

DUSKY FLATHEAD
SOUTH EAST AND CENTRAL
QUEENSLAND
1985-2014



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REPORT

This report has been prepared by Infofish Australia for the Australian National Sportfishing Association Qld Inc – Dec 2014

SCOPE

This report provides a summary of Dusky Flathead 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 and MB01) 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 Dusky Flathead tagging from 1985-2014:

- ✦ There were 46,160 Dusky Flathead tagged with 29,997 in SEQ and 16,163 in CQ
- ✦ Most Dusky Flathead were tagged from 1990-1995 and 1995-2000 when over 10,000 fish were tagged in each period
- ✦ Numbers of fish tagged in the Moreton Bay and Gold Coast sub-regions have fallen while they have increased significantly in the Bundaberg sub-region
- ✦ The overall tag rate has steadily increased from 1.7 fish/tagger/day in 1985-1990 to 3.3 fish/tagger/day in 2010-2014 (94.1% increase)
- ✦ The tag rate has increased in each sub-region over time except in Moreton Bay where there has been a decline from 4.3 in 1990-1995 to 1.7 in 2010-2014 (153% decrease)
- ✦ The largest increase in tag rate and the highest current tag rate is in Pumicestone Passage with the rate for 2010-2015 being 5.7 fish/tagger/day
- ✦ From 1985-2014 the average length of Dusky Flathead tagged has risen from 386.2mm in 1985-1990 to 442.9mm (14.7% increase) in 2010-2014

- ✦ The average length has increased in all sub-regions except Moreton Bay and Pumicestone Passage where it has remained steady and Gold Coast where it decreased.
- ✦ The highest percentage of fish tagged at 500+mm was 26.2% from 1995-2000 and the lowest was 16.9% in 2005-2010 showing a downward trend over that time
- ✦ The percentage of fish tagged at 500+mm in each sub-region has generally increased over time except for Gold Coast, Moreton Bay and Pumicestone Passage where it has generally declined
- ✦ There were 4,037 recaptures from 1985-2014
- ✦ The overall recapture rate peaked in 1995-2000 at 11.4% and has declined since then to 6.0% in 2010-2014
- ✦ The recapture rates in each sub-region generally reflect the downward trend shown in the overall recapture rate from 1990-1995 to 2010-2014
- ✦ The recapture rates in south East Queensland are generally higher than in Central Queensland where the species is less of a target
- ✦ The highest percentage of recaptures kept was in 1990-1995 when 83.2% of recaptures were kept and this has steadily declined to 51.0% in 2010-2014
- ✦ There has been a decline in recaptures kept in all sub-regions except the Fitzroy where Flathead are not targeted and form a very small part of the catch
- ✦ For SEQ there were 2,669 (87.6) Dusky Flathead recaptured and for CQ there were 657 (87.6%) where they moved less than 10km
- ✦ For SEQ there were 8 (0.3%) fish and for CQ there were 12 (1.6%) that moved 100km or more
- ✦ The furthest distance moved in SEQ was a fish tagged in Hussey Creek in Pumicestone Passage and recaptured at Waddy Point on Fraser Island 240km north along the coast.
- ✦ The furthest distance moved in CQ was a fish tagged in Rodds Harbour near Turkey Beach and recaptured in the Pioneer River at Mackay 425km north along the coast
- ✦ In SEQ 20 (77.8%) fish moved 50-100km and 8 (100%) moved 100km north
- ✦ In CQ 8 (100%) moved 50-100km and 11 (95%) moved south
- ✦ Long distance movements of 100km or more in the 2 regions are in opposite directions with fish in SEQ moving north and in CQ moving south

FLATHEAD TAGGED

From 1985-2014 (Nov) there were 46,160 Dusky Flathead tagged in with 29,997 in SEQ and 16,163 in CQ. *Figure 1* shows the number of fish tagged each 5 years. The most number of fish tagged were from 1990-1995 and 1995-2000 when over 10,000 fish were tagged in each 5 year period. From 2000-2015 (2010-2015 still in progress) there have around 8,000 fish tagged in each period.

Figure 2 shows the number of fish tagged in each sub-region in each 5 year period. The numbers of fish tagged in the Gold Coast and Moreton Bay sub-regions have fallen while they have increased significantly in the Bundaberg sub-region.

