

## LAKE KINCHANT REVIEW JUNE 2025

### INFORMATION RATING



Stocking group: Mackay Area Fish Stocking Association

Species stocked: Barramundi

Stocking timeframe: 2012-2024

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=kinchant-dam>

MAFSA Facebook link: <https://www.facebook.com/@MackayAreaFishStockingAssociation/>

Lake Kinchant has been regularly stocked with Barramundi. In 2023 MAFSA, with support from the Dalrymple Bay Coal Terminal, released 368 tagged Barramundi from 180-384mm. A further 103 tagged fish from 234-307mm were released in Apr 2025. These releases will improve monitoring over the next few years

Fisheries Qld have placed a range of structures in the lake to improve habitat. Infofish has used competition data to assess the catch of Barramundi in relation to the structures. Report available at <https://www.dropbox.com/scl/fi/bwlruqsch9qwe9e8wwlco/Kinchant-Structures-review.pdf?rlkey=dpa95ahe5xk722nrtf6yd84se&dl=0>.

Fisher activity is mostly in the warmer months at the start and end of the year with a quieter period over winter. There appears to be an increase in activity during the Barramundi closed season as that restriction does not apply to stocked lakes. Lake Kinchant has an active nighttime fishery, particularly during the warmer months. The many large Barramundi in the lake attract fishers from southern Qld and interstate with 39% of recaptures by fishers from those areas. This compares with 6% intrastate and interstate fishers recapturing fish in the saltwater estuaries around Mackay.

The recapture rate of fish tagged below the legal limit since 2015 was 2.7% while for fish over the legal limit it was 14.0%. There was also a difference in the recapture rate of batch released fish in 2023. Fish released in Apr were 180-332mm and the recapture rate was 1.9% while those released in Sep were 241-384mm and the recapture rate was 4.7%. Recapture rates increase with an increase in the length of fish tagged suggesting that there is higher survival as fish size increases.

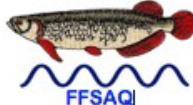
Growth of fish in Kinchant is lower than other impoundments and there is a difference in the growth rate of fish tagged above legal size and recaptured in the 5 years from 2015-2019 and from 2020-2024. At the end of 5 years those recaptured from 2015-2019 had grown an estimated 231mm compared with those recaptured from 2020-2024 that had grown just 65mm.

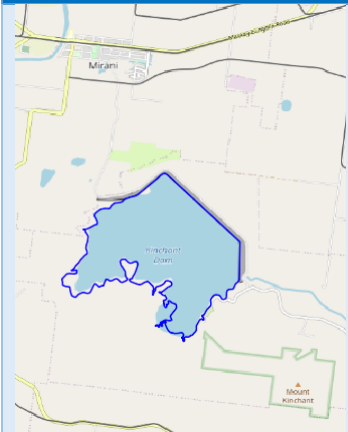

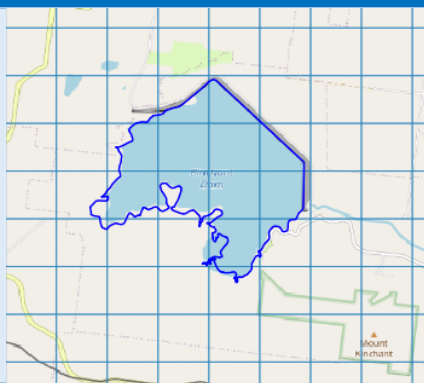
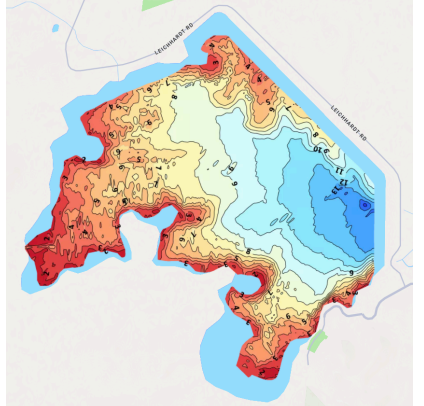
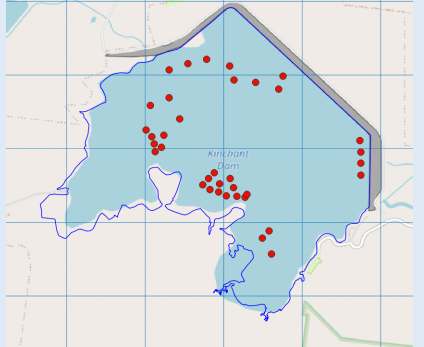
ABT competitions in Lake Kinchant provide useful additional information and show a decline in catch rates and average fish lengths from 2021-2023 however catch rates increased in 2024.

