



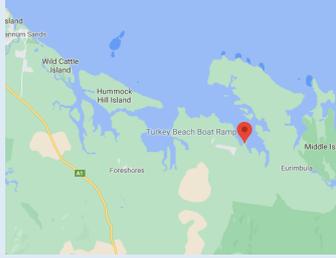
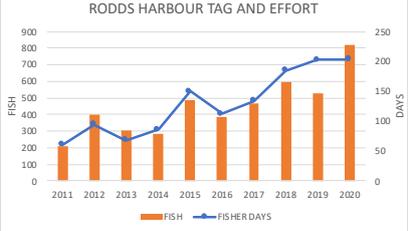
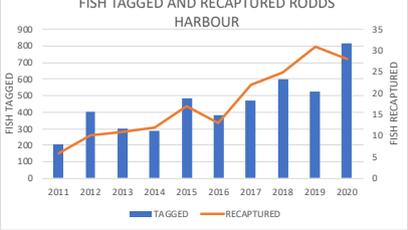
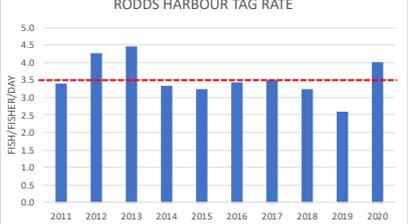
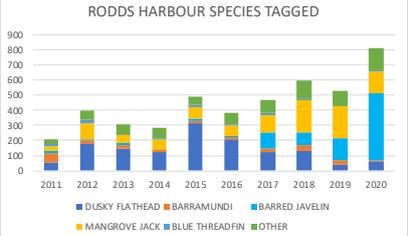
RODDS HARBOUR 2011-2020
2020 REVIEW

AVAILABLE		AVAILABLE	
Tagged fish	✓	Recaptures	✓
Postcodes	✓	Competitions	
Species		Dusky Flathead	
Tag rates	✓	Fish sizes	✓
Growth	✓	Tag locations	✓
Fish movement	✓		
Species		Mangrove Jack	
Tag rates	✓	Fish sizes	✓
Growth	✓	Tag locations	
Fish movement	✓		
Species		Barred Javelin	
Tag rates	✓	Fish sizes	✓
Growth	✓	Tag locations	✓
Fish movement	✓		

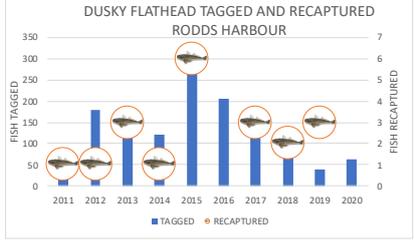
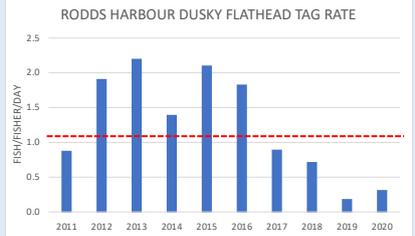
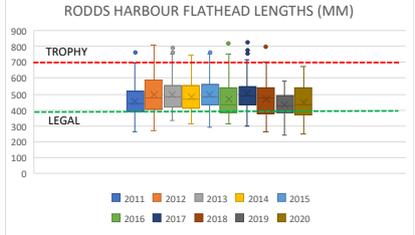
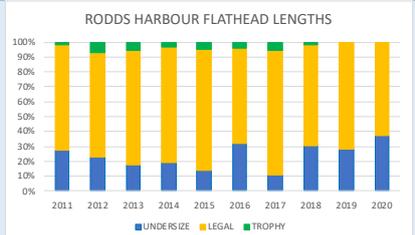
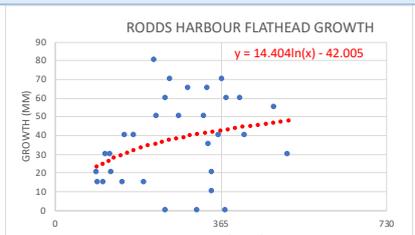
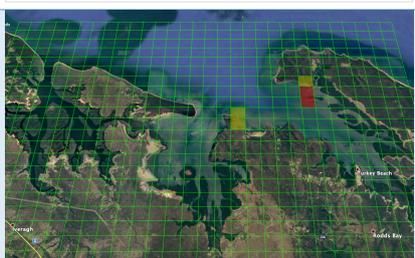
Summary

