



LAKE AWOONGA REVIEW JUNE 2025

INFORMATION RATING



Stocking group: Gladstone Area Water Board

Species stocked: Barramundi, Mangrove Jack, Sea Mullet

Stocking timeframe: 2016-2025

Fish timeframe: 2016-2025 Jan-Jun

Fisher timeframe: 2021-2025 Jan-Jun

GAWB link: <https://www.gawb.qld.gov.au/community-recreation/fishing-at-lake-awoonga/>

Lake Awoonga is regularly stocked with Barramundi and sometimes Mangrove Jack and Mullet by the Gladstone Area Water Board.

Based on recaptures Awoonga is both a local and visitor fishery attracting fishers from SEQ, NSW, Vic and even a fisher from WA and South Africa in 2024. Fishers are most active at the start and end of the year with a quiet period over the winter months when the fish are more difficult to catch. It is primarily an experiential fishery with a low harvest level and supports fishing tour operators.

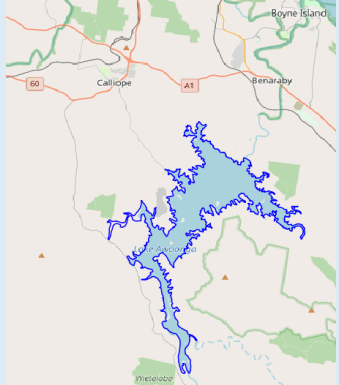

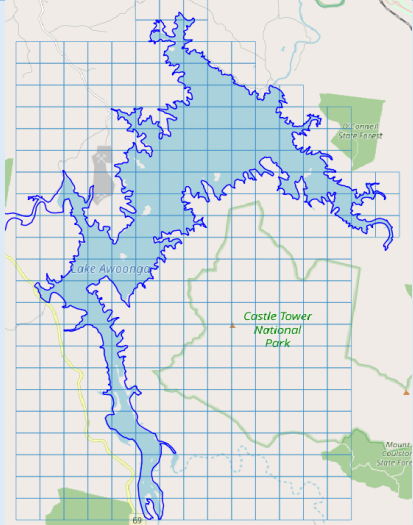
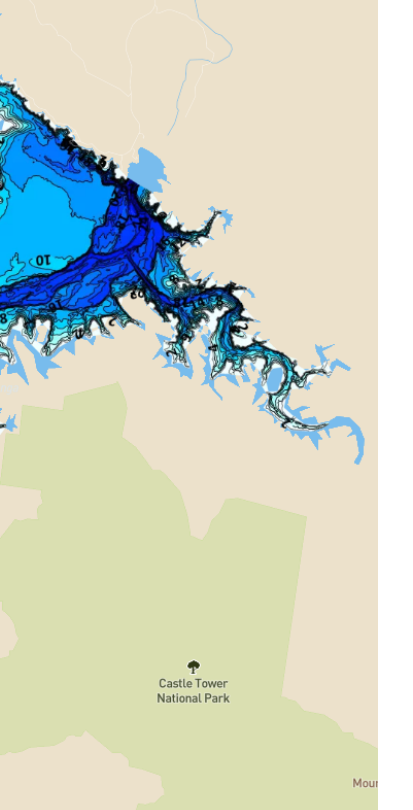
The lake spilled in 2011 with an estimated 30,000 large Barramundi ending up in the Boyne River, Gladstone Harbour, Calliope River and beyond having a major impact on the Gladstone Harbour fishery (refer to 2024 dashboard).

The lake last spilled in Apr and Nov 2017. There was no estimate available for the number of fish that left the lake however numbers were less than in 2011. Following the spilling there were 45 recaptures up to 2.6 years later caught in the Boyne River up to 10km below the dam and 1 fish caught in Eurimbula Creek 92km from the dam down the Boyne River then south along the coast in 2023.

There was a reduction in fishing activity in 2022 and 2023 with fewer recaptures and competition catch rates were reduced. Contributing to this was a reduction in the stock level due to no restocking from 2020-2022 while the new hatchery was being established at the lake. However competition catch rates improved in 2024 aided by the use of live scope sounder technology.

Since the new hatchery there have been 2.07M Barramundi fingerlings released from 2022-Mar 2024. These are now a catchable/taggable size and the fishery should once again attract fishers from a wide range although current fishing activity is dominated by locals, based on recaptures.

An assessment of visual fish health based on fins and skin and handling based on bleeding and scale loss using photos has been added. While there were minor health and handling issues there were very low instances of major issues.

LAKE AWOONGA		LOCATION
	<p>Lake Awoonga</p> <p>24.09°S</p> <p>151.29°E</p>	
LAKE		
<p>Grid map</p> <p>Lake Awoonga GLA</p> <p>Surface area 67.5km²</p>		
<p>Lake Awoonga</p> <p>Bathymetry</p>		

ENVIRONMENTAL

Awoonga

Mean monthly rainfall
(mm)

Mean monthly air
temperature (oC)

Rainfall

Feb

Temperature

Jan

Feb

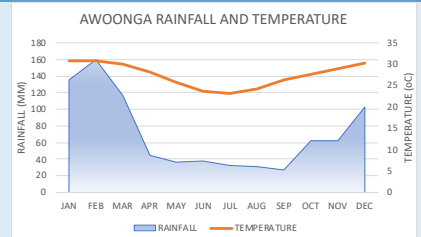
Max (mm)

159

Max (oC)

31

31



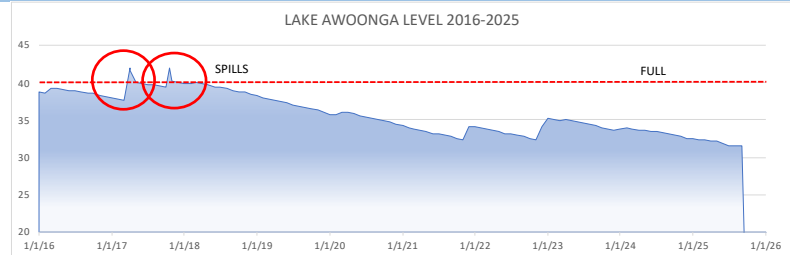
Lake level

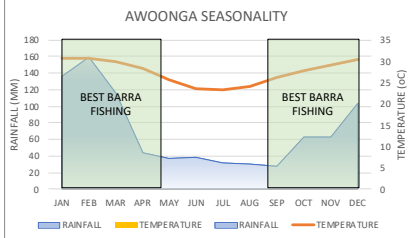
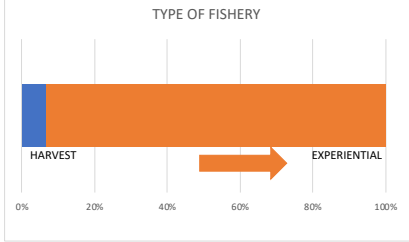
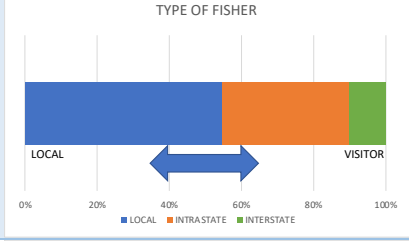
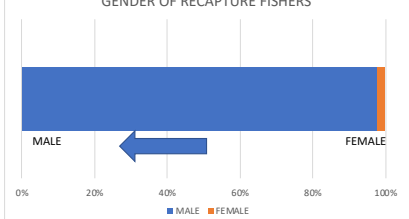
2016-2025

