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# Data summary for the Southern and Eastern Scalefish and Shark Fishery: Logbook, Landings and Observer Data to 2020

Prepared for the SESSFRAG Data Meeting 24-26 August 2021

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# Executive Summary

This report presents summarised fisheries data for 45 species groups collected from the Southern and Eastern Scalefish and Shark Fishery (SESSF) up to and including 2020. This is the latest in a series of such reports and includes several improvements compared with earlier reports in this series. A small number of plots are presented showing fishery-wide data, but most plots show data by species group. A species group can be a biological species (e.g. eastern Redfish) or a group of species that have been aggregated under a single quota (e.g. flathead) and could be split by region or depth (e.g. eastern and western Deepwater Sharks, eastern and western Pink Ling, inshore and offshore Ocean Perch). There are several species included in this report that are not managed by commercial catch quotas in the SESSF, these include Latchet, Squid, Frostfish, King Dory and Ocean Jackets. The definitions used to identify species, regions and depth classes, are detailed in the report.

Landed catches are compiled for the Commonwealth component of the SESSF from logbook and catch disposal record (CDR) information. Catches of SESSF species from State jurisdictions including New South Wales, Victoria, Tasmania, New South Wales and Western Australia are combined and presented for each species group. A breakdown of State catches for each jurisdiction is available in Althaus et al. (2021).

Effort and catch per unit effort (CPUE) data from Commonwealth vessels is presented. Note that the CPUE shown in this report are geometric means calculated from the catch and effort (always expressed in numbers of shots) data and are not standardized CPUE time series. Standardized CPUE is presented in Sporcic (2021).

Length data collected onboard vessels and in port is available from observer programs run by AFMA and industry. Age data for selected SESSF species is provided by Fish Ageing Services and plots of annual age frequency are presented. Discard rates are estimated from onboard observations of discard weight data, the calculation is described in Deng et al. (2021).

This report does not include any information on recreational catches of SESSF species. A summary of catches from recreational surveys where catch is available in weight is provided in Althaus et al. (2021). Additionally, Althaus (2020) has summarised recreational catch estimates for School Shark, Gummy Shark and Saw Shark, converting catch numbers to weights.

# 1 Introduction

This report is the latest in a series of reports that present summarised data collected from the Southern and Eastern Scalefish and Shark Fishery. The bulk of the data is collected and stored by the Australian Fisheries Management Authority (AFMA). A copy of the relevant AFMA databases is held at CSIRO where corrections are made to the data, and data from tables with different formats are merged. This process is currently being documented.

## 2 Changes in 2021

The following changes have been made to the data presented in this report in 2021:

During the processing of the logbook data last year, CSIRO became aware that a number of vessels were reporting a single (invariant) depth in their e-log. Fishing depth is essential in the catch per unit of effort (CPUE) standardisations, SESSF Data Summary, Discard and Catch reports. In 2020, CSIRO undertook a correction for erroneous invariant depth records of shots reported up to and including 2019, using shot location and bathymetry data as supported by SESSFRAG out of session in July 2020. During 2021 CSIRO found that many vessels continued invariant depth reporting during 2020, many switching to a new invariant depth. Using a new method for detecting invariant reporting, a small number of additional vessels were found to show a similar pattern of reporting invariant depth. This generally coincides with a move to e-logs. These were also all corrected using the same methodology that was used in 2020.

Orange Roughy zones have been changed to more closely align with management boundaries, which will result in differences in the data presented in this report compared with other years. Orange Roughy Pedra has been separated from Orange Roughy South because catches from Pedra Branca are included in the stock assessment Orange Roughy East. Catches quota species taken under research permit have not previously been included in CDR catches. Research catch of 180.1 t of Orange Roughy (180.1 t) was added to the CDR catch of Western Orange Roughy in 2020. Future versions of this report will include catches of quota species taken under research permits in the CDR column.

NSW State catches for Blue-eye Trevalla, Blue Grenadier, Jackass Morwong, Pink Ling, Orange Roughy and Silver Warehou between 1992 and 2019 that have been revised based on a catch reconstruction undertaken by Geoff Liggins (NSW Fisheries). Uncertainty in catches is mostly confined to the period between 1986 and 1997. During this period vessels with dual NSW / Commonwealth endorsements reported catches to both jurisdictions (double reporting) or misreported catches in Commonwealth waters as being taken in NSW waters.

Following advice from SESSFRAG at its August 2020 Data Meeting, discard estimates for 2020 now assume observers estimates of discarded weight are unbiased, previously it was assumed that observers under-estimate discarded catch weight in the same way as logbooks. Discard estimates for Elephantfish, Gummy Shark, Sawshark and School Shark from electronic monitoring data obtained from video cameras on gillnet vessels has not yet been included in discard estimates. This will be completed in time for the next sharkRAG meeting.

The 2020 SIDaC length data was not linked to logbook shot in the AFMA database and therefore could not be assigned a location of sampling and has not been included in this report. The data for Pink Ling was manually matched to shot by Lou Cathro and John Garvey (AFMA) and has been provided to Patrick Cordue for use in the 2021 Pink Ling stock assessment.

The pre-1998 PirVic length data that was corrected by Matt Koopman (Fishwell Consulting) and presented to SERAG in 2019 does not appear to be in AFMA's database and is not included in this report. GAB Industry Association (GABIA) length data is also not in the AFMA database, however, we have been in discussions with GAB industry representatives and AFMA regarding corrections to these data and a summary of the proposed corrections will be presented to GABRAG for consideration.

Fish Ageing Services have made a number of changes to existing data (mostly date of capture and estimated age) for Blue Grenadier, Jackass Morwong, Mirror Dory, Orange Roughy, Pink Ling and Silver Warehou this year. The shark length code CAR has replaced VIC in the database. We queried these changes with Fish Ageing Services and they relate to corrections of errors identified during the upgrade of their database.

Counts of the number of operations, which are used in the CPUE plots in the Data Summary report, were affected by some shots having multiple entries in the logbook dataset. To offset this, catches were aggregated so that each shot appeared only once. Operation counts are therefore somewhat lower.

## 3 Data

### 3.1 Data sources

The data sources included in this report are:

1. Catch Disposal Record (CDR) measurements of the weight of landed catches;
2. AFMA logbook data (including e-logs);
3. AFMA Observer (formerly the ISMP) length measurements made in ports of landing;
4. AFMA Observer length measurements taken onboard fishing vessels;
5. AFMA Observer weight measurements of retained and discarded components of the catch, taken onboard fishing vessels;
6. Length measurements collected by members of the fishing industry (GABIA) onboard trawl vessels fishing in the Great Australian Bight (GAB);
7. SIDaC length data for species School Shark, Gummy Shark, Blue-Eye, Trevalla, Pink Ling and Ribaldo, noting 2019 and 2020 data was not available for inclusion in this report;
8. Length measurements of Blue Warehou collected by members of the fishing industry onboard trawl vessels;
9. Estimates of abundance derived from catch and effort data collected by vessels participating on the South East Trawl Fishing Industry Survey (SET FIS);
10. SET FIS length measurements made onboard survey vessels;
11. Estimates of abundance derived from catch rate data collected by vessels participating on the Great Australian Bight Fishing Industry Survey (GAB FIS);
12. GAB Fishing Industry Survey (GAB FIS) length measurements made onboard survey vessels;
13. Discard estimates, calculated by CSIRO using Observer data (Deng et al., 2020);
14. State catches provided by NSW, Vic, SA and Tasmanian state agencies (for more details see Althaus et al. (2020)); note that State catches of flathead other than Tiger Flathead are not considered, and
15. TACs (which are available on AFMA's Catch Watch website).

There are two additional data sources that are available but not included in this document as they are added separately to stock assessments and we do not want to add them twice. These data sources are:

1. Length measurements of Blue Grenadier taken during the spawning fishery are available but not used - source unclear but likely to have been part of work for a PhD;
2. Additional length measurements of western Gemfish are available but not used - source unknown.



## 3.2 Data issues

Anomalies noted in the 2020 data in 2021 include:

AFMA suspended the onboard observer program in March 2020 due to the risk of covid-19. While the program returned to normal operations in October 2020, the collection of onboard lengths, ages and estimates of discarded weight has been impacted during this period.

A comparison of logbook catch totals, by quota species and by year, revealed species that had CDR totals that were more than 25% greater than their logbook totals, during the most recent five years (Table 1). Similarly, some species had CDR totals that were more than 25% lower than their logbook totals, during the most recent five years (Table 2). Note, however, that the CDR records only those catches that were subject to quota whereas the logbook can include additional catches. For example (choosing the most bizarre example), Jackass Morwong are not under quota in the GAB trawl fishery so that a catch of Morwong made by a trawl vessel in the GAB could be entered into the logbook but not the CDR, whereas a catch of Morwong made alongside by a line or gillnet vessel would be entered into both the logbook and CDR records.

Interestingly, Blue Warehou appears in both tables, having a much higher logbook total in 2017 and 2018, but lower in 2016 (Table 1, Table 2). Further investigation showed some large shots containing Blue Warehou that were recorded in logbook as 'Black Trevally' a non-quota species, and several small shots where Blue Warehou were recorded in the CDR but not the logbook. When Blue Warehou was reported in the logbook, it typically had a similar catch tonnage in the CDR and the logbook. The discrepancies for Orange Roughy South are due to the species group Orange Roughy Pedra being separated from Orange Roughy South because catches from Pedra Brance are included in the stock assessment Orange Roughy East.

There has been a large increase in the NSW state catch of Royal Red Prawn in 2020 after a period of low catches for the previous 12 years. There also appears to have been a shift in the distribution of Royal Red Prawn catches to shallower depths over the past three years.

Flathead onboard lengths appear incorrect when comparing the length frequency to the sample size, this needs to be investigated.

Jackass Morwong East catches by depth appear to have a different distribution that has been observed in the past, with catches generally observed at deeper depths. Discard estimates also appear to be increasing.

Catches of Silver Trevally have been observed in shallower depths than have previously been observed. Catches at depths of 60 to 120 meters which were common for all earlier years have not been observed in 2020.

Anomalies observed in previous years are available in Appendix, Section 7.2.

**Table 1 Quota species whose CDR total catch exceeded their logbook total catch by more than 25% during the most recent five years. Diff represents the proportion difference between the CDR and logbook and Ratio the ratio between them. Catches are in tonnes.**

YEAR	SPNAME	LOGBOOK	CDR	DIFF	RATIO
2019	John Dory	47.1	66.8	0.29	1.42
2016	Gemfish West	46.9	73.4	0.36	1.57
2018	Gemfish West	36.6	59.0	0.38	1.61
2016	Orange Roughy South	13.1	48.4	0.73	3.69
2017	Orange Roughy South	18.5	73.8	0.75	3.99
2018	Orange Roughy South	9.6	53.2	0.82	5.52
2019	Orange Roughy South	18.4	92.5	0.80	5.02
2016	Deepwater Shark East	15.3	26.2	0.41	1.71
2017	Deepwater Shark East	14.1	21.5	0.35	1.53
2018	Deepwater Shark East	14.3	22.5	0.36	1.57
2019	Deepwater Shark East	15.8	25.3	0.37	1.60
2017	Blue Warehou	12.5	26.3	0.52	2.10
2018	Blue Warehou	32.6	47.3	0.31	1.45

**Table 2 Quota species whose CDR total catch was more than 25% lower than their logbook total catch during the most recent five years. Diff represents the proportion difference between the logbook and CDR and Ratio the ratio between them. Catches are in tonnes.**

YEAR	SPNAME	LOGBOOK	CDR	DIFF	RATIO
2017	Bight Redfish	447.8	329.2	-0.36	0.74
2016	Deepwater Shark West	93.1	71.8	-0.30	0.77
2019	Deepwater Shark West	134.0	94.1	-0.42	0.70
2016	Blue Warehou	18.0	9.1	-0.97	0.51

## 4 Methods

### 4.1 Explanatory notes regarding the plots

1. *FIS and Industry length* measurements are often made before the catch is sorted into retained and discarded components. All of these measurements, both sorted and unsorted, are combined in this report.
2. *CPUE* series are plotted as a combination of solid and dashed lines. Any data point that is based on fewer than 20 records is joined by dashed lines to adjacent points. Points based on larger numbers of records are joined using solid lines. Lines are not drawn to a year for which there is no data point. The CPUE time series are divided by their mean before plotting, these mean values are shown in the plot legend.
3. *SET FIS abundance* estimates are plotted as points, not lines, because they are available biennially. Points whose CV is greater than 0.3 are plotted as open circles, those with lower CVs are solid circles. SET FIS abundance indices are calculated using the original (FIS 1) methodology (Peel et al., 2013).
4. *Discards* expressed as discard weight divided by total weight (i.e. discard plus retained weight) are shown as a red bar chart, these data were calculated from ISMP onboard observer data as reported in Deng et al. (2021).
5. *ISMP Port and GAB Industry length frequencies*: this plot shows ISMP lengths measured in port (blue bars, and black and blue alternating sample size shown below the plot - the colours alternate because large values in adjacent years tend to merge). This plot also shows lengths collected onboard GAB vessels by industry members (black line, and upper, black, row of sample sizes).
6. *Length frequencies: ISMP onboard etc*: ISMP length measurements made onboard are shown as *green bars*, overlaid by SET FIS (*orange line*), GAB FIS (*purple line*), and Industry onboard measurements of blue warehouse (*black line*). Sample sizes are shown below the plot in corresponding colours, except for the ISMP sample sizes, which are shown in alternating black and blue in the lowest row.
7. *Length frequencies for discarded* fish measured onboard by ISMP observers are shown in grey both as part of a stacked histogram along with the green retained catch, and separately below that plot (for clarity, because the discarded catch can be very small and therefore hard to see in the stacked plot). Open bars indicate sample size below 50 fish.
8. The plots consisting of *coloured squares* indicate the ratio of sample number to catch weight - *red* indicates low sampling relative to catch whereas *green* indicates high sampling relative to catch and intermediate values are shown on a green-yellow-orange-red scale. Note that the sum of the catches on these plots will not match annual totals on other plots if there are records for which zone, or gear entries are missing. *Black numbers* indicate numbers of fish sampled, and *blue numbers* give logbook catch in tonnes.

## 4.2 Species

Species groups are identified using the CAAB code field in the logbook and observer datasets or by providing a list of CAAB codes to State agencies when asking them for landed catch information. In the CDR database the UnitCode field was used, and CSIRO worked closely with AFMA to ensure that the same lists of CAAB code are used by both agencies. The CAAB codes used are shown in Table 3. Note that in the pages that follow, some species groups have been divided either spatially (into east and west components) or, in the case of Ocean Perch, into deep and shallow components. On those cases, the proportional split from the logbook catch totals was applied to the CDR data to produce an estimate of CDR catch for each component.

**Table 3 CAAB codes used for each of the quota and non-quota species groups presented in this report.**

QUOTA	CAAB
Alfonsino	37258002
Flathead	37296000, 37296001, 37296003, 37296007, 37296035, 37296037
Jackass Morwong	37377003
John Dory	37264004
Redfish	37258003
Royal Red Prawn	28714005
School Whiting	37330014
Silver Trevally	37337062
Ocean Jackets	37465000, 37465006
Frostfish	37440002, 37440000
King Dory	37264001
Blue-eye Trevalla	37445001, 37445014
Blue Grenadier	37227001
Blue Warehou	37445005
Gemfish	37439002
Pink Ling	37228002
Mirror Dory	37264003
Ocean Perch	37287001, 37287901, 37287093
Silver Warehou	37445006
Ribaldo	37224002
Orange Roughy	37255009
Oreos	37266001, 37266004, 37266005, 37266006, 37266902
Smooth Oreo	37266003
Deepwater Shark	37020000, 37020002, 37020003, 37020004, 37020005, 37020012, 37020013, 37020015, 37020019, 37020021, 37020024, 37020025, 37020027, 37020028, 37020029, 37020030, 37020031, 37020032, 37020033, 37020905, 37020906, 37020907
Bight Redfish	37258004

QUOTA	CAAB
Deepwater Flathead	37296002
School Shark	37017008
Gummy Shark	37017001
Sawshark	37023000, 37023001, 37023002, 37023900
Elephantfish	37043000, 37043001, 37044000, 37043901, 37044902
Latchet	37288006
Squid	23615000, 23636004

## 4.3 Zones

Logbook and onboard observer records contain precise position information (latitude and longitude). We assigned each position to a fishing zone, each species or quota basket is assigned to one of a set of *zone schemes* (Table 4).

Table 4 The zonation scheme to which each species group is assigned.

SPECIES	SCHEME
Alfonsino	ECDW
Flathead	SEF
Jackass Morwong	SEF
John Dory	SEF
Redfish	SEF
Royal Red Prawn	SEF
School Whiting	SEF
Silver Trevally	SEF
Ocean Jackets	SEF
Frostfish	SEF
King Dory	SEF
Latchet	SEF
Squid	SEF
Blue-eye Trevalla	SEF
Blue Grenadier	SEF
Blue Warehou	SEF
Gemfish	SEF
Pink Ling	SEF
Mirror Dory	SEF
Ocean Perch	SEF
Silver Warehou	SEF

SPECIES	SCHEME
Ribaldo	SEF
Orange Roughy	ORO
Oreos	ORO
Smooth Oreo	ORO
Deepwater Shark	SEF
Bight Redfish	SEF
Deepwater Flathead	SEF
School Shark	SHK
Gummy Shark	SHK
Sawshark	SHK
Elephantfish	SHK

The zone schemes are shown in Figures 1 to 5, and their definitions are shown in Table 4. More detail in zones can be found in Section 7.3. These are, for the most part, the same zone definitions that have been used for previous reports and by most authors of SESSF reports (as far as we have been able to ascertain). Differences that might have occurred in the past, or that have been implemented by us, include:

1. The *zone 10-20 boundary* was shifted from the NSW-VIC border northwards to 36 degrees 45'S during the early 2000s (a decision made during a SEFAG meeting);
2. There was a slightly different definition of *western boundary for the GAB* in the 'orange roughy scheme' (115.133) and the 'SET scheme' (115); we now apply the orange roughy scheme's definition of the GAB to orange roughy from that region whereas previous versions of this report used the SET definition;
3. AFMA requested that we add a sub-zone to the orange roughy scheme to identify catches taken at *Pedra Branca* (see map and caption below);
4. The ISMP divides the *GAB into 4 sub-zones* whereas CSIRO divides it into 5; we retained the CSIRO sub-zones (but note that this creates ambiguity when interpreting Port length sampled and age data, where zone is sometimes provided as 81, 82, 83, 84);
5. We have added a zone called 'north' to the 'SET scheme' that lies north of zone 10 and consists of three sub-zones that were used by Malcolm Haddon for blue-eye trevalla analyses.

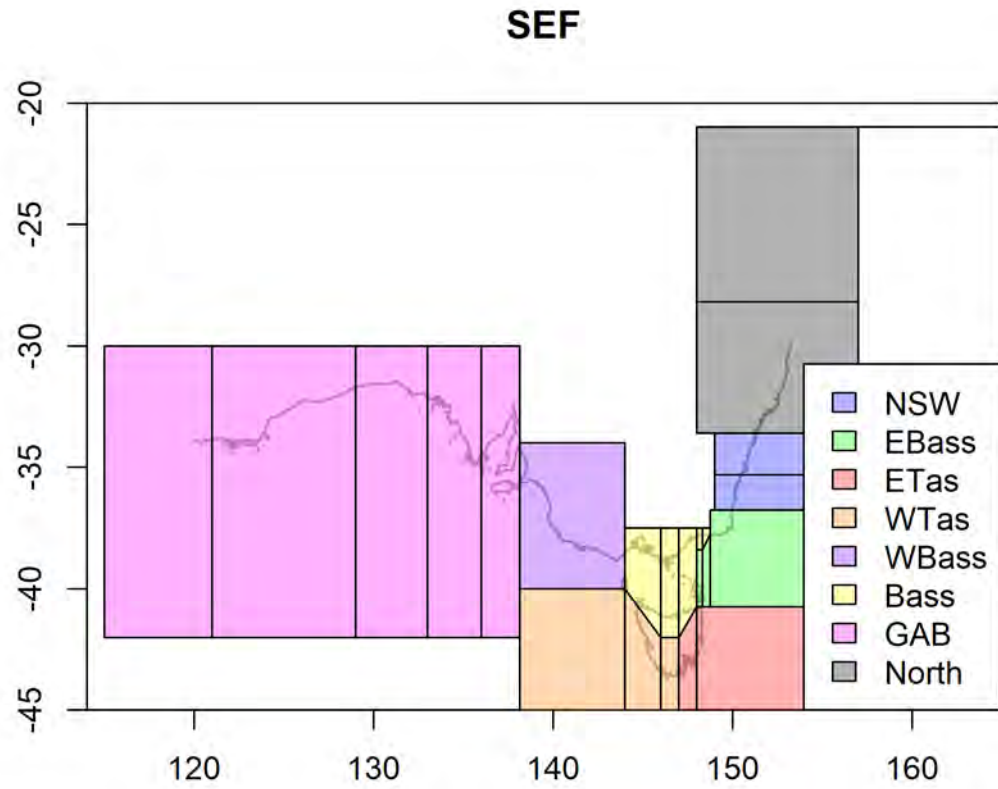


Figure 1 The zones making up the south east fishery zone scheme, SEF. The GAB zone is divided into sub-zones 81-85, and Bass Strait can be divided at 147°E longitude onto an eastern and western component.

## ECDW

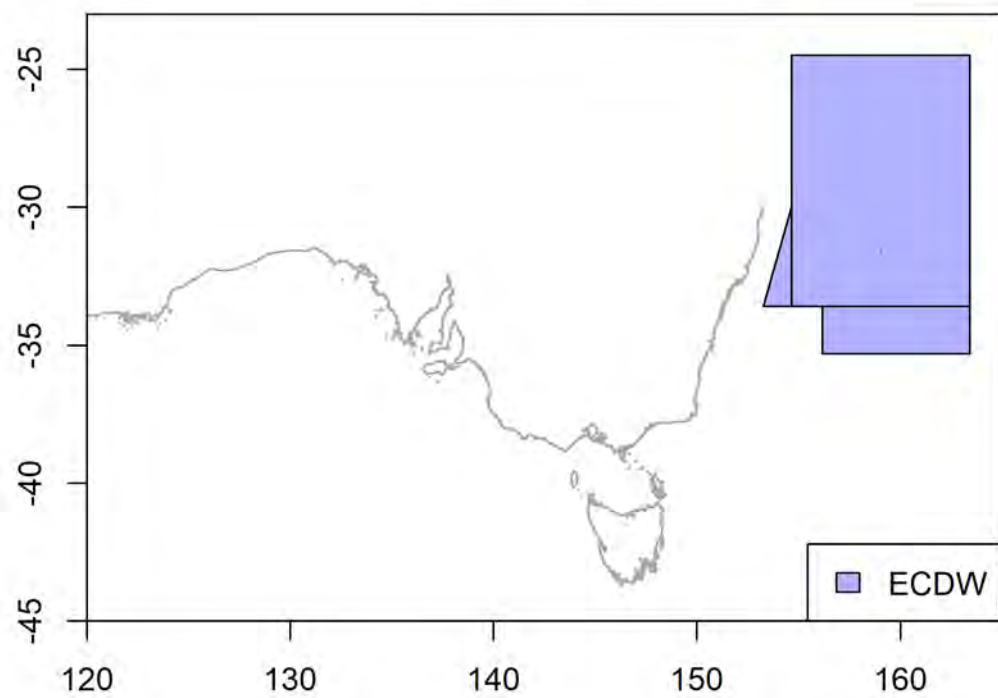


Figure 2 The zones making up the east coast deepwater scheme, ECDW.



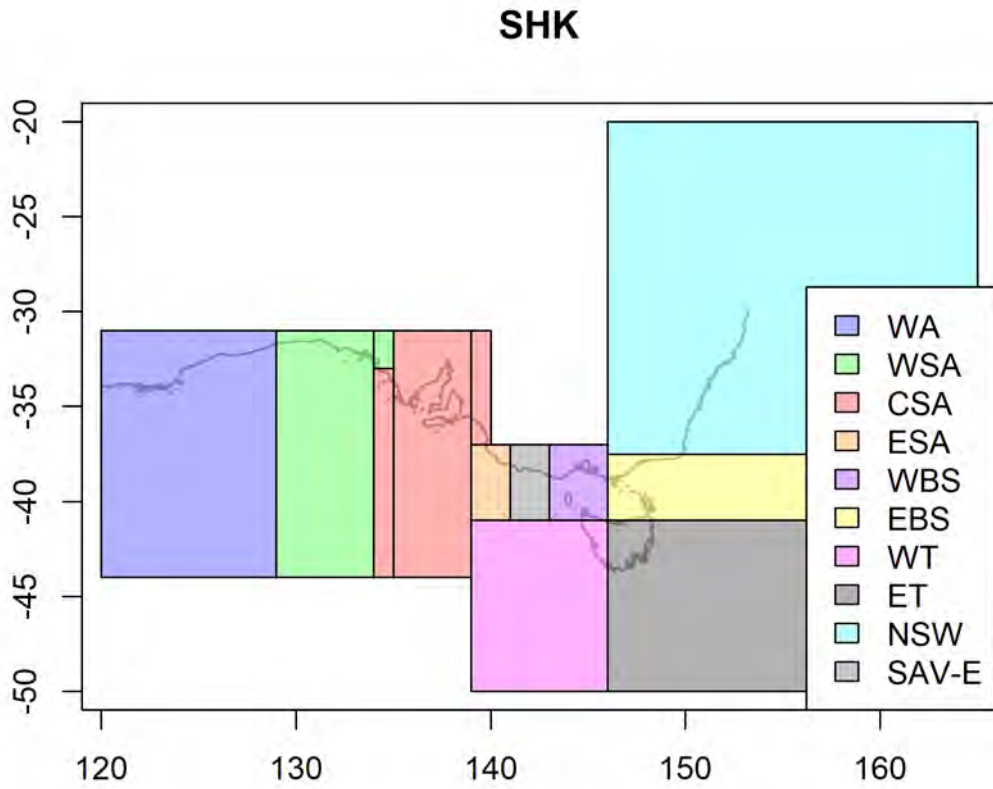


Figure 3 The zones making up the shark zone scheme, SHS. The ESA zone (also known as SAV-W) and the SAV-E zone are sometimes combined into a single SAV zone.

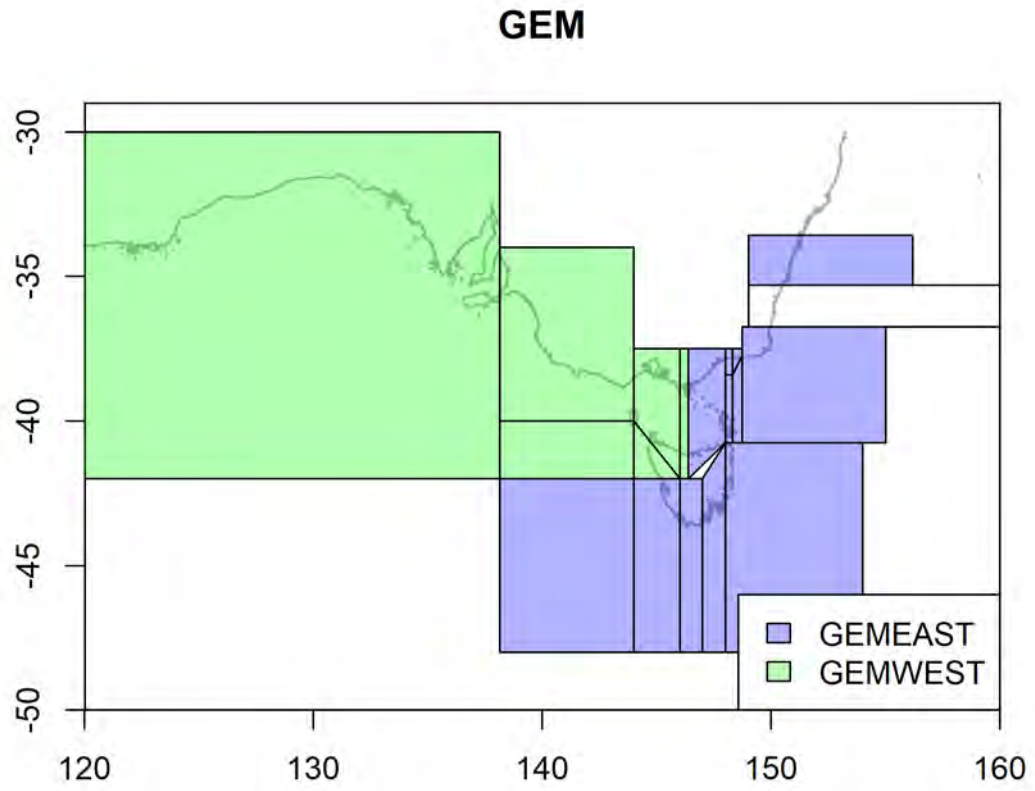


Figure 4 The zones making up the gemfish zone scheme, GEM.

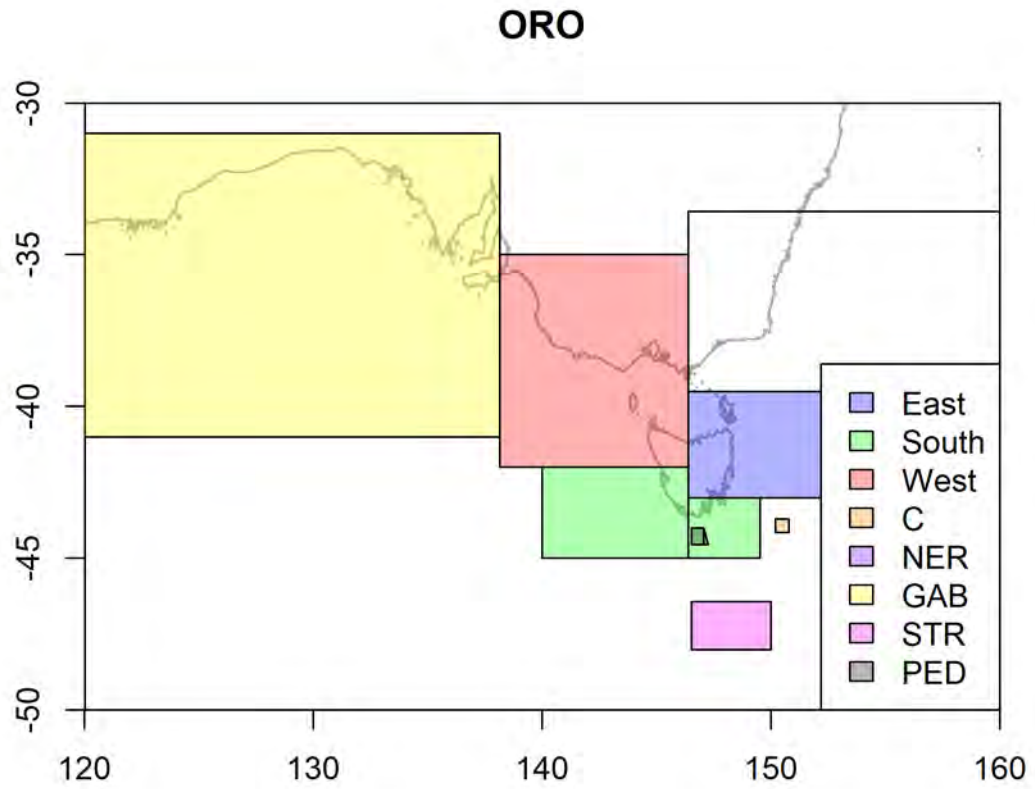


Figure 5 The zones making up the orange roughy zone scheme, ORO. The zone PED (Pedra Branca) is a new zone, added at the request of AFMA.

## 4.4 Suggested changes

Suggested changes to future versions of this report are:

1. Anomalously short or long length measurements are not plotted but are instead excluded from the plots. It would be preferable to treat the smallest and largest length bins displayed in the report as 'plus' or 'minus' bins that aggregate samples that would otherwise not appear on the plots. This would serve as an indicator of misreported lengths.
2. It might be useful to include an indication of how closely the collected sample sizes match the target sizes.
3. Ageing data collected during the SET FIS are plotted, however, other scientific collections are not displayed. This includes one year of Silver Trevally sampling and recent Blue-Eye Trevalla samples.
4. The SET FIS used to be conducted during both summer and winter but the winter component was dropped. We plot lengths collected during both seasons, but it would be better to plot the summer and winter length frequencies separately.
5. It would be useful to plot the onboard and port length frequencies together on the same plot, to highlight any differences.
6. It might be better to display the logbook catches (on the plot that shows CDR totals, and TACs) as a stacked barplot.
7. CVs are calculated along with the discard estimates, and in future it would be useful to add error bars to the discard rates.
8. GAB FIS abundance estimates have been obtained and loaded into CSIRO's data system, but have not yet been plotted in this report.
9. CPUE data are influenced by the level of discarding that occurs, so a line showing discard rate on the CPUE/Abundance plot might be informative.
10. An attempt is being made by the fishing industry to improve the discard reporting in the logbook, so perhaps a logbook-derived discard rate time series could be added to the discard plot.
11. A line that shows the sum of all TACs could be added to the plot that shows the sum of all quota species caught.
12. Coloured cell plots could be added for SET FIS and GAB FIS length sampling.
13. An aggregated set of plots for inshore plus offshore ocean perch would be useful.
14. Add the number of unaged otoliths to the plot of age frequencies.
15. Change the cutoff of open bars on length frequency plots from 50 to 100 to better reflect the data that is included in tier 1 assessments, with only years with 100 or more lengths measured included in the assessment.
16. Update FIS indices to use FIS3 rather than FIS1 estimates for those species which FIS3 estimates are available.

# Southern and Eastern Scalefish and Shark Fishery

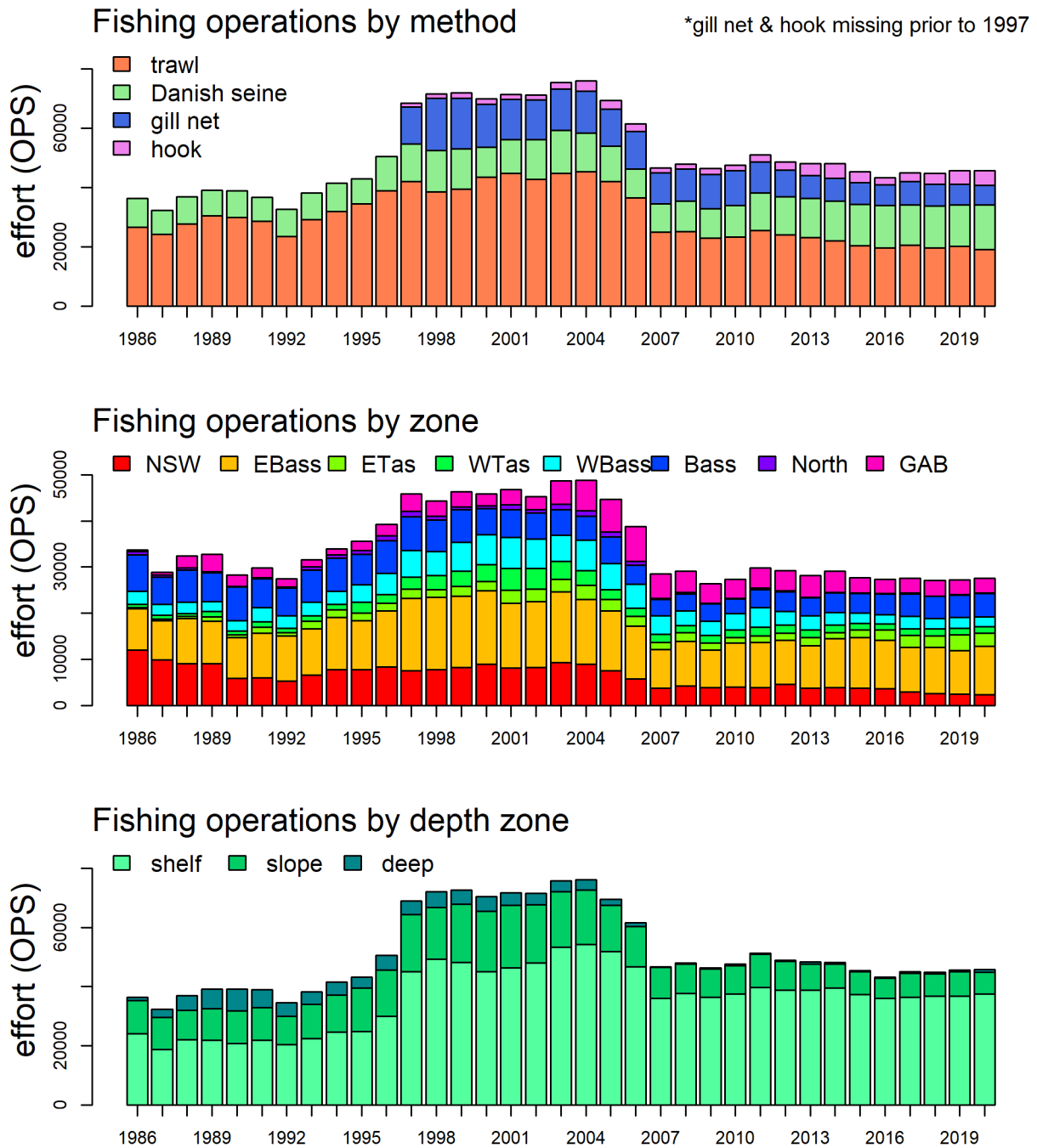
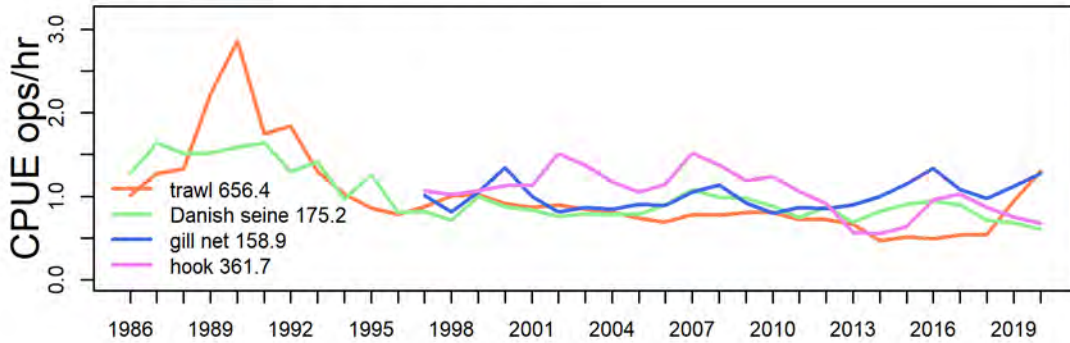
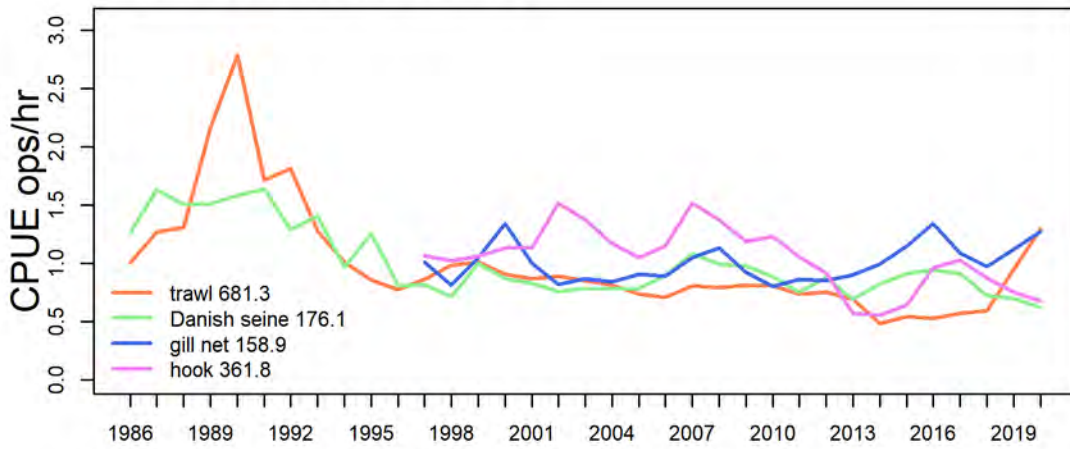


Figure 6 Annual number of fishing operations in the SSSF by method (top), zone (middle) and depth (bottom). For more information contact AFMA on (02) 6225 5555.

CPUE for all quota species



CPUE for all reported KG



Proportion of total reported catch that are quota species

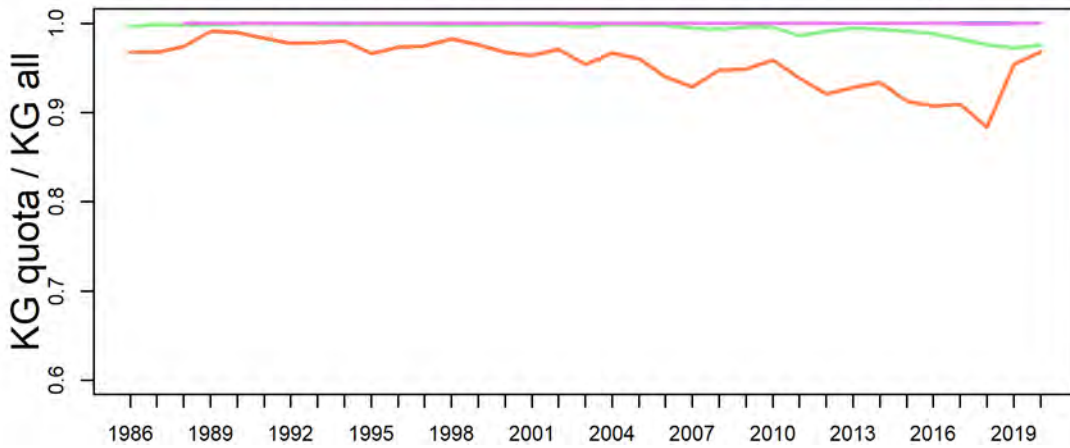


Figure 7 Annual CPUE in the SSSF for all quota species (top), by weight (middle) and in proportion to total catch (bottom). For more information contact AFMA on (02) 6225 5555.

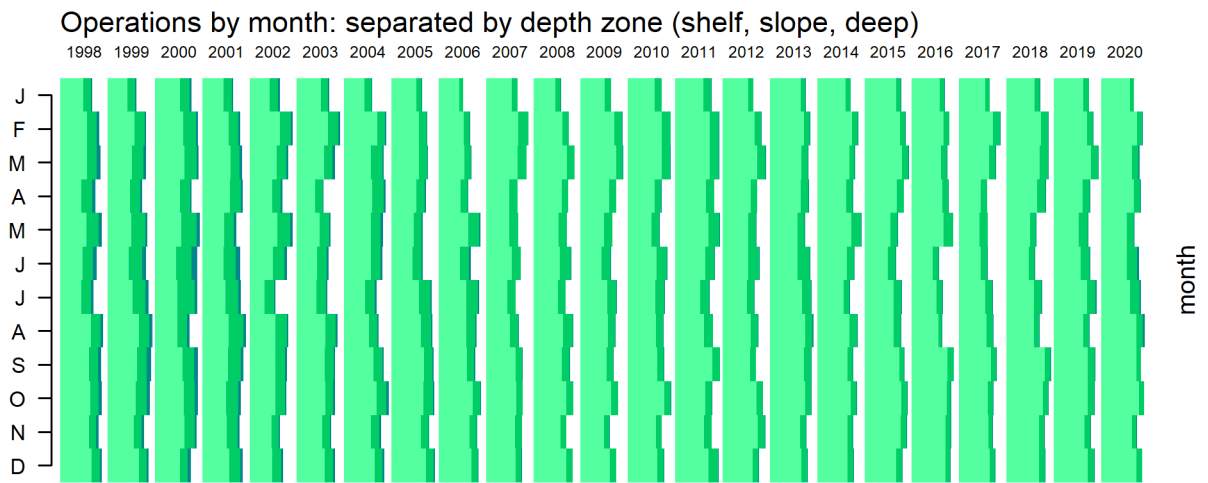
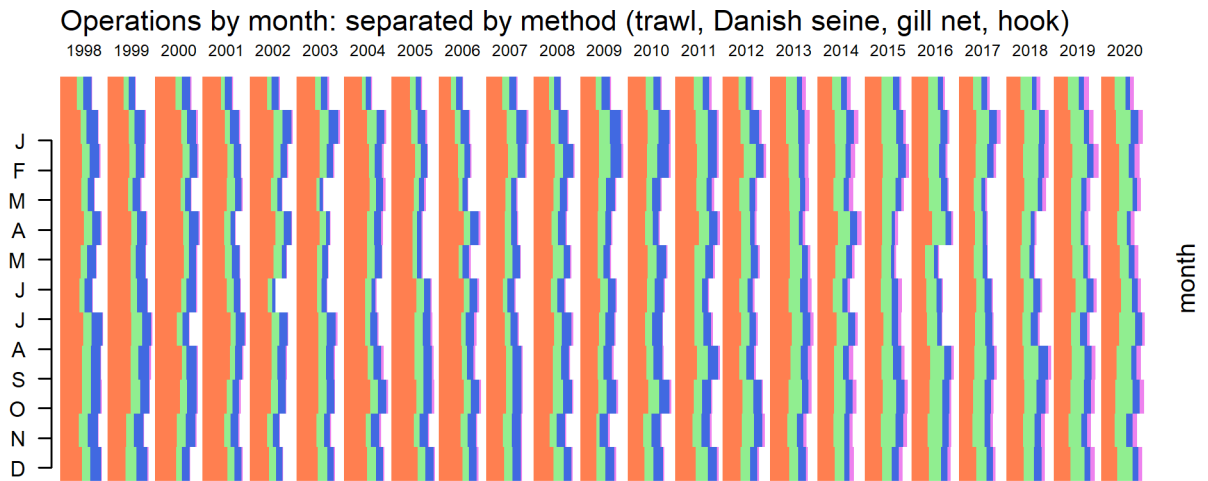
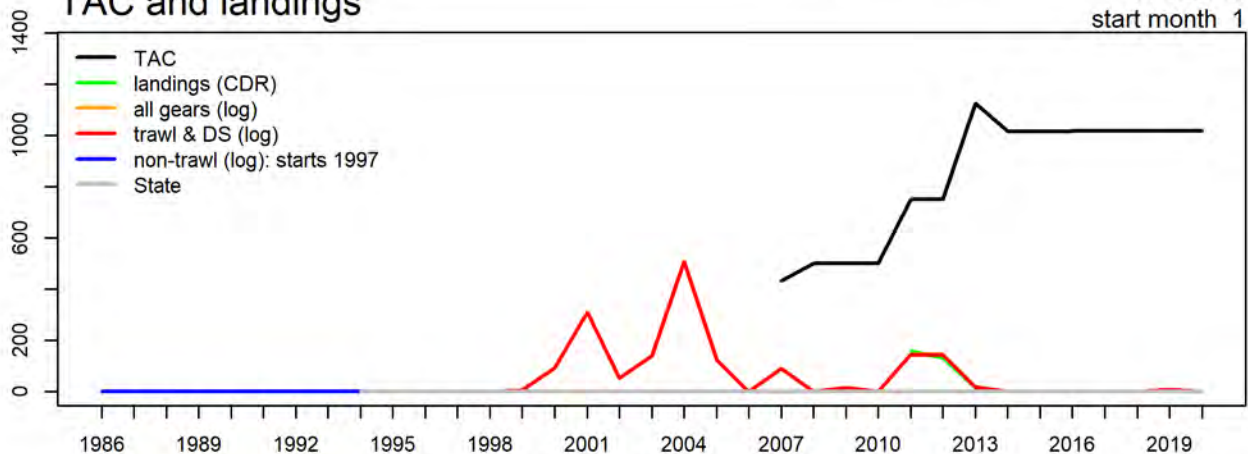


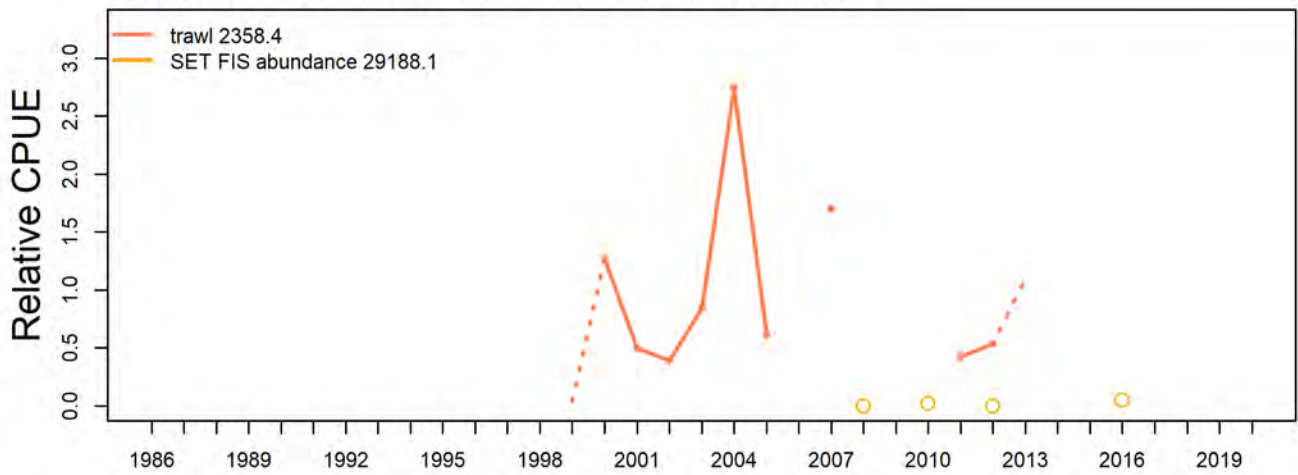
Figure 8 Monthly number of fishing operations in the SESSF by method (top) and depth (bottom). For more information contact AFMA on (02) 6225 5555.