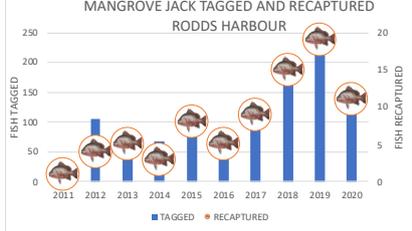
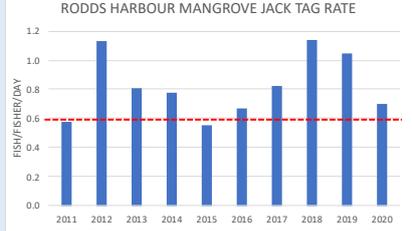
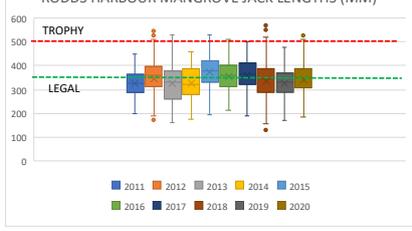
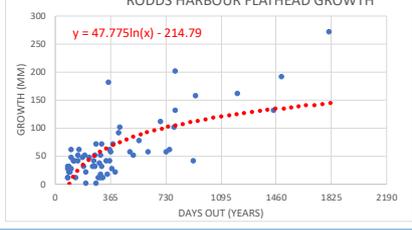
- Rodds Harbour is covered by the Infofish tag grid map RBT
- From 2011-2020 there were 4,480 fish tagged for 175 recaptures (3.9%) in Rodds Harbour
- Key species tagged were Dusky Flathead 1,378 (30.8%) for 20 (1.5%) recaptures, Mangrove Jack 1,098 (24.5%) for 80 (7.3%) recaptures and Barred Javelin 852 (19.0%) for 14 (1.6%) recaptures accounting for 74.3% of all fish tagged
- The tag rate was calculated as the number of fish tagged/fisher day and the rate in 2020 was 4.0 which was above the 10 year average historic catch rate of 3.5 fish/fisher day
- The tag rate in 2020 for Flathead was 0.3 fish/fisher day compared to the 10 year average of 1.1, for Mangrove Jack it was 0.7 fish/fisher compared to the 10 year average of 0.8 and for Javelin it was 2.2 fish/fish day compared to the 10 year average of 0.7
- Of 159 recaptures with the postcode of the fisher recorded 109 (69%) were from Gladstone, 18 (11%) were from the local area and 11 (7%) were from Bundaberg suggesting that the harbour was mostly fished by locals, from nearby population centres and from Central Qld

Infofish Australia
March 2021

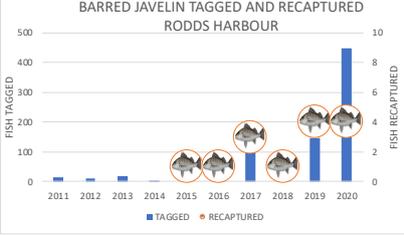
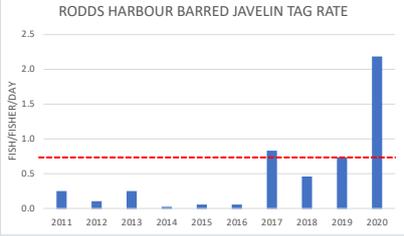
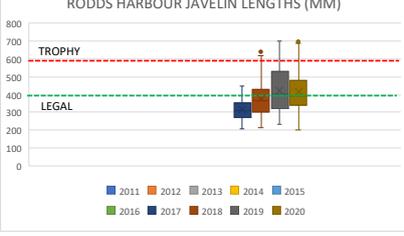
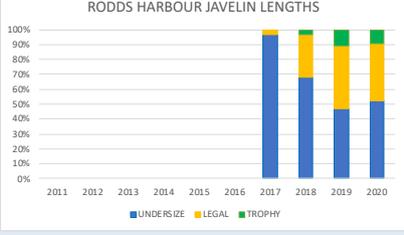
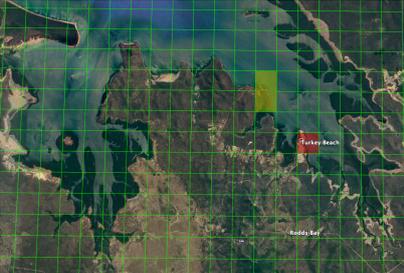
RODDS HARBOUR	DUSKY FLATHEAD MANGROVE JACK	BARRED JAVELIN																		
																				