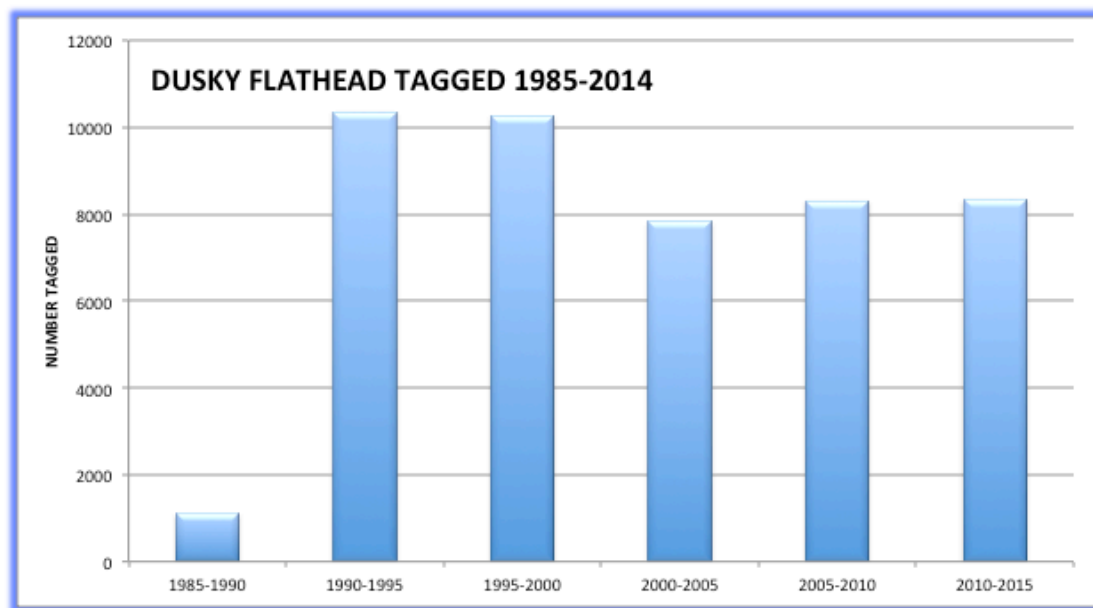


Figure 1: Number of Dusky Flathead tagged 1985-2014

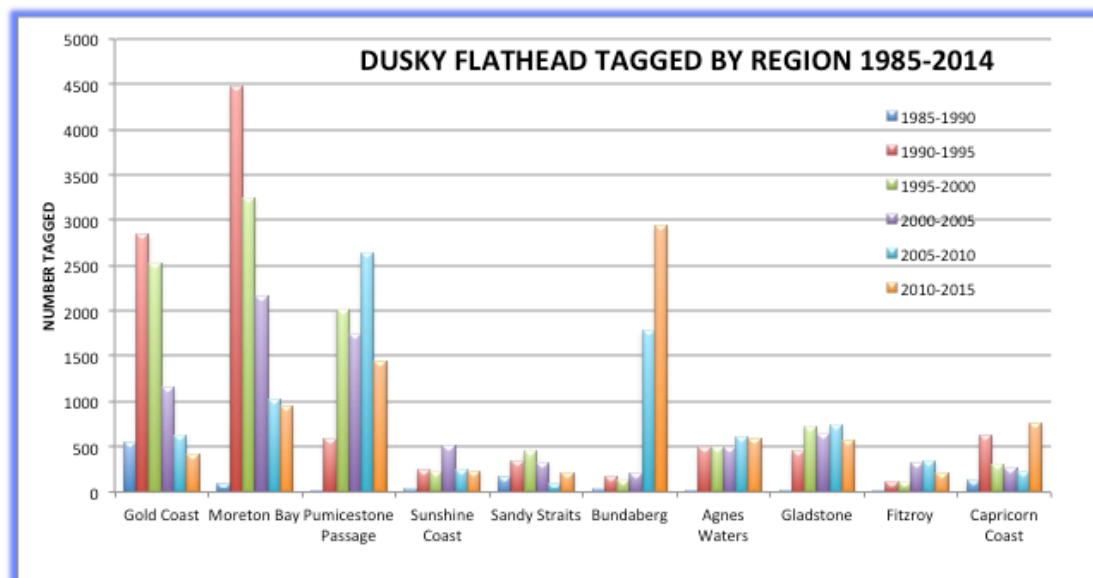


Figure 2: Dusky Flathead tagged by region 1985-2014

Figure 3 shows the locations where Dusky Flathead were tagged in SEQ and CQ and figure 4 shows the locations where Flathead in SEQ from 1985-2014.

