



LAKE SOMERSET

AUSTRALIAN BASS AND GOLDEN PERCH 2011-2020

2020 REVIEW



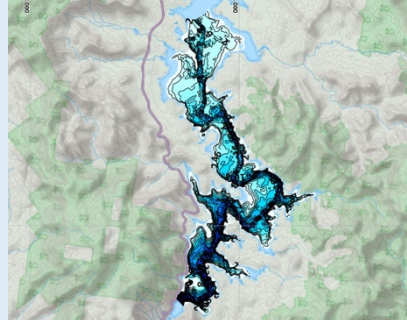

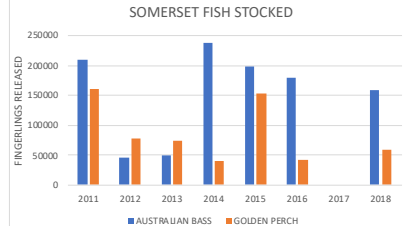
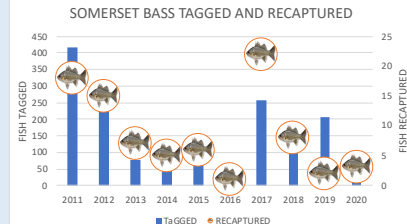
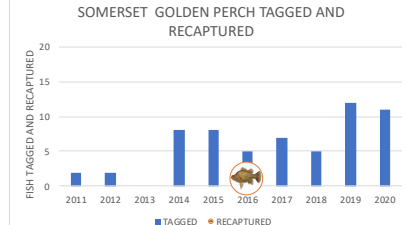
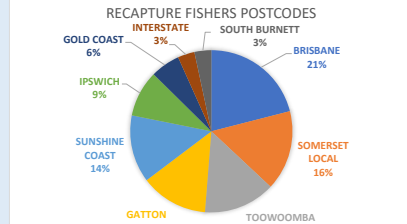
AVAILABLE		AVAILABLE	
Dam capacity	✓	Storage level	✓
Stocked fish numbers	✓	Bathymetry	✓
Tagged fish	✓	Recaptures	✓
Postcodes	✓	Competitions	✓
Species		Australian Bass	
Catch rates	✓	Fish sizes	✓
Growth	✓	Survival	✓
Tag locations	✓	Fish Movement	✓
Species		Golden Perch	
Catch rates	✓	Fish sizes	
Growth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



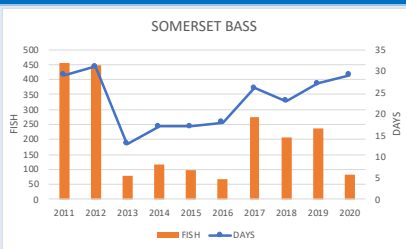
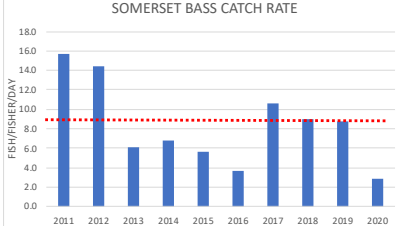
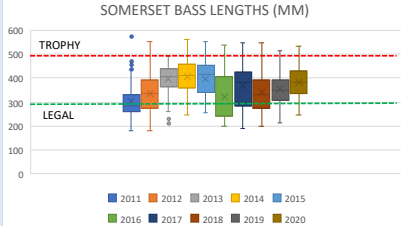
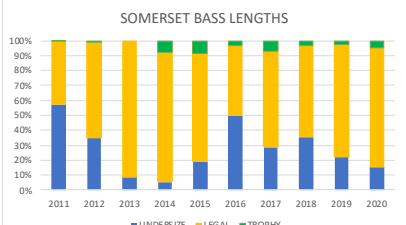
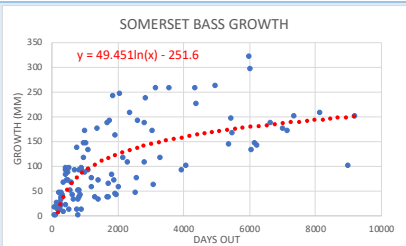
Summary