MEASURE	ACTUAL	GRAPH or MAP																		
Map Rodds Bay RBT	Wild Cattle Creek Colosseum Inlet Boyne Creek 7 Mile Creek Turkey Beach Worthington Creek																			
Catch and effort number of tagged fish fisher tag days Taggers 2011-2020	<table border="1"> <thead> <tr> <th>HIGHEST TAGGED FISH</th> <th>LOWEST TAGGED FISH</th> <th>NOW TAGGED FISH</th> </tr> </thead> <tbody> <tr> <td>2018</td> <td>2011</td> <td>2020</td> </tr> <tr> <td>599</td> <td>208</td> <td>817</td> </tr> <tr> <th colspan="3">EFFORT</th> </tr> <tr> <td>2019</td> <td>2011</td> <td>2020</td> </tr> <tr> <td>203</td> <td>61</td> <td>204</td> </tr> </tbody> </table>	HIGHEST TAGGED FISH	LOWEST TAGGED FISH	NOW TAGGED FISH	2018	2011	2020	599	208	817	EFFORT			2019	2011	2020	203	61	204	
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Fish tagged and recaptured 2011-2020	<table border="1"> <thead> <tr> <th>TAGGED</th> <th>RECAPTURED</th> </tr> </thead> <tbody> <tr> <td>4480</td> <td>175</td> </tr> <tr> <th colspan="2">RECAPTURE RATE</th> </tr> <tr> <td colspan="2">3.9%</td> </tr> </tbody> </table>	TAGGED	RECAPTURED	4480	175	RECAPTURE RATE		3.9%												
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Tag rate All tagged fish Fish/fisher day 2011-2020	<table border="1"> <thead> <tr> <th>HIGHEST TAG RATE</th> <th>LOWEST TAG RATE</th> <th>NOW TAG RATE</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>2019</td> <td>2020</td> </tr> <tr> <td>4.5</td> <td>2.6</td> <td>4.0</td> </tr> <tr> <th colspan="2">10 YEAR AVERAGE</th> <td>3.5</td> </tr> </tbody> </table>	HIGHEST TAG RATE	LOWEST TAG RATE	NOW TAG RATE	2013	2019	2020	4.5	2.6	4.0	10 YEAR AVERAGE		3.5							
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Species composition Numbers tagged 2011-2020	DUSKY FLATHEAD 1,378 MANGROVE JACK 1,098 BARRED JAVELIN 852																			

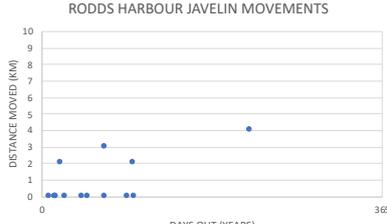
Species composition Percentage tagged 2011-2020	DUSKY FLATHEAD 30.8% YELLOWFIN BREAM 24.5% BARRED JAVELIN 19.0%	<p>RODDS HARBOUR SPECIES TAGGED</p>
Postcodes of recapture fishers 2011-2020	Fishers with postcodes 159 POSTCODE FISHERS 4680 108 4677/4678 18 4670 11 No code 21	
Region of recapture fishers 2011-2020	REGION PERCENT Gladstone 69% Local 11% Bundaberg 7%	<p>FISHERS</p>

MEASURE	ACTUAL	GRAPH or MAP
Dusky Flathead		
Flathead tagged and recaptured 2011-2020	TAGGED 1378 RECAPTURED 20 RECAPTURE RATE 1.5%	
Tag rate Flathead Fish/fisher day 2011-2020	HIGHEST TAG RATE 2013 2.2 LOWEST 2019 0.2 NOW 2020 0.3 10 YEAR AVERAGE 1.1	
Average length (mm) Bars show smallest to largest fish 2011-2020	HIGHEST AVERAGE LENGTH 2017 501 LOWEST 2019 431 NOW 2020 449 LARGEST 2017 825 2019 580 2020 675	
Fish lengths percentage Undersize <400mm Legal 400-700mm Trophy 700+mm 2011-2020	HIGHEST LEGAL 2017 83.3 LOWEST 2012 63.9 NOW 2020 62.5 Trophy 2012 7.3 2019 0.0 2020 0.0	
Flathead growth at the end of each year Based on all recaptures since 2011	Recaptures 31 Growth YEAR 1 43mm	
Grid locations of tagged fish (map RBT) 2011-2020	Grids where most fish caught GRID FISH X8/X9 240 S10/S11 130 X7 64	