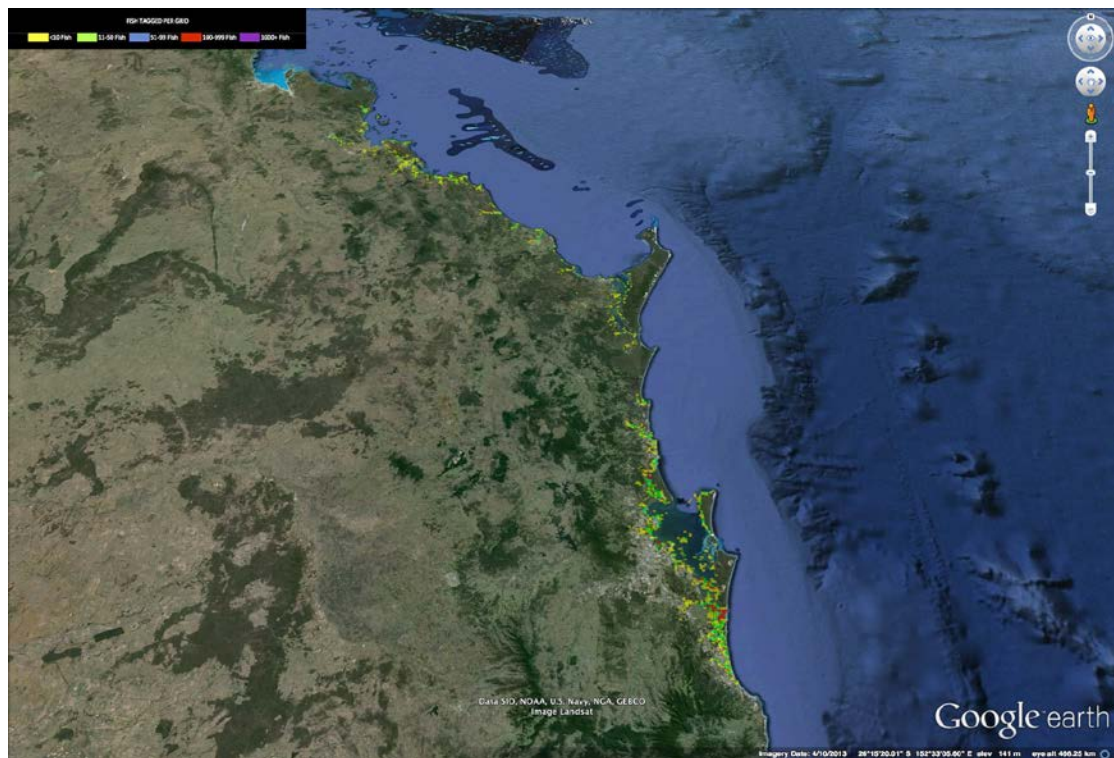


Figure 3: Locations where Dusky Flathead tagged in SEQ and CQ 1985-2014

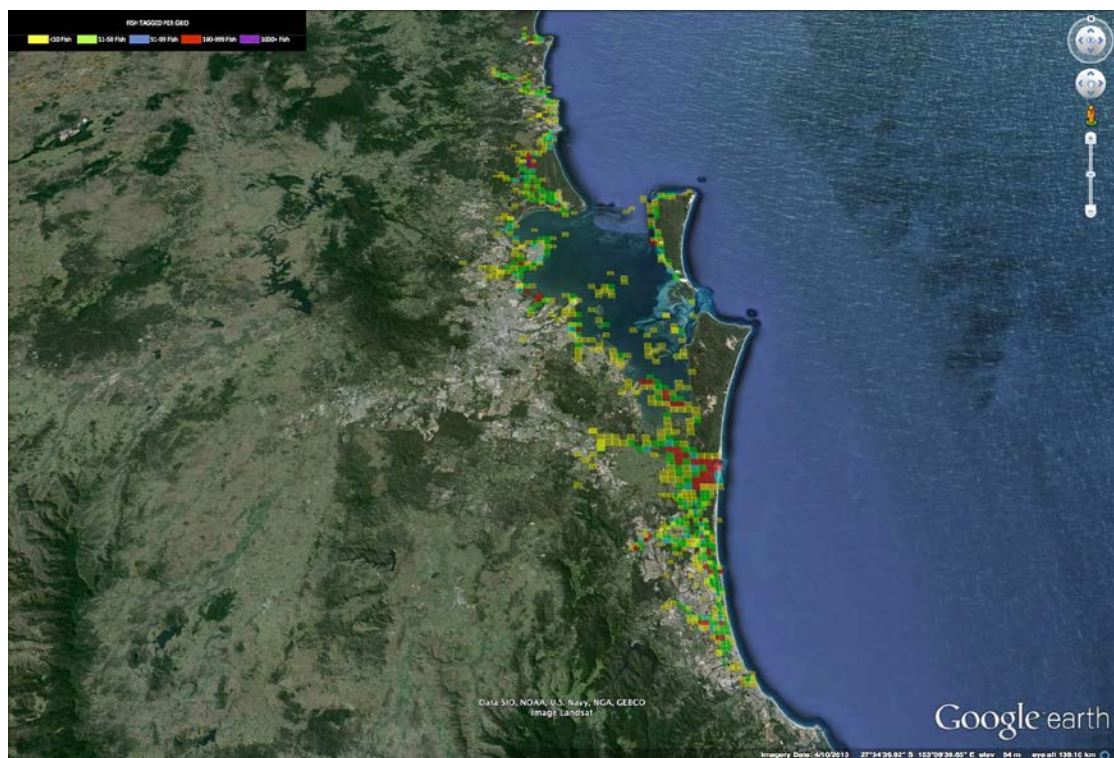


Figure 4: Locations where Dusky Flathead tagged in SEQ 1985-2014

Figure 5 shows the tag rate (fish tagged per tagger per day) in each 5 year period from 1985-2014. There has been an increase in the tag rate from 1.7 fish/tagger/day in 1985-1990 to 3.3 fish/tagger/day (94.1% increase). This could be an increase in the availability of fish and/or fishers tagging a greater proportion of their catch.

Figure 6 shows the tag rate in each sub-region in each 5 year period. The tag rate has increased in each sub-region over time except in Moreton Bay where there has been a decline from 4.3 in 1990-1995 to 1.7 in 2010-2014 (153% decrease). The largest increase in tag rate and the highest current tag rate is in Pumicestone Passage with the rate for 2010-2015 being 5.7 fish/tagger/day.

