



## LAKE TINAROO REVIEW 2024

### INFORMATION RATING



Stocking group: Tablelands Fish Stocking Society

Species stocked: Barramundi

Stocking timeframe: 2012-2024

Fish timeframe: 2015-2024

Fisher timeframe: 2020-2024

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

TFSS link: <https://tinaroobarrabash.com.au/fish-stocking/tableland-fish-stocking-society/>

Lake Tinaroo on the Atherton tablelands has been stocked with Barramundi since the 1990s.

Lake Tinaroo is fished throughout the year with peak activity from Jan-Apr and Sep-Dec and lower levels of effort over the winter cooler months. It is mostly an experiential fishery with trophy sized fish attracting a lot of attention. Occasionally this has resulted in large trophy fish found floating dead in the water due to poor handling.

It is mostly a local fishery with fishers recapturing fish mostly coming from the Atherton tableland and from the nearby coastal area from Cairns. However, a small number come from further afield from Townsville, Brisbane and interstate.

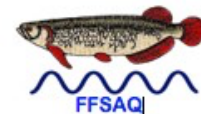
The lake spilled for much of this year with the loss of some fish. Normally there is a barrier net near the dam wall to prevent fish leaving the lake when it spills however this was not in place for some of the time. There were no reports of tagged fish found below the dam.

From 2003-2016 the stocking involved batch releases of tagged fish from around 200-300mm and fish from these early releases continue to be recaptured indicating the longevity of Barramundi in the lake.

Overall recapture rates for releases of tagged stocked fish were low ranging from 0-2.9% except for 2003 (6.2%) where recaptures were boosted by electrofishing by Fisheries shortly after release indicating reasonable initial survival. Releases of tagged fingerlings in winter in 2004 and autumn and winter 2005 had much lower recapture rates (0.2% and 0%) than releases at other times of the year.

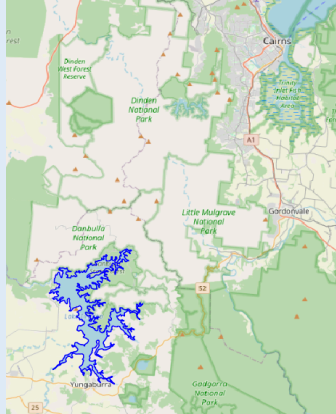

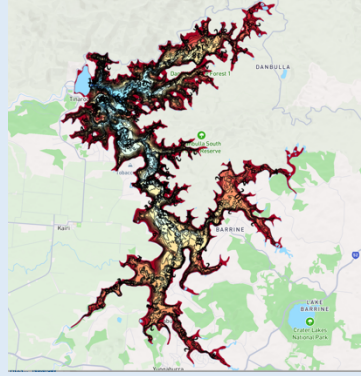
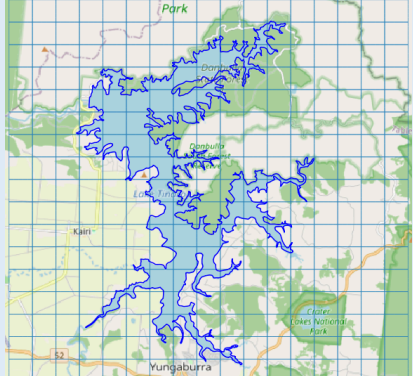
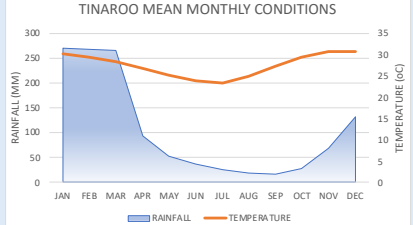
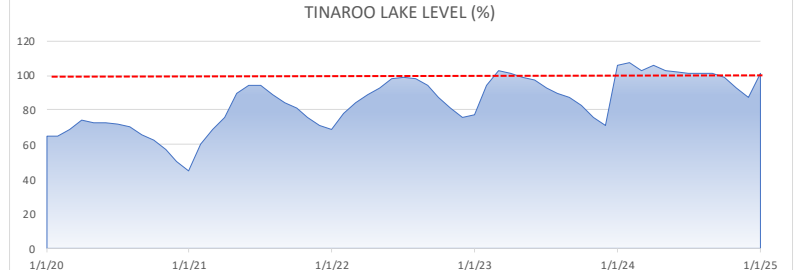
All fish from each of the early batch releases are now over 1m including those released in 2010 and fish from those early releases continue to be recaptured. The longest time out for a tagged Barramundi is 7,313 days (20.0 years) and there have been 20 fish recaptured after being out for over 15 years.

Fishing effort and recaptures of tagged fish last year appears to have been boosted by the SIPS competition with rewards for the recapture of these fish. Data from ABT competitions from 2020-24 provides additional information on catch rates and fish sizes.