# Alfonsino

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

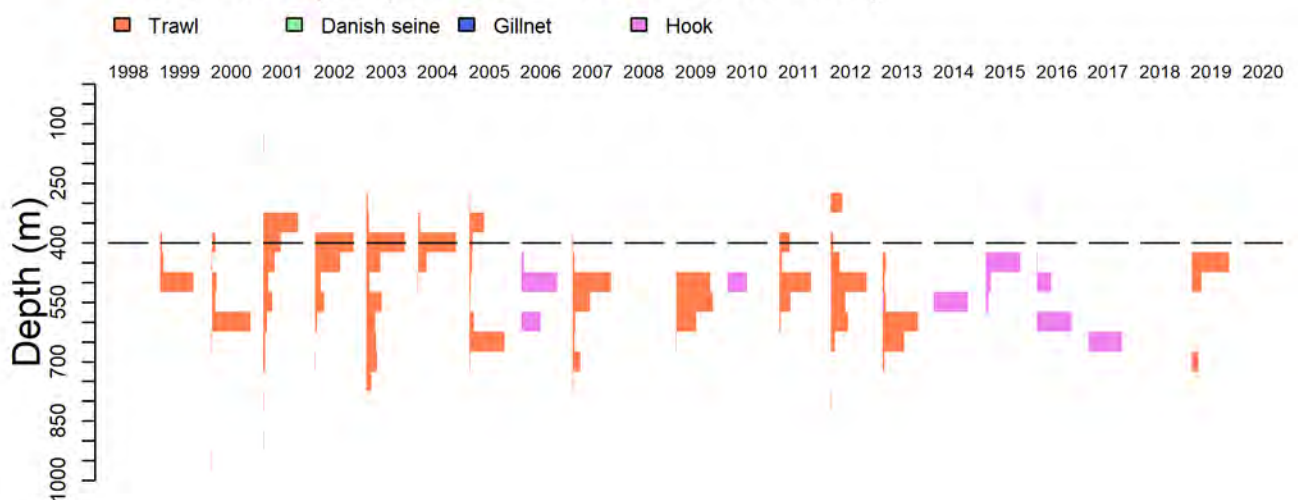
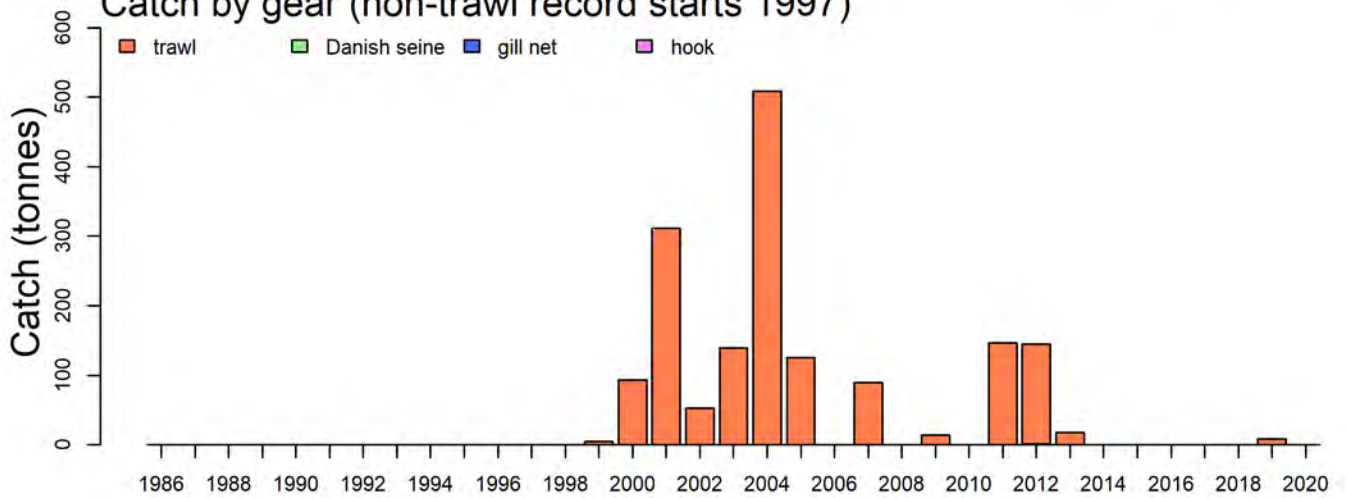


Figure 9 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Alfonsino. For more information contact AFMA on (02) 6225 5555.

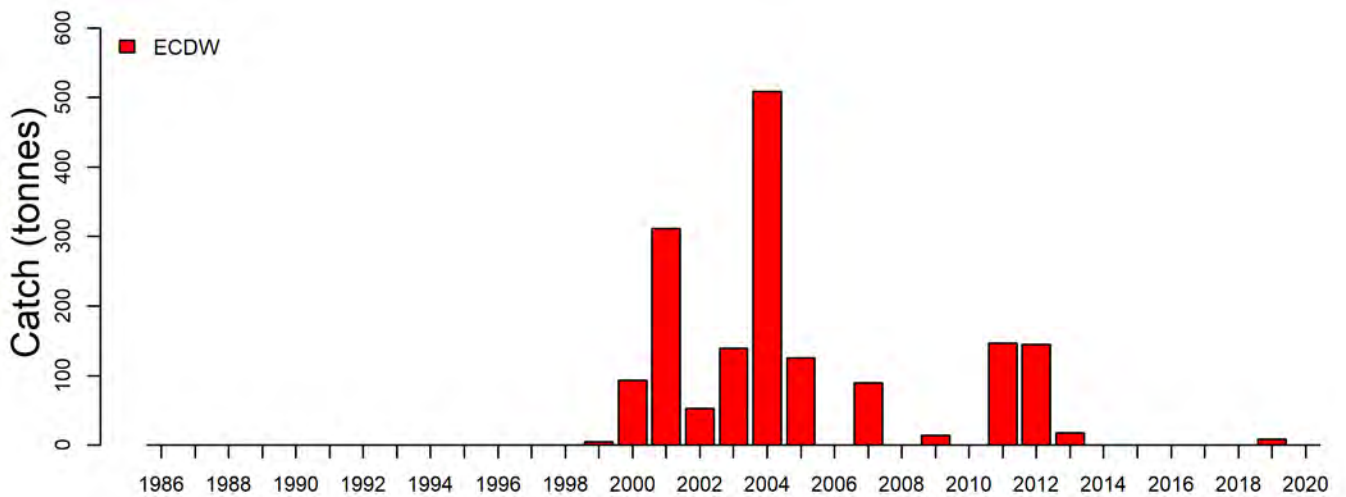


# Alfonsino

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

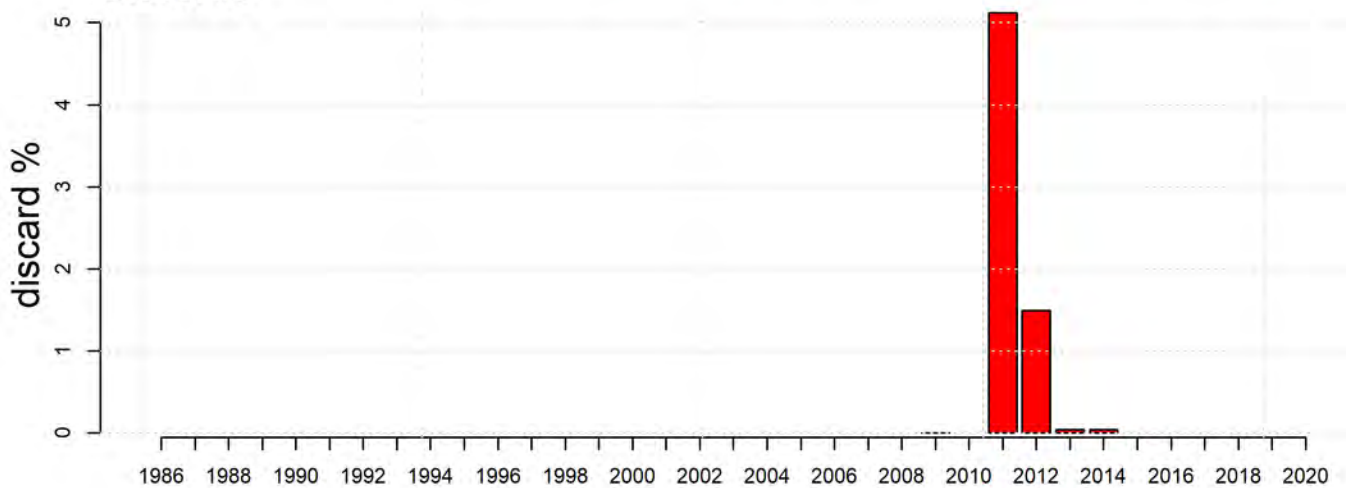


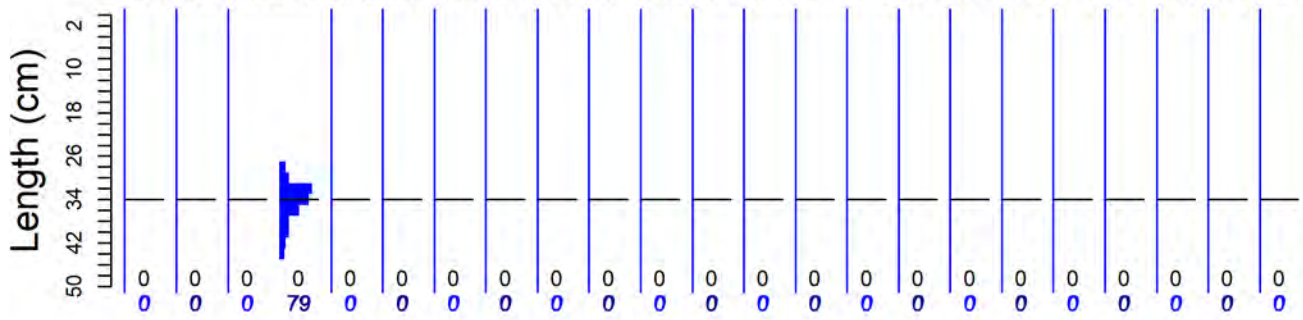
Figure 10 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Alfonsino. For more information contact AFMA on (02) 6225 5555.

# Alfonsino

Mon Aug 16 10:33:05 2021

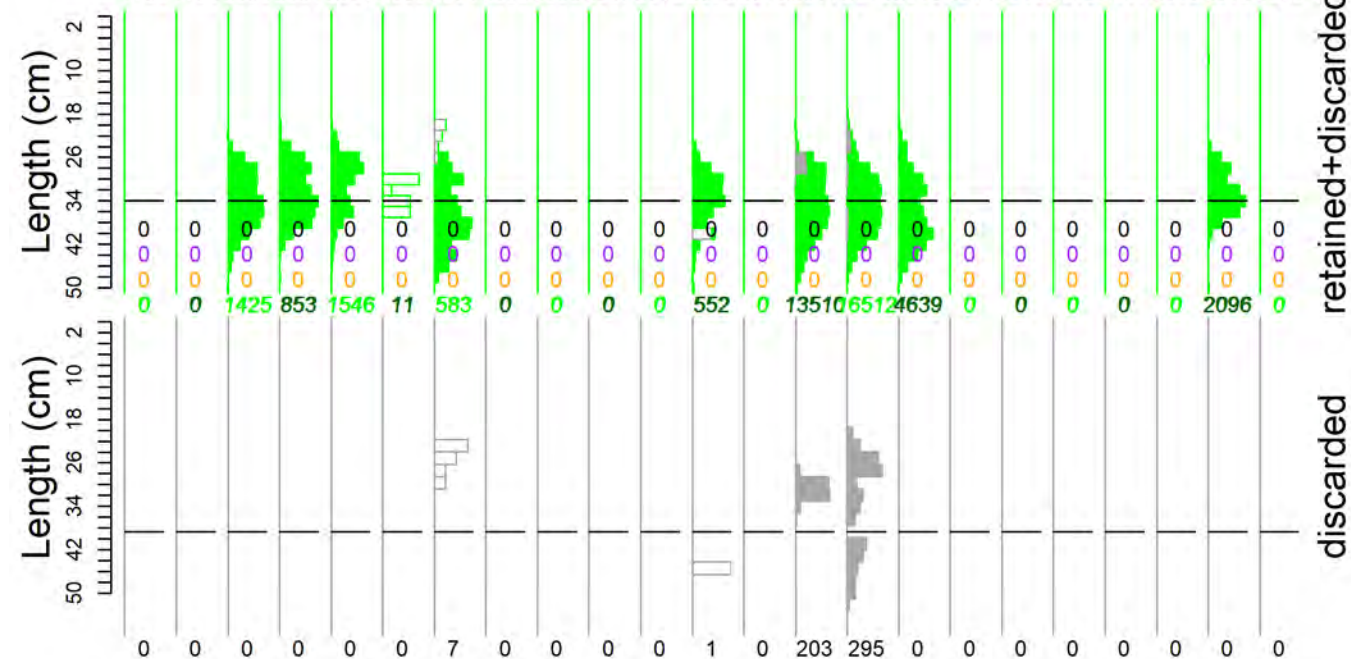
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

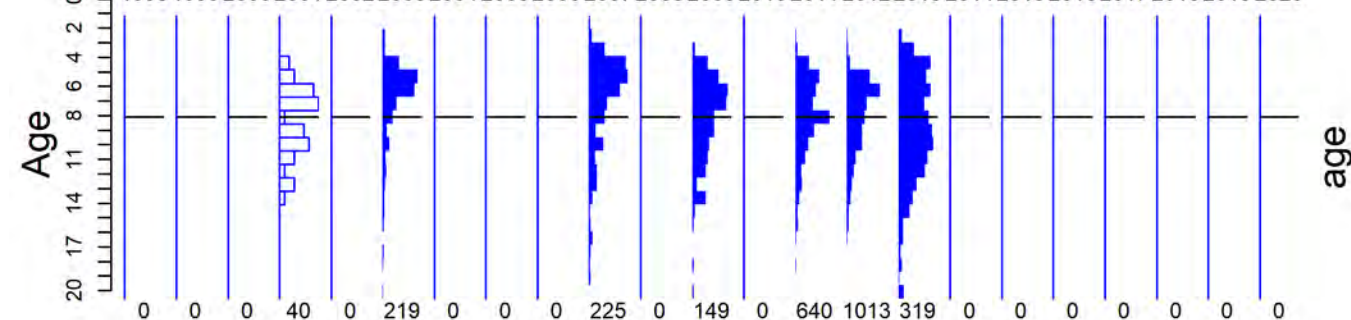


Figure 11 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Alfonsino. For more information contact AFMA on (02) 6225 5555.

# Alfonsino

# Port length data

Mon Aug 16 10:33:06 2021

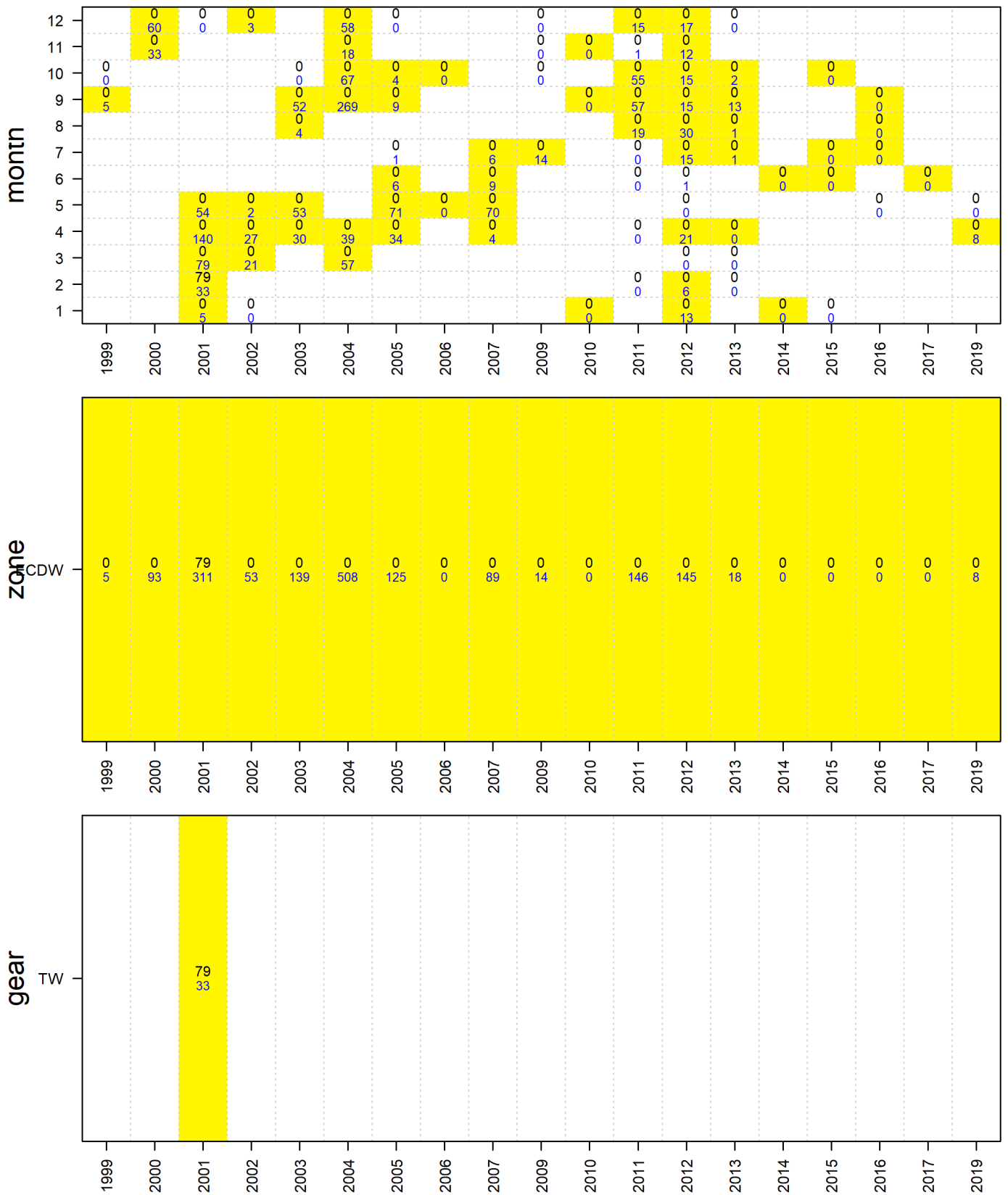


Figure 12 Port length data sampling coverage by month (top), zone (middle) and gear for Alfonsino. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Alfonsino

## Onboard discard weight data

Mon Aug 16 10:33:06 2021

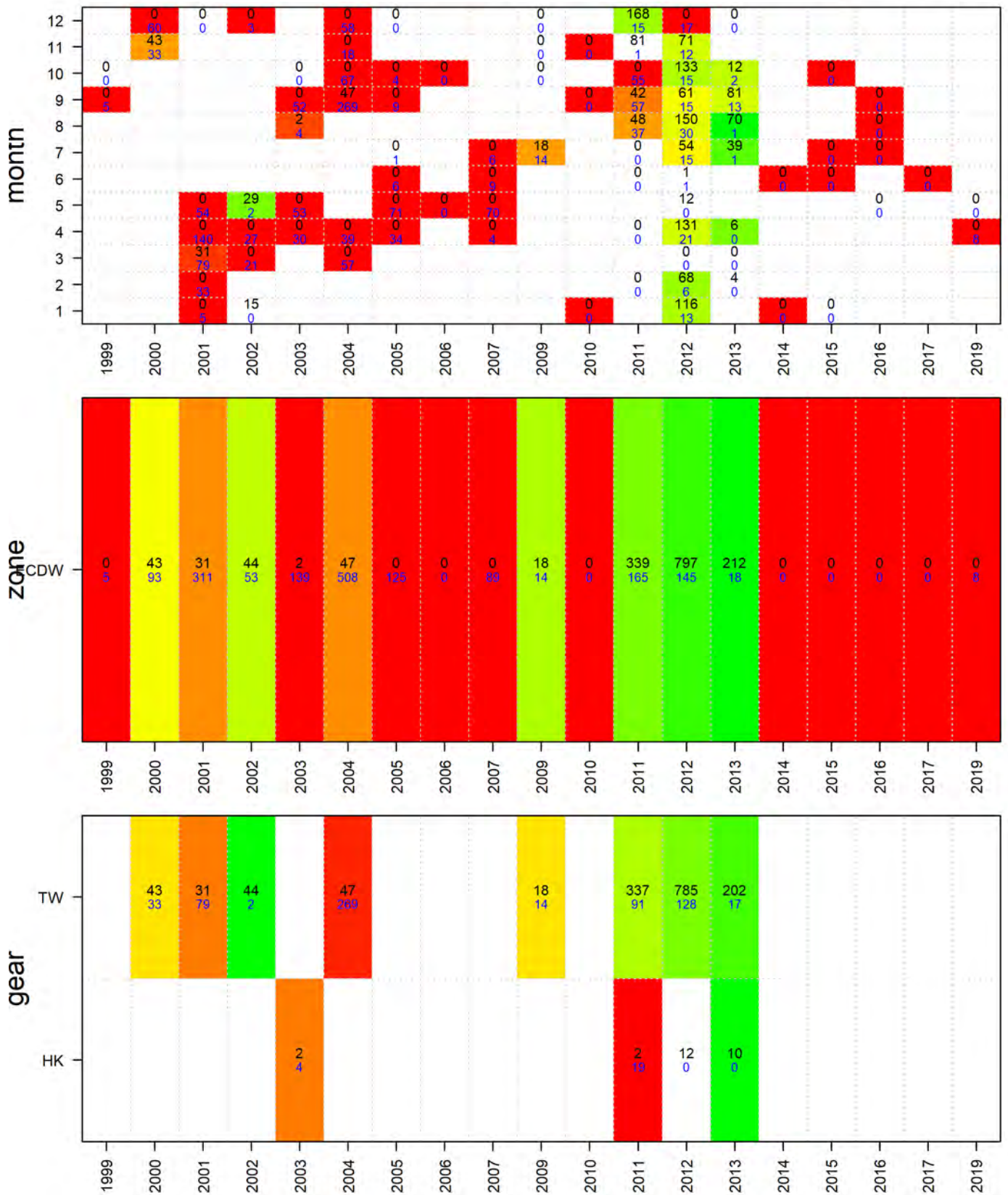


Figure 13 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Alfonsino. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Alfonsino

## Onboard length data

Mon Aug 16 10:33:07 2021

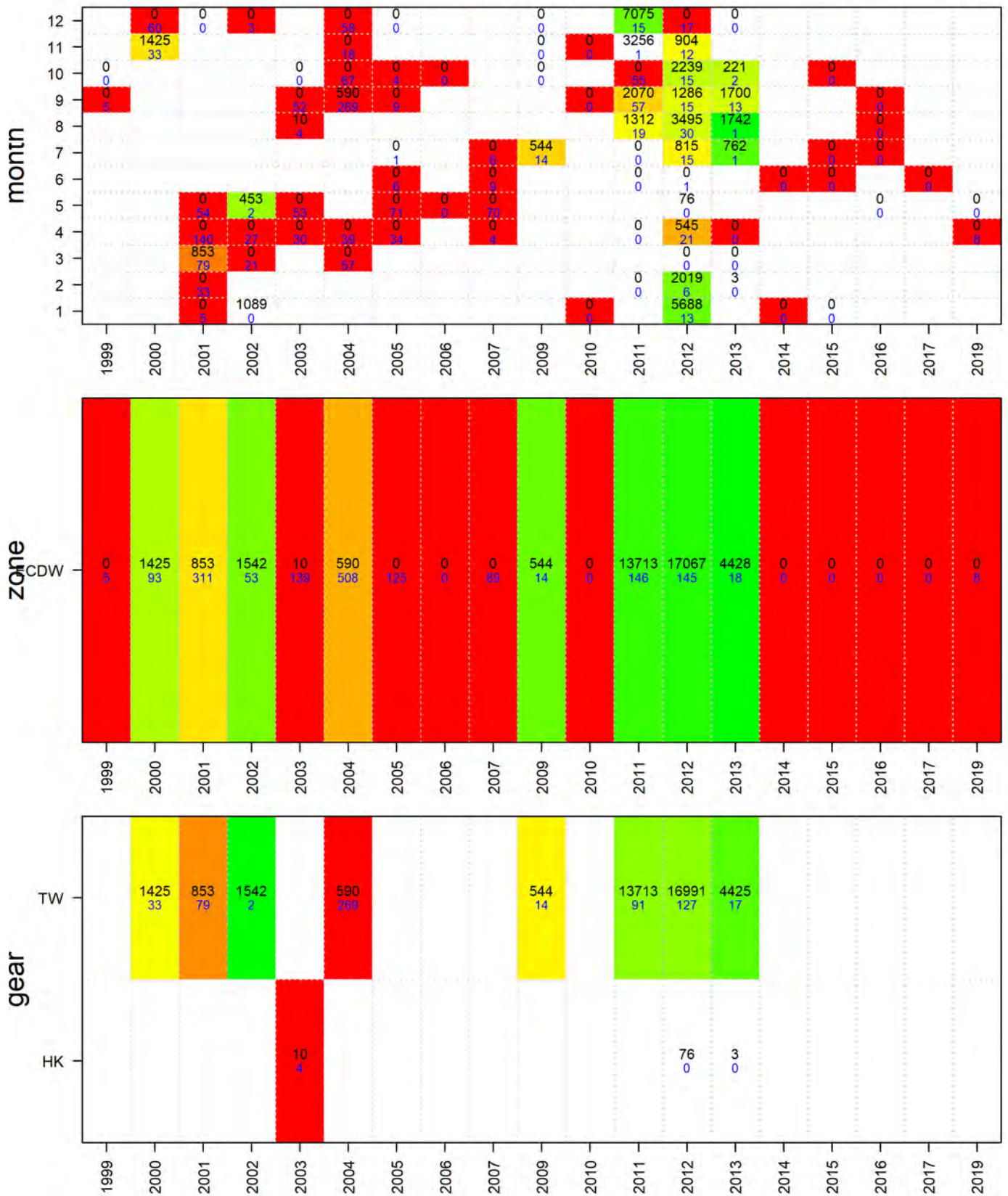


Figure 14 Onboard length data sampling coverage by month (top), zone (middle) and gear for Alfonsino. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Alfonsino

# Age data

Mon Aug 16 10:33:07 2021

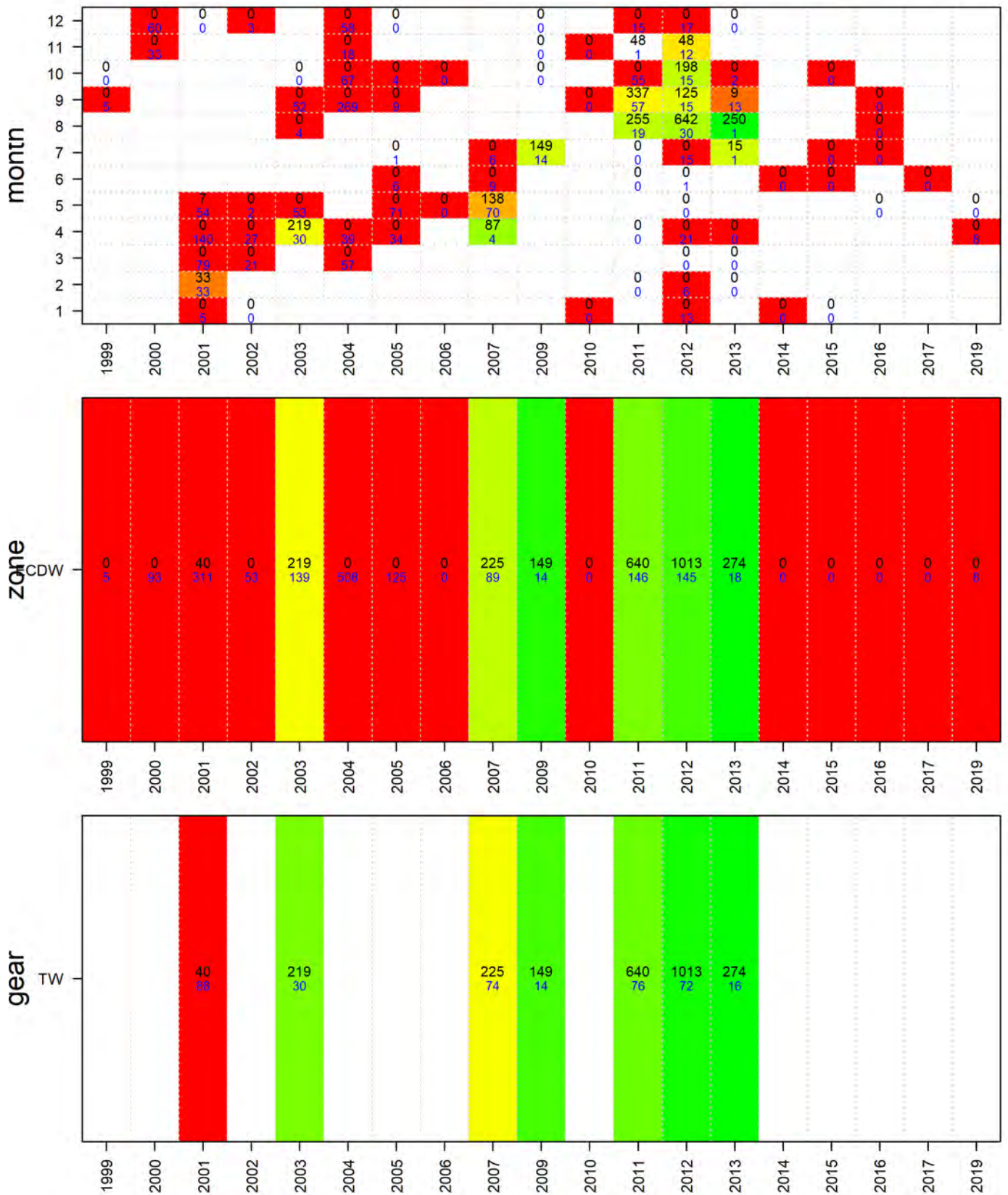
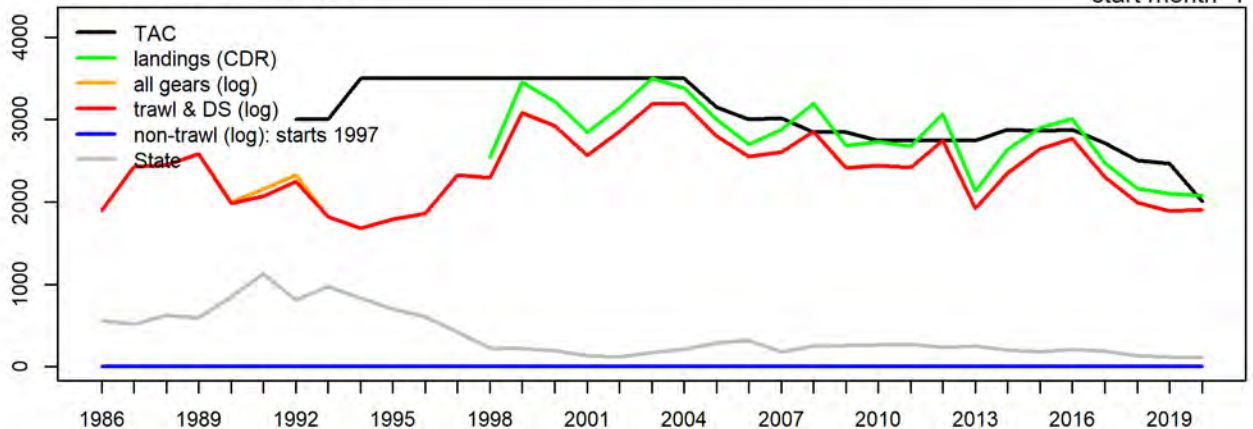


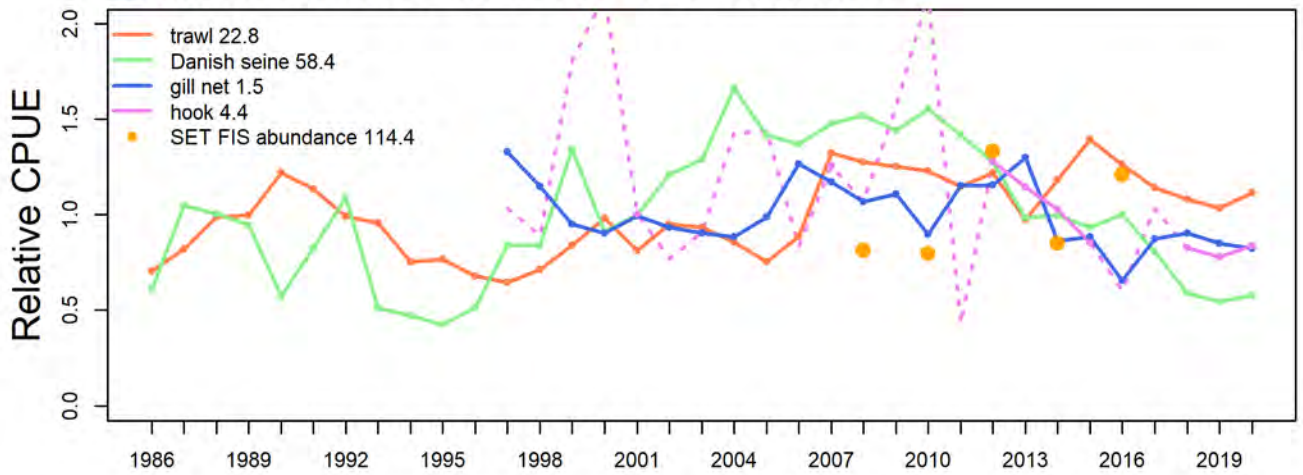
Figure 15 Age data sampling coverage by month (top), zone (middle) and gear for Alfonsino. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Flathead TAC and landings

Mon Aug 16 10:33:13 2021  
 region SET unit code FLT sa code FLT  
 37296000 37296001 37296003 37296007 37296035 37296037  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

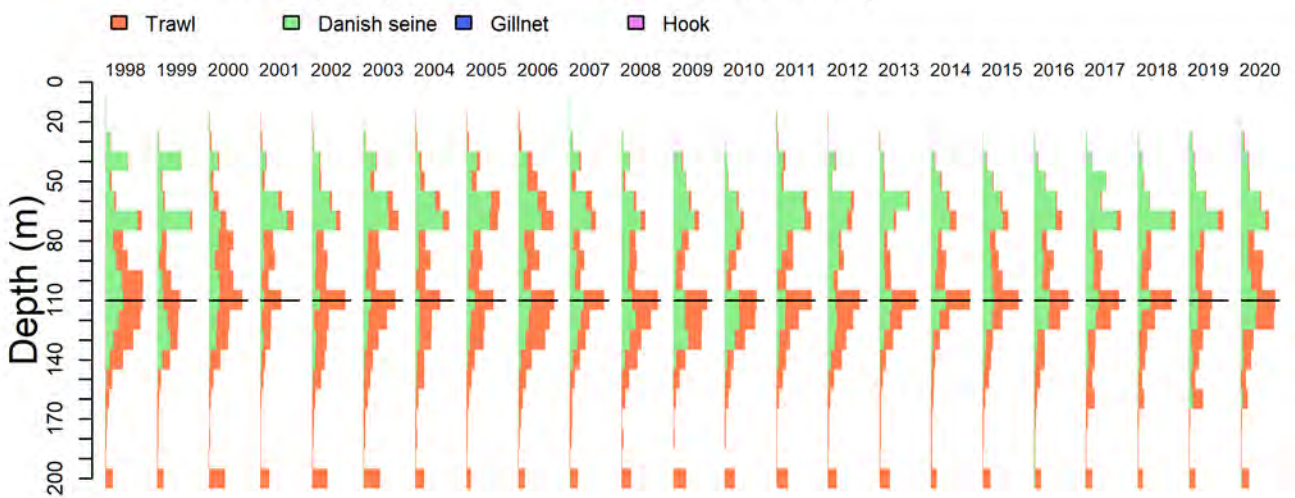
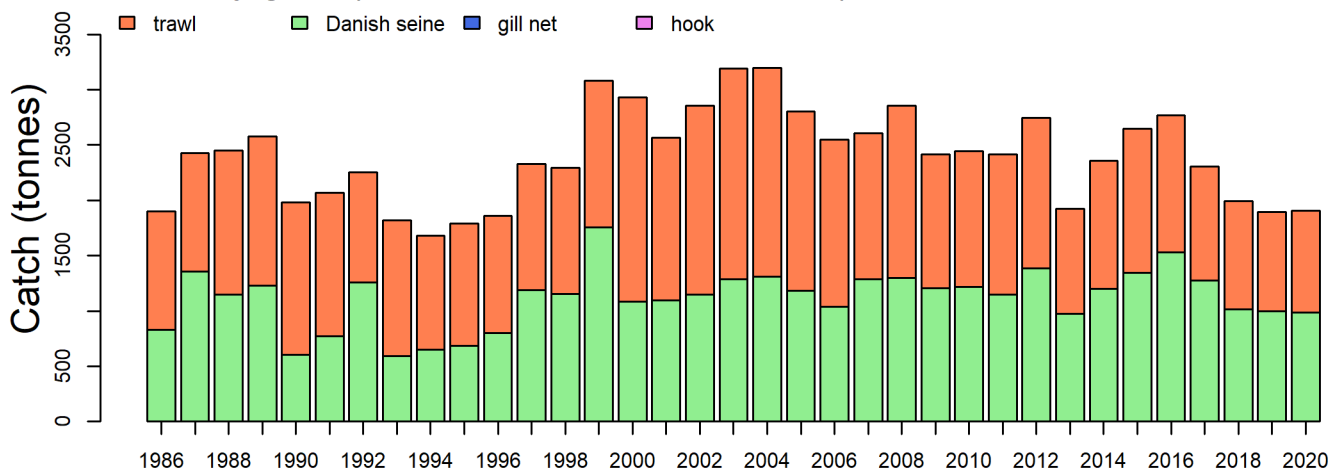


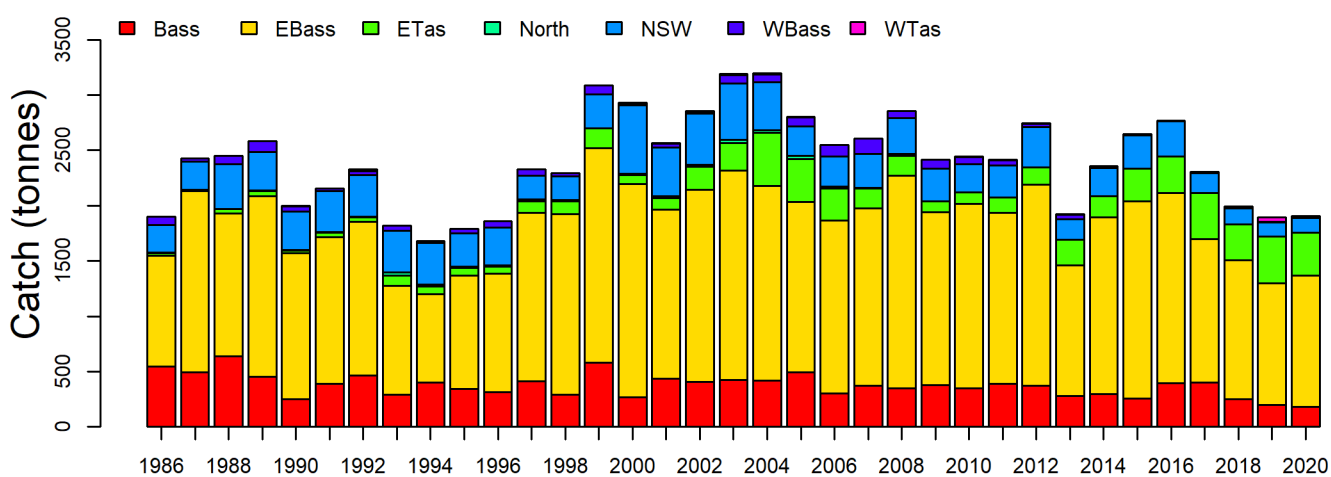
Figure 16 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Flathead. For more information contact AFMA on (02) 6225 5555.

# Flathead

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

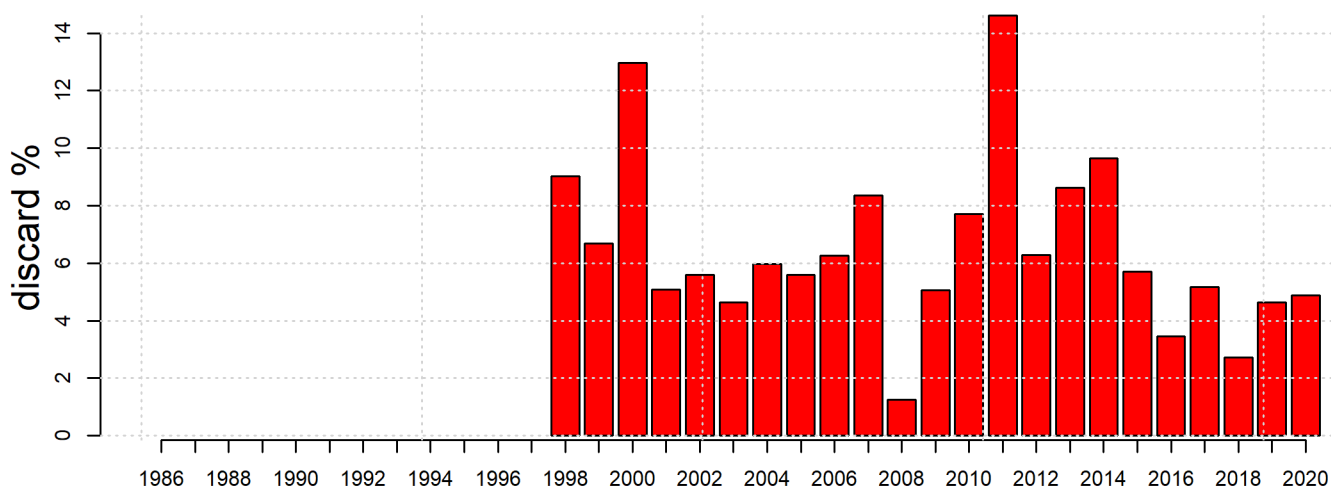


Figure 17 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Flathead. For more information contact AFMA on (02) 6225 5555.

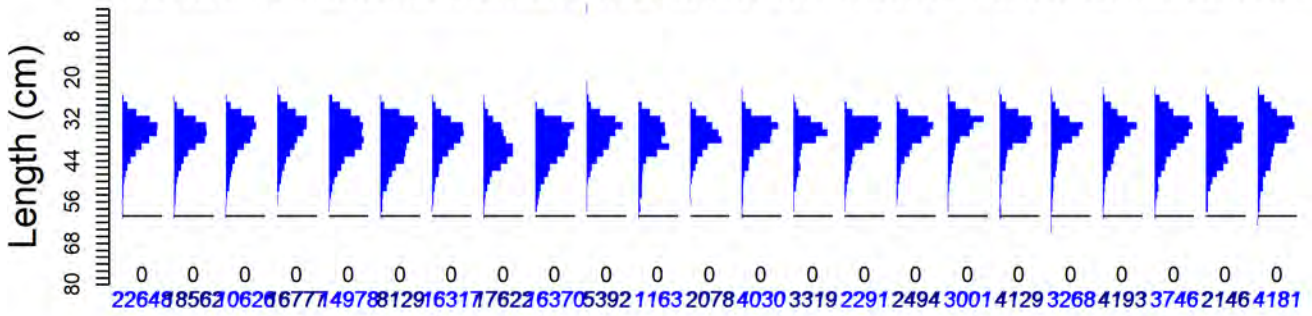


# Flathead

Mon Aug 16 10:33:22 2021

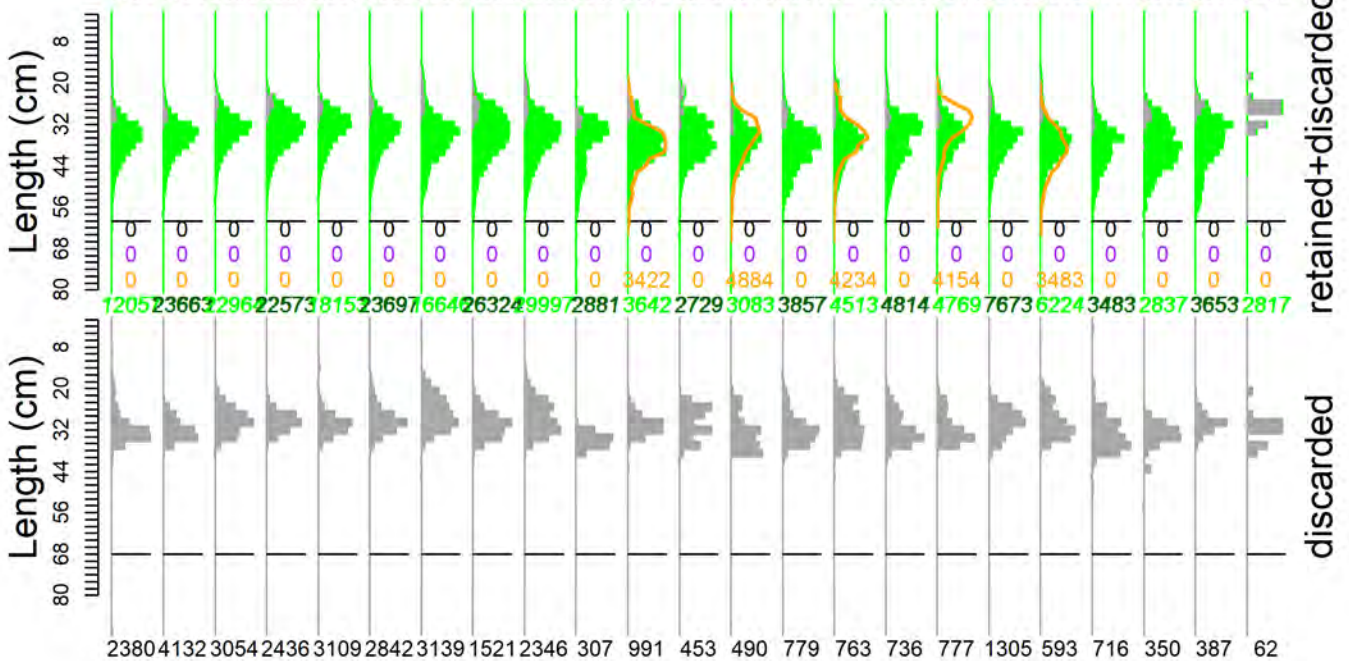
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

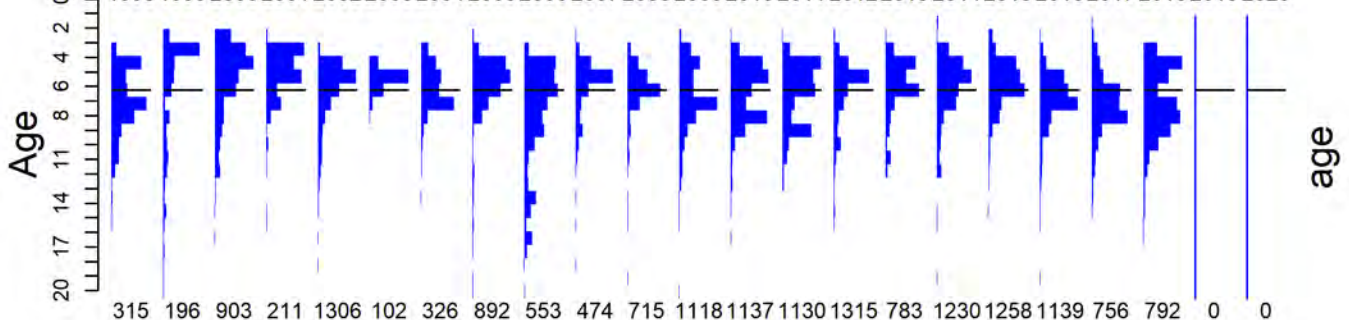


Figure 18 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Flathead. For more information contact AFMA on (02) 6225 5555.

