

SANDY STRAITS REVIEW 2024

INFORMATION RATING



Key species: Mangrove Jack, Dusky Flathead, Barramundi

Fish timeframe: 2015-2024

Fisher timeframe: 2020-2024

While data for the area is limited it provides basic information that is indicative of the fishing in the area for the species tagged. Sandy Straits and rivers and creeks in this area are mostly fished by locals and visiting fishers coming from the Sunshine Coast and Brisbane.

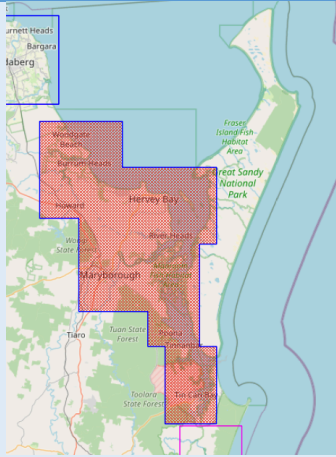
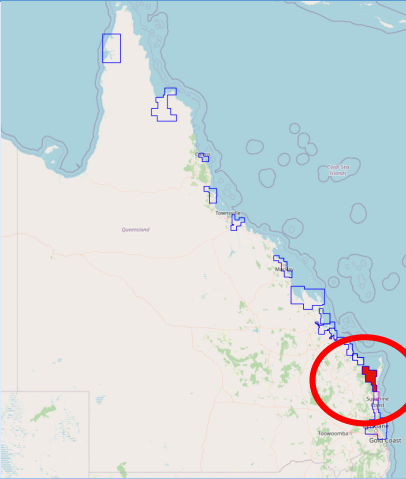
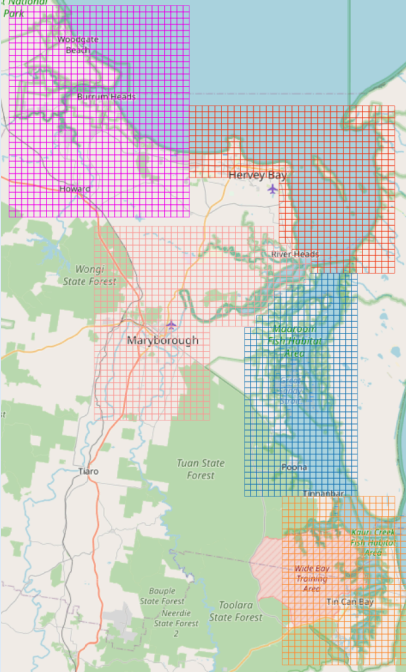
The area is fished for a wide range of species with taggers targeting mainly Flathead, Mangrove Jack and Barramundi and these species account for 52% of the fish tagged. Taggers tag a high proportion of the key species they catch which is reflected in the numbers of legal fish tagged.

Tagging of Mangrove Jack was boosted by fish tagged in the Tag-a-Jack competition at Tin Can Bay in Nov-Dec 2021 and again in Nov-Dec 2023.

The area is both a harvest and experiential fishery for the tagged species with around 50% of legal fish of the key species recaptured being kept by fishers (other than taggers). For other species caught in the area such as Whiting and Bream it is expected these are largely harvested.

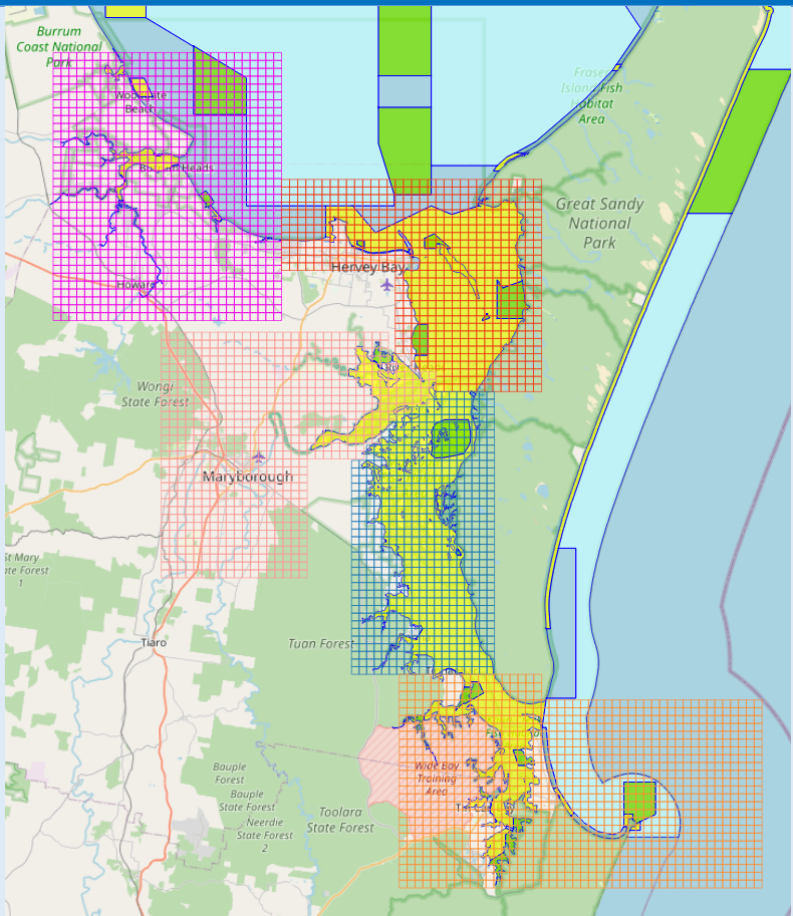
The Great Sandy Marine Park rezoning was proclaimed in May 2024. With extended conservation zones this will result in a reduction in commercial gillnet fishing. This is likely to lead to changes in fishing in the area over the next few years.

