





YELLOWFIN AND PIKEY BREAM SOUTH EAST AND CENTRAL QUEENSLAND 1985-2014

REPORT

This report has been prepared by Infofish Australia for the Australian National Sportfishing Association Qld Inc – Jan 2015

SCOPE

This report provides a summary of Yellowfin Bream and Pikey Bream tagged from 1985-2014 in South East Queensland (SEQ) and Central Queensland (CQ) in the following areas based on Suntag grid maps:

- → Gold Coast (TWR, GC22 and GC23) SEQ.
- → Moreton Bay (MB03, MB02, MB01, MB05, and BIP) SEQ
- → Pumicestone Passage (PPB) SEQ
- → Sunshine Coast (SC20, SC21 and SC22) SEQ
- → Sandy Straits (TCN, SSM, MRM and HVY) CQ
- → Bundaberg (WBH, BND, KRB, BFF and DWC) CQ
- → Agnes Waters (and Turkey Beach) (BBY and RBT) CQ
- → Gladstone (BRG, GLD, CR02 and CISG) CQ
- → Fitzroy (FRR, RAG and CIS) CQ
- → Capricorn Coast (EMP, KBY and CBY) CQ

DATA SOURCE

Tagging and recapture records from 1985-2014 are maintained in the Suntag database at http://qld.info-fish.net. Access to the database is limited to authorised users.

Tag grid maps and Google Earth maps are available at www.suntag.org.au.

SOME OBSERVATIONS

Some observations for trends in Yellowfin Bream and Pikey Bream tagging from 1985-2014:

- → There were 44,825 Yellowfin Bream and 5,718 Pikey Bream tagged in SEQ and CQ
- → There were 31,579 (70.4%) Yellowfin Bream tagged in SEQ and 13,246 (29.6%) in CQ
- → There were no Pikey Bream tagged in SEQ and 5,718 (100%) in CQ
- → Tagging of Yellowfin Bream peaked from 2000-2005 when 14,831 fish were tagged
- → Tagging of Pikey Bream peaked in 2000-2005 when 1,897 fish were tagged
- → The most Yellowfin Bream were tagged in Pumicestone Passage with 15,351 and Pikey Bream in Gladstone with 2,731
- → Tagging of both species has declined following the peak in 2000-2005
- → The tag rate for Yellowfin Bream peaked at 5.93 fish/tagger/day from 1995-2000 and fell to 2.74 fish/tagger/day from 2010-2014
- ★ The tag rate for Pikey Bream Bream peaked at 2.78 fish/tagger/day from 1995-2000 and fell to 1.17 fish/tagger/day from 2010-2014

- → The average length of Yellowfin Bream tagged was lowest in 1995-2000 at 225mm and has risen to 261mm (16% increase) in 2010-2014
- → The percentage of Yellowfin Bream tagged at 300+mm was lowest at 4.3% in 1995-2000 and highest in 2010-2014 at 25.1%.
- → The average length of Pikey Bream tagged was lowest in 1995-2000 at 229mm and has risen to 265mm (15.7% increase) in 2010-2014
- → The percentage of Pikey Bream tagged at 300+mm from 1985-2014 was lowest at 6.6% in 1995-2000 and highest in 2010-2014 at 24.9%.
- → The recapture rate for Yellowfin Bream peaked in 1990-1995 at 7.7% and has declined since then to 2.0% in 2010-2014
- ★ The highest percentage of Yellowfin Bream recaptures kept was in 1985-1990 when 88.2% of recaptures were kept, this declined to 31.1% in 2005-2010 and then rose again to 54.9% in 2010-2014
- → The recapture rate for Pikey bream has risen from 1.3% from 1985-1990 to 4.3% from 2010-2014
- ★ The highest percentage of Pikey Bream recaptures kept was in 1990-1995 when 60.0% of recaptures were kept while fish kept has been around 50% from 2000-2005 to 2010-2015.
- → In SEQ 83.1% and in CQ 85.8% of Yellowfin Bream were recaptured within 10km of where tagged
- → For Yellowfin Bream in SEQ that moved over 50km 44.1% went north and 55.9% moved south.
- ★ The furthest distance moved for Yellowfin Bream was a fish tagged in Pumicestone Passage and recaptured 280km south in NSW at Casino
- → For Pikey Bream in CQ 88.6% were recaptured within 10km of where tagged and 99.5% were recaptured within 50km
- → There was only 1 Pikey Bream that moved over 50km and that was a fish tagged at the Barrage on the Fitzroy River and recaptured 100km away at Double Heads
- → Two Yellowfin Bream tagged in the Boyne Tannum Hookup were recaptured 42km away in the Calliope River having moved the greatest distance from where tagged
- → One Yellowfin Bream tagged in the Bundaberg VMR Family Fishing Classic was recaptured 23km upstream in the Burnett River having moved the greatest distance from where tagged