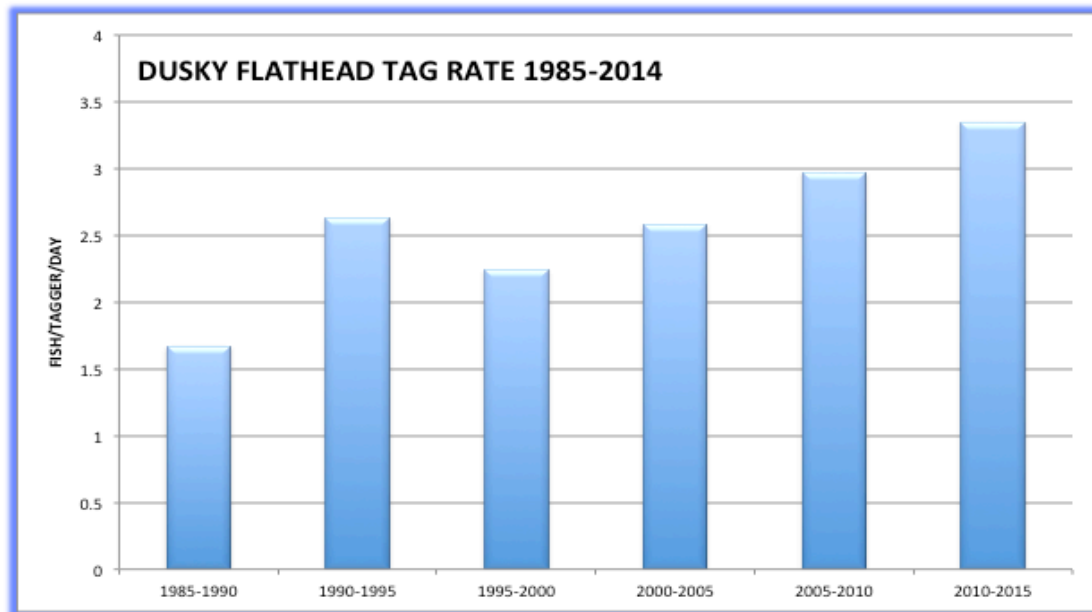


Figure 5: Tag rate for taggers per day 1985-2014

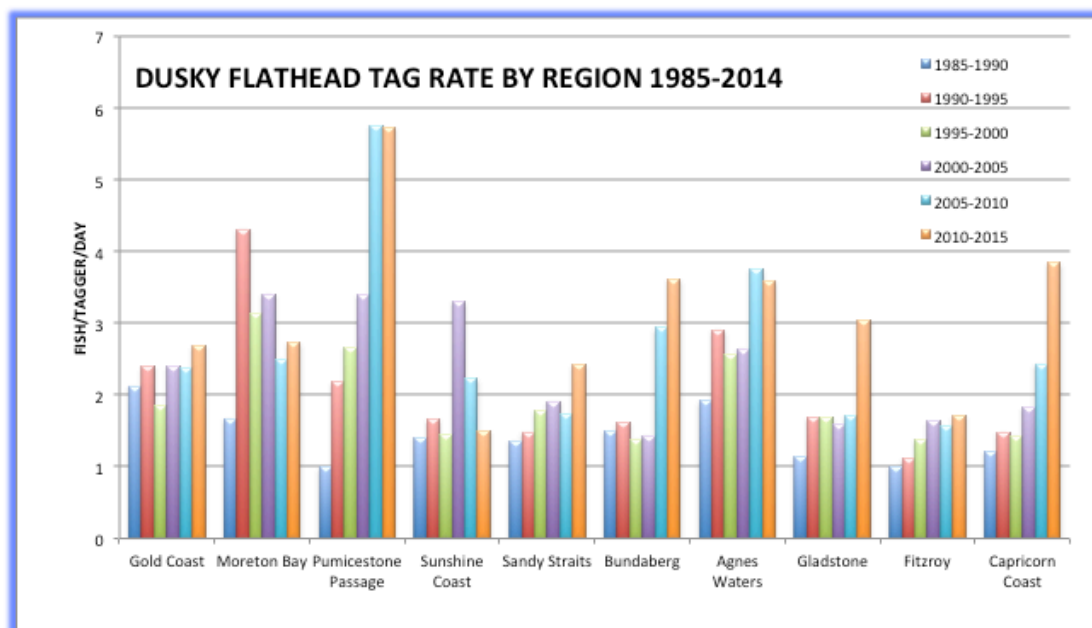


Figure 6: Tag rate for taggers per day by region 1985-2014

FLATHEAD LENGTHS

From 1985-2014 the average length of Dusky Flathead tagged has risen from 386.2mm in 1985-1990 to 442.9mm (14.7% increase) in 2010-2014. *Figure 5* shows the average length of fish tagged in each 5 year period. *Figure 6* shows the average length of fish tagged by sub-region from 1985-2014. The average length has increased in all sub-regions except Moreton Bay and Pumicestone Passage where it has remained steady and Gold Coast where it decreased.

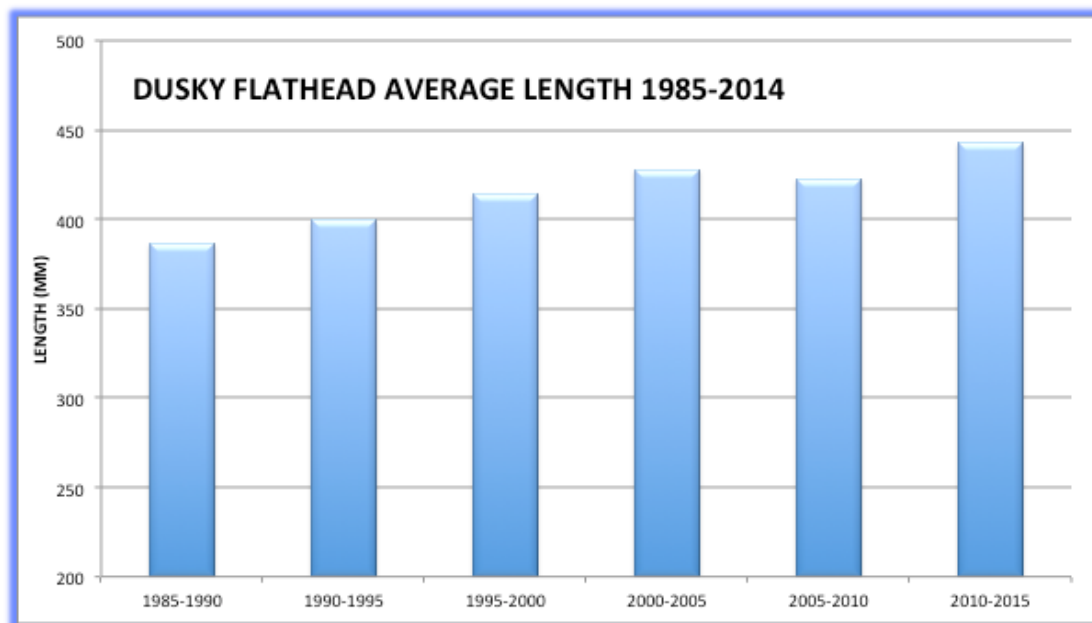


Figure 7: Average length of Dusky Flathead tagged 1985-2014

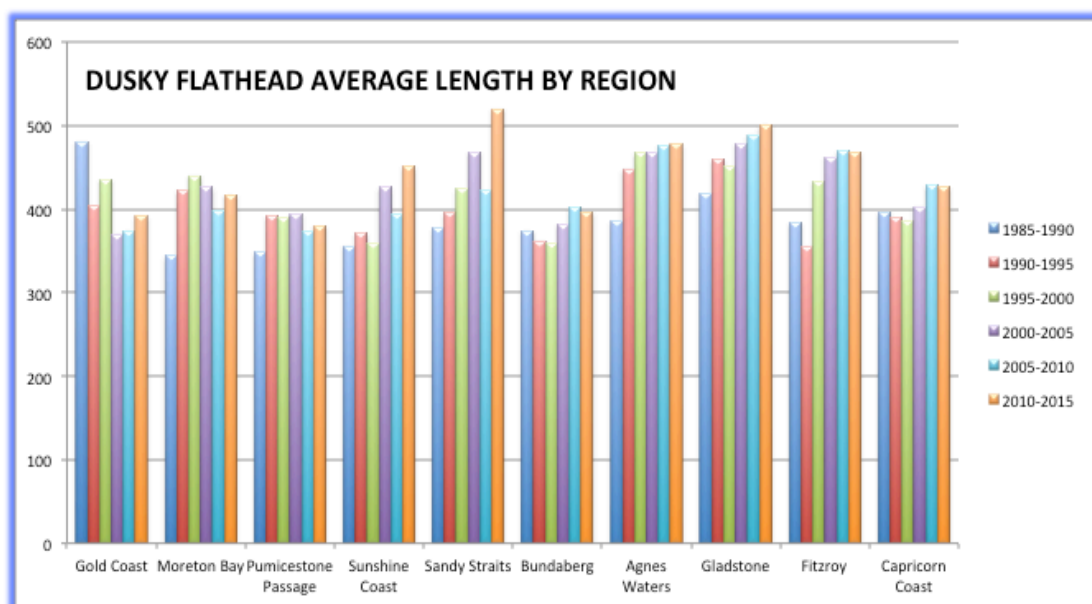


Figure 8: Average length of Dusky Flathead tagged by region 1985-2014

Figure 9 shows the percentage of fish tagged at 500+mm from 1985-2014. The highest percentage of fish tagged at 500+mm was 26.2% from 1995-2000 and the lowest was 16.9% in 2005-2010 showing a downward trend over that time. The percentage in 2010-2014 is 20.5% (still in progress) compared with the long term average of 21.3%. Figure 10 shows the percentage of fish tagged at 500+mm from 1985-2014. The percentage in each sub-region has generally increased over time except for Gold Coast, Moreton Bay and Pumicestone Passage where it has generally declined.