Flooding in the Mary River in Dec 2024 will also likely impact fishing in early 2025, particularly if the wet season produces more river flows or flooding.

SANDY STRAITS		LOCATION
	<p>Woodgate 25.1°S 152.58°E</p> <p>Tin Can Bay 25.9°S 153.03°E</p>	
WATERWAYS	ACTUAL	GRAPH or MAP
<p>Maps</p> <p>Burrum Heads (WBH)</p> <p>Hervey Bay (HVY)</p> <p>Mary River (MRM)</p> <p>Maaroom (SSM)</p> <p>Wide Bay (TCN)</p>	<p>Theodolite Creek</p> <p>Burrum River</p> <p>Sandy Straits</p> <p>Mary River estuary</p> <p>Tin Can Bay</p>	

GREAT SANDY MARINE PARK

Great Sandy Marine Park
was declared on 21 May
2024
Zonings and tag grid maps

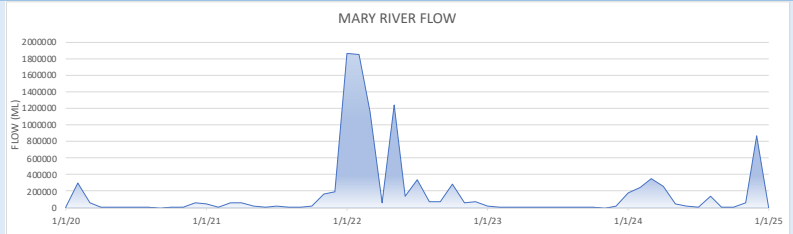


ENVIRONMENTAL

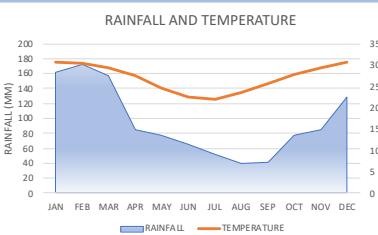
ACTUAL

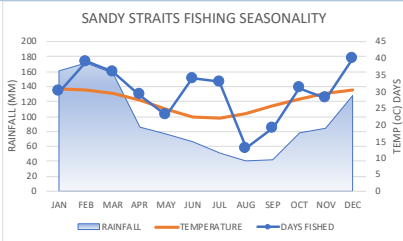
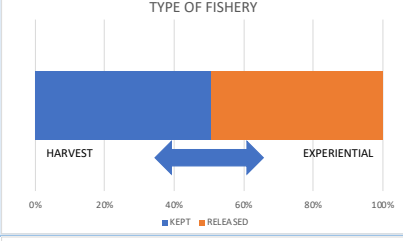
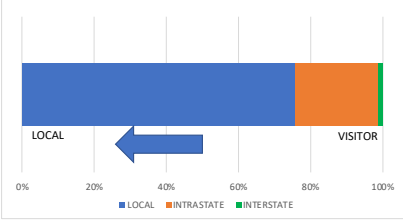
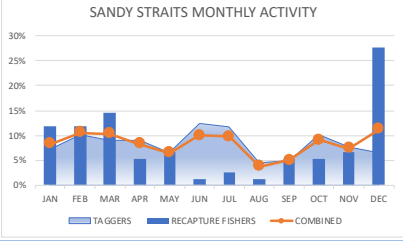
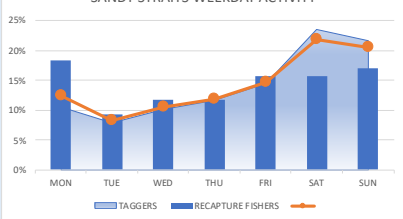
GRAPH or MAP