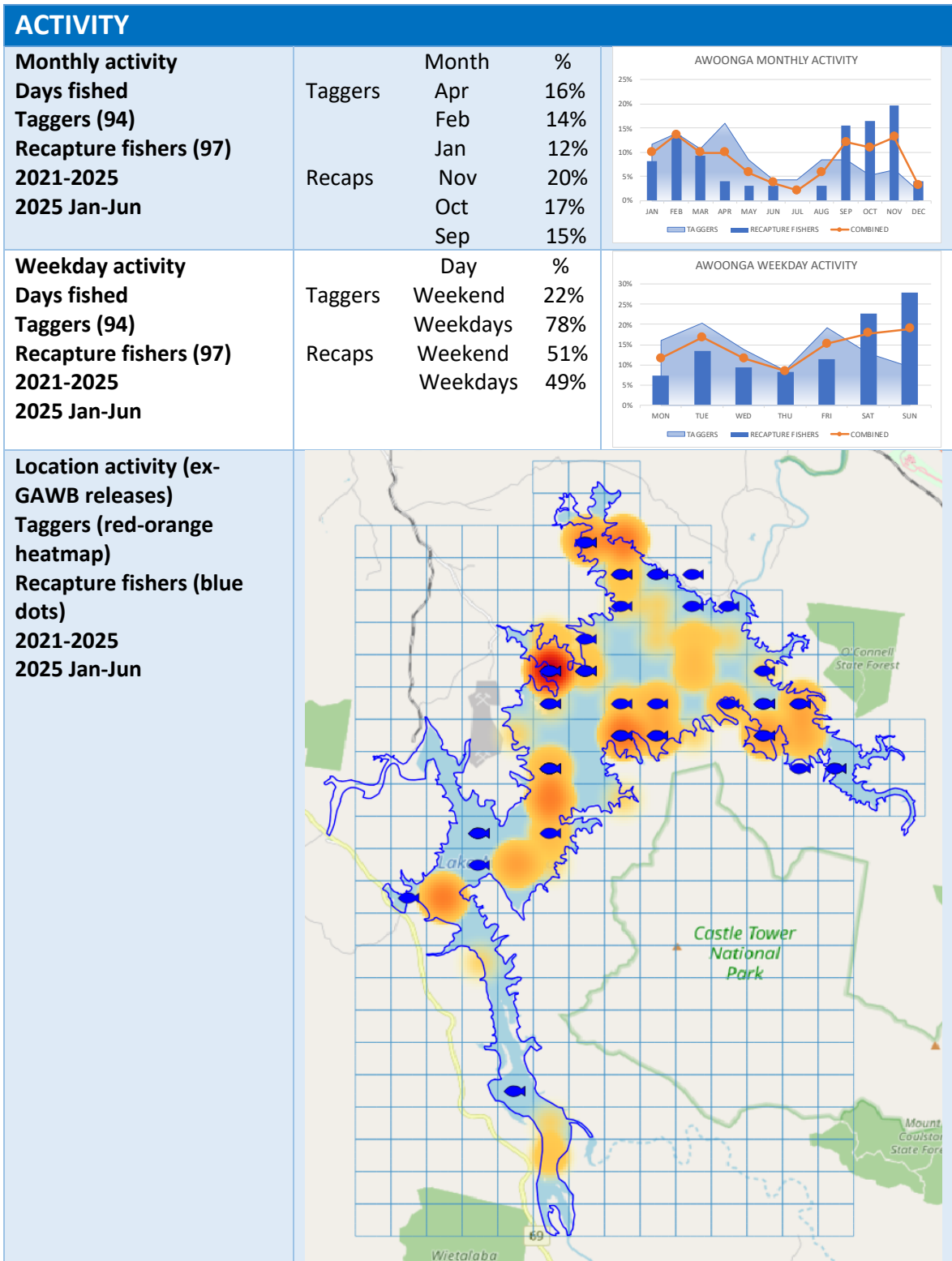
Lake spilled

2017 Mar

2017 Oct

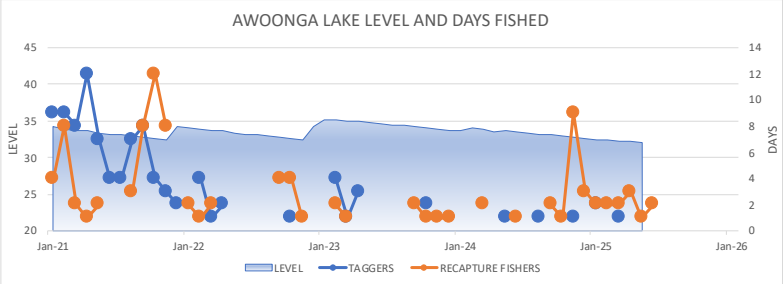


FISHERS																													
DATA RELIABILITY																													
Sample size (days fished)	<table><tr><td>Reliability level</td><td>LOW</td><td>MODERATE</td><td>MODERATE</td><td></td><td>HIGH</td></tr><tr><td>Samples</td><td>10</td><td>41</td><td>68</td><td>271</td><td>384</td><td>664</td></tr><tr><td>Confidence</td><td>80%</td><td>80%</td><td>90%</td><td>90%</td><td>95%</td><td>99%</td></tr><tr><td>Error</td><td>20%</td><td>10%</td><td>10%</td><td>5%</td><td>5%</td><td>5%</td></tr></table>		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%
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Tag days (blue arrow)																													
Recaptures (orange arrow)																													
Confidence %																													
Error %																													
2021-2025																													
TYPE OF FISHERY																													
Barramundi fishing times	Best Months																												
Best months	Jan-Apr																												
Mean rainfall (mm)	Sep-Dec																												
Mean day temperature (oC)																													
																													