- From 2011-2018 there were 1.08M Bass and 611.8K Golden Perch fingerlings released
- From 2011- 2020 there were 1,781 Bass tagged for 87 recaptures (4.9%) while there 60 Golden Perch tagged for 1 recapture (1.7%)
- The historic catch rate for Bass for taggers was 8.0 fish/fisher day and for Golden Perch it was 0.3 fish/fisher day while in 2020 it was 2.9 for Bass and 0.4 for Golden Perch
- The tag rate for Bass has declined over the past 4 years from 10.6 to 2.9 fish/fisher day
- In 2019 the tag rate for Bass was 8.7 fish/fisher day while for T20 fishers in the Reel Somerset Classic competition was 4.0 (legal fish only) and in the Golden Lure competition was 6.5 (legal fish only)
- The average length of Bass over the past 10 years ranged from 300mm in 2011 to 409mm in 2014 while in 2020 it was 384mm
- Over the past 10 years there were 70 trophy Bass over 500mm tagged with the largest being 580mm in 2011
- Over the past 10 years most Bass were tagged in LS01 map grids N6, N4, M6 and N5 while most Golden Perch were tagged in grids N5, N6 and J4
- Longest time out for a tagged Bass was 25.25 years with 3 fish out for over 20 years

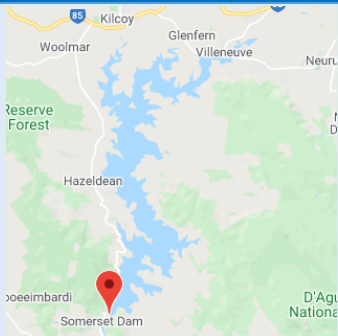

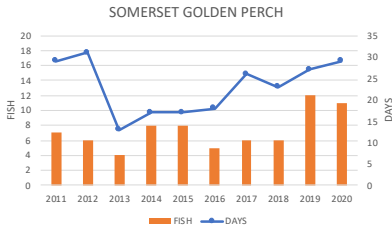
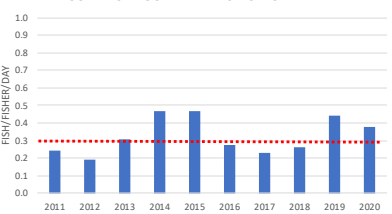
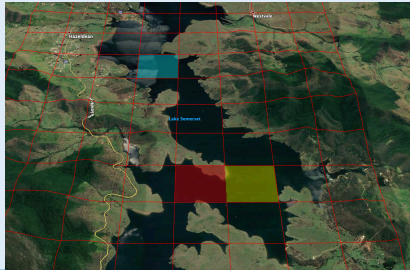



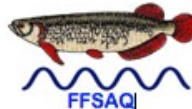
Infofish Australia

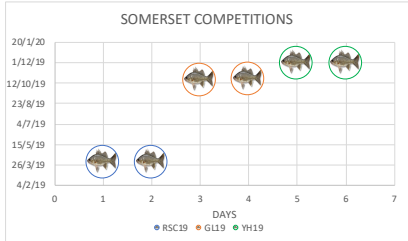
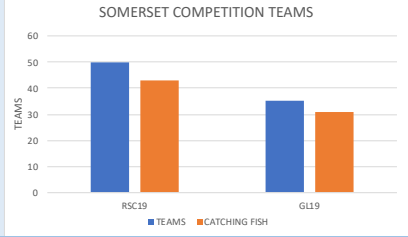
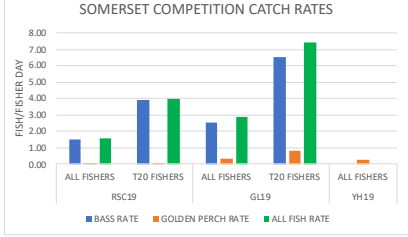
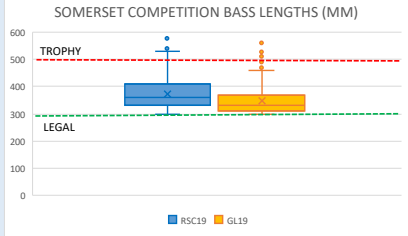
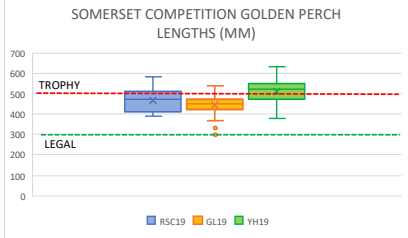
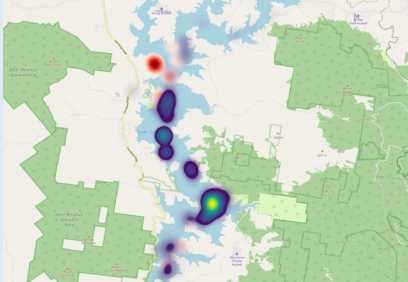
March 2021