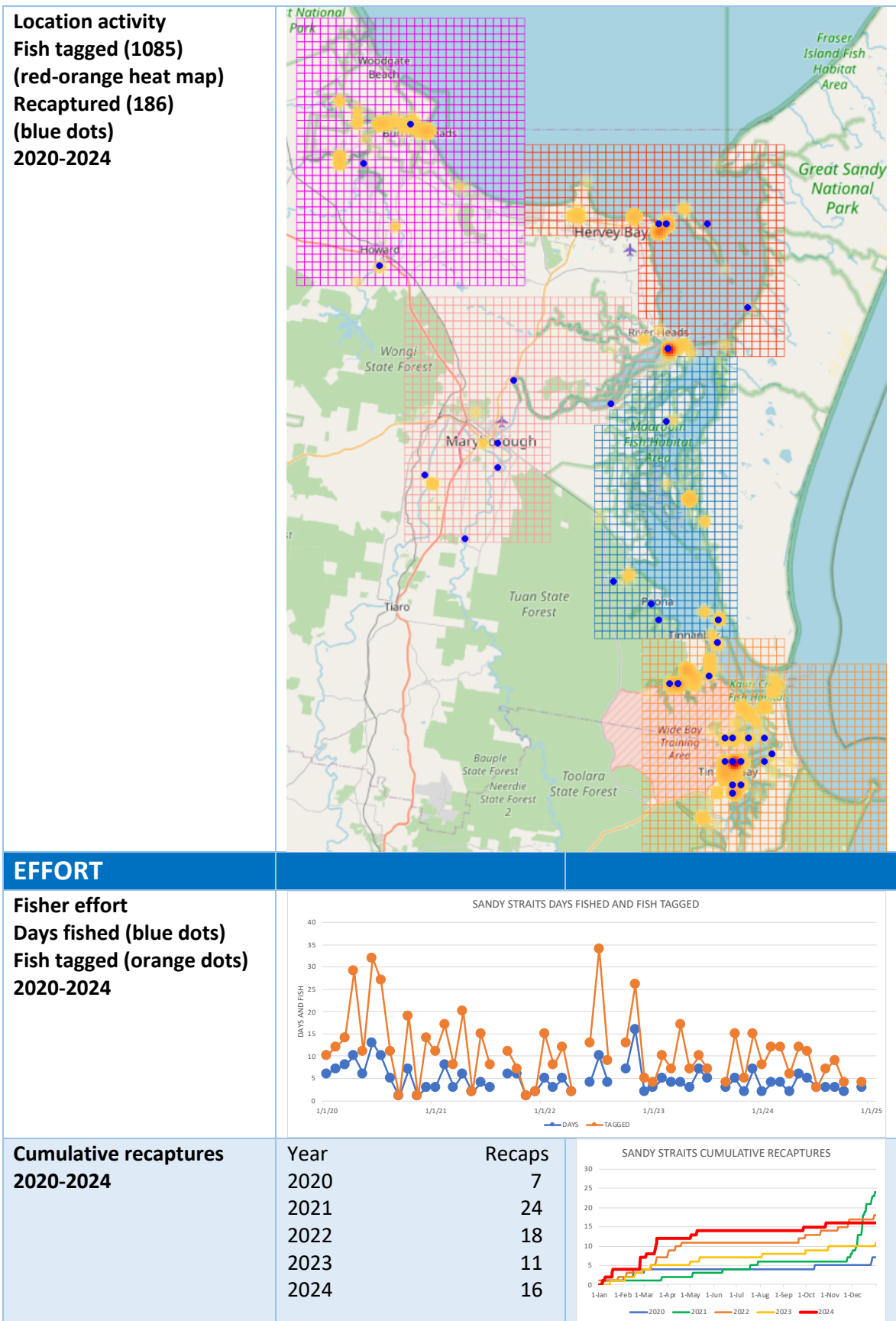
Mary River flows (ML)
2020-2024



Average rainfall (mm)
Mean maximum day
temperature (oC)