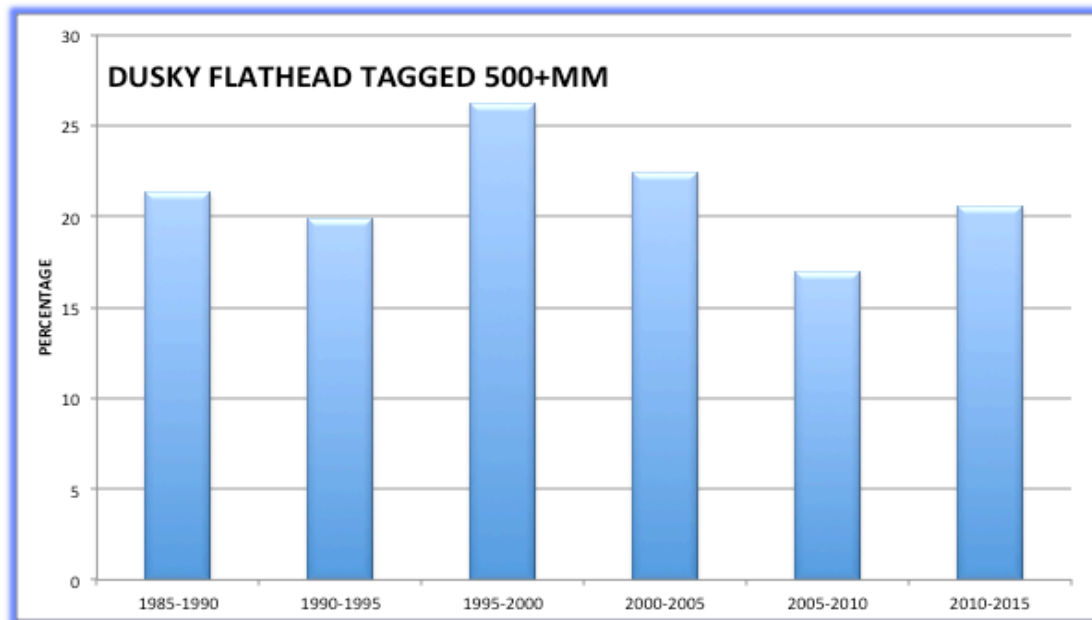


Figure 9: Percentage of Dusky Flathead tagged at 500mm and over 1985-2014

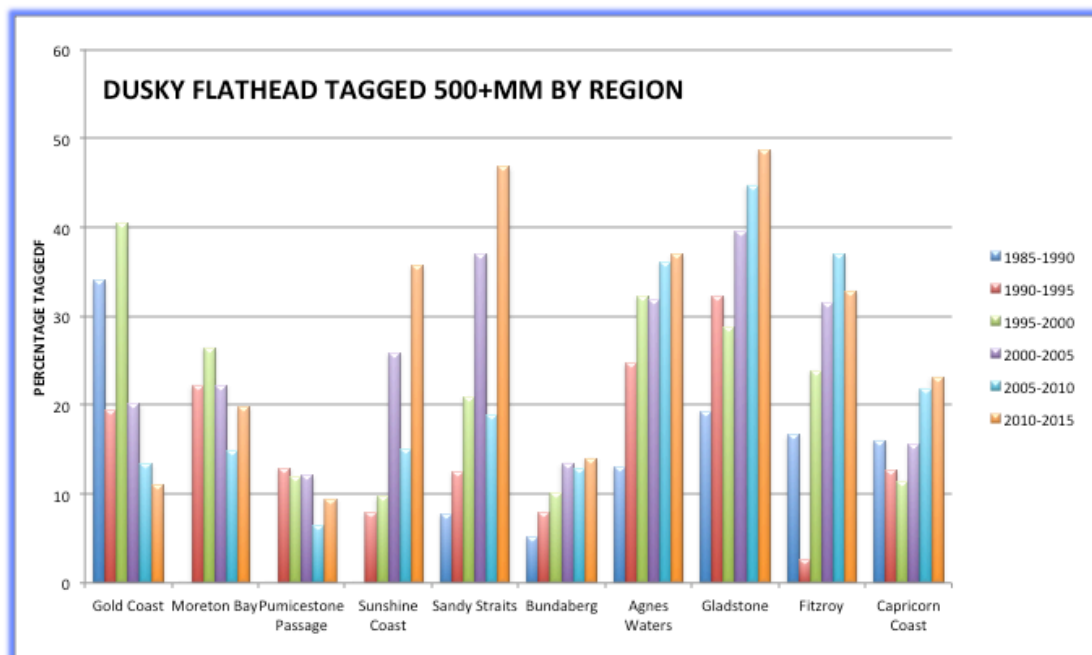


Figure 10: Percentage of Dusky Flathead tagged at 500mm and over by region 1985-2014

FLATHEAD RECAPTURES

There were 4,037 recaptures of Dusky Flathead from 1985-2014. *Figure 11* 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 1995-2000 at 11.4% and has declined since then to 6.0% in 2010-2015 (still in progress). *Figure 12* shows the percentage of Flathead 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. The recapture rates in SEQ are generally higher than in CQ where the species is less of a target.