Product of Infofish Australia



Supported by

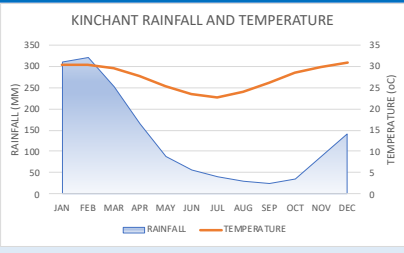


LAKE KINCHANT		LOCATION
	Lake Kinchant 21.2°S 148.88°E	
LAKE	ACTUAL	GRAPH or MAP
<b>Lake Kinchant</b> <b>Grid map</b> <b>Pioneer River PRM</b> <b>Surface area</b>	Surface area 9.2km <sup>2</sup> at Full Surface Level	
<b>Lake Kinchant</b> <b>Bathymetry</b>		
<b>Fish attracting structures</b> <b>placed in Lake Kinchant by</b> <b>Fisheries Qld</b>	Number of structures      36 Structure types Georgia cubes Synthetic trees Synthetic hedge Synthetic brush Porcupine cubes	

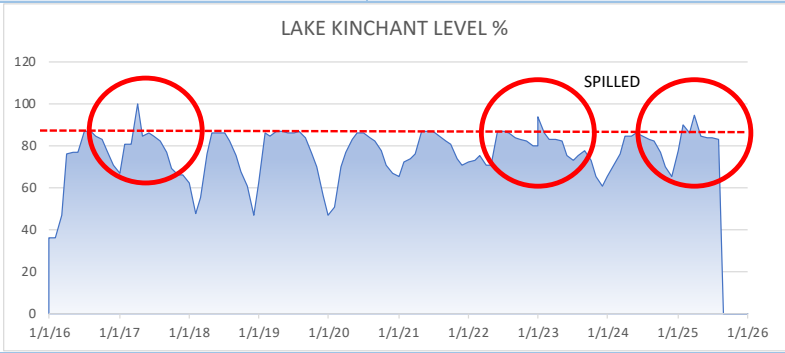
ENVIRONMENTAL

Mean monthly rainfall (mm)  
Mean monthly air temperature (oC)

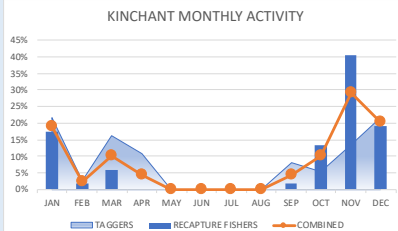
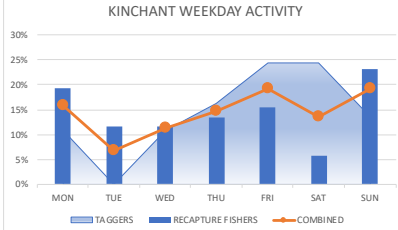
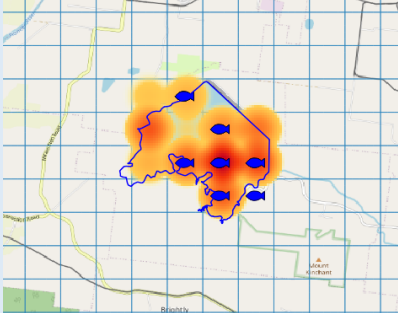
Rainfall	Month	mm
Max	Feb	320
	Jan	309
Temp	Month	oC
Max	Dec	31
	Jan-Mar	30

