

LAKE GLENLYON REVIEW JUNE 2025

INFORMATION RATING



Stocking group: Glenlyon Dam Fish Restocking Group

Species stocked: Murray Cod, Golden Perch, Silver Perch

Stocking timeframe: 2014-2023

Fish timeframe: 2016-2025 Jan-Jun

Fisher timeframe: 2021-2025 Jan-Jun

DAF link: <https://www.daf.qld.gov.au/rsa/sips-dams-and-weirs/profile?dam=glenlyon-dam>

Lake Glenlyon is regularly stocked by the local stocking group. From 2014-2023 there were 45,100 Murray Cod, 1.2 million Golden Perch and 65,000 Silver Perch fingerlings stocked. While 27 times more Golden Perch have been stocked than Murray Cod there has been 13 times more Murray Cod than Golden Perch tagged. For every 10,000 fingerlings stocked there have been 67 Murray Cod tagged compared to 5 Golden Perch. No Silver Perch have been tagged.

There are 2 parts to this fishery with Murray Cod mostly experiential while for Golden Perch it is mainly a harvest fishery. Previously Glenlyon was mostly a harvest fishery however has shifted towards an experiential fishery in the last few years, particularly for Murray Cod.

Based on where recapture fishers live Glenlyon is mainly fished by intrastate fishers from Brisbane and the Darling Downs, and interstate fishers from adjacent areas of northern NSW.

Tagging effort was down in 2020 and 2021 due to very low lake levels, restrictions from Covid-19 and a significant Salvinia infestation (gone when dam spilled in late 2021) and remained low in 2022 with the lake spilling for much of the year. Tagging effort has remained low since 2023.

While tagging effort has been low from 2020-2024 the data still provides useful trend information. The recapture rate of 28.6% for Murray Cod is the highest for any species in any lake however the harvest rate of recaptured legal fish has fallen to 17% which reduces the impact on the fish.

Fish tagged prior to the lake being at 3-4% from Oct 2019 – Feb 2020 that were recapture since then suggests a high survival rate of Murray Cod even at very low water levels. There have been 25 recaptures of Cod tagged before the low level and recaptured after while for Golden Perch just 2 fish have been recaptured. This suggests a lower survival rate of Golden Perch from this event.