# Flathead

# Port length data

Mon Aug 16 10:33:24 2021

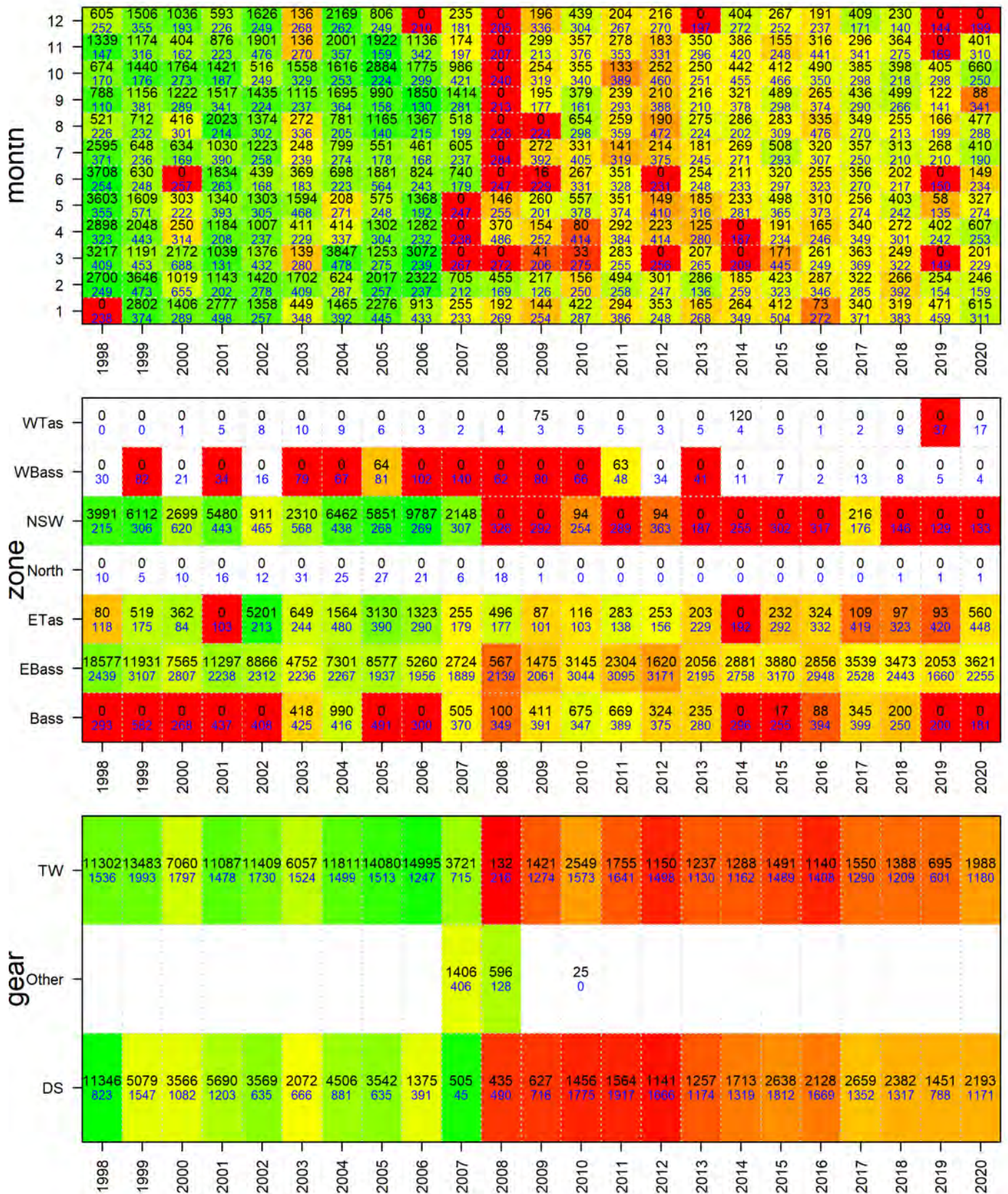


Figure 19 Port length data sampling coverage by month (top), zone (middle) and gear for Flathead. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Flathead

## Onboard discard weight data

Mon Aug 16 10:33:25 2021

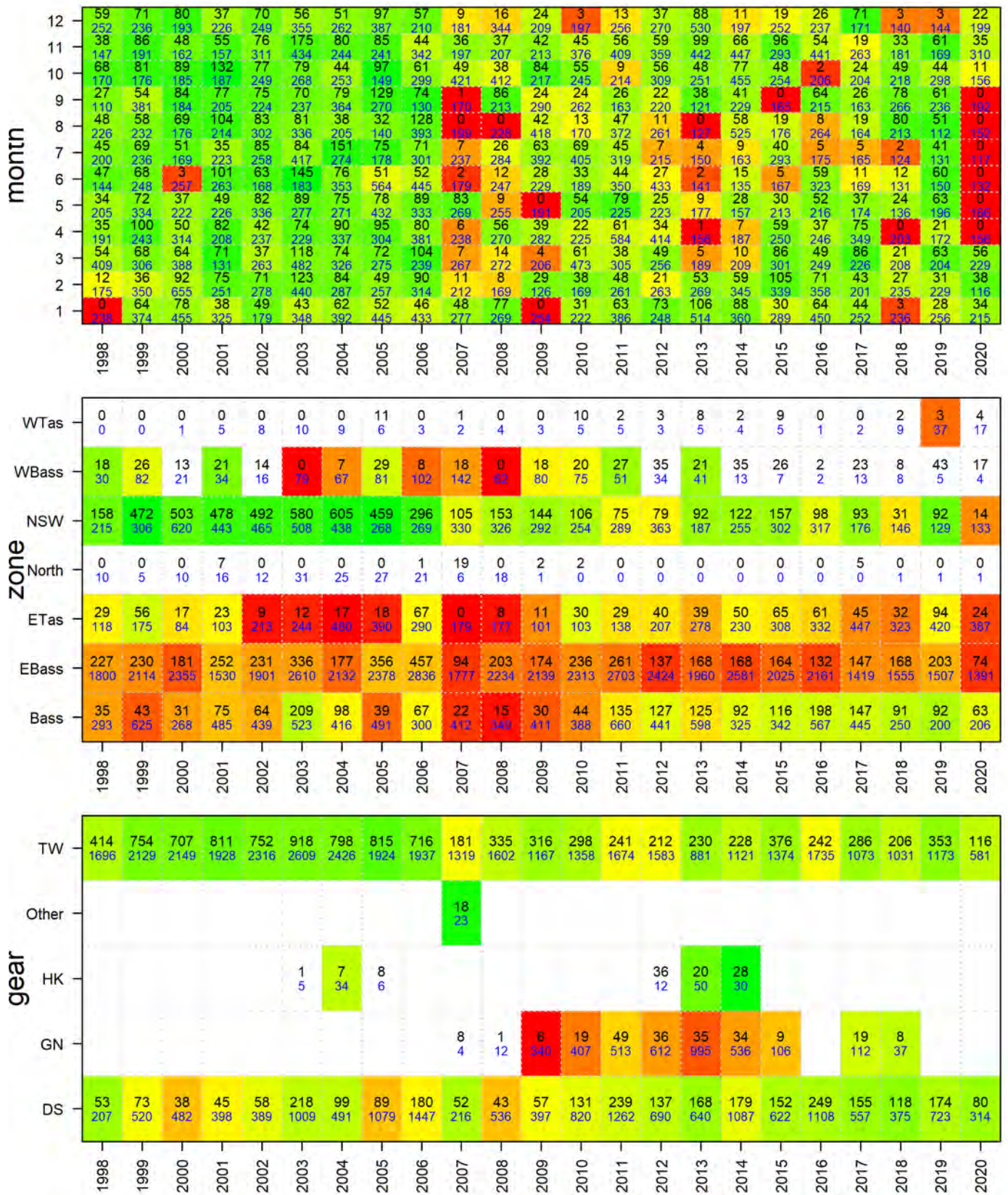


Figure 20 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Flathead. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Flathead

# Onboard length data

Mon Aug 16 10:33:25 2021

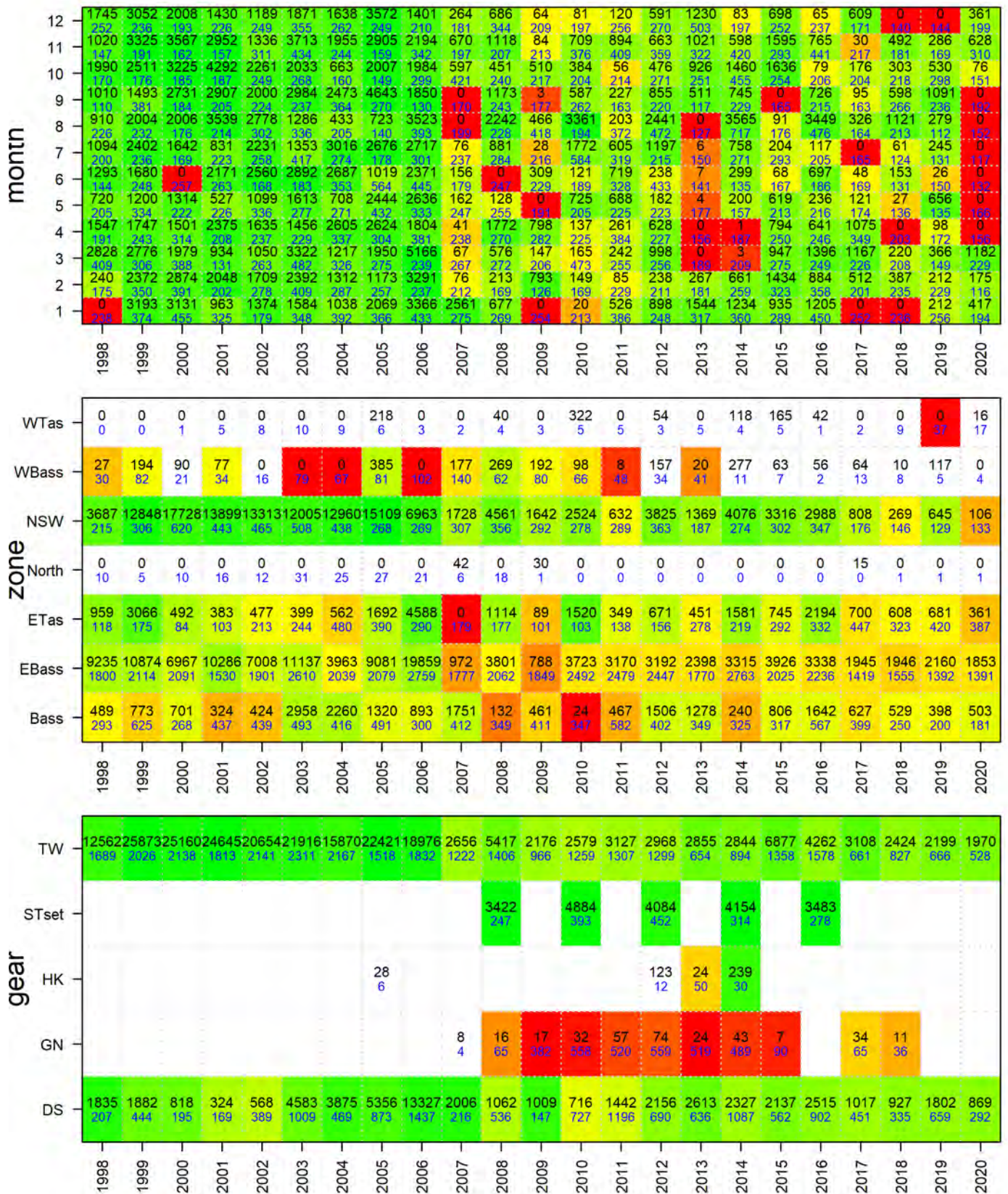


Figure 21 Onboard length data sampling coverage by month (top), zone (middle) and gear for Flathead. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Flathead

# Age data

Mon Aug 16 10:33:26 2021

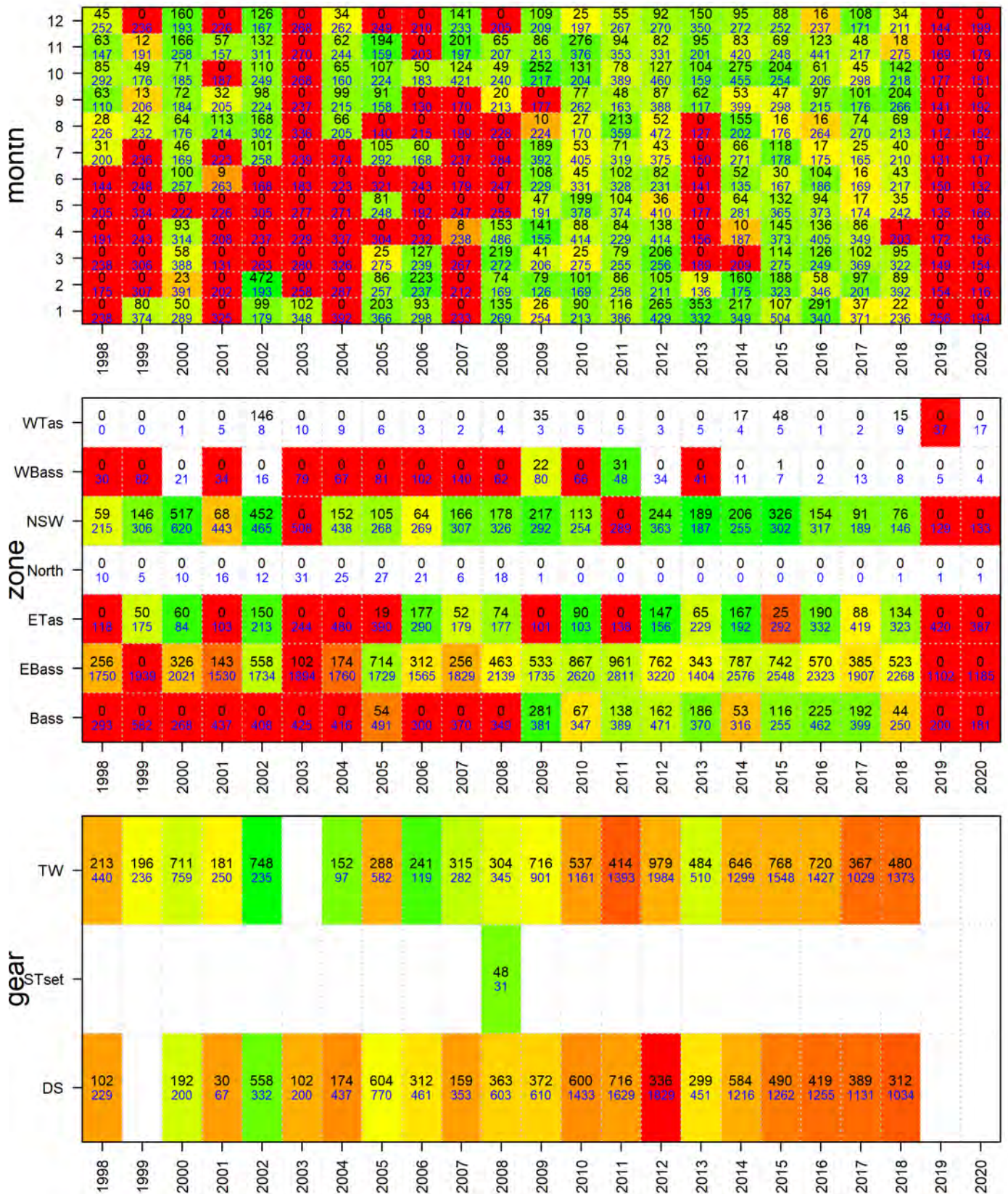
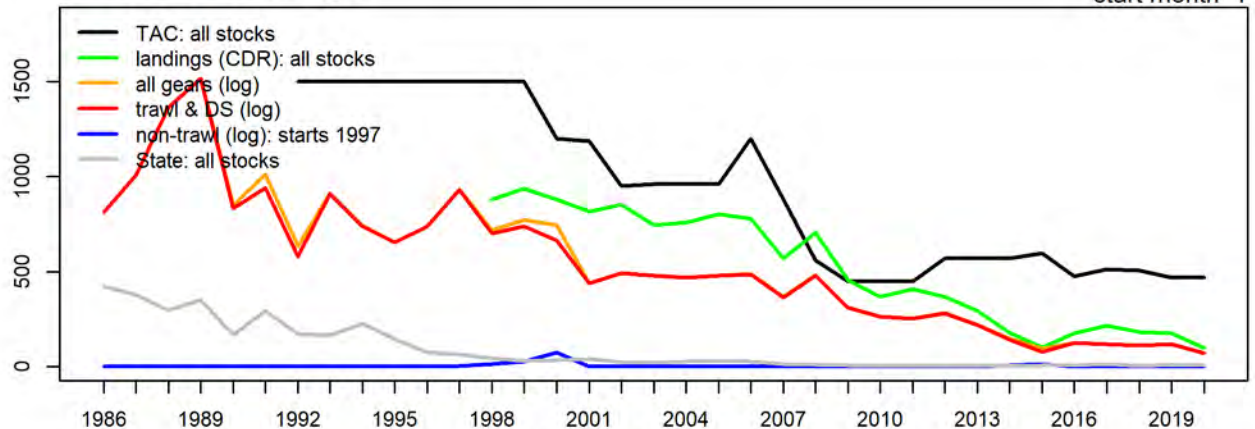


Figure 22 Age data sampling coverage by month (top), zone (middle) and gear for Flathead. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

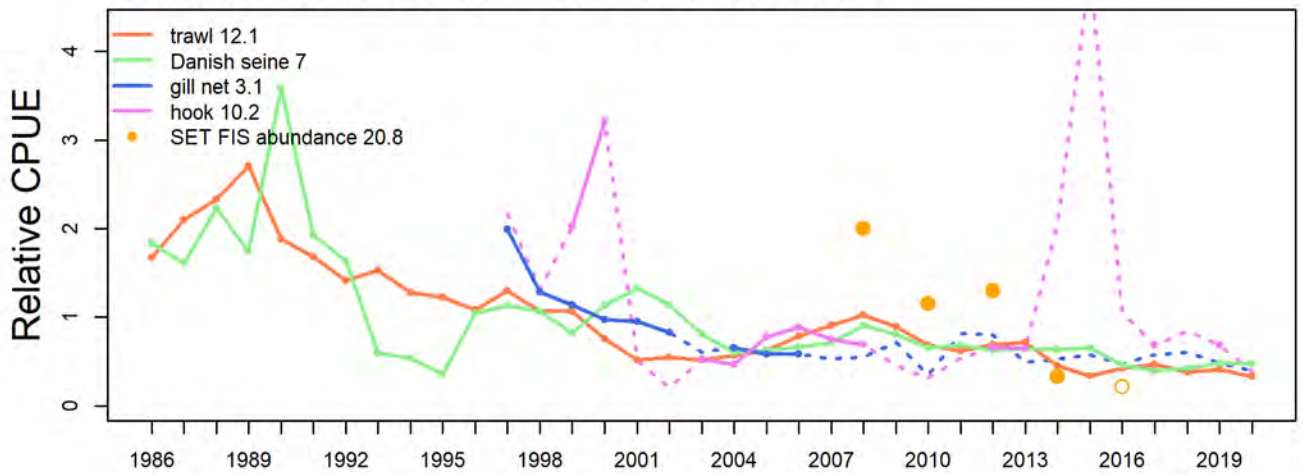
# Jackass Morwong East

## TAC and landings

Mon Aug 16 10:33:29 2021  
 region SEFEAST unit code MOW sa code MOWE  
 37377003  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

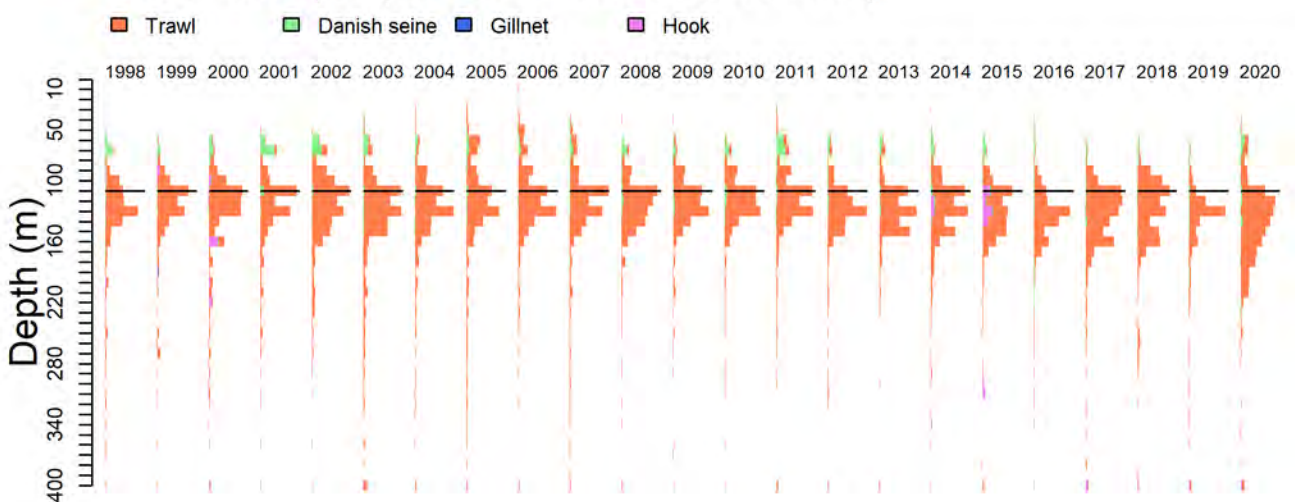
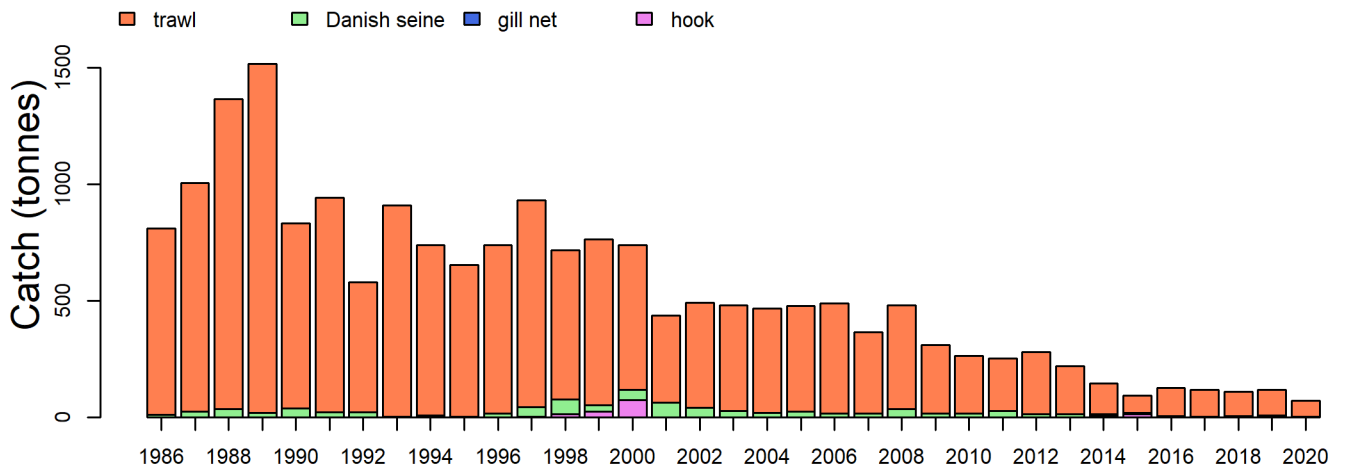


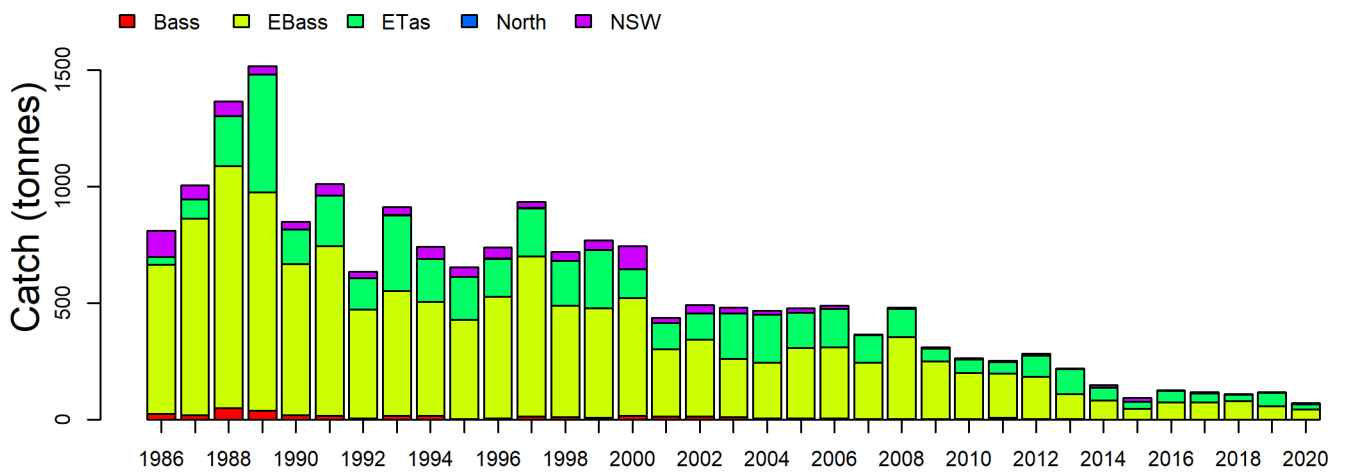
Figure 23 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Jackass Morwong East. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong East

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

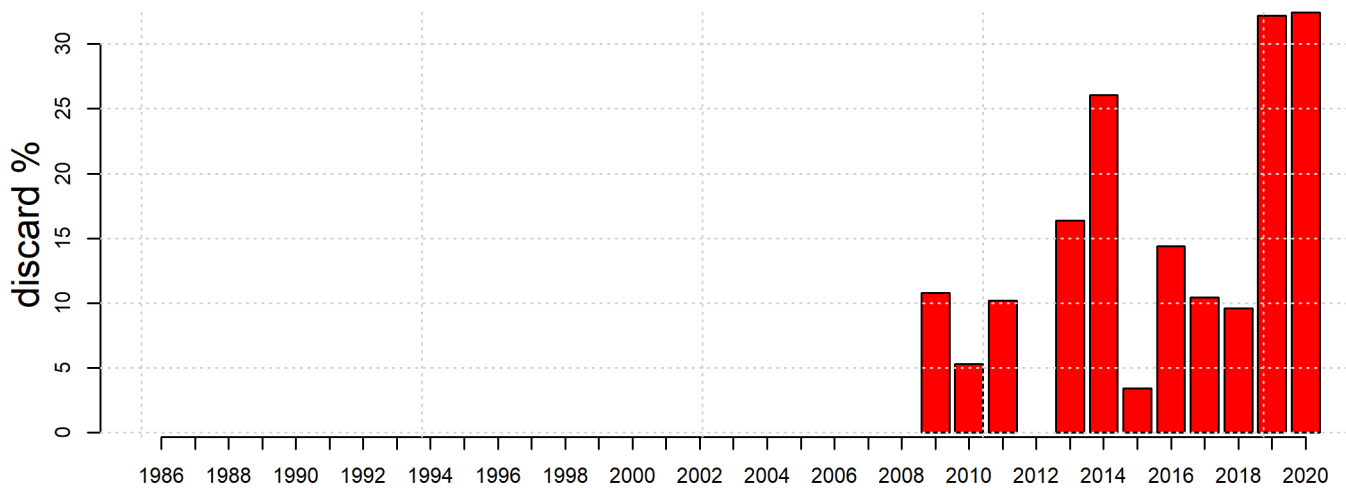


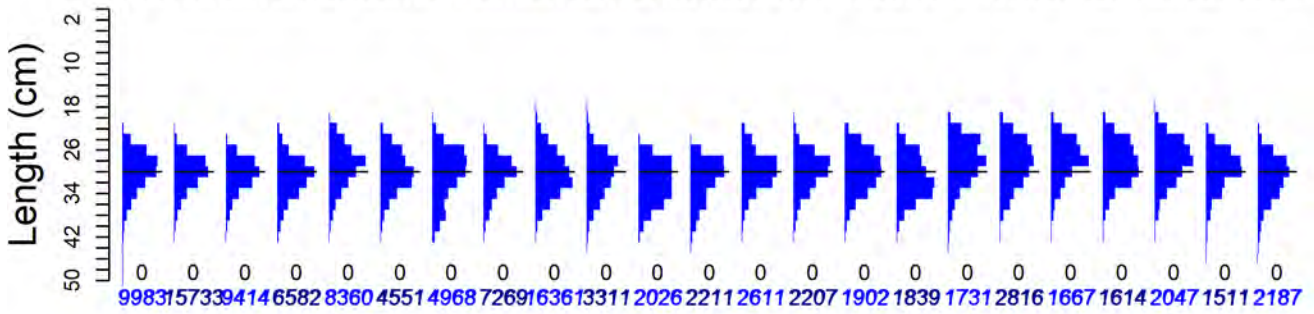
Figure 24 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Jackass Morwong East. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong East

Mon Aug 16 10:33:32 2021

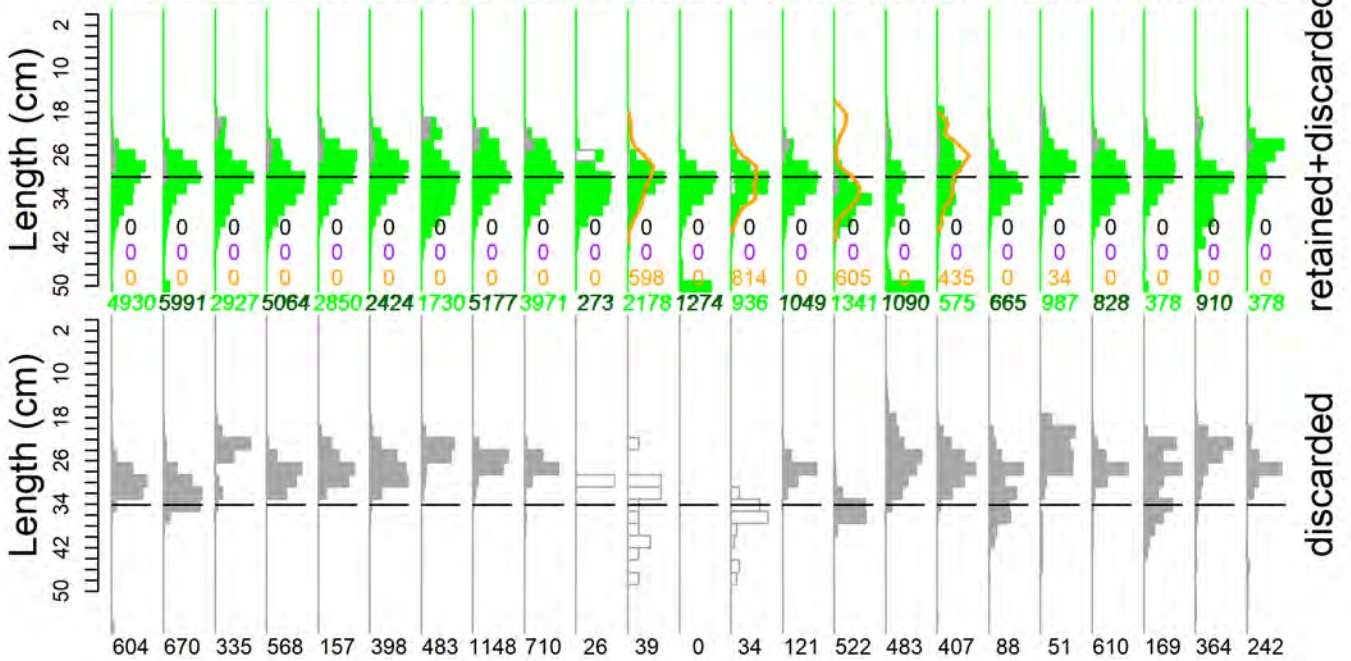
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

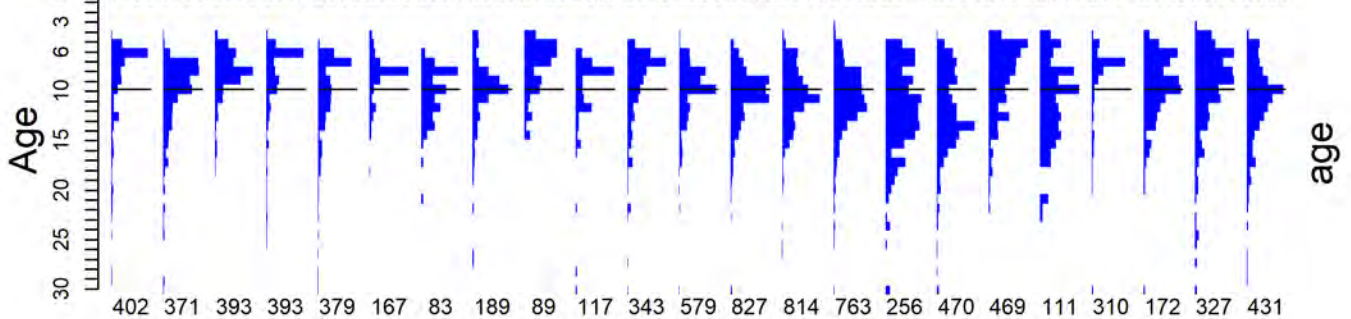


Figure 25 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Jackass Morwong East. For more information contact AFMA on (02) 6225 5555.



# Jackass Morwong East Port length data

Mon Aug 16 10:33:33 2021

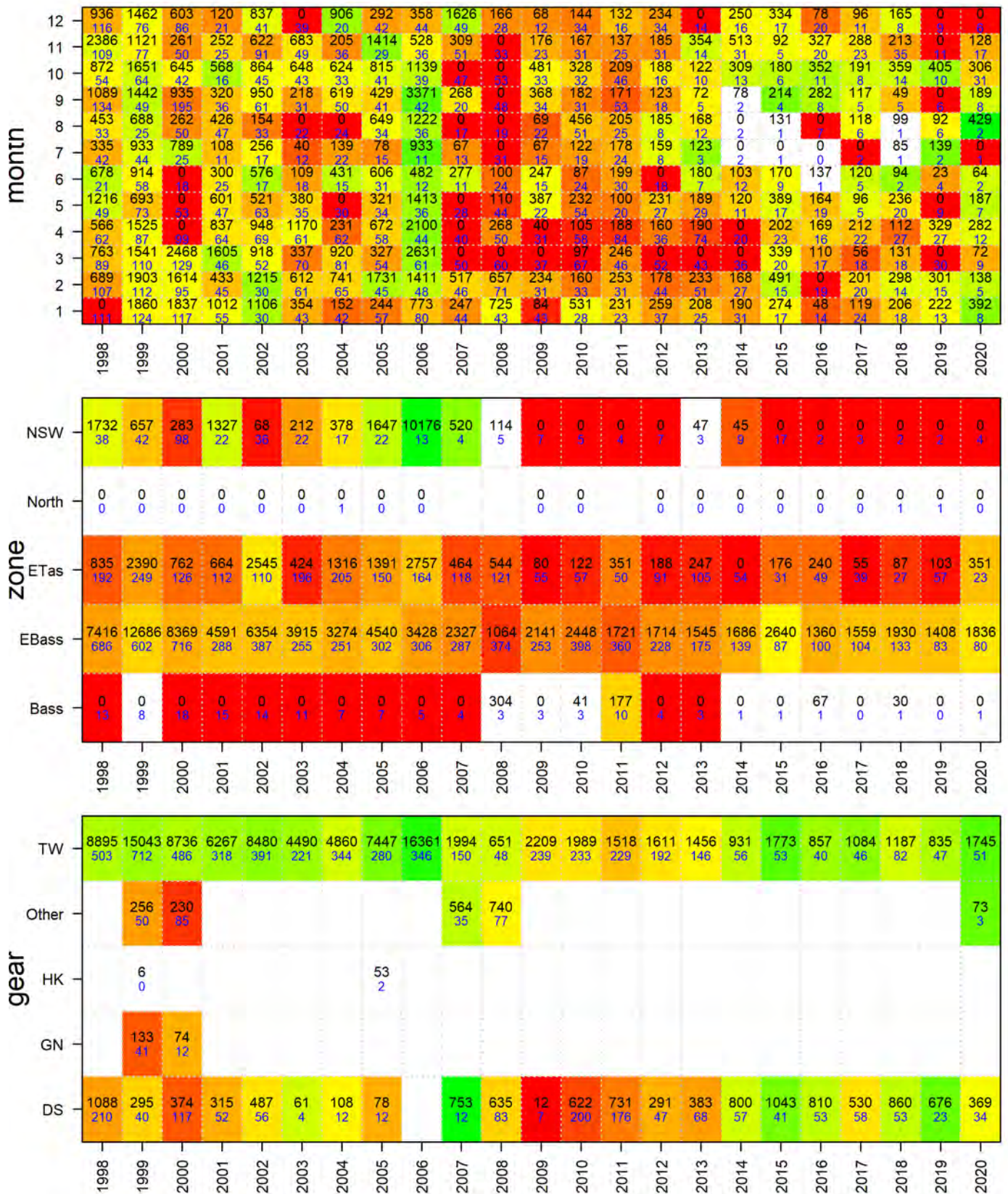


Figure 26 Port length data sampling coverage by month (top), zone (middle) and gear for Jackass Morwong East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong Eastboard discard weight data

Mon Aug 16 10:33:34 2021

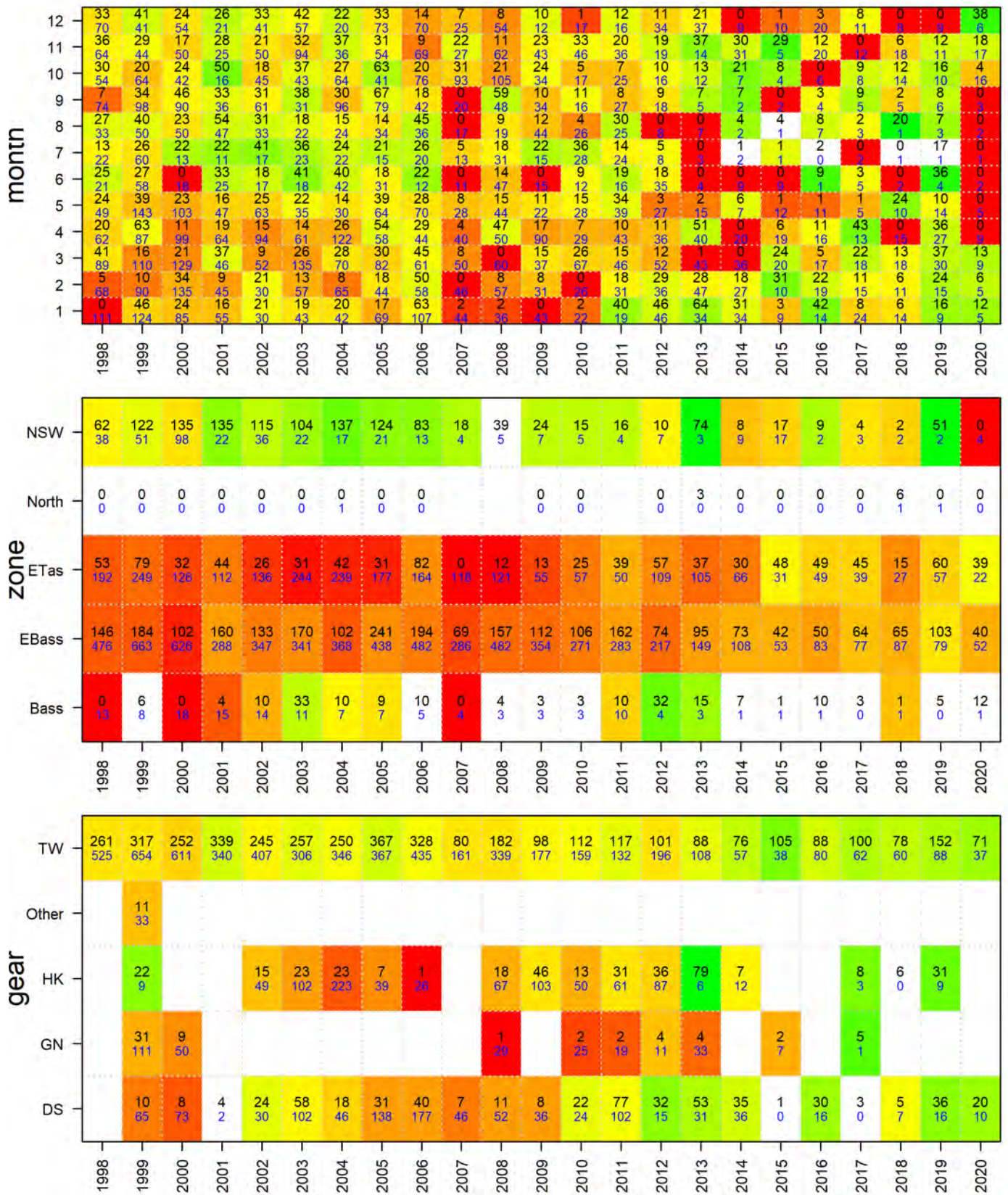


Figure 27 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Jackass Morwong East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong East Onboard length data

Mon Aug 16 10:33:35 2021

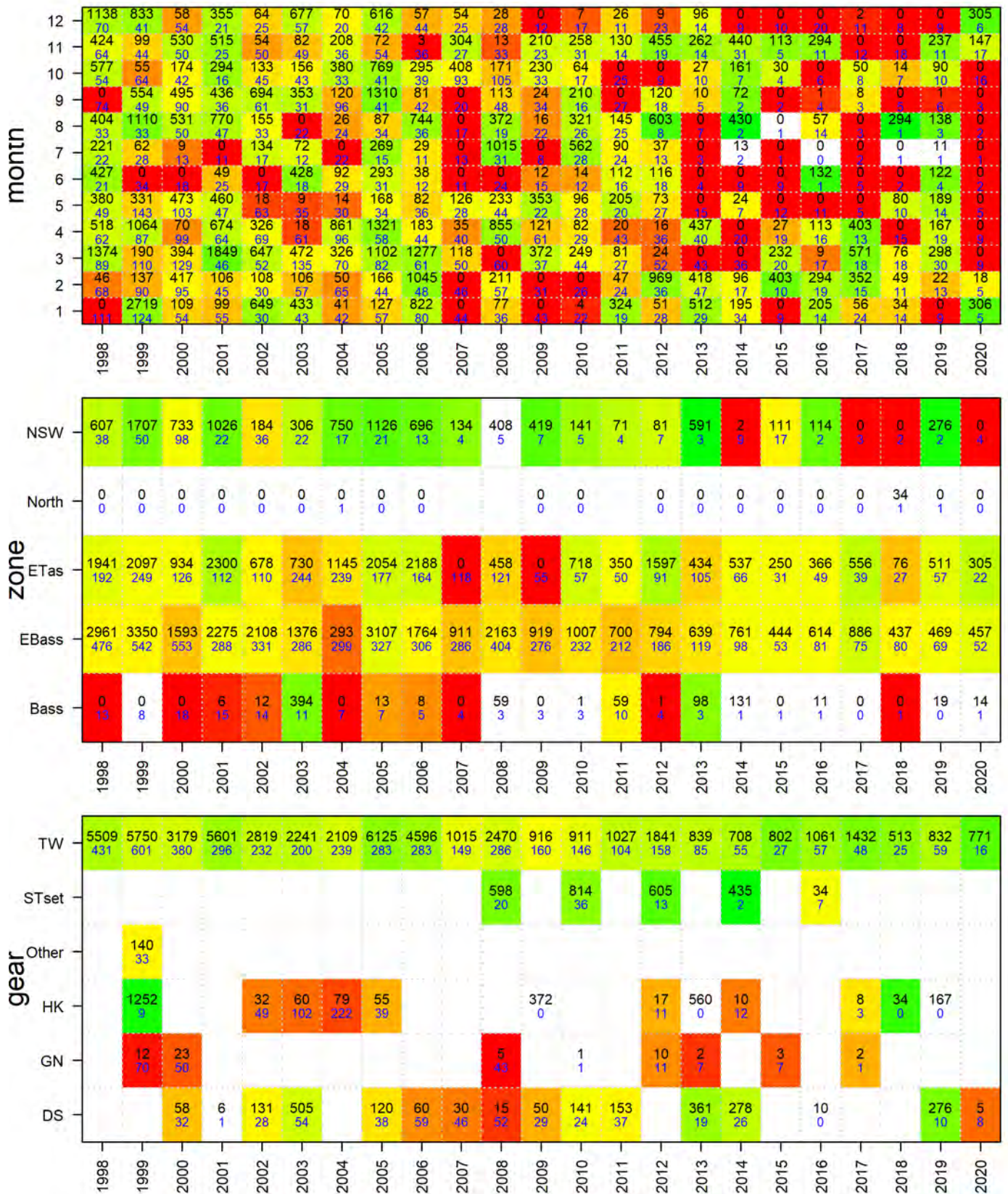


Figure 28 Onboard length data sampling coverage by month (top), zone (middle) and gear for Jackass Morwong East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong East