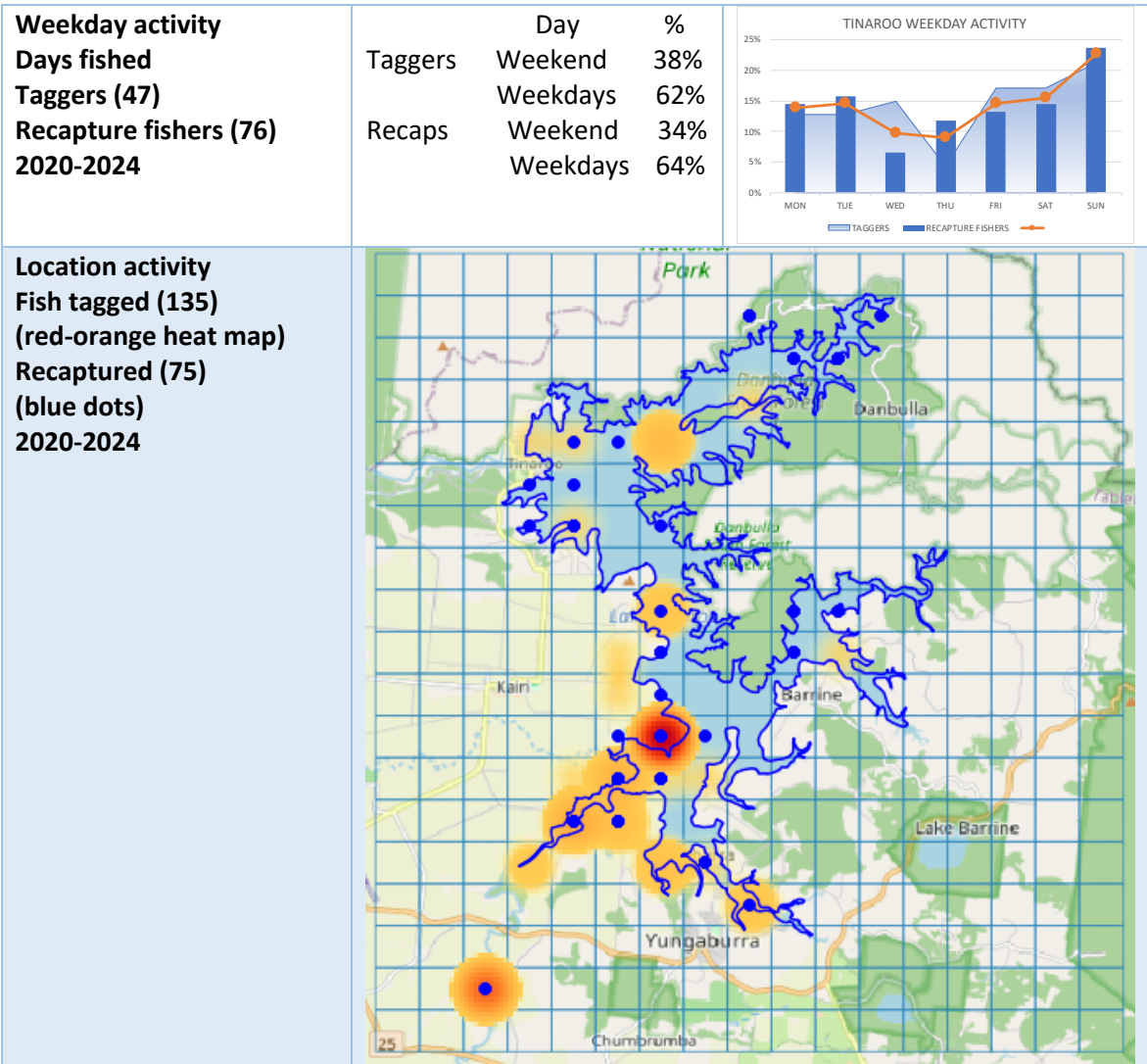


Product of Infish Australia

Supported by Suntag and FFSAQ

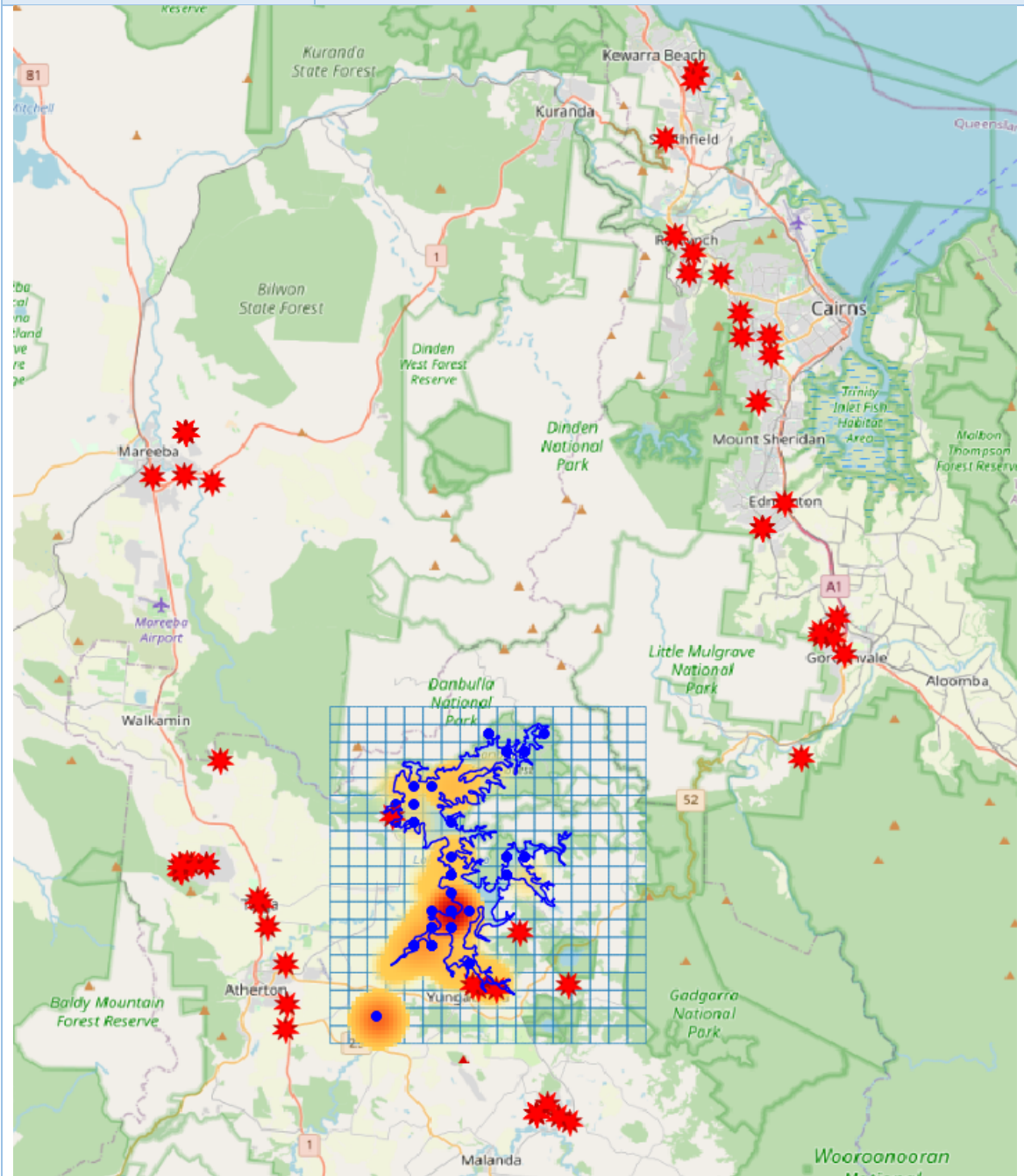
| LAKE TINAROO   | LOCATION  |   |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
|--|---|---|-------|----|-----|-----|-----|--|---------|-----|------|-------|----|-----|---------|----|--|
|           | <p>Lake Tinaroo<br/>17.166°S<br/>145.557°E</p>  |   |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
| IMPOUNDMENT  | ACTUAL  | GRAPH or MAP  |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
| <p>Grid map<br/>Lake Tinaroo LTA<br/>Bathymetry<br/>Surface area 35km<sup>2</sup></p>      |   |  |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
| ENVIRONMENTAL  |   |   |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
| <p>Mean monthly rainfall (mm)<br/>Mean monthly air temperature (oC)</p>                    | <table border="1"> <thead> <tr> <th>Rainfall</th> <th>Month</th> <th>mm</th> </tr> </thead> <tbody> <tr> <td>Max</td> <td>Jan</td> <td>270</td> </tr> <tr> <td></td> <td>Feb-Mar</td> <td>266</td> </tr> <tr> <th>Temp</th> <th>Month</th> <th>oC</th> </tr> <tr> <td>Max</td> <td>Nov-Dec</td> <td>31</td> </tr> </tbody> </table> | Rainfall  | Month | mm | Max | Jan | 270 |  | Feb-Mar | 266 | Temp | Month | oC | Max | Nov-Dec | 31 |  |
| Rainfall   | Month   | mm  |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
| Max  | Jan   | 270   |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
|  | Feb-Mar   | 266   |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
| Temp   | Month   | oC  |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
| Max  | Nov-Dec   | 31  |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |
| <p>Lake capacity 2020-2024<br/>Spilled<br/>2023 Mar-Apr (103%)<br/>2024 Jan-Sep (107%)</p> |   |   |       |    |     |     |     |  |         |     |      |       |    |     |         |    |  |