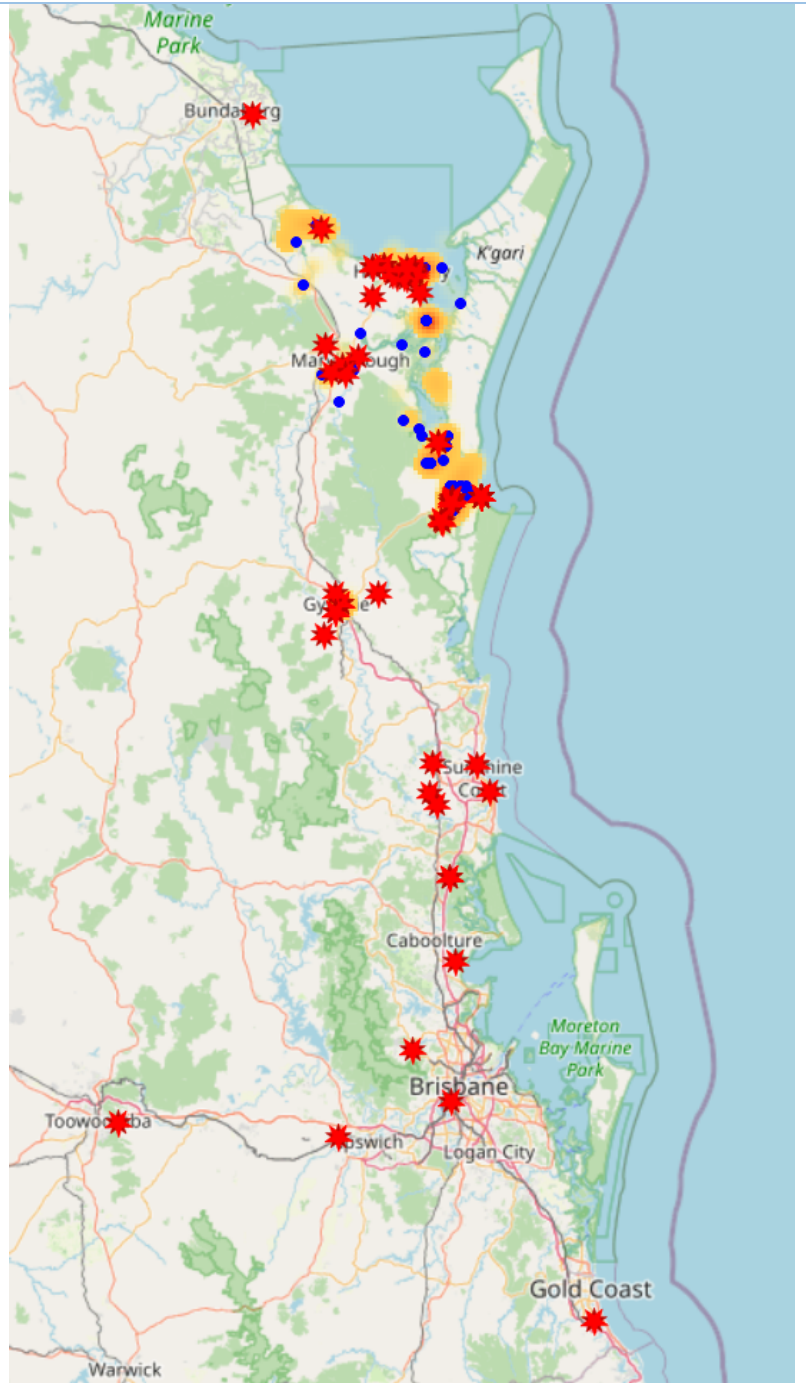





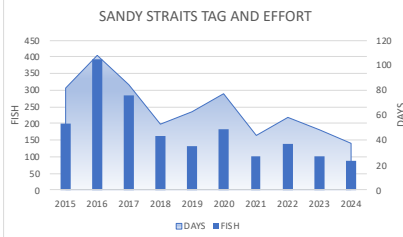
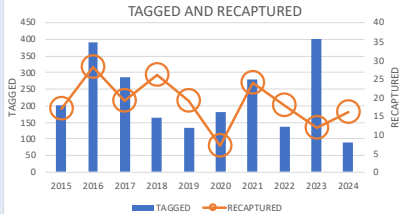
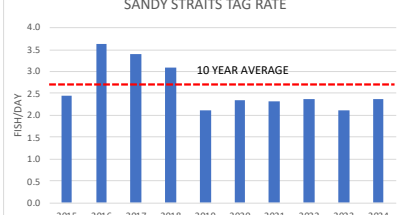
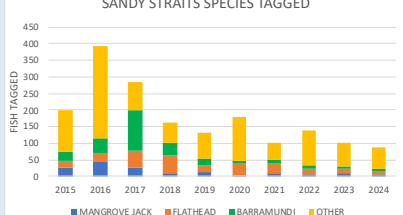
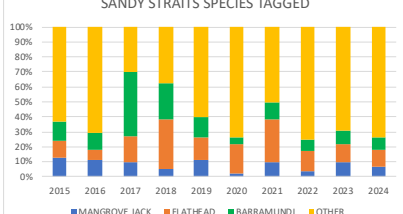
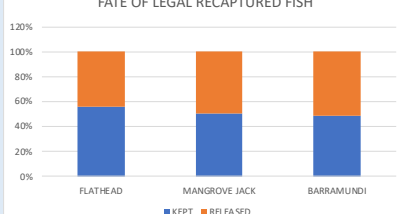
FISHERS				
DATA RELIABILITY				
Sample size (days fished)	Reliability level	LOW	MODERATE	MODERATE
Tag days (blue arrow)	Samples	10	41	68
Recaptures (orange arrow)	Confidence	80%	80%	90%
Confidence %	Error	20%	10%	10%
Error %				5%
2020-2024				5%
TYPE OF FISHERY				
Fishing seasonality	Months most fished			
Mean rainfall (mm)	Days fished			
Mean temperature (oC)	Dec			
Days fished combined	Feb			
Taggers	Mar			
Recapture fishers				
2020-2024				
Harvest or experiential fishery	Key species legal fish kept rate			
Release rate of recaptured legal fish of key species (ex-taggers)	Legal fish			
2015-2024	Kept			
	Released			
Local or visitor fishery	Recapture fishers			
Where recapture fishers live	Local			
2020-2024	Visitors			
ACTIVITY	ACTUAL		GRAPH or MAP	
Monthly activity	Month	%		
Days fished	Taggers	Jun		
Taggers (246)		Jul		
Recapture fishers (76)	Recaps	Dec		
2020-2024		Mar		
Weekday activity	Weekdays			
Days fished	Taggers	55%		
Taggers (246)	Recapture fishers	67%		
Recapture fishers (76)	Weekends			
2020-2024	Taggers	45%		
	Recapture fishers	33%		