# Age data

Mon Aug 16 10:33:35 2021

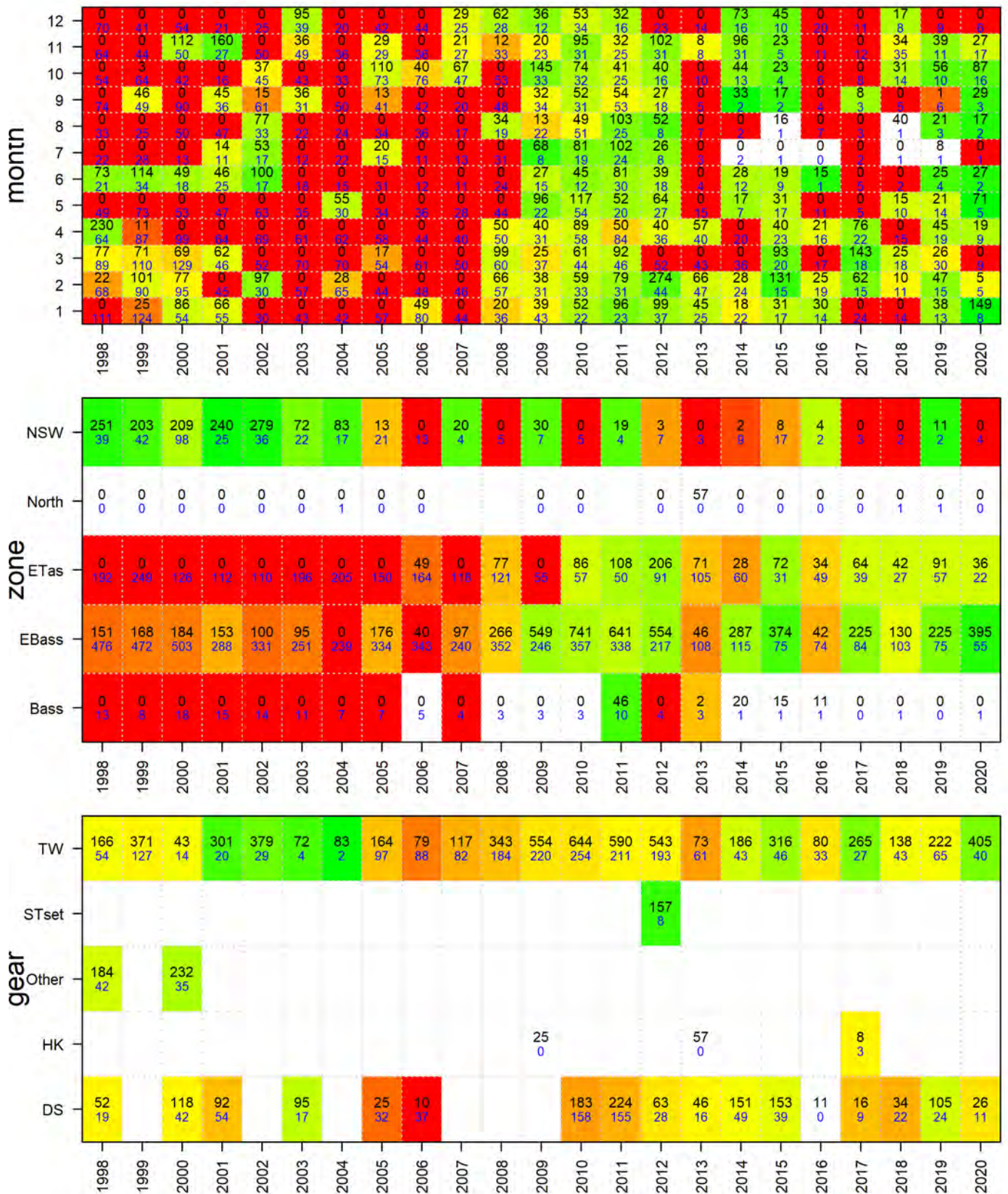
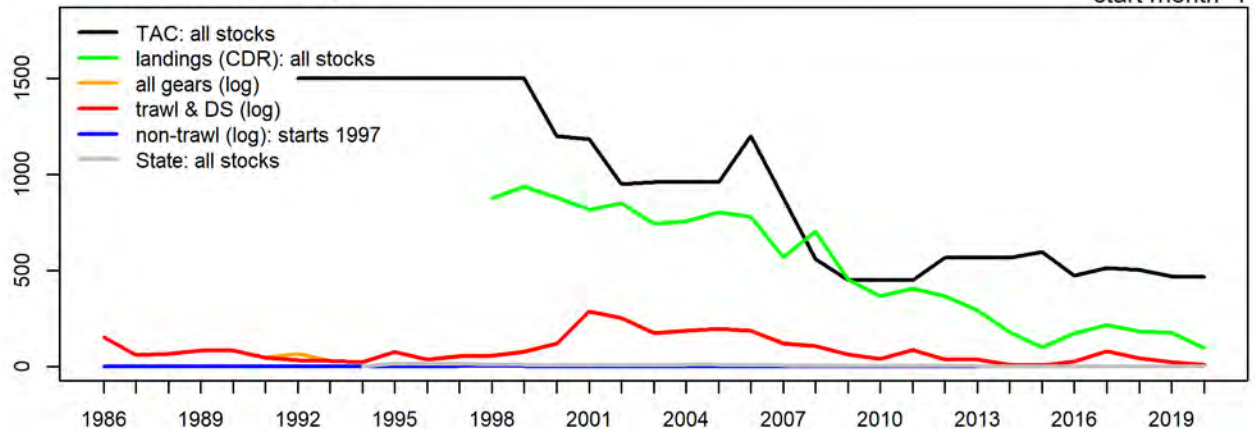


Figure 29 Age data sampling coverage by month (top), zone (middle) and gear for Jackass Morwong East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

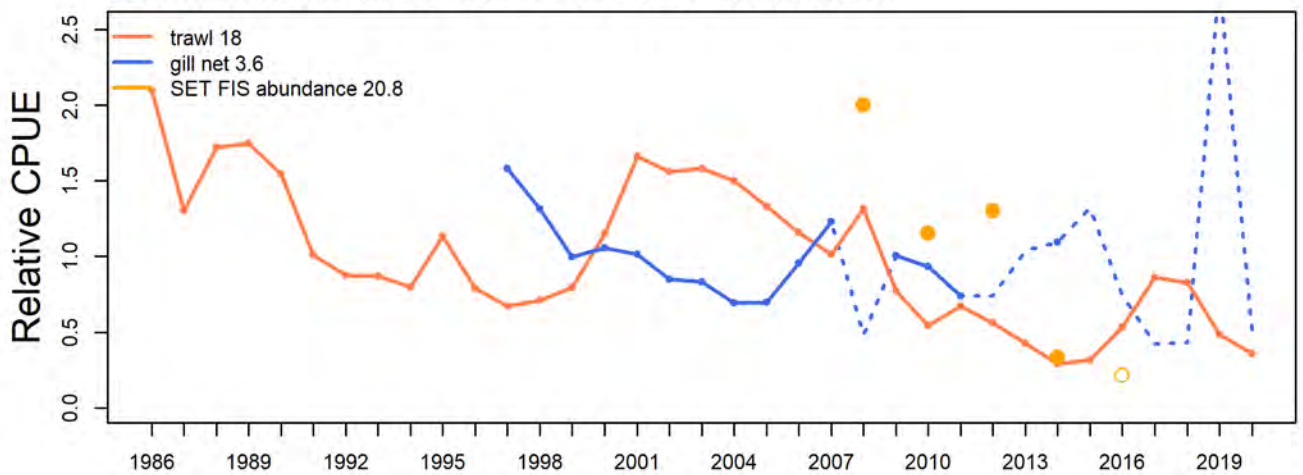
# Jackass Morwong West

## TAC and landings

Mon Aug 16 10:33:37 2021  
 region SEFWEST unit code MOW sa code MOWW  
 37377003  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

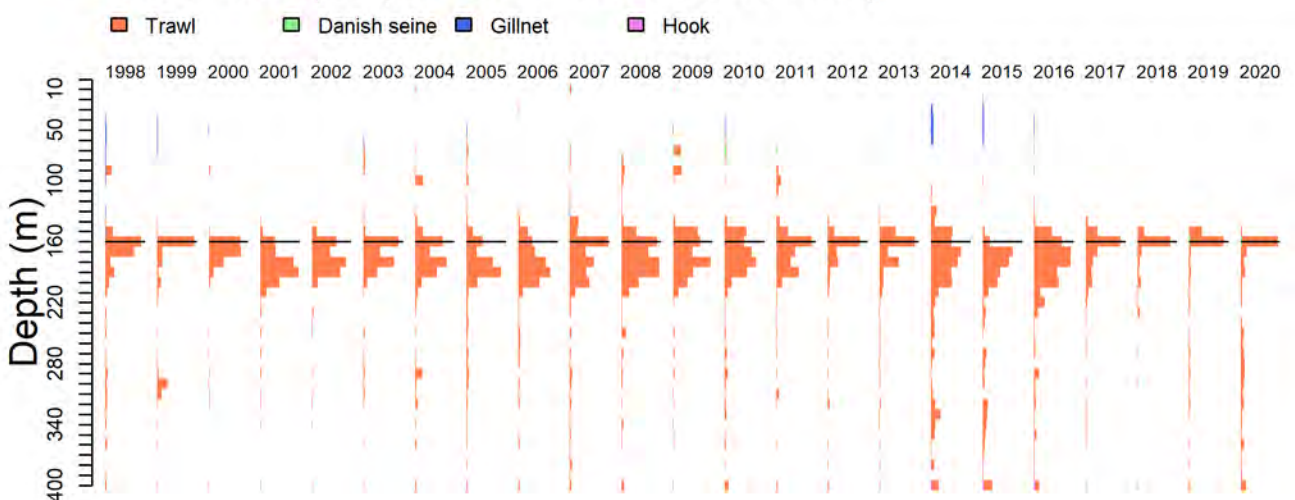
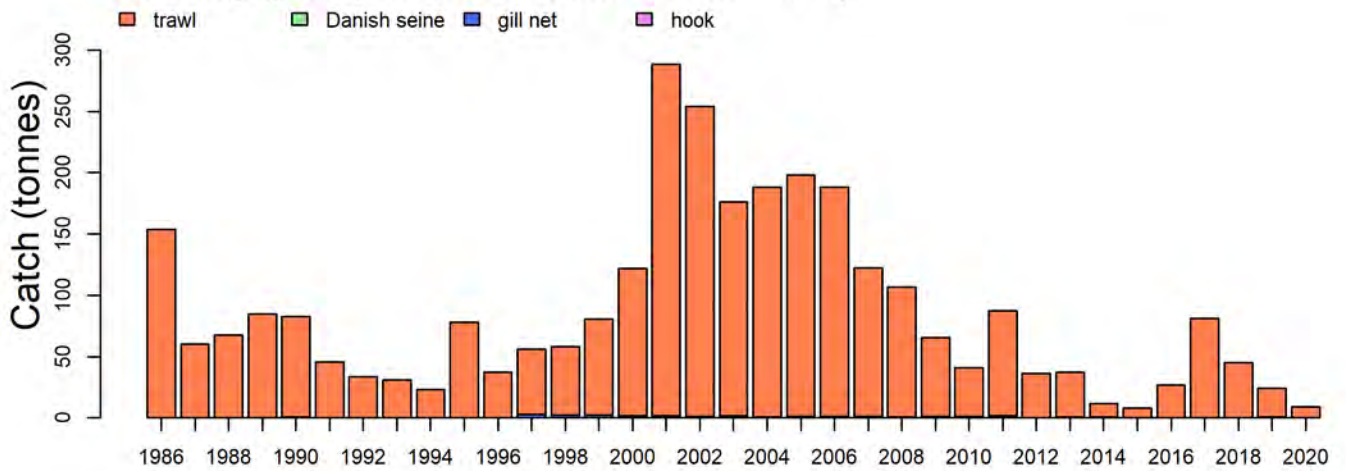


Figure 30 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Jackass Morwong West. For more information contact AFMA on (02) 6225 5555.

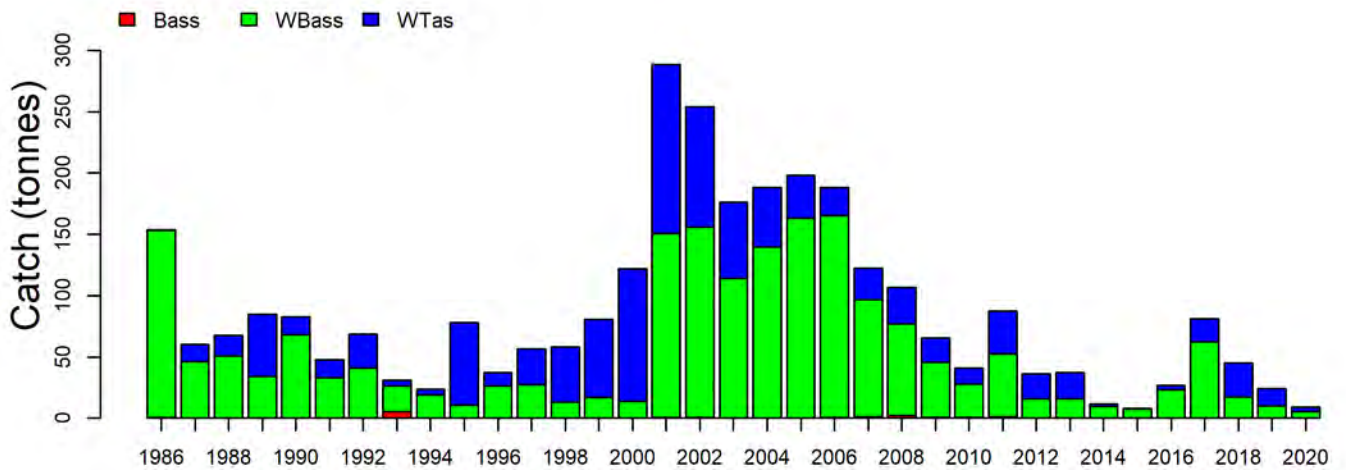
# Jackass Morwong West

## Catch by gear (non-trawl record starts 1997)

Mon Aug 16 10:33:38 2021



## Catch by zone



## Discards

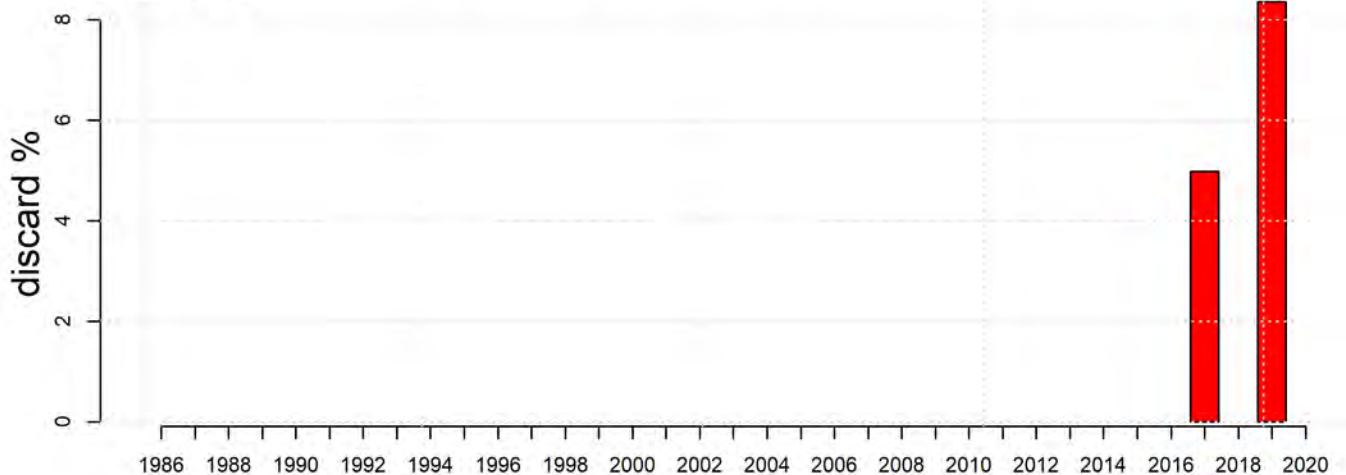


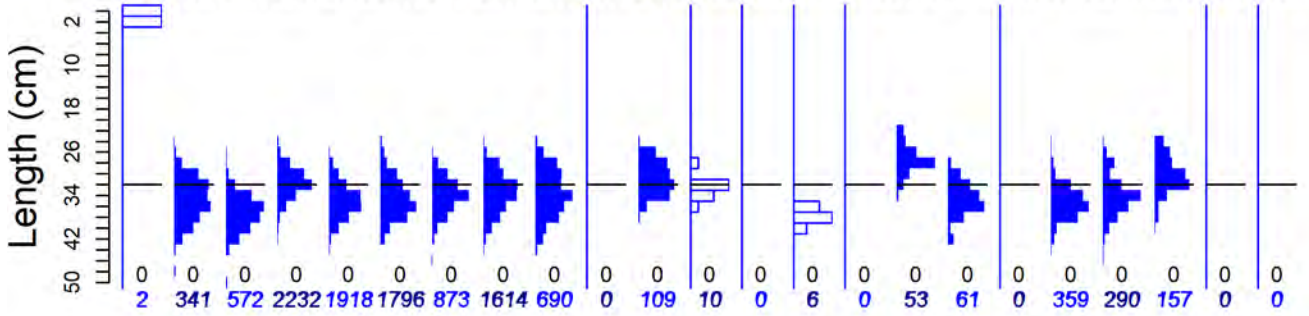
Figure 31 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Jackass Morwong West. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong West

Mon Aug 16 10:33:38 2021

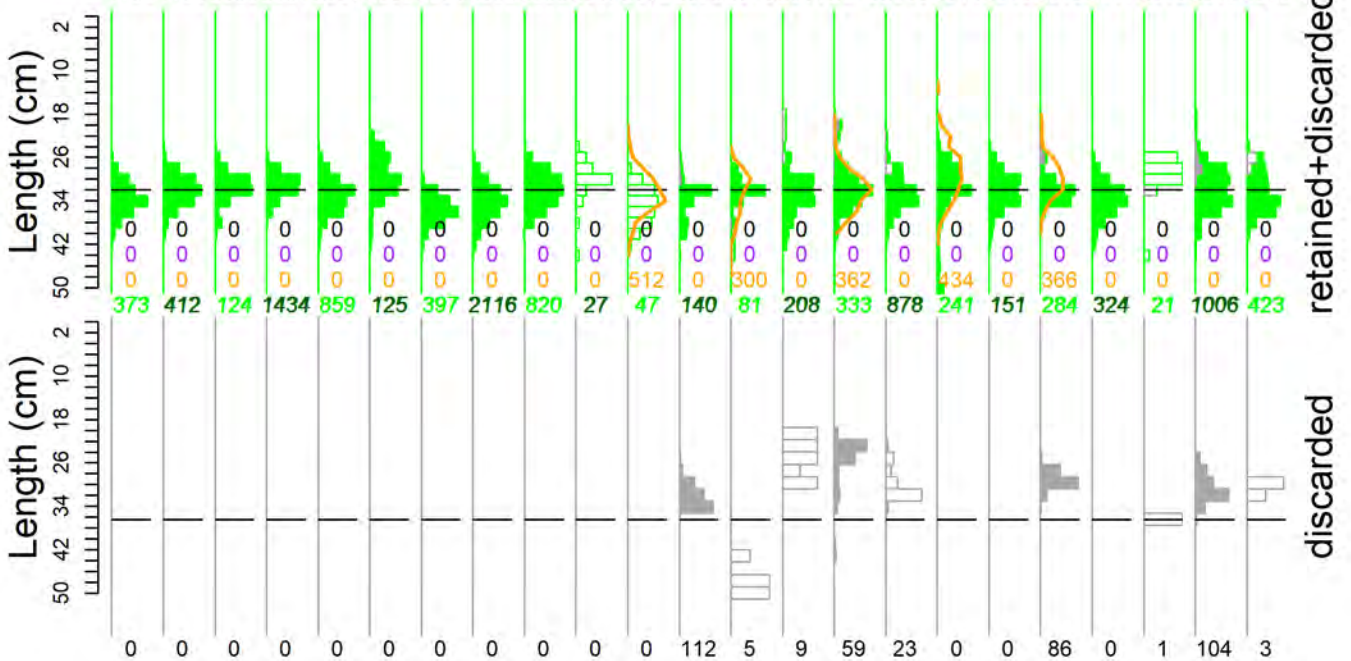
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

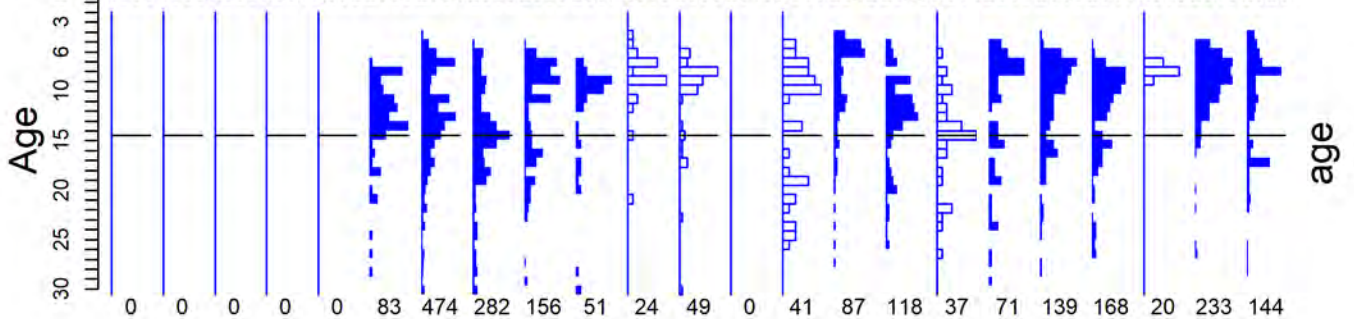


Figure 32 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Jackass Morwong West. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong West Port length data

Mon Aug 16 10:33:39 2021

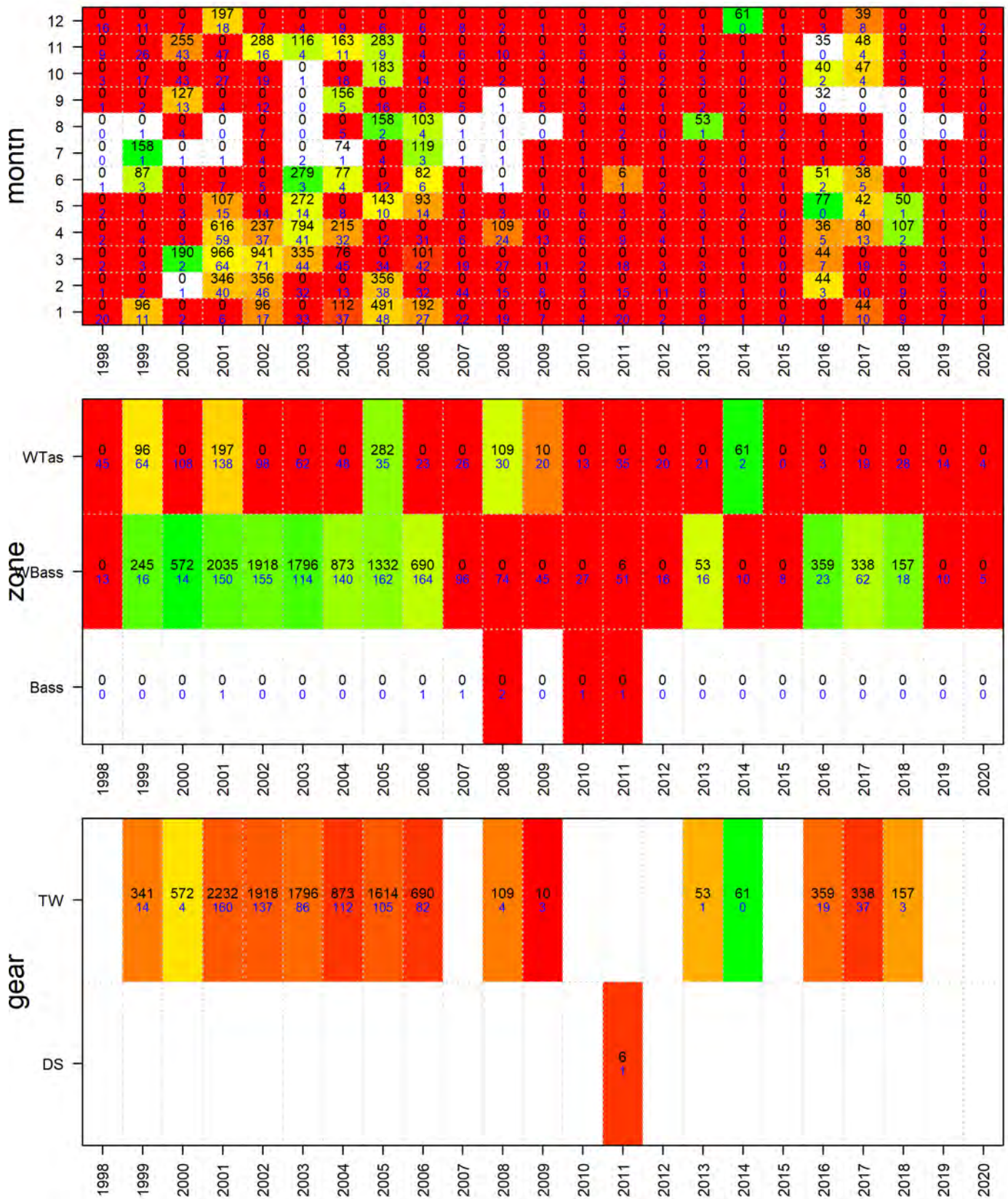


Figure 33 Port length data sampling coverage by month (top), zone (middle) and gear for Jackass Morwong West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Jackass Morwong Westboard discard weight data

Mon Aug 16 10:33:40 2021

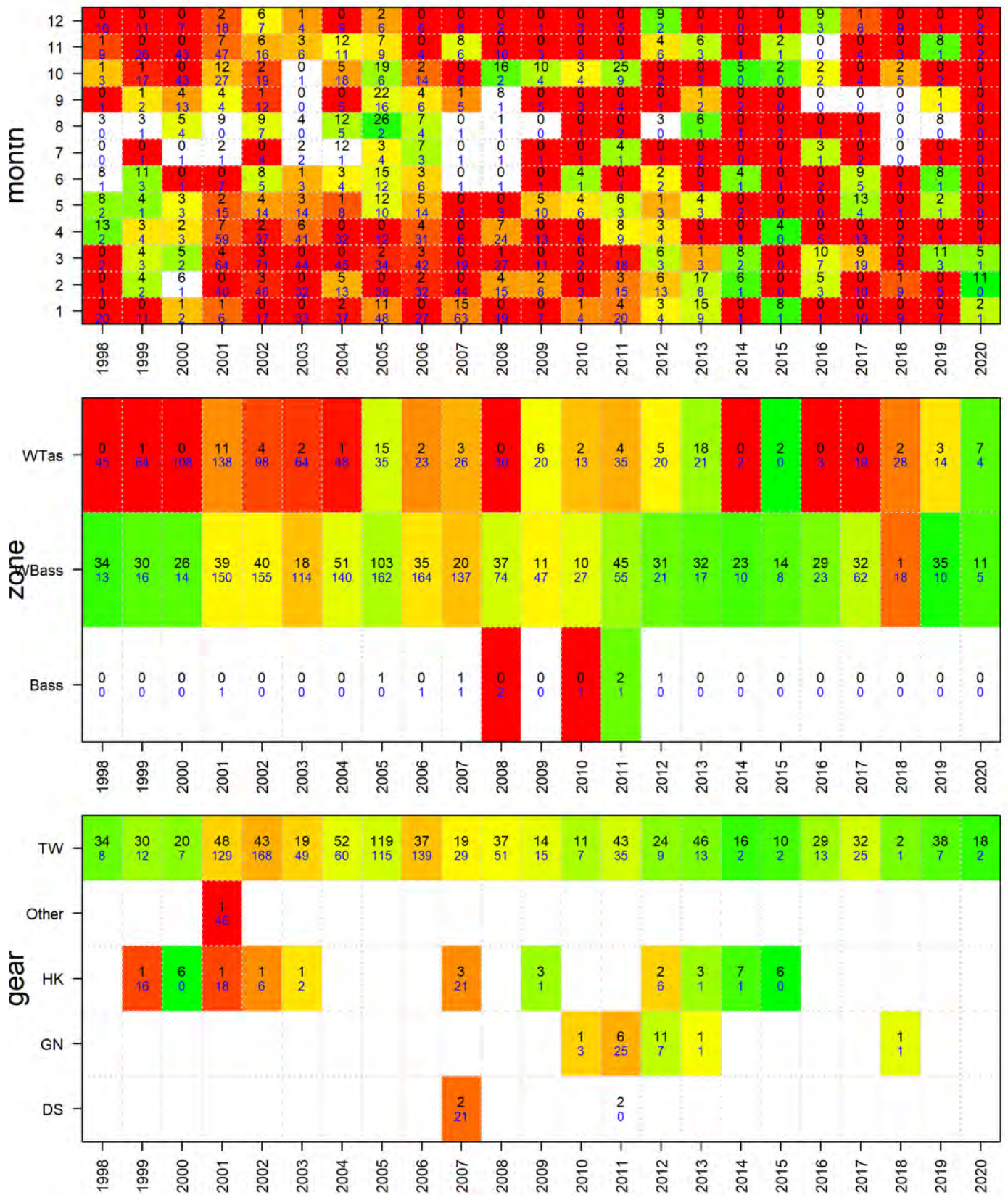


Figure 34 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Jackass Morwong West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong West Onboard length data

Mon Aug 16 10:33:40 2021

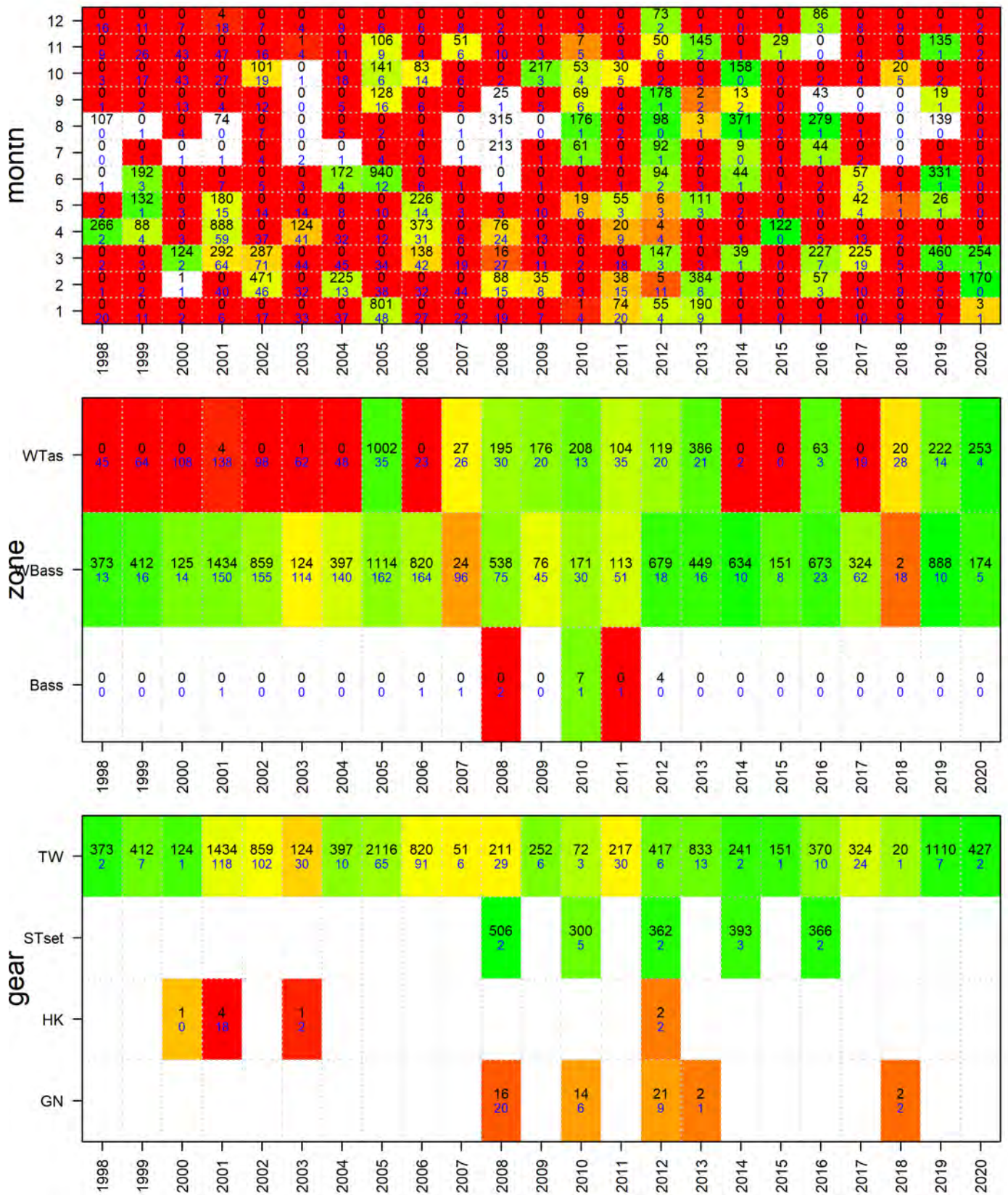


Figure 35 Onboard length data sampling coverage by month (top), zone (middle) and gear for Jackass Morwong West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Jackass Morwong West

# Age data

Mon Aug 16 10:33:41 2021

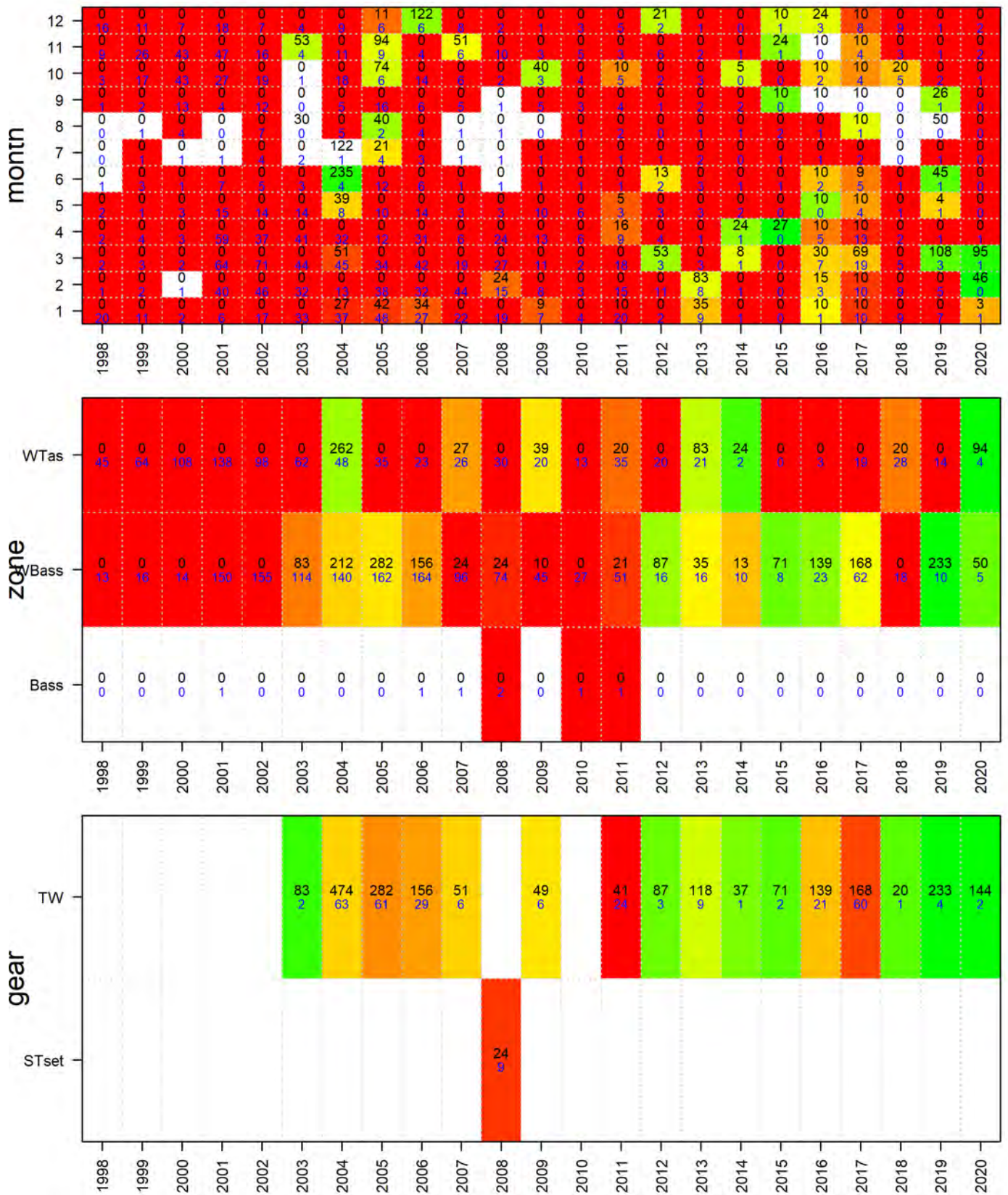
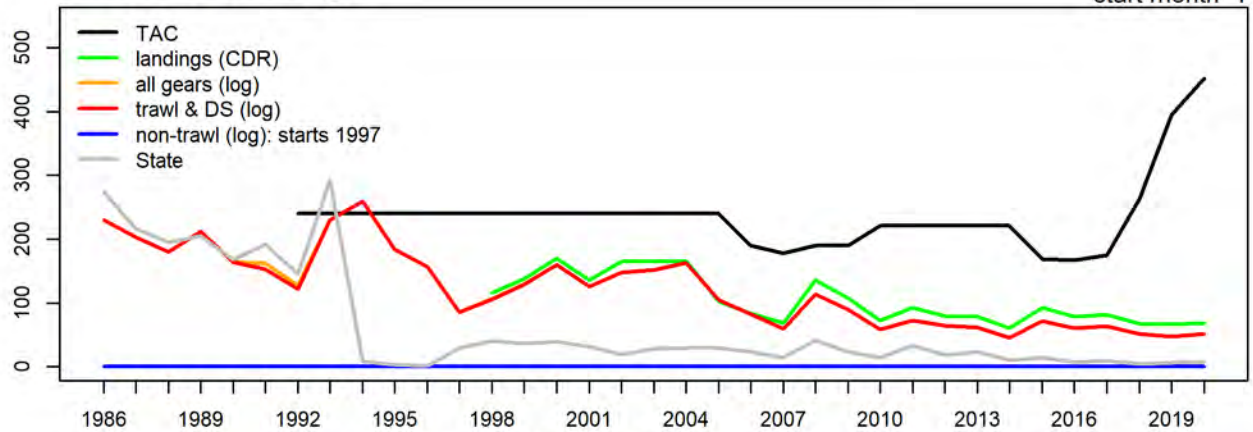
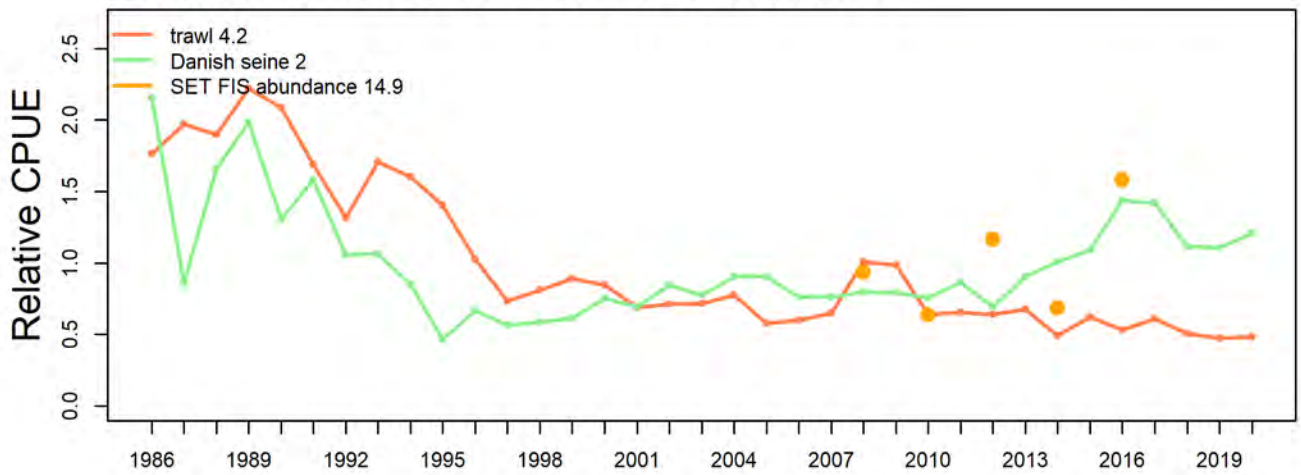


Figure 36 Age data sampling coverage by month (top), zone (middle) and gear for Jackass Morwong West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# John Dory TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

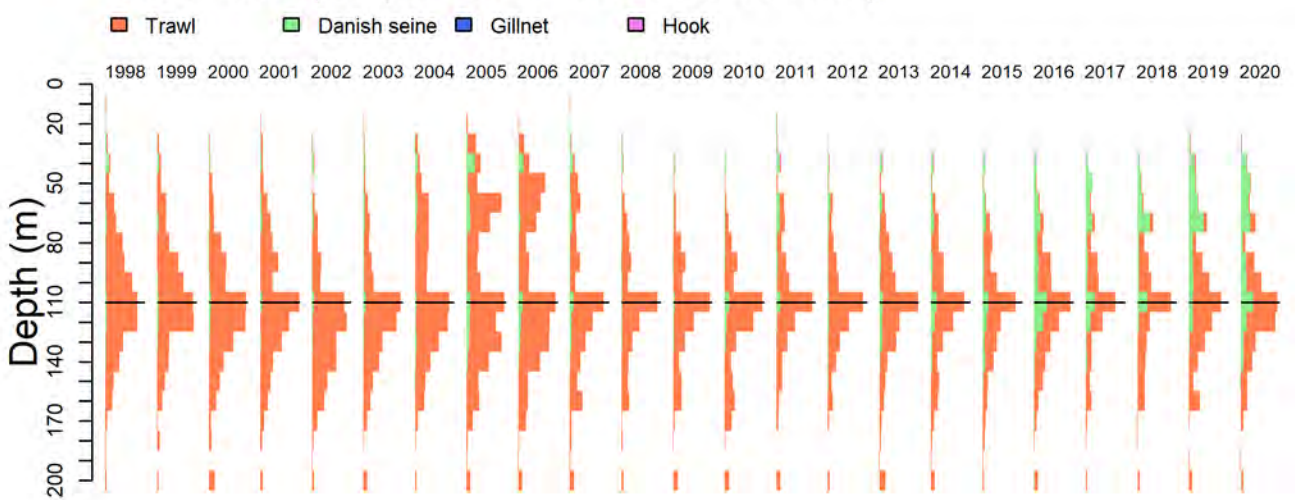
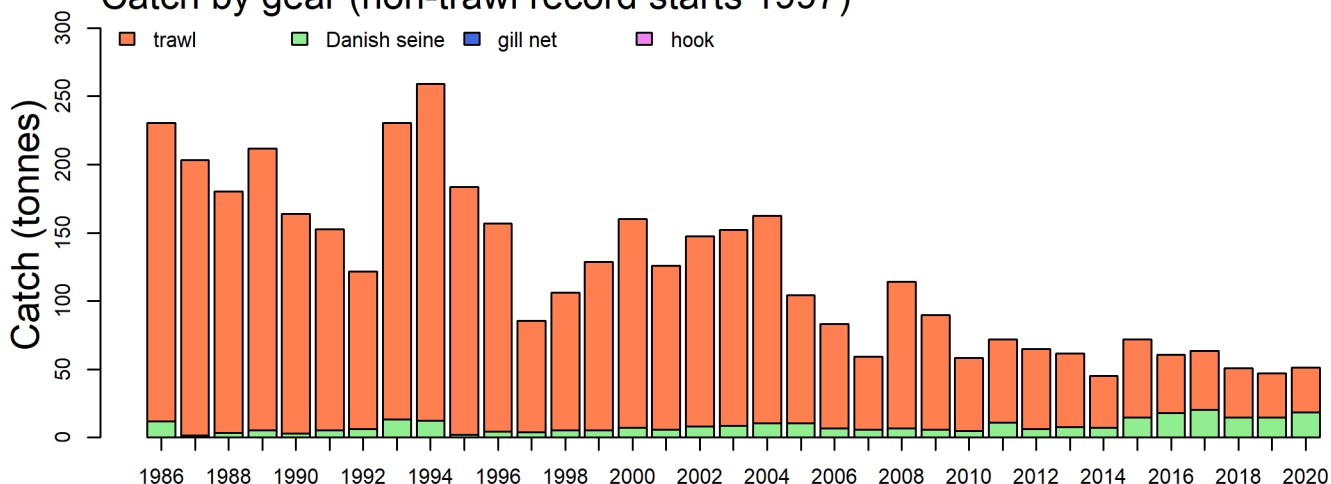


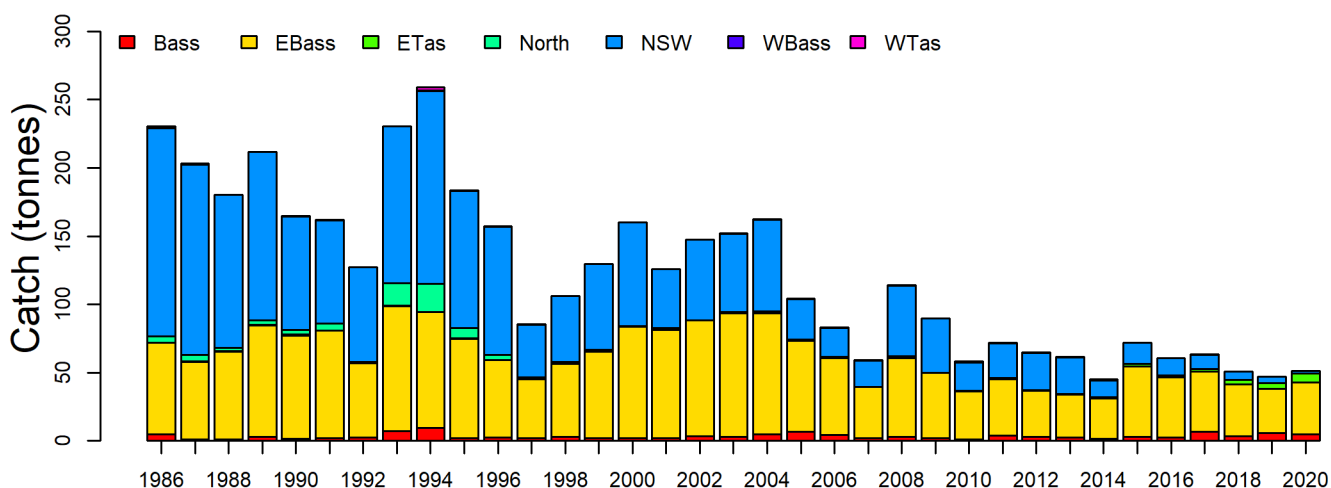
Figure 37 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for John Dory. For more information contact AFMA on (02) 6225 5555.

# John Dory

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

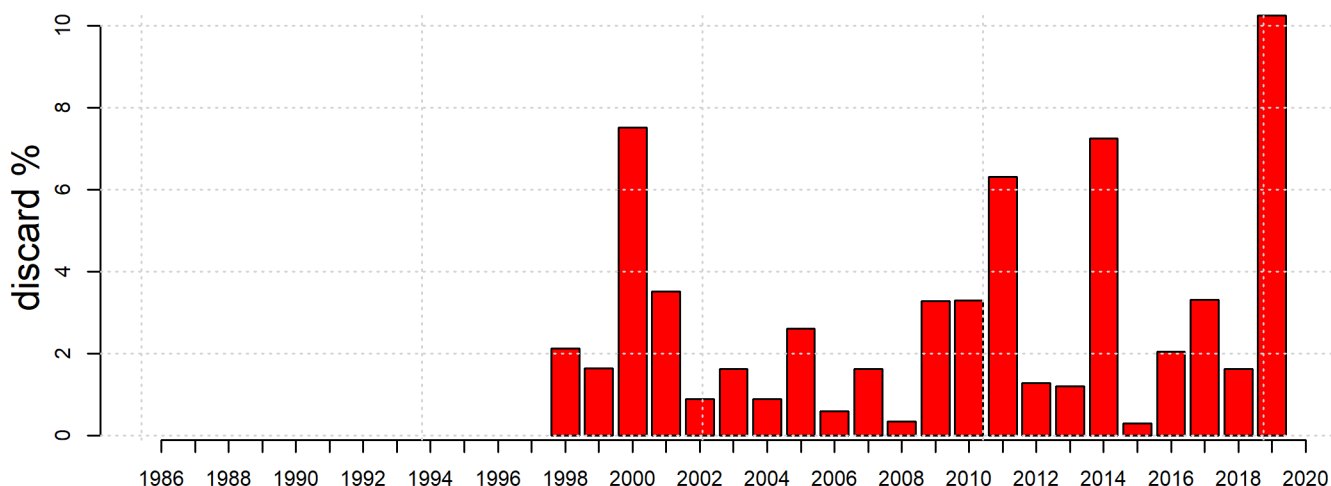


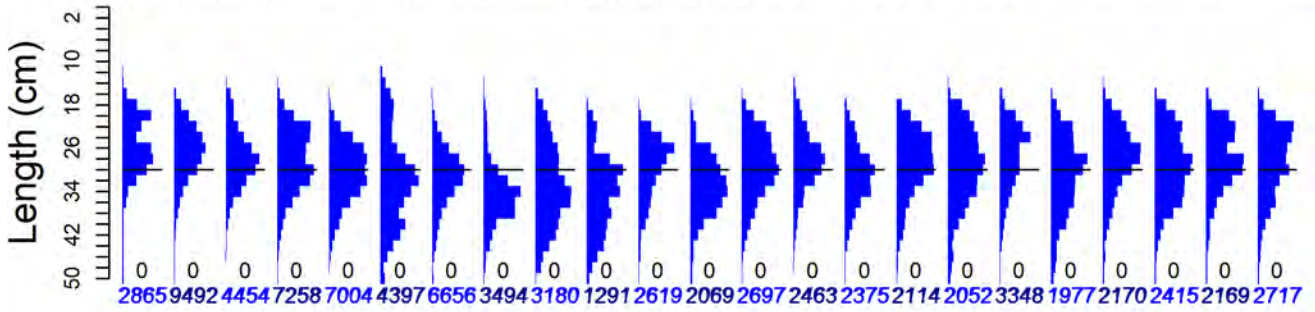
Figure 38 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for John Dory. For more information contact AFMA on (02) 6225 5555.