LAKE SOMERSET	LOCATION	BATHYMETRY																										
																												
MEASURE	ACTUAL	GRAPH																										
Surface area Lake level	Surface area 42.1km ² Level at 31 Dec 2020 74.9% For latest level https://www.segwater.com.au/historic-dam-levels																											
Fingerlings stocked 2011-2018	<table><tr><th></th><th>HIGHEST</th><th>LOWEST</th><th>TOTAL</th></tr><tr><td>BASS</td><td></td><td></td><td></td></tr><tr><td>2014</td><td>2017</td><td></td><td></td></tr><tr><td>238.0K</td><td>0</td><td>1.08M</td></tr><tr><td>GOLDEN PERCH</td><td></td><td></td><td></td></tr><tr><td>2011</td><td>2017</td><td></td><td></td></tr><tr><td>161.5K</td><td>0</td><td>611.8K</td></tr></table>		HIGHEST	LOWEST	TOTAL	BASS				2014	2017			238.0K	0	1.08M	GOLDEN PERCH				2011	2017			161.5K	0	611.8K	
	HIGHEST	LOWEST	TOTAL																									
BASS																												
2014	2017																											
238.0K	0	1.08M																										
GOLDEN PERCH																												
2011	2017																											
161.5K	0	611.8K																										
Bass tagged and recaptured 2011-2020	<table><tr><th></th><th>TAGGED</th><th>RECAPTURED</th></tr><tr><td></td><td>1781</td><td>87</td></tr><tr><td>RECAPTURE RATE</td><td colspan="2">4.9%</td></tr></table>		TAGGED	RECAPTURED		1781	87	RECAPTURE RATE	4.9%																			
	TAGGED	RECAPTURED																										
	1781	87																										
RECAPTURE RATE	4.9%																											
Golden Perch tagged and recaptured 2011-2020	<table><tr><th></th><th>TAGGED</th><th>RECAPTURED</th></tr><tr><td></td><td>60</td><td>1</td></tr><tr><td>RECAPTURE RATE</td><td colspan="2">1.7%</td></tr></table>		TAGGED	RECAPTURED		60	1	RECAPTURE RATE	1.7%																			
	TAGGED	RECAPTURED																										
	60	1																										
RECAPTURE RATE	1.7%																											
Postcodes of recapture fishers 2011-2020	<table><tr><th></th><th>Recaptures</th><th>Fishers</th></tr><tr><td>Region</td><td></td><td></td></tr><tr><td>Brisbane</td><td>21%</td><td></td></tr><tr><td>Somerset local</td><td>16%</td><td></td></tr><tr><td>Gatton area</td><td>14%</td><td></td></tr><tr><td>Sunshine Coast</td><td>14%</td><td></td></tr><tr><td>Interstate</td><td>3%</td><td></td></tr></table>		Recaptures	Fishers	Region			Brisbane	21%		Somerset local	16%		Gatton area	14%		Sunshine Coast	14%		Interstate	3%							
	Recaptures	Fishers																										
Region																												
Brisbane	21%																											
Somerset local	16%																											
Gatton area	14%																											
Sunshine Coast	14%																											
Interstate	3%																											

LAKE SOMERSET				AUSTRALIAN BASS	
					
MEASURE		ACTUAL			GRAPH
Tag and effort number of fish fisher days T20 fishers (taggers) 2011-2020	HIGHEST	LOWEST	NOW		
	CATCH				
	2011	2016	2020		
	454	66	83		
	EFFORT				
2011	2013	2020			
	29	13	29		
Tag rate Fish/fisher day 2011-2020	HIGHEST	LOWEST	NOW		
	CATCH RATE				
	2011	2016	2020		
	15.7	3.7	2.9		
	10 YEAR AVERAGE		9.0		
Average length (mm) Bars show smallest and largest fish Dots show outliers 2011-2020	HIGHEST	LOWEST	NOW		
	AVERAGE LENGTH				
	2014	2011	2020		
	409	300	384		
	LARGEST				
2011	2013	2020			
	580	490	535		
Fish lengths percentage Undersize <300mm Legal 300-499mm Trophy 500+mm 2011-2020	HIGHEST	LOWEST	NOW		
	LEGAL				
	2013	2011	2020		
	91.3	42.1	79.5		
	TROPHY				
2015	2013	2020			
	8.4	0	4.8		
Bass growth based on recaptures (lake fish only) 2011-2020	Recaptures	103			
	ANNUAL GROWTH				
	Year 1	40mm			
	Year 2	74mm			
	Year 3	94mm			
	Year 4	109mm			
	Year 5	120mm			

