

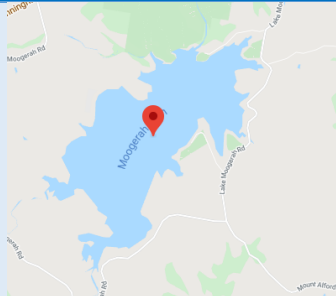

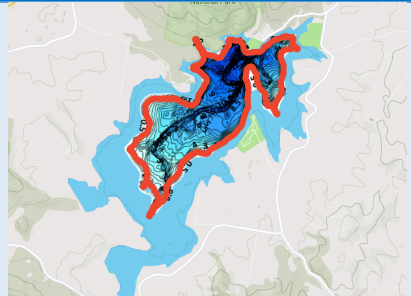
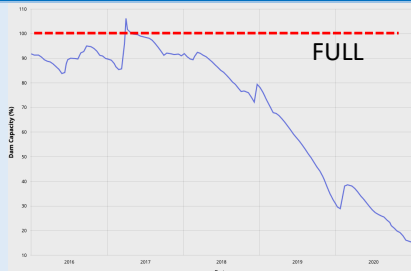
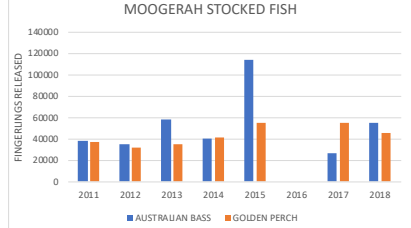
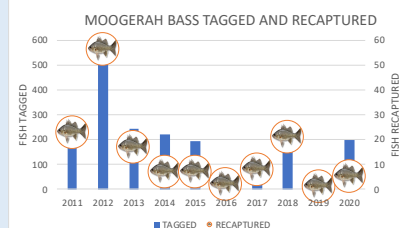
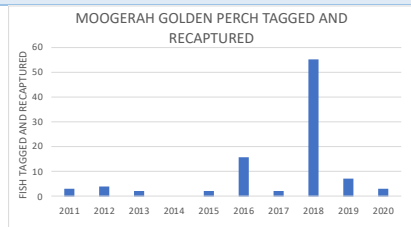
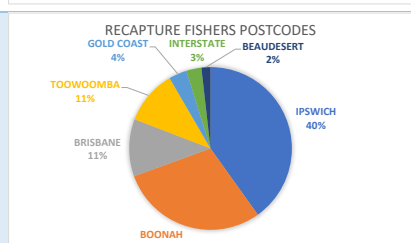
LAKE MOOGERAH
AUSTRALIAN BASS AND GOLDEN PERCH 2011-2020
2020 REVIEW

AVAILABLE		AVAILABLE	
Dam capacity	✓	Storage level	✓
Stocked fish numbers	✓	Bathymetry	✓
Tagged fish	✓	Recaptures	✓
Postcodes	✓	Competitions	
Species		Australian Bass	
Catch rates	✓	Fish sizes	✓
Growth	✓	Survival	✓
Tag locations	✓	Fish Movement	✓
Species		Golden Perch	
Catch rates	✓	Fish sizes	✓
Growth		Survival	
Tag locations	✓	Fish Movement	

