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# ANNUAL REPORT TO THE COMMISSION
# PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS

**WCPFC-SC7-AR/CCM-01**

**AUSTRALIA**

Australian Government
Australian Bureau of Agricultural and Resource Economics and Sciences

# ANNUAL REPORT TO THE WESTERN AND CENTRAL PACIFIC FISHERIES COMMISSION

## PART 1: INFORMATION ON FISHERIES, RESEARCH AND STATISTICS 2010

## AUSTRALIA

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**July 2011**

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|---|---|
| **Scientific data were provided to the Commission in accordance with the decision relating to the provision of scientific data to the Commission on the 30th April 2011** | **YES** |

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# Summary

Australian commercial fisheries for highly migratory species in the Western and Central Pacific Fisheries Commission (WCPFC) Convention Area are managed as part of the Eastern Tuna and Billfish Fishery (ETBF) (a mainly longline fishery with a small minor line component) and Eastern Skipjack Fishery (a purse seine fishery). The majority of fishing occurs in the longline sector of the ETBF and as such, is the focus of the annual report.

Total catches reported in logbooks for the ETBF decreased from 5403 t in 2009 (5271 t longline, 132 t minor line) to 5034 t in 2010 (5031 t longline, 2.8 t minor line). This is a decline from a peak of 8229 t in 2002. Longline fishing effort in the fishery has fallen from a peak of 12.40 million hooks in 2003 to 7.84 million hooks in 2010. The decrease in fishing effort from 2003 levels is the result of the strength of the Australian dollar, increased operating costs and the surrender of permits under the structural adjustment component of the recent Australian Government *Securing Our Fishing Future* package, as well as the introduction of hook limits in 2009. Fifty-four vessels reported longlining in the WCPFC Convention Area during 2010. Longline logbook catches of albacore tuna decreased from 1344 t in 2009 to 725 t in 2010. Longline catches of bigeye tuna decreased from 509 t in 2009 to 436 t in 2010. In contrast, longline catches of yellowfin tuna increased from 1183 t in 2009 to 1310 t in 2010. Longline catches of swordfish decreased from 1111 t in 2009 to 916 t in 2010. Longline catches of striped marlin decreased from 326 t in 2009 to 244 t in 2010. Longline catches of skipjack decreased from 10 t in 2009 to 3 t in 2010.

There were four minor line vessels in 2010 actively targeting tuna and billfish species. The number of vessels reporting using minor line has steadily decreased from a peak of 52 vessels in 2001. This is partly due to the surrender of 49 per cent of permits under the structural adjustment component of the Australian Government *Securing Our Fishing Future* package. Annual minor line effort decreased from 168 lines in 2009 to 13 lines in 2010. In the 2009–10 fishing season, there were no active vessels in the Eastern Skipjack Fishery.

The Australian Fisheries Management Authority (AFMA) observer program has deployed observers on domestic longliners since 2001 as part of a program to test the efficacy of seabird mitigation devices. Since July 2003, observers have been deployed more broadly across the fishery with the aim of collecting additional fishery data, including information on fishing gear and the size and species composition of catches. In 2010, observers monitored 284 731 hooks in the longline fishery (3.6 per cent of the total number of hooks deployed).

AFMA introduced quota based management in the form of individually transferable quotas (ITQs) into the ETBF in February 2011 for the 2011–12 fishing season which began 1 March 2011. This provides for total allowable catches (TACs) for the five main target species.

# Background

Australian commercial fisheries for highly migratory species in the Western and Central Pacific Fisheries Commission (WCPFC) Convention Area are managed as part of the Eastern Tuna and Billfish Fishery (ETBF) (a mainly longline fishery with a small minor line component) and Eastern Skipjack Fishery (a purse seine fishery).

### *Longline*

Japanese longliners began fishing off Australia's east coast in the late 1950s. Sporadic domestic longlining for yellowfin tuna[a] commenced soon after in the early 1960s. The declaration of the Australian Fishing Zone (AFZ) in 1979 resulted in Japanese longliners being licensed to fish in Australian waters under bilateral agreements. Japanese longliners were excluded from the AFZ from 1998. In the early 1980s, longlining increased markedly after successful air freighting of fresh-chilled tuna to Japan. There was a second wave of expansion of effort in northern Queensland waters in the 1990s, resulting in high catch rates of yellowfin and bigeye tuna.

In the mid-1990s, improved access to swordfish markets in the United States of America prompted many ETBF fishers to move to southern Queensland ports such as Mooloolaba to target swordfish. Longlining for swordfish has declined since early 2005 because of high fuel and bait costs, the introduction of a competitive total allowable catch (TAC) of 1400 t in 2006 and changes in the exchange rate.

Increased operating costs and fluctuating market returns saw many longliners targeting lower-value albacore tuna during the first half of 2006. However, decreases in the price of albacore tuna and unfavourable export conditions over the past several years, such as a strengthening Australian dollar, have prompted some longliners to move back to targeting bigeye tuna and swordfish.

### *Pole-and-line, purse seine and minor line*

The pole-and-line fishery expanded rapidly in the 1950s with the introduction of live-bait-and-pole techniques for southern bluefin tuna and sporadic catches of skipjack and yellowfin tuna. Pole-and-line fishing decreased in the late-1990s with little to no fishing by Australian fleets in the WCPFC Convention Area since then.

The introduction of purse seining in the 1970s also increased catches. After peaking at 7000 t in the early 1990s, purse seine catches of skipjack have decreased dramatically with zero to very low catches in recent years. In the eastern AFZ, skipjack tuna are occasionally fished from southern New South Wales to north-eastern Tasmania.

### *Recreational fishing*

Recreational and charter anglers have taken tuna and billfish off eastern Australia since the early 1900s. During the 1970s, recreational vessels capable of operating beyond 20 nm became more readily available. Consequently, angling for tuna and billfish grew in popularity. The continental shelf is less than 8 nm wide in some places along the southeast coast of Australia, and anglers catch tuna and billfish from the shore at several locations. The Game Fishing Association of Australia (GFAA) was formed in 1938. In 2010, GFAA boasted a membership of more than 8 000 anglers, most based on the east coast of Australia. Many gamefishers tag and release much of their catch, especially marlins.

[a] Scientific names found in Appendix 1

# Flag State reporting

## Domestic longlining catch and effort

Unless otherwise stated, all catch and effort levels in this report are derived from those reported in Australian Fisheries Management Authority (AFMA) catch and effort logbooks. Fifty four vessels reported longlining in the WCPFC Convention Area during 2010, down from a peak of 180 in 1997 (Figure 1). Total longline fishing effort decreased from 8.82 million hooks in 2009 to 7.84 million hooks in 2010 (Table 1), consistent with an overall downward trend from the peak effort of 12.40 million deployed in 2003. This decline is mainly the result of the strength of the Australian dollar, increased operating costs, the surrender of permits under the structural adjustment component of the Australian Government *Securing our Fishing Future* package and most recently the introduction of hook limits in 2009.

Total longline catches reported in logbooks in the ETBF decreased from 5271 t in 2009 to 5031 t in 2010. This is down from a peak of 8229 t in 2002. Historical annual catches for the Australian fleet, by primary species in the WCPFC Convention Area are shown in Figure 2. Longline catches of albacore tuna decreased from 1344 t in 2009 to 725 t in 2010. Catches of bigeye tuna decreased from 509 t in 2009 to 436 t in 2010. Catches of yellowfin tuna increased from 1183 t in 2009 to 1310 t in 2010. Catches of swordfish decreased from 1111 t in 2009 to 916 t in 2010. Catches of striped marlin decreased from 326 t in 2009 to 244 t in 2010. Skipjack catches decreased from 10 t in 2009 to 3 t in 2010. Annual catch distributions of the main target species by the Australian longline fleet for 2006–10 are shown in Figure 3.

Commercial retention of both blue marlin and black marlin by domestic longliners has been banned since 1998; no retained catches were recorded in 2010. Annual retained catch estimates of non-target, associated and dependent species, including sharks, by the Australian longline fleet from 2006–10 are presented in Table 2 and 3. Estimates of discards are in Table 3. Historically, the vast majority of the catch and effort by Australian longliners has been taken within the AFZ, with little effort on the adjacent high seas Table 4.

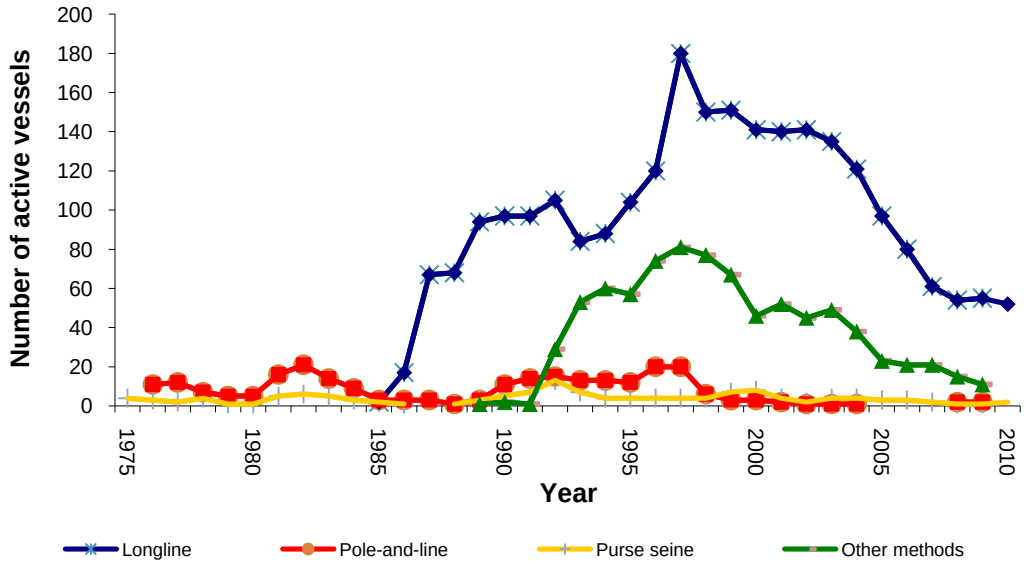



**Figure 1. Historical annual vessel numbers for the Australian fleet, by gear (longline, purse seine, pole-and-line and other commercial methods [minor line including trolling, rod-and-reel and handline]) for the WCPFC Convention Area.**
Source: AFMA catch and effort logbook database