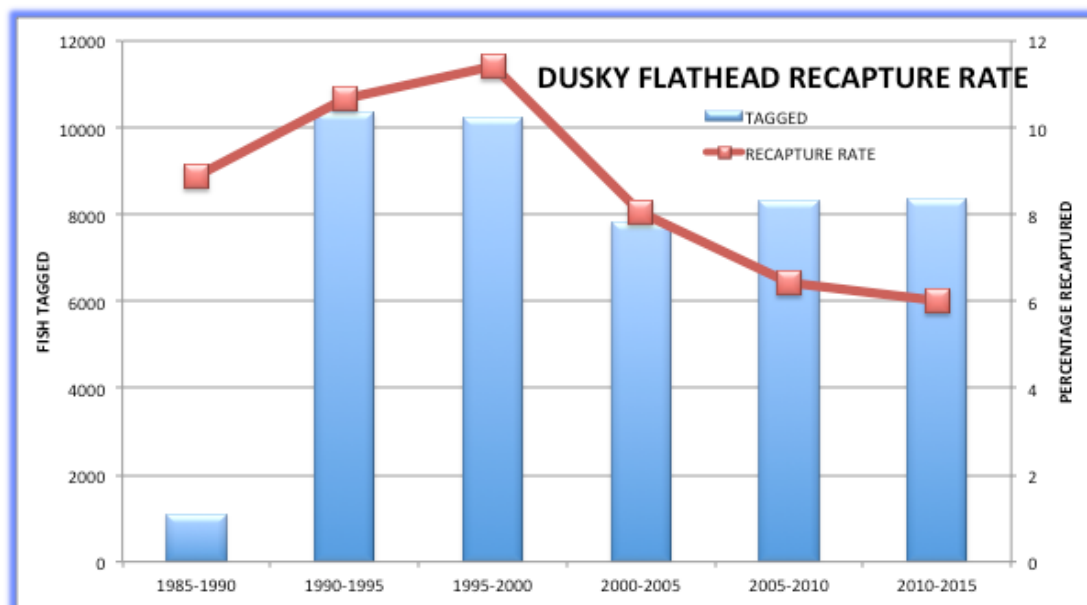


Figure 11: Dusky Flathead tagged and recapture rate 1985-2014

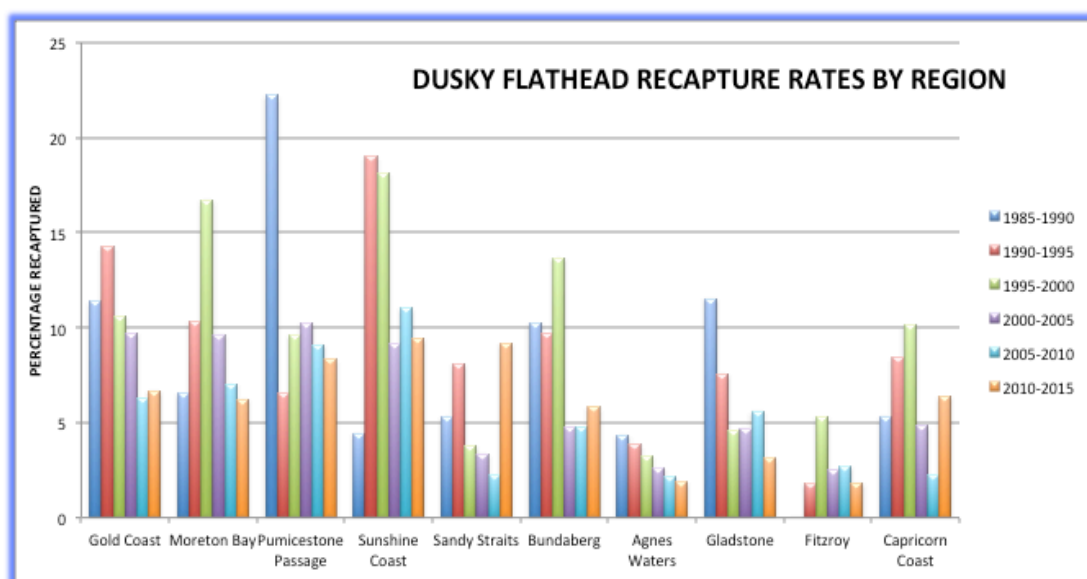


Figure 12: Dusky Flathead recapture rates by region 1985-2014

Figure 13 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 83.2% of recaptures were kept. This has steadily declined to 51.0% in 2010-2014. Figure 14 shows the recaptures kept by sub-region. There has been a decline in all sub-regions except the Fitzroy where Flathead are not targeted and form a very small part of the catch. Figure 15 shows the locations of 4,037 recaptures of Dusky Flathead from 1985-2014.

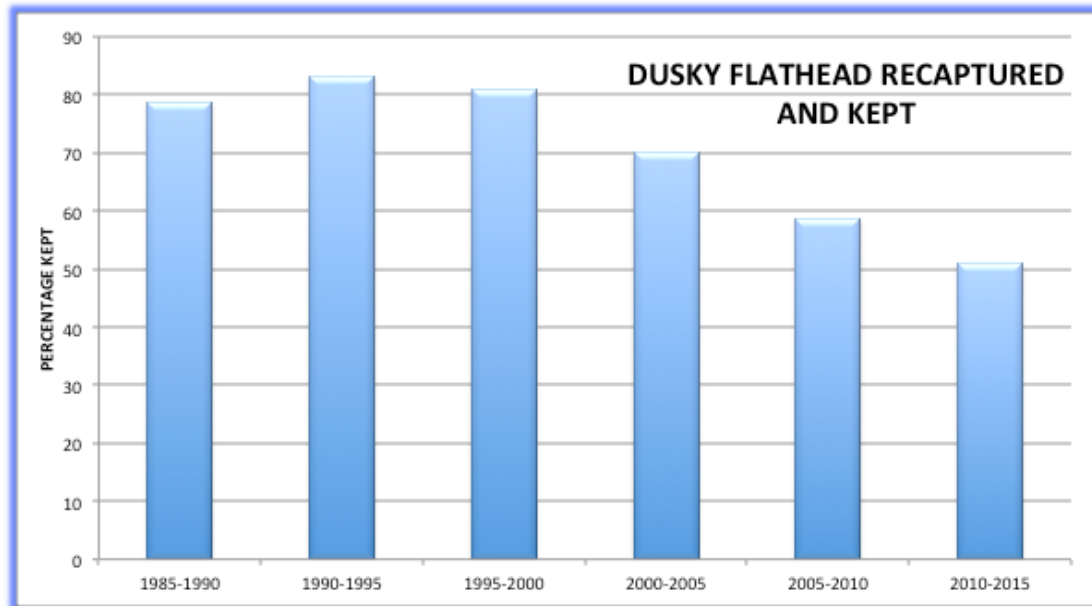


Figure 13: Percentage of Dusky Flathead recaptured and kept compared with total recaptures 1985-2014