| FISHERS  |                         | ACTUAL   |          | GRAPH or MAP |      |
|--|-------------------------|----------|----------|--------------|------|
| <b>DATA RELIABILITY</b>                                  |                         |          |          |              |      |
| Sample size (days fished)                                | Reliability level       | LOW      | MODERATE | MODERATE     | HIGH |
| Days fished (blue arrow)                                 | Samples                 | 10       | 41       | 68           | 271  |
| Confidence %   | Confidence              | 80%      | 80%      | 90%          | 90%  |
| Error %  | Error                   | 20%      | 10%      | 10%          | 5%   |
| 2020-2024  |                         |          |          |              |      |
| <b>TYPE OF FISHERY</b>                                   |                         |          |          |              |      |
| Seasonality  | Best Barramundi fishing |          |          |              |      |
| Mean monthly rainfall (mm)                               | Jan-Apr                 |          |          |              |      |
| Mean monthly rainfall (mm)                               | Sep-Dec                 |          |          |              |      |
| 2020-2024  |                         |          |          |              |      |
| Seasonality  | Months most effort      |          |          |              |      |
| Mean monthly rainfall (mm)                               | Days                    | 112      |          |              |      |
| Days fished combined                                     |                         | Jan      |          |              |      |
| Taggers  |                         | Oct      |          |              |      |
| Recapture fishers  |                         | Dec      |          |              |      |
| 2020-2024  |                         |          |          |              |      |
| Harvest or experiential fishery                          | Legal fish kept rate    |          |          |              |      |
| Release rate of recaptured legal Barramundi (ex-taggers) | Legal fish              | 69       |          |              |      |
| 2020-2024  | Kept                    | 10 (14%) |          |              |      |
|  | Released                | 59 (86%) |          |              |      |
| Local or visitor fishery                                 | Recapture fishers       |          |          |              |      |
| Where recapture fishers live                             | Local                   | 60 (83%) |          |              |      |
| 2020-2024  | Visitor                 | 12 (17%) |          |              |      |
| <b>ACTIVITY</b>  |                         |          |          |              |      |
| Monthly activity   | Month                   |          | %        |              |      |
| Days fished  | Taggers                 | Oct      | 23%      |              |      |
| Taggers (47)   |                         | Sep      | 21%      |              |      |
| Recapture fishers (76)                                   | Recaps                  | Dec      | 18%      |              |      |
| 2020-2024  |                         | Oct      | 16%      |              |      |
|  |                         |          |          |              |      |



| EFFORT   |            |               |  |
|--|------------|---------------|--|
| <b>Cumulative recaptures 2020-2024</b>   | Year       | Recaptures    |  |
|  | 2020       | 9             |  |
|  | 2021       | 18            |  |
|  | 2022       | 16            |  |
|  | 2023       | 22            |  |
|  | 2024       | 9             |  |
| TRAVEL   |            |               |  |
| <b>Cumulative distance from where recapture fishers live to recapture location 2020-2024</b> | Year       | Distance (km) |  |
|  | 2020       | 151           |  |
|  | 2021       | 465           |  |
|  | 2022       | 9602          |  |
|  | 2023       | 3852          |  |
|  | 2024       | 2468          |  |
| <b>Distance from where recapture fishers live to recapture location 2020-2024</b>            | Trips      | 68            |  |
|  | Local      | 4-50          |  |
|  | Intrastate | 170-1372      |  |
|  | Interstate | 1047-2239     |  |
| <b>Average distance from where recapture fishers live to recapture location 2020-2024</b>    | Trips      | 72            |  |
|  | Local      | 22            |  |
|  | Intrastate | 872           |  |
|  | Interstate | 1707          |  |
| DEMOGRAPHICS   |            |               |  |
| <b>Gender of recapture fishers 2020-2024</b>   | Fishers    | 72            |  |
|  | Female     | 9 (12%)       |  |
|  | Male       | 63 (88%)      |  |
| <b>Where recapture fishers live 2020-2024</b>  | Fishers    | 72            |  |
|  | Local      | 60 (83%)      |  |
|  | Intrastate | 7 (10%)       |  |
|  | Interstate | 5 (7%)        |  |