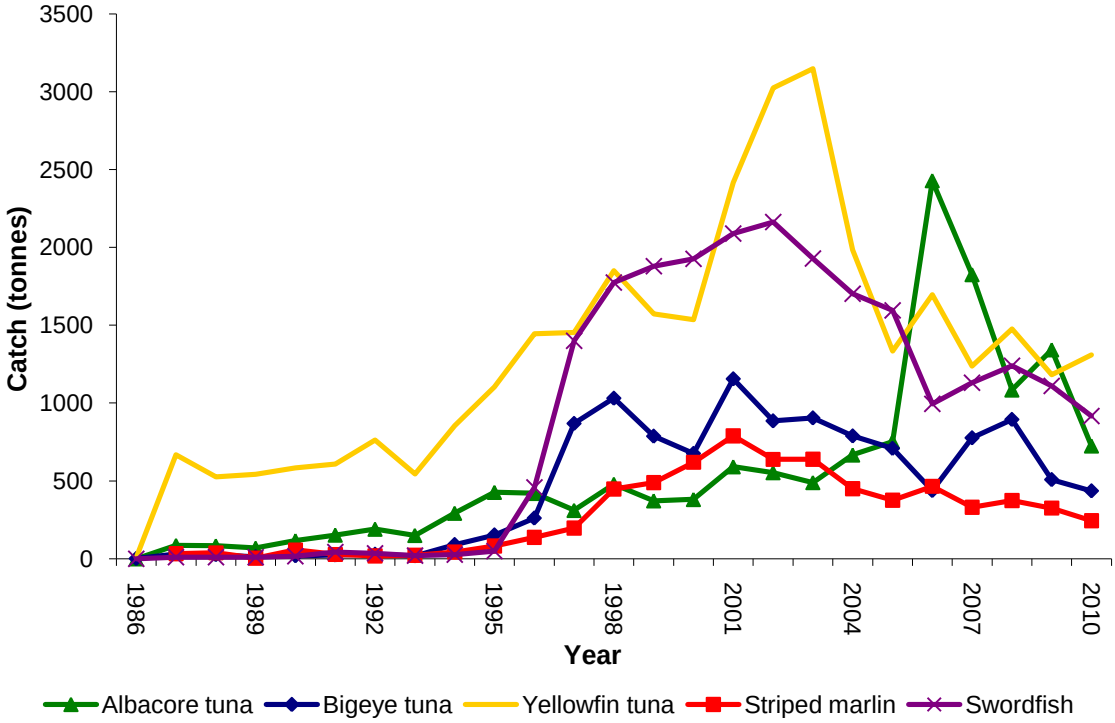
**Table 1. Annual catch and effort estimates (whole weight) for the Australian fleet, by gear and primary species, for the WCPFC Convention Area, 2006–10.**

| Fishing method | Year | Effort (Longline–number of hooks (000's); purse seine–search hours; pole-and-line–days fished) | Primary species (t) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Albacore | Bigeye | Skipjack | Yellowfin | Striped marlin | Swordfish |
| **All gears** | 2006 | - | 2430.0 | 452.9 | 94.4 | 1703.1 | 465.2 | 995.5 |
| | 2007 | - | 1834.1 | 892.0 | 13.4 | 1251.4 | 331.0 | 1132.5 |
| | 2008 | - | 1085.1 | 899.7 | 46.7 | 1478.4 | 374.2 | 1240.7 |
| | 2009 | - | 1343.6 | 619.4 | 13.9 | 1203.2 | 325.7 | 1111.7 |
| | 2010 | - | 724.9 | 438.0 | 3.5 | 1309.6 | 244.1 | 916.1 |
| **Longline**[b] | 2006 | 8821 | 2428.5 | 437.9 | 48.7 | 1695.4 | 465.0 | 995.4 |
| | 2007 | 8444 | 1825.1 | 776.9 | 8.0 | 1236.9 | 330.4 | 1131.0 |
| | 2008 | 8059 | 1084.3 | 895.0 | 18.0 | 1475.2 | 374.2 | 1240.4 |
| | 2009 | 8821 | 1343.6 | 508.9 | 9.9 | 1183.4 | 325.7 | 1111.4 |
| | 2010 | 7840 | 724.9 | 436.2 | 3.3 | 1309.5 | 244.1 | 916.1 |
| **Purse seine** | 2006 | 495 | 0.0 | 0.0 | 44 | 0.0 | 0.0 | 0.0 |
| | 2007 | 354 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 2008 | 309 | 0.0 | 0.0 | 15.2 | 0.0 | 0.0 | 0.0 |
| | 2009 | 396 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 2010 | 295 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **Pole-and-line** | 2006 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 2007 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 2008 | 8.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 |
| | 2009 | 15.0 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 |
| | 2010 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Source: AFMA catch and effort logbook database

[b]Includes small catches from other commercial methods (minor line component including trolling, rod-and-reel and handline) to address issues of confidently.

a)




b)

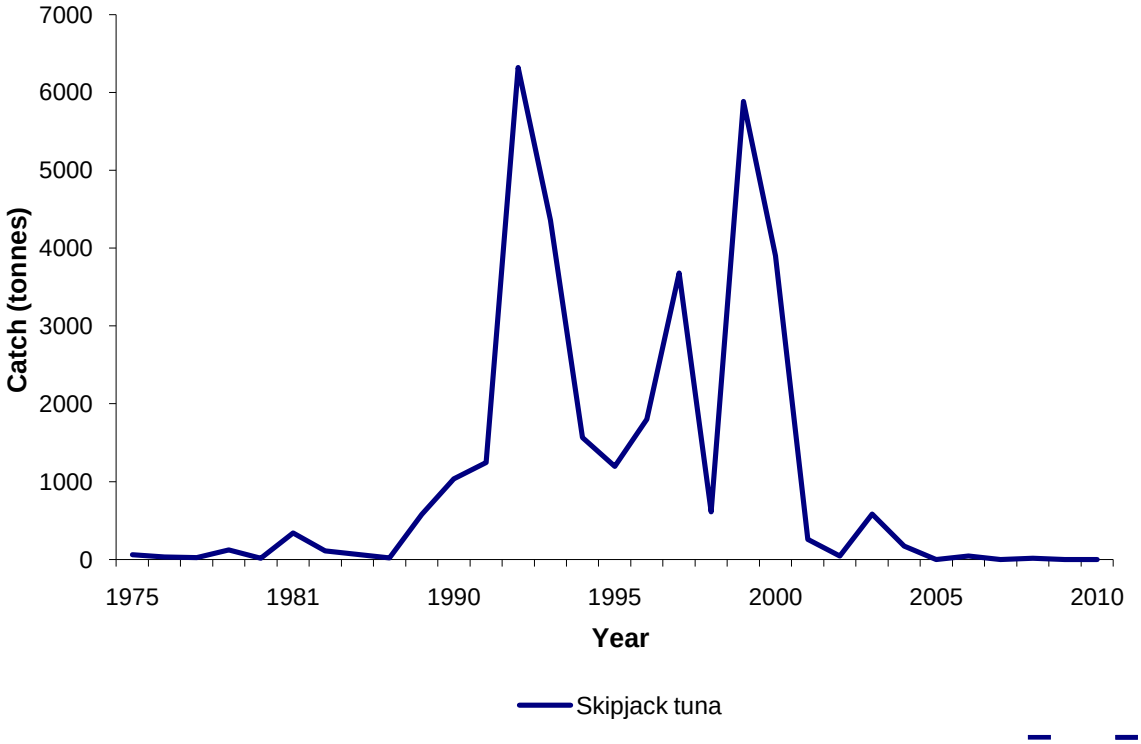
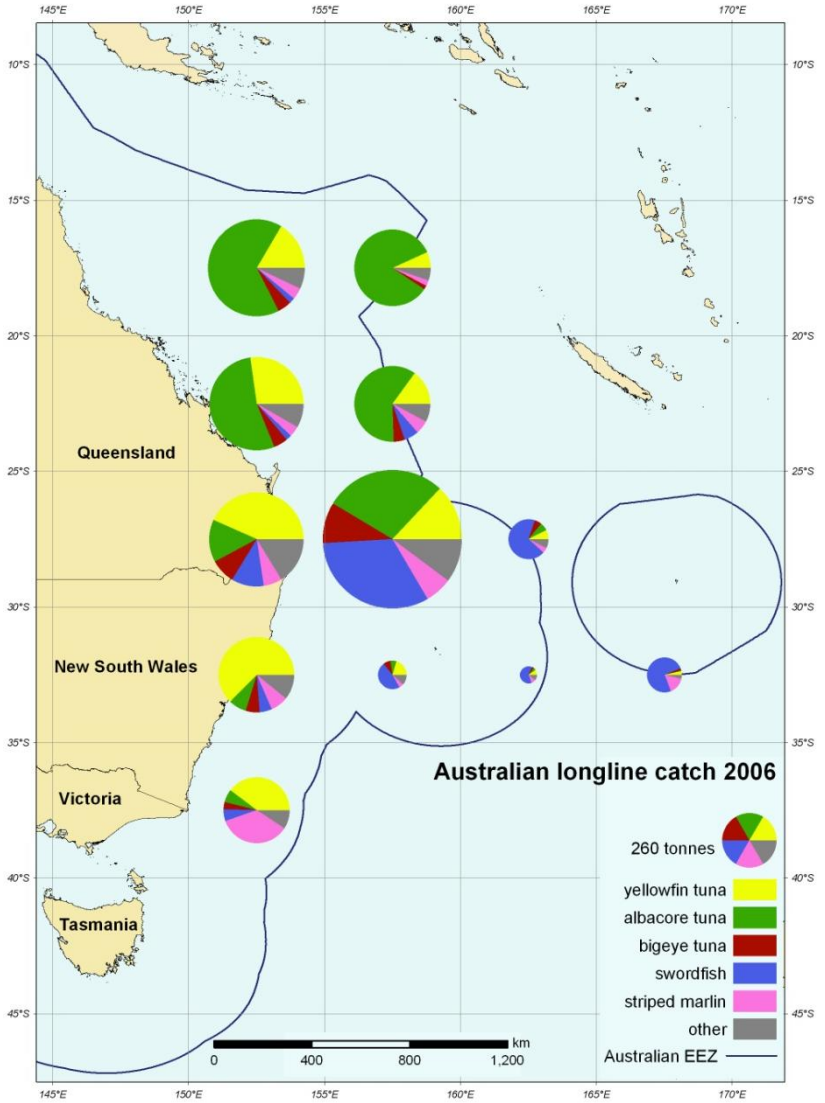


