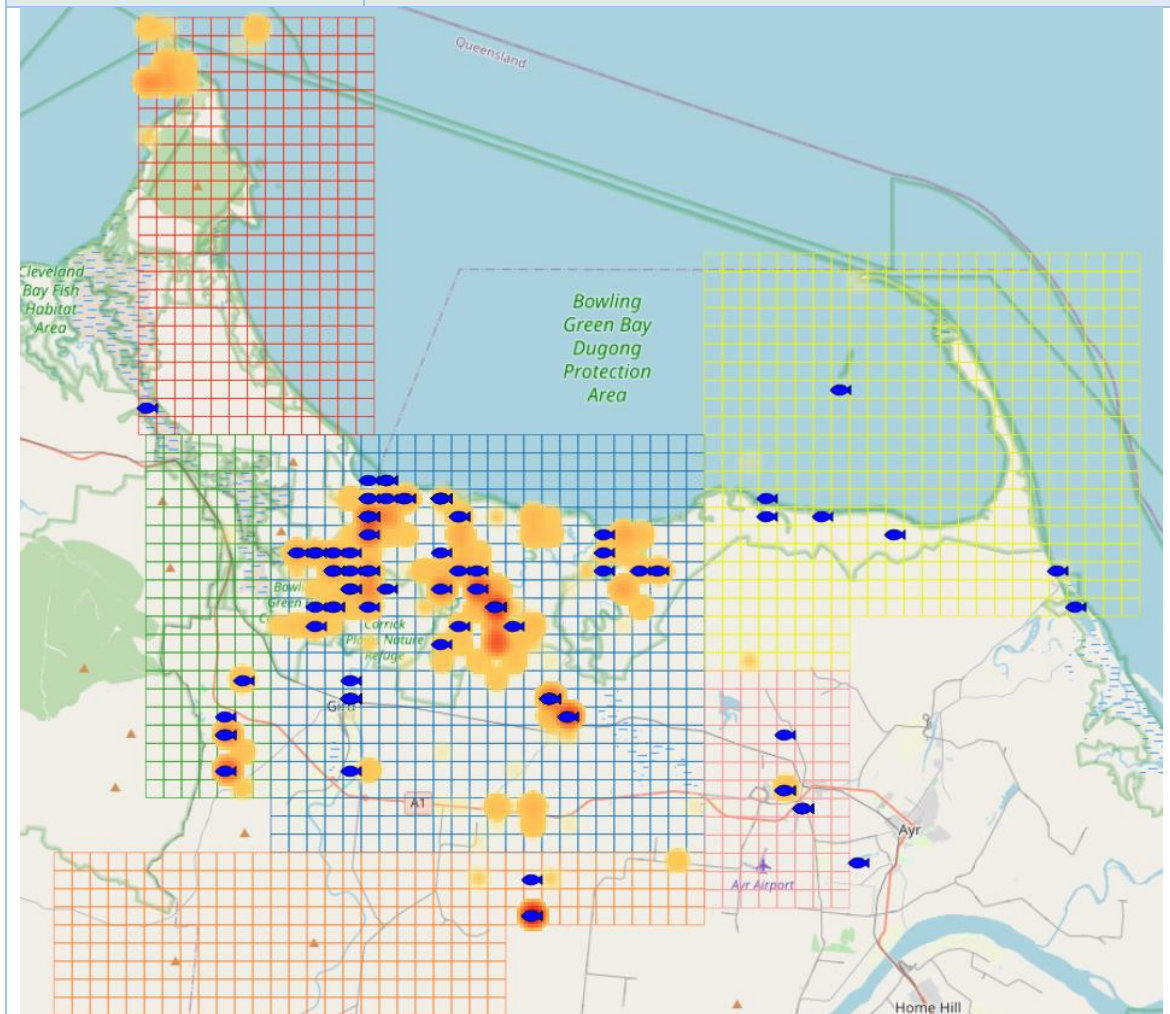
BARRAMUNDI

DATA RELIABILITY

Sample size (fish/year)	Reliability level	LOW		MODERATE	MODERATE		HIGH
Tagged (blue arrow)	Samples	10	41	68	271	384	664
Recaptures (orange arrow)	Confidence	80%	80%	90%	90%	95%	99%
Confidence %	Error	20%	10%	10%	5%	5%	5%
Error %							
2021-2025							