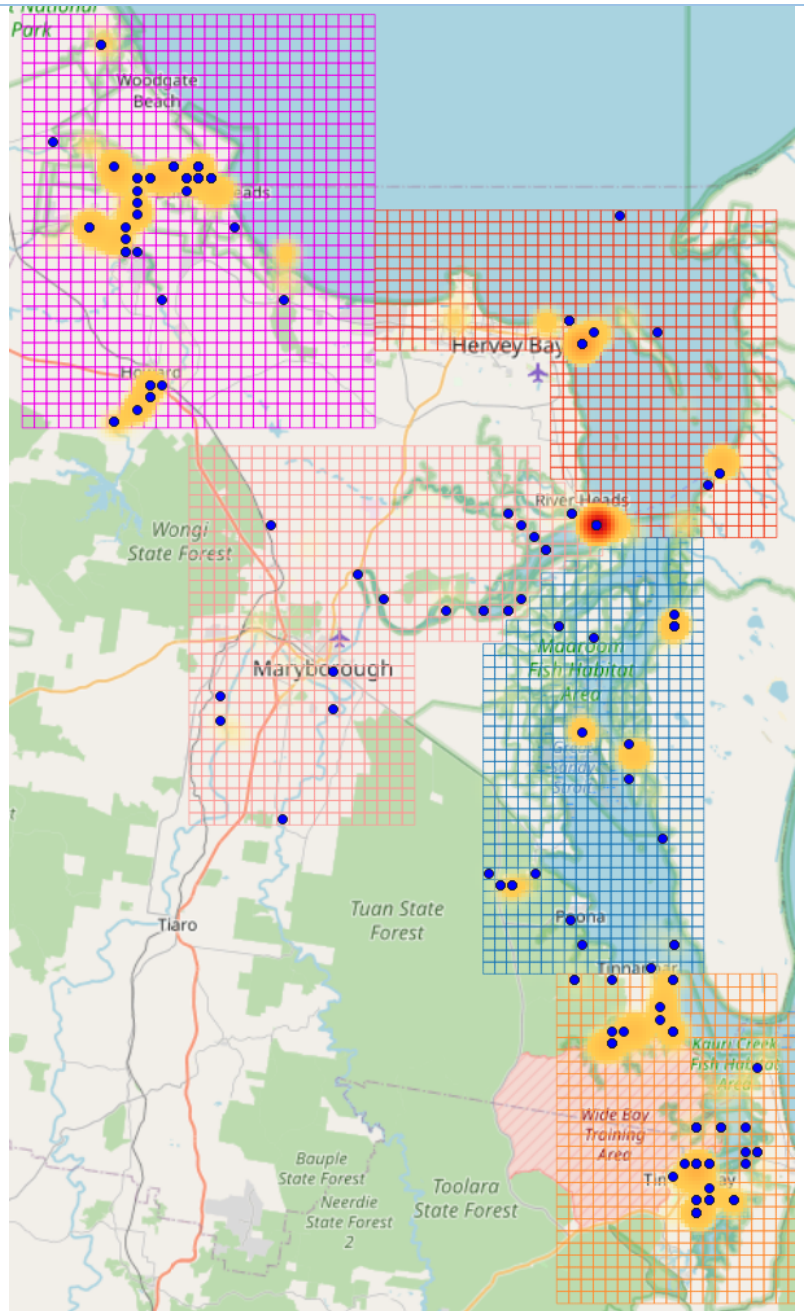
TRAVEL			
Recapture fishers Cumulative distance (km) home to recapture location 2020-2024	Year	Km	<p>SANDY STRAITS CUMULATIVE DISTANCE (KM)</p>
	2020	291	
	2021	1826	
	2022	1342	
	2023	472	
	2024	599	
Recapture fishers Distance (km) home to recapture location 2020-2024	Interstate not included		<p>DISTANCE HOME TO RECAPTURE LOCATION (KM)</p>
Distance (km) home to recapture location (ex- interstate) Bars show distance range Dots show outliers 2020-2024		Trips	<p>RECAPTURE FISHER'S PROXY TRAVEL DISTANCE (KM)</p>
	Local	52	
	Intrastate	15	
	Interstate	1	
		Range(km)	
Average distance (km) from home to recapture location 2020-2024		Av distance (km)	<p>AVERAGE PROXY TRAVEL DISTANCE (KM)</p>
	Local	19	
	Intrastate	138	
	Interstate	1358	
DEMOGRAPHICS			
Gender of recapture fishers (ex-taggers) 2020-2024	Recaptures	73	<p>GENDER OF RECAPTURE FISHERS</p>
	Male	68 (93%)	
	Female	5 (7%)	
Where recapture fishers live 2020-2024		Recapture fishers	<p>WHERE RECAPTURE FISHERS LIVE</p>
	Local	53 (76%)	
	Intrastate	16(23%)	
	Interstate	1 (1%)	


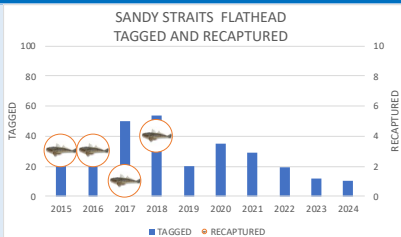
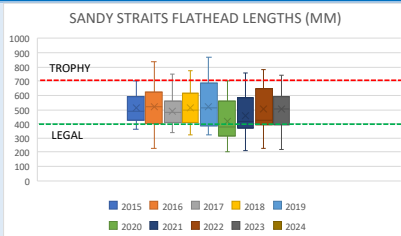
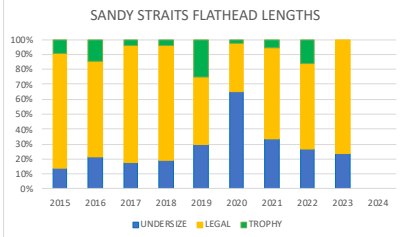
Where recapture fisher's
live (red stars)
Fish tagged (red-orange
heat map)
Fish recaptured (blue dots)
Local
Intrastate
Interstate (1) not shown
Yarrawonga (Vic)
2020-2024