Where fishers recapturing  
fish live  
Local  
2020-2024



**Where fishers recapturing**

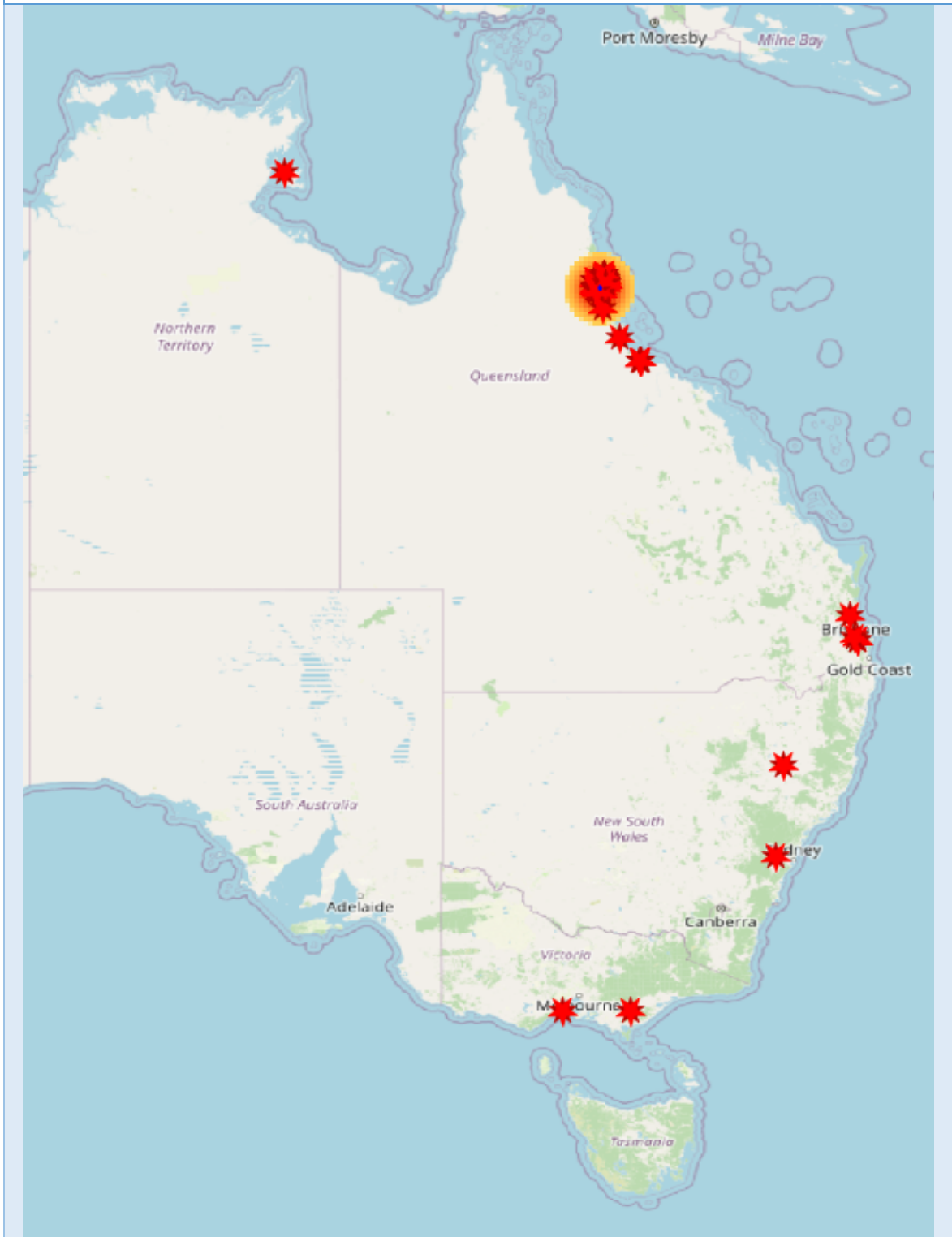
**fish live**


**Local**

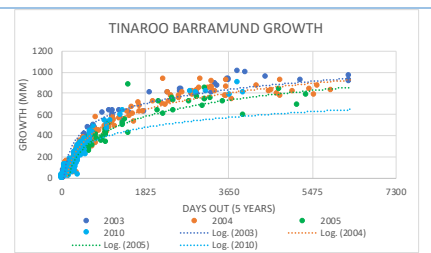
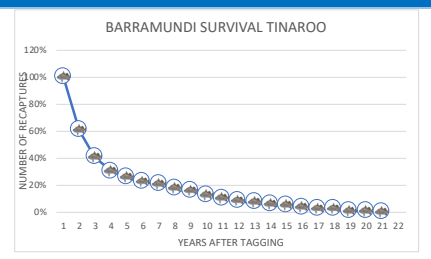
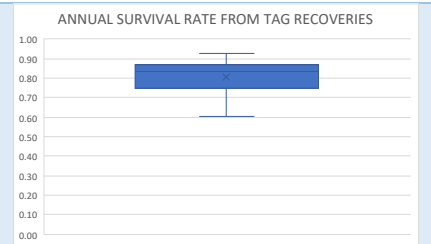
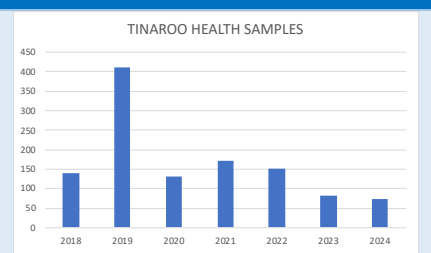
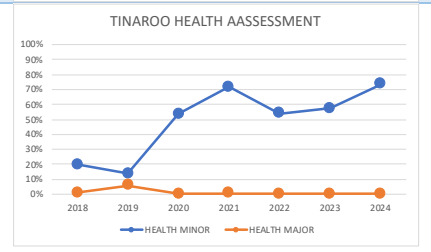
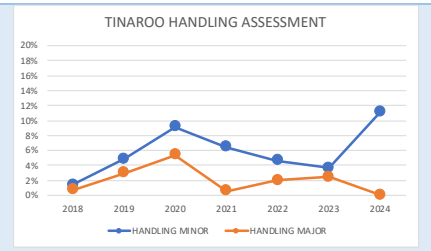
**Intrastate**