LAKE GLENLYON



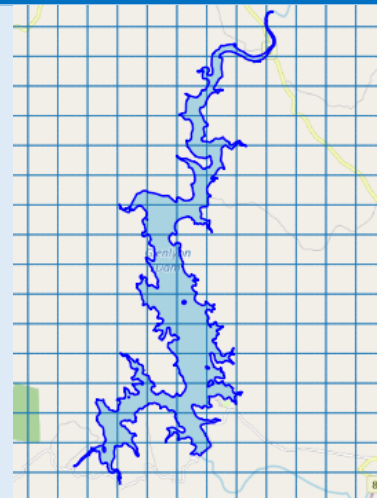
Lat 28.96°S
Lon 151.46°E

LOCATION

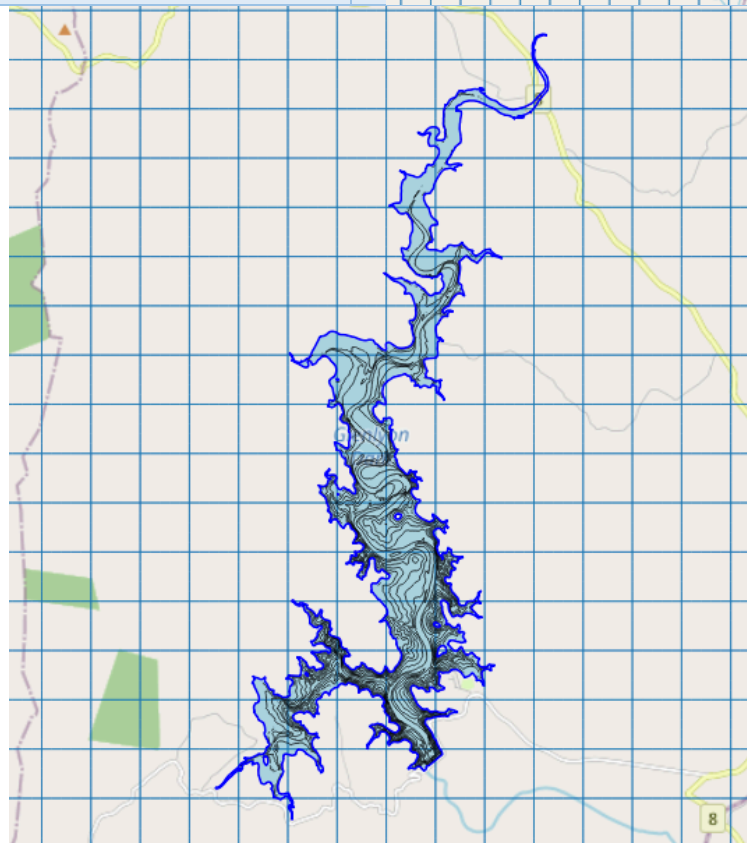


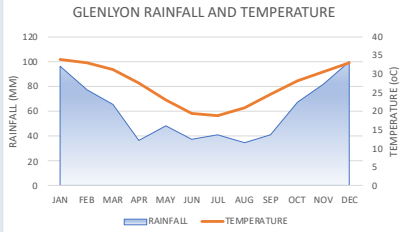
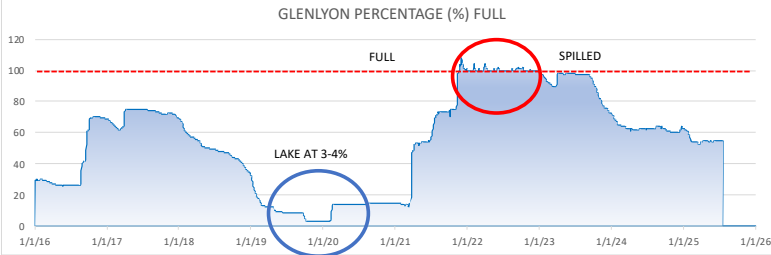
LAKE

Grid map
Lake Glenlyon LGP
Surface area 18.0km²

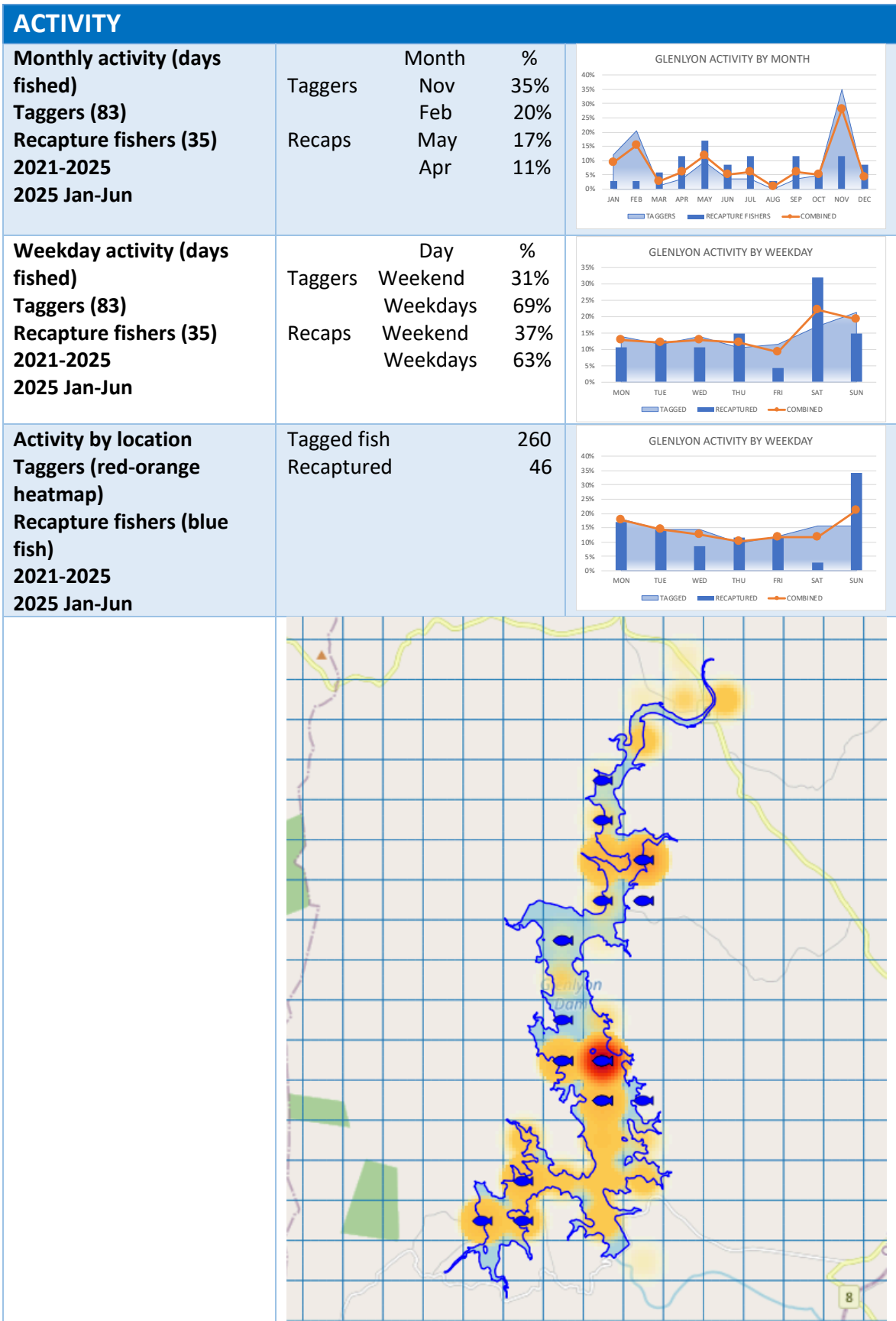


Bathymetry



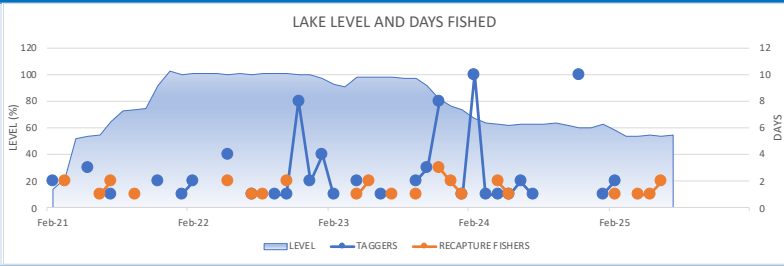
ENVIRONMENTAL	ACTUAL			GRAPH or MAP
Mean monthly rainfall (mm) Mean monthly air temperature (oC)	Rainfall	Month	mm	 <p>GLENLYON RAINFALL AND TEMPERATURE</p>
	Max	Dec	100	
		Jan	96	
	Temp	Month	oC	
	Max	Jan	34	
	Min	Jul	19	
Lake level 2016-2025	 <p>GLENLYON PERCENTAGE (%) FULL</p>			