KEY SPECIES	ACTUAL	GRAPH OR MAP																					
DUSKY FLATHEAD	MANGROVE JACK	BARRAMUNDI																					
																							
FISH																							
Catch and effort taggers Fish tagged (1785) Days fished (654) (ex-competitions) 2015-2024	<table><tr><td>High</td><td>Low</td><td>Now</td></tr><tr><td>Tagged fish</td><td></td><td></td></tr><tr><td>2016</td><td>2023</td><td>2024</td></tr><tr><td>392</td><td>101</td><td>88</td></tr><tr><td>Days</td><td></td><td></td></tr><tr><td>2016</td><td>2021</td><td>2024</td></tr><tr><td>108</td><td>44</td><td>37</td></tr></table>	High	Low	Now	Tagged fish			2016	2023	2024	392	101	88	Days			2016	2021	2024	108	44	37	
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Fish tagged Recaptured (includes Mangrove Jack tagged in Tag-a-Jack competitions) 2015-2024	<table><tr><td>Tagged</td><td>Recaptured</td></tr><tr><td>2261</td><td>186</td></tr><tr><td>Recapture rate</td><td></td></tr><tr><td>8.2%</td><td></td></tr></table>	Tagged	Recaptured	2261	186	Recapture rate		8.2%															
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Tag rate All tagged fish Fish/day 2015-2024	<table><tr><td>High</td><td>Low</td><td>Now</td></tr><tr><td>Tag rate</td><td></td><td></td></tr><tr><td>2016</td><td>2021</td><td>2024</td></tr><tr><td>3.6</td><td>2.1</td><td>2.4</td></tr><tr><td>10 year average</td><td></td><td>2.7</td></tr></table>	High	Low	Now	Tag rate			2016	2021	2024	3.6	2.1	2.4	10 year average		2.7							
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Species composition Numbers tagged 2015-2024	<table><tr><td>Mangrove Jack</td><td>592</td></tr><tr><td>Dusky Flathead</td><td>289</td></tr><tr><td>Barramundi</td><td>295</td></tr><tr><td>Other species</td><td>1056</td></tr></table>	Mangrove Jack	592	Dusky Flathead	289	Barramundi	295	Other species	1056														
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Species composition Percentage tagged 2015-2024	<table><tr><td>Mangrove Jack</td><td>27%</td></tr><tr><td>Dusky Flathead</td><td>13%</td></tr><tr><td>Barramundi</td><td>13%</td></tr><tr><td>Combined</td><td>53%</td></tr></table>	Mangrove Jack	27%	Dusky Flathead	13%	Barramundi	13%	Combined	53%														
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Legal recaptures kept or released by recfishers (ex- taggers) 2015-2024	<table><tr><td>Legal recaptures kept</td><td></td></tr><tr><td>Mangrove Jack</td><td>27 (51%)</td></tr><tr><td>Barramundi</td><td>16 (48%)</td></tr><tr><td>Flathead</td><td>5 (56%)</td></tr></table>	Legal recaptures kept		Mangrove Jack	27 (51%)	Barramundi	16 (48%)	Flathead	5 (56%)														
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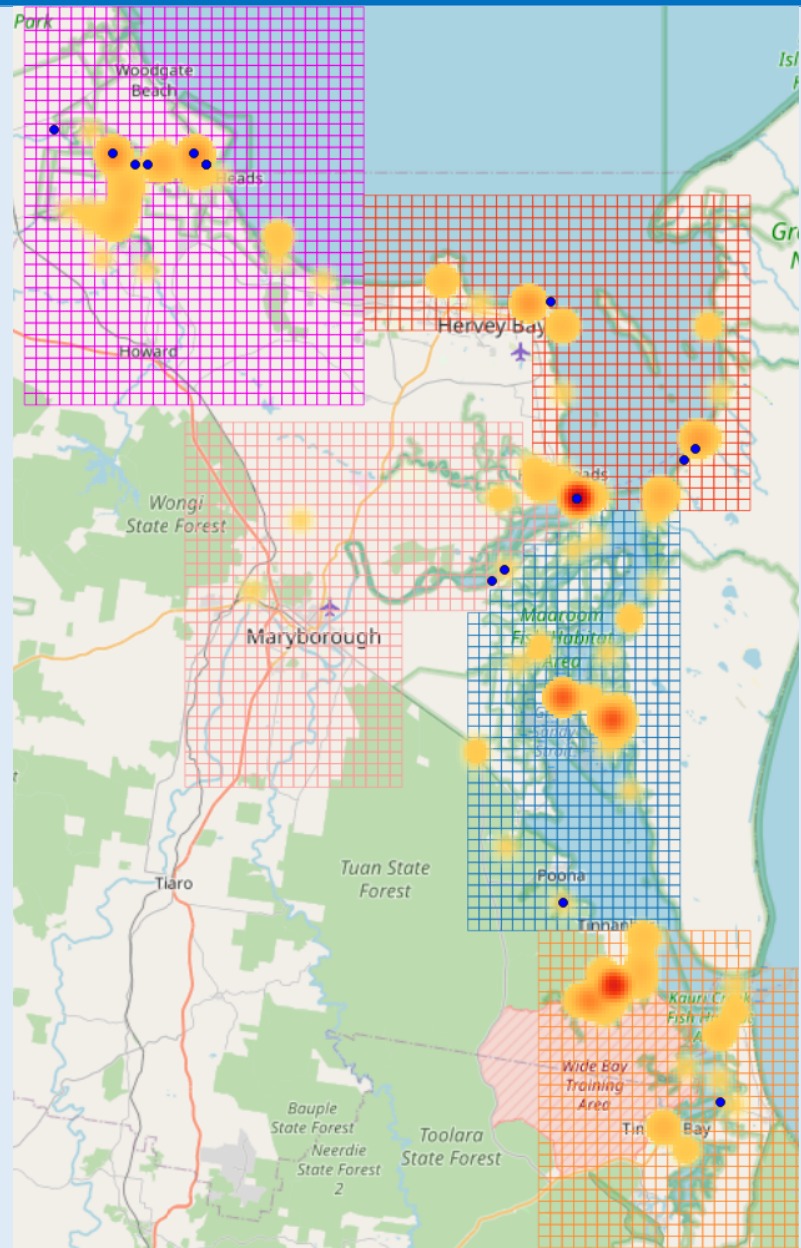
All fish
Tagged (2261)
(red-orange heat map)
Recaptured (186)
(blue dots)
2015-2024






FLATHEAD	ACTUAL			GRAPH or MAP																				
																								
DATA RELIABILITY																								
Sample size (av fish/year)	<table border="1"><thead><tr><th>Reliability level</th><th>LOW</th><th>MODERATE</th><th>MODERATE</th><th>HIGH</th></tr></thead><tbody><tr><td>Samples</td><td>10</td><td>41</td><td>68</td><td>271</td></tr><tr><td>Confidence</td><td>80%</td><td>80%</td><td>90%</td><td>95%</td></tr><tr><td>Error</td><td>20%</td><td>10%</td><td>10%</td><td>5%</td></tr></tbody></table>				Reliability level	LOW	MODERATE	MODERATE	HIGH	Samples	10	41	68	271	Confidence	80%	80%	90%	95%	Error	20%	10%	10%	5%
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2020-2024																								
TAGGED																								
Flathead	High	Low	Now																					
Tagged	Tagged																							
Recaptured	2018	2023	2024																					
2015-2024	54	12	10																					
	Total	Recaps																						
	279	11 (3.9%)																						
LENGTHS																								
Average length (mm)	High	Low	Now																					
Bars show length range	Average length																							
Dots show outliers	2019	2020	2024																					
2015-2024	524	414	NA																					
	Max																							
	2019	2020	2024																					
	870	700	NA																					
Fish lengths percentage	High	Low	Now																					
Undersize <400mm	Legal-trophy																							
Legal 400-700mm	2017	2020	2024																					
Trophy 700+mm	78%	32%	NA																					
2015-2024	Trophy																							
	2019	2023	2024																					
	25%	0%	NA																					