TAGGED AND TAG RATE

Barramundi tagged and recaptured
2016-2025

Tagged	1327
Recaptured	90
Recapture rate	6.8%
Tagged 2025	31

BARRAMUNDI TAGGED AND RECAPTURED
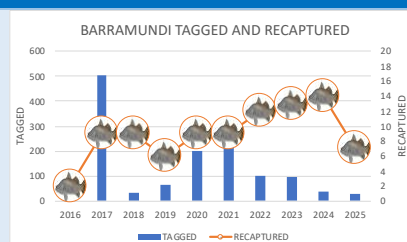
Tag rate
Barramundi
Fish/day
2016-2025

	High	Low	Now
	Tag rate		
	2020	2024	2025
	3.2	0.8	3.1
	10 year average		1.9
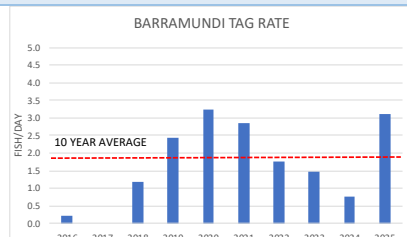
BARRAMUNDI TAG RATE

LENGTHS

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

	High	Low	Now
	Average length		
	2018	2019	2025
	573	414	490
	Largest		
	2018	2022	2025
	1140	810	660

BARRAMUNDI LENGTHS (MM)
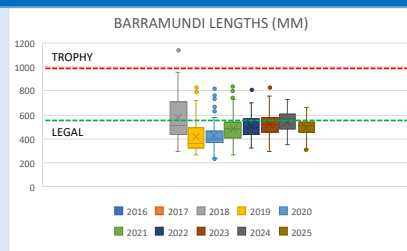
Fish lengths percentage
Undersize <580mm
Legal 580-1000mm
Trophy 1000+mm
2016-2025

	High	Low	Now
	Legal		
	2018	2020	2025
	36%	6%	10%
	Trophy		
	2018	19-24	2025
	3%	0%	0%

BARRAMUNDI LENGTHS
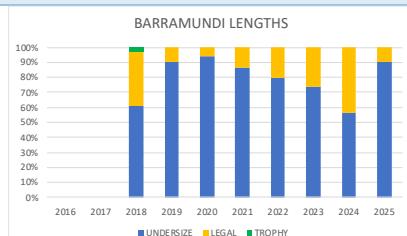
FATE

Legal Barramundi recaptures kept and released by recfishers Barra season only (ex-taggers) 2016-2025	Recaptures Kept Released	39 28 (72%) 11 (28%)	RECAPTURED LEGAL BARRAMUNDI FATE
Legal Barramundi recaptures kept and released by recfishers Barra season only 2016-2020 2021-2205	2016-2020 2021-2025	Kept 15 (58%) 28 (72%)	RECAPTURED LEGAL BARRAMUNDI FATE
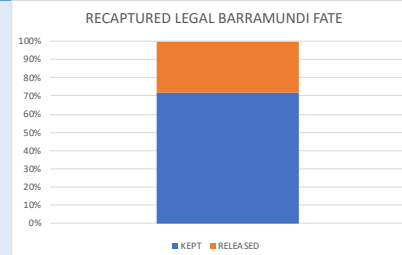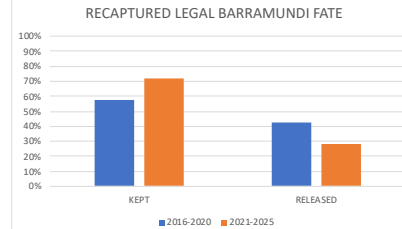
LOCATIONS		
Barramundi (ex-stocked) Tagged (red-orange heat map) Recaptured (blue fish) 2016-2025	Tagged Recaptured	827 88