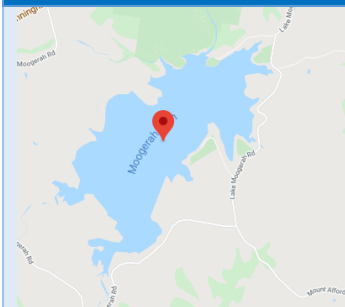
Summary

- Dam level on 31 Dec 2020 was 15.3%
- From 2011-2018 there were 368.9K Bass and 302.8K Golden Perch fingerlings released
- The number of fingerlings released was roughly the same but there were 2,054 Bass tagged for 147 recaptures (7.2%) while there were just 94 Golden Perch tagged for 0 recaptures
- The catch rate for Bass in 2020 was 13.3 fish/fisher day while the average historic catch rate was 12.0 fish/fisher day
- The average length of Bass in 2020 was 339mm and ranged from 240-455mm
- The percentage of legal Bass in 2020 was 75.5% with 0% trophy fish 500mm and over
- Annual Bass growth calculated from tag recaptures at the end of year 1 is 45mm and at the end of year 5 is 97mm
- Longest time out for a Bass after tagging is around 12 years although there has been 1 recapture after 15.6 years
- Of the 123 Bass recaptured over the past 10 years and tagged since 2011 there were 0 recaptured outside the impoundment
- All fish recaptured outside the impoundment were tagged prior to 2011 and recaptured after 2011
- There were 5 fish recaptured below the dam with 2 in Reynolds Creek, 2 in Warrill Creek and 1 in Bremer River
- Based on postcodes of fishers recapturing fish they were from Ipswich (40%), Boonah (29%), Brisbane (11%) and Toowoomba (11%)
- There were 5 fish recaptured by fishers with postcodes outside Queensland with 3 from NSW, 1 from VIC and 1 from NT

Infotish Australia
 March 2021

LAKE MOOGERAH	LOCATION	BATHYMETRY																					
																							
MEASURE	ACTUAL	GRAPH or MAP																					
Surface area Lake level	Surface area 8.3km ² Level at 31 Dec 2020 15.3% For latest level https://www.seqwater.com.au/historic-dam-levels																						
Fingerlings stocked 2011-2018	<table><tr><td>HIGHEST</td><td>LOWEST</td><td>TOTAL</td></tr><tr><td colspan="3">BASS</td></tr><tr><td>2015</td><td>2016</td><td></td></tr><tr><td>114.3K</td><td>0</td><td>368.9K</td></tr><tr><td colspan="3">GOLDEN PERCH</td></tr><tr><td>2017</td><td>2016</td><td></td></tr><tr><td>55.6K</td><td>0</td><td>302.8K</td></tr></table>	HIGHEST	LOWEST	TOTAL	BASS			2015	2016		114.3K	0	368.9K	GOLDEN PERCH			2017	2016		55.6K	0	302.8K	
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BASS																							
2015	2016																						
114.3K	0	368.9K																					
GOLDEN PERCH																							
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55.6K	0	302.8K																					
Bass tagged and recaptured 2011-2020	<table><tr><td>TAGGED</td><td>RECAPTURED</td></tr><tr><td>2049</td><td>140</td></tr><tr><td colspan="2">RECAPTURE RATE</td></tr><tr><td colspan="2">6.8%</td></tr></table>	TAGGED	RECAPTURED	2049	140	RECAPTURE RATE		6.8%															
TAGGED	RECAPTURED																						
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Golden Perch tagged and recaptured 2011-2020	<table><tr><td>TAGGED</td><td>RECAPTURED</td></tr><tr><td>94</td><td>0</td></tr><tr><td colspan="2">RECAPTURE RATE</td></tr><tr><td colspan="2">0%</td></tr></table>	TAGGED	RECAPTURED	94	0	RECAPTURE RATE		0%															
TAGGED	RECAPTURED																						
94	0																						
RECAPTURE RATE																							
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Postcodes of recapture fishers 2011-2020	<table><tr><td>Recaptures</td><td>195</td></tr><tr><td>Region</td><td>Fishers</td></tr><tr><td>Ipswich</td><td>40%</td></tr><tr><td>Boonah</td><td>29%</td></tr><tr><td>Brisbane</td><td>11%</td></tr><tr><td>Toowoomba</td><td>11%</td></tr></table>	Recaptures	195	Region	Fishers	Ipswich	40%	Boonah	29%	Brisbane	11%	Toowoomba	11%										
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LAKE MOOGERAH



AUSTRALIAN BASS



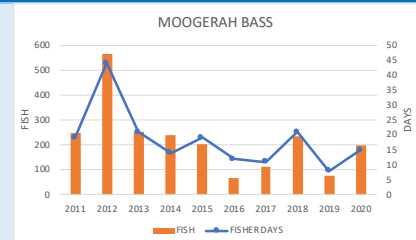
MEASURE

ACTUAL

GRAPH or MAP

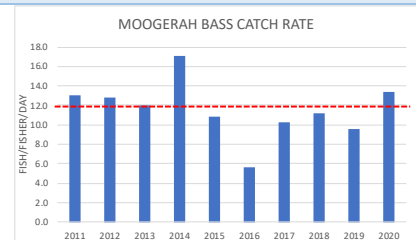
**Catch and effort
number of fish
fisher days
T20 fishers
2011-2020**