# John Dory

Mon Aug 16 10:33:47 2021

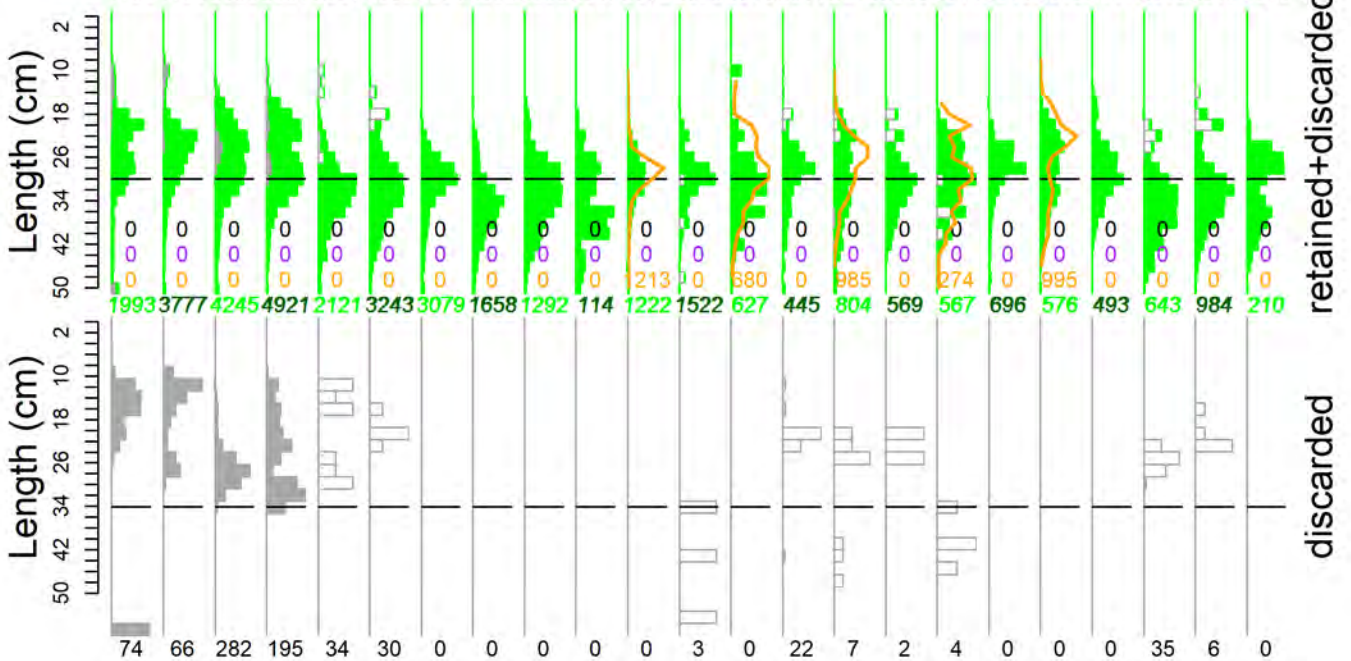
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

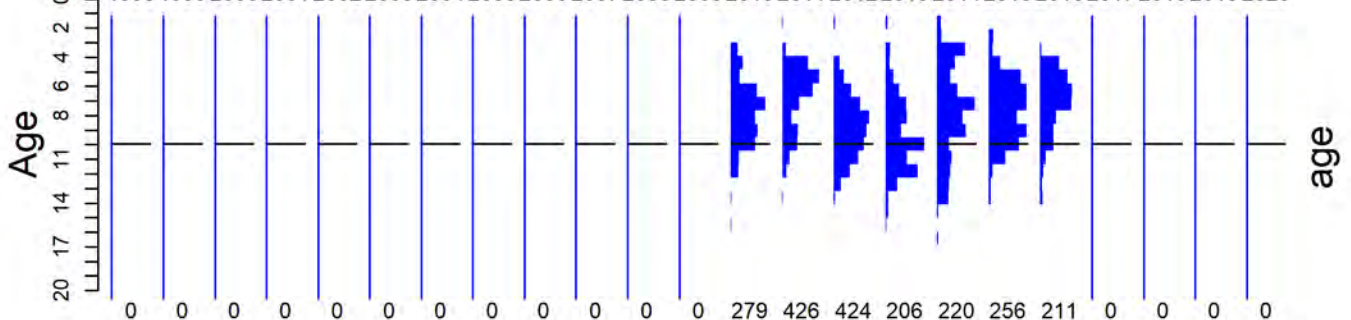


Figure 39 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for John Dory. For more information contact AFMA on (02) 6225 5555.

# John Dory

# Port length data

Mon Aug 16 10:33:48 2021

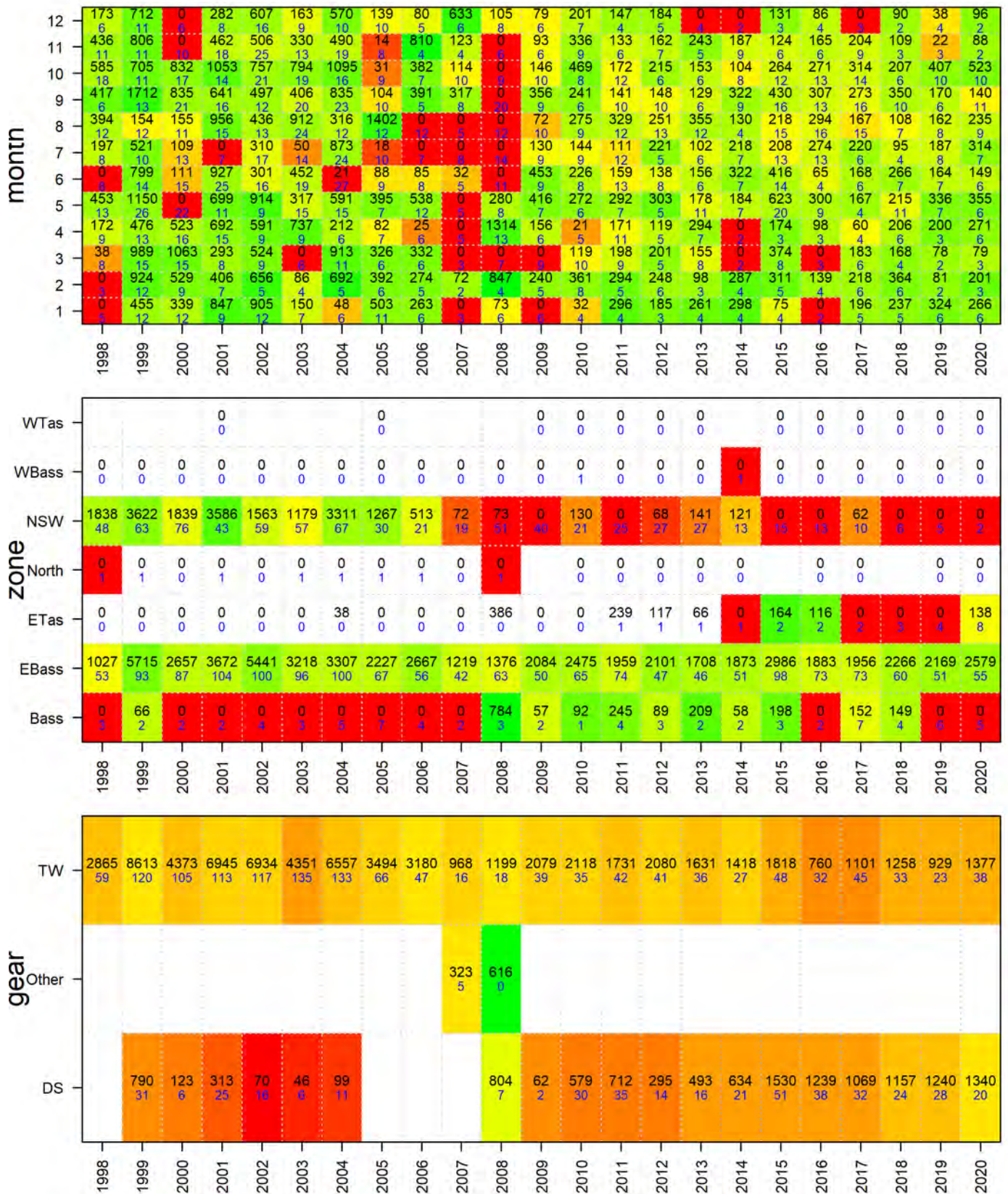


Figure 40 Port length data sampling coverage by month (top), zone (middle) and gear for John Dory. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# John Dory

## Onboard discard weight data

Mon Aug 16 10:33:49 2021

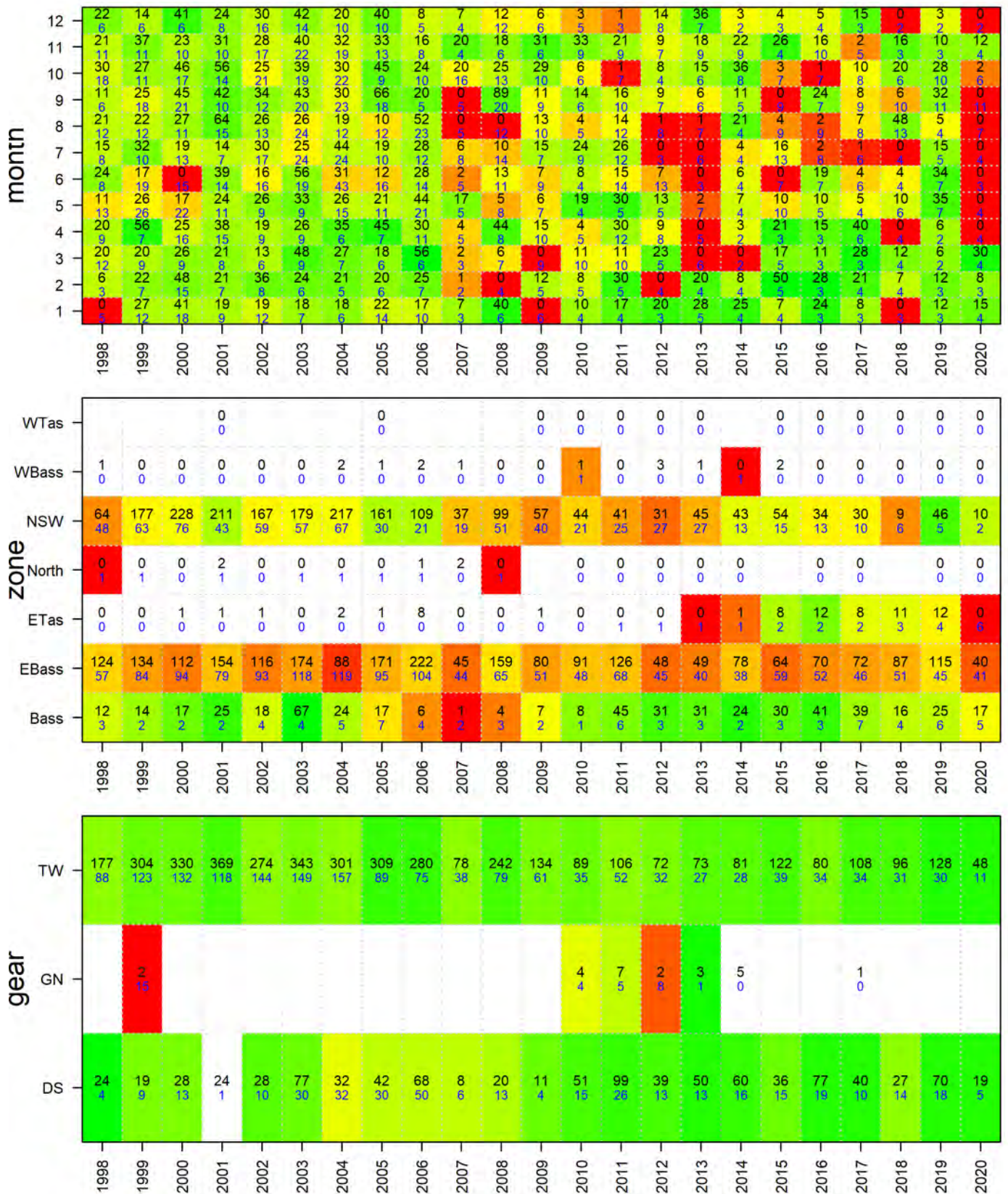


Figure 41 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for John Dory. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# John Dory

# Onboard length data

Mon Aug 16 10:33:50 2021

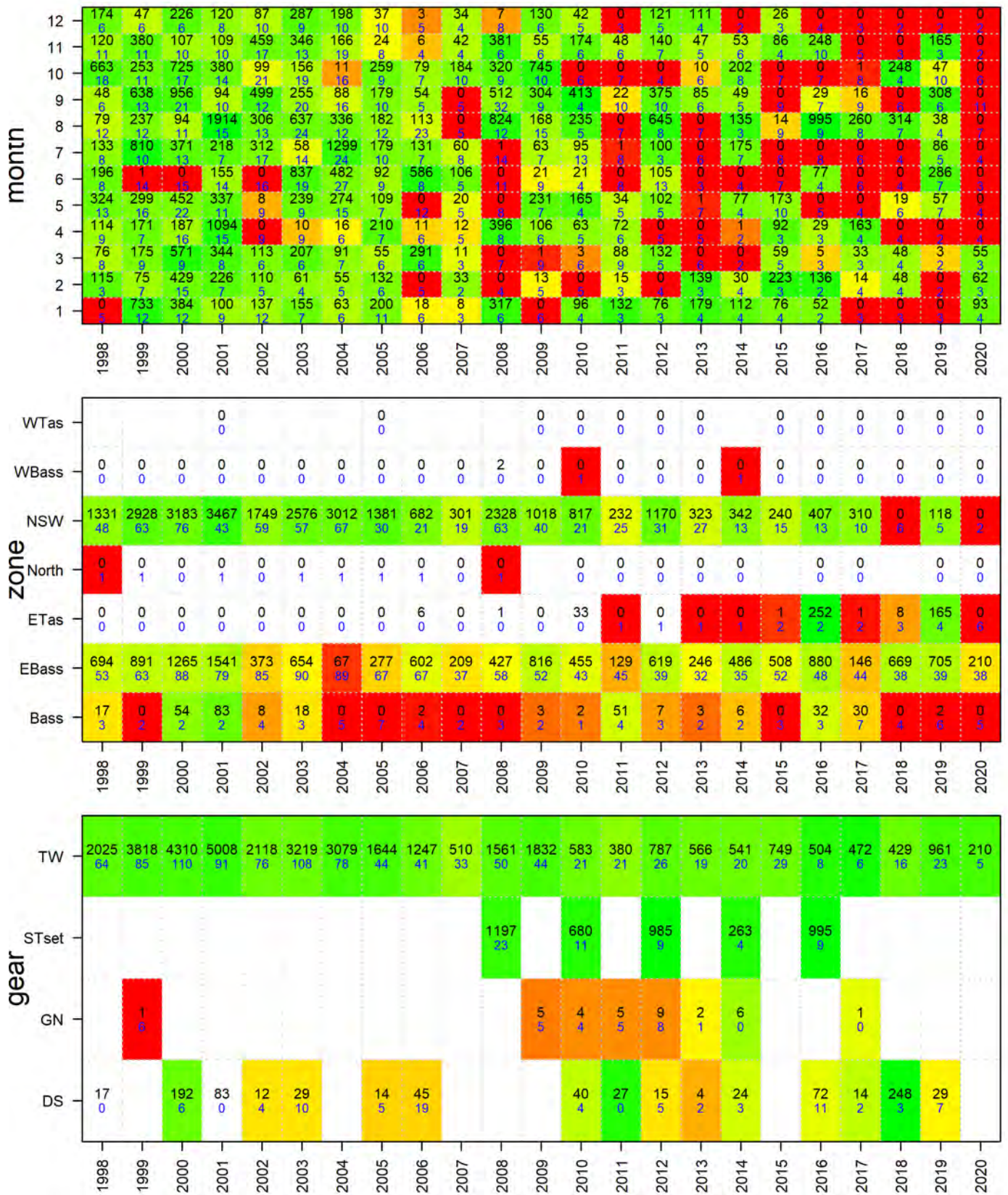


Figure 42 Onboard length data sampling coverage by month (top), zone (middle) and gear for John Dory. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# John Dory

# Age data

Mon Aug 16 10:33:50 2021

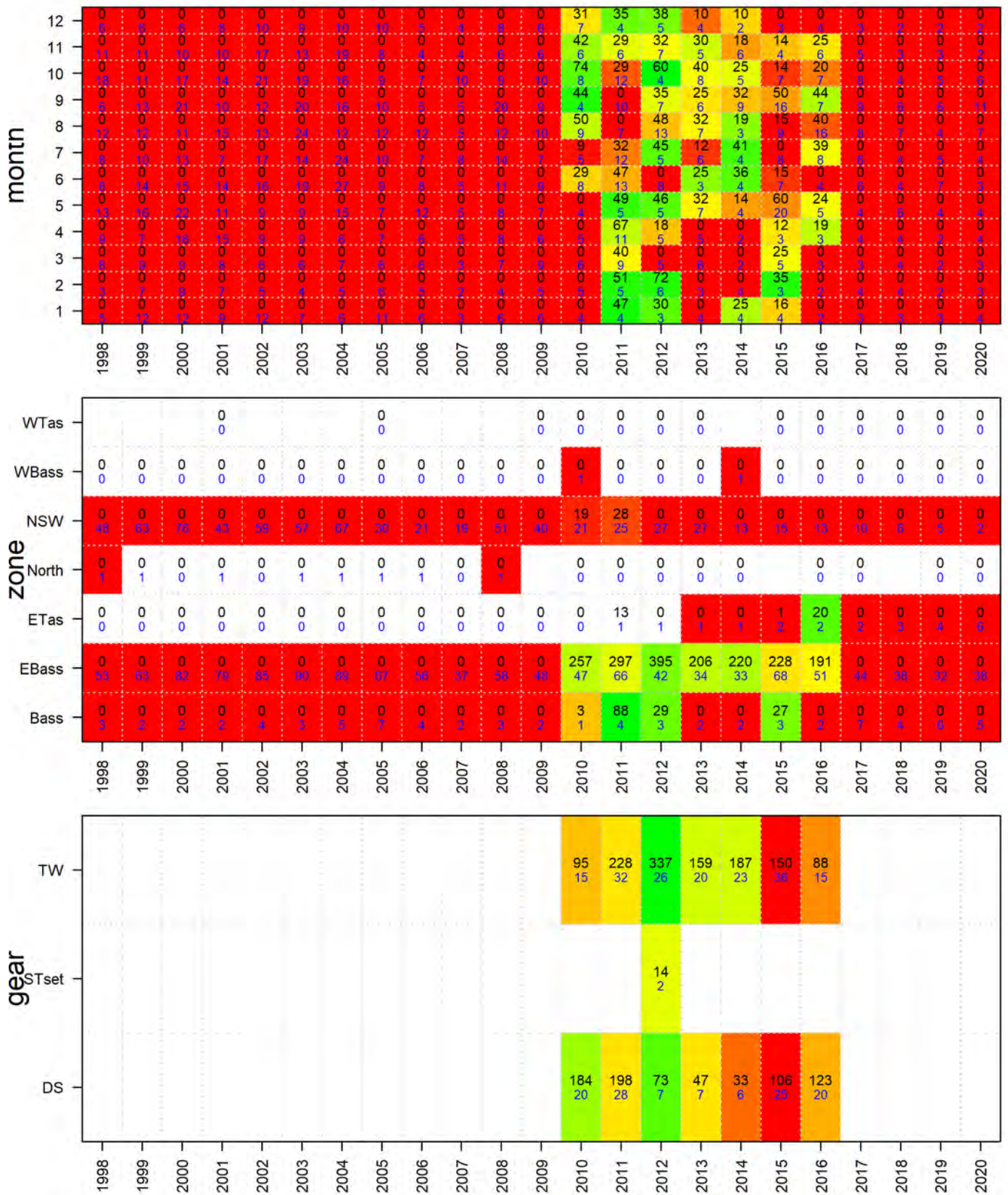
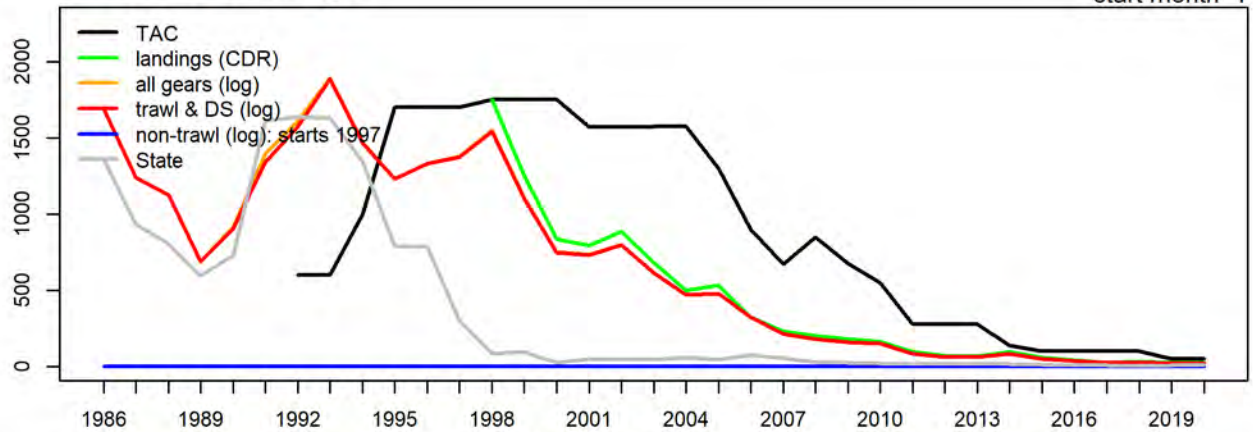
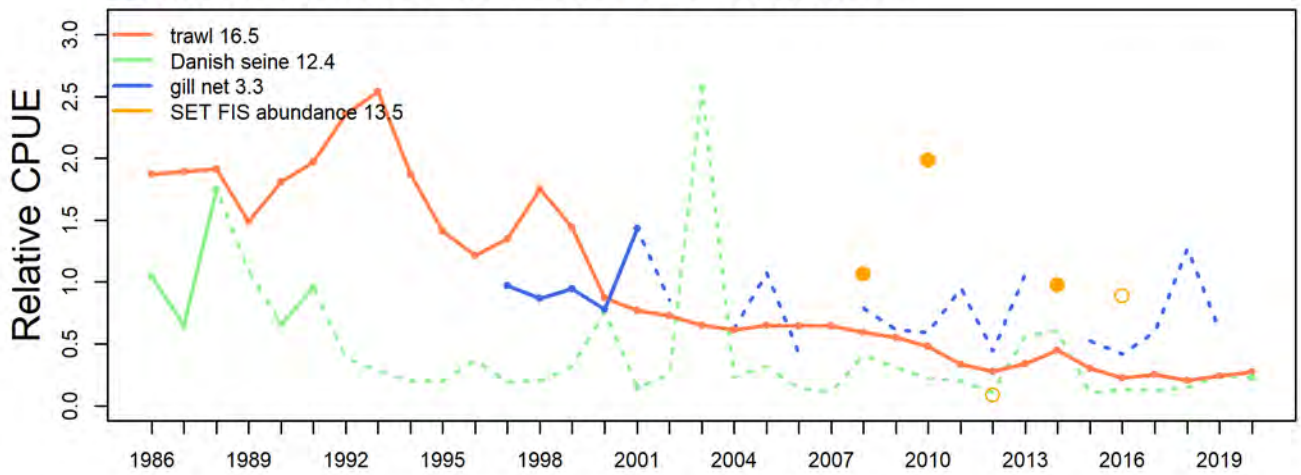


Figure 43 Age data sampling coverage by month (top), zone (middle) and gear for John Dory. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Redfish TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

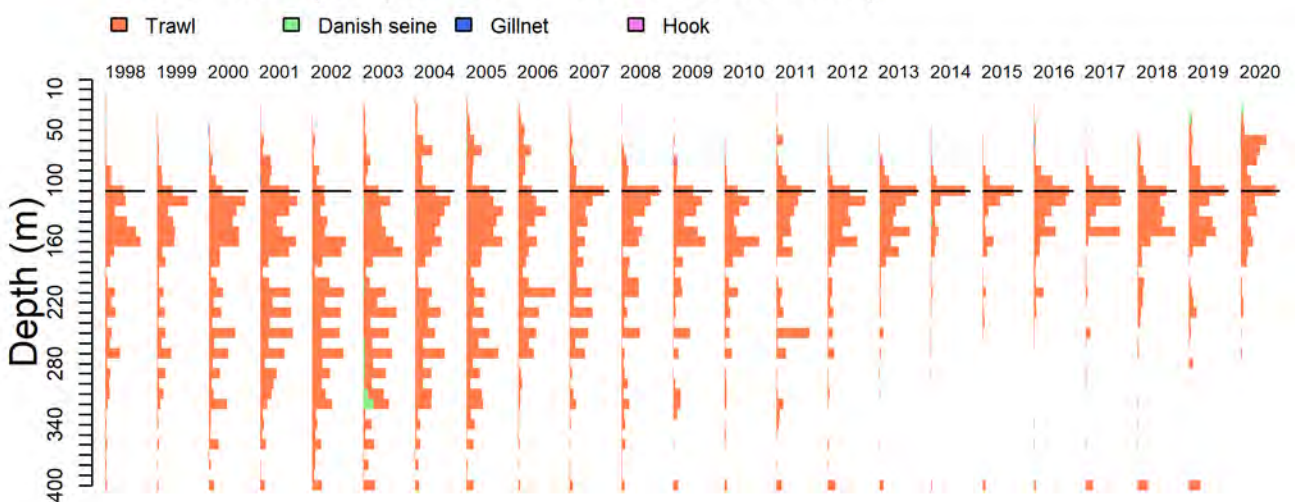
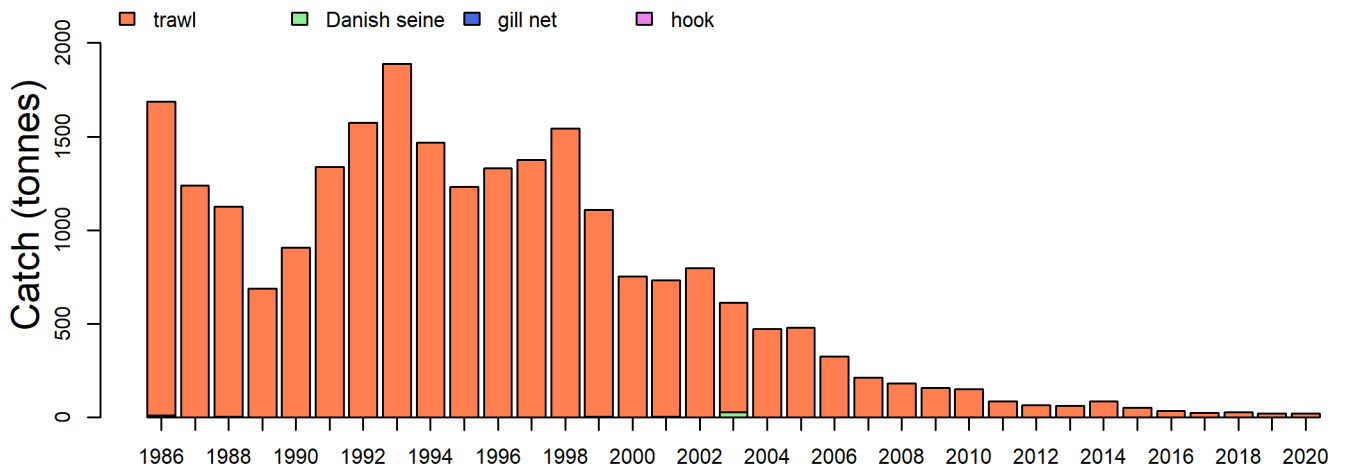


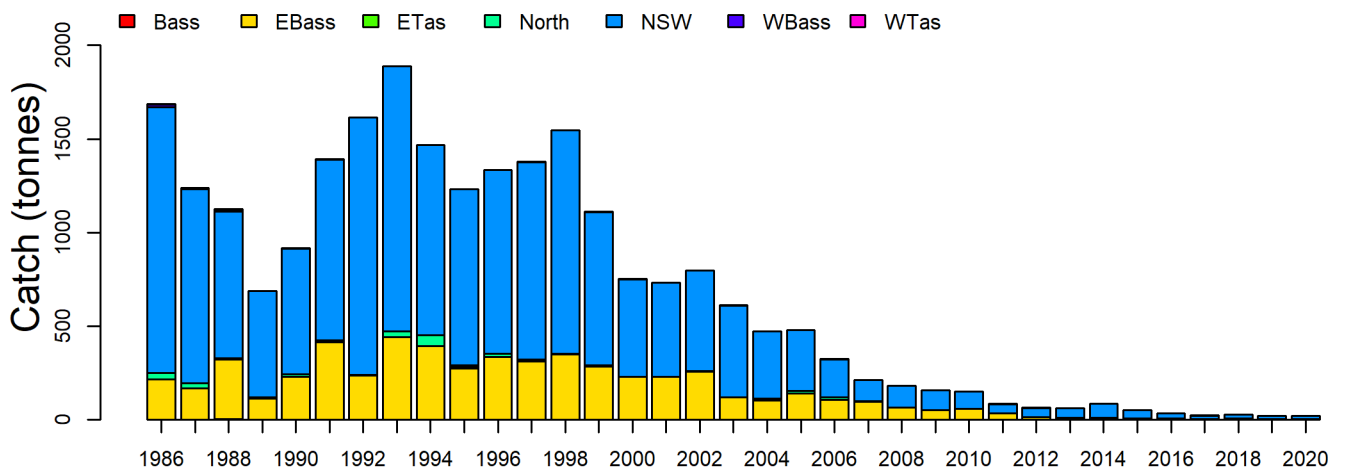
Figure 44 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Redfish. For more information contact AFMA on (02) 6225 5555.

# Redfish

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

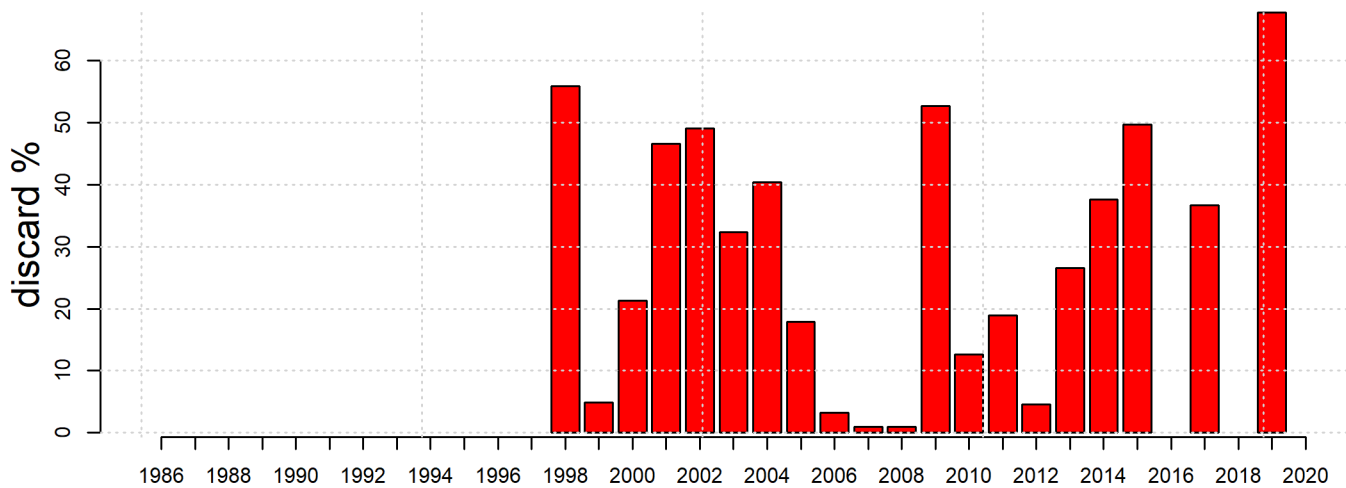


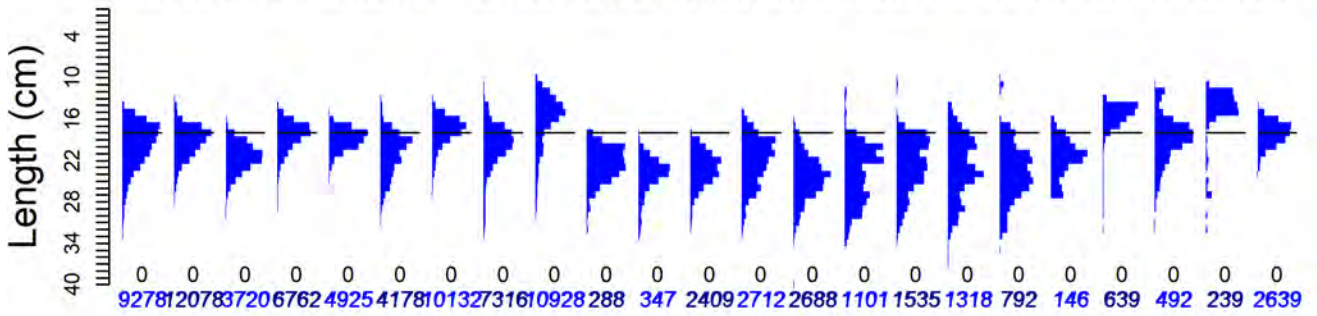
Figure 45 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Redfish. For more information contact AFMA on (02) 6225 5555.

# Redfish

Mon Aug 16 10:33:55 2021

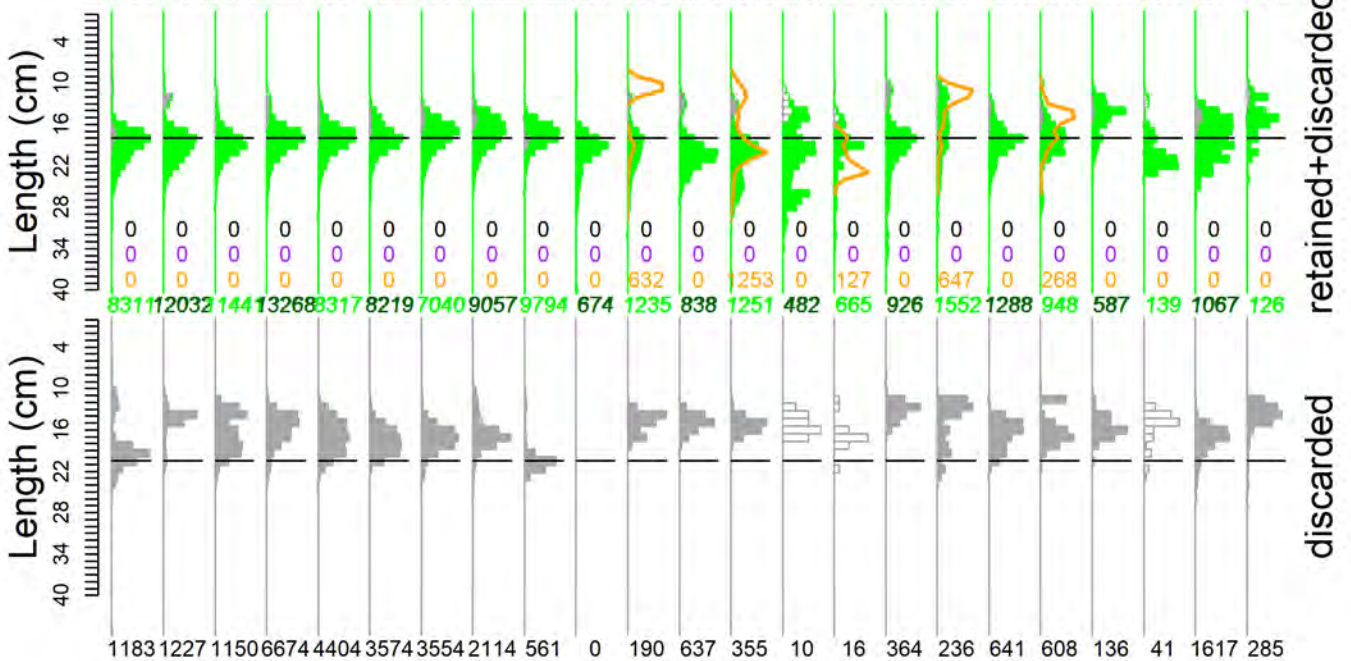
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

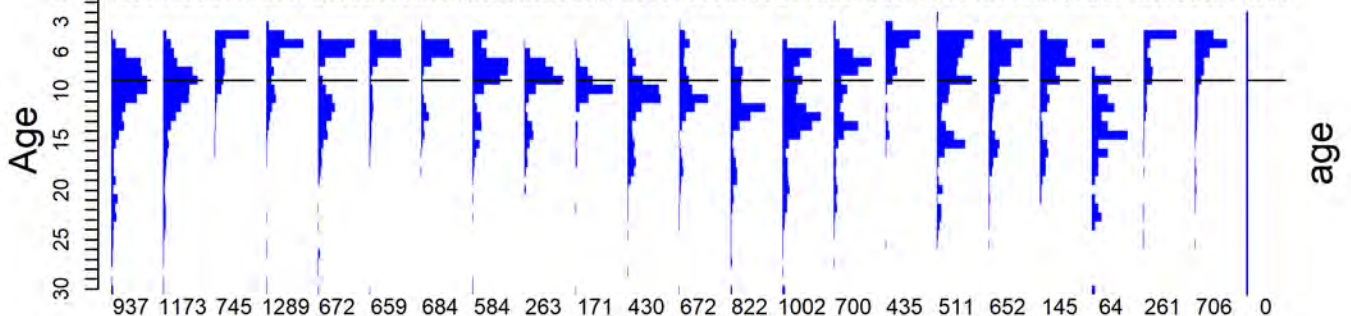


Figure 46 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Redfish. For more information contact AFMA on (02) 6225 5555.

# Redfish

# Port length data

Mon Aug 16 10:33:57 2021

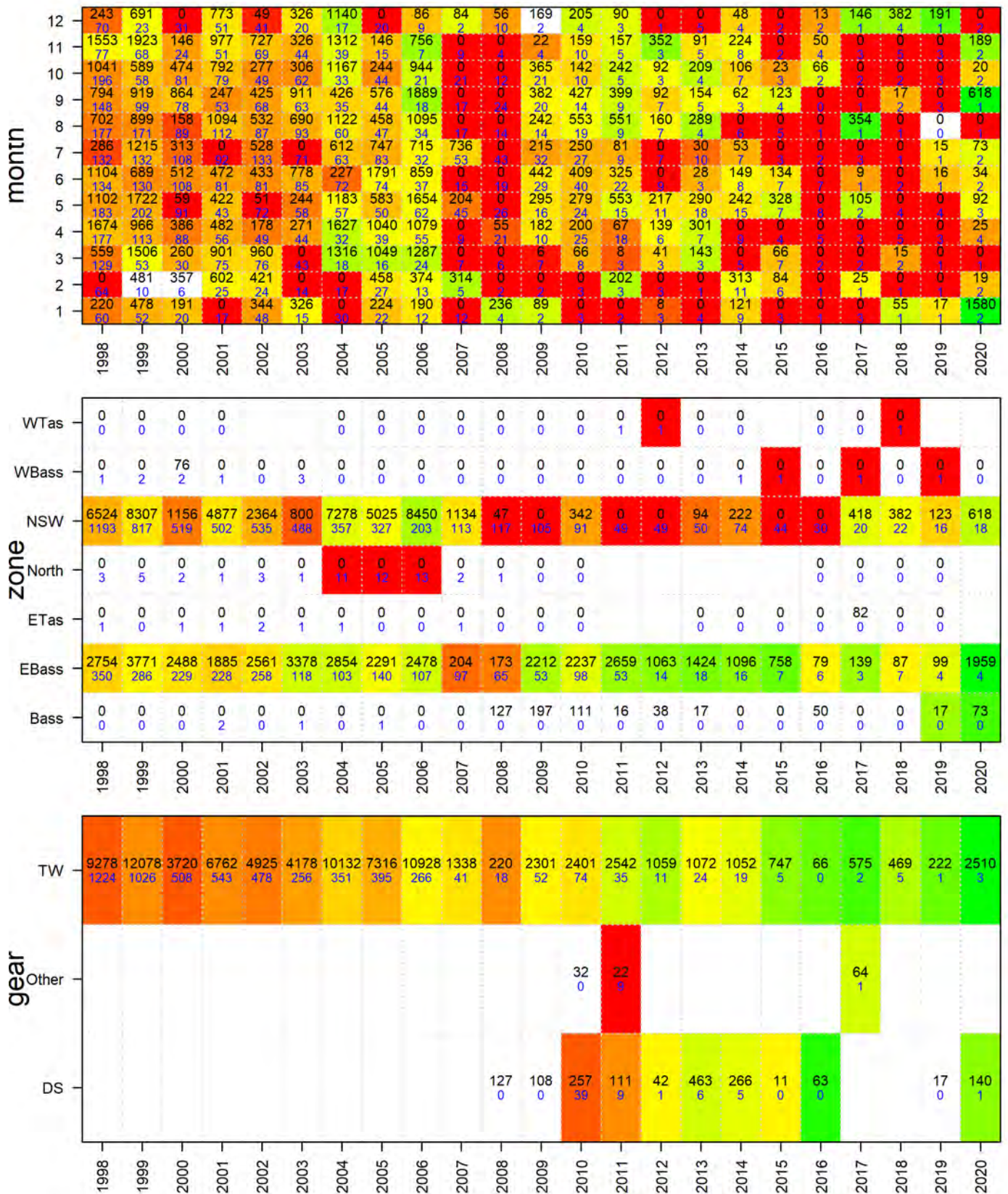


Figure 47 Port length data sampling coverage by month (top), zone (middle) and gear for Redfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Redfish

# Onboard discard weight data

Mon Aug 16 10:33:57 2021

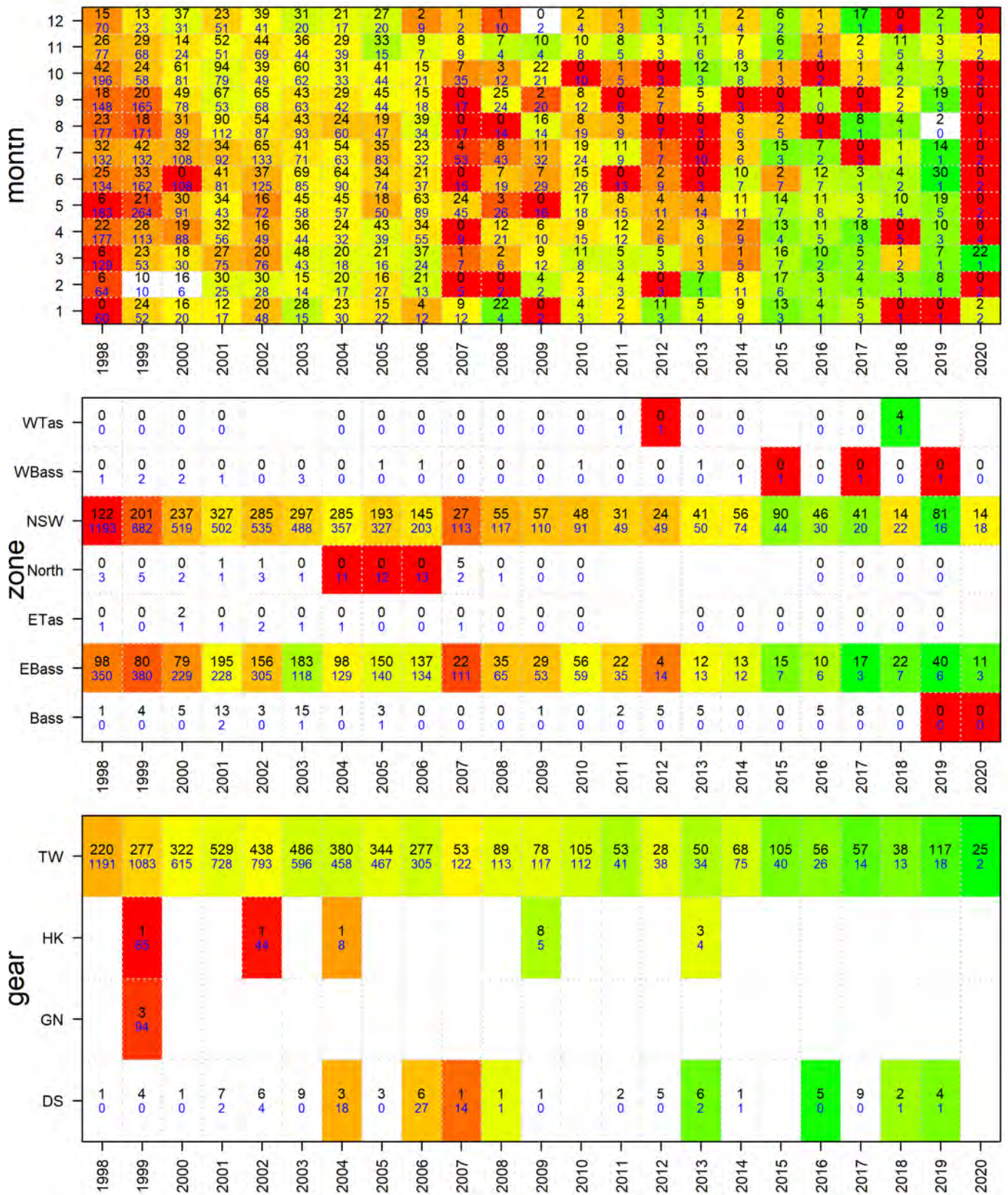


Figure 48 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Redfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Redfish

# Onboard length data

Mon Aug 16 10:33:58 2021

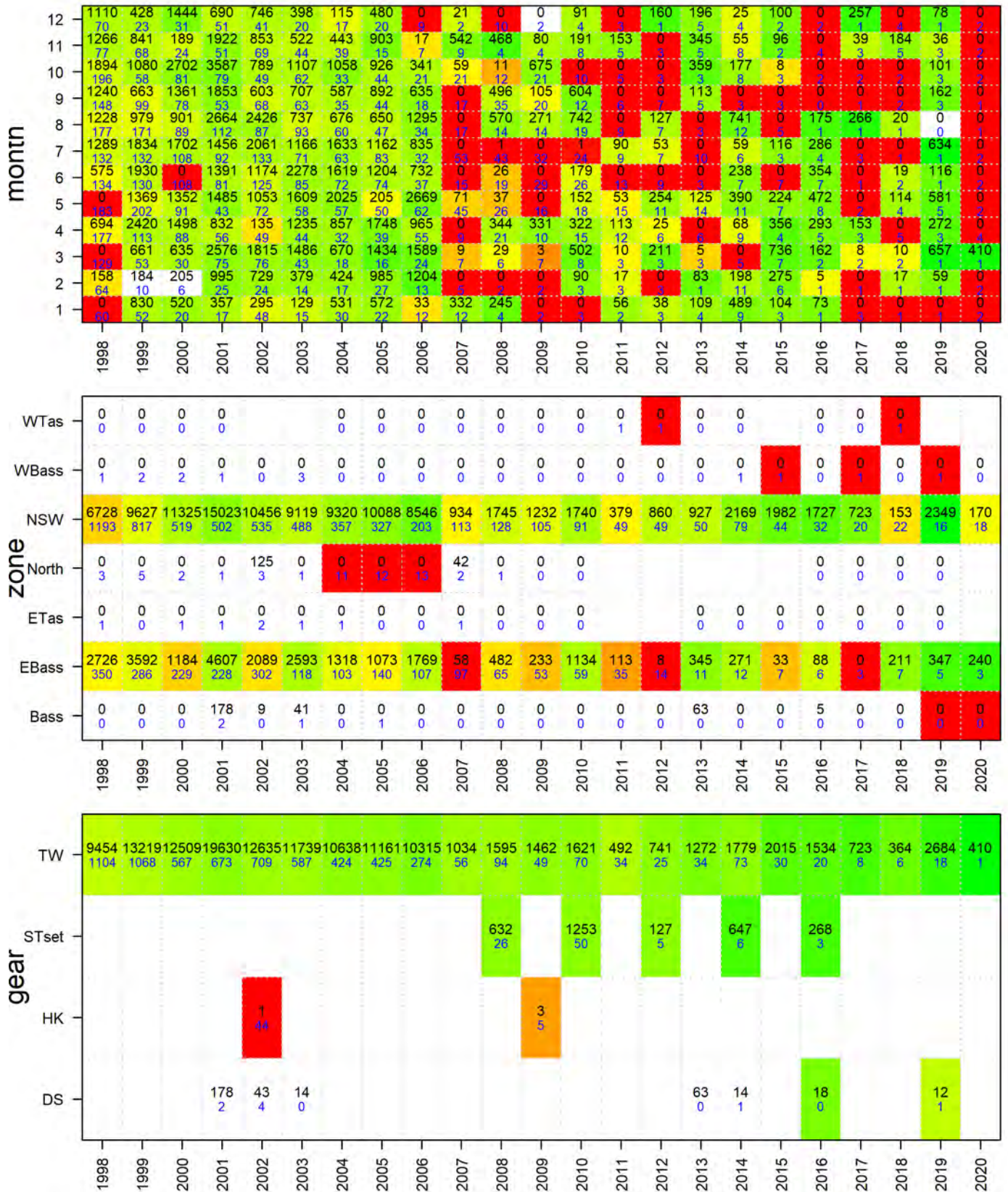


Figure 49 Onboard length data sampling coverage by month (top), zone (middle) and gear for Redfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Redfish