BREAM TAGGED

From 1985-2014 (Dec) there were 44,825 Yellowfin Bream and 5,718 Pikey Bream tagged in SEQ and CQ. Thee were 31,579 (70.4%) Yellowfin Bream tagged in SEQ and 13,246 (29.6%) in CQ. There were 0 Pikey Bream tagged in SEQ (outside their range) and 5,718 (100%) in CQ. Figure 1 shows the number of fish tagged each 5 years. The most number of Yellowfin Bream tagged was from 2000-2005 when 14,831 fish were tagged. The most number of Pikey Bream were tagged from 2000-2005 when 1,897 fish were tagged.

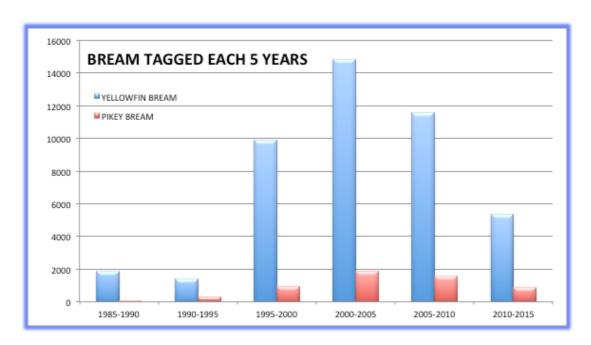


Figure 1: Number of Bream tagged each 5 years 1985-2014

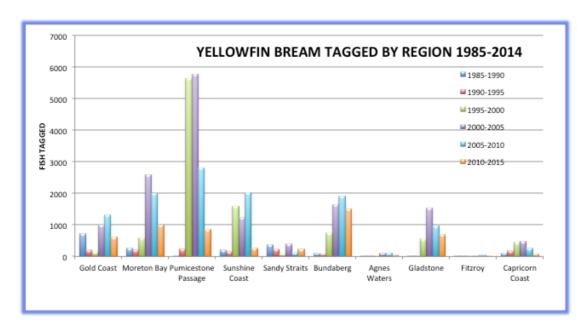


Figure 2: Yellowfin Bream tagged by sub-region 1985-2014

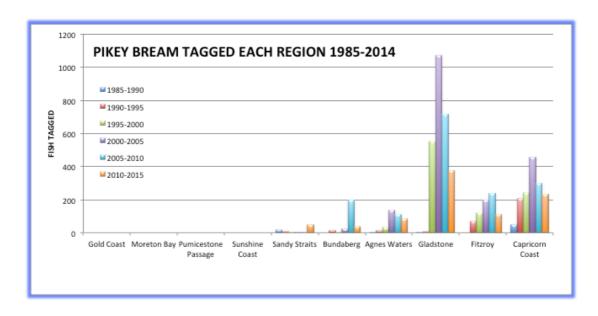


Figure 3: Pikey Bream tagged by sub-region 1985-2014

Figure 2 shows the number of Yellowfin Bream tagged in each sub-region in each 5 year period. The most fish tagged in SEQ were in Pumicestone Passage with 15,351 and in CQ were in Bundaberg with 5,999. Numbers of fish tagged have generally decline since the peak in 2000-2005 except in Bundaberg where they have remained steady.

Figure 3 shows the number of Pikey Bream tagged in each sub-region in each 5 year period. There were no fish tagged in SEQ while the most fish tagged in CQ were in Gladstone with 2,731. Numbers of fish tagged have generally decline in all sub-regions since the peak in 2000-2005.

Figure 4 shows the locations where Yellowfin Bream were tagged in SEQ and CQ from 1985-2014 while *figure 5* shows the locations where Pikey Bream were tagged.



Figure 4: Locations where Yellowfin Bream were tagged in SEQ and CQ 1985-2014



Figure 5: Locations where Pikey Bream were tagged in CQ 1985-2014

Figure 6 shows the tag rate (fish tagged per tagger per day) for Yellowfin Bream in each 5 year period from 1985-2014. The tag rate peaked at 4.93 fish/tagger/day in 1995-2000 and then steadily fell to 2.74 fish/tagger/day in 2010-2014 (44.4% decrease). This could be the result of reduced targeting of Yellowfin Bream by taggers.