MEASURE	ACTUAL	GRAPH or MAP
Mangrove Jack		
Mangrove Jack tagged and recaptured 2011-2020	TAGGED 1098 RECAPTURED 72 RECAPTURE RATE 6.6%	
Tag rate Mangrove Jack Fish/fisher day 2011-2020	HIGHEST TAG RATE 2018 1.1 LOWEST 2015 0.6 NOW 2020 0.7 10 YEAR AVERAGE 0.8	
Average length (mm) Bars show smallest to largest fish 2011-2020	HIGHEST AVERAGE LENGTH 2015 372 LOWEST 2013 326 NOW 2020 342 LARGEST 2018 570 2011 450 2020 530	
Fish lengths percentage Undersize <350mm Legal 350-500mm Trophy 500+mm 2011-2020	HIGHEST LEGAL 2017 61.8 LOWEST 2011 34.3 NOW 2020 49.0 TROPHY 2015 4.9 2019 0 2020 1.4	
Mangrove Jack growth at the end of each year Based on all recaptures since 2011	Recaptures 63 Growth YEAR 1 67mm YEAR 2 100mm YEAR 3 120mm YEAR 4 133mm YEAR 5 144mm	
Grid locations of tagged fish (map RBT) 2011-2020	Grids where most fish caught Not for publication	

<p>Mangrove Jack movement in harbour Distance moved (km) 2011-2020</p>	<p>Recaptures 72 Recaptured same area 68 (94.4%) Longest movement in harbour 4km</p>	
<p>Mangrove Jack movement outside harbour</p>	<p>Recaptures 4 Barren Island (120km) Masthead Reef (70km) Lady Musgrave Reef (92km) Gladstone offshore (28km)</p>	

MEASURE	ACTUAL	GRAPH or MAP
Barred Javelin		
Javelin tagged and recaptured 2011-2020	TAGGED 852 RECAPTURED 14 RECAPTURE RATE 1.6%	 <p>BARRED JAVELIN TAGGED AND RECAPTURED RODD'S HARBOUR</p>
Tag rate Javelin Fish/fisher day 2011-2020	HIGHEST TAG RATE 2017 0.8 LOWEST 2014 0.0 NOW 2020 2.2 10 YEAR AVERAGE 0.7	 <p>RODD'S HARBOUR BARRED JAVELIN TAG RATE</p>
Average length (mm) Bars show smallest to largest fish 2011-2020	HIGHEST AVERAGE LENGTH 2019 425 LOWEST 2017 314 NOW 2020 417 LARGEST 2019 700 2017 450 2020 710	 <p>RODD'S HARBOUR JAVELIN LENGTHS (MM)</p>
Fish lengths percentage Undersize <400mm Legal 400-600mm Trophy 600+mm 2011-2020	HIGHEST LEGAL 2019 42.6 LOWEST 2017 3.6 NOW 2020 38.3 TROPHY 2019 10.8 2017 0 2020 9.6	 <p>RODD'S HARBOUR JAVELIN LENGTHS</p>
Javelin growth at the end of each year Based on all recaptures since 2011	Insufficient recaptures 4	
Grid locations of tagged fish (map RBT) 2011-2020	Grids where most fish caught GRID FISH AA15 431 Y12/Y13 186	

Javelin movement Distance moved (km) 2011-2020	Recaptures 13 Recaptured same area 9 (69.2%) Recaptures outside harbour 0	
  <p>Product of Infofish Australia</p>		 <p>Supported by Suntag</p>

Data sources

Data used in the Rodds Harbour Crystal Bowl are:

- Tag records and recapture records for the river at <http://crystalbowl.infofishaustralia.com.au/>

Basis for analysis

- Catch rates calculated as number of fish tagged/fisher day for taggers with a minimum of 12 fisher days (at least 1 per month) to provide an acceptable catch rate
- For Dusky Flathead undersized fish are <400mm, legal fish are ≥ 400 and <700mm and trophy fish are ≥ 700 mm
- For Mangrove Jack undersized fish are <350mm, legal fish are ≥ 350 mm and <500mm and trophy fish are ≥ 500 mm
- For Barred Javelin undersized fish are <400mm, legal fish are ≥ 400 mm and <600 and trophy fish are ≥ 600 mm
- 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 RBT and other grid maps where fish were recaptured outside the harbour
- Movement distance calculated as the shortest distance by water from the tag to the recapture location