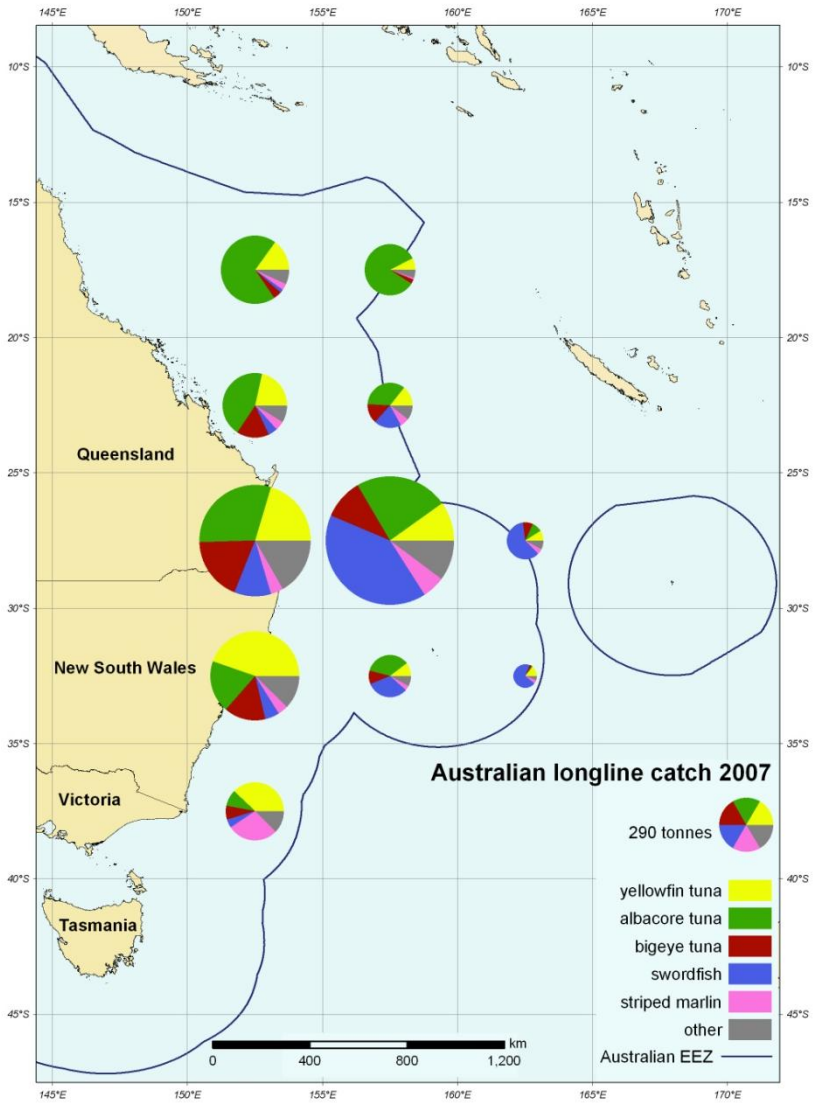

**Figure 2 (a & b). Historical annual catch for the Australian fleet by primary species, for the WCPFC Convention Area.**

Source: AFMA catch and effort logbook database

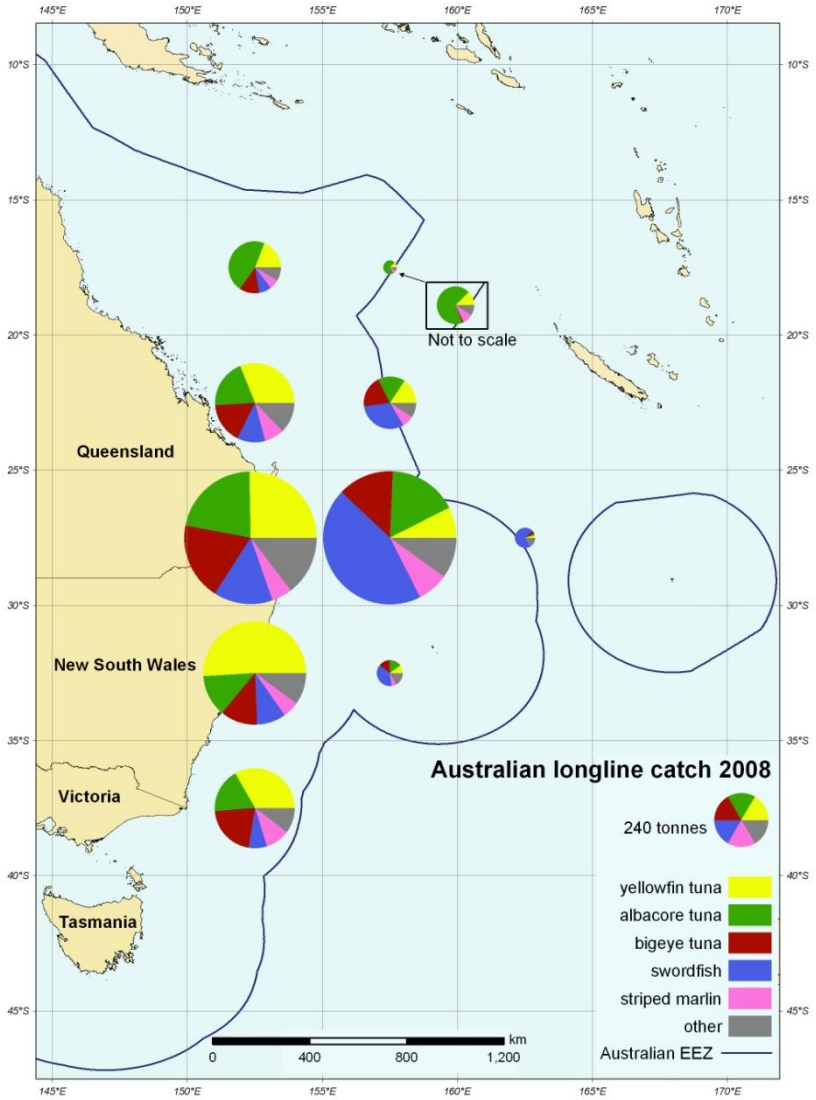
a)


Queensland
New South Wales
Victoria
Tasmania
Australian longline catch 2006
260 tonnes
yellowfin tuna
albacore tuna
bigeye tuna
swordfish
striped marlin
other
Australian EEZ
0
400
800
1,200
km

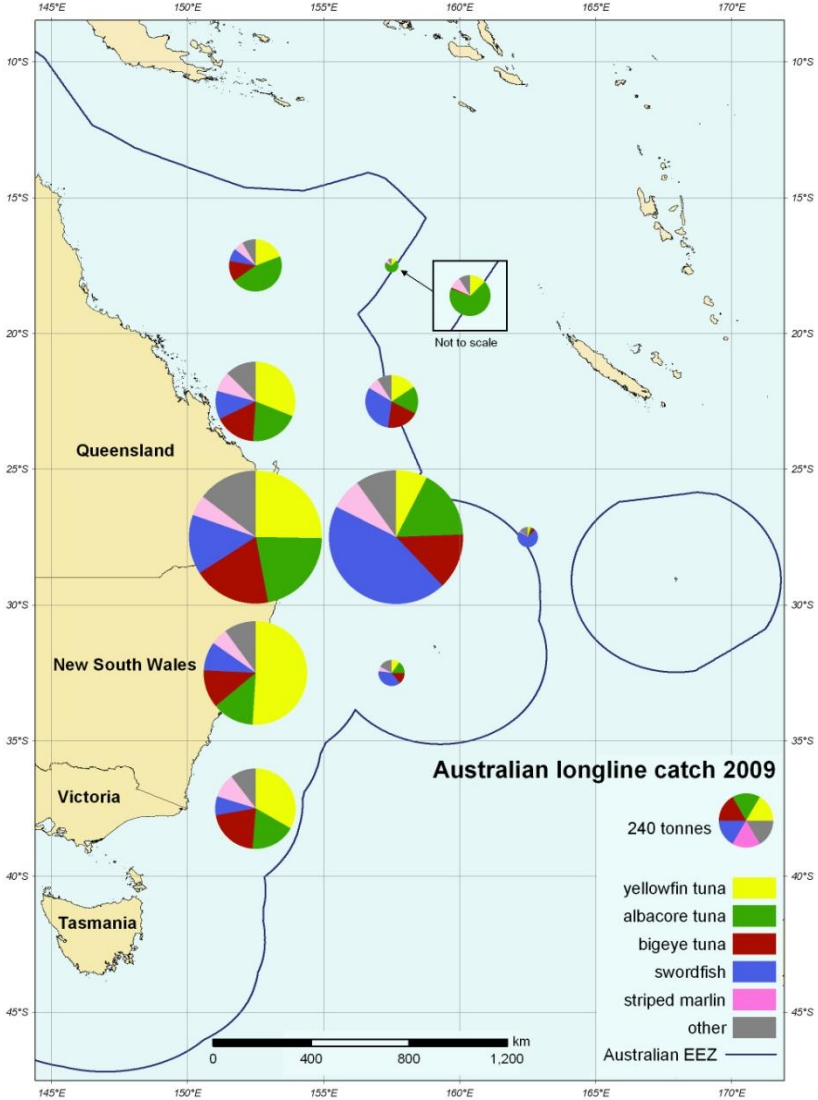
b)


Queensland
New South Wales
Victoria
Tasmania
Australian longline catch 2007
290 tonnes
yellowfin tuna
albacore tuna
bigeye tuna
swordfish
striped marlin
other
Australian EEZ
0
400
800
1,200
km

c)


Not to scale
Queensland
New South Wales
Victoria
Tasmania
Australian longline catch 2008
240 tonnes
yellowfin tuna
albacore tuna
bigeye tuna
swordfish
striped marlin
other
Australian EEZ
0
400
800
1,200
km

d)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e)