Figure 7 shows the tag rate for Yellowfin Bream in each sub-region in each 5 year period. The tag rate was highest in Pumicestone Passage and Sunshine Coast. The tag rate has generally increased in Pumicestone Passage, Sunshine Coast, Sandy Straits and Bundaberg while it has generally decreased in Moreton Bay, Gladstone, Fitzroy and Capricorn Coast. The high tag rate for the Sunshine Coast in 2005-2010 was the results of one tagger targeting Yellowfin Bream in the Noosa River.

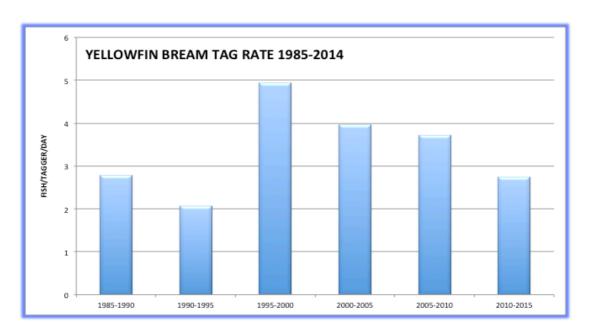


Figure 6: Yellowfin Bream tag rate for taggers per day 1985-2014

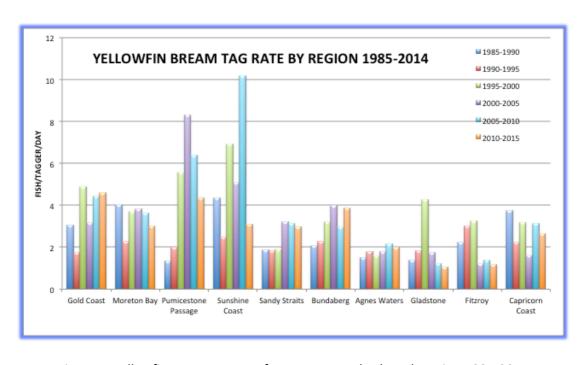


Figure 7: Yellowfin Bream tag rate for taggers per day by sub-region 1985-2014

Figure 8 shows the tag rate (fish tagged per tagger per day) for Pikey Bream in each 5 year period from 1985-2014. The tag rate peaked at 2.78 fish/tagger/day in 1995-2000 and then steadily fell to 1.17 fish/tagger/day in 2010-2014 (58.1% decrease). This could be the result of reduced targeting of Pikey Bream by taggers.

Figure 9 shows the tag rate for Pikey Bream in each sub-region in each 5 year period. The tag rate was highest in Capricorn Coast where it also increased over time. The rates have fluctuated in all sub-regions and this is likely due to less targeting and lower numbers of fish tagged.

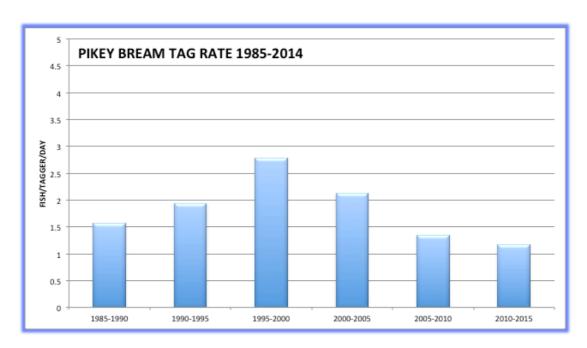


Figure 8: Pikey Bream tag rate for taggers per day 1985-2014

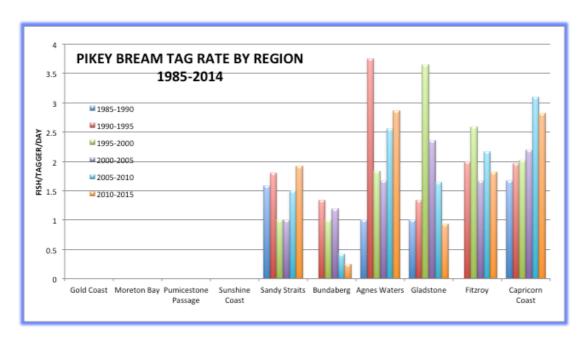


Figure 9: Pikey Bream tag rate for taggers per day by sub-region 1985-2014

YELLOWFIN BREAM LENGTHS

From 1985-2014 the average length of Yellowfin Bream tagged was lowest in 1995-2000 at 225mm and has risen to 261mm (16% increase) in 2010-2014. *Figure 10* shows the average length of fish tagged in each 5 year period. *Figure 11* shows the average length of fish tagged by sub-region from 1985-2014. The increase in Bundaberg in 2010-2014 is due to larger fish being tagged in the Bundabeg VMR competition and in Gladstone from 2000-2015 is due to larger fish being tagged in the Boyne Tannum Hookup competition.