Seasonality	Months most effort																												
Mean monthly air temperature (oC)	Fishers																												
Days fished combined	Jan-Apr																												
Taggers	Sep-Nov																												
Recapture fishers																													
2021-2025																													
2025 Jan-Jun																													
Harvest or experiential fishery	Legal Barramundi fate																												
Release rate of recaptured legal fish (ex-taggers)	Legal fish 77																												
2021-2025	Kept 5 (6%)																												
2025 Jan-Jun	Released 72 (94%)																												
																													
Local or visitor fishery	Recapture fishers 88																												
Where recapture fishers live	Local 48 (55%)																												
2021-2025	Visitor 40 (45%)																												
2025 Jan-Jun																													
																													
Gender of recapture fishers (ex-taggers)	Recapture fishers 83																												
2021-2025	Male 81 (98%)																												
2025 Jan-Jun	Female 2 (2%)																												
																													

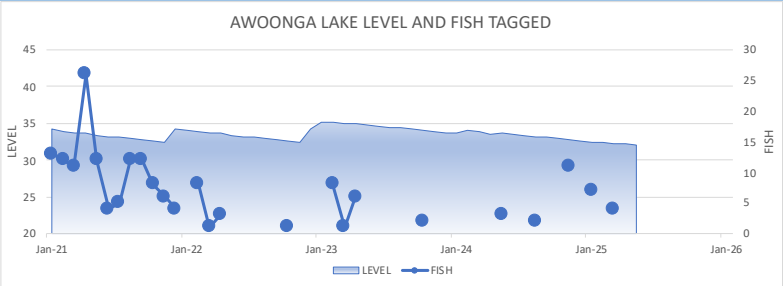


EFFORT

Lake level (height) and days fished
Taggers
Recapture fishers
2021-2025
2025 Jan-Jun

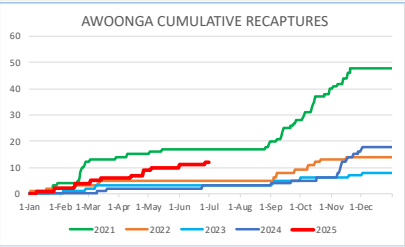


Lake level (height) and fish tagged
2021-2025
2025 Jan-Jun



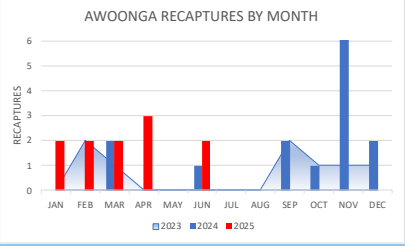
Cumulative recaptures
2021-2025
2025 Jan-Jun

Year	Recaps
2021	48
2022	14
2023	8
2024	18
2025 Jan-Jun	12



Recaptures by month
2023-2025
2025 Jan-Jun

Month	2023	2024	2025
JAN	2	2	2
FEB	2	2	2
MAR	2	2	2
APR	2	2	3
MAY	2	2	2
JUN	2	2	2
JUL	2	2	2
AUG	2	2	2
SEP	2	2	2
OCT	2	2	2
NOV	2	2	2
DEC	2	2	2