Bass survival based on recaptures (802) by years out after tagging	<table><tr><th colspan="2">Survival rate by years out</th></tr><tr><th>Year</th><th>Recaptures</th></tr><tr><td>1</td><td>802</td></tr><tr><td>5</td><td>368</td></tr><tr><td>10</td><td>130</td></tr><tr><td>20</td><td>3</td></tr><tr><td colspan="2">Longest time out (years)</td></tr><tr><td>25.25</td><td>1</td></tr></table>	Survival rate by years out		Year	Recaptures	1	802	5	368	10	130	20	3	Longest time out (years)		25.25	1	
Survival rate by years out																		
Year	Recaptures																	
1	802																	
5	368																	
10	130																	
20	3																	
Longest time out (years)																		
25.25	1																	
Grid locations of tagged fish (map LS01) 2011-2020	<table><tr><th colspan="2">Grids where most fish caught</th></tr><tr><th>GRID</th><th>FISH</th></tr><tr><td>N6</td><td>434</td></tr><tr><td>M6</td><td>240</td></tr><tr><td>N4</td><td>236</td></tr><tr><td>N5</td><td>190</td></tr></table>	Grids where most fish caught		GRID	FISH	N6	434	M6	240	N4	236	N5	190					
Grids where most fish caught																		
GRID	FISH																	
N6	434																	
M6	240																	
N4	236																	
N5	190																	
Bass movement inside impoundment 2011-2020	<table><tr><td>Recaptures</td><td>69</td></tr><tr><td colspan="2">Recaptured same area 32 (46.4%)</td></tr><tr><td>Up lake</td><td>28</td></tr><tr><td>Down lake</td><td>10</td></tr><tr><td>Outside lake</td><td>3</td></tr></table>	Recaptures	69	Recaptured same area 32 (46.4%)		Up lake	28	Down lake	10	Outside lake	3							
Recaptures	69																	
Recaptured same area 32 (46.4%)																		
Up lake	28																	
Down lake	10																	
Outside lake	3																	
Bass recaptured outside impoundment All years	<table><tr><td colspan="2">Outside impoundment 51</td></tr><tr><td>Above lake</td><td>1</td></tr><tr><td>Below lake</td><td>50</td></tr><tr><td colspan="2">Lake Wivenhoe 11</td></tr><tr><td colspan="2">Brisbane River 39</td></tr></table>	Outside impoundment 51		Above lake	1	Below lake	50	Lake Wivenhoe 11		Brisbane River 39								
Outside impoundment 51																		
Above lake	1																	
Below lake	50																	
Lake Wivenhoe 11																		
Brisbane River 39																		
Bass recaptured outside impoundment All years																		

LAKE SOMERSET			GOLDEN PERCH		
					
MEASURE	ACTUAL			GRAPH	
Tag and effort number of fish fisher days T20 fishers (taggers) 2011-2020	HIGHEST	LOWEST	NOW		
	CATCH				
	2019	2013	2020		
	12	4	11		
	EFFORT				
	2011	2013	2020		
	29	13	29		
Tag rate Fish/fisher day 2011-2020	HIGHEST	LOWEST	NOW		
	CATCH RATE				
	2015	2012	2020		
	0.5	0.2	0.4		
	10 YEAR AVERAGE		0.3		
Grid locations of tagged fish (map LS01) 2011-2020	Grids where most fish caught				
	GRID	FISH			
	N5	11			
	N6	9			
	J4	6			
 			 		
Product of Infish Australia			Supported by Suntag and FFSAQ		

COMPETITIONS		ACTUAL		GRAPH or MAP	
Event Reel Somerset Classic 2019 Golden Lure 2019 Yak Hunters 2019		Code RSC19 GL19 YH19		Targets All species All species Golden Perch	
Timeline of events RSC19 GL19 YH19 (kayak only)		30-31/3/2019 (2 days) 19-20/10/2019 (2 days) 28-29/11/2019 (2 days)			
Teams (2 fishers) RSC19 GL19 Individuals (1 fisher) YH19		Teams Catching fish 50 43 (86%) 35 31 (89%) Individuals 52 40 (77%)			
Catch rate (fish/fisher day) Legal fish All fishers (ALL) T20 fishers (T20)		All fish ALL T20 RSC19 1.6 3.9 GL19 2.8 7.4			
Competition Bass Median length (mm) Bars show largest and smallest fish Dots show outliers Legal fish only		Median length (mm) RSC19 GL19 360 330 Largest fish RSC19 580			
Competition Golden Perch Median length (mm) Bars show largest and smallest fish Dots show outliers Legal fish only		Median length (mm) RSC19 GL19 YH19 470 450 520 Largest fish YH19 630			
Fishing heat map Competitions RSC19 GL19 YH19		Purple RSC19 GL19 Red YH19			

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 tagged/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 LS01 for the impoundment and f other grid maps where fish were recaptured outside the impoundment