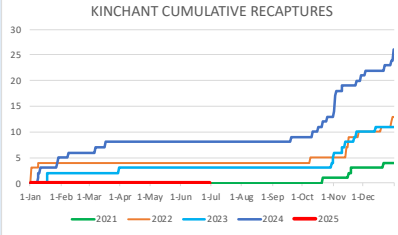


Lake level  
2016-2025  
Spilled  
2017  
2023  
2025

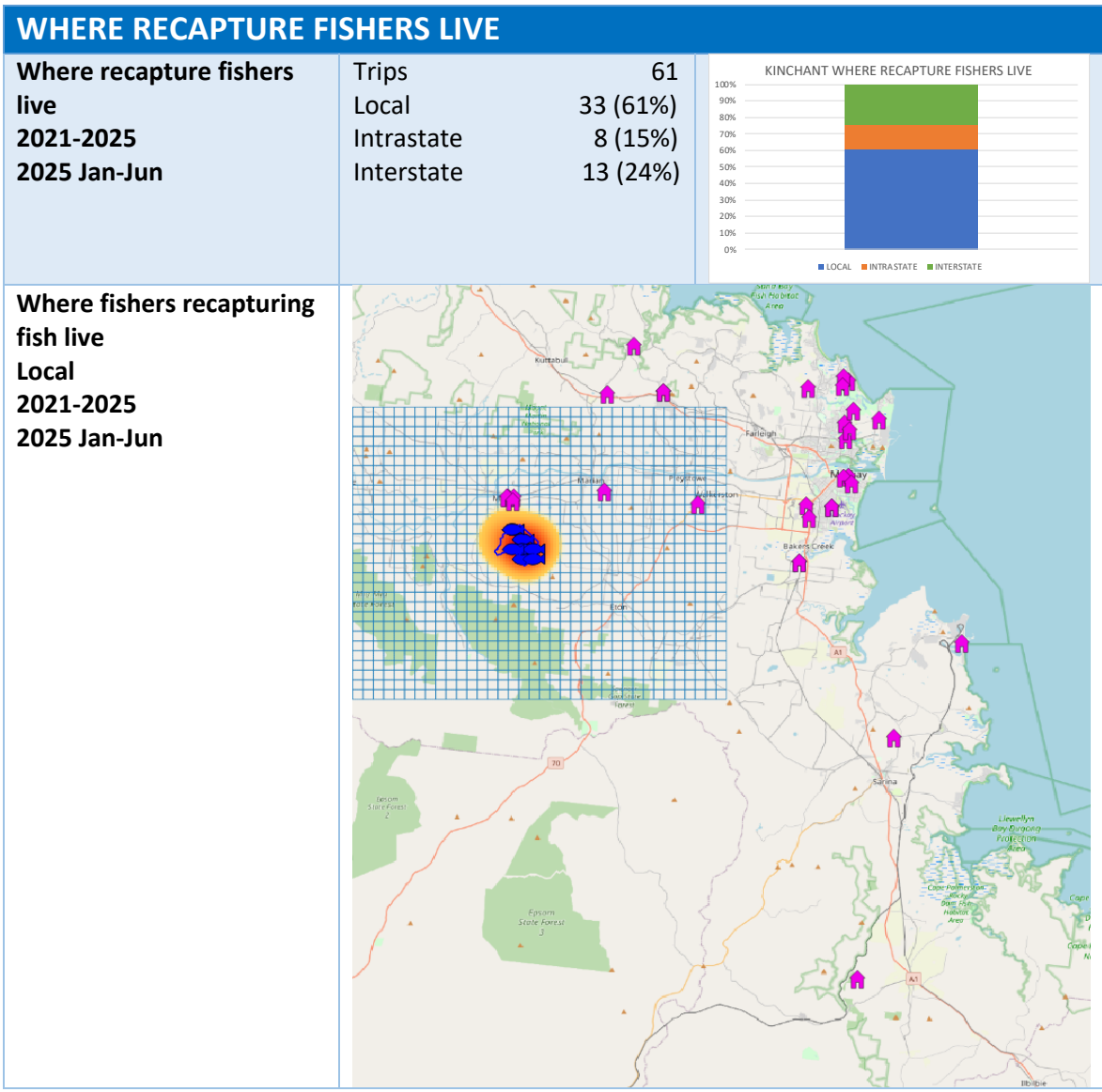


FISHERS		ACTUAL		GRAPH or MAP	
DATA RELIABILITY					
Sample size (days fished)		Reliability level		MODERATE	
Tag days (blue arrow)		Samples		MODERATE	
Recaptures (orange arrow)		Confidence		90%	
Confidence %		Error		5%	
Error %				5%	
2021-2025					
TYPE OF FISHERY					
Seasonality		Best months		BARRMUNDI SEASONALITY	
Best fishing conditions		Jan-Apr		350	
Mean monthly rainfall (mm)		Sep-Dec		300	
Mean monthly day temperature (oC)				250	
				200	
				150	
				100	
				50	
				0	
				JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	
				RAINFALL (MM) TEMPERATURE (oC)	
				BEST BARRA FISHING	
				BEST BARRA FISHING	

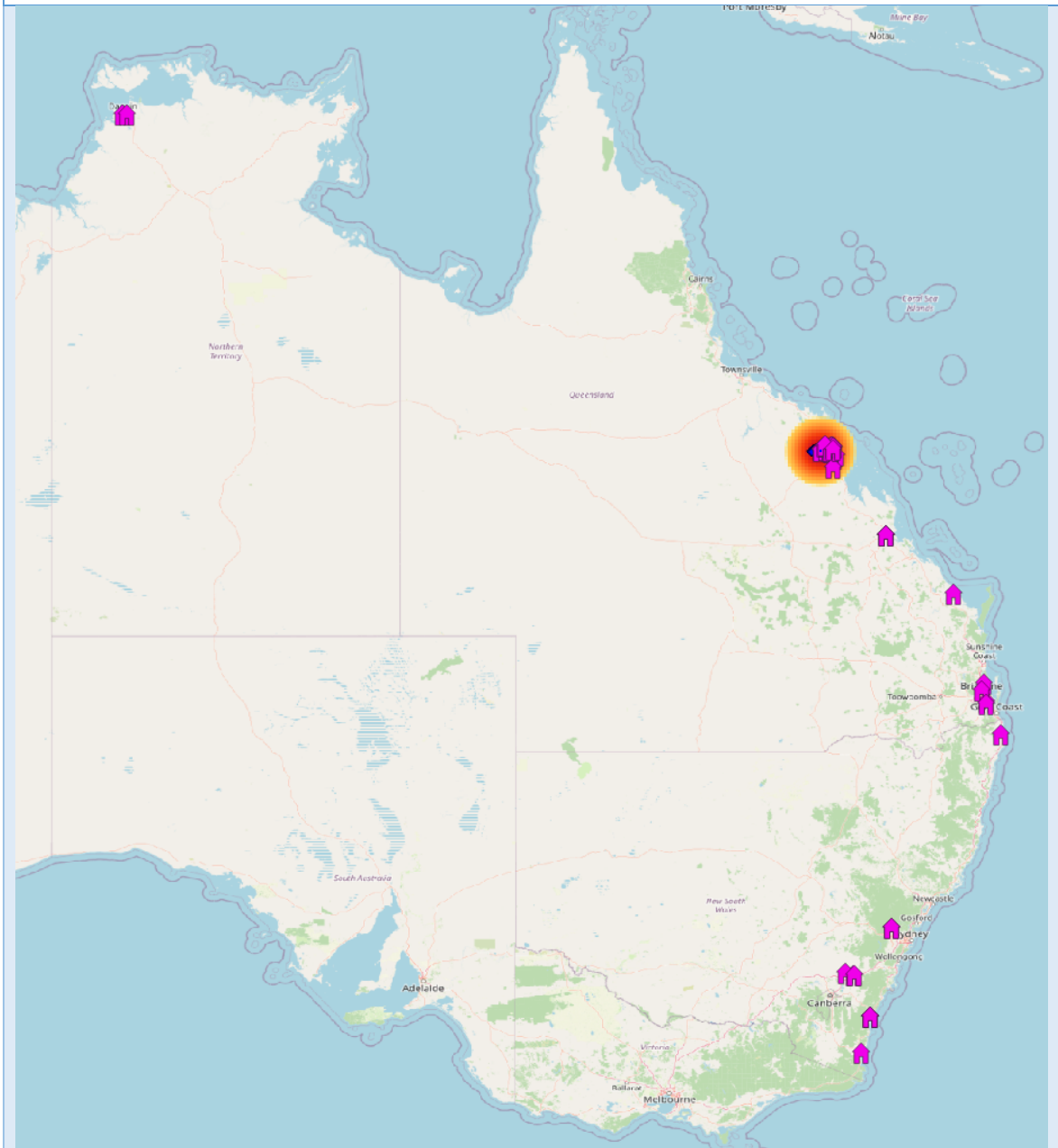
ACTIVITY			
<b>Monthly activity</b> <b>Days fished</b> <b>Taggers (37)</b> <b>Recapture fishers (52)</b> <b>2021-2025</b> <b>2025 Jan-Jun</b>	Taggers  Recaps	Month	%
		Jan	22%
		Nov	22%
		Nov	40%
		Dec	19%
			