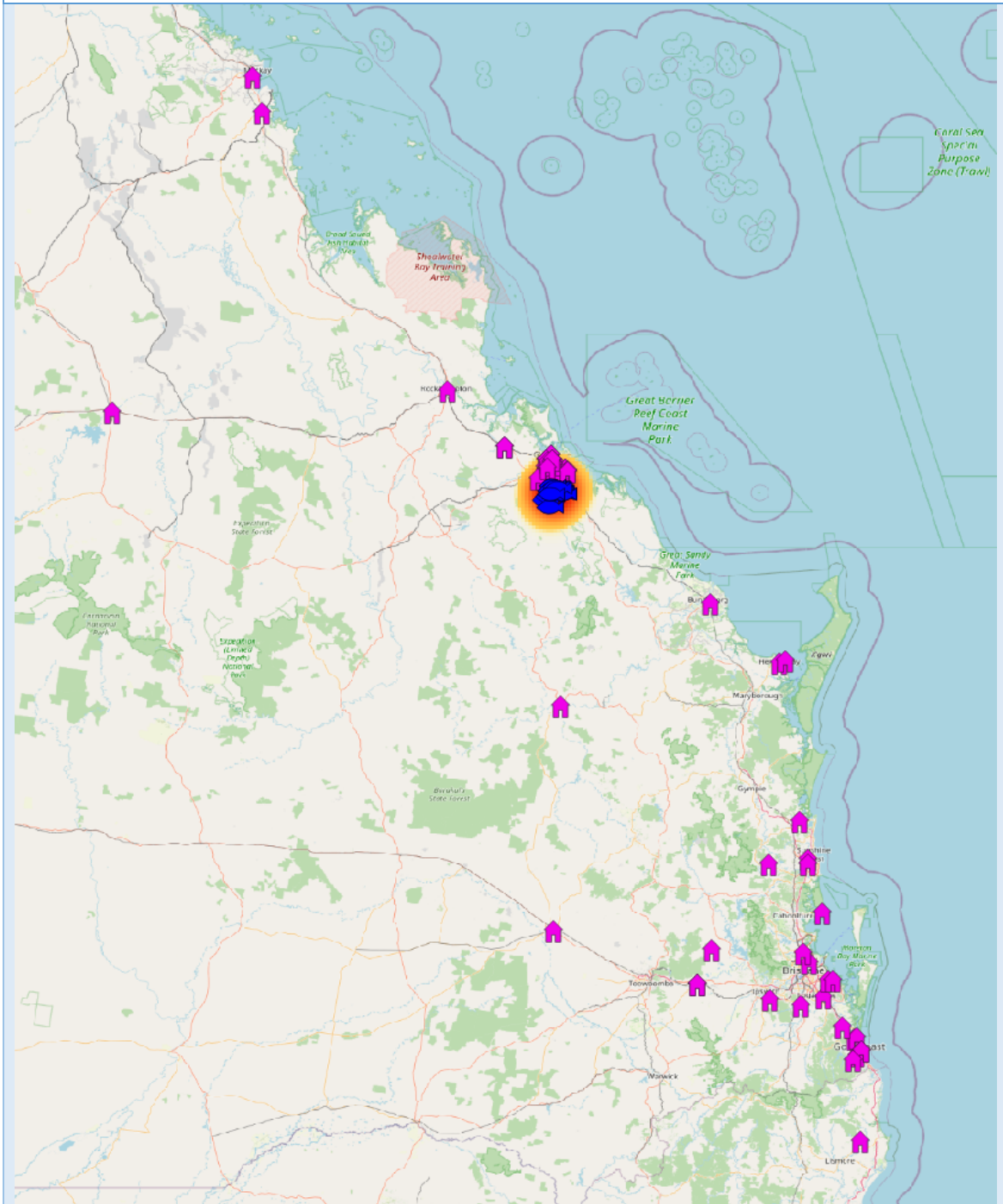


TRAVEL		
Cumulative distance fisher's home to recapture location 2021-2025 2025 Jan-Jun	2021	Distance (km) 9216
	2022	2616
	2023	2203
	2024	9628
	2025 Jan-Jun	764
Proxy distance each year from fisher's home to recapture location 2021-2025 2025 Jan-Jun		
Proxy distance from fisher's home to recapture location 2021-2025 2025 Jan-Jun	Trips	88
	Local	Range (km) 8-54
	Intrastate	114-490
	Interstate	553-3561
Proxy average distance from fisher's home to recapture location 2021-2025 2025 Jan-Jun	Trips	88
	Local	Average (km) 23
	Intrastate	362
	Interstate	1366

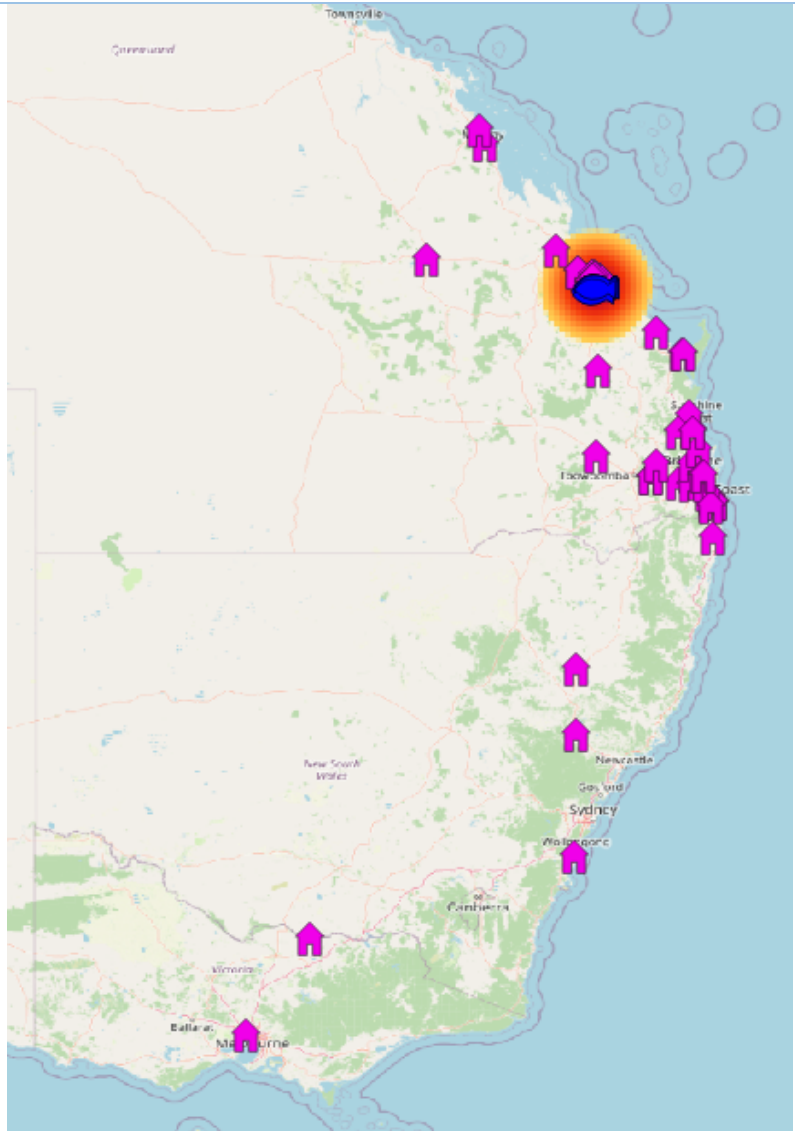
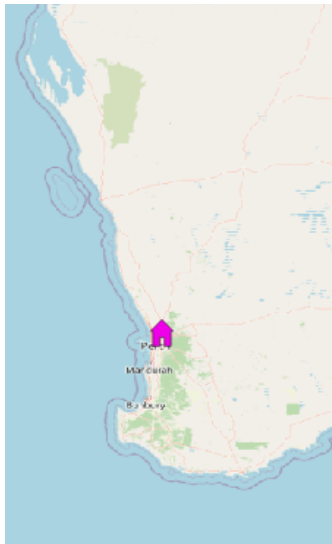
Local
Intrastate
2021-2025
2025 Jan-Jun


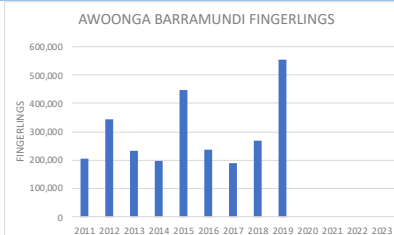
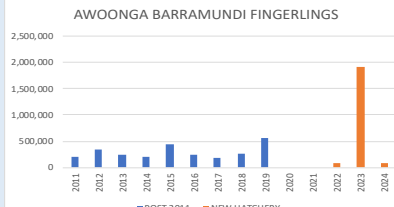
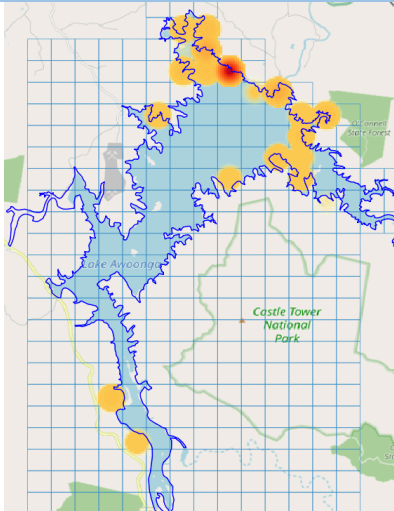
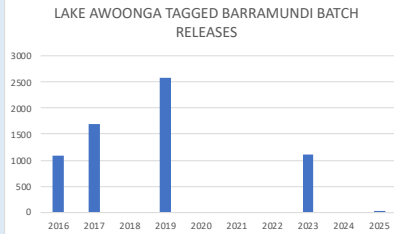
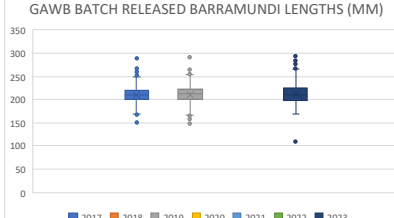
Intrastate