BARRED JAVELIN

DATA RELIABILITY

Sample size (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

Barred Javelin
Tagged
Recaptured
2016-2025
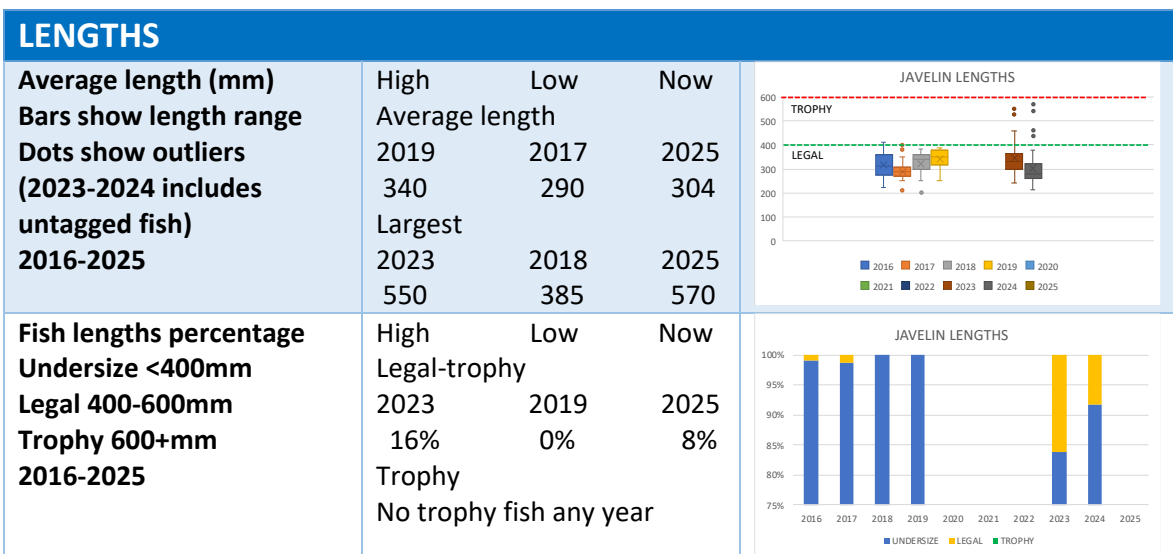
Tagged	288
Recaptured	1
Recapture rate	0.3%
Tagged 2025	2

BARRED JAVELIN TAGGED AND RECAPTURED

LENGTHS

Average length (mm)
Bars show length range
Dots show outliers
(2023-2024 includes untagged fish)
2016-2025

	High	Low	Now
Average length			
	2019	2017	2025
	340	290	304
Largest			
	2023	2018	2025
	550	385	570

JAVELIN LENGTHS

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

	High	Low	Now
Legal-trophy			
	2023	2019	2025
	16%	0%	8%
Trophy			
No trophy fish any year			