# Age data

Mon Aug 16 10:33:59 2021

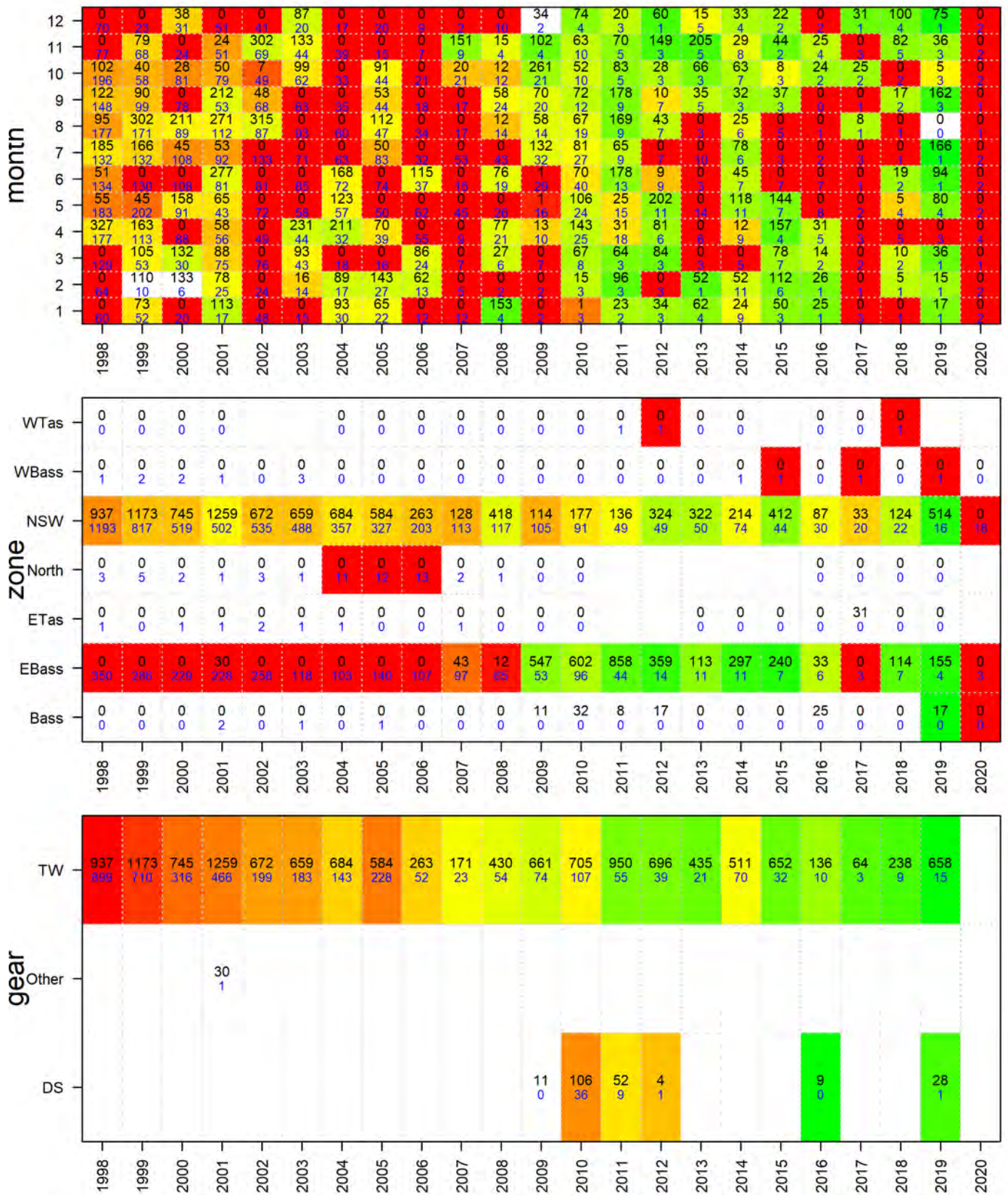
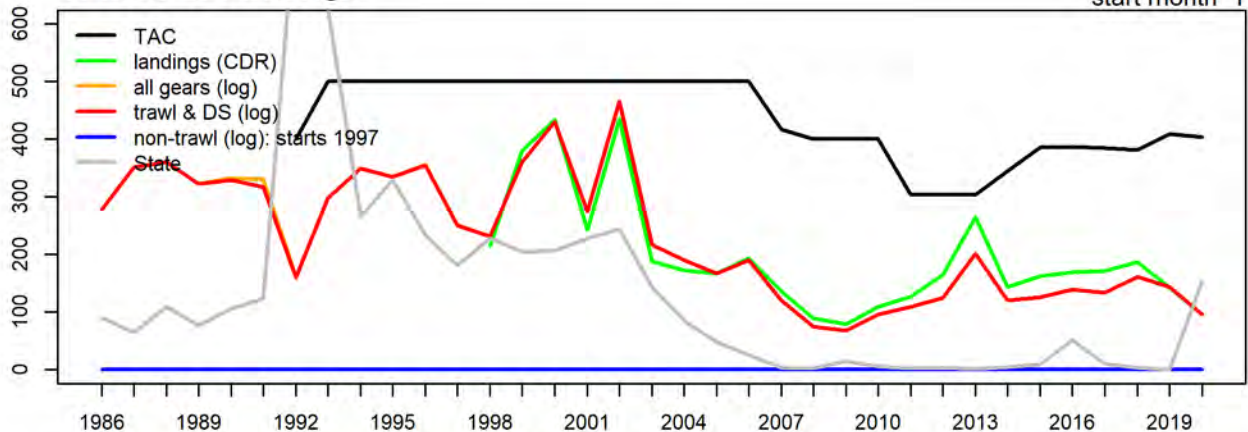


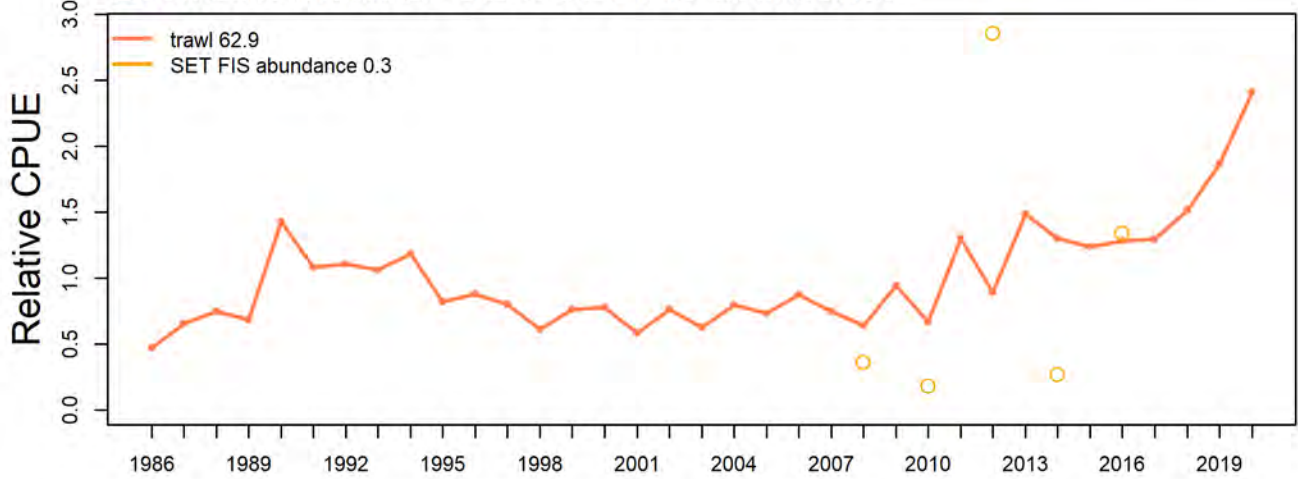
Figure 50 Age data sampling coverage by month (top), zone (middle) and gear for Redfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Royal Red Prawn

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

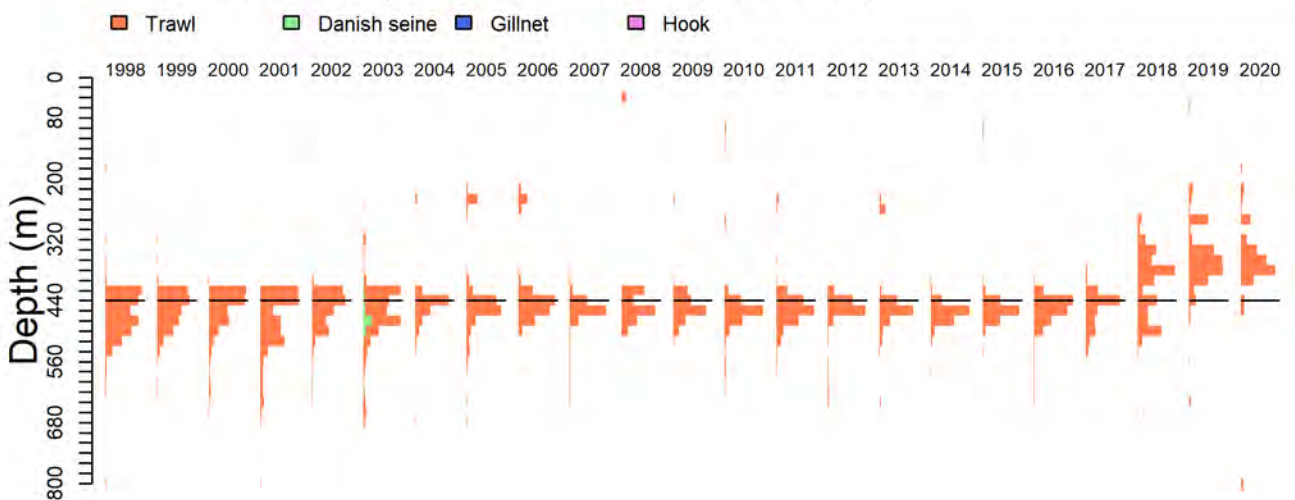
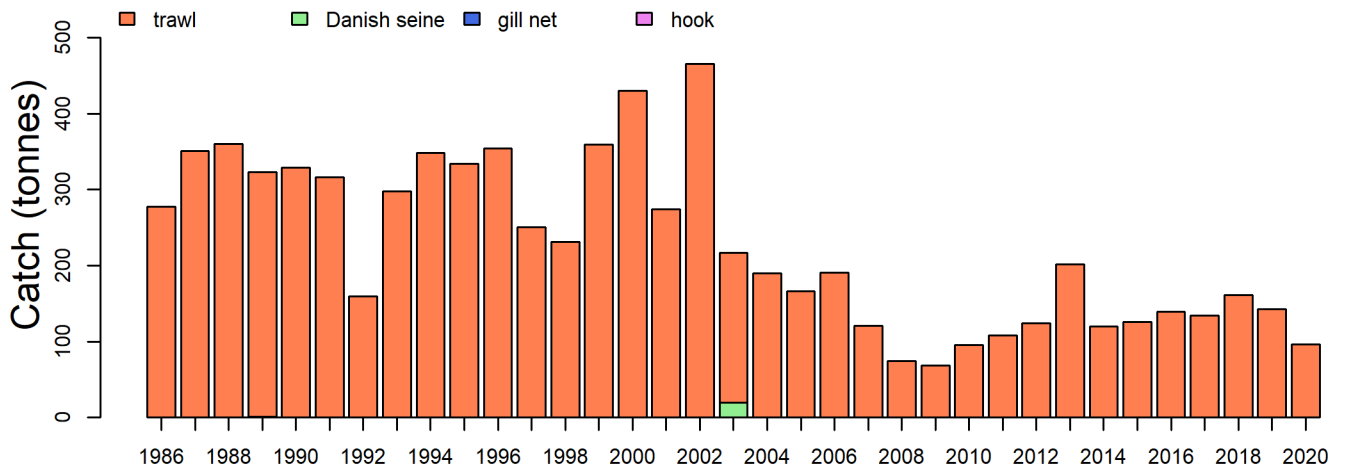


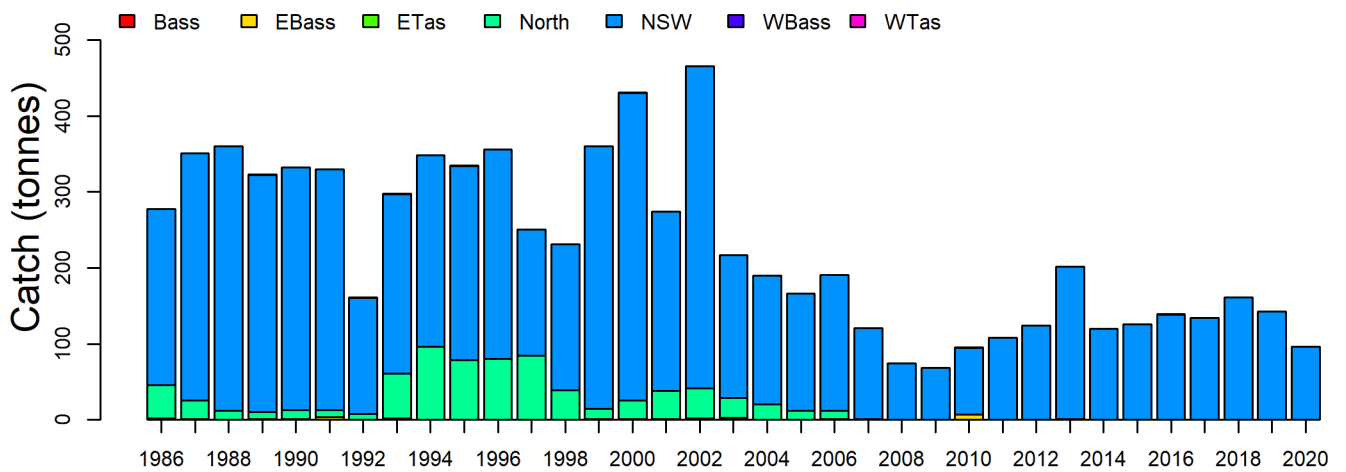
Figure 51 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Royal Red Prawn. For more information contact AFMA on (02) 6225 5555.

# Royal Red Prawn

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

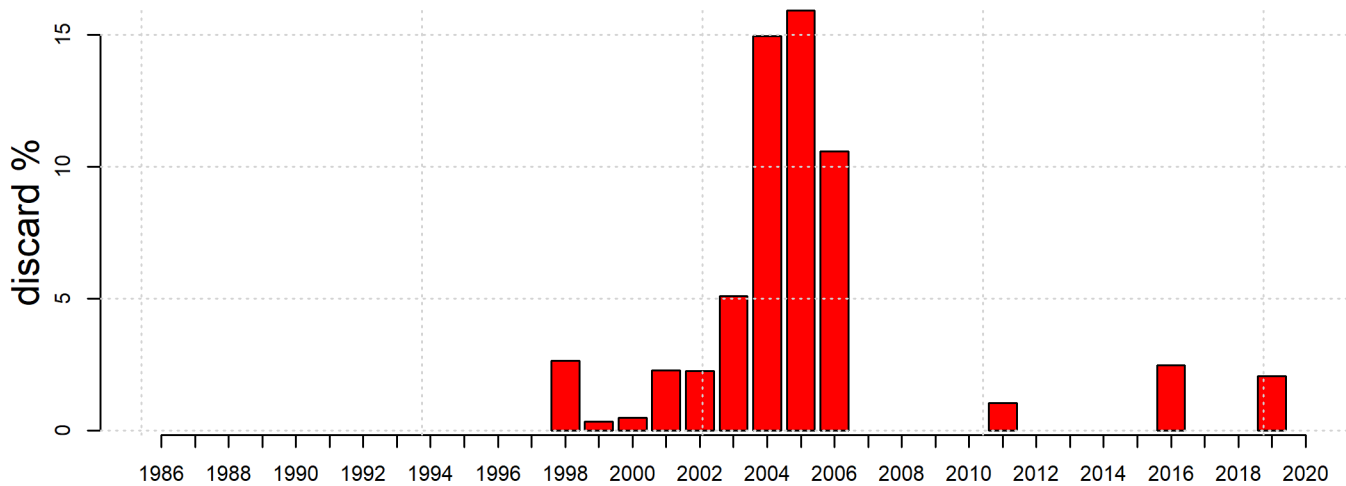


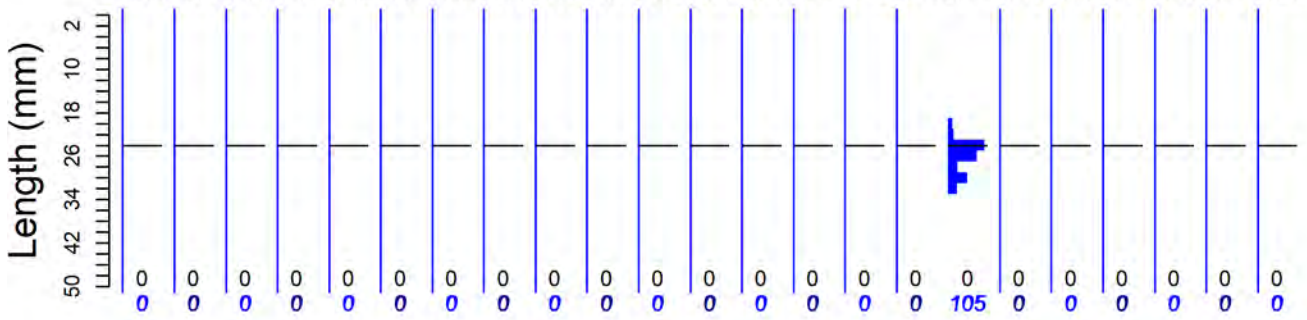
Figure 52 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Royal Red Prawn. For more information contact AFMA on (02) 6225 5555.

# Royal Red Prawn

Mon Aug 16 10:34:01 2021

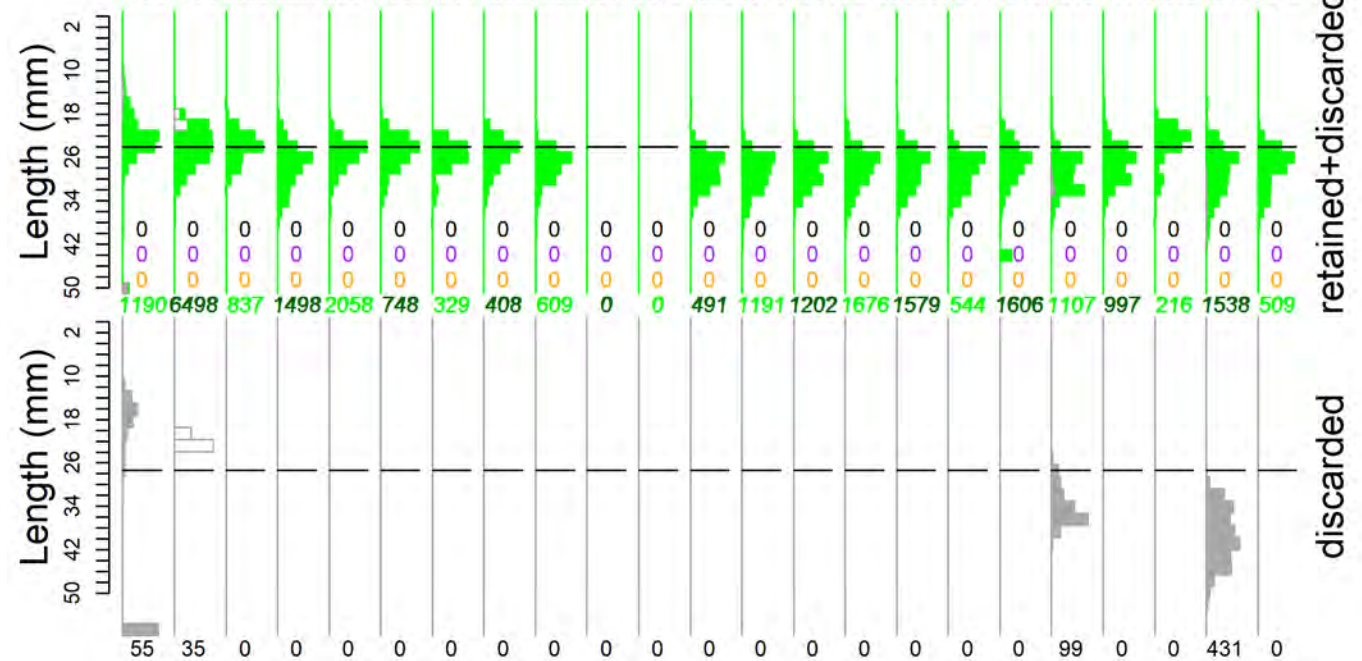
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

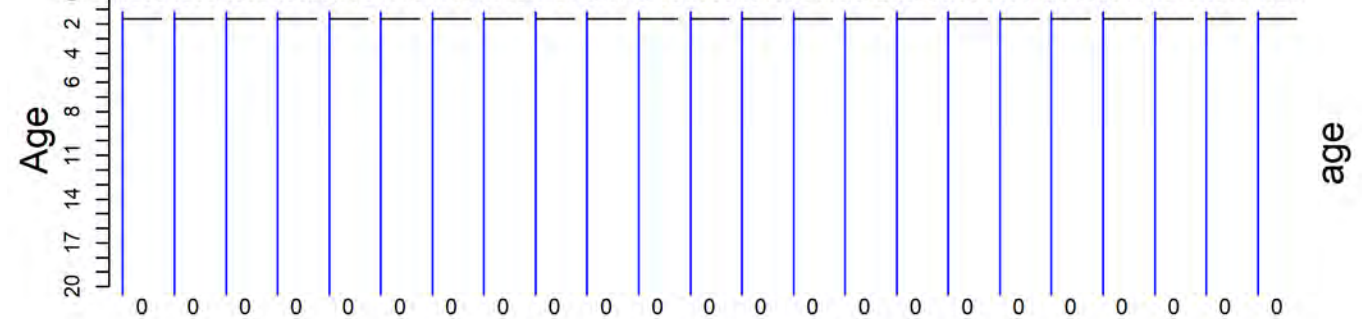


Figure 53 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Royal Red Prawn. For more information contact AFMA on (02) 6225 5555.

# Royal Red Prawn

# Port length data

Mon Aug 16 10:34:02 2021

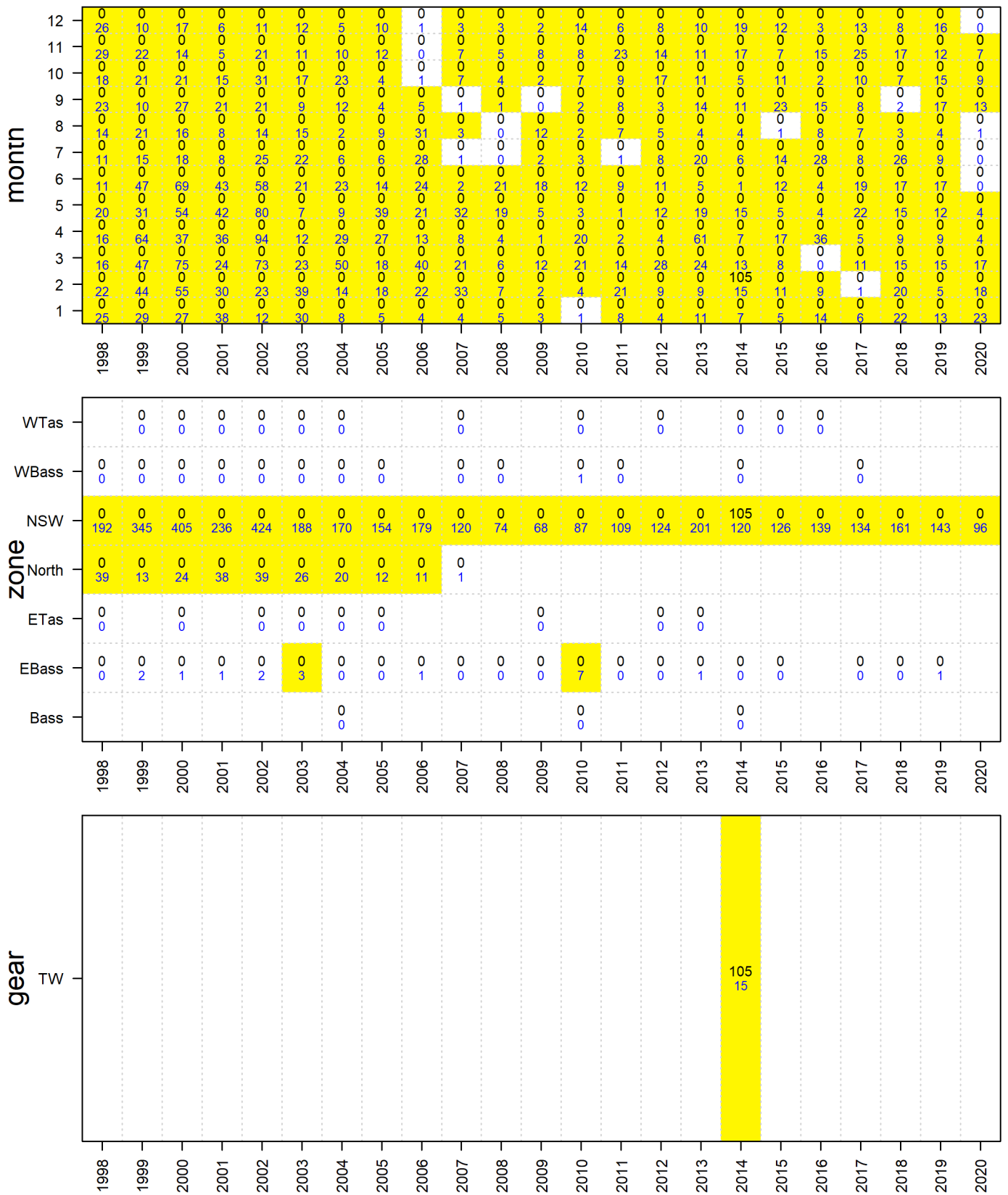


Figure 54 Port length data sampling coverage by month (top), zone (middle) and gear for Royal Red Prawn. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Royal Red Prawn Onboard discard weight data

Mon Aug 16 10:34:03 2021

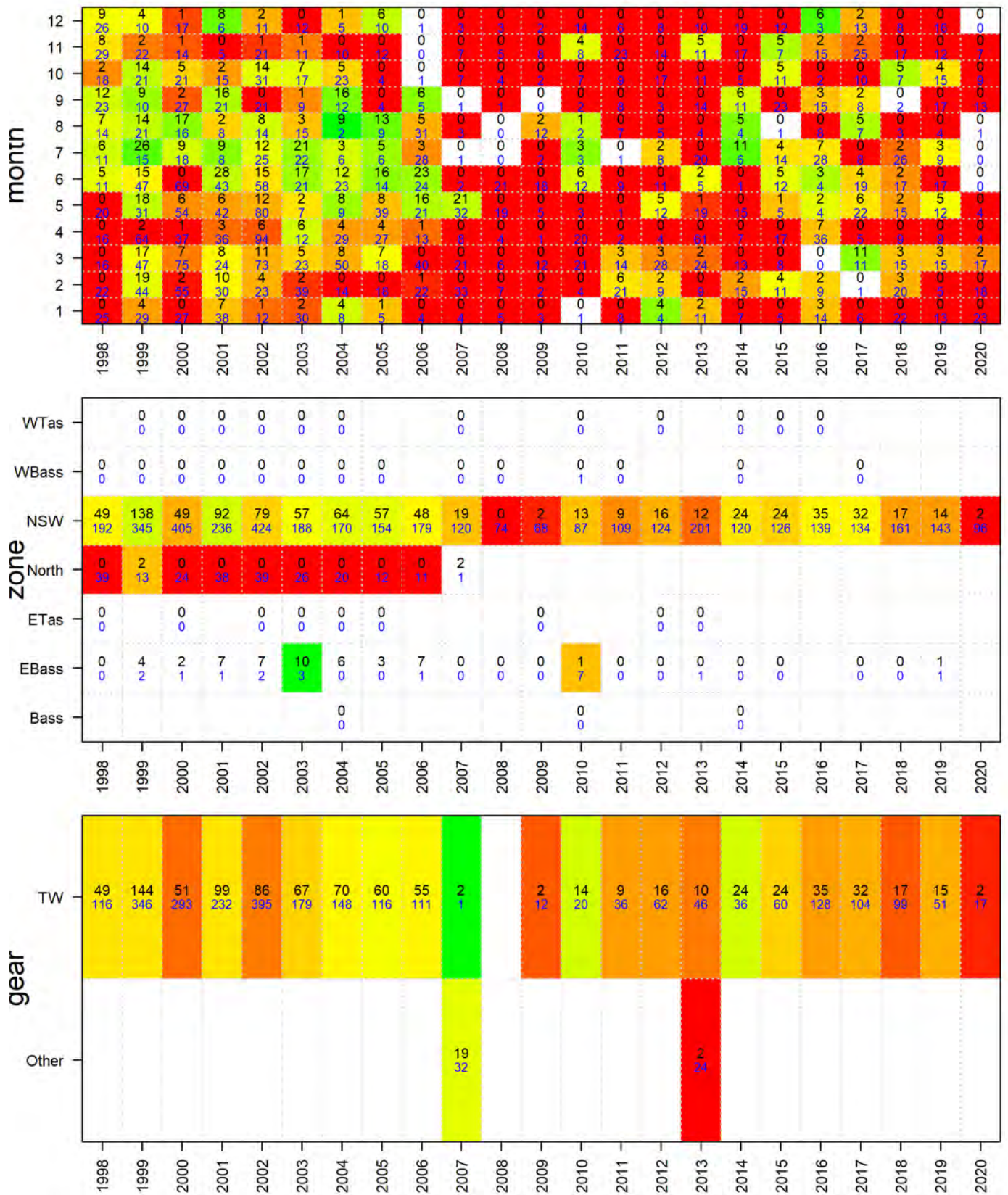


Figure 55 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Royal Red Prawn. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Royal Red Prawn

# Onboard length data

Mon Aug 16 10:34:03 2021

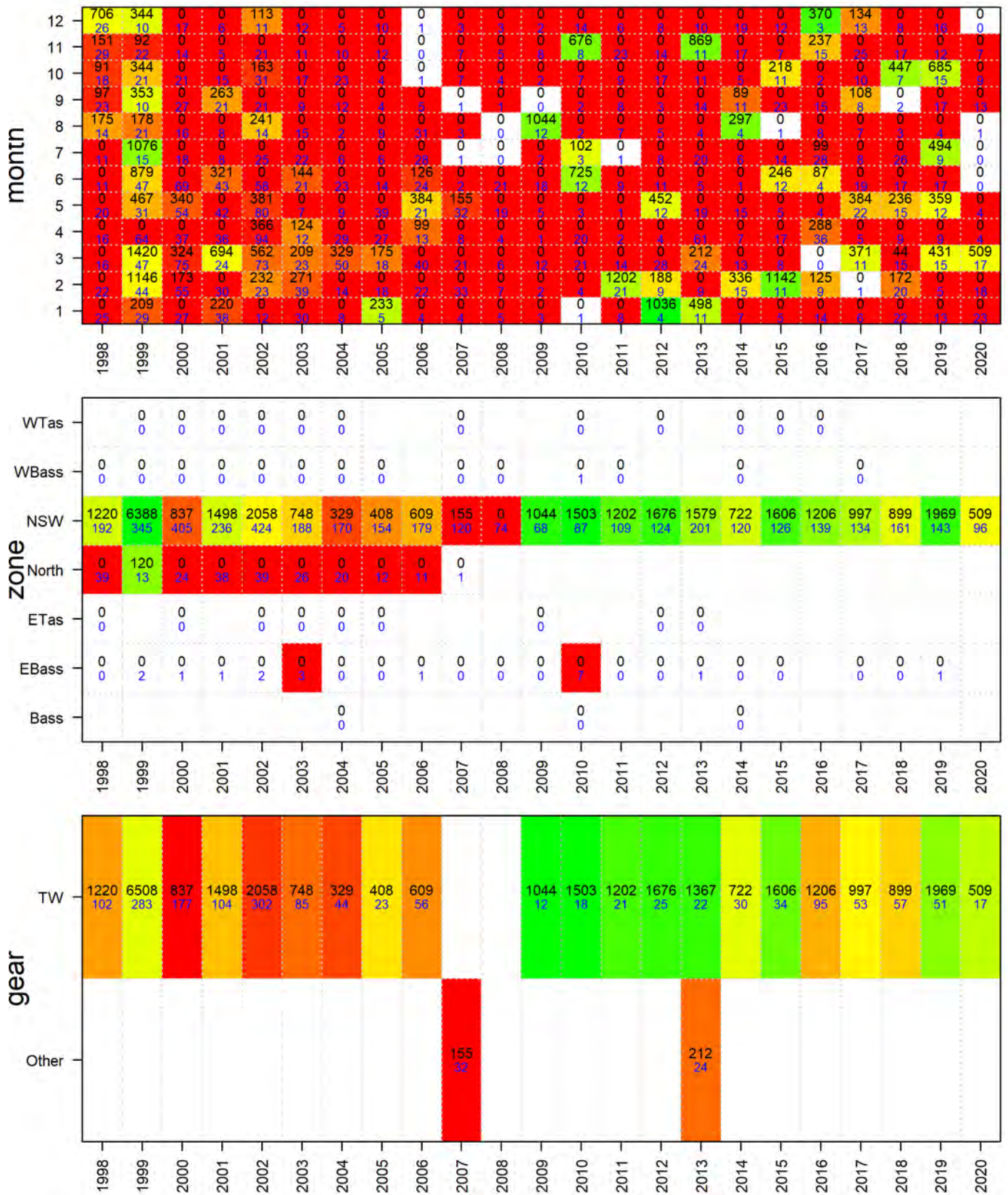
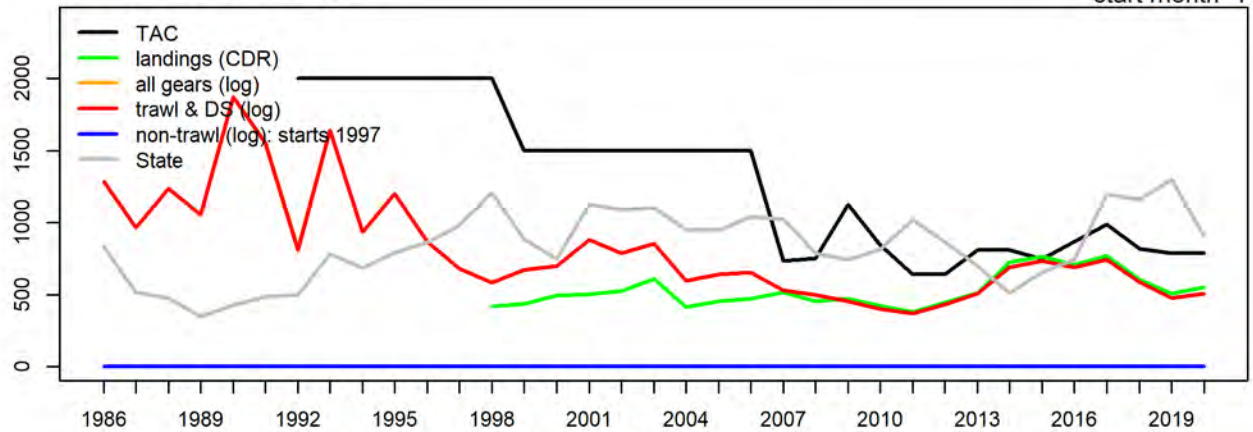
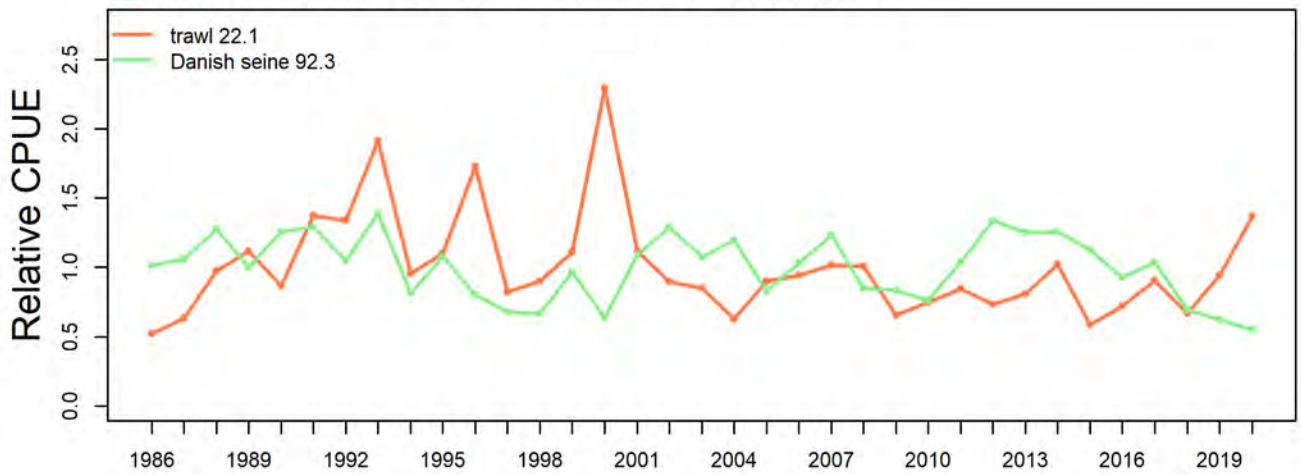


Figure 56 Onboard length data sampling coverage by month (top), zone (middle) and gear for Royal Red Prawn. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# School Whiting TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

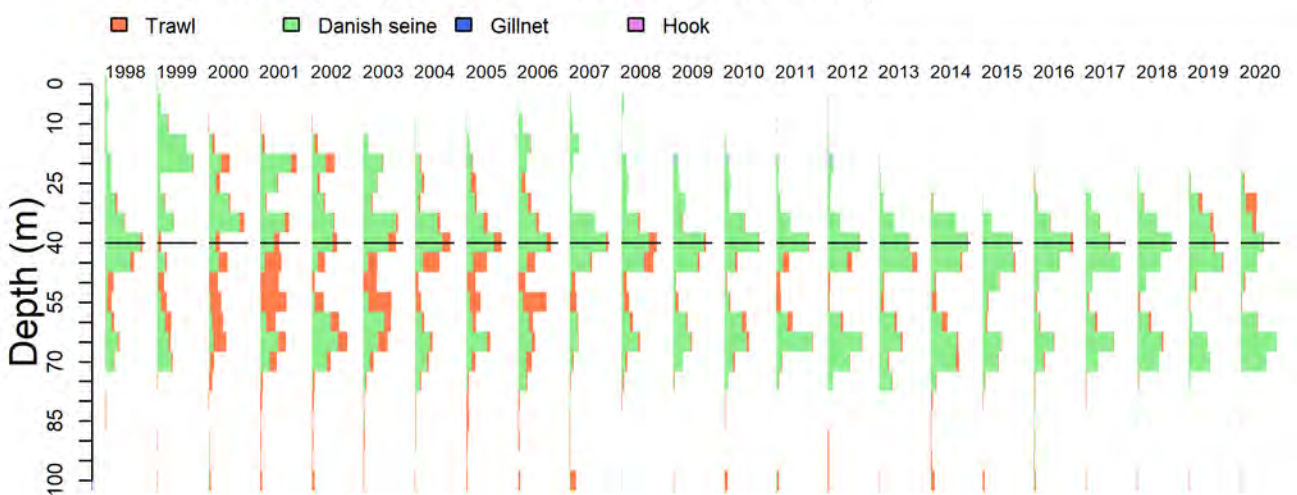
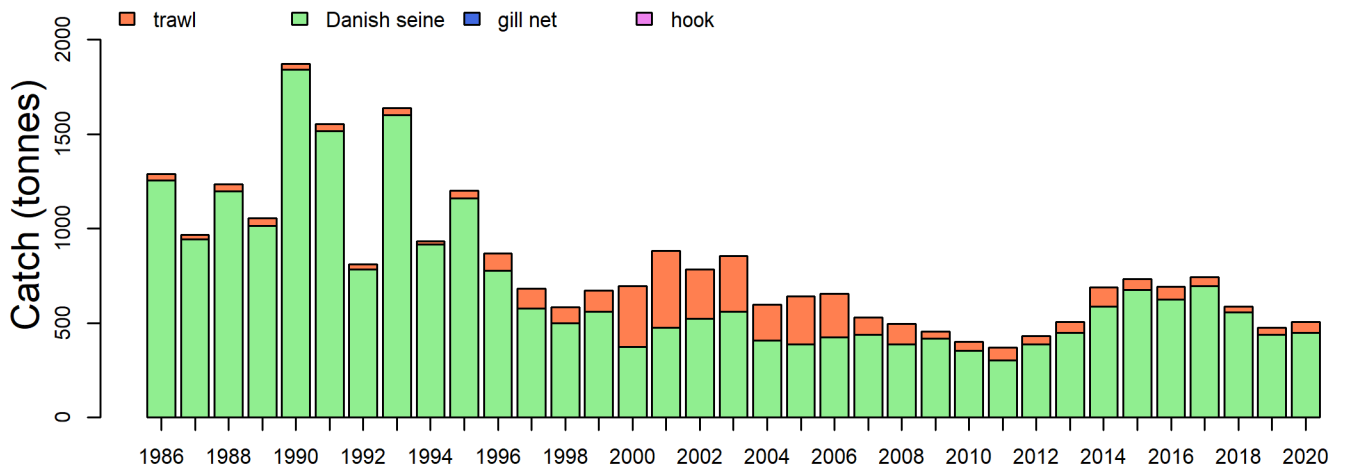


Figure 57 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for School Whiting. For more information contact AFMA on (02) 6225 5555.

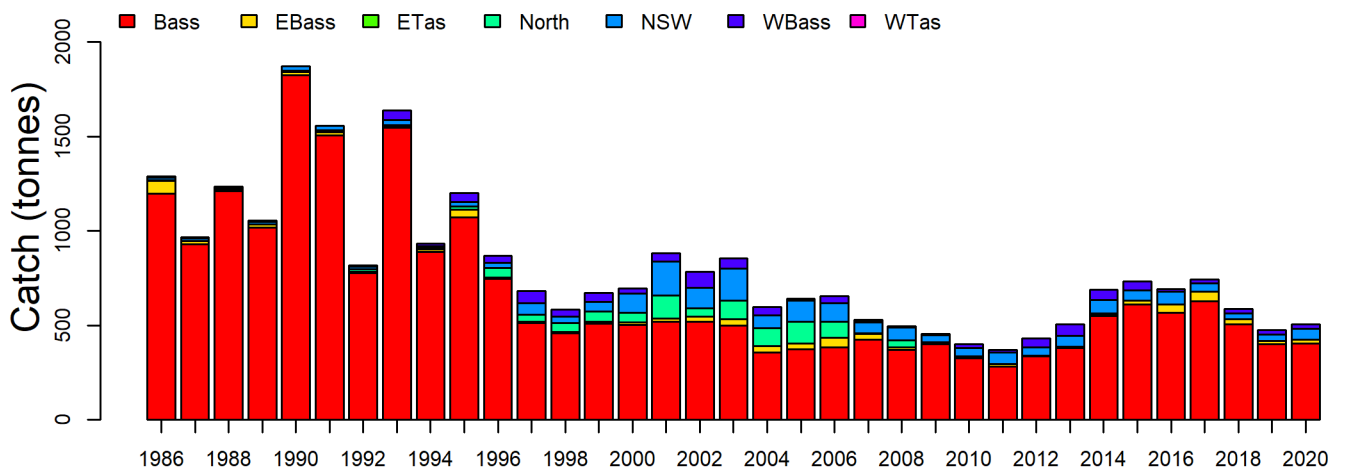


# School Whiting

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

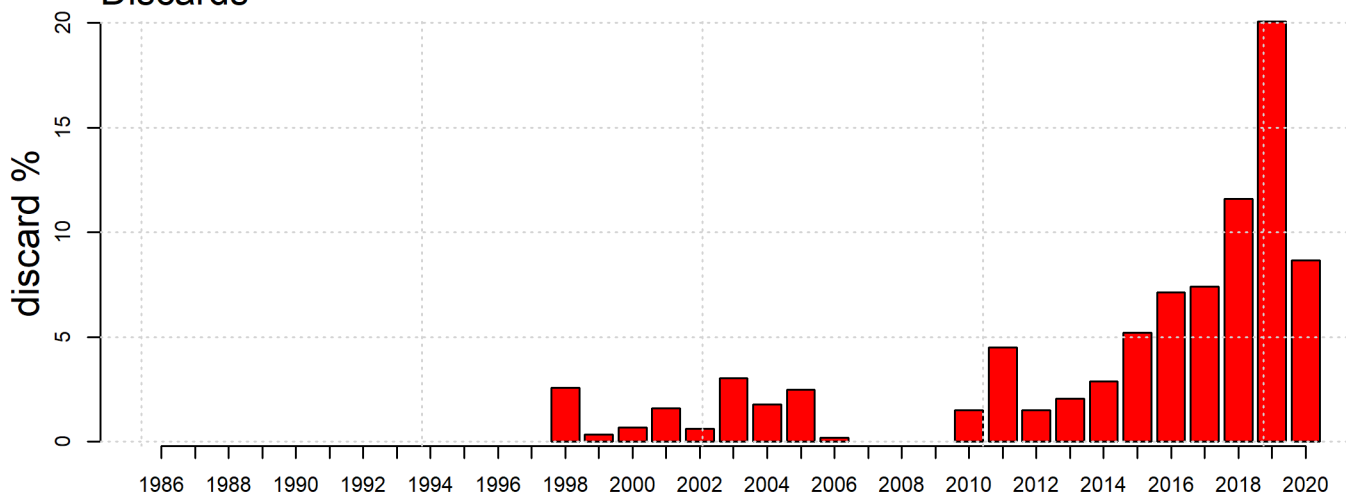


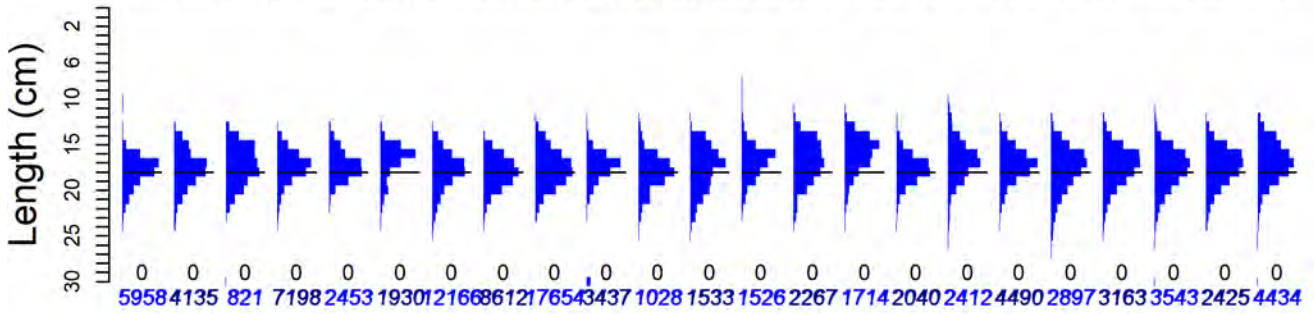
Figure 58 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for School Whiting. For more information contact AFMA on (02) 6225 5555.