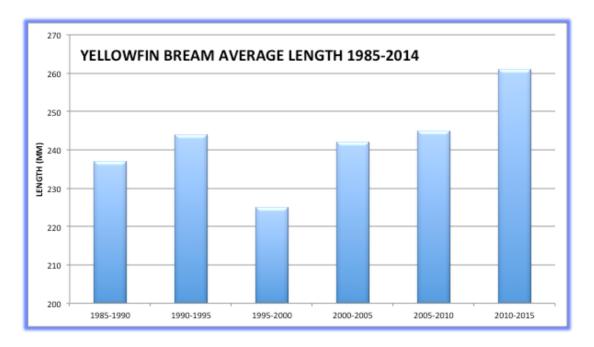


Figure 10: Average length of Yellowfin Bream tagged 1985-2014

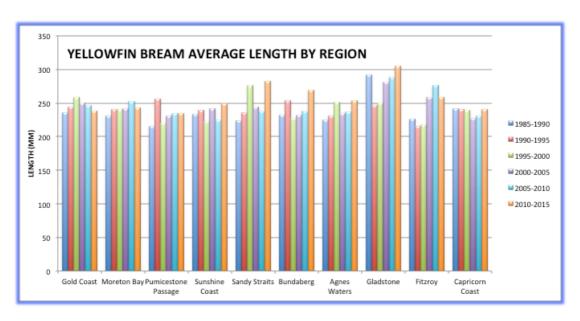


Figure 11: Average length of Yellowfin Bream tagged by sub-region 1985-2014

Figure 12 shows the percentage of Yellowfin Bream tagged at 300+mm from 1985-2014. This was lowest at 4.3% in 1995-2000 and highest in 2010-2014 at 25.1%. Figure 13 shows the percentage of fish tagged at 300+mm from 1985-2014 in each sub-region. The percentage in each sub-region in SEQ has generally been below 15% in any period. The percentage in Bundaberg in 2010-2014 is due to larger fish being tagged in the Bundaberg VMR competition and in Gladstone from 2000-2015 is due to larger fish being tagged in the Boyne Tannum Hookup competition.

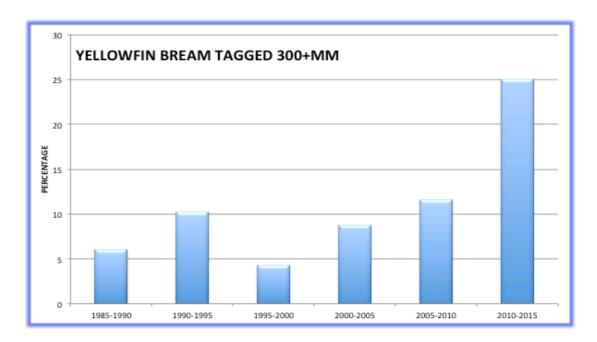


Figure 12: Percentage of Yellowfin Bream tagged at 300mm and over 1985-2014

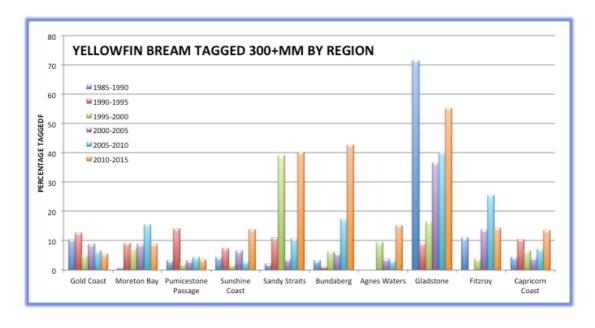


Figure 13: Percentage of Yellowfin Bream tagged at 300mm and over by region 1985-2014

PIKEY BREAM LENGTHS

From 1985-2014 the average length of Pikey Bream tagged was lowest in 1995-2000 at 229mm and has risen to 265mm (15.7% increase) in 2010-2014. *Figure 14* shows the average length of fish tagged in each 5 year period. *Figure 15* shows the average length of fish tagged by sub-region from 1985-2014. The increase in Gladstone from 2000-2015 is due to larger fish being tagged in the Boyne Tannum Hookup competition.