FISHERS	ACTUAL	GRAPH or MAP																												
DATA RELIABILITY																														
Sample size (days fished) Tag days (blue arrow) Recaptures (orange arrow) Confidence % Error % 2021-2025	<table><tr><td>Reliability level</td><td>LOW</td><td colspan="2">MODERATE</td><td>MODERATE</td><td colspan="2">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> <div><div></div><div></div></div>	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%	
Reliability level	LOW	MODERATE		MODERATE	HIGH																									
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Confidence	80%	80%	90%	90%	95%	99%																								
Error	20%	10%	10%	5%	5%	5%																								
TYPE OF FISHERY																														
Seasonality Mean monthly rainfall (mm) Days fished combined Taggers Recapture fishers 2021-2025	Months most effort Most days Nov Feb	<div><div>GLENLYON SEASONALITY</div></div>																												
Harvest or experiential fishery Release rate of recaptured legal Murray Cod and Golden Perch 2021-2025 2025 Jan-Jun	Legal fish kept rate Legal Murray Cod 12 Kept 2 (17%) Legal Golden Perch 11 Kept 7 (64%)	<div><div>TYPE OF FISHERY</div></div>																												
Local or visitor fishery Where recapture fishers live 2021-2025 2025 Jan-Jun	Recapture fishers 34 Local 1 (3%) Visitor 33 (97%)	<div><div>TYPE OF FISHER</div></div>																												
Gender of recapture fishers 2021-2025 2025 Jan-Jun	Fishers 32 Female 2 (6%) Male 30 (94%)	<div><div>GENDER OF RECAPTURE FISHERS</div></div>																												

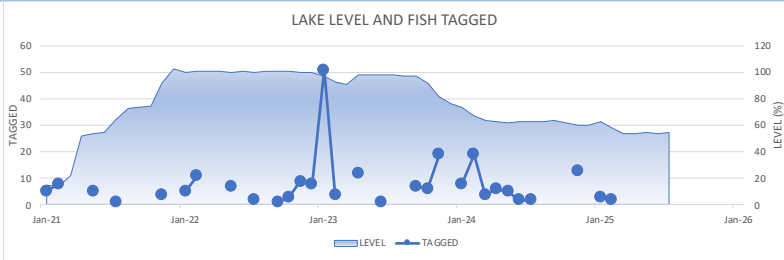


EFFORT

Lake level (%)
Days fished
Taggers
Recapture fishers
2021-2025
2025 Jan-Jun

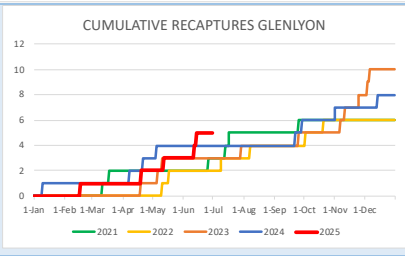


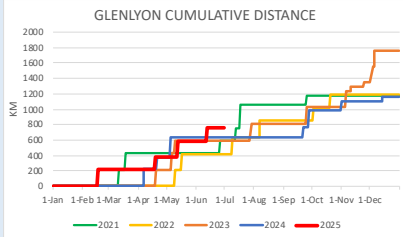
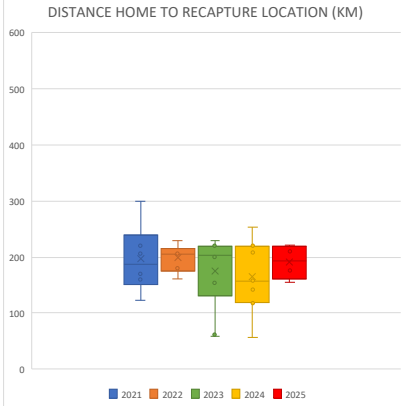
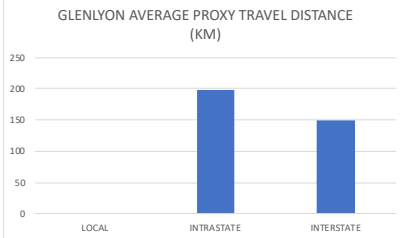
Lake level (%)
Fish tagged
2021-2025
2025 Jan-Jun