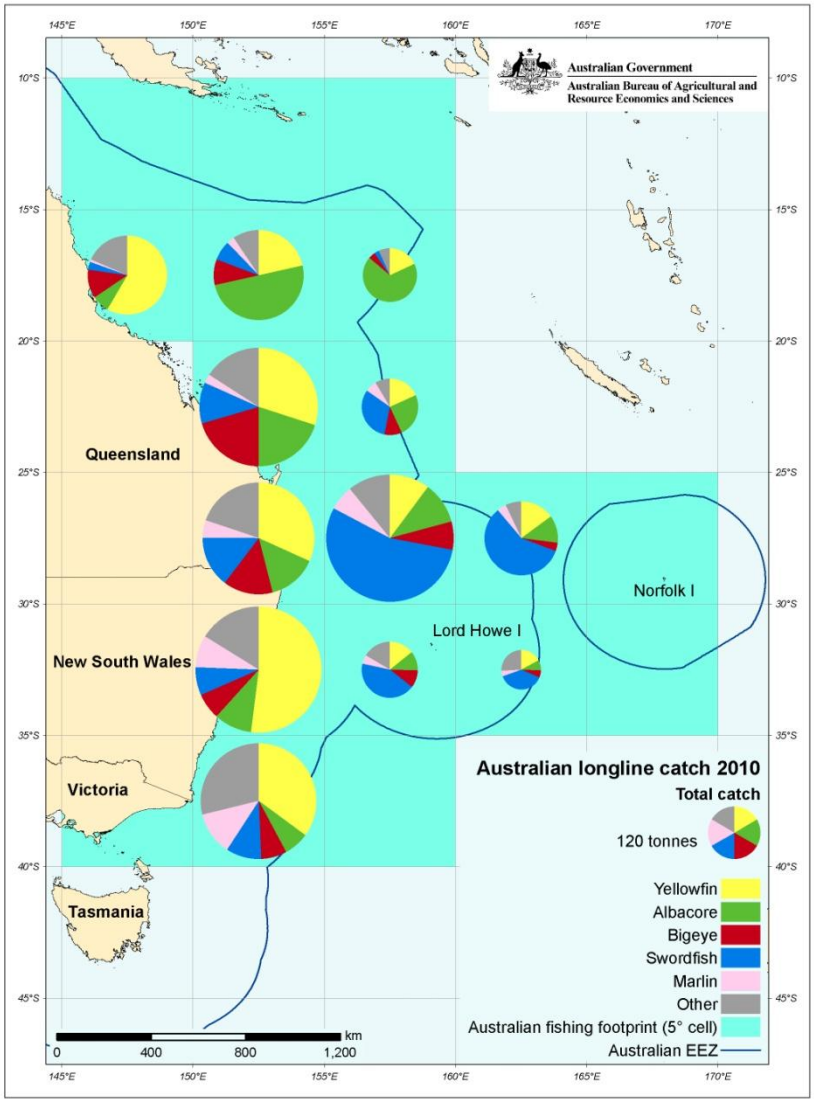



**Figure 3 (a–e). Annual distribution of target species catch by the Australian longline fleet active in the WCPFC Convention Area, for 2006–10. Catches have been aggregated to five degree blocks to address issues of confidentiality (less than five vessels) and are scaled to the pie chart provided in the legend.**

Source: AFMA catch and effort logbook database

**Table 2. Annual retained catch estimates of non-target, associated and dependent species, including sharks, by the Australian fleet, by gear (longliners and other methods combined), in the WCPFC Convention Area, for 2006–10.**

| Group | Species | Longliners (t) | | | | | Other methods combined (t) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2006 | 2007 | 2008 | 2009 | 2010 | 2006 | 2007 | 2008 | 2009 | 2010 |
| Scalefish | Escolar | 64.0 | 101.1 | 78.1 | 43.9 | 27.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| | Mahi mahi | 117.6 | 101.8 | 160.5 | 131.6 | 250.7 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| | Moonfish | 97.8 | 112.8 | 64.4 | 73.9 | 35.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Northern bluefin tuna | 5.5 | 3.8 | 2.7 | 3.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Ocean sunfish | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Oilfish | 6.8 | 2.5 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 |
| | Ray's bream | 6.9 | 60.4 | 39.2 | 34.9 | 13.0 | 0.0 | 0.0 | 0.0 | 0.9 | 1.3 |
| | Rudderfish | 125 | 146.7 | 169 | 147.5 | 88.3 | 38.2 | 4.4 | 5.7 | 9.7 | 7.4 |
| | Sailfish | 2.3 | 2.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Shortbilled spearfish | 25.8 | 13.0 | 10.9 | 13.8 | 16.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Southern bluefin tuna | 6.3 | 6.9 | 22.4 | 194.8 | 151.8 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| | Wahoo | 43.7 | 32.7 | 29.9 | 28.4 | 19.4 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| | **Subtotal** | 503.4 | 583.7 | 578.1 | 672.3 | 603.1 | 39.4 | 4.8 | 5.7 | 20.8 | 8.7 |
| Sharks | Blacktip sharks | 3.9 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 13.9 | 0.3 | 0.1 |
| | Blue shark | 10.3 | 9.0 | 5.8 | 23.1 | 13.2 | 0.5 | 0.3 | 0.4 | 0.4 | 0.7 |
| | Bronze whaler | 15.2 | 10.8 | 7.8 | 14.8 | 9.5 | 3.2 | 1.2 | 2.1 | 2.4 | 1.4 |
| | Dusky shark | 2.3 | 0.0 | 2.6 | 3.9 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 | 5.5 |
| | Hammerhead shark | 6.9 | 2.4 | 2.5 | 3.3 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Oceanic whitetip shark | 4.4 | 3.7 | 2.0 | 3.7 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Scalloped hammerhead | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 0.0 | 1.7 | 0.0 | 0.0 |
| | Shortfin mako | 43.5 | 35.7 | 50.5 | 64.7 | 44.8 | 2.7 | 0.8 | 2.3 | 1.9 | 2.8 |
| | Silky shark | 2.3 | 1.7 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Smooth hammerhead | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.6 | 0.2 | 0.0 | 0.0 | 0.0 |
| | Thresher shark | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.3 | 0.4 | 1.2 | 2.6 | 1.1 |
| | Tiger shark | 4.5 | 2.8 | 2.8 | 4.3 | 3.7 | 5.9 | 0.0 | 4.2 | 0.0 | 0.0 |
| | **Subtotal** | 93.3 | 68.7 | 74.0 | 117.8 | 80.1 | 17.4 | 3.0 | 25.8 | 7.6 | 11.6 |
| | **TOTAL** | **596.7** | **652.4** | **652.1** | **790.1** | **682.3** | **56.8** | **7.8** | **31.5** | **28.4** | **20.3** |

**Table 3. Annual discard estimates of non-target, associated and dependent species, including sharks, by the Australian fleet in the WCPFC Convention Area, for 2006–10.**

| Group | Species | Total Numbers Released | | | | |
|---|---|---|---|---|---|---|
| | | 2006 | 2007 | 2008 | 2009 | 2010 |
| Scalefish | Escolar | 192 | 360 | 121 | 117 | 40 |
| | Mahi mahi | 179 | 69 | 71 | 114 | 198 |
| | Moonfish | 50 | 14 | 6 | 4 | 3 |
| | Northern bluefin tuna | 2 | 1 | 1 | 0 | 0 |
| | Ocean sunfish | 386 | 251 | 200 | 206 | 273 |
| | Oilfish | 34 | 83 | 4 | 0 | 1 |
| | Ray's bream | 17 | 162 | 21 | 28 | 18 |
| | Rudderfish | 208 | 95 | 151 | 315 | 135 |
| | Sailfish | 19 | 19 | 6 | 49 | 2 |
| | Shortbilled spearfish | 140 | 60 | 56 | 82 | 56 |
| | Southern bluefin tuna | 3 | 26 | 331 | 1755 | 1662 |
| | Wahoo | 48 | 35 | 172 | 51 | 19 |
| | **Subtotal** | 1278 | 1175 | 1140 | 2721 | 2407 |
| Sharks | Blacktip sharks | 58 | 17 | 61 | 2 | 9 |
| | Blue shark | 2193 | 1879 | 1807 | 2800 | 4441 |
| | Bronze whaler | 480 | 334 | 266 | 403 | 288 |
| | Dusky shark | 102 | 53 | 296 | 716 | 237 |
| | Hammerhead shark | 101 | 23 | 8 | 41 | 33 |
| | Oceanic whitetip shark | 497 | 183 | 101 | 147 | 227 |
| | Shortfin mako | 263 | 130 | 150 | 468 | 326 |
| | Silky shark | 47 | 90 | 4 | 15 | 29 |
| | Thresher shark | 104 | 200 | 140 | 137 | 52 |
| | Tiger shark | 196 | 245 | 94 | 169 | 68 |
| | **Subtotal** | 4041 | 3154 | 2927 | 4898 | 5710 |
| | **TOTAL** | **5319** | **4329** | **4067** | **7619** | **8117** |

**Table 4. Catch and effort by Australian longliners, by primary species, within the AFZ and on the high seas, 2006–10. Proportions of catch and effort within the AFZ versus the high seas are provided in parentheses.**

| | Year | Effort ('000 hooks) | Primary species catch (t) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Albacore | Bigeye | Skipjack | Yellowfin | Striped marlin | Swordfish |
| **Within AFZ** | 2006 | 8553 | 2406.8 | 423.5 | 48.3 | 1666.1 | 446.2 | 901.4 |
| | | (97.0%) | (99.1%) | (96.7%) | (99.2%) | (98.3%) | (96.0%) | (90.6%) |
| | 2007 | 8327 | 1815.6 | 770.5 | 8.2 | 1229.3 | 327.8 | 1083.9 |
| | | (98.6%) | (99.5%) | (99.2%) | (100.0%) | (99.4%) | (99.2%) | (95.8%) |
| | 2008 | 8006 | 1080.4 | 891.0 | 18.0 | 1472.6 | 371.7 | 1221.7 |
| | | (99.3%) | (99.6%) | (99.6%) | (100.0%) | (99.8%) | (99.3%) | (98.5%) |
| | 2009 | 8794 | 1338.7 | 507.1 | 9.9 | 1182.1 | 325.6 | 1092.0 |
| | | (99.5%) | (99.6%) | (99.6%) | (100.0%) | (99.9%) | (99.6%) | (98.2%) |
| | 2010 | 7819 | 724.9 | 436.0 | 3.3 | 1309.4 | 246.3 | 900.4 |
| | | (99.4%) | (100.0%) | (99.8%) | (100.0%) | (99.6%) | (99.2%) | (97.7%) |
| **High seas** | 2006 | 268 | 21.7 | 14.4 | 0.4 | 29.3 | 18.8 | 94.0 |
| | | (3.0%) | (0.9%) | (3.3%) | (0.8%) | (1.7%) | (4.0%) | (9.4%) |
| | 2007 | 117 | 9.5 | 6.4 | 0.0 | 7.6 | 2.6 | 47.1 |
| | | (1.4%) | (0.5%) | (0.8%) | (0.0%) | (0.6%) | (0.8%) | (4.2%) |
| | 2008 | 53 | 3.9 | 4.0 | 0.0 | 2.6 | 2.5 | 18.7 |
| | | (0.7%) | (0.4%) | (0.4%) | (0.0%) | (0.2%) | (0.7%) | (1.5%) |
| | 2009 | 45 | 4.9 | 1.8 | 0.0 | 1.2 | 1.4 | 19.5 |
| | | (0.5%) | (0.4%) | (0.4%) | (0.0%) | (0.1%) | (0.4%) | (1.8%) |
| | 2010 | 50 | 0.2 | 1.0 | 0.0 | 5.3 | 1.9 | 20.9 |
| | | (0.6%) | (0.0%) | (0.2%) | (0.0%) | (0.4%) | (0.8%) | (2.3%) |