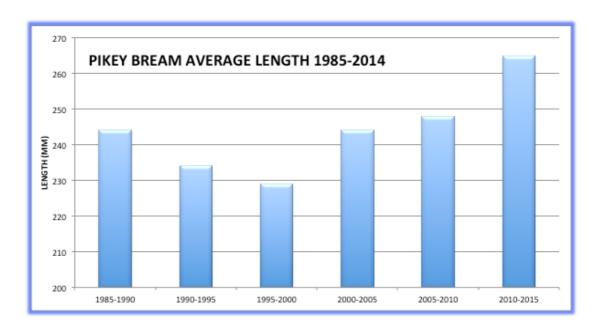


Figure 14: Average length of Pikey Bream tagged 1985-2014

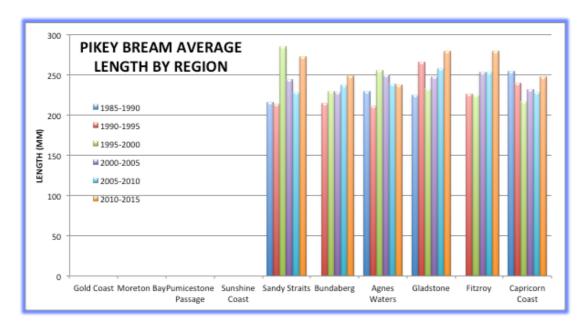


Figure 15: Average length of Pikey Bream tagged by sub-region 1985-2014

Figure 16 shows the percentage of Pikey Bream tagged at 300+mm from 1985-2014. This was lowest at 6.6% in 1995-2000 and highest in 2010-2014 at 24.9%. Figure 17 shows the percentage of fish tagged at 300+mm from 1985-2014 in each sub-region. The percentage in Gladstone from 2000-2015 is due to larger fish being tagged in the Boyne Tannum Hookup competition. For all sub-regions except Bundaberg and Agnes Waters the percentage of fish 300mm and over rose significantly in 2010-2014. Some periods in some regions were excluded due to the low numbers of fish tagged.

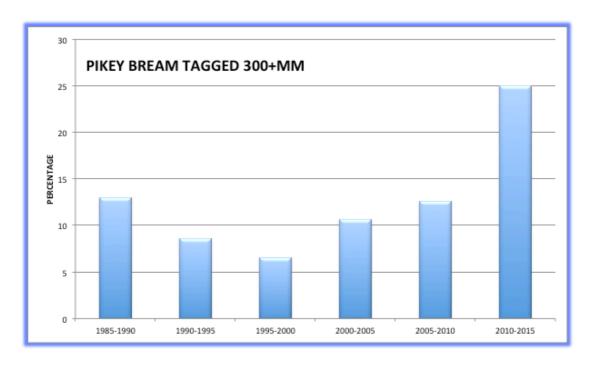


Figure 16: Percentage of Pikey Bream tagged at 300mm and over 1985-2014

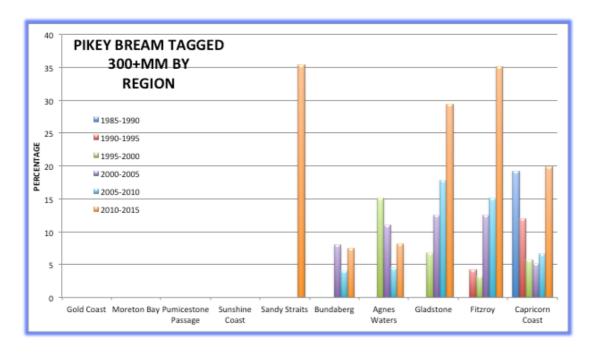


Figure 17: Percentage of Pikey Bream tagged at 300mm and over by sub-region 1985-2014

YELLOWFIN BREAM RECAPTURES

There were 1,856 recaptures of Yellowfin Bream from 1985-2014. *Figure 18* shows the number of fish tagged and the recapture rate (based on the first recapture of a fish) in each 5 year period from 1985-2014. The recapture rate peaked in 1990-1995 at 7.7% and has declined since then to 2.0% in 2010-2014 (still in progress). *Figure 19* shows the percentage of Yellowfin Bream recaptures by sub-region from 1985-2014. The recapture rates in each sub-region generally reflect the downward trend shown in the overall recapture rate from 1990-1995 to 2010-2014.