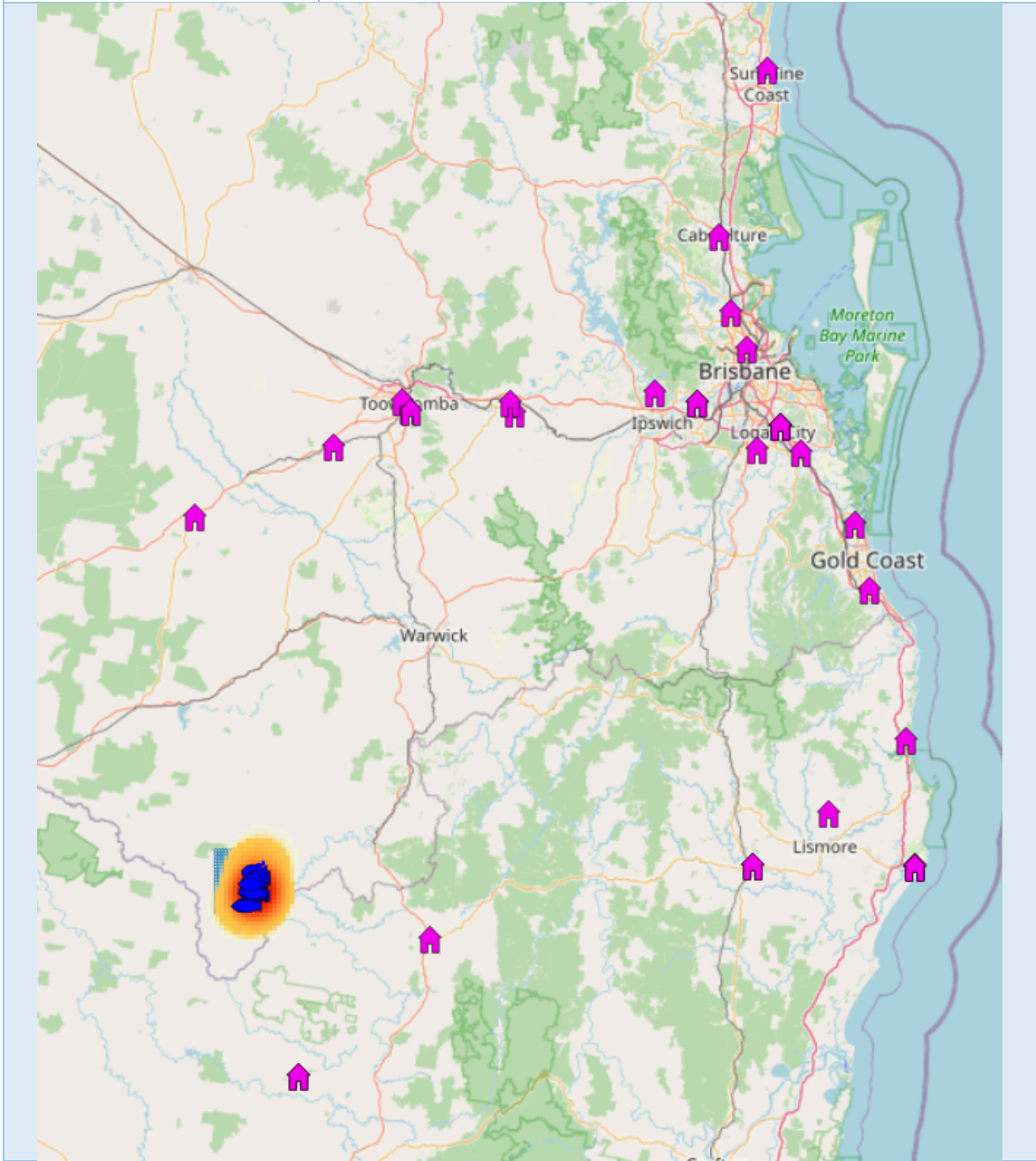
Cumulative recaptures
2021-2025
2025 Jan-Jun




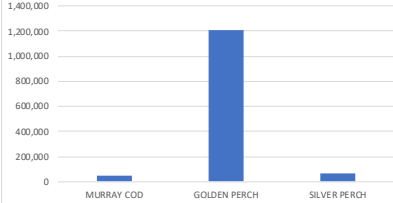
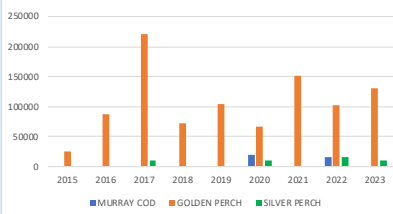
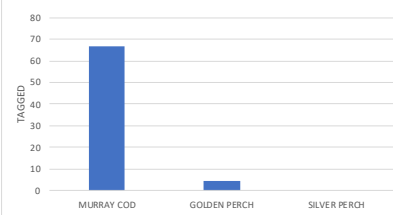
Year	Recaps
2021	6
2022	6
2023	10
2024	8
2025 Jan-Jun	5

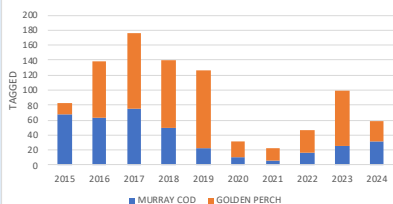


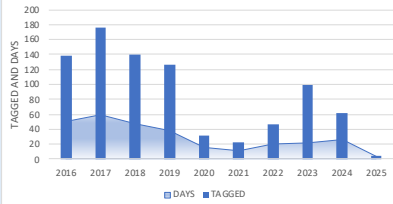
TRAVEL		
Cumulative distance (km) address to recapture location 2021-2025 2025 Jan-Jun	Year	Kms
	2021	1179
	2022	1193
	2023	1756
	2024	1157
	2025 Jan-Jun	764
		