<b>Weekday activity</b> <b>Days fished</b> <b>Taggers (37)</b> <b>Recapture fishers (52)</b> <b>2021-2025</b> <b>2025 Jan-Jun</b>	Taggers  Recaps	Day	%
		Weekend	38%
		Weekdays	62%
		Weekend	29%
		Weekdays	71%
			
<b>Location activity</b> <b>Tagged (red-orange heat map)</b> <b>Recaptured (blue fish)</b> <b>2021-2025</b> <b>2025 Jan-Jun</b>	Tagged		118
	Recaptured		10
	Excludes batch releases of tagged Barramundi by MAFSA		
			

EFFORT			
<b>Cumulative recaptures</b> <b>2021-2025</b> <b>2025 Jan-Jun</b>	Year	Recaps	
	2021	4	
	2022	13	
	2023	11	
	2024	26	
	2025 Jan-Jun	0	
			


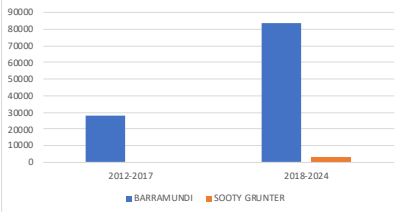
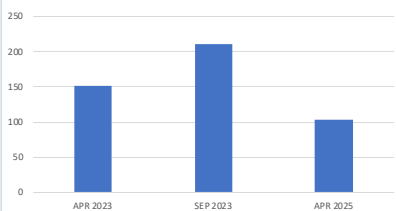
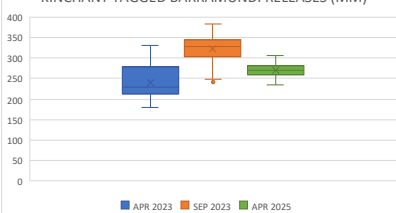
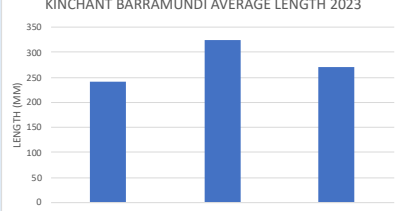
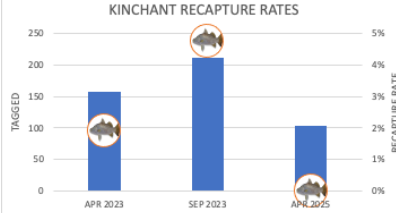
TRAVEL			
Cumulative proxy travel distance (km) home to recapture location 2021-2025 2025 Jan-Jun	Year	Kms	
	2021	3033	
	2022	6444	
	2023	5577	
	2024	11252	
	2025 Jan-Jun	0	
Proxy travel distance (km) home to recapture location 2021-2025 2025 Jan-Jun			
Proxy travel distance (km) home to recapture location 2021-2025 2025 Jan-Jun	Trips	54	
	Local	5-54	
	Intrastate	296-842	
	Interstate	937-2150	
Proxy average travel distance (km) home to recapture 2021-2025 2025 Jan-Jun	Trips	54	
	Local	27	
	Intrastate	587	
	Interstate	1595	


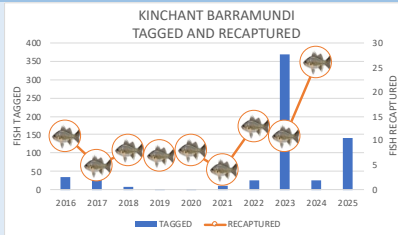
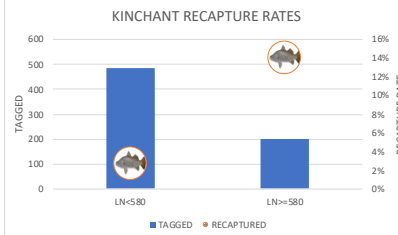
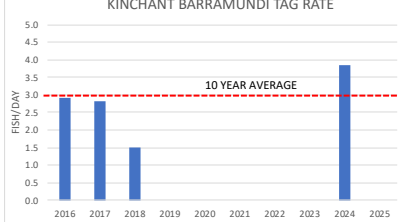