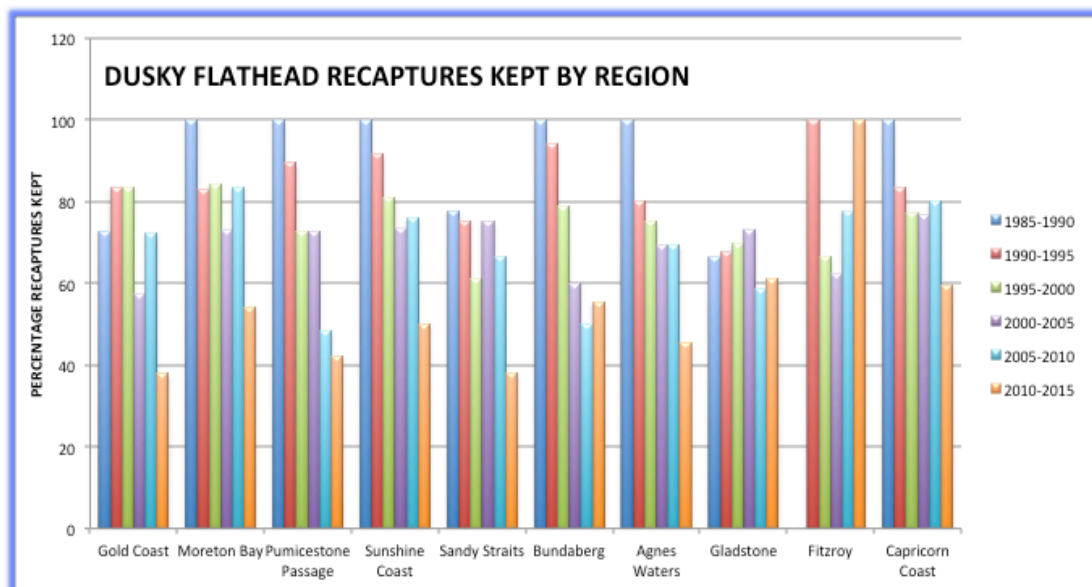


Figure 14: Percentage of Dusky Flathead recaptured and kept compared with total recaptures by region 1985-2014

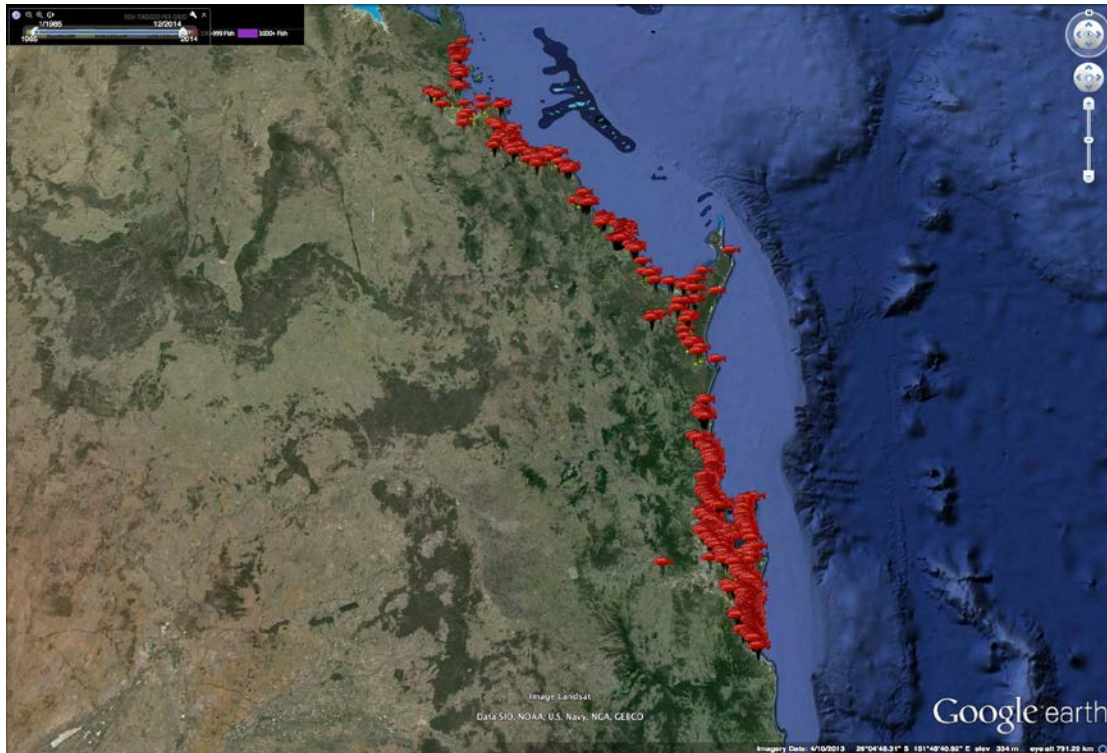


Figure 15: Locations of Dusky Flathead recaptures 1985-2014

FLATHEAD MOVEMENT

Dusky Flathead 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.