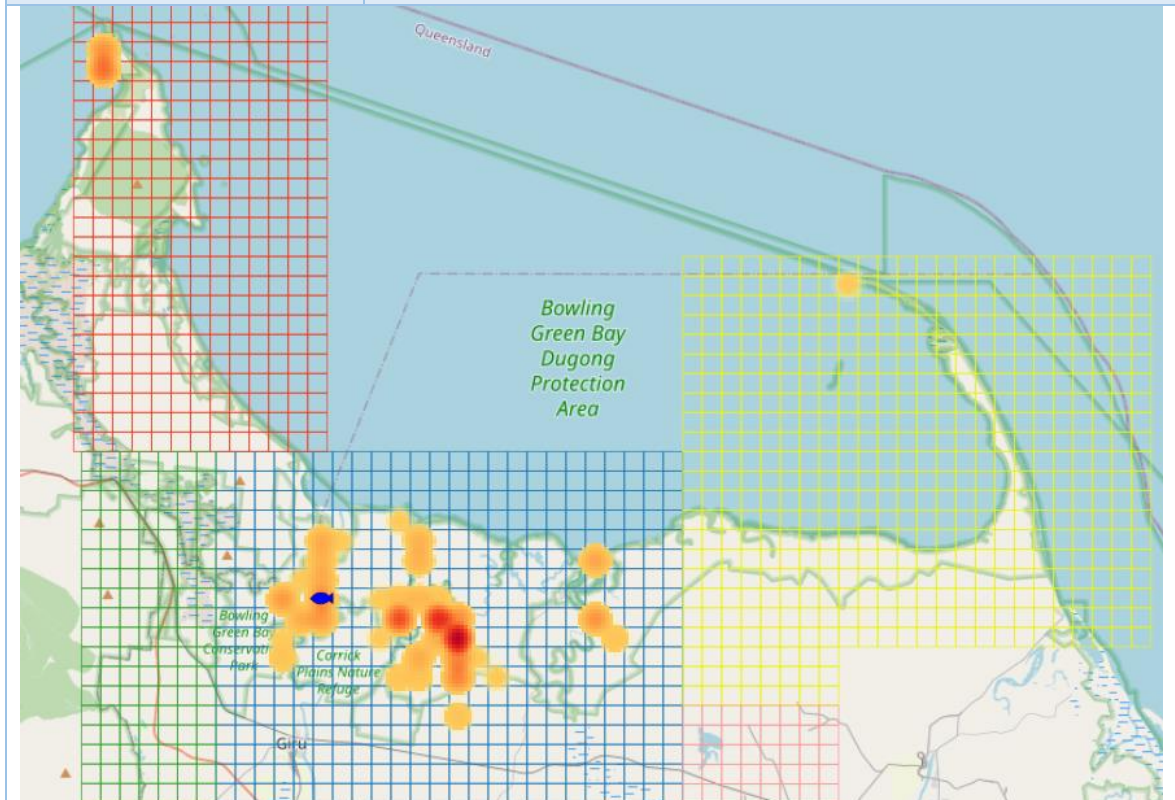JAVELIN LENGTHS

LOCATIONS		
Barred Javelin Tagged (red-orange heat map) Recaptured (blue fish) 2016-2025	Tagged Recaptured	288 1

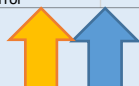# MANGROVE JACK

DATA RELIABILITY

Sample size (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

Mangrove Jack
Tagged
Recaptured
2016-2025

Tagged	88
Recaptured	4
Recapture rate	4.5%
Tagged 2025	1
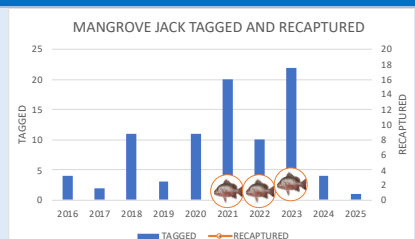
MANGROVE JACK TAGGED AND RECAPTURED

LENGTHS

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

	High	Low	Now
Average length			
	2021	2015	2025
	347	296	NA
Largest			
	2021	2015	2025
	475	345	NA

MANGROVE JACK LENGTHS
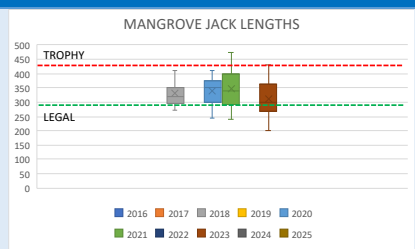
Fish lengths percentage
Undersize <350mm
Legal 350-500mm
Trophy 500+mm
2016-2025

	High	Low	Now
Legal-trophy			
	2020	2015	2025
	55%	0%	NA
Trophy			
No trophy fish any year			