Distance (km) home to recapture location Bars show distance range Dots show outliers 2021-2025 2025 Jan-Jun		
		
Distance (km) home to recapture location Bars show distance range Dots show outliers 2021-2025 2025 Jan-Jun	Trips	34
	Range (km)	
Distance (km) home to recapture location Bars show distance range Dots show outliers 2021-2025 2025 Jan-Jun	Local	1
	Intrastate	118-300
	Interstate	57-209
	Note: 2 interstate fisher trips are within local range	
Proxy average travel distance (km) home to recapture location Local Intrastate Interstate 2021-2025 2025 Jan-Jun	Trips	34
	Average (km)	
	Local	1
	Intrastate	198
	Interstate	149
		

WHERE RECAPTURE FISHERS LIVE															
Where recapture fishers live 2021-2025 2025 Jan-Jun	Fishers	33	<div>WHERE RECAPTURE FISHERS LIVE</div> <table><caption>WHERE RECAPTURE FISHERS LIVE</caption><thead><tr><th>Category</th><th>Count</th><th>Percentage</th></tr></thead><tbody><tr><td>LOCAL</td><td>0</td><td>0%</td></tr><tr><td>INTRASTATE</td><td>23</td><td>70%</td></tr><tr><td>INTERSTATE</td><td>10</td><td>30%</td></tr></tbody></table>	Category	Count	Percentage	LOCAL	0	0%	INTRASTATE	23	70%	INTERSTATE	10	30%
	Category	Count		Percentage											
	LOCAL	0		0%											
	INTRASTATE	23		70%											
INTERSTATE	10	30%													
Local	0 (0%)														
Intrastate	23 (70%)														
Interstate	10 (30%)														
Where fishers recapturing fish live (pink houses) Local Intrastate Interstate 2021-2025 2025 Jan-Jun															



FISH		
MURRAY COD	GOLDEN PERCH	SILVER PERCH
		
STOCKING		
Fingerlings stocked 2014-2023 Able to be tagged 2016-2025	Fingerlings Murray Cod 45,100 Golden Perch 1,208,000 Silver Perch 65,000	
Fingerlings stocked each year 2014-2023		
Fish tagged 2016-2025 2025 Jan-Jun per 10,000 fish stocked 2014-2023	Tagged/10,000 fingerlings Murray Cod 67 Golden Perch 5 Silver Perch 0	

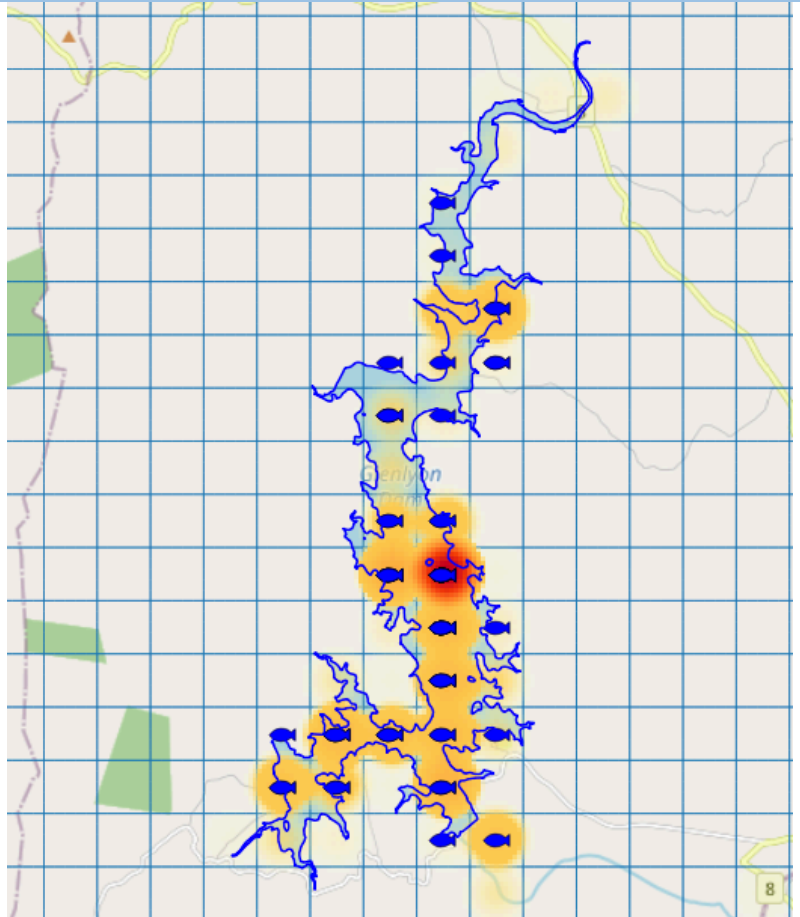
SPECIES TAGGED		
Species tagged 2016-2025 2025 Jan-Jun	Murray Cod 301 Golden Perch 545 Silver Perch 0	

EFFORT		
Tag and effort (days fished) 2016-2025 2025 Jan-Jun	Fish tagged 846 Days fished 353	