HIGHEST CATCH	LOWEST CATCH	NOW
2012	2016	2020
565	68	200
EFFORT		
2012	2019	2020
44	8	15



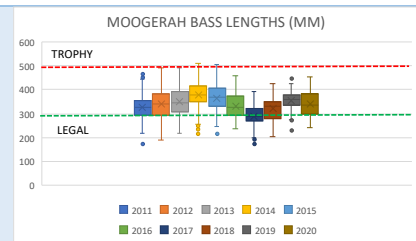
**Catch rate
Fish/fisher day
2011-2020**

HIGHEST CATCH RATE	LOWEST CATCH RATE	NOW
2014	2016	2020
17.1	5.7	13.3
10 YEAR AVERAGE		12.0



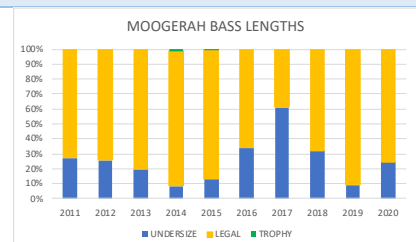
**Average length (mm)
Bars show smallest and
largest fish
2011-2020**

HIGHEST AVERAGE LENGTH	LOWEST AVERAGE LENGTH	NOW
2014	2017	2020
376	286	338
LARGEST		
2014	2017	2020
510	395	455



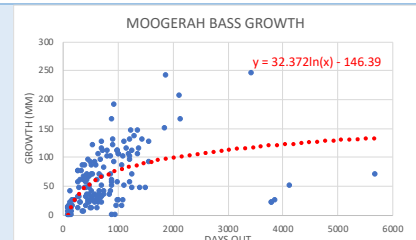
**Fish lengths percentage
Undersize <300mm
Legal 300-499mm
Trophy 500+mm
2011-2020**

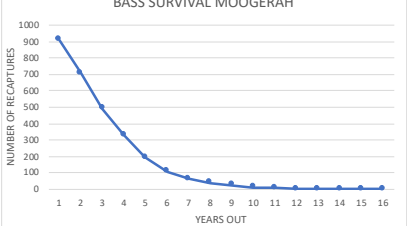
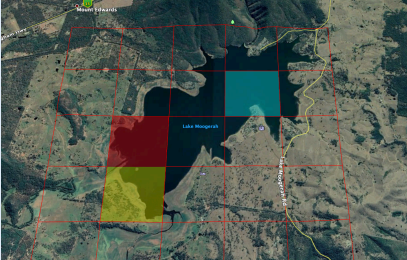
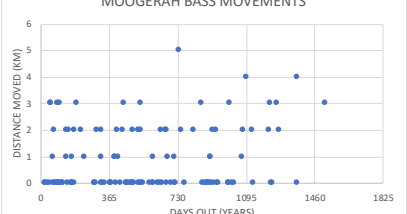
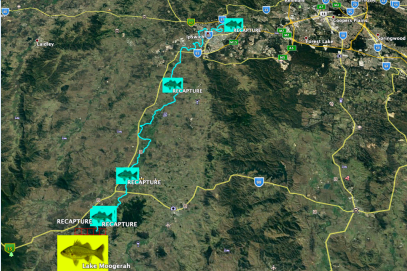
HIGHEST LEGAL	LOWEST LEGAL	NOW
2019	2017	2020
90.9	39.0	75.5
TROPHY		
2014	2016-19	2020
1.3	0	0