## Purse seine, pole-and-line and minor line catch and effort

In 2010, there were no active vessels in the Eastern Skipjack Fishery. Total minor line catches (including trolling, rod-and-reel and handline) decreased from 132 t in 2009 to 2.8 t in 2010. The number of vessels reporting using minor line has steadily decreased from a peak of 52 vessels in 2001. This is partly due to the surrender of 49 per cent of permits under the structural adjustment component of the Australian Government *Securing Our Fishing Future* package. Annual minor line effort decreased from 168 lines in 2009 to 13 lines in 2010. This is a decrease from a peak of 975 lines in 2007. Effort in the minor line sector does not follow the same declining trend over time as the number of active vessels, as the peak effort in 2007 was during a year with only 21 vessels active. Minor line catches comprised a small proportion of total catches and occurred inside the AFZ.

## Recreational fishing catch and effort

The heavy tackle season for adult black marlin off the Great Barrier Reef between Cairns and Lizard Island (October/November 2010) was regarded as reasonable. Large female fish (250–350 kg) were fairly consistent, but there was an observed scarcity of the usual numbers of smaller fish (presumed males) in the 70–150 kg range. This meant that the 'strike rate' was down a little on more 'normal' seasons.

As has been the case for the past several years, when fishing was slow along the edge of the reef, and if conditions allowed, charter boats fished further from the reef dropoff than has been the case in earlier years. Boats that did so generally found black marlin within 5 nautical miles of the reef, while boats that fished wider reported consistent, if intermittent, strikes from large blue marlin. This is a relatively new development in this fishery. One of the attractions of travelling further into the Coral Sea is the chances of catching good sized yellowfin and bigeye tuna which avoid the area close to the reef. This season, yellowfin tuna were caught, but no bigeye tuna were reported.

Juvenile black marlin (10–15 kg) again failed to appear off Townsville in August/September, resulting in a complete lack of this year class in southern Queensland/New South Wales during the 2010/2011 summer. And unlike the previous season, relatively few black marlin in older year classes (50–100 kg) appeared along the eastern continental shelf. Again, striped marlin dominated the recreational billfish catch in New South Wales, but this year, blue marlin appeared on the wider grounds beyond the continental shelf, following an absence of this species last year. For the second year running, large mahi mahi (15–25 kg) were a feature of the gamefish fishery in New South Wales while again, following a trend for some years now, yellowfin tuna were largely absent. Mako sharks were prevalent this year and it was considered a typical season for tiger sharks. Wahoo and shortbill spearfish were present, but patchy during the season.

## Fishing patterns

Fishing patterns vary with target species, location and season. The management area of the ETBF extends from the top of Queensland to the Victoria–South Australia border; including waters around Tasmania (see Figure 4). In the WCPFC Convention Area, skipjack tuna are fished from southern New South Wales to north-eastern Tasmania.

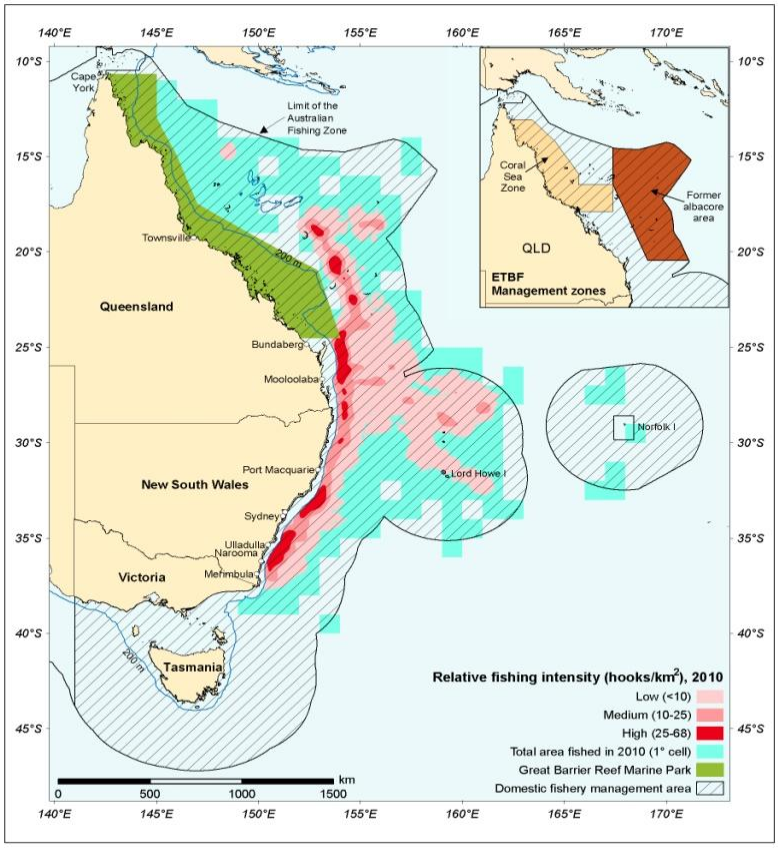



**Figure 4. Longline effort distribution in the Eastern and Tuna Billfish Fishery (2010).**

## Fleet operations

Domestic longlining vessels are mostly 15-25 m long and use monofilament gear (Table 5). Vessels usually conduct one longline operation per day, or night, depending on the target species. A typical longline set will comprise about 1200+ hooks. Fishers commonly operate around 107 days per year. Most trips are between 2 and 15 days; however, occasionally trips may extend up to 30 days. Typical fishing trips range from 40–300 nm from port, though some vessels may range up to 1000 nm or further to fish. The catch is gilled and gutted (depending on species) and stored on ice, in ice slurry or in refrigerated brine. Almost no bigeye tuna or swordfish, and probably less than five per cent of the yellowfin tuna catch, are taken by methods other than longlining.

Historically, most purse-seiners were 20–25 m long, but several were 40–45 m. Most poling vessels are 15–20 m long. Purse seine and pole-and-line fishers often use satellite thermal imagery and spotters in aircraft to locate schools of fish. There are no dedicated minor line vessels; most minor line catches are reported by vessels (e.g. longline) on their way to and from fishing grounds.

**Table 5. Number of Australian vessels, by gear and size category, active in the WCPFC Convention Area, for 2006 to 2010. Gross registered tonnes (GRT) is the unit for vessel size.**

| Year | Longline | | | | | Purse seine | Pole-and-line | Troll | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Vessel size (GRT)** | ≤50 | 51–200 | 201–500 | Unknown | Subtotal | ≤500 | 50–150 | Unknown | |
| **2006** | 37 | 43 | 0 | 0 | 80 | 3 | 0 | 0 | 83 |
| **2007** | 27 | 33 | 1 | 0 | 61 | 2 | 0 | 0 | 63 |
| **2008** | 25 | 28 | 1 | 0 | 54 | 1 | 2 | 0 | 57 |
| **2009** | 27 | 27 | 1 | 0 | 55 | 1 | 2 | 0 | 58 |
| **2010** | 26 | 25 | 1 | 0 | 52 | 2 | 0 | 0 | 54 |

Source: AFMA catch and effort logbook database

## Species of special interest (seabird, turtle and marine mammals)

Observed interaction rates with marine turtles by the Australian longline fleet in 2010 are presented in Table 6. Annual interactions with species of special interest (seabird, turtle and marine mammals) by the Australian longline fleet from 2006–10 are presented in Table 7.

In 2009, Australia formally submitted a mitigation plan, *The Eastern Tuna and Billfish Fishery Sea Turtle Mitigation Plan* (the mitigation plan), for review by the WCPFC Scientific Committee (SC) and Technical Compliance Committee (TCC), and approval by the Commission. The mitigation plan was submitted under CMM 2008-03 (Conservation and Management of Sea Turtles) and was designed to reduce the interaction rate of turtles in pelagic longline fisheries which target broadbill swordfish. In an Australian context, the fishery to which this measure has the most relevance is the ETBF. As both the SC and TCC had recommended Commission approval of the mitigation plan, it was approved by the Commission at WCPFC 6, 2009 and took effect 1 January 2010.

The mitigation plan stated that observed sea turtle interaction rates in the ETBF were to be reported as part of Australia's Annual Part 1 Report to the Scientific Committee. As such, the observed sea turtle interaction rates for 2010 are presented in Table 6. Two interactions with leatherback turtles were observed. Both turtles were released alive. This interaction rate is above the trigger for leatherback turtles of 0.004 per 1000 hooks. The overall interaction rate with turtles was below the trigger level.

Under the Turtle Mitigation Plan (WCPFC6-2009-IP16), if the limit of any species is exceeded in one year management action will take place. This management action will consist of consultative mechanisms to encourage industry to adopt best practice to minimise interaction rates. In order to encourage industry to adopt best practice to minimise the turtle interaction rate, AFMA convened a bycatch workshop on 7 June 2011, through the Tropical Tuna Resource Assessment Group. The workshop was attended by both scientists and industry. The workshop discussed the information available on why the interactions occurred, and focused on the additional measures that could be taken to improve the survivability of turtles that are captured or entwined. On an ongoing basis, AFMA has established a working group, consisting of industry and scientists. This working group

will continue to monitor turtle interactions and look for solutions to reduce turtle interaction rates and improve the survivability of any turtle that is hooked or entangled.