2025 Jan-Jun



Where fishers recapturing
fish live (pink houses)
Intrastate
Interstate
South Africa (1) not shown
2021-2025
2025 Jan-Jun



FISH																										
BARRAMUNDI																										
																										
STOCKING																										
Fingerlings stocked 2011-2024	Barramundi fingerlings 2011-2019 2,683,000																									
Fingerlings stocked 2011-2019 (after dam spilled in 2011) 2022-2024 (new hatchery)	Barramundi fingerlings 2011-2019 2,683,000 2022-2024 2,074,000																									
Locations where fingerlings released 2023-2024	<table><thead><tr><th></th><th>Fingerlings</th><th>Size (mm)</th></tr></thead><tbody><tr><td>2023</td><td></td><td></td></tr><tr><td>Mar</td><td>867,334</td><td>25-80</td></tr><tr><td>Aug</td><td>21,600</td><td>65</td></tr><tr><td>Nov</td><td>849,336</td><td>35-60</td></tr><tr><td>Dec</td><td>186,900</td><td>35-60</td></tr><tr><td>2024</td><td></td><td></td></tr><tr><td>Mar</td><td>83,423</td><td>45-50</td></tr></tbody></table>		Fingerlings	Size (mm)	2023			Mar	867,334	25-80	Aug	21,600	65	Nov	849,336	35-60	Dec	186,900	35-60	2024			Mar	83,423	45-50	
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Batch releases of tagged fish 2016-2023	<table><tbody><tr><td>Total tagged</td><td>6470</td></tr><tr><td>2016</td><td>1086</td></tr><tr><td>2017</td><td>1696</td></tr><tr><td>2019</td><td>2579</td></tr><tr><td>2023</td><td>1109</td></tr></tbody></table>	Total tagged	6470	2016	1086	2017	1696	2019	2579	2023	1109															
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Average fish lengths (mm) tagged fish on release Bars show length range Dots show outliers 2014-2023	<table><tbody><tr><td>Year</td><td>Average length</td></tr><tr><td>2017</td><td>211</td></tr><tr><td>2019</td><td>211</td></tr><tr><td>2023</td><td>213</td></tr></tbody></table>	Year	Average length	2017	211	2019	211	2023	213																	
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2019	211																									
2023	213																									

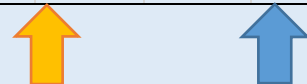
BARRAMUNDI



DATA RELIABILITY

Sample size (fish stocked)
Tags (blue arrow)
Recaptures (orange arrow)
Confidence %
Error %
2021-2025

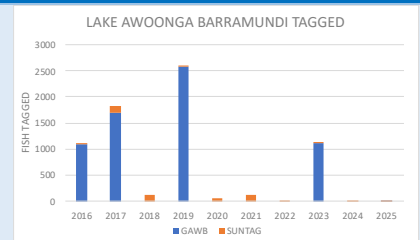
Reliability level	LOW	MODERATE	MODERATE	HIGH
Samples	10	41	68	271
Confidence	80%	80%	90%	95%
Error	20%	10%	5%	5%



TAGGED

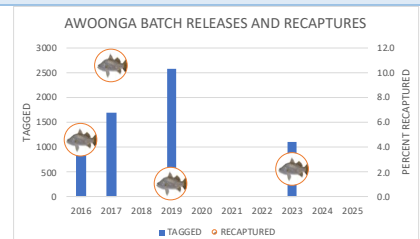
GAWB batch release
Suntag
Fish tagged
Recaptured
2016-2025
2025 Jan-Jun

	Tagged	Recap
GAWB	6501	281 (4.3%)
Suntag	512	56 (10.9%)



Batch releases of tagged fish
Recaptures
2016-2025
2025 Jan-Jun

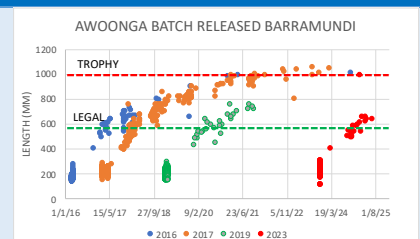
Year	Fish	Recaps
2016	1086	49 (4.5%)
2017	1696	179 (10.6%)
2019	2579	27 (1.0%)
2023	1109	24 (2.2%)



GROWTH

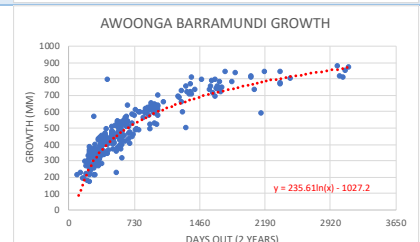
Timeline of fish sizes from batch releases to recapture
2016-2025
2025 Jan-Jun

Releases
2016
2017
2019
2023



Growth (mm) from combined releases
2016
2017
2019
2023

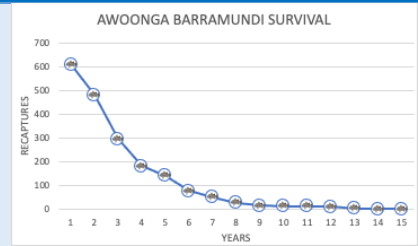
Growth at end of year (mm)
Year 1 363
Year 2 526
Year 5 742
Year 10 905



SURVIVAL

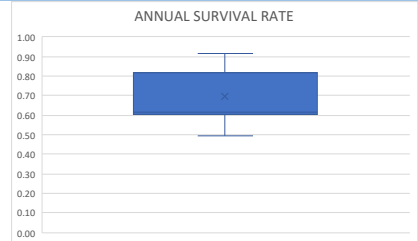
Barramundi survival based on recaptures by years out after tagging
All years

Year	Recaptures
1	634
5	150
10	12
15	0
Longest time out (years)	
13.1 years	



Annual rate of survival based on recaptures

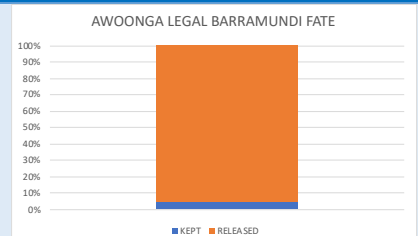
Average annual survival rate
0.69 (69%)