# School Whiting

Mon Aug 16 10:34:08 2021

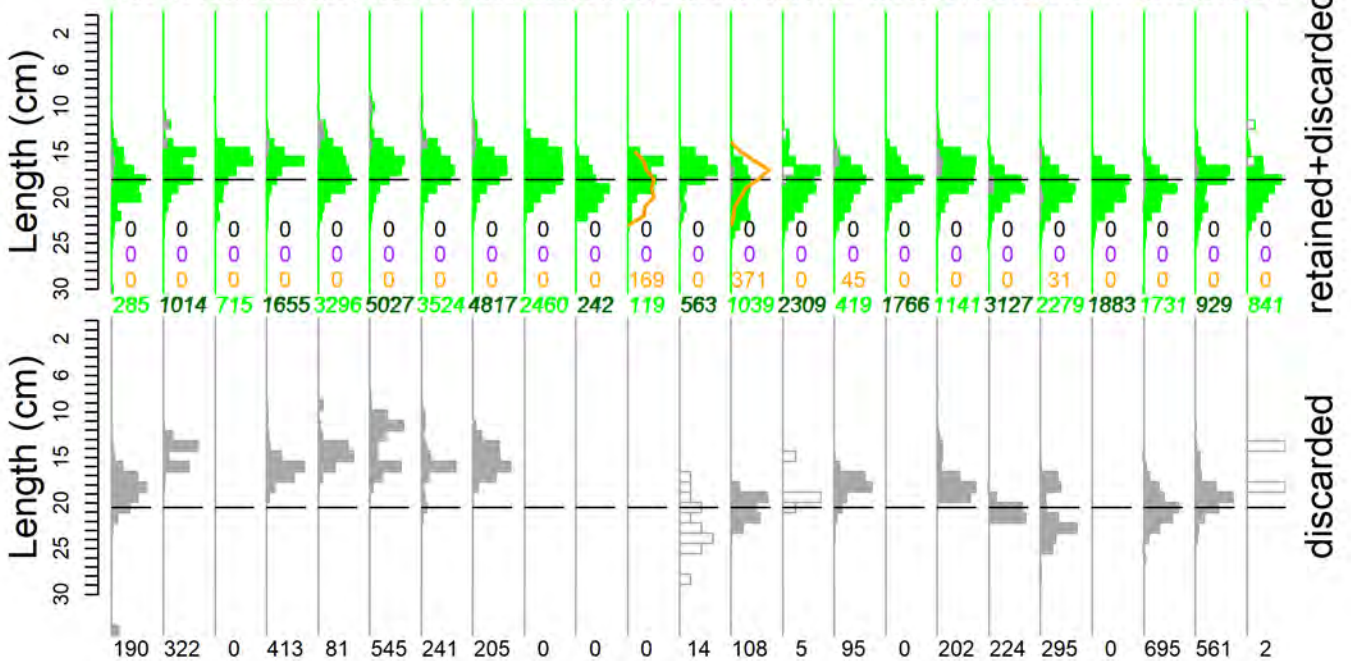
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

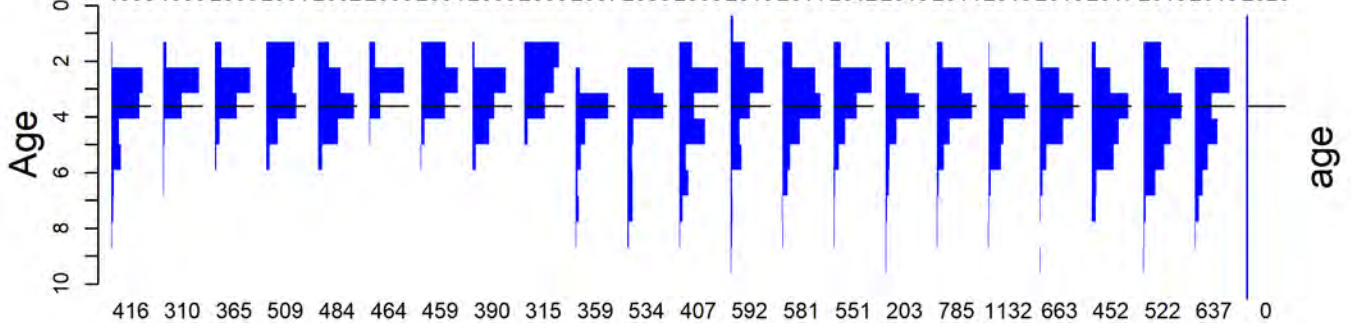


Figure 59 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for School Whiting. For more information contact AFMA on (02) 6225 5555.

# School Whiting

# Port length data

Mon Aug 16 10:34:09 2021

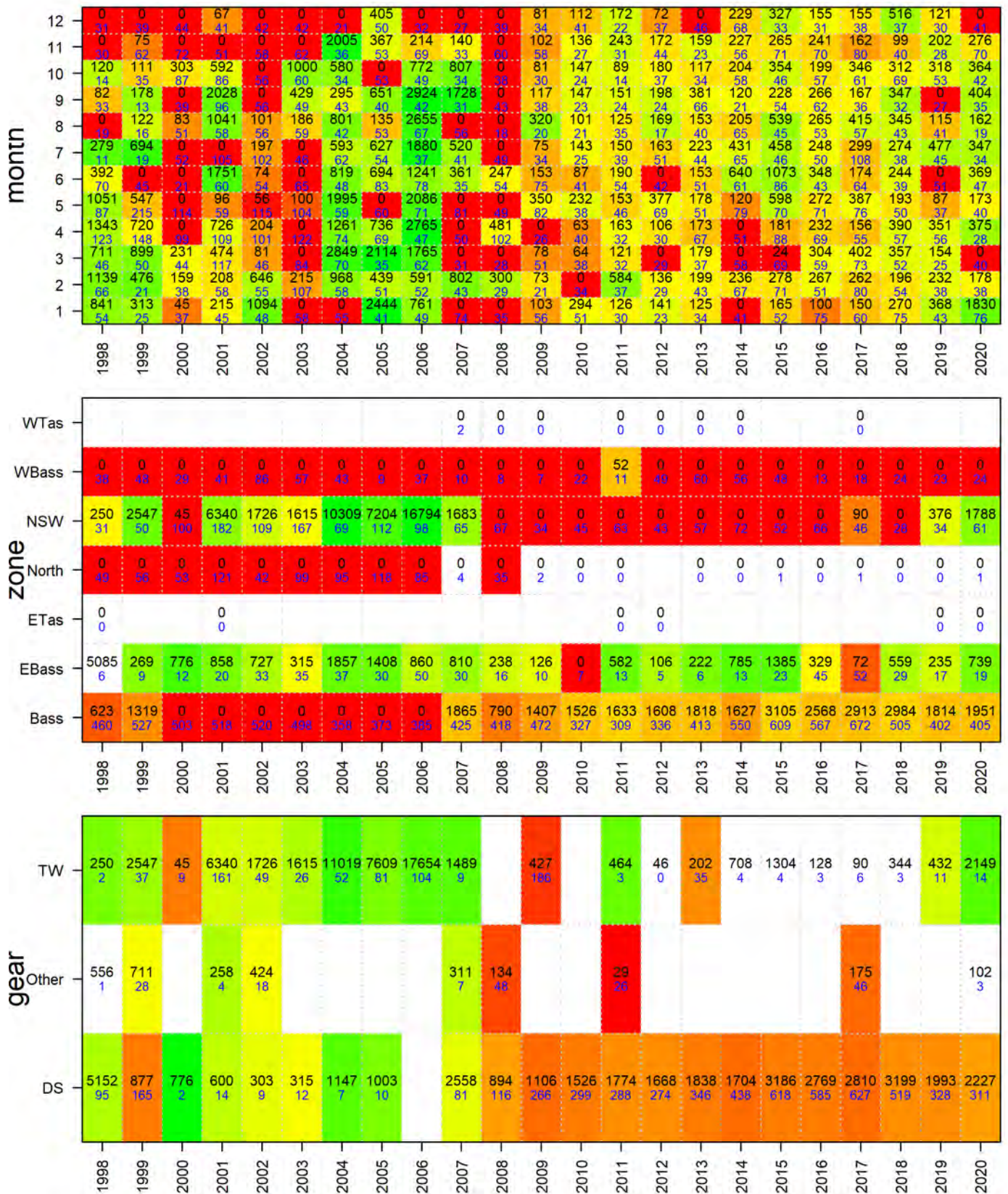


Figure 60 Port length data sampling coverage by month (top), zone (middle) and gear for School Whiting. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# School Whiting

# Onboard discard weight data

Mon Aug 16 10:34:10 2021

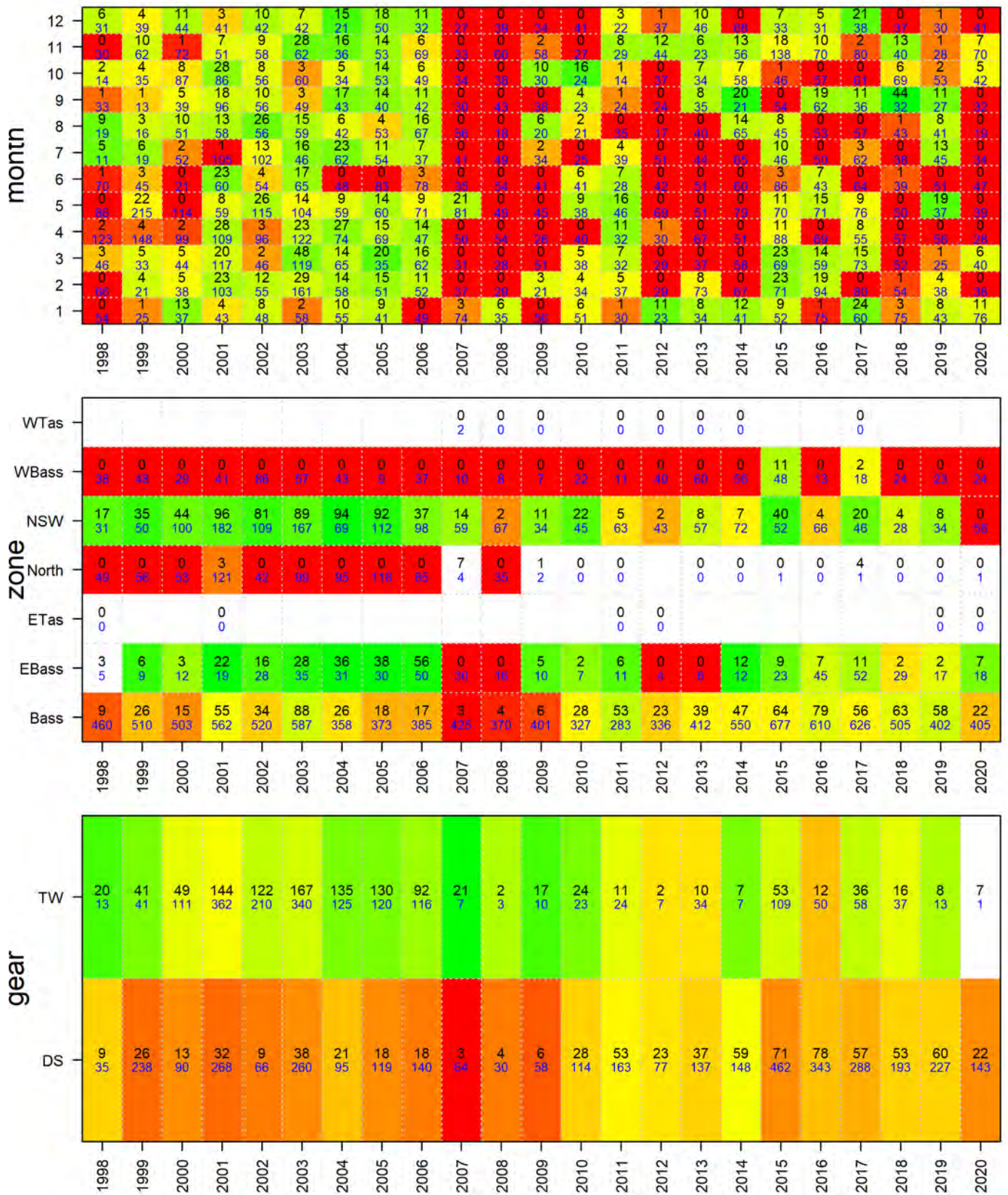


Figure 61 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for School Whiting. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# School Whiting

# Onboard length data

Mon Aug 16 10:34:10 2021

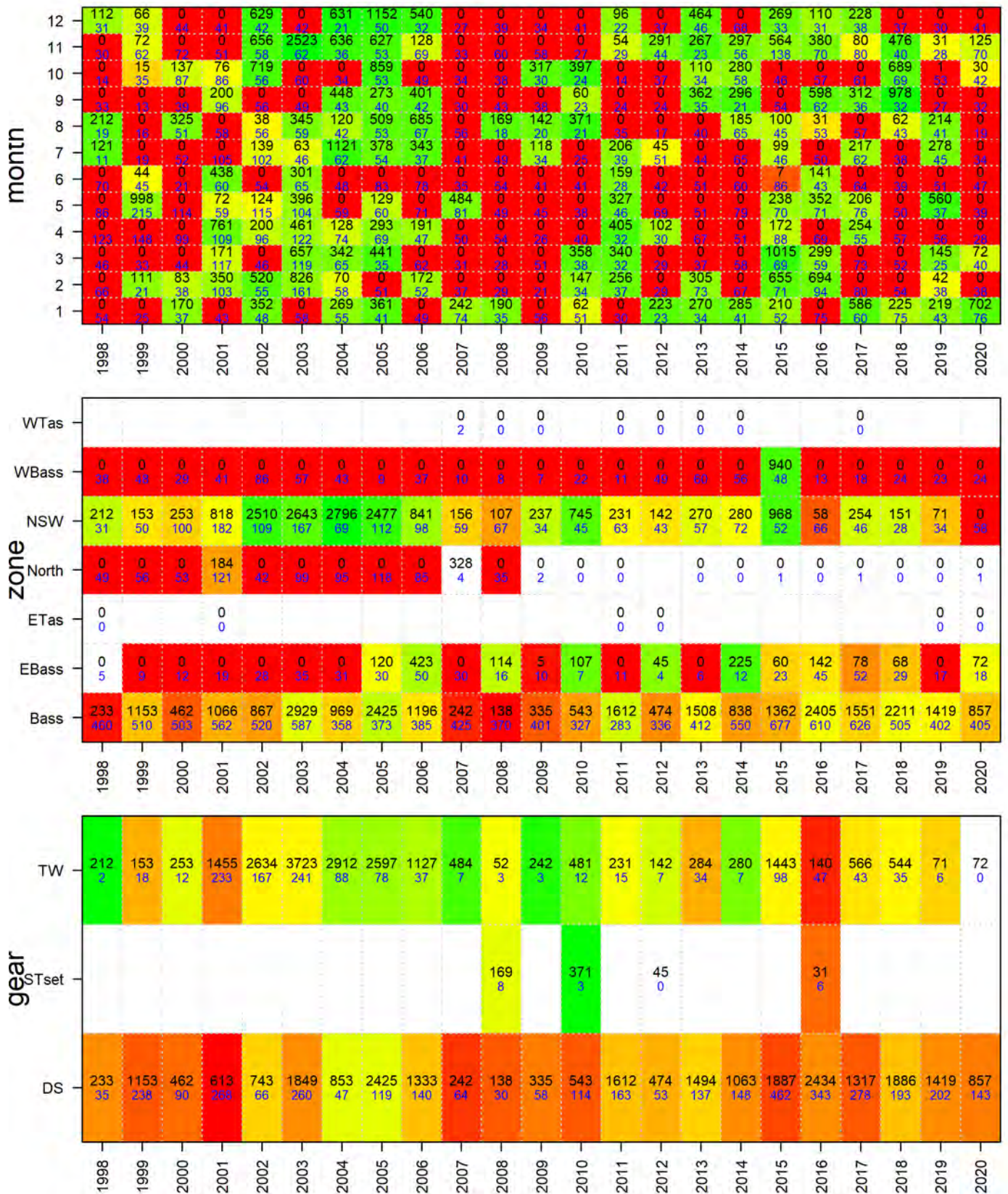


Figure 62 Onboard length data sampling coverage by month (top), zone (middle) and gear for School Whiting. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# School Whiting

# Age data

Mon Aug 16 10:34:11 2021

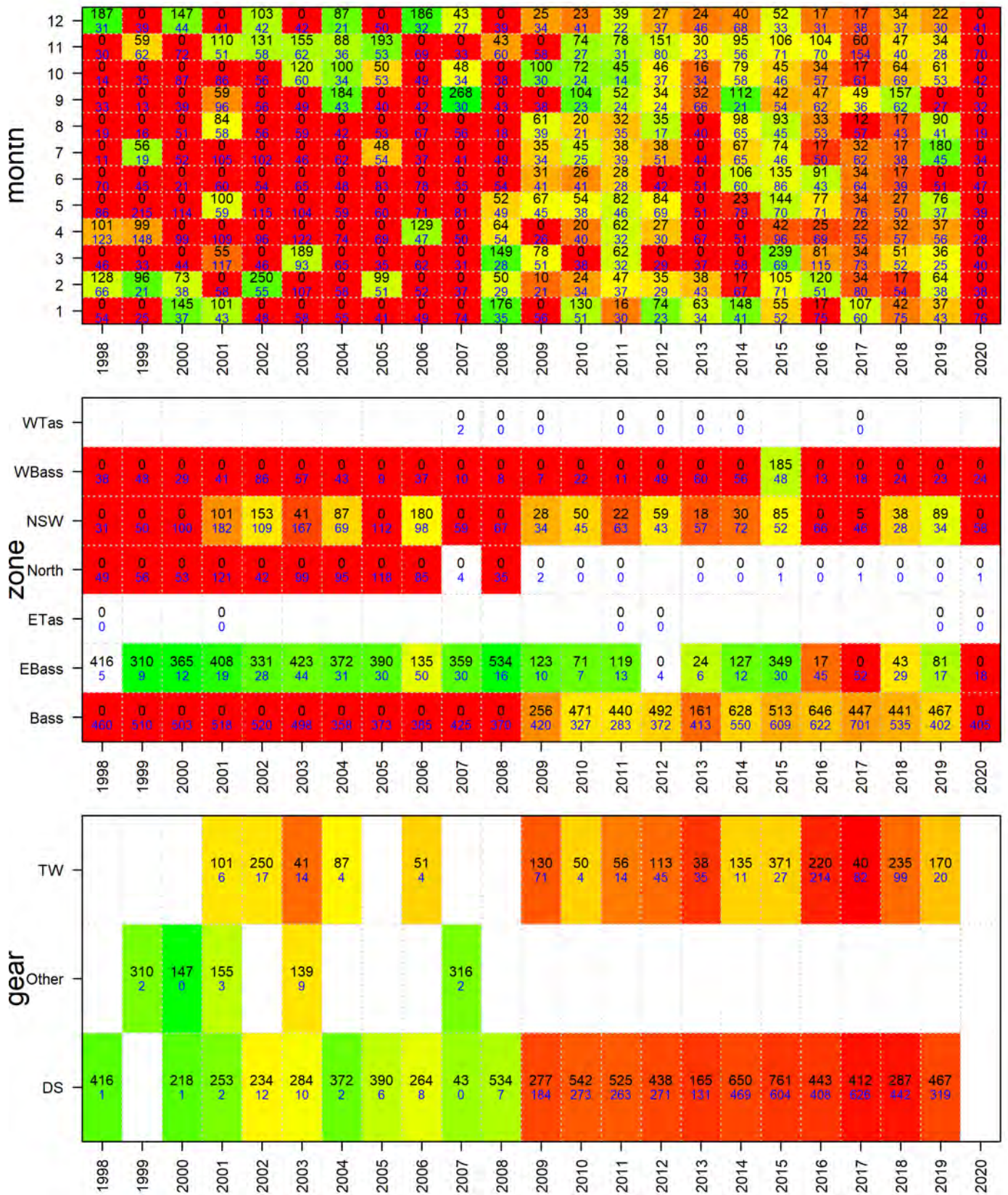
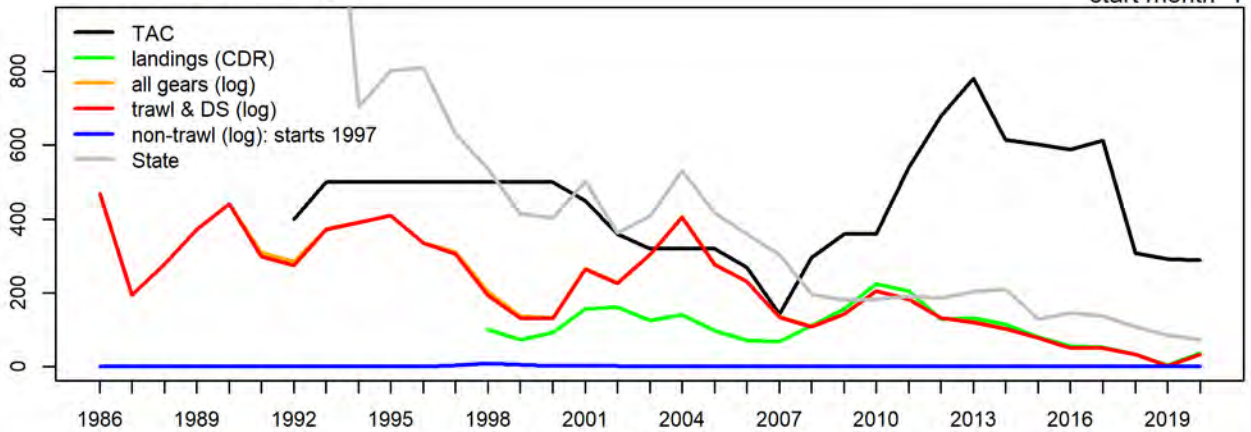


Figure 63 Age data sampling coverage by month (top), zone (middle) and gear for School Whiting. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

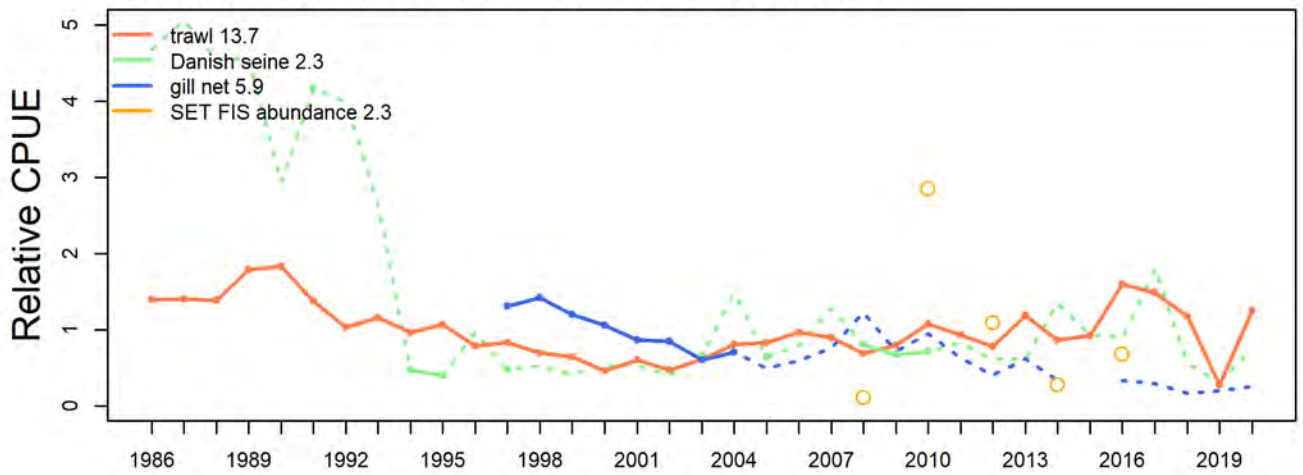
# Silver Trevally

## TAC and landings

Mon Aug 16 10:34:12 2021  
 region SET unit code TRE sa code TRE  
 37337062  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

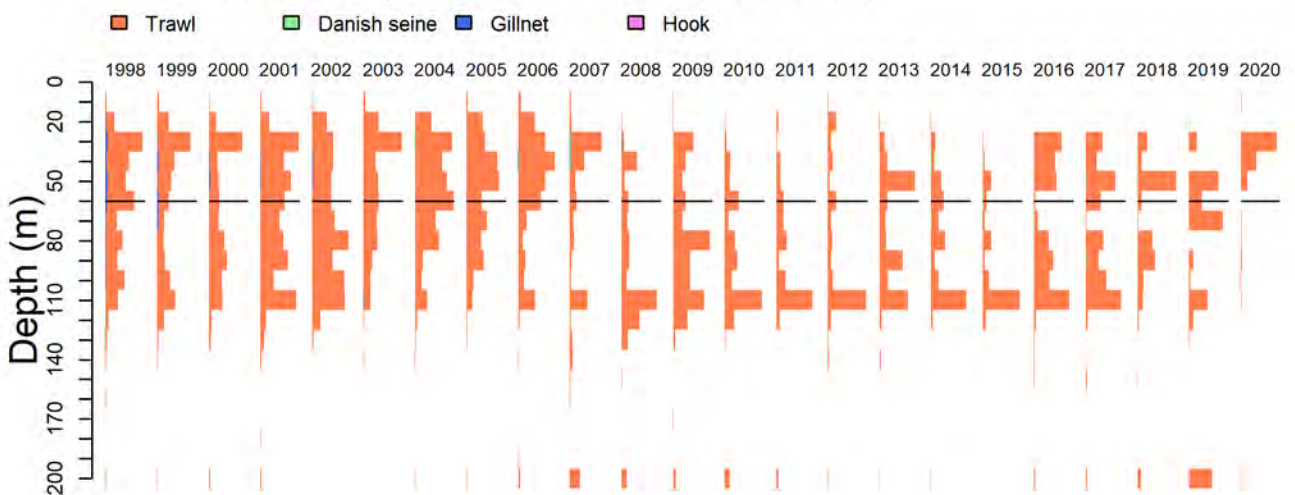
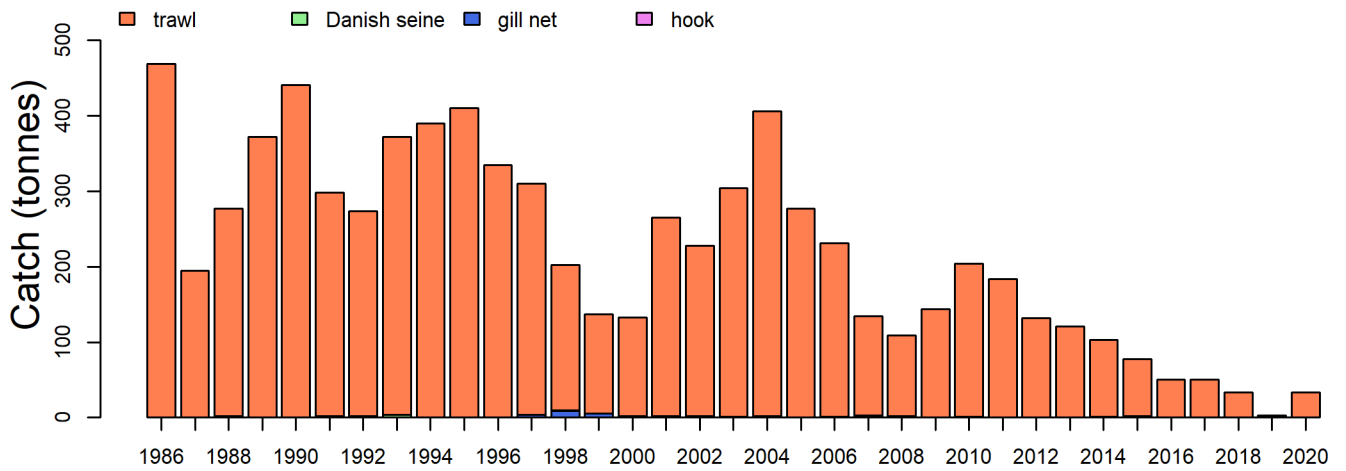


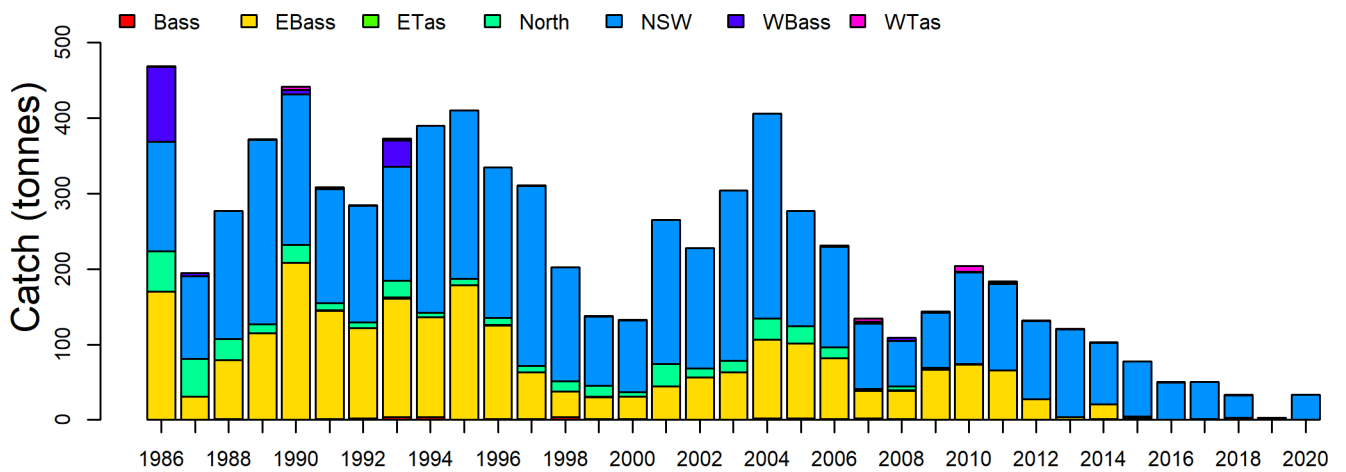
Figure 64 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Silver Trevally. For more information contact AFMA on (02) 6225 5555.

# Silver Trevally

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

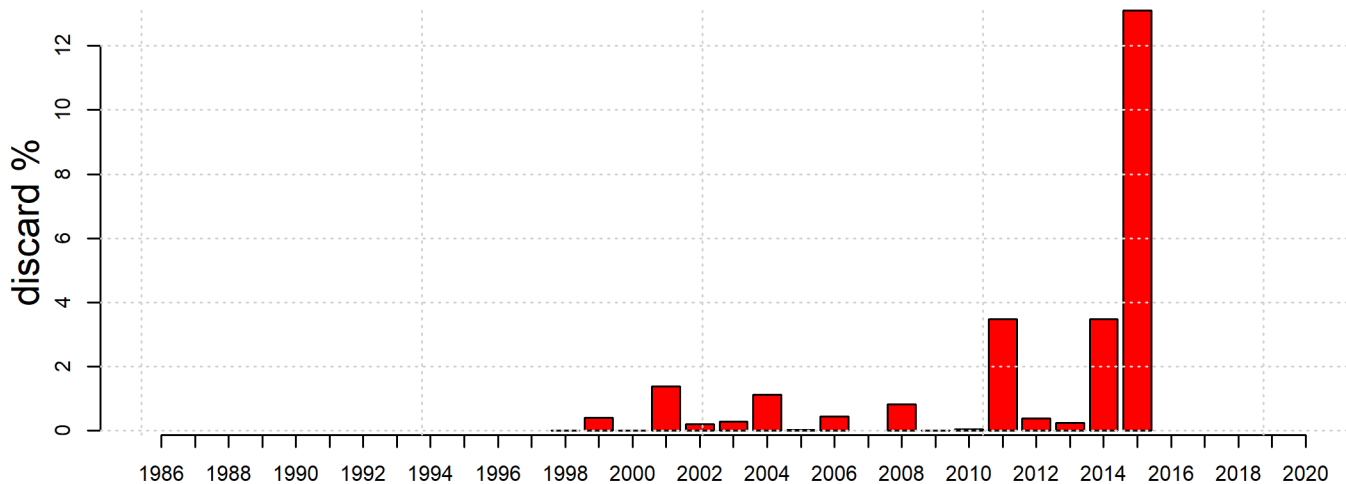


Figure 65 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Silver Trevally. For more information contact AFMA on (02) 6225 5555.

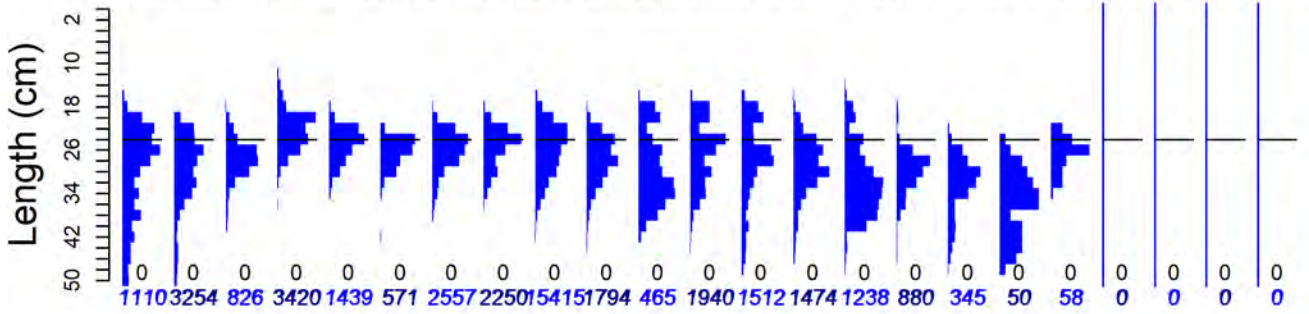


# Silver Trevally

Mon Aug 16 10:34:14 2021

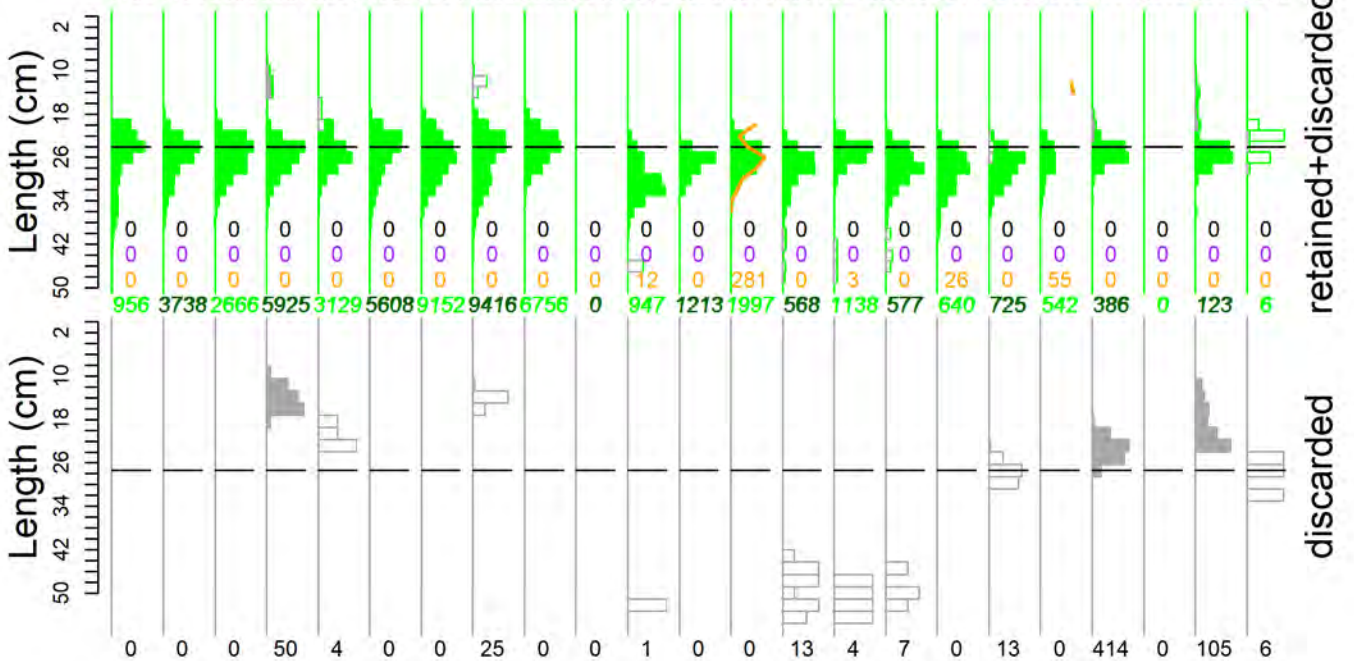
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

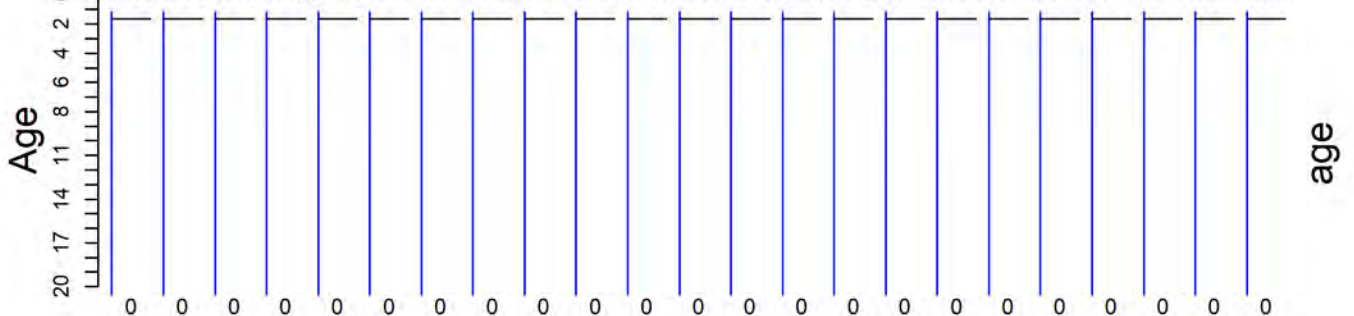


Figure 66 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Silver Trevally. For more information contact AFMA on (02) 6225 5555.

# Silver Trevally

# Port length data

Mon Aug 16 10:34:15 2021

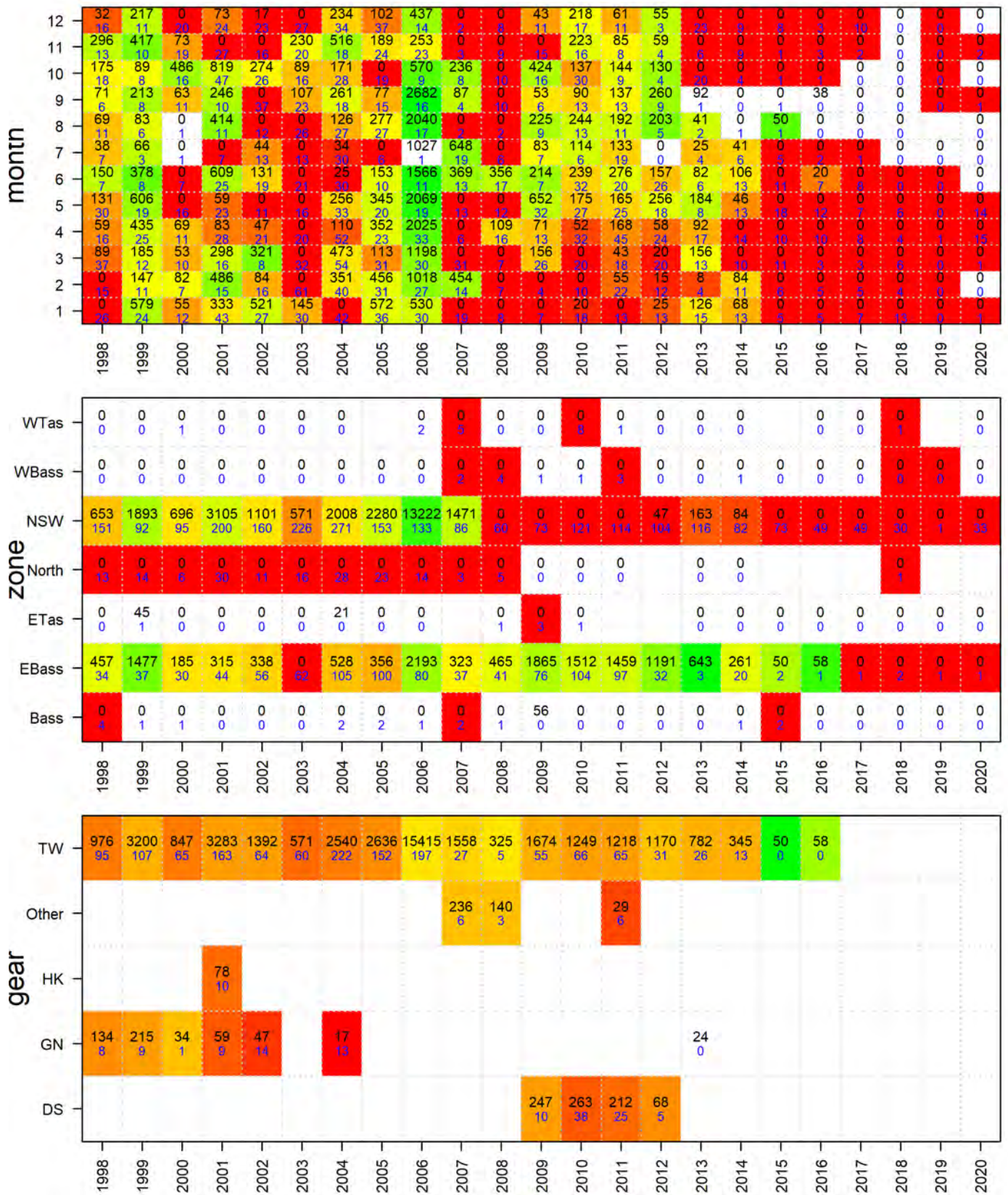


Figure 67 Port length data sampling coverage by month (top), zone (middle) and gear for Silver Trevally. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Silver Trevally

# Onboard discard weight data

Mon Aug 16 10:34:16 2021

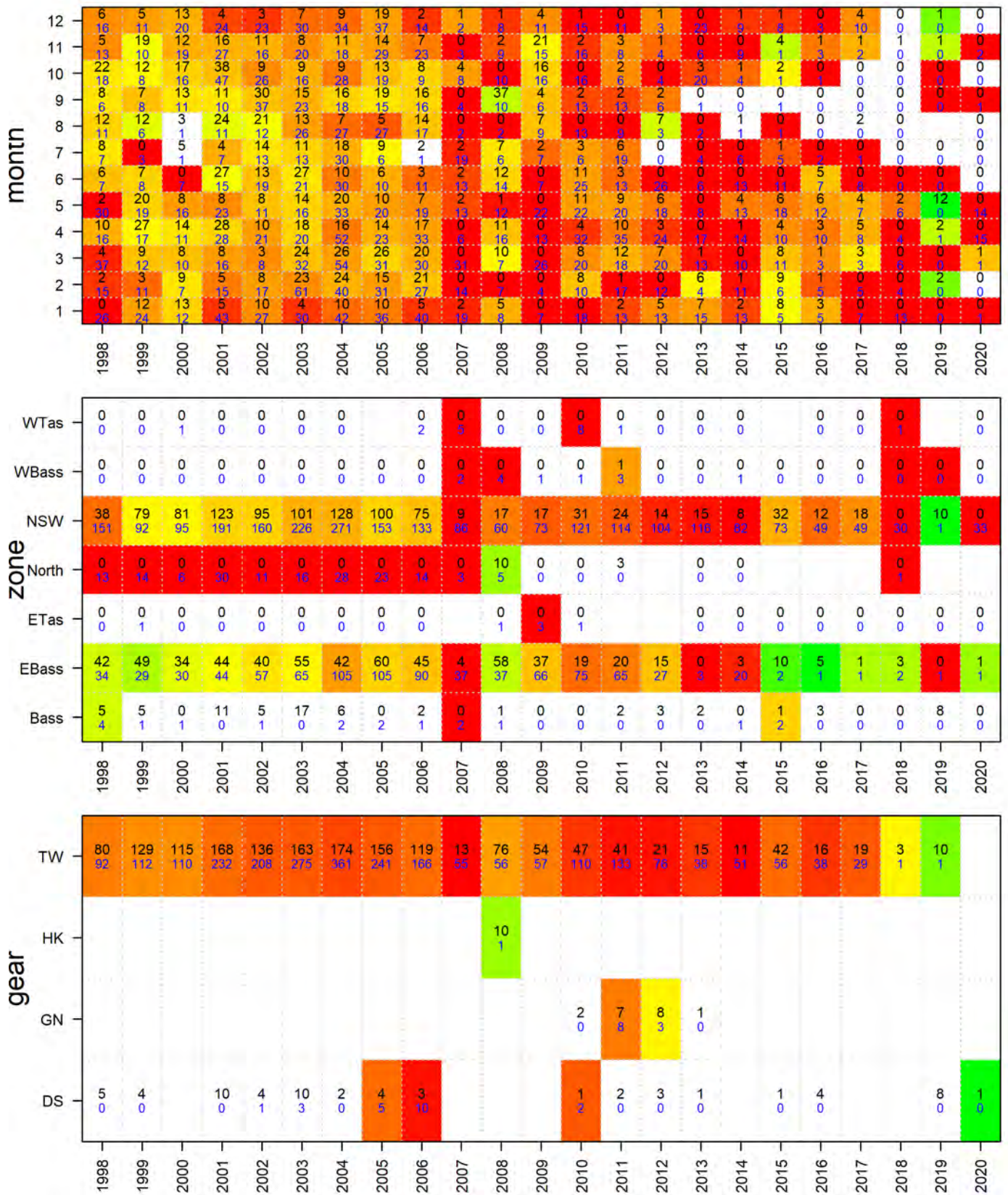


Figure 68 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Silver Trevally. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Silver Trevally

# Onboard length data

Mon Aug 16 10:34:17 2021

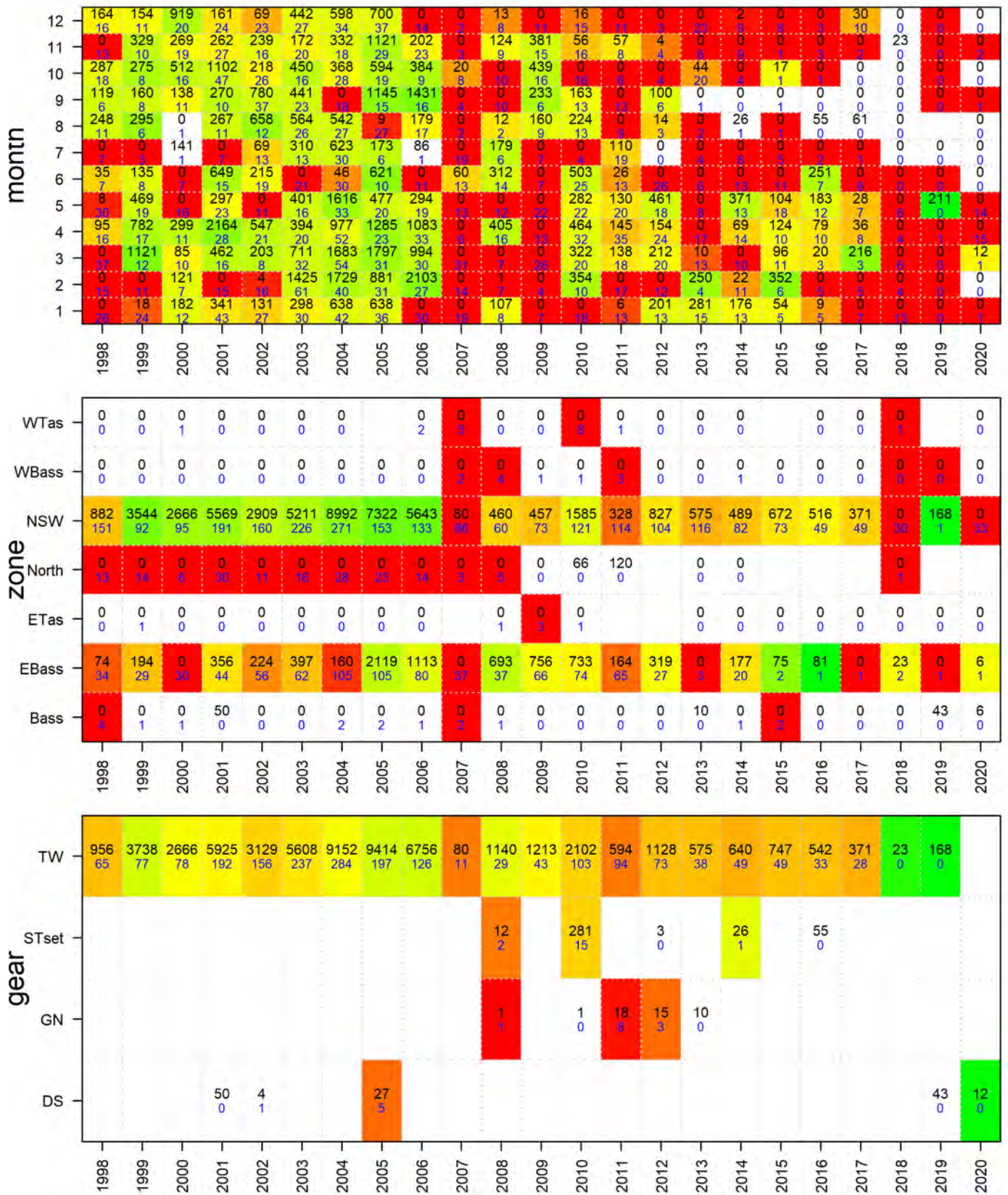
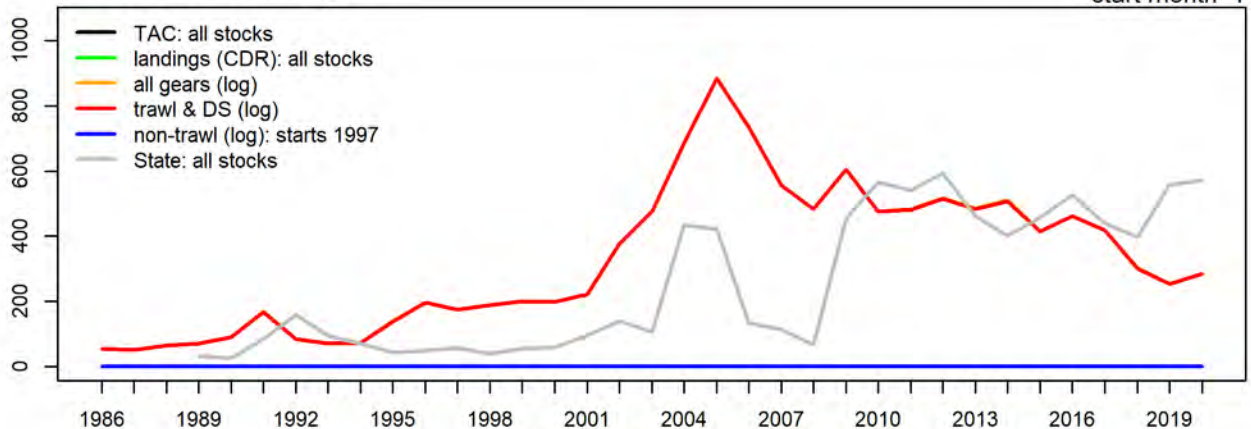