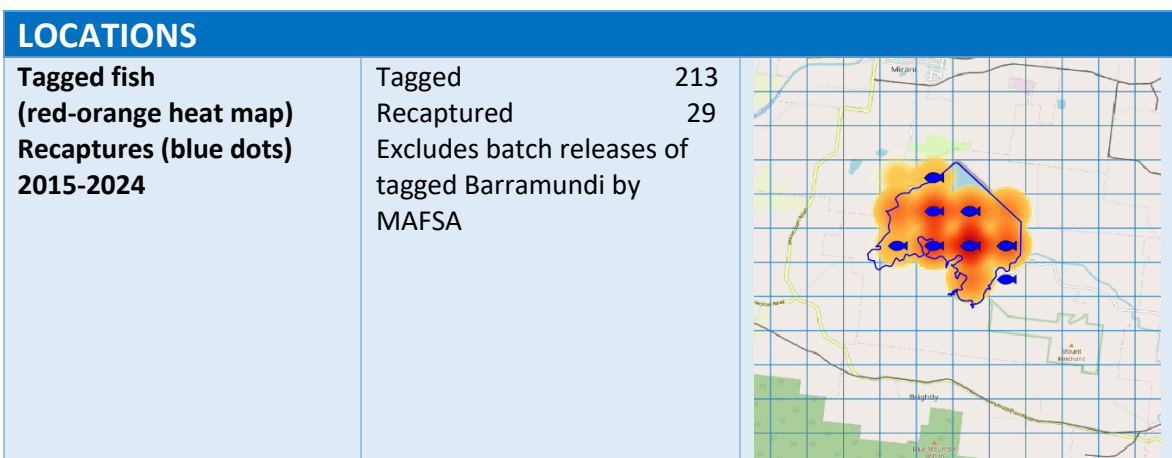
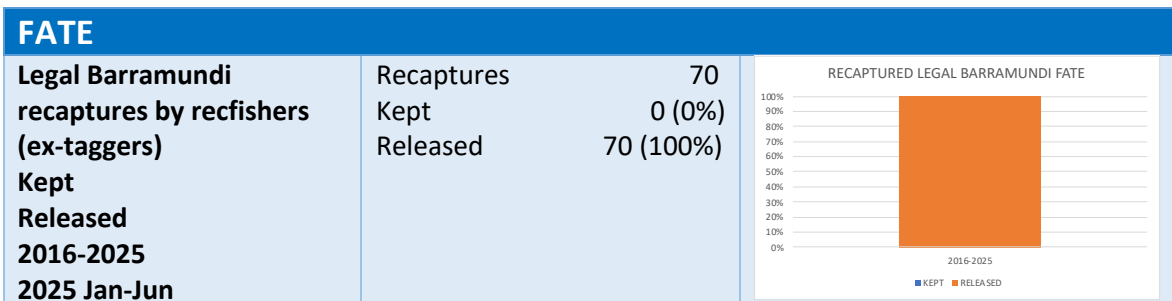
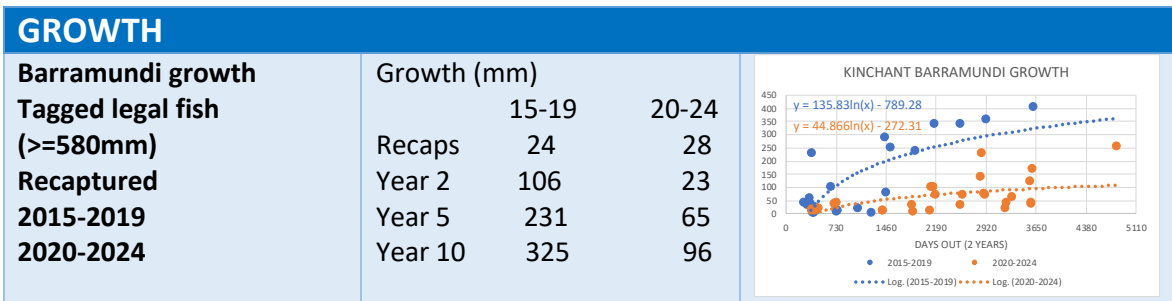
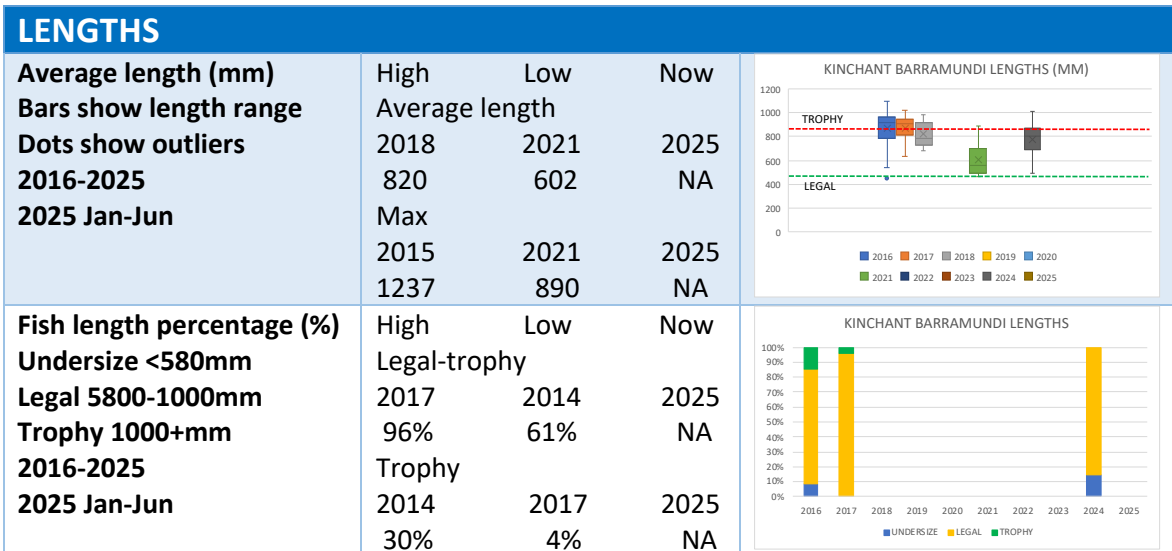
**Where fishers recapturing  
fish live**  
Intrastate  
Interstate  
2021-2025  
2025 Jan-Jun