LOCATIONS

Tagged (red-orange heat map)
Recaptures (blue fish)
2016-2025
2025 Jan-Jun

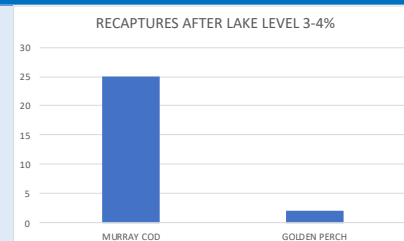
Tagged 848
Recaptured 111



RECAPTURES AFTER LOW LAKE LEVEL

Recaptures after Feb 2020
when lake was at 3-4% for
124 days
8/10/2019-9/2/2020
Fish tagged prior to Nov
2019
Recaptured after 1/2/2020

Tagged before low level
Recaptures after low level
Murray Cod 25
Golden Perch 2



MURRAY COD



DATA RELIABILITY

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

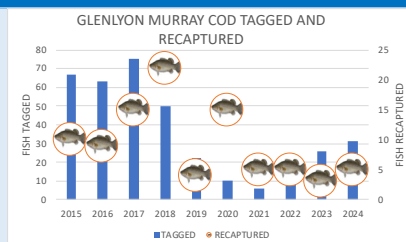
Reliability level	LOW		MODERATE		MODERATE		HIGH	
Samples	10	41	68	271	384	664		
Confidence		80%	80%	90%	90%	95%	99%	
Error		20%	10%	10%	5%	5%	5%	



TAGGED AND TAG RATE

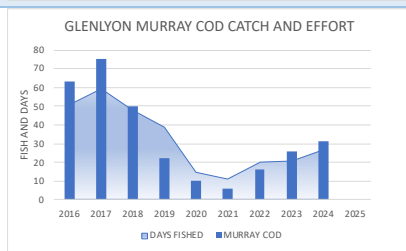
Murray Cod
Tagged
Recaptured (from year tagged)
2016-2025
2025 Jan-Jun

Tagged 301
Recaptured 86
Recapture rate 28.6%
Tagged 2025 Jan-Jun 2



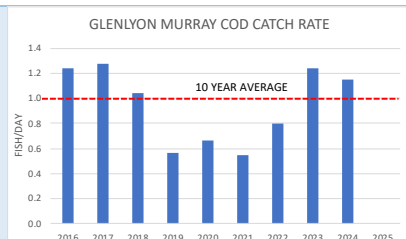
Catch and effort taggers
Fish caught
Days fished
2016-2025
2025 Jan-Jun

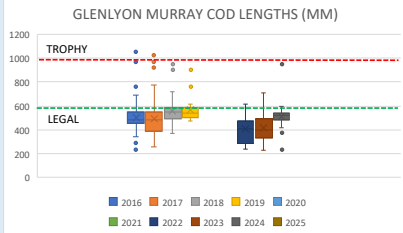
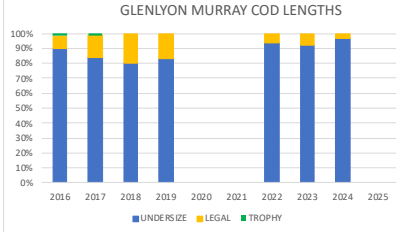
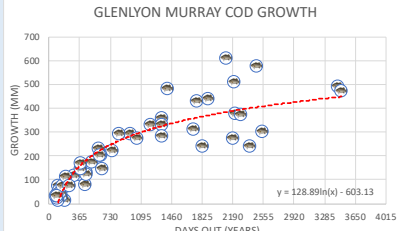
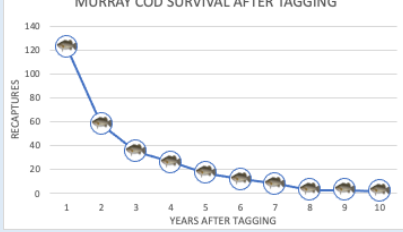
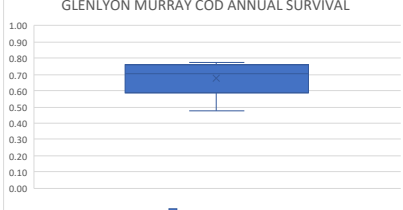
High Low Now
Catch
2017 2021 2025
75 6 2
Days
2016 2021 2025
51 11 3



Catch rate
fish/day
2016-2025
2025 Jan-Jun

High Low Now
Catch rate
2017 2021 2025
1.3 0.5 NA
10 year average 1.0



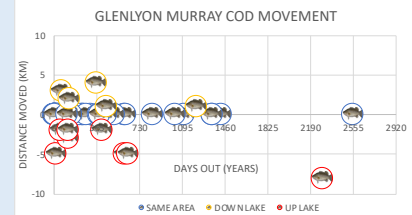
LENGTHS				
Average length (mm) 2016-2025 2025 Jan-Jun	High	Low	Now	
	2018	2022	2025	
	558	408	NA	
	Largest			
	2016	2022	2025	
	1060	615	NA	
Fish lengths percentage Undersize <600mm Legal 600-999mm Trophy 1000+mm 2016-2025 2025 Jan-Jun	High	Low	Now	
	Legal-trophy			
	2018	2024	2025	
	20%	3%	NA	
	Trophy			
	2016	18-24	2025	
	2%	0%	NA	
GROWTH				
Murray Cod growth at end of each year based on all recaptures of fish 2016-2025 2025 Jan-Jun	Recaptures	50		
	Growth (mm)			
	Year 1	157		
	Year 2	247		
	Year 3	299		
	Year 4	336		
	Year 5	365		
SURVIVAL				
Murray Cod survival based on recaptures by years out after tagging All years	Survival rate by years out			
	Year	Recaptures		
	1	139		
	5	22		
	10	3		
	Longest time out (years)			
	9.6	1		
Survival rates each year after tagging All years	Average	0.67 (67%)		
	Range	0.47-0.76		