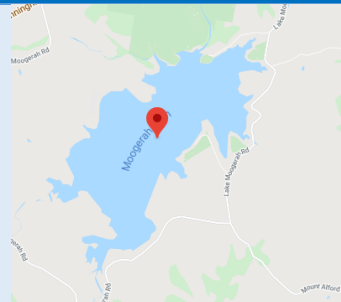

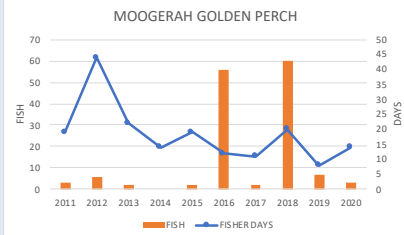
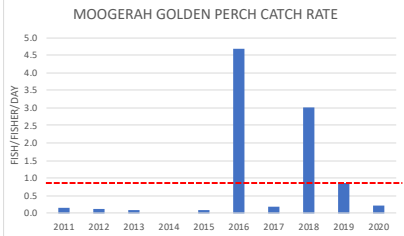
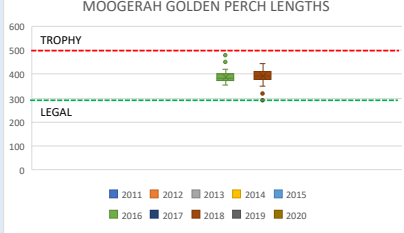
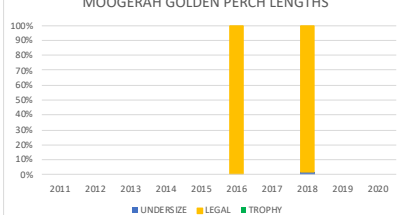
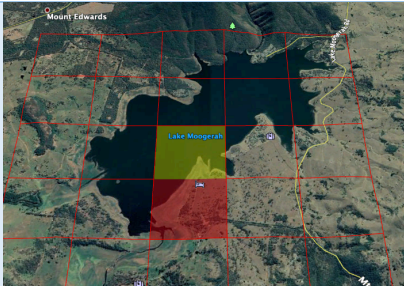


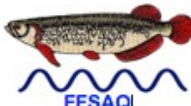


**Bass growth
based on recaptures
2011-2020**

Recaptures	152
ANNUAL GROWTH	
Year 1	44mm
Year 2	67mm
Year 3	80mm
Year 4	89mm
Year 5	96mm



Bass survival based on recaptures by years out after tagging	Survival rate by years out Year Recaptures 1 911 5 193 10 10 12 1 Longest time out (years) 15.6 1	
Grid locations of tagged fish (map LMH) 2011-2020	Grids where most fish caught GRID FISH B3 500 B4 358 D2 276	
Bass movement 2011-2020	Recaptures 123 Recaptured same area 71 (57.7%) Outside lake 0	
Bass recaptured outside impoundment All years	Above lake Below lake 0 5 Warrill/Reynolds Creeks 4 Bremer River 1	

LAKE MOOGERAH			GOLDEN PERCH	
				
MEASURE	ACTUAL			GRAPH or MAP
Catch and effort number of fish fisher days T20 fishers 2011-2020	HIGHEST CATCH 2018 60 EFFORT 2012 44	LOWEST 2014 0 2019 8	NOW 2020 3 2020 15	
Catch rate Fish/fisher day 2011-2020	HIGHEST CATCH RATE 2016 4.7	LOWEST 2014 0	NOW 2020 0.2	
Average length (mm) Bars show smallest and largest fish 2011-2020	AVERAGE LENGTH 2016 389 LARGEST 2016 480	2018 391 2018 445	2020 NA 2020 NA	
Fish lengths percentage Undersize <300mm Legal 300-499mm Trophy 500+mm 2011-2020	LEGAL 2016 100 TROPHY 2016 0	2018 98.3 2018 0	2020 NA 2020 0	
Grid locations of tagged fish (map LMH) 2011-2020	Grids where most fish caught GRID FISH C4 31 C3 13			
 Product of Infotish Australia			  Supported by Suntag and FFSAQ	

Data sources

Data used in the Impoundment Crystal Bowl are:

- Tag records and recapture records for the impoundment at <http://crystalbowl.infofishaustralia.com.au/>
- Dam level data from SEQwater at <https://www.seqwater.com.au/historic-dam-levels>
- Stocked fish records from <https://www.data.qld.gov.au/dataset/queensland-freshwater-fish-stocking-records/>
- Bathymetric data from Infofish surveys or other sources

Basis for analysis

- Catch rates calculated as number of fish caught/fisher day for T20 fishers (taggers) with a minimum of 12 fisher days (at least 1 per month) to provide a reliable catch rate
- Undersized fish 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 LMH for the impoundment and f other grid maps where fish were recaptured outside the impoundment
- Survival rates are calculated based on a model that uses the reduction in the number of recaptures each year after tagging
- Distance moved calculated using Google Earth as the shortest distance by water between the tag and recapture locations