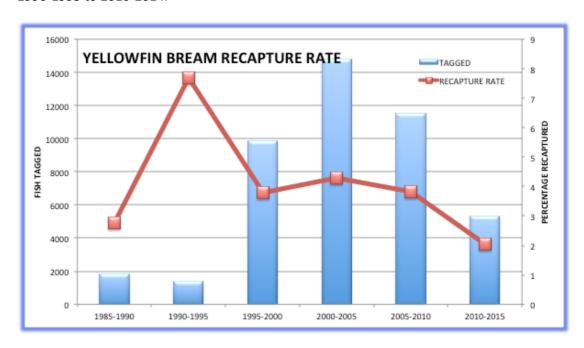


Figure 18: Yellowfin Bream tagged and recapture rate 1985-2014

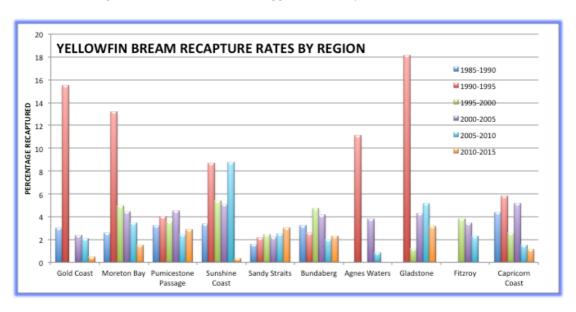


Figure 19: Yellowfin Bream recapture rates by sub-region 1985-2014

Figure 20 shows the percentage of fish kept compared with total recaptures (including multiple recaptures of the same fish). The highest percentage of recaptures kept was in 1985-1990 when 88.2% of recaptures were kept. This declined to 31.1% in 2005-2010 and then rose again to 54.9% in 2010-2014. The tagging of larger Bream in the Bundaberg VMR competition and the Boyne Tannum Hookup likely influence the number of recaptures kept. Figure 21 shows the recaptures kept by sub-region. There has been a decline in all sub-regions in SEQ while in CQ there has been a decline in Capricorn Coast while Bundaberg and Gladstone have increased as a result of the competition tagging. Figure 22 shows the locations of 1,856 recaptures of Yellowfin Bream from 1985-2014.

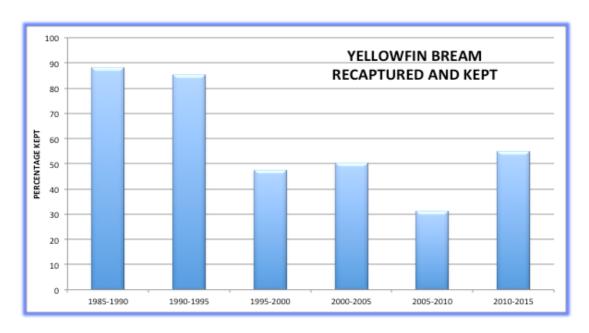


Figure 20: Percentage of Yellowfin Bream recaptured and kept compared with total recaptures 1985-2014

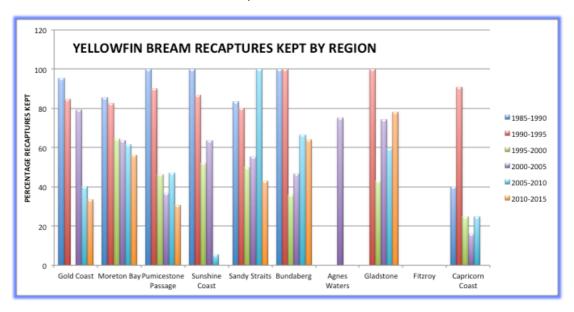


Figure 21: Percentage of Yellowfin Bream recaptured and kept compared with total recaptures by sub-region 1985-2014



Figure 22: Locations of Yellowfin Bream recaptures 1985-2014

PIKEY BREAM RECAPTURES

There were 249 recaptures of Pikey Bream from 1985-2014. *Figure 23* shows the number of fish tagged and the recapture rate (based on the first recapture of a fish) in each 5 year period from 1985-2014. The recapture rate has risen from 1.3% from 1985-1990 to 4.3% from 2010-2014 (still in progress). There were insufficient recaptures for each period in each sub-region to make a meaningful comparison.

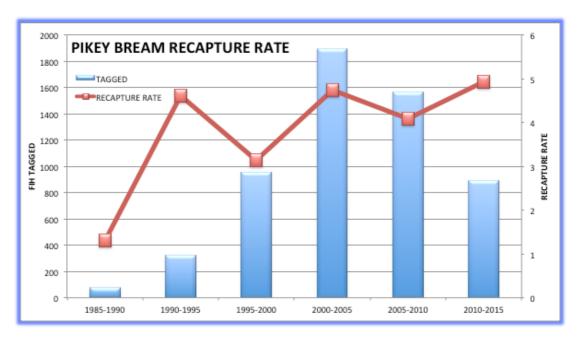


Figure 23: Pikey Bream tagged and recapture rate 1985-2014

Figure 24 shows the percentage of fish kept compared with total recaptures (including multiple recaptures of the same fish). The highest percentage of recaptures kept was in 1990-1995 when 60.0% of recaptures were kept. This shows that the rate of recaptured fish kept has been around 50% from 2000-2005 to 2010-2015. There were insufficient recaptures for each period in each sub-region to make a meaningful comparison. Figure 25 shows the locations of 249 recaptures of Pikey Bream from 1985-2014.