FATE

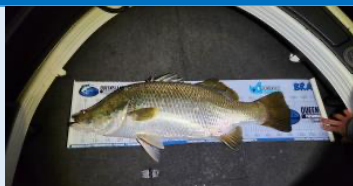
Legal Barramundi kept or released by recfishers (ex-taggers)
2016-2025
2025 Jan-Jun

Recaptures	
Released	177 (96%)
Kept	7 (4%)



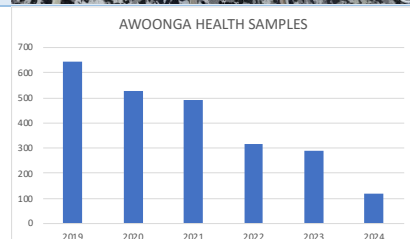
FISH CONDITION

Visual fish condition based on photos



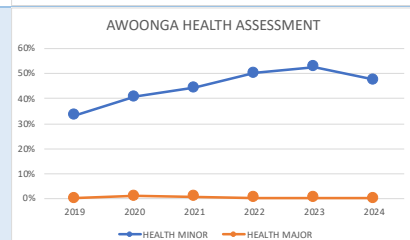
Fish health from photos
Fish images
2019-2024

High	Low	Now
2019	2023	2024
642	287	118
Total images 2384		



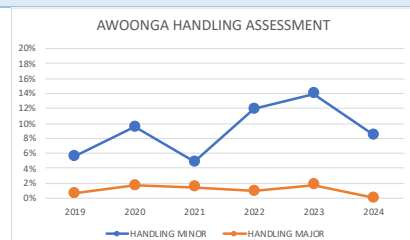
Fish health assessment
Fins/lesions and skin
condition
2019-2024

High	Low	Now
Minor	2019	2024
53%	33%	48%
Major	2020	2024
0.9%	0.3%	0%



Handling assessment
Bleeding and scale loss
2019-2024

High	Low	Now
Minor	2021	2024
14%	5%	8.5%
Major	2019	2024
1.7%	0.6%	0%

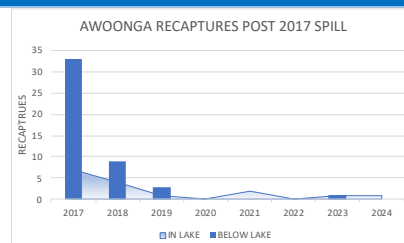


2017 LAKE SPILL

RECAPTURES

Fish tagged Awoonga before 2017 spills recaptured in lake and below lake 2017-2025

Recaps	In lake	Below
2017-2024	16	46
2017	7	33
2018	4	9
2019	1	3
2020	0	0
2021	2	0
2022	0	0
2023	0	1
2024	1	0
2025	0	0

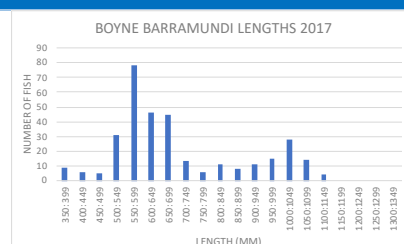


Longest time recaptured below 5.9 years

LENGTHS

Size range of Barramundi tagged in Boyne River below dam (fish that spilled from lake) 2017

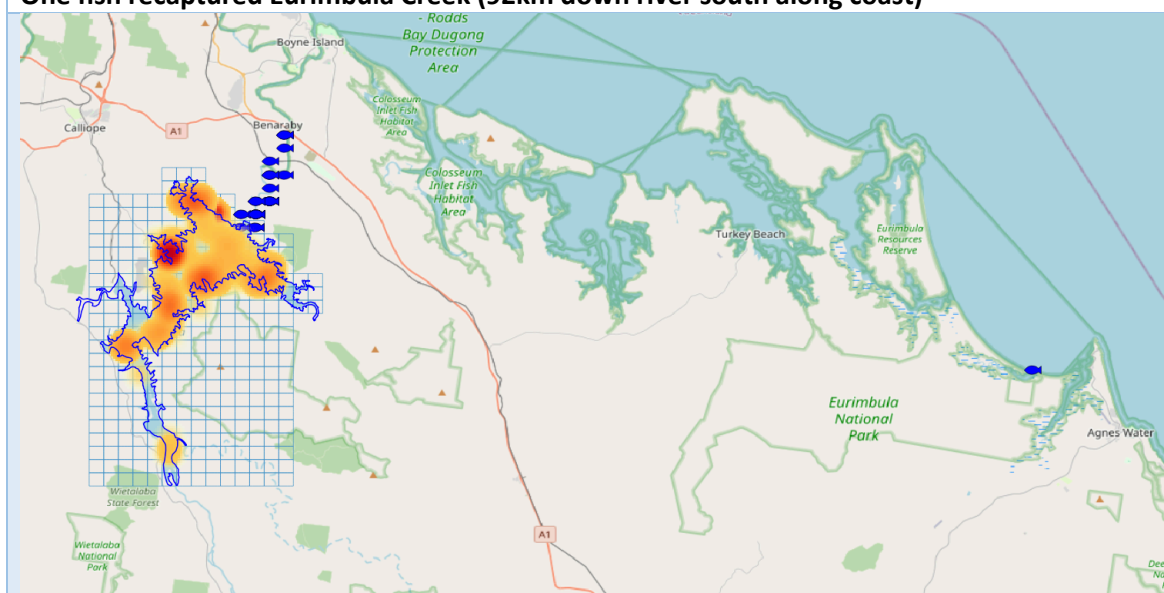
Tagged	331
Length 400:699mm	211
Length 800:1099mm	87