FATE										
Murray Cod recaptures of legal fish by recfishers (ex-taggers) Legal length 600mm 2021-2025 2025 Jan-Jun	Recaptures	12								
	Kept	2 (17%)								
	Released	10 (83%)								
	<div><p>GLENLYON LEGAL MURRAY COD FATE</p><table><thead><tr><th>Fate</th><th>Count</th><th>Percentage</th></tr></thead><tbody><tr><td>Kept</td><td>2</td><td>17%</td></tr><tr><td>Released</td><td>10</td><td>83%</td></tr></tbody></table></div>		Fate	Count	Percentage	Kept	2	17%	Released	10
Fate	Count	Percentage								
Kept	2	17%								
Released	10	83%								

LOCATIONS			
Murray Cod locations Tagged (red-orange heat map) Recaptured (blue fish) 2016-2025 2025 Jan-Jun	Tagged	301	
	Recaptured	88	

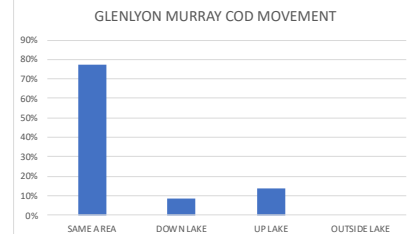
MOVEMENT

Murray Cod movement
Days out
2016-2025
2025 Jan-Jun



Murray Cod movement
2016-2025
2025 Jan-Jun

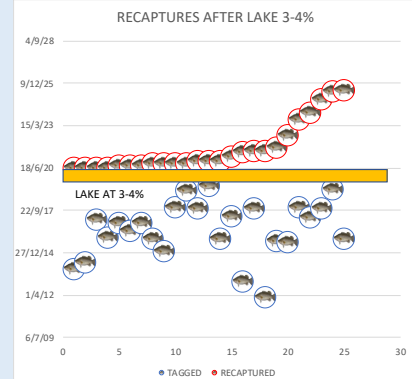
Recaptures 57
Same area 44 (71%)
Down lake 5 (9%)
Up lake 8 (14%)
Outside lake 0 (0%)


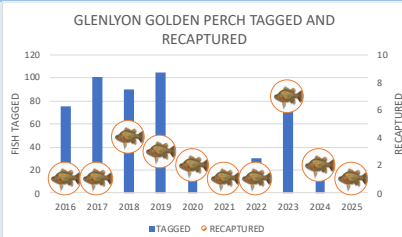
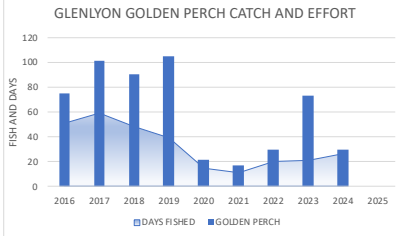
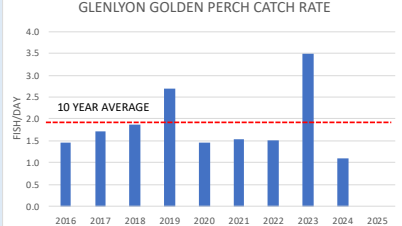


RECAPTURES AFTER LOW LAKE LEVEL

Recaptures after Feb 2020
when lake was at 3-4% for
124 days
8/10/2019-9/2/2020
Fish tagged prior to Oct
2019
Recaptured after 1/2/2020

Recaptures 25



GOLDEN PERCH					
					
DATA RELIABILITY					
Sample size (fish/year)	Reliability level		LOW	MODERATE	
Tagged (blue arrow)	Samples	10	41	68	
Recaptures (orange arrow)	Confidence	80%	80%	90%	
Confidence %	Error	20%	10%	10%	
Error %					
2021-2025					
TAGGED AND TAG RATE					
Golden Perch	Tagged	545			
Tagged	Recaptured	23			
Recaptured	Recapture rate	4.2%			
2016-2025	Tagged 2025 Jan-Jun	2			
2025 Jan-Jun					
Catch and effort taggers	High	Low	Now		
Fish caught	Catch				
Days fished	2019	2021	2025		
2016-2025	105	17	2		
2025 Jan-Jun	Days	2017	2021		
	59	11	3		
Catch rate	High	Low	Now		
Fish/day	Catch rate				
2016-2025	2023	2020	2024		
2025 Jan-Jun	3.5	1.5	NA		
	10 year average		1.9		

LENGTHS				
Average length (mm) 2016-2025 2025 Jan-Jun	High	Low	Now	
	2019	2017	2025	
	375	313	NA	
	Largest			
Fish lengths percentage Undersize <300mm Legal 300-499mm Trophy 500+mm 2016-2025 2025 Jan-Jun	High	Low	Now	
	Legal-trophy			
	2021	2023	2025	
	88%	47%	NA	
Trophy 500+mm 2016-2025 2025 Jan-Jun	Trophy			
	2024	19-23	2025	
	11%	0%	NA	