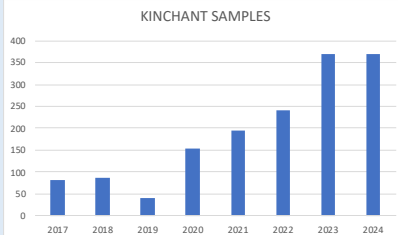
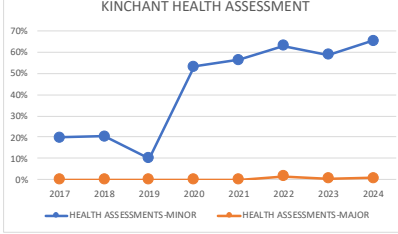
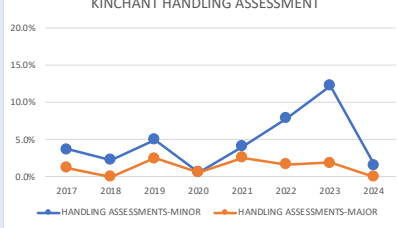




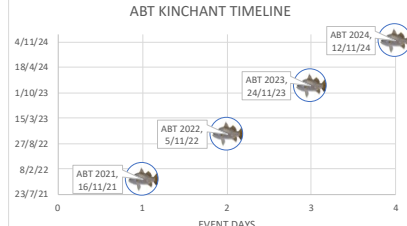
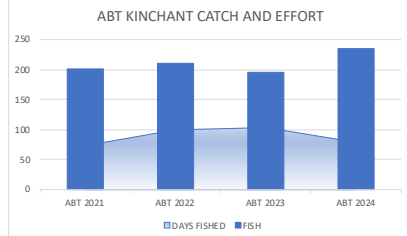
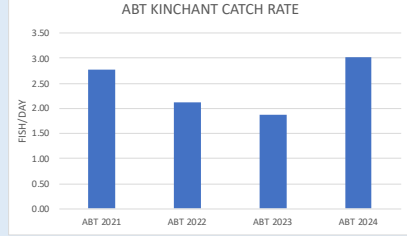
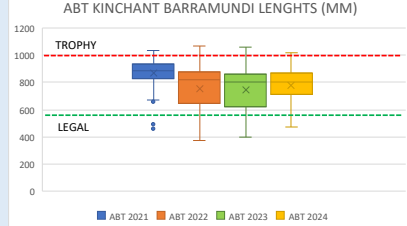


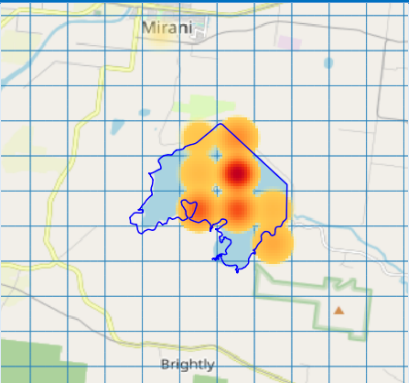
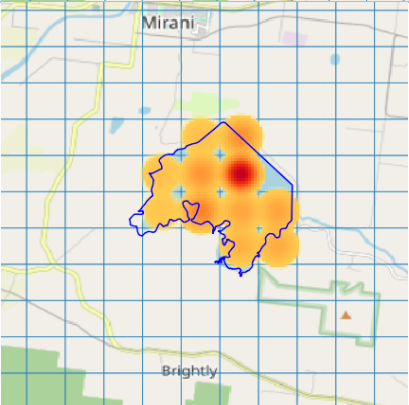
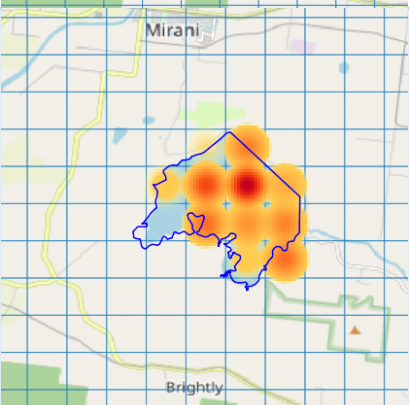
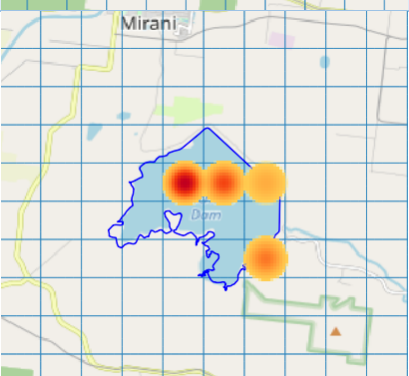
FISH		
BARRAMUNDI		
		