LOCATIONS

Flathead
Tagged 279)
(red-orange heat map)
Recaptured (11)
(blue dots)
2015-2024



MANGROVE JACK	ACTUAL			GRAPH or MAP																				
																								
DATA RELIABILITY																								
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Mangrove Jack Tagged Recaptured (includes Tag-a-Jack competition fish) 2015-2024	High Tagged 2023 292 Total 598	Low 2020 4 Recaps 60 (10.0%)	Now 2024 6																					
LENGTHS																								
Average length (mm) Bars show length range Dots show outliers 2015-2024	High Average length 2015 422 Max 2016 560	Low 2017 373 2019 500	Now 2024 NA																					
Fish lengths percentage Undersize <350mm Legal 350-500mm Trophy 500+mm 2015-2024	High Legal-trophy 2019 67% Trophy 2015 31%	Low 2015 50% 2021 2%	Now 2024 NA																					

LOCATIONS

Mangrove Jack (includes fish tagged in Tag-a-Jack competitions 2021 and 2023 in the Tin Can Bay area)

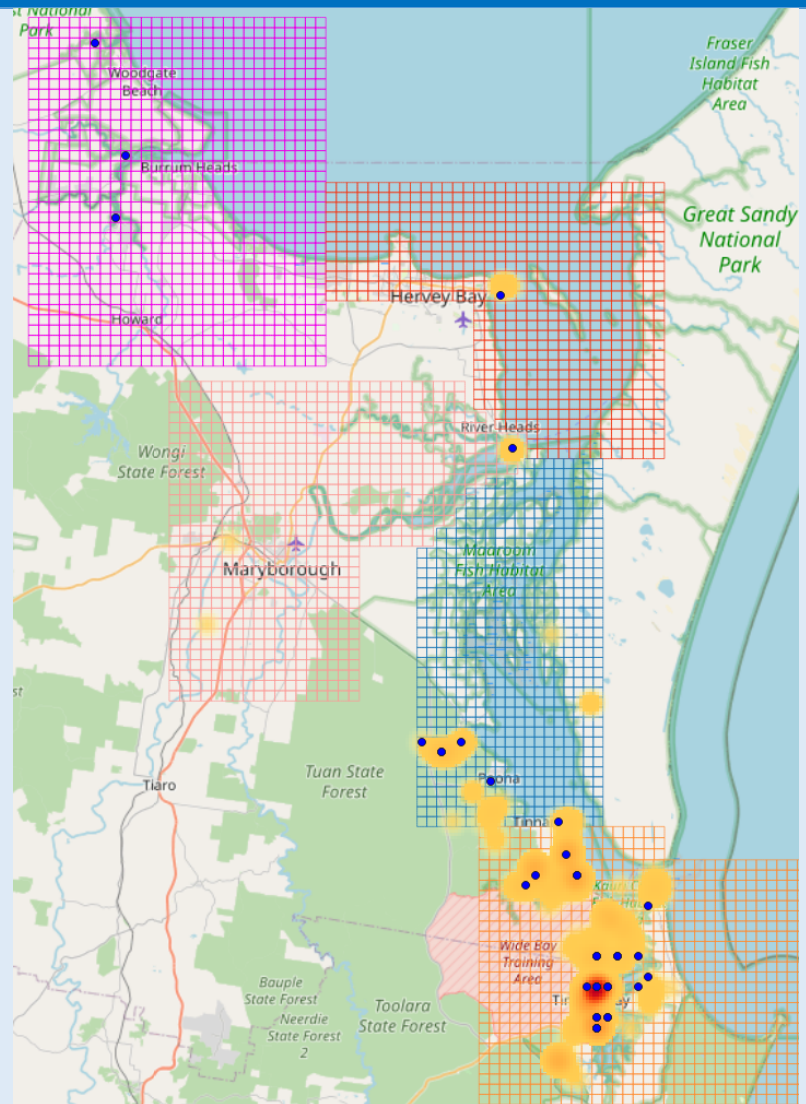
Tagged (598)




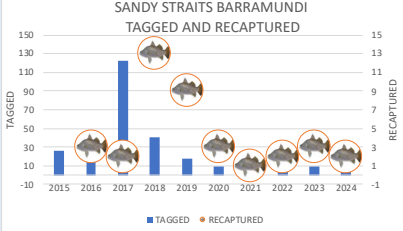
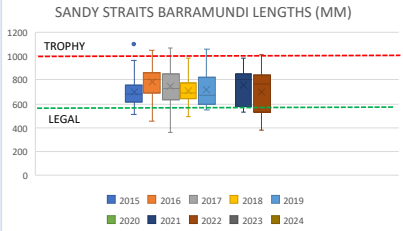
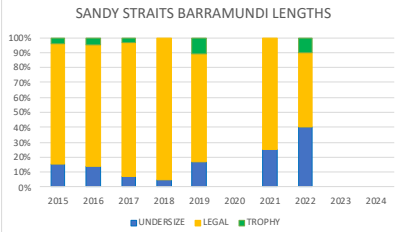
(red-orange heat map)

Recaptured (60)

(blue dots)