The carriage and use of line cutters and de-hookers is compulsory for all ETBF longline vessels. AFMA has recently ordered 50 new line cutters and de-hookers, at a cost of $20,000. The line cutters are an improved design than those previously used in the fishery and initial feedback from industry has been extremely positive. These will be supplied free of charge to all longline vessels in the ETBF. AFMA officers are undertaking a program of visits to each vessel in port to provide training on how to use the new devices and educate crews on the safe release of turtles.

**Table 6. Observed interaction rates of sea turtles per 1000 observed hooks for the Australian longline fleet, in the WCPFC Convention Area for 20010 (284 731 hooks observed).**

| Species | **Trigger Levels** | **Number observed** | **Interaction rate (2010)** |
|---|---|---|---|
| Green turtle | 0.0048 | 0 | 0.0000 |
| Leatherback turtle | 0.0040 | 2 | 0.0070 |
| Loggerhead turtle | 0.0040 | 1 | 0.0035 |
| Other: combination of hawksbill, flatback & Pacific (olive) Ridley turtles | 0.0040 | 1 | 0.0035 |
| TOTAL | 0.0168 | 4 | 0.0140 |

**Table 7. Observed annual estimated captures of species of special interest (seabird, turtle and marine mammals) for the Australian longline fleet, in the WCPFC Convention Area, for 2006–10.**

| Group | Common name | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|
| **Seabirds** | Black-browed albatross | 1 | 2 | 2 | 3 | 0 |
| | Buller's albatross | 1 | 0 | 1 | 0 | 0 |
| | Grey-headed albatross | 0 | 0 | 0 | 0 | 0 |
| | Shy albatross | 2 | 0 | 1 | 1 | 0 |
| | Southern royal albatross | 0 | 0 | 0 | 0 | 0 |
| | Wandering albatross | 1 | 3 | 1 | 0 | 0 |
| | Yellow-nosed albatross | 0 | 0 | 0 | 0 | 1 |
| | Albatrosses (other) | 0 | 0 | 2 | 1 | 0 |
| | Flesh-footed shearwater | 1 | 0 | 0 | 0 | 0 |
| | Short-tailed shearwater | 0 | 0 | 0 | 0 | 0 |
| | Sooty shearwater | 0 | 0 | 0 | 0 | 0 |
| | Wedge-tailed shearwater | 0 | 0 | 0 | 0 | 0 |
| | Petrels, prions and shearwaters | 0 | 0 | 0 | 0 | 0 |
| | Cape petrel | 0 | 3 | 0 | 0 | 0 |
| | Great-winged petrel | 0 | 0 | 0 | 0 | 0 |
| | Westland petrel | 0 | 0 | 0 | 0 | 0 |
| | Great skua | 0 | 3 | 0 | 0 | 0 |
| | Subtotal | 6 | 11 | 7 | 5 | 1 |
| **Turtles** | Green turtle | 1 | 5 | 1 | 1 | 0 |
| | Hawksbill turtle | 0 | 1 | 0 | 1 | 1 |
| | Leatherback turtle | 8 | 3 | 3 | 5 | 2 |
| | Loggerhead turtle | 2 | 2 | 2 | 4 | 1 |
| | Pacific (Olive) Ridley turtle | 0 | 0 | 2 | 0 | 0 |
| | Turtles (other)[c] | 1 | 0 | 0 | 0 | 0 |
| | Subtotal | 12 | 11 | 8 | 11 | 4 |
| **Whales** | Common dolphin | 0 | 0 | 0 | 0 | 0 |
| | Humpback whale | 0 | 0 | 0 | 0 | 0 |
| | Short-finned pilot whale | 0 | 1 | 0 | 0 | 3 |
| | Subtotal | 0 | 1 | 0 | 0 | 3 |
| **Pinnipeds** | Australian fur seal | 1 | 0 | 4 | 0 | 0 |
| | Subtotal | 1 | 0 | 4 | 0 | 0 |
| | **TOTAL** | **19** | **23** | **19** | **16** | **8** |

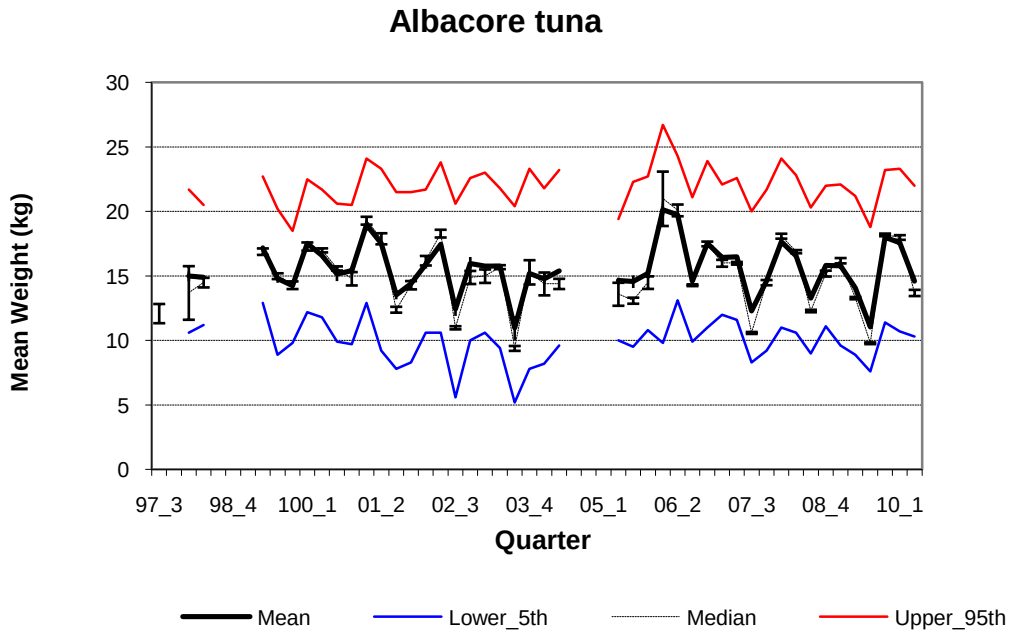
Source: AFMA observer database

[c] This category was not reported prior to 2006 calendar year; Turtles (other)' were unidentified turtles, possibly hard-shelled turtles (e.g. Olive Ridley, Hawksbill).

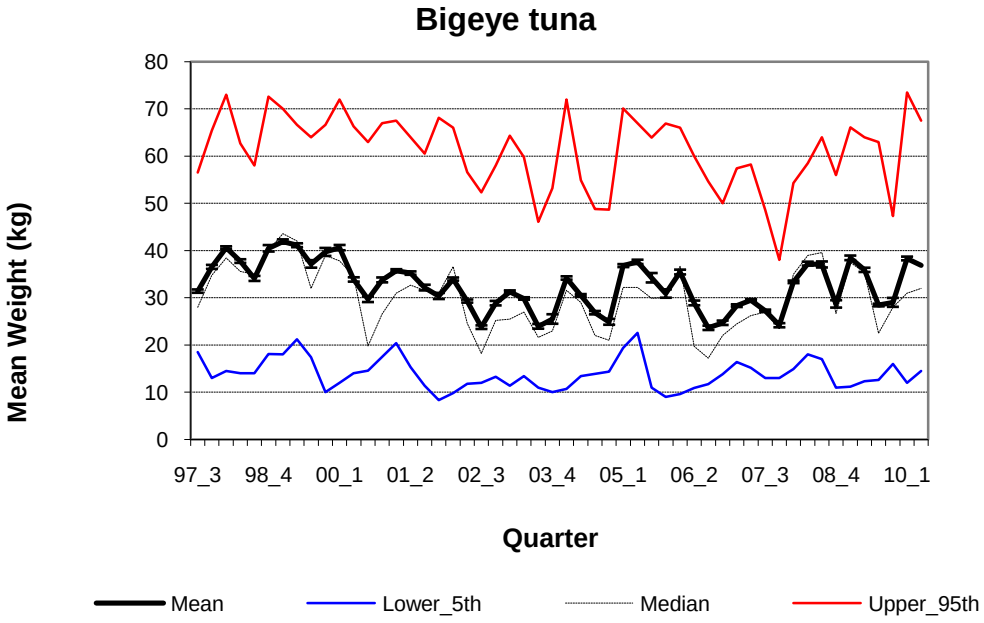
## Trends in size composition

The size composition (based on processed weights) of yellowfin tuna, albacore tuna and striped marlin has remained relatively constant over time (Figure 5). However, the mean processed weight of bigeye tuna decreased from around 37 kg in the late 1990s to around 30 kg in 2002 and was below 30 kg in 2007, but has since increased to around 35 kg. The mean processed weight of swordfish shows a steady decline from around 52 kg in the late 1990s to around 42 kg in recent years.

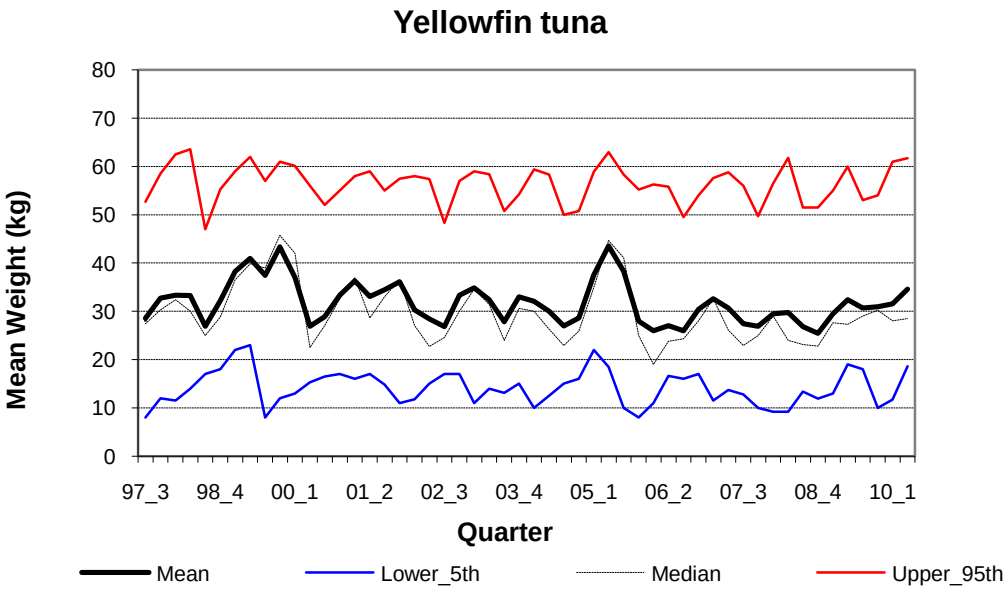
a)