**Interstate**

**2020-2024**



| FISH  | ACTUAL  | GRAPH or MAP   |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
|---|---|--|--------------|-------------|--------------|--------|--------|------|-------|---------|------|---------|--------|--------|--------|---------|-------|--------|--------|---------|-------|---------|-------|-------|--------|-------|--------|--------|------|------|--------|-----|
| <b>BARRAMUNDI</b>   |   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
|  |   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>STOCKING</b>   |   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>Fingerlings stocked 2010-2018</b>  | Barramundi 137,000                            | <table border="1"> <caption>TINAROO STOCKED BARRAMUNDI FINGERLINGS</caption> <thead> <tr> <th>Year</th> <th>Fingerlings</th> </tr> </thead> <tbody> <tr><td>2010</td><td>~5,000</td></tr> <tr><td>2011</td><td>0</td></tr> <tr><td>2012</td><td>~15,000</td></tr> <tr><td>2013</td><td>~18,000</td></tr> <tr><td>2014</td><td>~8,000</td></tr> <tr><td>2015</td><td>~10,000</td></tr> <tr><td>2016</td><td>~2,000</td></tr> <tr><td>2017</td><td>~40,000</td></tr> <tr><td>2018</td><td>~45,000</td></tr> </tbody> </table>  | Year         | Fingerlings | 2010         | ~5,000 | 2011   | 0    | 2012  | ~15,000 | 2013 | ~18,000 | 2014   | ~8,000 | 2015   | ~10,000 | 2016  | ~2,000 | 2017   | ~40,000 | 2018  | ~45,000 |       |       |        |       |        |        |      |      |        |     |
| Year  | Fingerlings                                   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2010  | ~5,000  |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2011  | 0   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2012  | ~15,000                                       |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2013  | ~18,000                                       |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2014  | ~8,000  |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2015  | ~10,000                                       |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2016  | ~2,000  |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2017  | ~40,000                                       |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2018  | ~45,000                                       |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>BATCH STOCKING TAGGED FINGERLINGS 2003-2011</b>                                |   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>BATCH RELEASES</b>   |   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>Fingerlings tagged and released</b>  | Year Fish Recap                               | <table border="1"> <caption>TINAROO BARRAMUNDI 2003-2011</caption> <thead> <tr> <th>Year</th> <th>Tagged</th> <th>Recaptured</th> </tr> </thead> <tbody> <tr><td>2003</td><td>~1,000</td><td>~50</td></tr> <tr><td>2004</td><td>~8,000</td><td>~100</td></tr> <tr><td>2005</td><td>~2,000</td><td>~50</td></tr> <tr><td>2006</td><td>~1,000</td><td>~20</td></tr> <tr><td>2007</td><td>~1,000</td><td>~20</td></tr> <tr><td>2008</td><td>~1,000</td><td>~20</td></tr> <tr><td>2009</td><td>~1,000</td><td>~20</td></tr> <tr><td>2010</td><td>~3,000</td><td>~100</td></tr> <tr><td>2011</td><td>~1,000</td><td>~50</td></tr> </tbody> </table> | Year         | Tagged      | Recaptured   | 2003   | ~1,000 | ~50  | 2004  | ~8,000  | ~100 | 2005    | ~2,000 | ~50    | 2006   | ~1,000  | ~20   | 2007   | ~1,000 | ~20     | 2008  | ~1,000  | ~20   | 2009  | ~1,000 | ~20   | 2010   | ~3,000 | ~100 | 2011 | ~1,000 | ~50 |
| Year  | Tagged  |  | Recaptured   |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2003  | ~1,000  |  | ~50          |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2004  | ~8,000  |  | ~100         |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2005  | ~2,000  |  | ~50          |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2006  | ~1,000  | ~20  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2007  | ~1,000  | ~20  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2008  | ~1,000  | ~20  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2009  | ~1,000  | ~20  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2010  | ~3,000  | ~100   |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| 2011  | ~1,000  | ~50  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>Recapture rate (%) based on year tagged 2003-2011</b>                          | 2003 1155 6.2%                                |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
|   | 2004 8239 1.5%                                |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
|   | 2005 3110 1.7%                                |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
|   | 2010 3053 7.7%                                |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>Recapture percentage (%) of batch released tagged fish 2003-2010</b>           | Low W2004 0.2%<br>High SP2003 6.2%            | <table border="1"> <caption>RECAPTURES OF BATCH TAGGED BARRAMUNDI</caption> <thead> <tr> <th>Year</th> <th>Tagged</th> <th>% Recaptured</th> </tr> </thead> <tbody> <tr><td>SP2003</td><td>~1,000</td><td>6.2%</td></tr> <tr><td>W2004</td><td>~4,000</td><td>0.2%</td></tr> <tr><td>SP2004</td><td>~2,000</td><td>~1.5%</td></tr> <tr><td>SU2004</td><td>~2,000</td><td>~1.7%</td></tr> <tr><td>SU2005</td><td>~1,500</td><td>~1.5%</td></tr> <tr><td>A2005</td><td>~1,000</td><td>~1.5%</td></tr> <tr><td>W2005</td><td>~1,000</td><td>~1.5%</td></tr> <tr><td>SU2010</td><td>~3,000</td><td>7.7%</td></tr> </tbody> </table>                | Year         | Tagged      | % Recaptured | SP2003 | ~1,000 | 6.2% | W2004 | ~4,000  | 0.2% | SP2004  | ~2,000 | ~1.5%  | SU2004 | ~2,000  | ~1.7% | SU2005 | ~1,500 | ~1.5%   | A2005 | ~1,000  | ~1.5% | W2005 | ~1,000 | ~1.5% | SU2010 | ~3,000 | 7.7% |      |        |     |
| Year  | Tagged  |  | % Recaptured |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| SP2003  | ~1,000  | 6.2%   |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| W2004   | ~4,000  | 0.2%   |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| SP2004  | ~2,000  | ~1.5%  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| SU2004  | ~2,000  | ~1.7%  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| SU2005  | ~1,500  | ~1.5%  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| A2005   | ~1,000  | ~1.5%  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| W2005   | ~1,000  | ~1.5%  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| SU2010  | ~3,000  | 7.7%   |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
|   | 0%<br>Poor recaptures from winter releases    |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>Batch releases of tagged fish recapture rate 2003-2010</b>                     | Average length Low SU2010 194 High SU2005 341 |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>2003-2010</b><br>SU = summer<br>SP = spring<br>W = winter<br>A - autumn        |   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>GROWTH</b>   |   |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |
| <b>Timeline of fish sizes 2001-2021</b>   | Releases 2003 2004 2005 2010                  |  |              |             |              |        |        |      |       |         |      |         |        |        |        |         |       |        |        |         |       |         |       |       |        |       |        |        |      |      |        |     |