STOCKING		
Fingerlings stocked by year 2012-2024	2012-2017	
	Barramundi 27,472 Barramundi 83,680 Sooty Grunter 3,000	
Batch releases of tagged Barramundi	Tagged	
Apr 2023 Sep 2023 Apr 2025	Apr 2023 157 Sep 2023 211 Apr 2025 103	
Batch releases tagged fish	Range (mm)	
Apr 2023 Sep 2023 Apr 2025	Apr 2023 180-332 Sep 2023 241-384 Apr 2025 234-307	
Batch releases tagged fish	Average (mm)	
Average Apr 2023 Sep 2023 Apr 2025	Apr 2023 241 Sep 2023 323 Apr 2025 271	
Recaptures of batch released fish	Tagged	
Apr 2023 Sep 2023 Apr 2025	Apr 2023 3 (1.9%) Sep 2023 10 (4.7%) Apr 2025 0 (0%)	

BARRAMUNDI																																		
																																		
DATA RELIABILITY																																		
Sample size (av fish/year)		<table><tr><td>Reliability level</td><td colspan="2">LOW</td><td colspan="2">MODERATE</td><td>MODERATE</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%
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 (blue arrow)																																		
Recaptures (orange arrow)																																		
Confidence %																																		
Error %																																		
2021-2025																																		
TAGGED AND TAG RATE																																		
Barramundi		Tagged		685																														
Tagged		Recaptured		93																														
Recaptured		Recapture rate		13.6%																														
2016-2025		Tagged 2025 Jan-Jun		140																														
2025 Jan-Jun																																		
Recapture rates		Tag length		Recaps																														
Tagged		Undersize		2.7%																														
Undersize (<580mm)		Legal		14.0%																														
Legal (>=580mm)																																		
2016-2025																																		
2025 Jan-Jun																																		
Catch and effort taggers		High	Low	Now																														
number of fish tagged		Tagged																																
days fished		2017	2023	2025																														
2016-2025		48	0	NA																														
2025 Jan-Jun		Days																																
		2017	2023	2025																														
		17	0	NA																														
Catch rate		High	Low	Now																														
Fish tagged/day		2024	2018	2025																														
2016-2025		3.9	1.5	NA																														
2025 Jan-Jun		10 year average		3.2																														
																																		



FISH HEALTH AND HANDLING																															
Fish health from photos Fish images 2017-2024	High	Low	Now	<div>KINCHANT SAMPLES</div>  <table><caption>KINCHANT SAMPLES</caption><thead><tr><th>Year</th><th>Images</th></tr></thead><tbody><tr><td>2017</td><td>80</td></tr><tr><td>2018</td><td>90</td></tr><tr><td>2019</td><td>40</td></tr><tr><td>2020</td><td>150</td></tr><tr><td>2021</td><td>200</td></tr><tr><td>2022</td><td>250</td></tr><tr><td>2023</td><td>370</td></tr><tr><td>2024</td><td>370</td></tr></tbody></table>	Year	Images	2017	80	2018	90	2019	40	2020	150	2021	200	2022	250	2023	370	2024	370									
	Year	Images																													
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2023	370																														
2024	370																														
2023	2019	2024																													
369	40	369																													
Total images 1457																															
Fish health assessment Fins/lesions and skin condition 2017-2024	High	Low	Now	<div>KINCHANT HEALTH ASSESSMENT</div>  <table><caption>KINCHANT HEALTH ASSESSMENT</caption><thead><tr><th>Year</th><th>HEALTH ASSESSMENTS-MINOR (%)</th><th>HEALTH ASSESSMENTS-MAJOR (%)</th></tr></thead><tbody><tr><td>2017</td><td>20</td><td>0</td></tr><tr><td>2018</td><td>20</td><td>0</td></tr><tr><td>2019</td><td>10</td><td>0</td></tr><tr><td>2020</td><td>55</td><td>0</td></tr><tr><td>2021</td><td>58</td><td>0</td></tr><tr><td>2022</td><td>65</td><td>0</td></tr><tr><td>2023</td><td>60</td><td>0</td></tr><tr><td>2024</td><td>65</td><td>0</td></tr></tbody></table>	Year	HEALTH ASSESSMENTS-MINOR (%)	HEALTH ASSESSMENTS-MAJOR (%)	2017	20	0	2018	20	0	2019	10	0	2020	55	0	2021	58	0	2022	65	0	2023	60	0	2024	65	0
	Year	HEALTH ASSESSMENTS-MINOR (%)	HEALTH ASSESSMENTS-MAJOR (%)																												
	2017	20	0																												
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2021	58	0																													
2022	65	0																													
2023	60	0																													
2024	65	0																													
Minor	2017	2024																													
63%	20%	65%																													
Major	2022	2024																													
17-21	0.8%	0%																													
1.7%	0%	0.8%																													
Handling assessment Bleeding and scale loss 2017-2024	High	Low	Now	<div>KINCHANT HANDLING ASSESSMENT</div>  <table><caption>KINCHANT HANDLING ASSESSMENT</caption><thead><tr><th>Year</th><th>HANDLING ASSESSMENTS-MINOR (%)</th><th>HANDLING ASSESSMENTS-MAJOR (%)</th></tr></thead><tbody><tr><td>2017</td><td>4.0</td><td>0.5</td></tr><tr><td>2018</td><td>2.5</td><td>0.2</td></tr><tr><td>2019</td><td>5.0</td><td>0.5</td></tr><tr><td>2020</td><td>1.0</td><td>0.2</td></tr><tr><td>2021</td><td>4.0</td><td>0.5</td></tr><tr><td>2022</td><td>8.0</td><td>0.2</td></tr><tr><td>2023</td><td>12.0</td><td>0.2</td></tr><tr><td>2024</td><td>2.0</td><td>0.2</td></tr></tbody></table>	Year	HANDLING ASSESSMENTS-MINOR (%)	HANDLING ASSESSMENTS-MAJOR (%)	2017	4.0	0.5	2018	2.5	0.2	2019	5.0	0.5	2020	1.0	0.2	2021	4.0	0.5	2022	8.0	0.2	2023	12.0	0.2	2024	2.0	0.2
	Year	HANDLING ASSESSMENTS-MINOR (%)	HANDLING ASSESSMENTS-MAJOR (%)																												
	2017	4.0	0.5																												
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2019	5.0	0.5																													
2020	1.0	0.2																													
2021	4.0	0.5																													
2022	8.0	0.2																													
2023	12.0	0.2																													
2024	2.0	0.2																													
Minor	2020	2024																													
12%	0.7%	1.6%																													
Major	2019	2024																													
2.5%	0%	0%																													