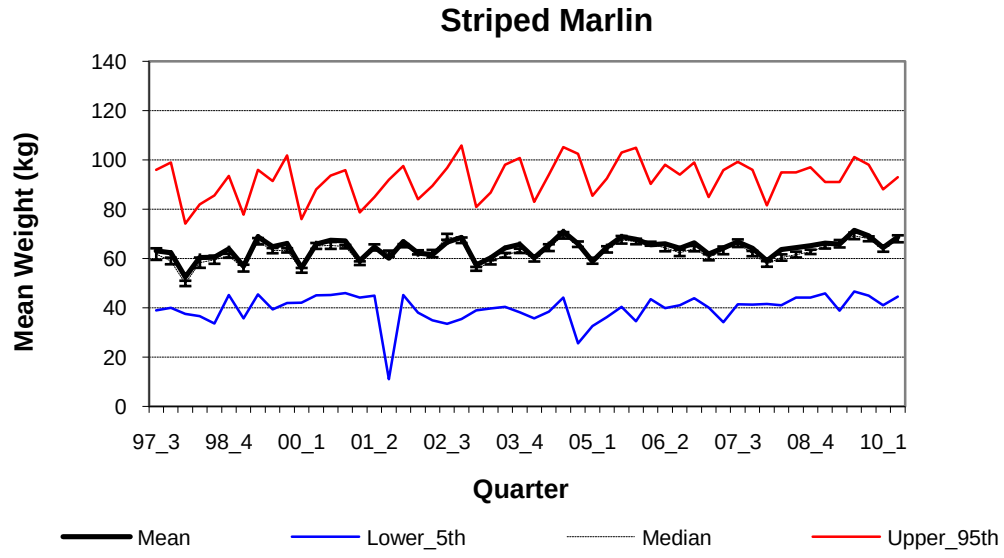

b)



c)


Yellowfin tuna
Mean Weight (kg)
80
70
60
50
40
30
20
10
0
97_3
98_4
00_1
01_2
02_3
03_4
05_1
06_2
07_3
08_4
10_1
Quarter
Mean
Lower_5th
Median
Upper_95th

d)


Striped Marlin
Mean Weight (kg)
140
120
100
80
60
40
20
0
97_3
98_4
00_1
01_2
02_3
03_4
05_1
06_2
07_3
08_4
10_1
Quarter
Mean
Lower_5th
Median
Upper_95th

e)

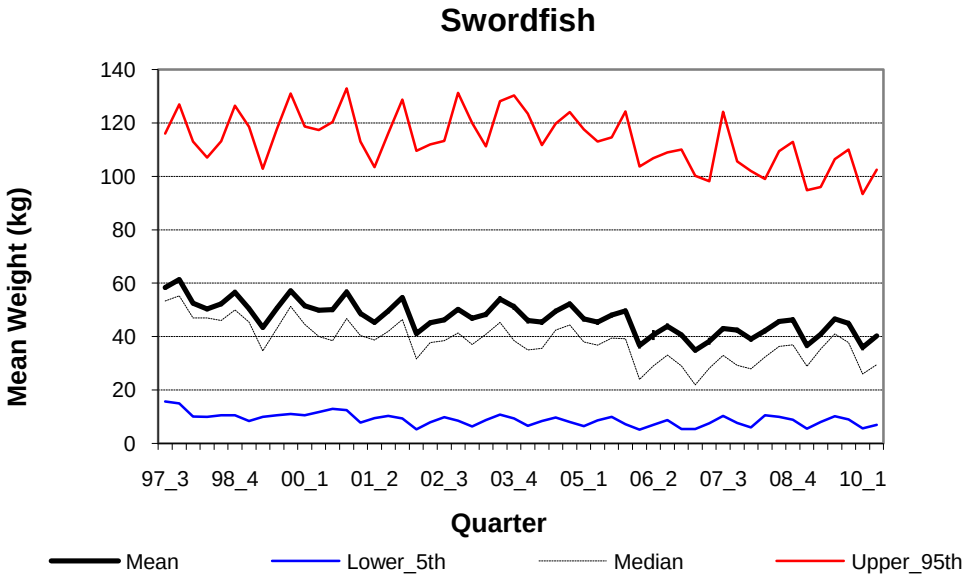



**Figure 5 (a–e). Time series of quarterly mean, medium, lower 5th and upper 95th percentiles processed weights of a) albacore tuna, b) bigeye tuna, c) yellowfin tuna, d) striped marlin and e) swordfish sampled across the entire ETBF based on the data collected from the port sampling program in the ETBF.**

# Coastal State reporting

There are currently no foreign fishing vessels licensed to operate in the AFZ. Japanese longliners were licensed to operate in the eastern AFZ from the late 1950s until November 1997.

# Socio-economic factors

Total gross value of production (GVP) for the ETBF decreased by 24 per cent in 2009–10, from $39.8 million in 2008–09 to $30 million in 2009–10 (2009–10 dollars). Historically, yellowfin tuna has typically been the dominant species in the fishery in gross value terms, with the exception of 2007–08, when bigeye tuna was the dominant species following a historical high catch in that year. In 2009–10, the price and production volume of yellowfin tuna decreased by 15 per cent, respectively. This resulted in a 27 per cent decrease in the contribution of yellowfin to the total GVP in the ETBF. Despite this, yellowfin remains the largest contributor to the total GVP of the fishery, accounting for $10.6 million or 35 per cent. In 2009–10, price decreases also occurred for bigeye and albacore tuna. This resulted in a 23 per cent decrease in the value of bigeye tuna, from $8.3 million in 2008–09 to $6.4 million in 2009–10. The value of albacore tuna decreased by 48 percent, from $4.7 million in 2008–09 to $2.4 million in 2009–10.

# Disposal of catch

The principal destination for Australian tuna is Japan, which received 71 per cent of total tuna exports (excluding southern bluefin tuna) in 2009–10. Other important markets of Australian tuna exports, in value terms, in 2009–10 included New Zealand (8.5 per cent), Thailand (7 per cent), United States (6 per cent) and Vietnam (4 per cent).

Japan continues to be the main export market for swordfish. In 2009–10, approximately 83 percent of exported swordfish went to Japan (in value terms). Japan is also the main export market for bigeye and fresh yellowfin tuna. In 2009–10, the main export markets for fresh albacore were the United States, Japan and Spain, and the main export market for frozen albacore was Thailand. Historically, skipjack tuna has mostly been canned and sold domestically; however, the sole remaining cannery in Australia (Port Lincoln) closed in early 2010.

# Onshore developments

As part of the recent Australian Government *Securing Our Fishing Future* package, there has been a substantial investment in onshore development, some of which benefited fishers in the ETBF. Funding was available through the Onshore Business Assistance and Fishing Community Assistance components of the package to assist businesses and communities affected by the reductions in fishing activity as a result of the package. Investments include the purchasing of new equipment, redevelopment and upgrade of facilities, diversification and expansion of operations and the development of programs aimed at increasing consumer awareness, some of which benefited fishers in the ETBF. This package has now been finalised.

# Future prospects of the fishery

The structural adjustment component of the recent Australian Government *Securing Our Fishing Future* package resulted in the removal of 99 longlining and 112 minor line permits from the ETBF. Commercial operators view the Australian skipjack fisheries as important developing fisheries as significant catching capacity exists in Port Lincoln, South Australia. Currently, catches are low as a result of variability in the availability of skipjack tuna in the AFZ, variable participation levels, low profit margins and the closure of the Port Lincoln cannery; however, there is room for development in this fishery. Current business conditions are less than favourable, but activity and catches could increase if these conditions change.

On 11 February 2011 the AFMA Commission agreed on total allowable catches (TACs) for the commercial sector of the ETBF. These apply to the 2011–12 season (1 March 2011 to 29 February 2012). The TACs for the five main target species are: albacore tuna (2500 t); bigeye tuna (1056 t); broadbill swordfish (1550 t); striped marlin (390 t); yellowfin tuna (2200 t).

# Status of tuna fishery data collection systems

## Logbook data collection and verification

AFMA introduced a logbook for domestic longliners in 1986. The logbook has been revised on several occasions. The latest (AL06—Australian Pelagic Longline Daily Fishing Log) was introduced in 2007; vessels began submitting AL06 logbooks in November 2007. Return of logbooks by Australian longliners improved when, in 1995, it became a condition of fishing permits and has nearly been 100 per cent in recent years. Logbooks have also been introduced for the skipjack tuna purse-seine fisheries; PS01—Australian Purse Seine Daily Fishing Log was distributed in July 2002 with the first skipjack tuna catch recorded in this logbook in December 2003. Weights from catch disposal records are verified; weights recorded on logbooks are an estimate only.

Catch and effort logbooks have been introduced for charter operators in both Queensland (Queensland Charter Fishery logbook) and New South Wales (New South Wales Charter Fishing Boat Logbook Monitoring Program). The New South Wales Department of Primary Industries has also monitored catch and effort data from gamefishing tournaments for a seven year period and a report summarising their observations was released in 2002 (Murphy et al. 2002).

Many anglers who target tuna and billfish voluntarily tag and release under the New South Wales Cooperative Gamefish Tagging Program, which was established in 1973. The data indicate the general distribution of recreational angling activities and trends in catches (masked by changes in effort levels), targeting and reporting of releases.

## Observer program

AFMA observers have been deployed on domestic longliners since 2001. Since July 2003, observers have been deployed more broadly across the fishery with more general duties, such as the collection of data on fishing gear and the size and species composition of catches. In 2010, observers monitored 284 731 hooks in the fishery (3.6 per cent of the total number of hooks deployed in the fishery) (Table 8).