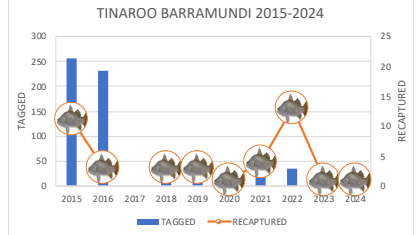
| <b>Growth from releases</b>   | Releases<br>2003<br>2004<br>2005<br>2010  |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
|---|---|--|------------|-------------------|-----------|--|------|------|------|------|-------------------|-----|-----|--|------|--|------|------|------|------|------|----|--|
| <b>SURVIVAL</b>   |   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| <b>Barramundi survival based on recaptures by years out after tagging All years</b> | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Year</th> <th>Recaptures</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>507</td> </tr> <tr> <td>5</td> <td>130</td> </tr> <tr> <td>10</td> <td>63</td> </tr> <tr> <td>15</td> <td>23</td> </tr> <tr> <td>20</td> <td>2</td> </tr> <tr> <td>Longest time (years)</td> <td>20.0</td> </tr> </tbody> </table>   | Year   | Recaptures | 1                 | 507       | 5  | 130  | 10   | 63   | 15   | 23                | 20  | 2   | Longest time (years)   | 20.0 |  |      |      |      |      |      |    |  |
| Year  | Recaptures  |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 1   | 507   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 5   | 130   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 10  | 63  |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 15  | 23  |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 20  | 2   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| Longest time (years)  | 20.0  |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| <b>Annual survival rate based on lowering rate of recaptures each year</b>          | <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>Survival year 1</td> <td>0.6 (60%)</td> </tr> <tr> <td>Average all years</td> <td>0.8 (80%)</td> </tr> </tbody> </table>  | Survival year 1  | 0.6 (60%)  | Average all years | 0.8 (80%) |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| Survival year 1   | 0.6 (60%)   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| Average all years   | 0.8 (80%)   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| <b>FISH HEALTH AND HANDLING</b>   |   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| <b>Fish health from photos Fish images 2018-2024</b>                                | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>High</th> <th>Low</th> <th>Now</th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>2023</td> <td>2024</td> </tr> <tr> <td>410</td> <td>82</td> <td>72</td> </tr> <tr> <td colspan="3">Total images 1160</td> </tr> </tbody> </table>   | High   | Low        | Now               | 2019      | 2023   | 2024 | 410  | 82   | 72   | Total images 1160 |     |     |  |      |  |      |      |      |      |      |    |  |
| High  | Low   | Now  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 2019  | 2023  | 2024   |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 410   | 82  | 72   |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| Total images 1160   |   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| <b>Fish health assessment Fins/lesions and skin condition 2018-2024</b>             | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>High</th> <th>Low</th> <th>Now</th> </tr> </thead> <tbody> <tr> <td>Minor</td> <td></td> <td></td> </tr> <tr> <td>2023</td> <td>2019</td> <td>2024</td> </tr> <tr> <td>72%</td> <td>14%</td> <td>74%</td> </tr> <tr> <td>Major</td> <td></td> <td></td> </tr> <tr> <td>2019</td> <td>2023</td> <td>2024</td> </tr> <tr> <td>5.9%</td> <td>0%</td> <td>0%</td> </tr> </tbody> </table> | High   | Low        | Now               | Minor     |  |      | 2023 | 2019 | 2024 | 72%               | 14% | 74% | Major  |      |  | 2019 | 2023 | 2024 | 5.9% | 0%   | 0% |  |
| High  | Low   | Now  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| Minor   |   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 2023  | 2019  | 2024   |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 72%   | 14%   | 74%  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| Major   |   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 2019  | 2023  | 2024   |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 5.9%  | 0%  | 0%   |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| <b>Handling assessment Bleeding and scale loss 2018-2024</b>                        | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>High</th> <th>Low</th> <th>Now</th> </tr> </thead> <tbody> <tr> <td>Minor</td> <td></td> <td></td> </tr> <tr> <td>2020</td> <td>2018</td> <td>2024</td> </tr> <tr> <td>9%</td> <td>1%</td> <td>11%</td> </tr> <tr> <td>Major</td> <td></td> <td></td> </tr> <tr> <td>2020</td> <td>2021</td> <td>2024</td> </tr> <tr> <td>5.3%</td> <td>0.6%</td> <td>0%</td> </tr> </tbody> </table> | High   | Low        | Now               | Minor     |  |      | 2020 | 2018 | 2024 | 9%                | 1%  | 11% | Major  |      |  | 2020 | 2021 | 2024 | 5.3% | 0.6% | 0% |  |
| High  | Low   | Now  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| Minor   |   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 2020  | 2018  | 2024   |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 9%  | 1%  | 11%  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| Major   |   |  |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 2020  | 2021  | 2024   |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |
| 5.3%  | 0.6%  | 0%   |            |                   |           |  |      |      |      |      |                   |     |     |  |      |  |      |      |      |      |      |    |  |

## TAGGED 2015-2024

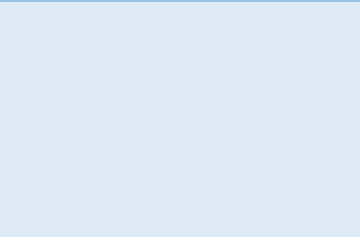
### TAGGED

**Fish tagged and released  
Recapture rate (%) based  
on year tagged  
2015-2024**

| Year | Fish Batch releases | Recap     |
|------|---------------------|-----------|
| 2015 | 257                 | 11 (4.3%) |
| 2016 | 232                 | 3 (1.3%)  |