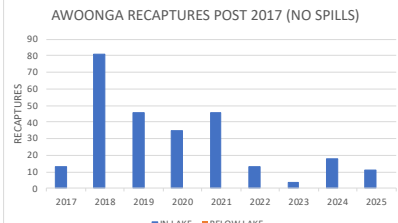
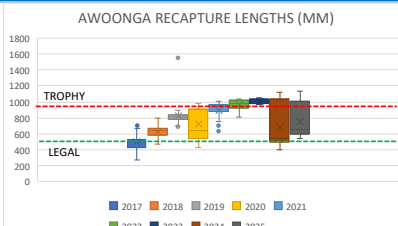
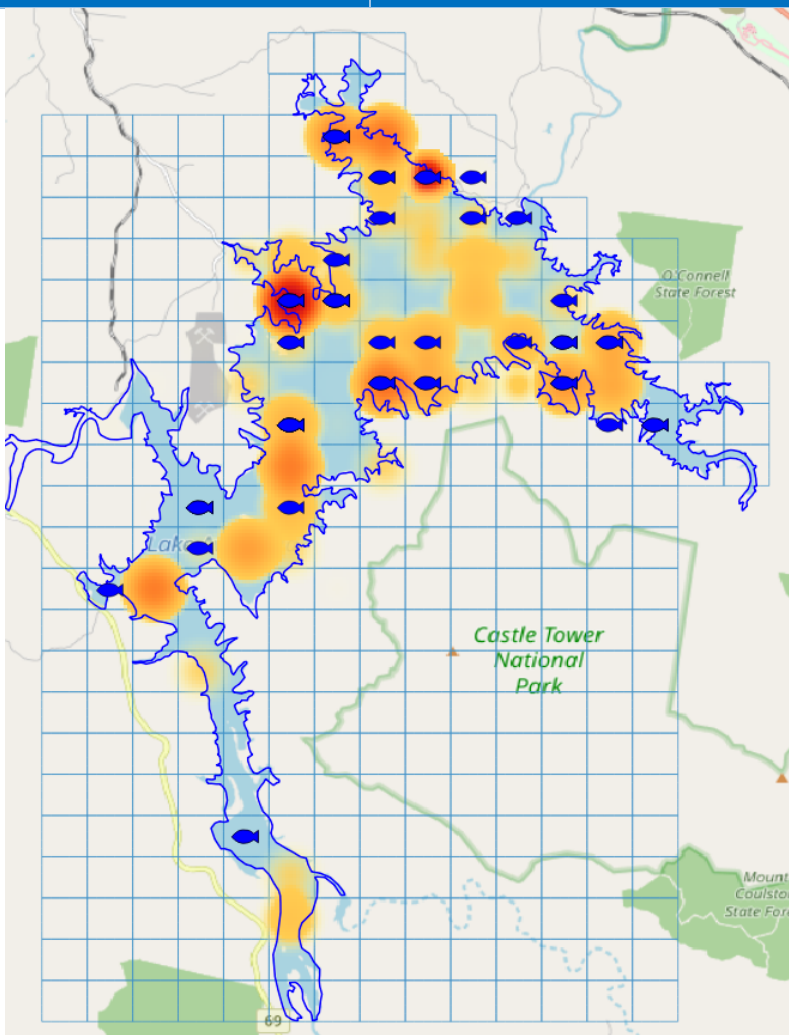


LOCATIONS

Recaptures after Apr and Nov 2017 spilling of lake (blue fish) 2017-2025

**Below dam wall down Boyne River (45 fish) as far as Benaraby (10km downstream from dam)
One fish recaptured Eurimbula Creek (92km down river south along coast)**



2017-2025			
RECAPTURES			
Fish tagged post 2017 recaptured in lake (no spills) 2017-2025 2025 Jan-Jun	Recaps	In lake	Below
	2017-2025	267	0
	<div>AWOONGA RECAPTURES POST 2017 (NO SPILLS)</div> 		
LENGTHS			
Recaptured fish lengths 2017-2025 2025 Jan-Jun	Average length (mm)		
	2017	491	
	2018	627	
	2019	820	
	2020	716	
	2021	898	
	2022	62	
	2023	1020	
	2024	693	
	2025	676	
	<div>AWOONGA RECAPTURE LENGTHS (MM)</div> 		
LOCATIONS			
Fish tagged (red-orange heatmap) Recaptured (blue fish) No spilling of lake from 2017-2025 2025 Jan-Jun			

ABT COMPETITIONS

Event
ABT tournaments
ABT 2020
ABT 2021
ABT 2022
ABT 2023
ABT 2024

Target species
Barramundi



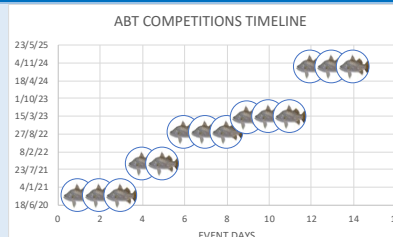
COMPETITION DATES

Timeline of events

ABT20
ABT21
ABT22
ABT23
ABT24

Dates

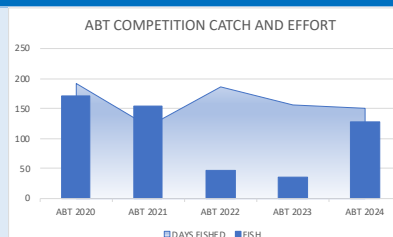
29/9-1/10/2020 (3 days)
13-14/9/2021 (2 days)
9-11/9/2022 (3 days)
24-26/2/2023 (3 days)
16-18/9/2024 (3 days)



EFFORT

Days fish and Barramundi catch
2020-2024

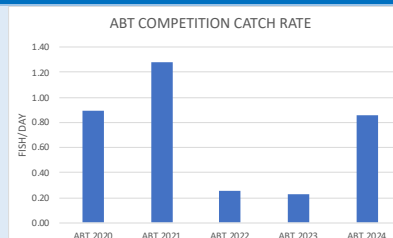
Event	Days	Fish
ABT20	192	172
ABT21	120	154
ABT22	186	47
ABT23	156	36
ABT24	150	128



CATCH RATES

Catch rates all fishers
Fish/day

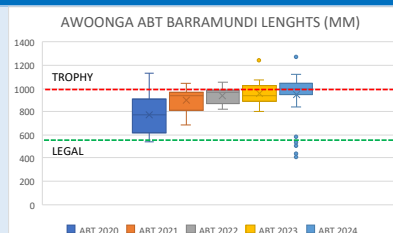
Event	Catch rate
ABT20	0.90
ABT21	1.28
ABT22	0.25
ABT23	0.23
ABT24	0.85