**Table 8. Estimated annual coverage of operational catch and effort (logbooks), port sampling (coverage rate for the five main target species of individual fish weights collected from processors receiving longline caught fish in the ETBF) and observer data for the Australian fleet, active in the WCPFC Convention Area, 2006–10.**

| Gear | Year | Operational catch & effort coverage (%) | Observer coverage (%) | Port sampling coverage (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | YFT | BET | ALB | SWO | STM | SKJ |
| **Longline** | 2006 | 100 | 5.8 | 63 | 74 | 11 | 76 | 68 | 0 |
| | 2007 | 100 | 5.3 | 68 | 81 | 13 | 83 | 70 | 0 |
| | 2008 | 100 | 10.4 | 63 | 74 | 15 | 82 | 76 | 0 |
| | 2009 | 100 | 6.4 | 80 | 71 | 23 | 87 | 82 | 0 |
| | 2010 | 100 | 3.6 | 75 | 89 | 18 | 79 | 73 | 0 |
| **Purse-seine** | 2006 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2007 | 100 | 7.4 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2008 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2009 | 100 | 2.3 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2010 | 100 | 2.3 | 0 | 0 | 0 | 0 | 0 | 0 |

Sources: Dambacher (2005), Dambacher & Moeseneder (2006), Robert Campbell (CSIRO) and AFMA observer database. 2010 sampling rates for yellowfin tuna (YFT), bigeye tuna (BET), albacore tuna (ALB) and striped marlin (STM) pertain only to January–June; broadbill swordfish (SWO) sampling rates for 2010 pertain only to January–September.

## Port sampling program

The collection of individual processed fish weights from processors receiving longline caught fish from the ETBF commenced in mid-1997. The program mainly focuses on the five principal target species in the fishery (yellowfin tuna, bigeye tuna, albacore tuna, swordfish and striped marlin), though data on a range of other species have also been collected. Data are collated on a financial year basis (July–June the following year). During the 12 years that the program has run, over 1.325 million individual fish weights pertaining to the five main target species have been collected, together with around 214 000 individual weights for the other species. Coverage rates for the target species are high, totalling around 65 per cent for yellowfin tuna, 82 per cent for bigeye tuna, 79 per cent for swordfish, 22 per cent for albacore tuna and 58 per cent for striped marlin (Table 7). Values presented for 2010 include the first six months only (January–July). Bulk weights for binned albacore tuna (covering around 56 percent of the catch in recent years) and some other species are also collected. In total, these bulk weights cover 533 000 fish (including 367 000 albacore).

## Unloading/Transhipment

Catch disposal records are the formal method for monitoring unloads, and were implemented in the ETBF in January 2006 (Table 9). Catch disposal records are completed by both the fisher and licensed fish receiver at the point of unload to obtain accurate data on fish numbers and verified weight by species. Skippers tend to under-estimate the weights reported in logbooks for most species, so the catch disposal record data have been reported in domestic official statistics since 2007. Compliance checks are conducted on unloads as part of a risk based compliance program. Weight estimates are also derived from the size-monitoring program, and are likely to be more accurate than logbook data for that part of the time series. A small amount of transhipment occurs in the ETBF (within the AFZ) between domestic vessels, with the catch verified in catch disposal records.

**Table 9. Annual catch estimates (converted whole weights) for the Australian longline fleet, for 2006–10 derived from catch disposal records. Estimates are in tonnes.**

| Year | Albacore | Yellowfin | Bigeye | Striped marlin | Swordfish | Other | Total |
|---|---|---|---|---|---|---|---|
| **2006** | 2591.4 | 1830.3 | 498.6 | 441.2 | 1136.1 | 762.9 | 7260.5 |
| **2007** | 1924.6 | 1389.6 | 1007.5 | 358.7 | 1352.7 | 833.5 | 6866.6 |
| **2008** | 1276.7 | 1650.3 | 1026.5 | 425.3 | 1483.2 | 822.4 | 6684.4 |
| **2009** | 1522.8 | 1386.6 | 726.4 | 360.6 | 1315.0 | 775.0 | 6086.5 |
| **2010** | 867.1 | 1541.3 | 517.8 | 271.4 | 1143.5 | 822.2 | 5163.3 |

Source: AFMA catch disposal records

## Other

AFMA introduced the compulsory requirement for all Commonwealth endorsed fishing vessels to be fitted with Integrated Computer Vessel Monitoring Systems (ICVMS) in 2007. As of 19 May 2011, 97 per cent of Commonwealth nominated vessels had a fully operational and functioning unit. Compliance with VMS requirements has increased markedly since mid 2008. AFMA uses the VMS to assist in planning inspections and operations, to assist the observer program in deploying scientific observers, and to actively monitor compliance with closed areas.

A range of data is also collected via individual research projects (see *Research activities covering target & non-target species* for more information).

# Research activities covering target & non-target species

The Australian Government and the fishing industry allocate considerable funds to fishery research and monitoring each year. In addition to the logbook and observer programs, key areas of recent and ongoing research include:

***Biological research projects***

- Reproductive dynamics of swordfish in the domestic longline fishery off eastern Australia (Young & Drake, 2002)
- Age and growth of bigeye tuna from the eastern and western AFZ (Farley, 2003)
- Age and growth of swordfish from Australian waters (Young & Drake, 2004)
- Population biology and habitat preferences of striped marlin in eastern Australia (Keller & Davie, 2009)
- Integrated study of albacore population biology and biogeography in the area of influence in the ETBF (Farley, ongoing)
- Defining regional connections in south-west Pacific swordfish (Wilcox, ongoing)

***Assessment-related research projects***

- Dynamics of the interactions of the fishery and swordfish on seamounts off eastern Australia (Campbell & Hobday, 2003)
- Migration and habitat preferences of bigeye tuna on the east coast of Australia (Gunn et al., 2005)
- Stock assessment of striped marlin in the south-western Pacific Ocean (Langley et al., 2006)
- Developing harvest strategies for the ETBF (AFMA, 2007)
- Developing robust stock-status indicators (Basson & Dowling, 2008)
- Updating the stock assessment of swordfish in the south Pacific Ocean (Kolody et al., 2008)
- Determining the depths fished and the effective longline effort targeted at various species in the ETBF (Campbell & Young, 2010)
- Integrated evaluation of management strategies for tropical multi-species long-line fisheries (Kolody et al., 2010)
- Eastern Tuna & Billfish size monitoring program (Williams et al., ongoing)
- Integrated analysis and assessment supporting implementation of the management and harvest strategy framework within the ETBF (Campbell et al., ongoing)
- Predicting the impact of hook decrementation on the distribution of fishing effort in the ETBF (Wilcox, ongoing)

***Ecological research projects***

- Ecological risk assessment for the effects of fishing (Webb et al., 2007)
- Rapid quantitative assessment (Zhou et al., 2007)
- Determining the ecological impacts of longline fishing in the ETBF (Young, 2008)

***Bycatch research projects***

- A review of byproduct interactions and economics in Australia's tuna and billfish fisheries (Bromhead et al., 2005)
- Marine turtle mitigation in Australia's pelagic longline fishery (Robbins et al., 2007)

- The effects of bycatch mitigation measures, such as circle hooks and wire leaders, on target and non-target catches (Ward et al., 2008)
- Estimating turtle bycatch rates in the ETBF (Tennant et al., ongoing)

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# Appendix A—Scientific and common names

| Common names | Scientific names |
|---|---|
| **Albacore tuna** | *Thunnus alalunga* |
| **Albatrosses (other)** | *Diomedeidae spp.* |
| **Australian fur seal** | *Arctocephalus pusillus doriferus* |
| **Australian sea lion** | *Neophoca cinerea* |
| **Bigeye tuna** | *Thunnus obesus* |
| **Black marlin** | *Makaira indica* |
| **Black-browed albatross** | *Thalassarche melanophrys* |
| **Blacktip sharks** | *Carcharhinus spp.* |
| **Blue marlin** | *Makaira nigricans* |
| **Blue shark** | *Prionace glauca* |
| **Bronze whaler shark** | *Carcharhinus brachyurus* |
| **Buller's albatross** | *Thalassarche bulleri* |
| **Cape petrel** | *Daption capense* |
| **Common dolphin** | *Delphinus delphis* |
| **Dusky shark** | *Carcharhinus obscurus* |
| **Escolar (black oilfish)** | *Lepidocybium flavobrunneum* |
| **Flatback turtle** | *Natator depressa* |
| **Flesh-footed shearwater** | *Puffinus carneipes* |
| **Great skua** | *Catharacta skua* |
| **Great-winged petrel** | *Pterodroma macroptera* |
| **Green turtle** | *Chelonia mydas* |
| **Grey-headed albatross** | *Thalassarche chrysostoma* |
| **Hammerhead shark** | *Sphyrna spp.* |
| **Hawksbill turtle** | *Eretmochelys imbricata* |
| **Humpback whale** | *Megaptera novaeangliae* |
| **Leatherback turtle** | *Dermochelys coriacea* |
| **Loggerhead turtle** | *Carretta carretta* |
| **Mahi mahi (dolphinfish)** | *Coryphaena hippurus* |
| **Moonfish (opah)** | *Lampris guttatus* |
| **Northern bluefin tuna** | *Thunnus orientalis* |
| **Ocean sunfish** | *Mola mola* |
| **Oceanic whitetip shark** | *Carcharhinus longimanus* |
| **Oilfish** | *Ruvettus pretiosus* |

| | |
|---|---|
| **Pacific (olive) ridley turtle** | *Lepidochelys olivacea* |
| **Petrels, prions and shearwaters** | *Procellariidae spp.* |
| **Ray's bream** | *Brama brama* |
| **Rudderfish** | *Centrolophus niger* |
| **Sailfish** | *Istiophorus platypterus* |
| **Scalloped hammerhead** | *Sphyrna lewini* |
| **Shortbilled spearfish** | *Tetrapturus angustirostris* |
| **Shortfin mako** | *Isurus oxyrinchus* |
| **Short-finned pilot whale** | *Globicephala macrorhynchus* |
| **Short-tailed shearwater** | *Puffinus tenuirostris* |
| **Shy albatross** | *Thalassarche cauta* |
| **Silky shark** | *Carcharhinus falciformis* |
| **Skipjack tuna** | *Katsuwonus pelamis* |
| **Smooth hammerhead** | *Sphyrna zygaena* |
| **Sooty shearwater** | *Puffinus griseus* |
| **Southern bluefin tuna** | *Thunnus maccoyii* |
| **Southern royal albatross** | *Diomedea epomophora* |
| **Striped marlin** | *Tetrapturus audax* |
| **Swordfish** | *Xiphias gladius* |
| **Thresher shark** | *Alopias vulpinus* |
| **Tiger shark** | *Galeocerdo cuvier* |
| **Wahoo** | *Acanthocybium solandri* |
| **Wandering albatross** | *Diomedea exulans* |
| **Wedge-tailed shearwater** | *Puffinus pacificus* |
| **Westland petrel** | *Procellaria westlandica* |
| **Yellowfin tuna** | *Thunnus albacares* |
| **Yellow-nosed albatross** | *Thalassarche chlororhynchos* |