FATE		
Golden Perch recaptures Legal fish by recfishers (ex-taggers) Legal length 300mm 2021-2025 2025 Jan-Jun	Recaptures	11
	Kept	7 (64%)
	Released	4 (36%)

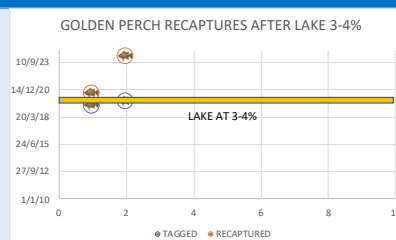
MOVEMENT		
Golden Perch movement Days out 2016-2025 2025 Jan-Jun		
Golden Perch movement 2016-2025 2025 Jan-Jun	Recaptures	20
	Same area	14 (70%)
	Down lake	3 (15%)
	Up lake	3 (15%)
2025 Jan-Jun	Outside lake	0 (0%)

RECAPTURES AFTER LOW LAKE LEVEL

Recaptures after Feb 2020
when lake was at 3-4% for
124 days
8/10/2019-9/2/2020
Fish tagged prior to Nov
2019
Recaptured after 1/2/2020

Recaptures

2



LOCATIONS

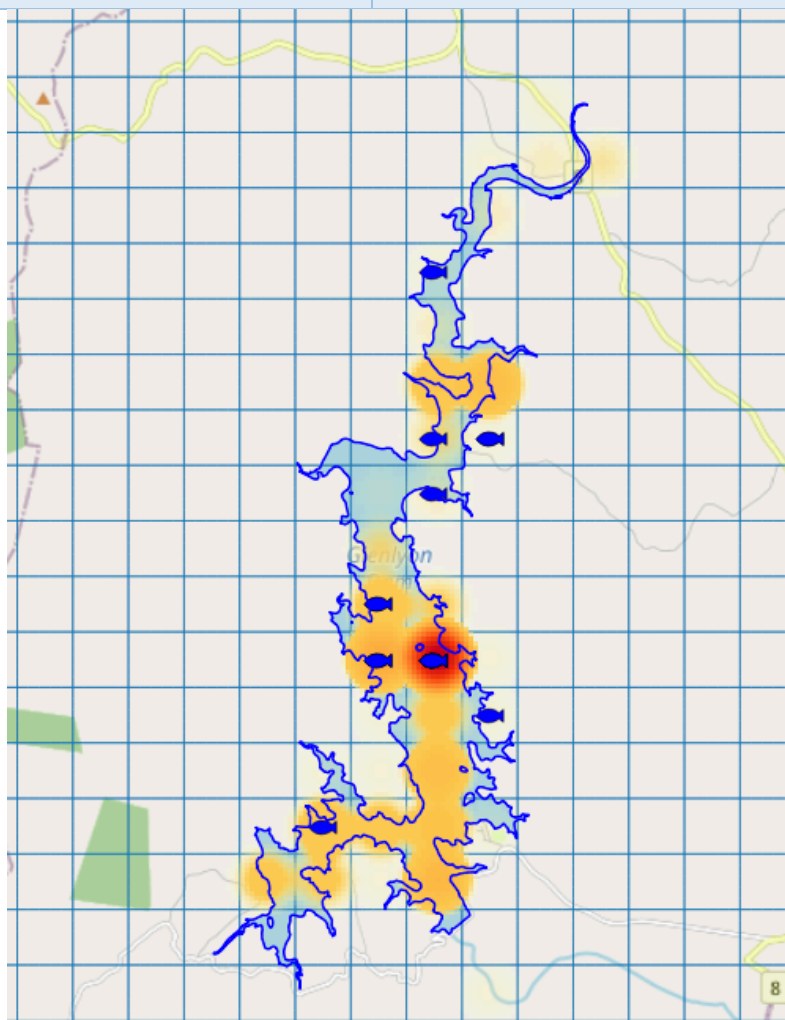
Golden Perch locations
Tagged (red-orange heat
map)
Recaptured (blue fish)
2016-2025
2025 Jan-Jun

Tagged

545

Recaptured

23



Data sources

Data used in the Lake Glenlyon Crystal Bowl are:

- Tag records and recapture records for the impoundment at <http://crystalbowl.infofishaustralia.com.au/>.
- Dam level data from Sunwater at <https://www.sunwater.com.au/water-data/historical-dam-capacity/>.
- Stocked fish records from <https://www.data.qld.gov.au/dataset/queensland-freshwater-fish-stocking-records/>.
- Bathymetric data from Infofish survey.
- Rainfall records for Station 041430 Glenlyon Dam and temperature records for Station 041100 Texas Post Office 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 for taggers with a minimum of 12 fisher days (at least 1 per month) to provide a reliable catch rate.
- Undersized Murray Cod are <600mm, Legal fish are ≥600 and <1000mm and trophy fish are ≥1000mm.
- Undersized Golden Perch are <300mm, legal fish are ≥300 and <500mm and trophy fish are ≥500mm.
- 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 map LGP for the impoundment and other grid maps where fish were recaptured outside the impoundment.
- Survival rates are calculated based on a model that uses the reduction in the numbers of recaptures each year after tagging.
- 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 postcodes starting with 4, interstate other than Qld.