LENGTHS

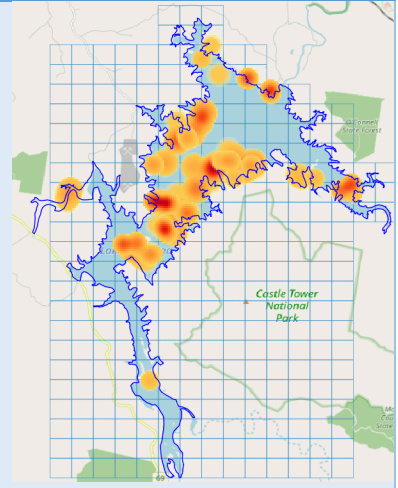
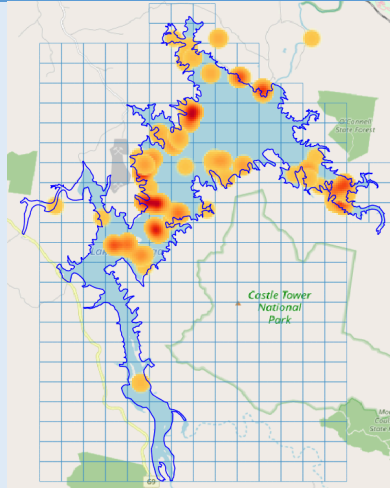
Barramundi lengths (mm)
Bars show length range
Dots show outliers

Event	Average	Max
ABT20	773	1130
ABT21	899	1040
ABT22	939	1050
ABT23	957	1240
ABT24	945	1270

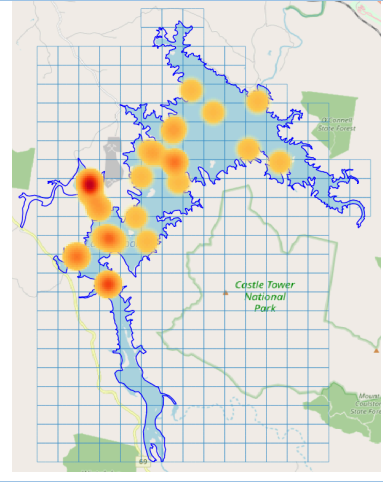
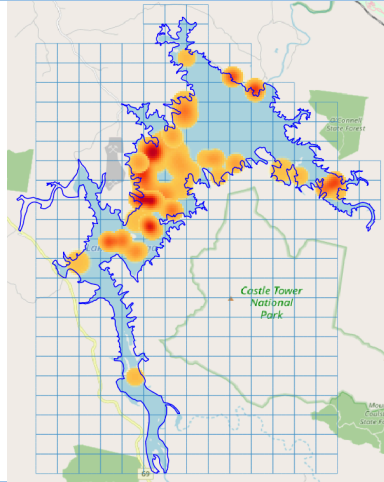


LOCATIONS

Heat map
Barramundi caught during
ABT competitions
ABT20 (middle)
ABT21 (right)



Heat map
Barramundi caught during
ABT competitions
ABT22 (middle)
ABT23 (right)



FFT COMPETITIONS

Event
Freshwater Fishing
Tournaments
FFT 2020
FFT 2022

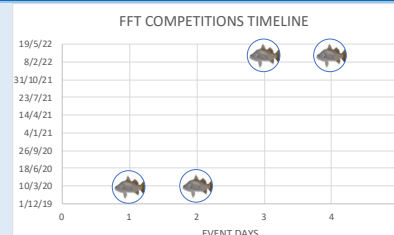
Target species
Barramundi



COMPETITION DATES

Timeline of events
FFT20
FFT22

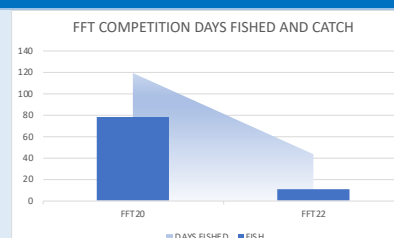
Dates
29/2-1/3/2020 (2 days)
10-11/3/2022 (2 days)



EFFORT

Days fish and Barramundi
catch
2020-2022

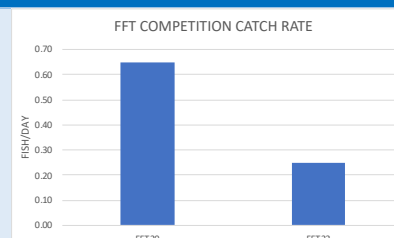
Event	Days	Fish
FFT20	120	78
FFT22	44	11



CATCH RATES

Catch rates all fishers
Fish/day

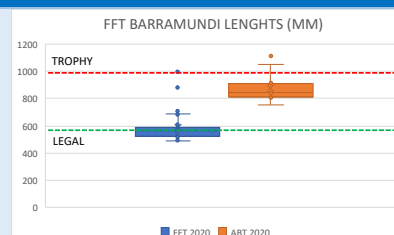
Event	Catch rate
FFT20	0.65
FFT22	0.25



LENGTHS

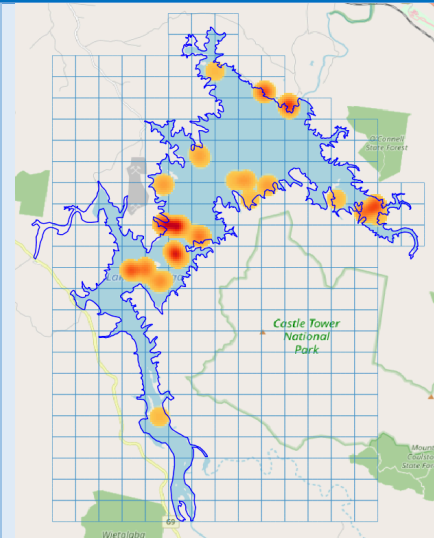
Barramundi lengths (mm)
Bars show length range
Dots show outliers

Event	Average	Max
FFT20	588	1000
FFT22	879	1115



LOCATIONS

Heat map
Barramundi caught during
FFT competitions
FFT20-FFT22



DATA SOURCES

Data used in the Awoonga Barramundi Crystal Bowl:

- Tag records and recapture records for Lake Awoonga at <http://crystalbowl.infofishaustralia.com.au/>
- Competition records from Infofish <http://tournaments.trackmy.fish/>
- Dam level data and stocked fish records from Gladstone Area Water Board
- Rainfall and temperature records for Station 039326 Gladstone Aero from <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 numbers of stocked fish tagged and recaptured over the past 5 years.
- Tag and recapture locations based on Infofish grid maps for the area with 1km² grids.
- Growth calculated using logarithmic trendline from recaptures where fish were out for 90 days or more and had positive growth.
- Distance from where fishers live to recapture location is the straight-line distance between locations derived using Google Earth. Local <60km, Intrastate >=60km and postcodes starting with 4, Interstate postcodes other than 4.
- Distance moved was calculated between the grids where fish were tagged and recaptured using Google Earth and was the shortest distance by water between the two locations.
- Images were assessed using the methods outlined in Sawynok W, Sawynok S and Dunlop A (2018), A visual fish condition index, Fisheries Research and Development Corporation report 2017-141.