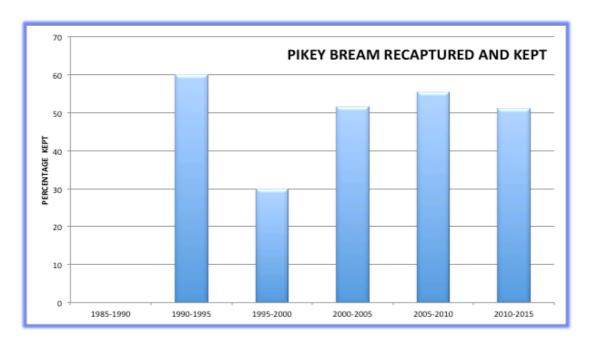


Figure 24: Percentage of Pikey Bream recaptured and kept compared with total recaptures 1985-2014



Figure 25: Locations of Pikey Bream recaptures 1985-2014

YELLOWFIN BREAM MOVEMENT

Yellowfin Bream movement was assessed based on the regions SEQ and CQ. The distance moved was calculated as the shortest route by water between the locations where tagged and recaptured. There were 1,720 recaptures in SEQ and 750 in CQ where the distance moved was calculated.

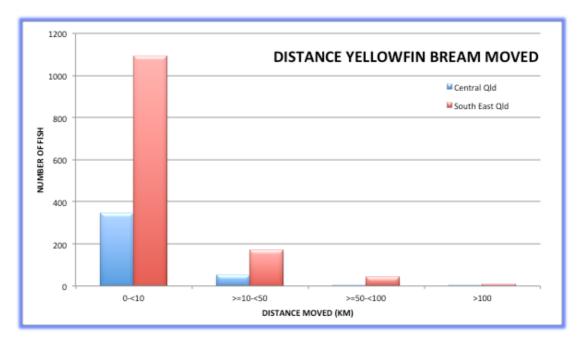


Figure 26: Number and distance moved by Yellowfin Bream

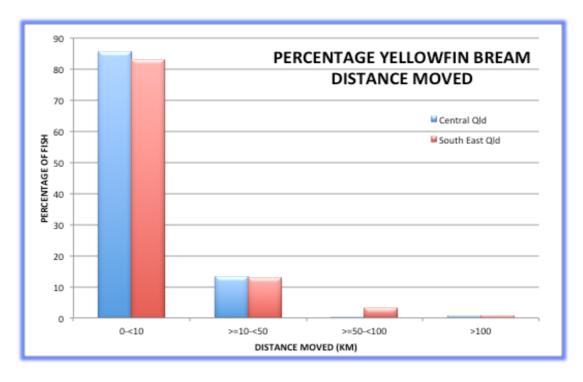


Figure 27: Percentage and distance moved by Yellowfin Bream

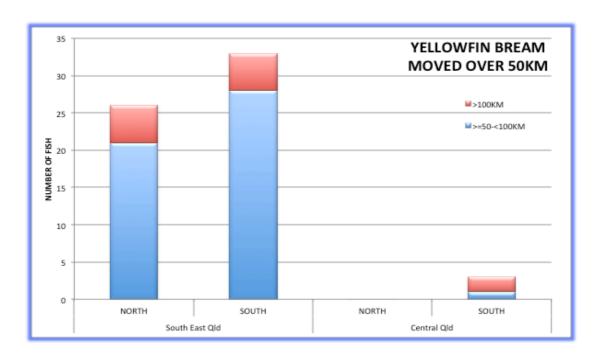


Figure 28: Number of Yellowfin Bream moved 50km and more

Figure 26 shows the number of fish that moved 0-<10km, 10-<50km, 50km-<100km and >100km while figure 27 shows the percentage of fish that moved those distances. In SEQ 83.1% and in CQ 85.8% of Yellowfin Bream were recaptured within 10km of where tagged. Figure 28 shows fish that moved over 50km where 44.1% moved north and 55.9% moved south. The furthest distance moved was a fish tagged in Pumicestone Passage and recaptured 280km south in NSW at Casino. Figure 29 shows the movement of Yellowfin Bream that moved over 50km.

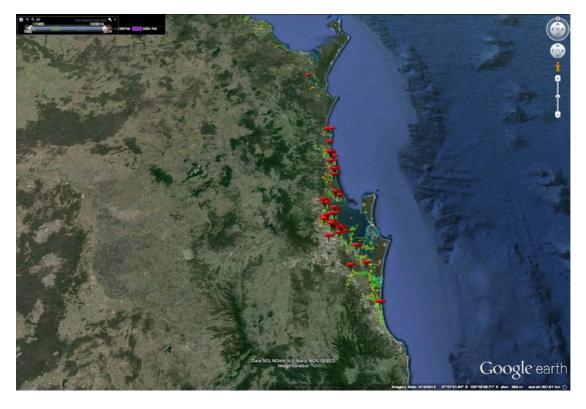


Figure 29: Movement of Yellowfin Bream over 50km

PIKEY BREAM MOVEMENT

Pikey Bream movement was assessed based on the region and CQ as no fish were tagged or recaptured in SEQ. The distance moved was calculated as the shortest route by water between the locations where tagged and recaptured. There were 210 recaptures CQ where the distance moved was calculated.