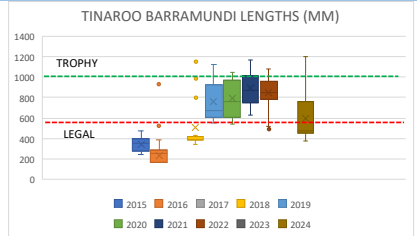


**Fish tagged and released  
Recaptures each year  
2015-2024**



**Fish lengths of tagged fish  
2015-2024**

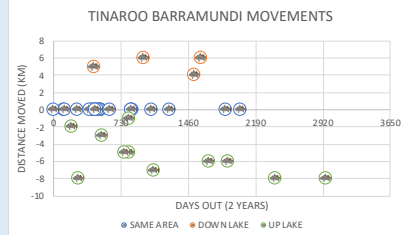
Batch releases  
2015  
2016



## MOVEMENT

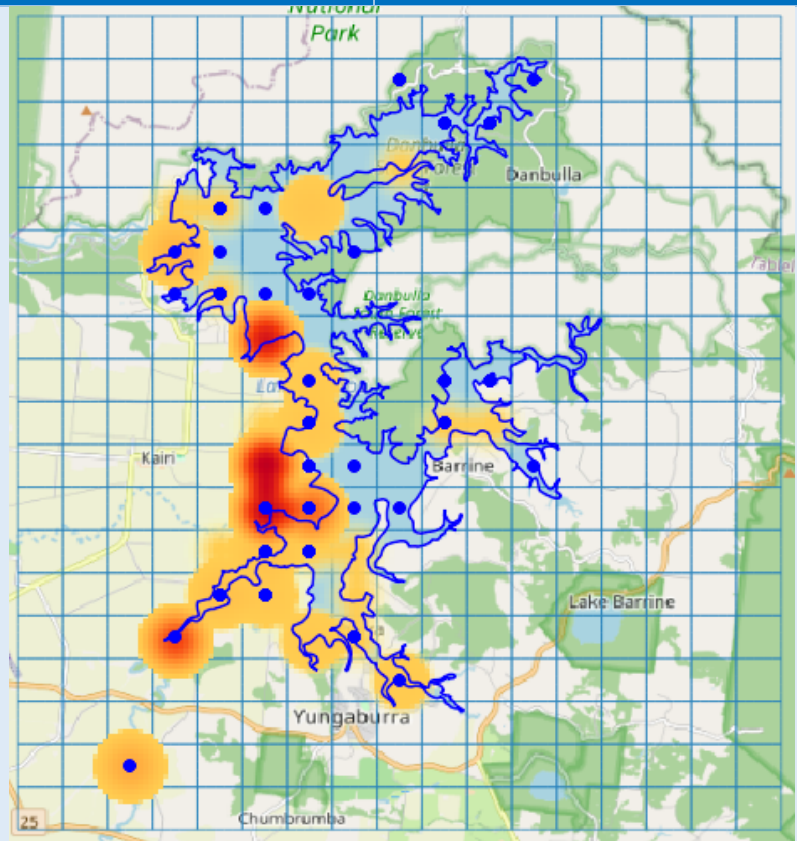
**Fish movement  
2015-2024**


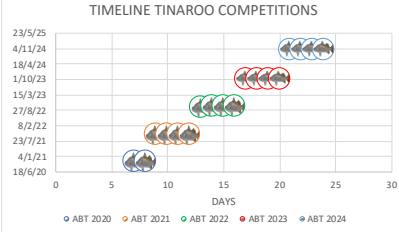
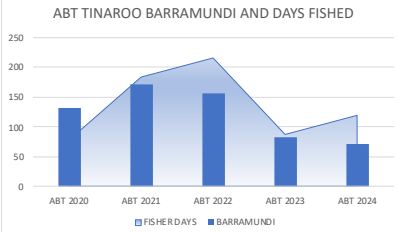
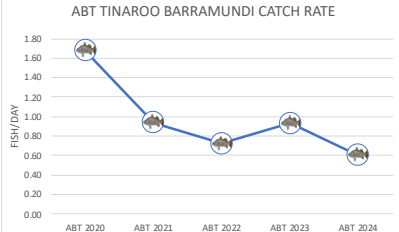
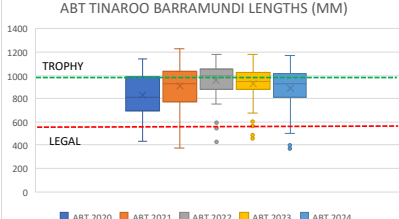
|                      |          |
|----------------------|----------|
| Number of recaptures | 36       |
| Same area            | 21 (58%) |
| Down lake            | 4 (11%)  |
| Up lake              | 11 (31%) |
| Outside lake         | 0        |



## LOCATIONS

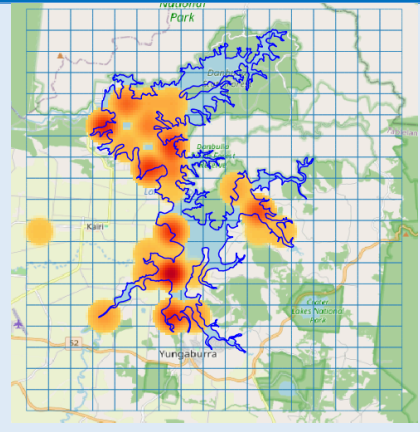
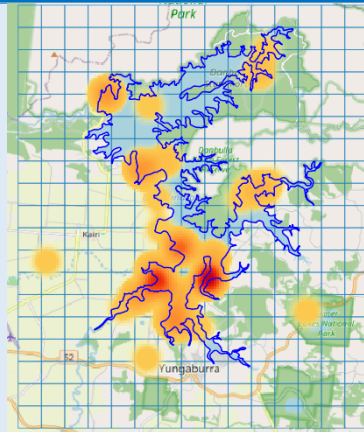
**Location activity  
Fish tagged (671)  
(red-orange heat map)  
Recaptures (109)  
(blue dots)  
2015-2024**