MANGROVE JACK LENGTHS
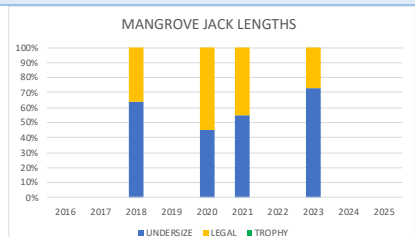
LOCATIONS

Mangrove Jack Tagged (red-orange heat map) Recaptured (blue fish) 2016-2025	Tagged	88
	Recaptured	4
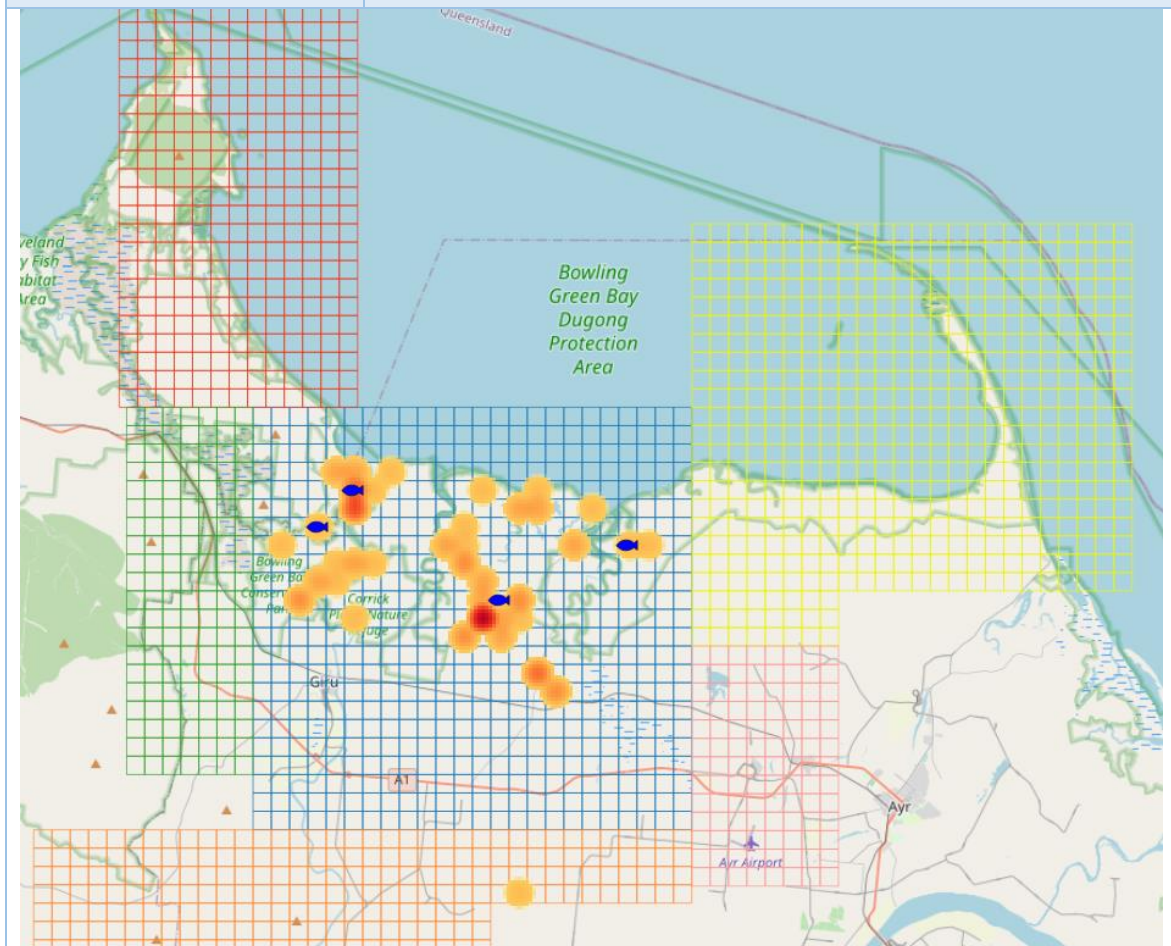
Data sources

Data used in the Bowling Green Bay Crystal Bowl are:
- Tag records and recapture records for the area at http://crystalbowl.infofishaustralia.com.au/.
- Haughton River flow data from station 119003A at Powerline from https://water-monitoring.information.qld.gov.au/.
- Rainfall data from Powerline TM Station 033280 and temperature data from Ayr DPI Research Station 033002 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/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 Barred Javelin are <400mm, legal-trophy fish are >=400 and <600mm and trophy fish are >=600mm.
- Undersized Mangrove Jack are <350mm, legal-trophy fish are >=350 and <5600mm and trophy fish are >=500mm.
- Locations based on Infofish grid maps BGB, MCT, CRM, BGC, BRN, UHR 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 <80km, intrastate Qld elsewhere, interstate other than Qld.