COMPETITIONS	ACTUAL	GRAPH or MAP
ABT	BARRAMUNDI	
		
ABT COMPETITIONS		
ABT competitions	Date and times	
2021	2021 16/11/21 4pm-1am	
2022	2022 5/11/22 4pm-1am	
2023	2023 24/11/23 2pm-12pm	
2024	2024 12/11/24 4pm-1am	
CATCH RATE		
Fish caught	Event	Days
Days fished	2021	73
2021	2022	99
2022	2023	104
2023	2024	78
2024		Fish
		202 210 195 235
		
Catch rate	Event	Rate
2021	2021	2.8
2022	2022	2.1
2023	2023	1.9
2024	2024	3.0
		
LENGTHS		
Lengths (mm)	Event	Ave
2021	2021	793
2022	2022	872
2023	2023	667
2024	2024	669
		Min
		Max
		1170 1120 1070 1170
		

LOCATIONS			
Competition locations heatmap 2021	Fish Locations	203 171 (84%)	
Competition locations heatmap 2022	Fish Locations	210 202 (96%)	
Competition locations heatmap 2023	Fish Locations	200 168 (84%)	
Competition locations heatmap 2024	Fish Locations	235 37 (16%)	

## Data sources

Data used in the Lake Kinchant 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 Mackay Area Fish Stocking Association.
- Competition data from ABT competitions from Infofish Trackmyfish app.
- Rainfall and temperature records from Station 033045 Mackay Aero from <http://www.bom.gov.au/climate/data>.
- Fisheries structure records from Mackay Area Fish Stocking Association from data supplied by Fisheries Queensland.

## 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 caught/days fished.
- Growth calculated using logarithmic curve for fish out for >90 days and had positive growth.
- Undersized Barramundi are <580mm, legal-trophy fish are >=580 and <1000mm and trophy fish are >=1000mm. Legal fish are 580-1200mm.
- Locations based on Infofish grid map PRM for the impoundment and other grid maps where fish were recaptured outside the impoundment.
- 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.
- Fish condition from images using human and AI assessment and graded from A (no aberrations detected) to E (severe aberrations detected).
- The following tables were used to assess fins and skin.

Fins		
Variable Condition	Designation	Score
No Active Erosion	0	0
Light Active Erosion	1	10
Moderate Active Erosion with some haemorrhage	2	20
Severe Active Erosion with some haemorrhage	3	30

Skin		
Variable Condition	Designation	Score
Normal no aberrations	0	0
Mild skin aberrations	1	10
Moderate skin aberrations	2	20
Severe skin aberrations	3	30

- The following tables were used to assess fish handling.

Scale loss		
Variable Condition	Designation	Score
No scale loss	0	0
Mild scale loss (individual visible)	1	10
Moderate scale loss (single patch of scales)	2	20
Severe scale loss (multiple patches/complete)	3	30

Bleeding		
Variable Condition	Designation	Score
No bleeding	0	0
Mild bleeding (single wound/single patch of blood)	1	10
Moderate bleeding (more than one wound/blood visible in fish mat/surrounds)	2	20
Severe bleeding (multiple wounds/blood visible in large amounts on fish and mat/surrounds)	3	30