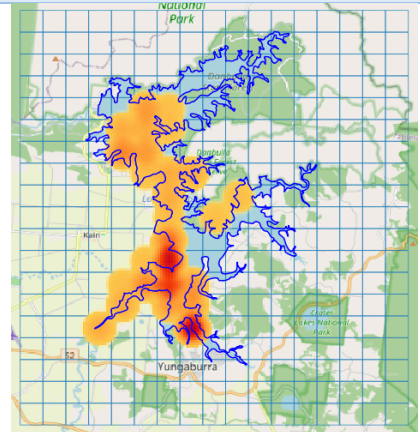
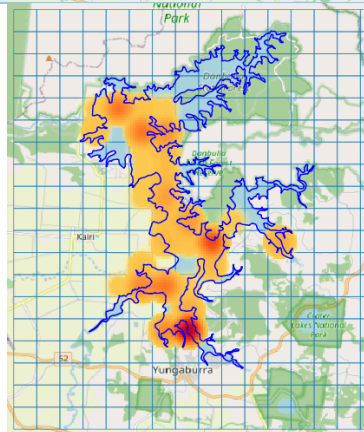
| COMPETITIONS  | ACTUAL   | GRAPH or MAP  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
|---|--|---|------------|----------|----------|----------|------|----------|-----|----------|----------|----------|------|--|-----|------|----------|-----|------|--|
| <b>EVENTS</b>   |  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| Event<br>ABT 2020<br>ABT 2021<br>ABT 2022<br>ABT2023<br>ABT2024               | Target<br>Barramundi   |  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| <b>TIMELINE</b>   |  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| Timeline of events<br>ABT 2020<br>ABT 2021<br>ABT 2022<br>ABT 2023<br>ABT2024 | Dates<br>ABT 2020 30/10/2020 (2 days)<br>ABT 2021 15-18/10/2021 (4 days)<br>ABT 2022 7-10/10/2022 (4 days)<br>ABT 2023 29/9-2/10/2023 (4 days)<br>ABT2024 13-16/10/2024 (4 days)   |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| <b>EFFORT</b>   |  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| Days fished and<br>Barramundi catch   | <table border="1"> <thead> <tr> <th></th> <th>Days</th> <th>Fish</th> </tr> </thead> <tbody> <tr> <td>ABT 2020</td> <td>78</td> <td>131</td> </tr> <tr> <td>ABT 2021</td> <td>184</td> <td>172</td> </tr> <tr> <td>ABT 2022</td> <td>216</td> <td>156</td> </tr> <tr> <td>ABT 2023</td> <td>88</td> <td>82</td> </tr> <tr> <td>ABT 2024</td> <td>120</td> <td>72</td> </tr> </tbody> </table>            |   | Days       | Fish     | ABT 2020 | 78       | 131  | ABT 2021 | 184 | 172      | ABT 2022 | 216      | 156  | ABT 2023   | 88  | 82   | ABT 2024 | 120 | 72   |   |
|   | Days   | Fish  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2020  | 78   | 131   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2021  | 184  | 172   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2022  | 216  | 156   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2023  | 88   | 82  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2024  | 120  | 72  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| <b>CATCH RATE</b>   |  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| Catch rates<br>Fish/fisher day<br>All fishers                                 | <table border="1"> <thead> <tr> <th></th> <th>Catch rate</th> </tr> </thead> <tbody> <tr> <td>ABT 2020</td> <td>1.7</td> </tr> <tr> <td>ABT 2021</td> <td>0.9</td> </tr> <tr> <td>ABT 2022</td> <td>0.7</td> </tr> <tr> <td>ABT 2023</td> <td>0.9</td> </tr> <tr> <td>ABT 2024</td> <td>0.6</td> </tr> </tbody> </table>   |   | Catch rate | ABT 2020 | 1.7      | ABT 2021 | 0.9  | ABT 2022 | 0.7 | ABT 2023 | 0.9      | ABT 2024 | 0.6  |  |     |      |          |     |      |  |
|   | Catch rate   |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2020  | 1.7  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2021  | 0.9  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2022  | 0.7  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2023  | 0.9  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2024  | 0.6  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| <b>LENGTHS</b>  |  |   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| Barramundi median<br>lengths (mm)<br>Bars show smallest and<br>largest fish   | <table border="1"> <thead> <tr> <th></th> <th>Average</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>ABT 2020</td> <td>827</td> <td>1140</td> </tr> <tr> <td>ABT 2021</td> <td>906</td> <td>1230</td> </tr> <tr> <td>ABT 2022</td> <td>960</td> <td>1180</td> </tr> <tr> <td>ABT 2023</td> <td>927</td> <td>1180</td> </tr> <tr> <td>ABT 2024</td> <td>887</td> <td>1170</td> </tr> </tbody> </table> |   | Average    | Max      | ABT 2020 | 827      | 1140 | ABT 2021 | 906 | 1230     | ABT 2022 | 960      | 1180 | ABT 2023   | 927 | 1180 | ABT 2024 | 887 | 1170 |  |
|   | Average  | Max   |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2020  | 827  | 1140  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2021  | 906  | 1230  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2022  | 960  | 1180  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2023  | 927  | 1180  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |
| ABT 2024  | 887  | 1170  |            |          |          |          |      |          |     |          |          |          |      |  |     |      |          |     |      |  |

## LOCATIONS

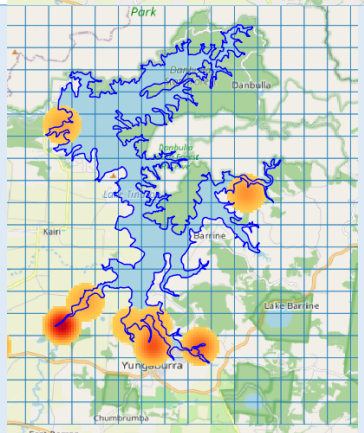
Heat map  
Competition Barramundi  
ABT 2020 (middle)  
ABT 2021 (right)



Heat map  
Competition Barramundi  
ABT 2022 (middle)  
ABT 2023 (right)



Heat map  
Competition Barramundi  
(incomplete)  
ABT 2024



## Data sources

Data used in the Tinaroo Barramundi Crystal Bowl:

- Tag records and recapture records for Lake Tinaroo at <http://crystalbowl.infofishaustralia.com.au/>.
- Competition records from Infofish <http://tournaments.trackmy.fish/> .
- Dam level data from Sunwater <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/> .
- Rainfall from station 031075 Tinaroo and temperature from station 031108 Walkamin 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.
- Tag and recapture locations based on Infofish grid map LTA for the area with 1km<sup>2</sup> grids.
- Growth calculated using logarithmic trendline from recaptures where fish were out for 90 days or more and had positive growth.
- Distance from where fisher 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.