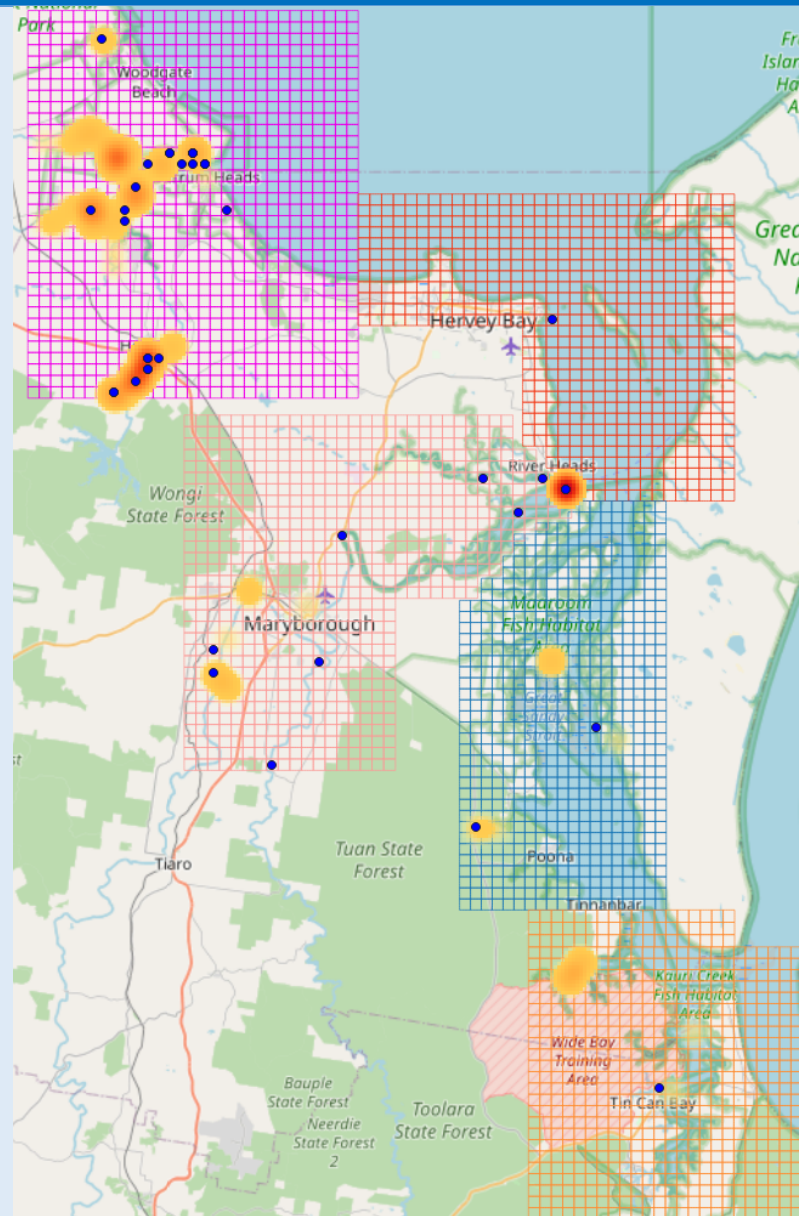
2015-2024



BARRAMUNDI	ACTUAL			GRAPH or MAP																				
																								
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Barramundi Tagged Recaptured 2015-2024	High Tagged 2017 122 Total 296	Low 2023 9 Recaps 37 (12.5%)	Now 2024 7																					
LENGTHS																								
Average length (mm) Bars show length range Dots show outliers 2015-2024	High Average length 2016 781 Max 2015 1100	Low 2014 687 2014 930	Now 2024 NA 2024 NA																					
Fish lengths percentage Undersize <580mm Legal 580-1000mm Trophy 1000+mm 2015-2024	High Legal-trophy 2018 95% Trophy 2019 11%	Low 2022 50% 2021 0%	Now 2024 NA 2024 NA																					

LOCATIONS

Barramundi
Tagged (296)
(red-orange heat map)
Recaptured (37)
(blue dots)
2015-2024



Data sources

Data used in the Sandy Straits Crystal Bowl are:

- Tag records and recapture records for Sandy Straits at <http://crystalbowl.infofishaustralia.com.au/>.
- Flow records for Mary River at Home Park station 138014A from <https://water-monitoring.information.qld.gov.au/>.
- Rainfall and temperature records for Maryborough station 040126 from <http://www.bom.gov.au/>.
- Great Sandy Marine Park zoning from <https://www.qld.gov.au/environment/coasts-waterways/marine-parks/zoning/great-sandy-marine-park>.

Basis for analysis

- Data reliability for fishers based on the sample size over the past 5 years for days fished by taggers and by fishers recapturing fish.
- Data reliability for fish based on average number of fish tagged and recaptured per year over the past 5 years.
- Catch rates calculated as number of fish tagged/days fished.
- For Dusky Flathead undersized fish are <400mm, legal fish are ≥400 and <700mm and trophy fish are ≥700mm.
- For Mangrove Jack undersized fish are <350mm, legal fish are ≥350mm and <500 and trophy fish are ≥500mm.
- For Barramundi undersized fish are <580mm, legal-trophy fish are ≥580 and <1000mm and trophy fish are ≥1000mm. Legal fish are 580-1200mm.
- Locations based on Infofish grid maps WBH, HVY, SSM, MRM and TCN (part) and other grid maps where fish were recaptured outside the area.
- Travel proxy distance is the distance between where the fisher lives (address, suburb, town or postcode) and the recapture location. Local <60km, intrastate Qld elsewhere, interstate other than Qld.