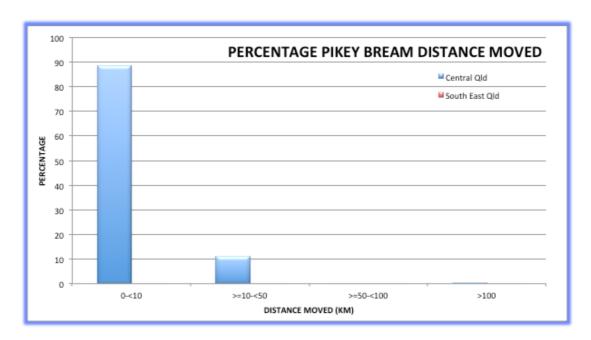


Figure 30: Percentage and distance moved by Pikey Bream

Figure 30 shows the percentage of fish that moved 0-<10km, 10-<50km, 50km-<100km and >100km. For Pikey Bream in CQ 88.6% were recaptured within 10km of where tagged and 99.5% were recaptured within 50km. There was only 1 fish that moved over 50km. This was a fish tagged at the Barrage on the Fitzroy River and recaptured 100km away at Double Heads. The fish moved down the river and then north along the coast.

Pikey Bream are mostly caught within the estuary they were tagged in with little inter system movement. Shorter distance movement of less than 50km were associated with travel to and from spawning grounds at the mouth of estuaries.

BREAM RELEASED IN FISHING COMPETITIONS

There are 2 competitions where Bream were brought to a central location, tagged and then released. The competitions were Boyne Tannum Hookup at Gladstone (since 2000) and Bundaberg VMR Family Fishing Classic (since 2006). The furthest distance moved from where tagged in the Boyne Tannum Hookup was 42km for 2 Yellowfin Bream recaptured in the Calliope River. For fish released in the Bundaberg VMR competition 1 Yellowfin Bream was recaptured 23km upstream in the Burnett River.

Figure 31 shows the locations where both species of Bream were recaptured after being released at the Bray Park boat ramp near the mouth of the Boyne River and figure 32 shows where Yellowfin Bream were recaptured after being released in the Bundaberg VMR competition in the Burnett Heads marina.

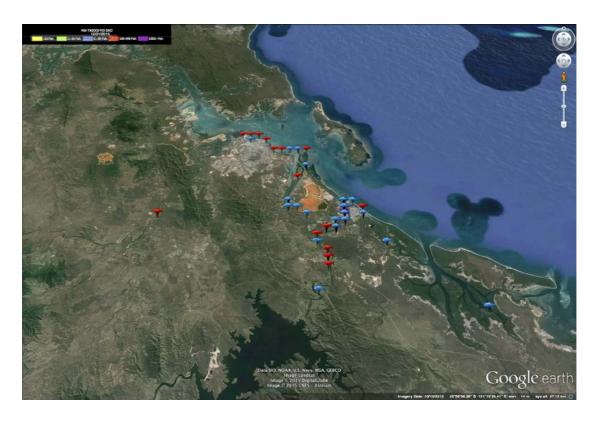


Figure 31: Locations of recaptures of Yellowfin Bream (red) and Pikey Bream (blue) tagged in Boyne Tannum Hookup

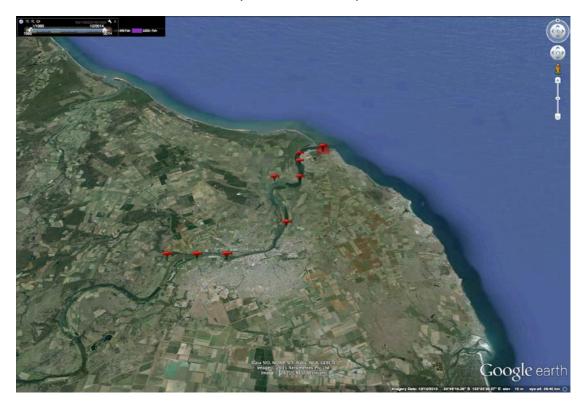


Figure 32: Locations of recaptures of Yellowfin Bream tagged in the Bundaberg VMR Family Fishing Classic