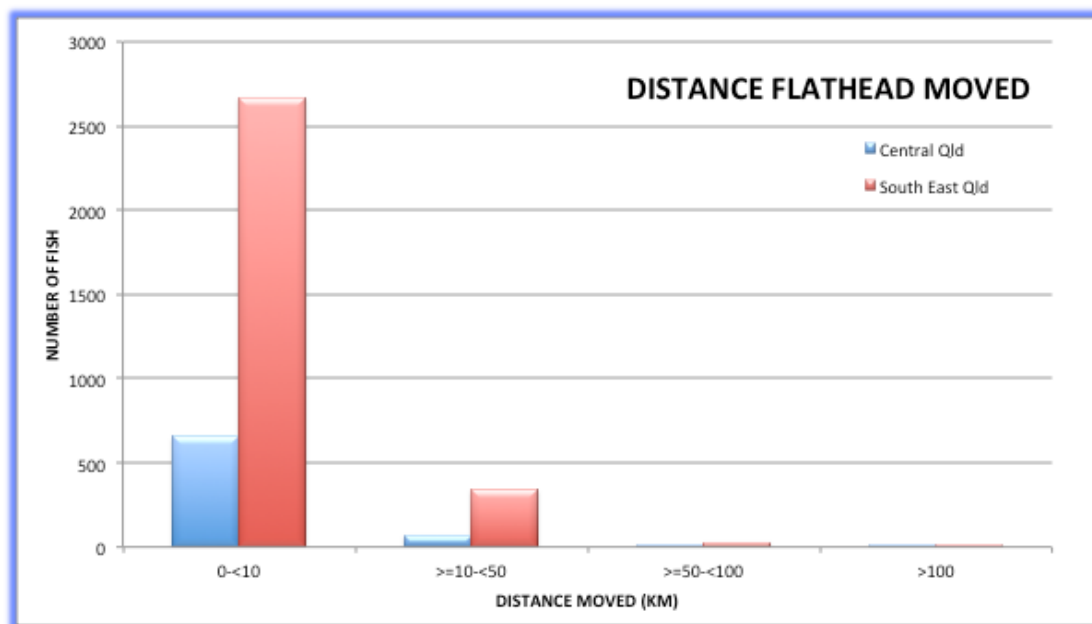


Figure 16: Number and distance moved by Dusky Flathead

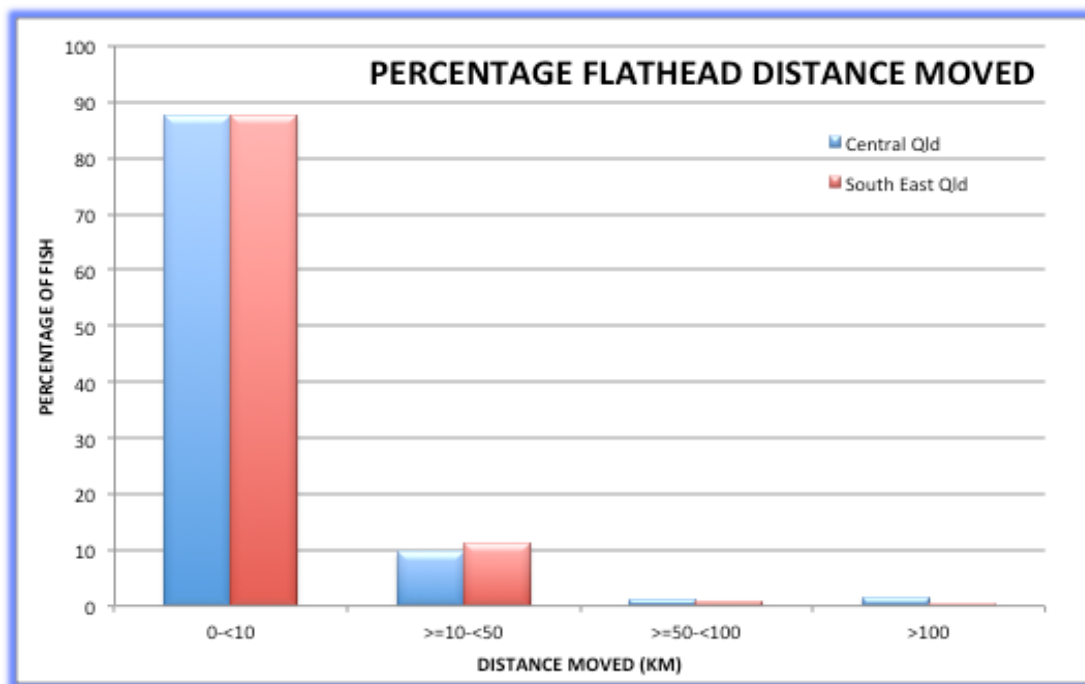


Figure 17: Percentage and distance moved by Dusky Flathead

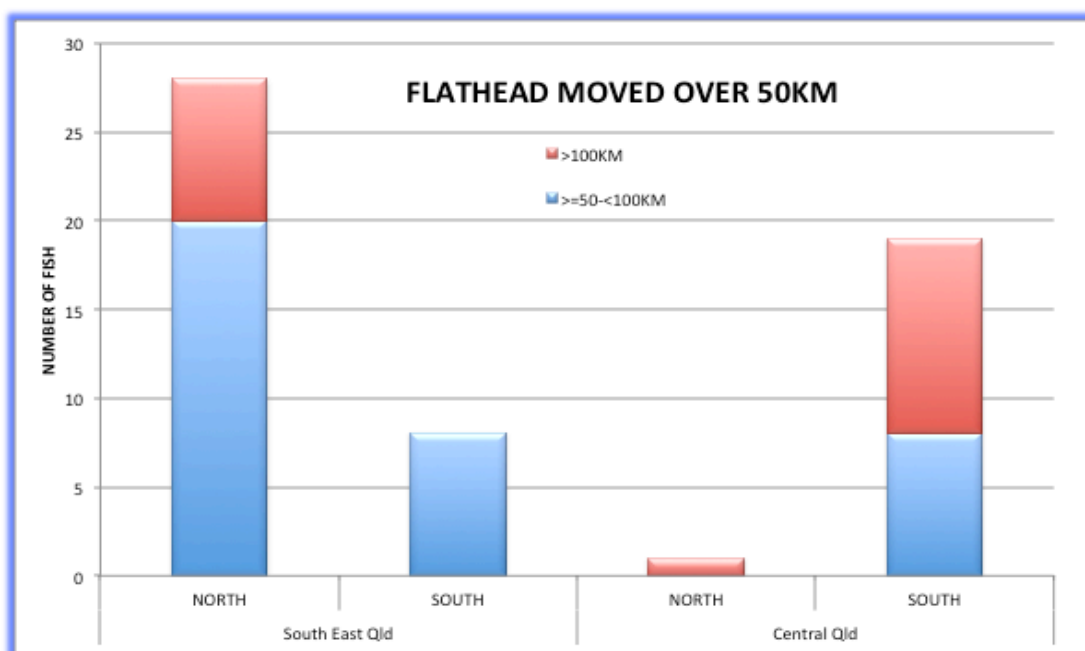


Figure 18: Number of Dusky Flathead moved 50km and more

There were 3,047 recaptures in SEQ and 750 in CQ where the distance moved was calculated. *Figure 16* shows the number of fish that moved 0-<10km, 10-<50km, 50km-<100km and >100km while *figure 17* shows the percentage of fish that moved those distances.

For SEQ there were 2,669 (87.6) Dusky Flathead recaptured and for CQ there were 657 (87.6%) where they moved less than 10km. For SEQ there were 8 (0.3%) fish and for CQ there were 12 (1.6%) that moved 100km or more. The furthest distance moved in SEQ was a fish tagged in Hussey Creek in Pumicestone Passage and recaptured at Waddy Point on

Fraser Island 240km north along the coast. The furthest distance moved in CQ was a fish tagged in Rodds Harbour near Turkey Beach and recaptured in the Pioneer River at Mackay 425km north along the coast.

Figure 18 shows the numbers of fish that moved 50km or more. While the numbers are low there is a difference in the direction the fish moved in each region. In SEQ 20 (77.8%) fish moved 50-100km and 8 (100%) moved 100km north. In CQ 8 (100%) moved 50-100km and 11 (95%) moved south. This suggests that long distance movements of 100km or more in the 2 regions are in opposite directions with fish in SEQ moving north and in CQ moving south.