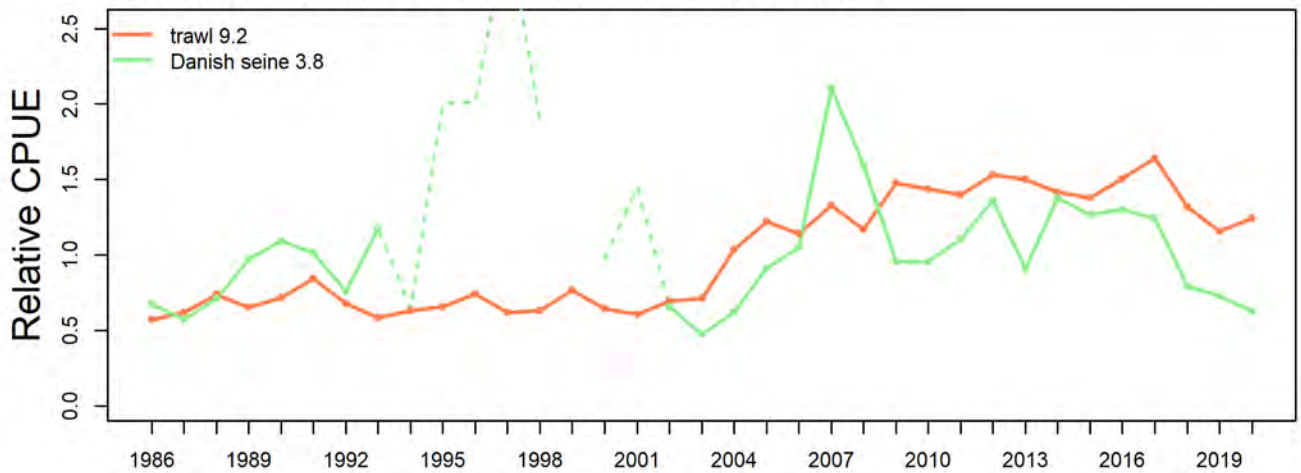
Figure 69 Onboard length data sampling coverage by month (top), zone (middle) and gear for Silver Trevally. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Ocean Jackets

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

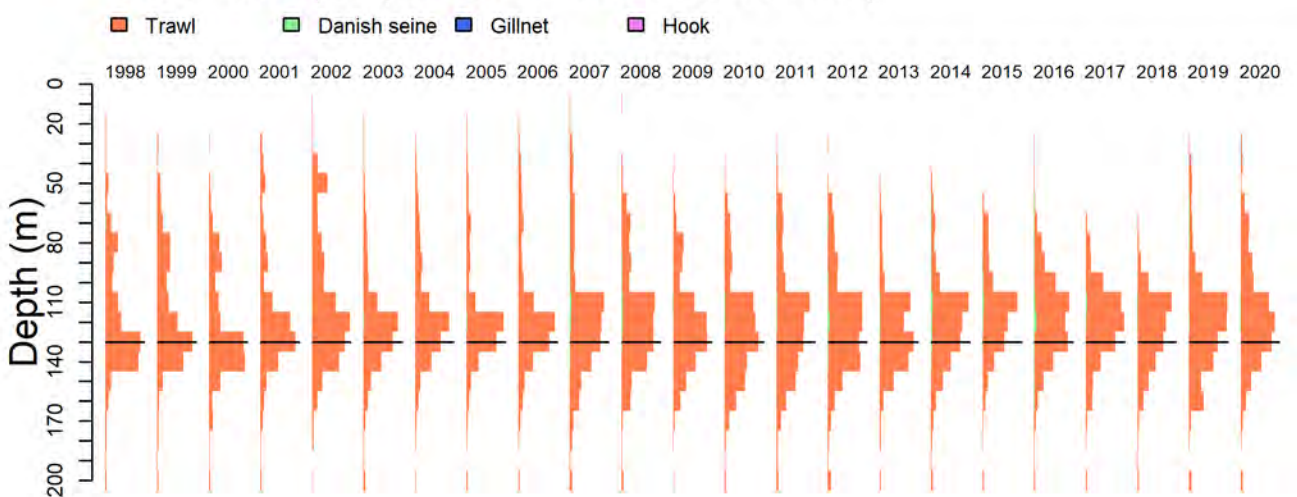
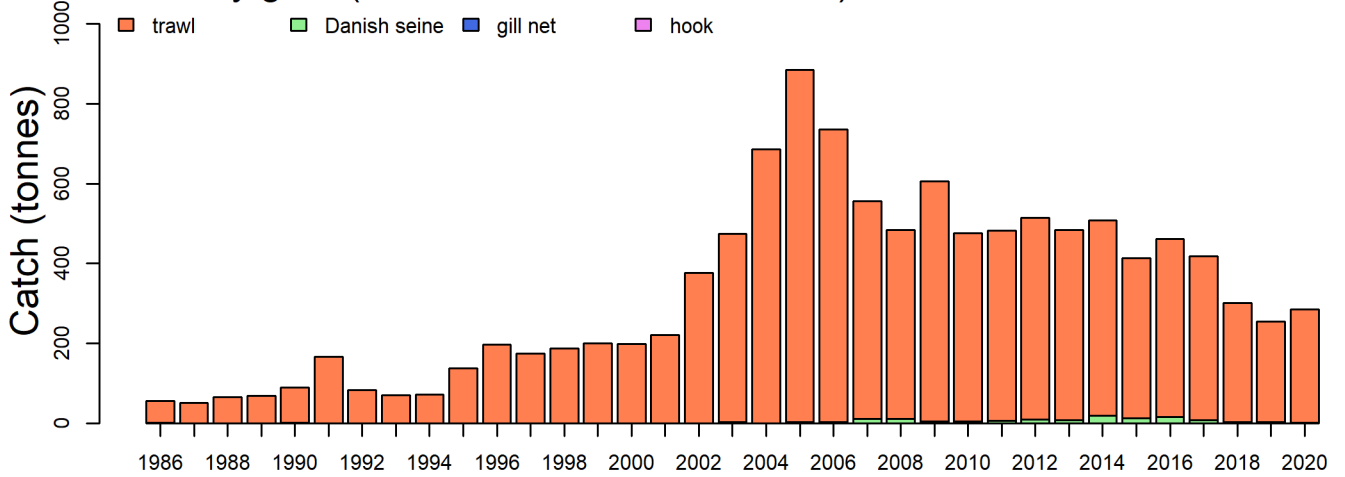


Figure 70 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Ocean Jackets. For more information contact AFMA on (02) 6225 5555.

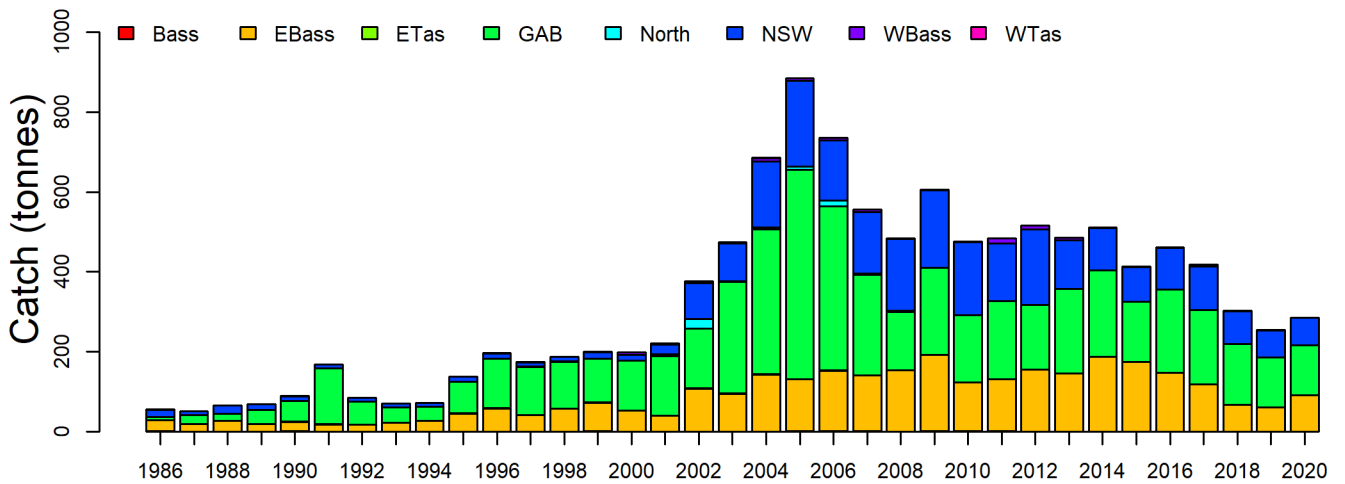
# Ocean Jackets

Mon Aug 16 10:34:22 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

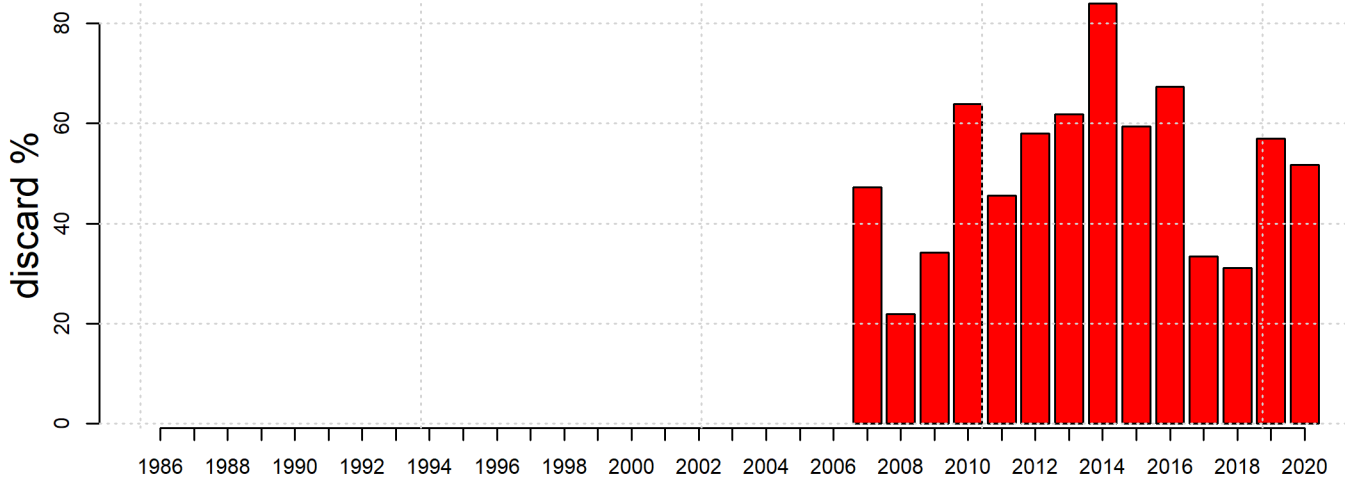


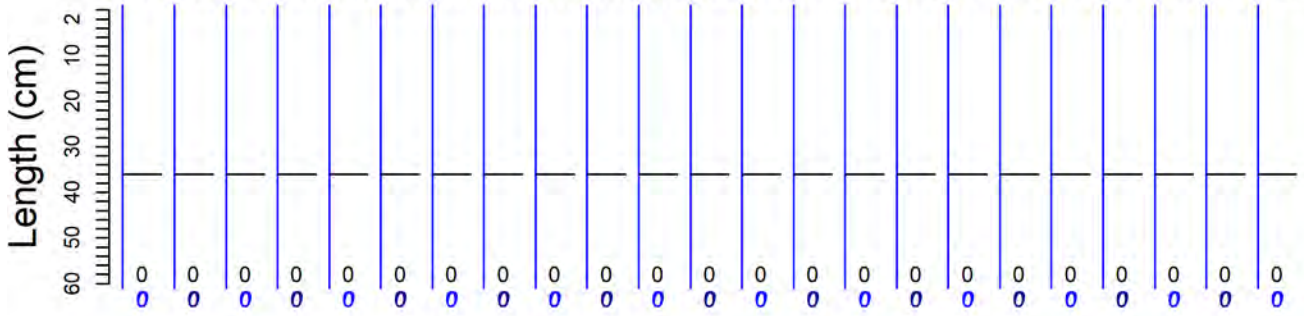
Figure 71 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Ocean Jackets. For more information contact AFMA on (02) 6225 5555.

# Ocean Jackets

Mon Aug 16 10:34:22 2021

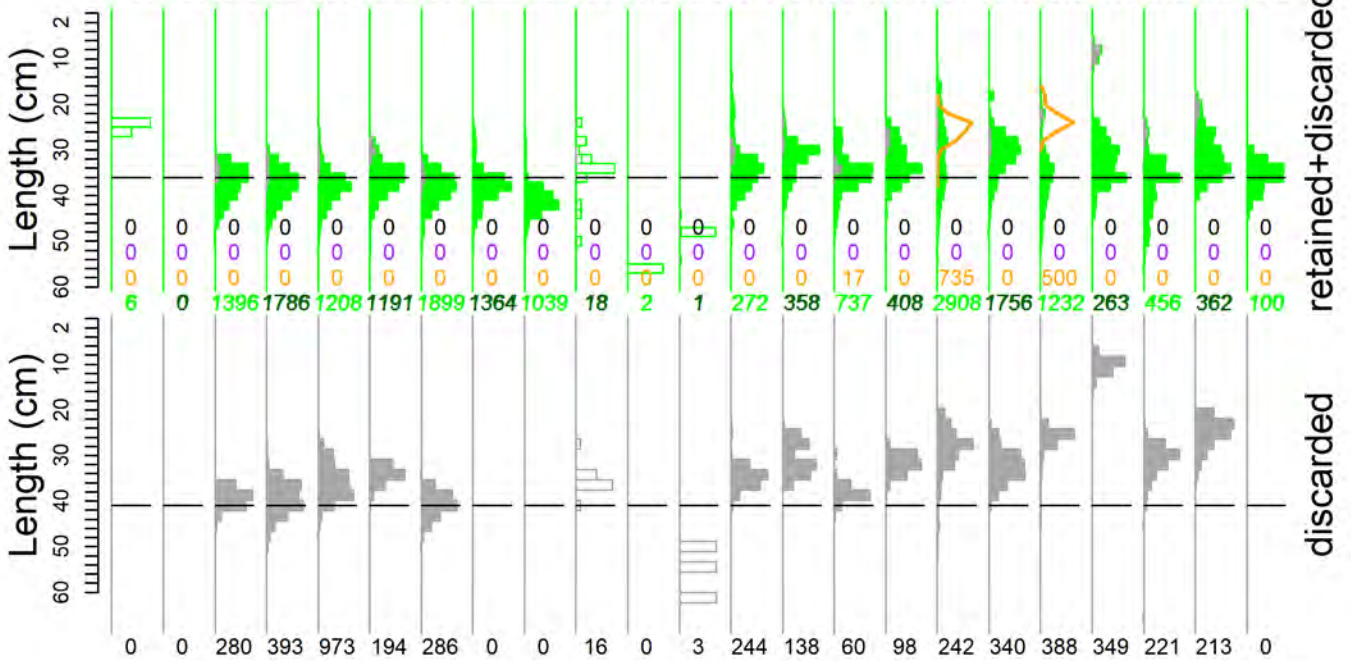
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

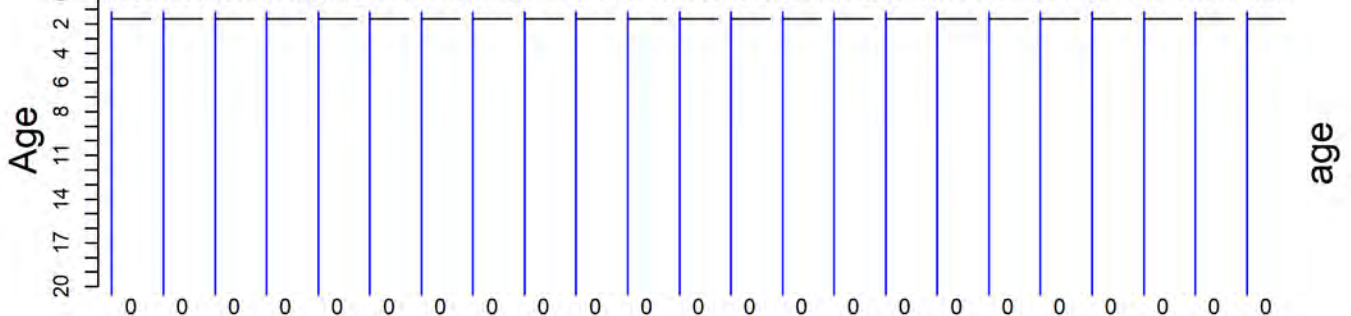


Figure 72 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Ocean Jackets. For more information contact AFMA on (02) 6225 5555.

# Ocean Jackets

# Onboard discard weight data

Mon Aug 16 10:34:23 2021

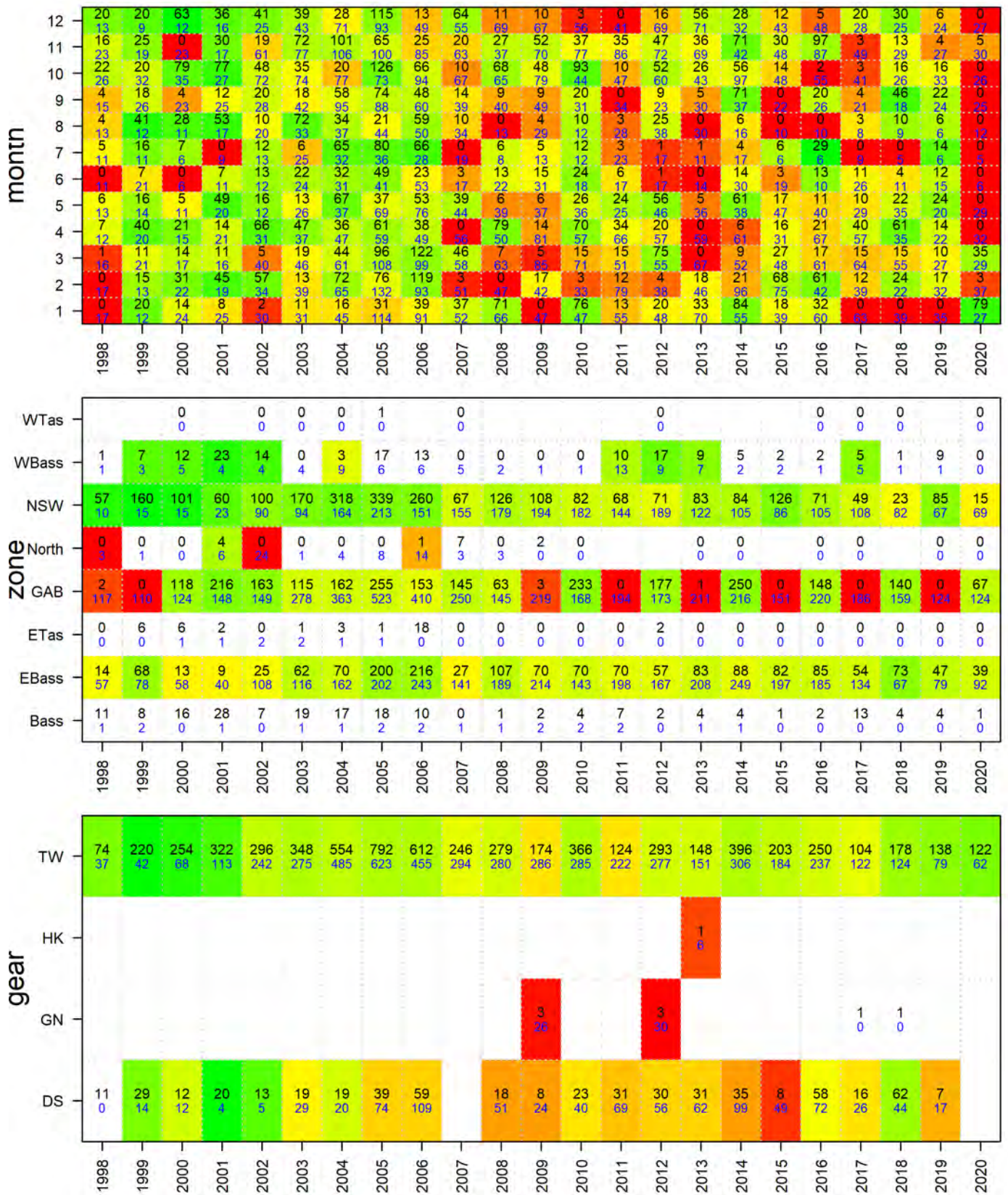


Figure 73 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Ocean Jackets. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Ocean Jackets

# Onboard length data

Mon Aug 16 10:34:24 2021

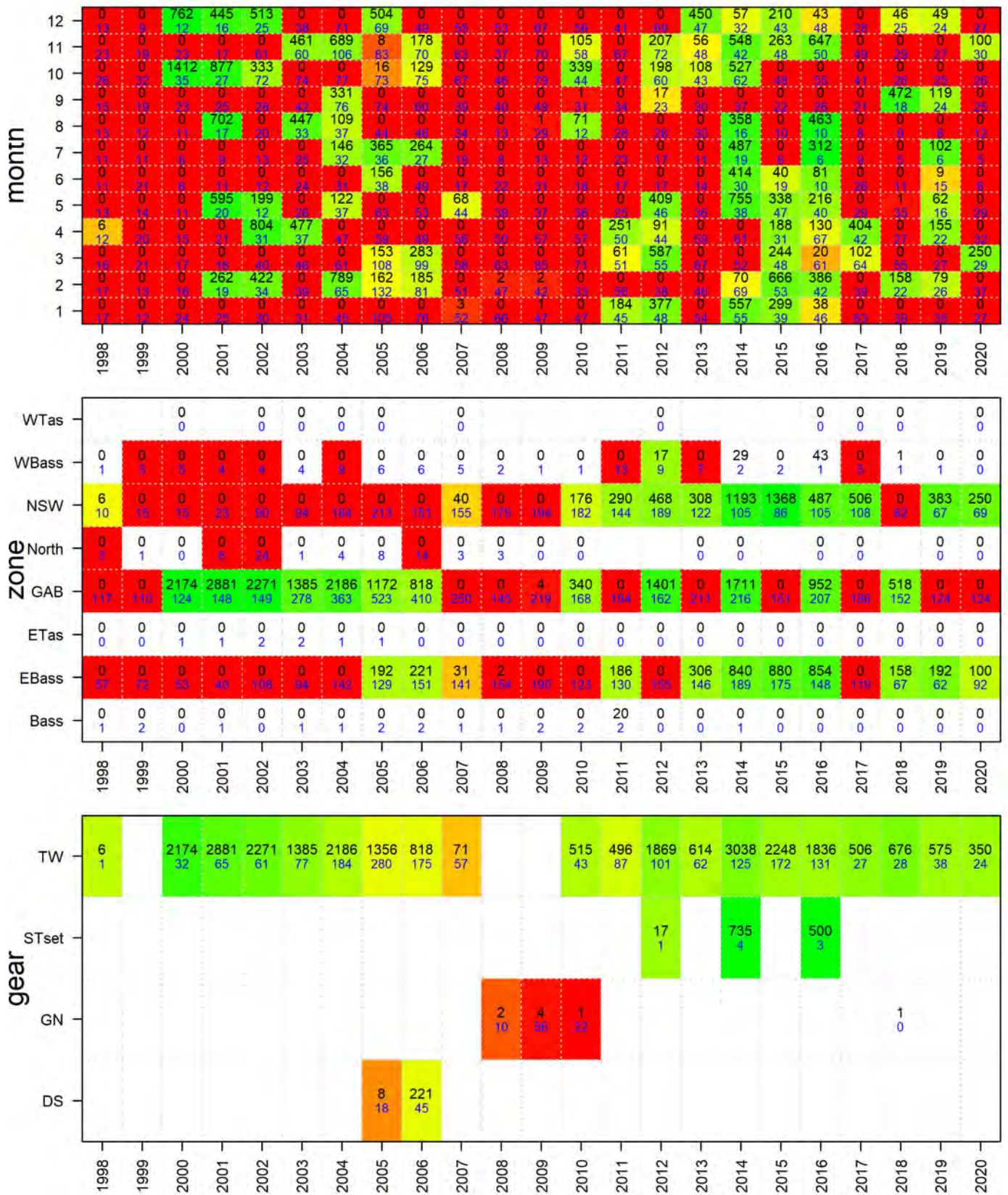
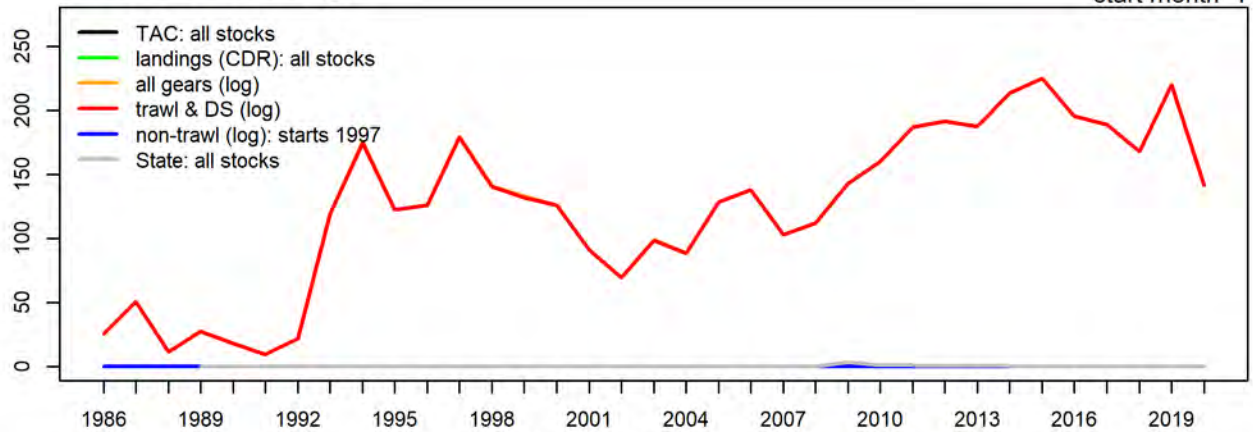


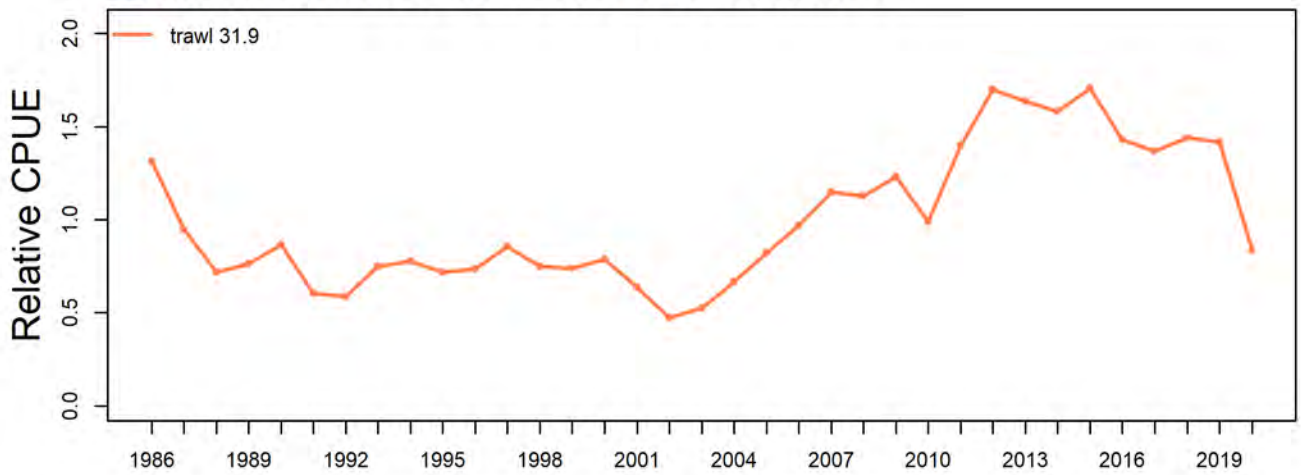
Figure 74 Onboard length data sampling coverage by month (top), zone (middle) and gear for Ocean Jackets. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Frostfish

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

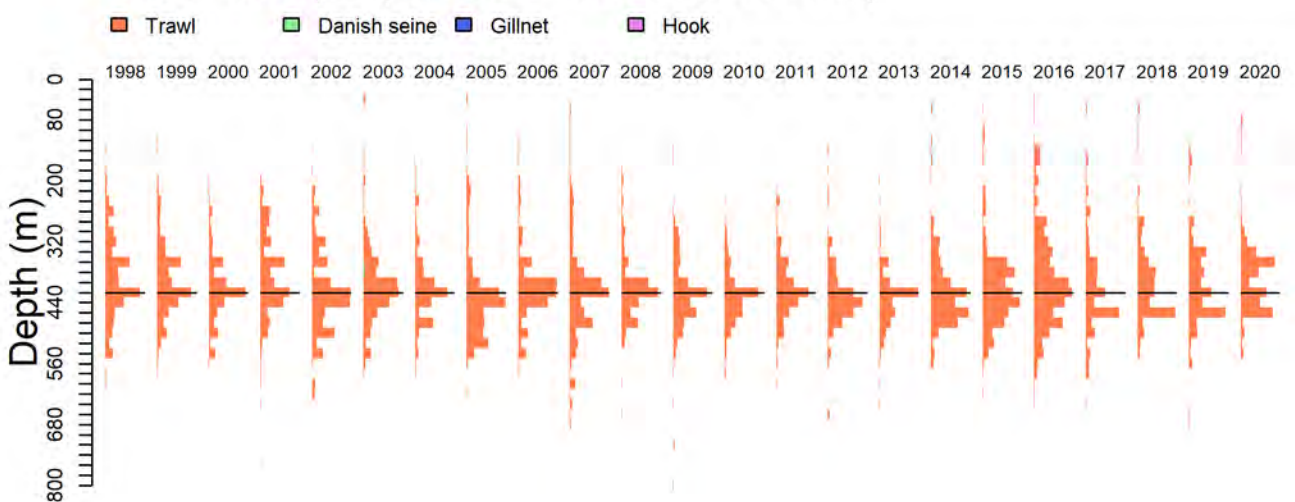
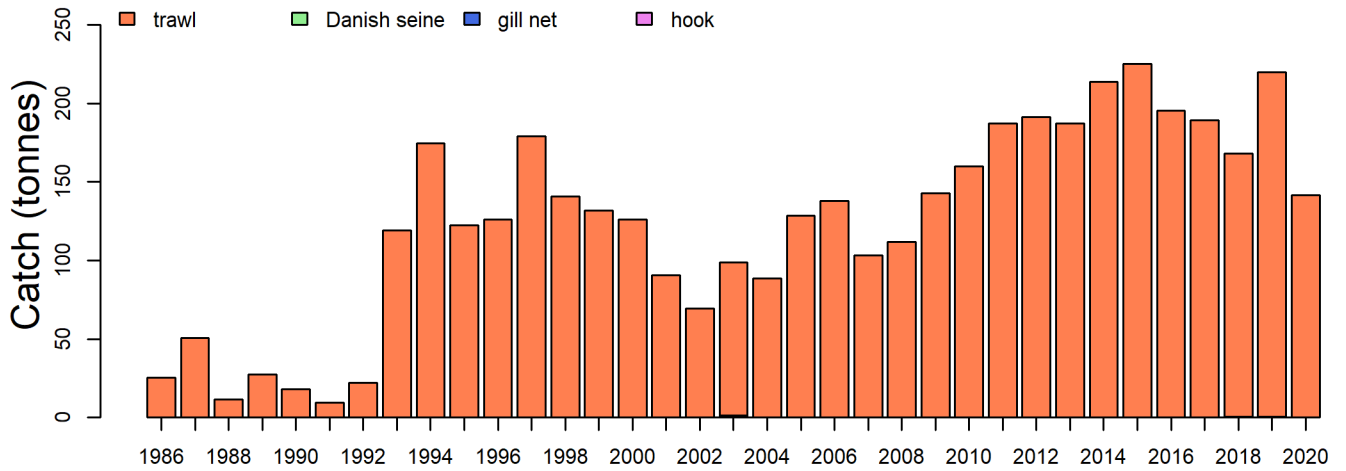


Figure 75 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Frostfish. For more information contact AFMA on (02) 6225 5555.

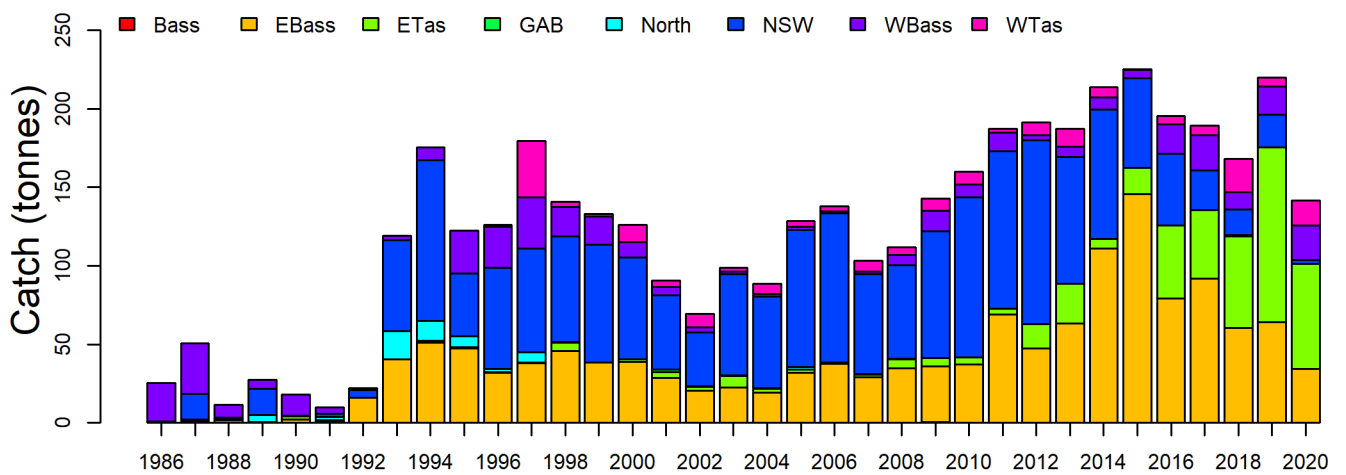
# Frostfish

Mon Aug 16 10:34:26 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

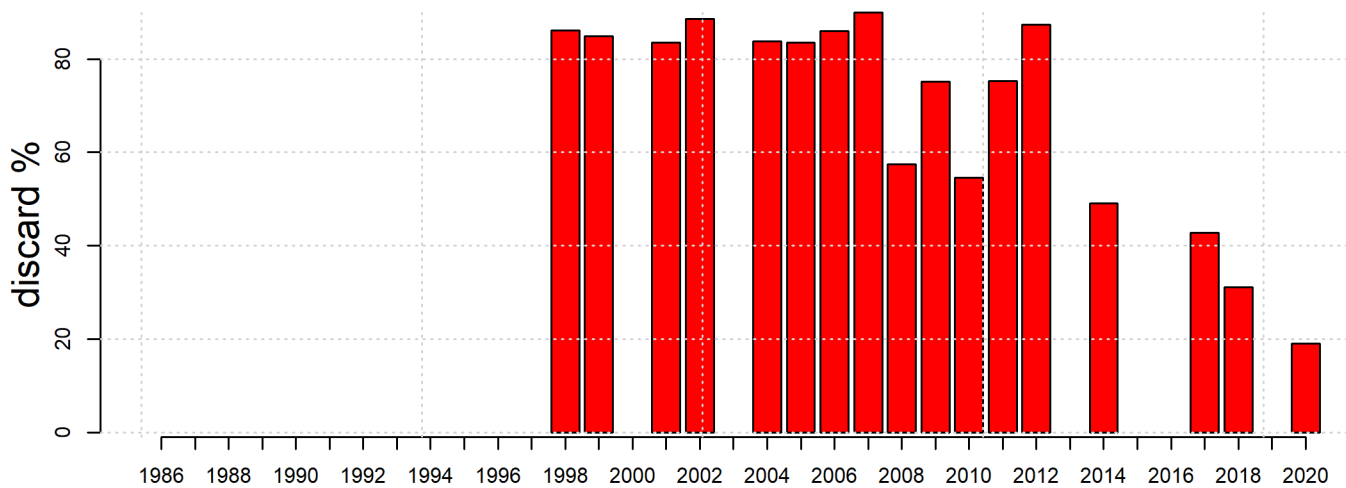


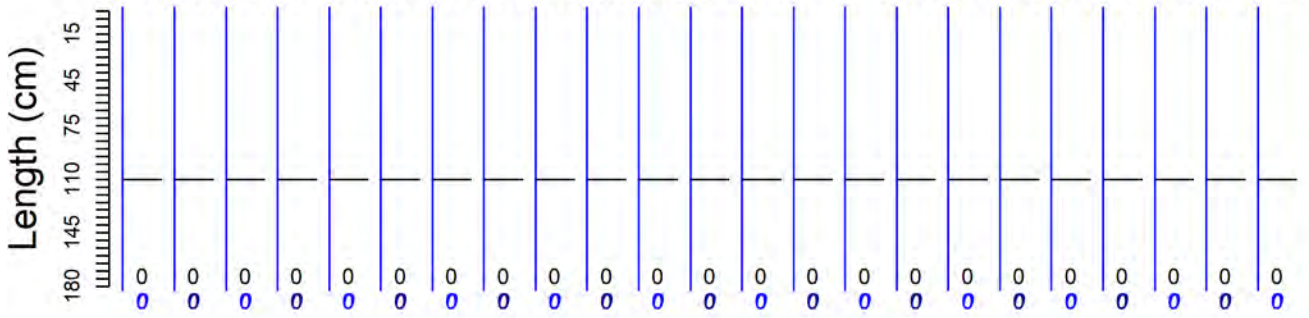
Figure 76 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Frostfish. For more information contact AFMA on (02) 6225 5555.

# Frostfish

Mon Aug 16 10:34:27 2021

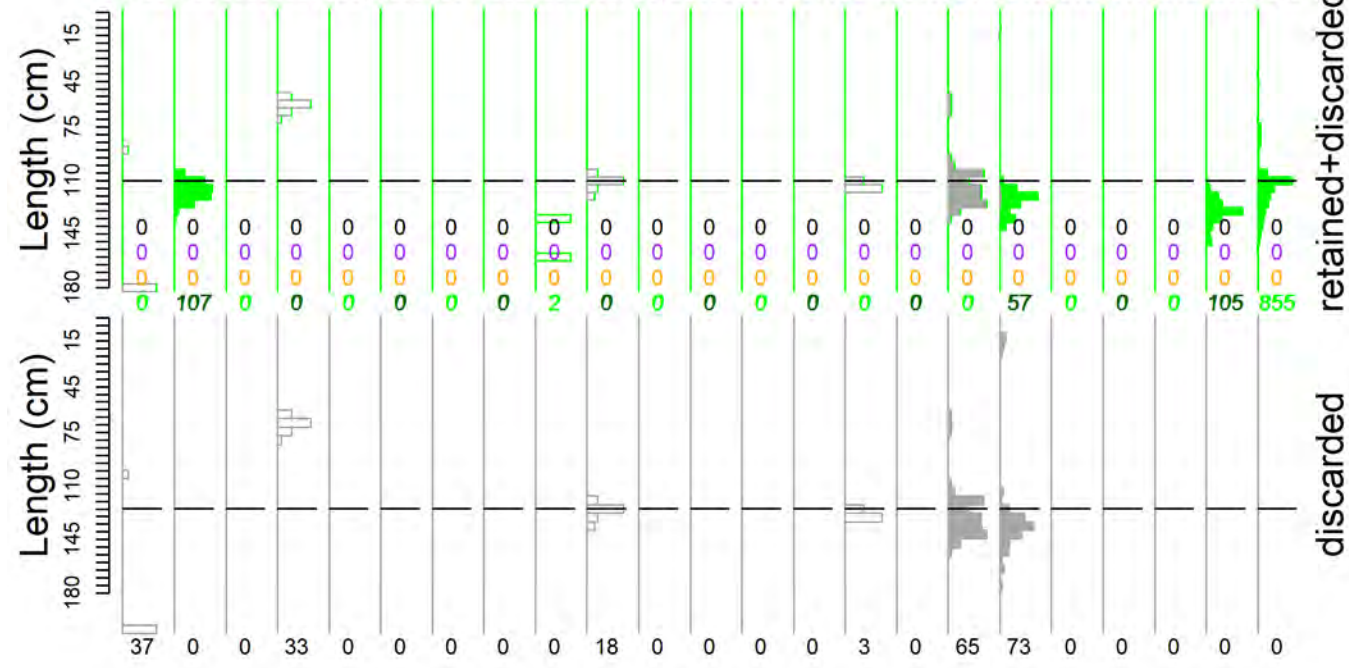
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

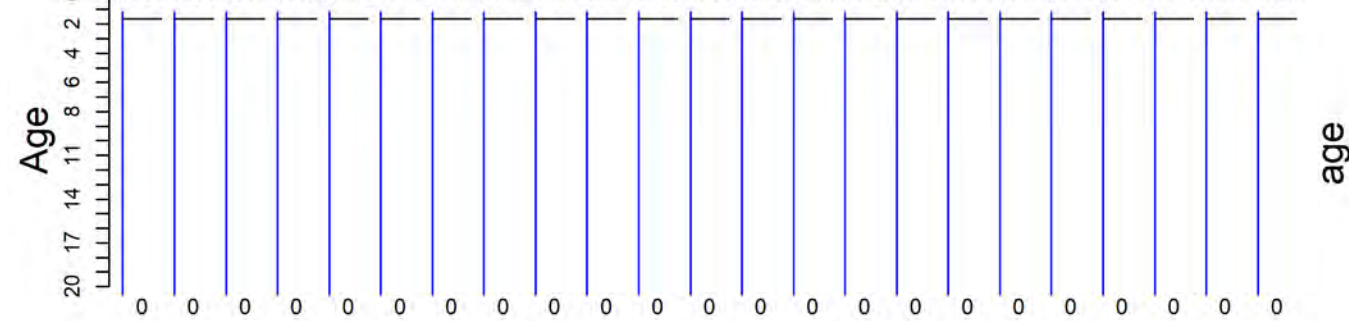


Figure 77 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Frostfish. For more information contact AFMA on (02) 6225 5555.

# Frostfish

# Onboard discard weight data

Mon Aug 16 10:34:28 2021

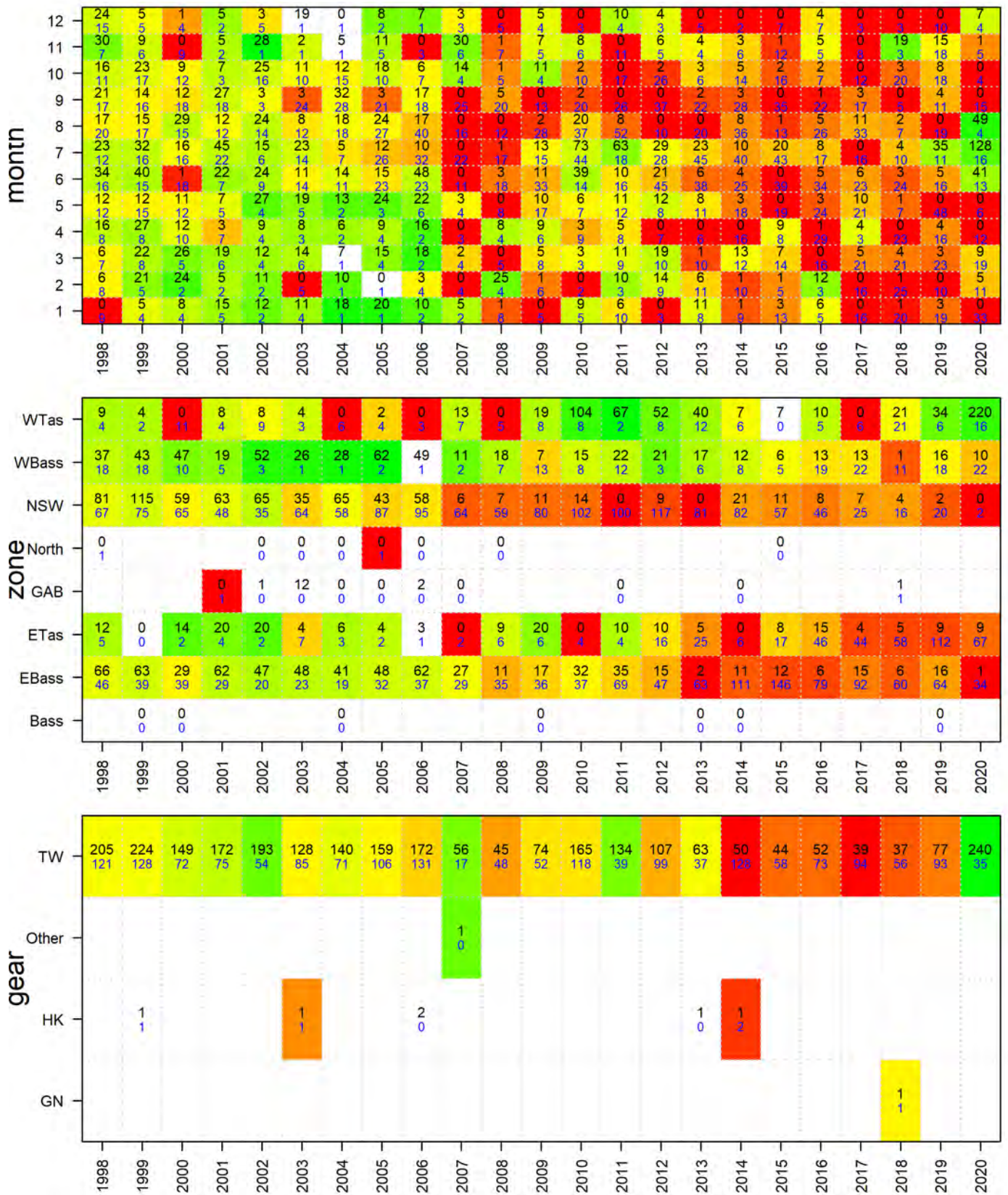


Figure 78 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Frostfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Frostfish

# Onboard length data

Mon Aug 16 10:34:28 2021

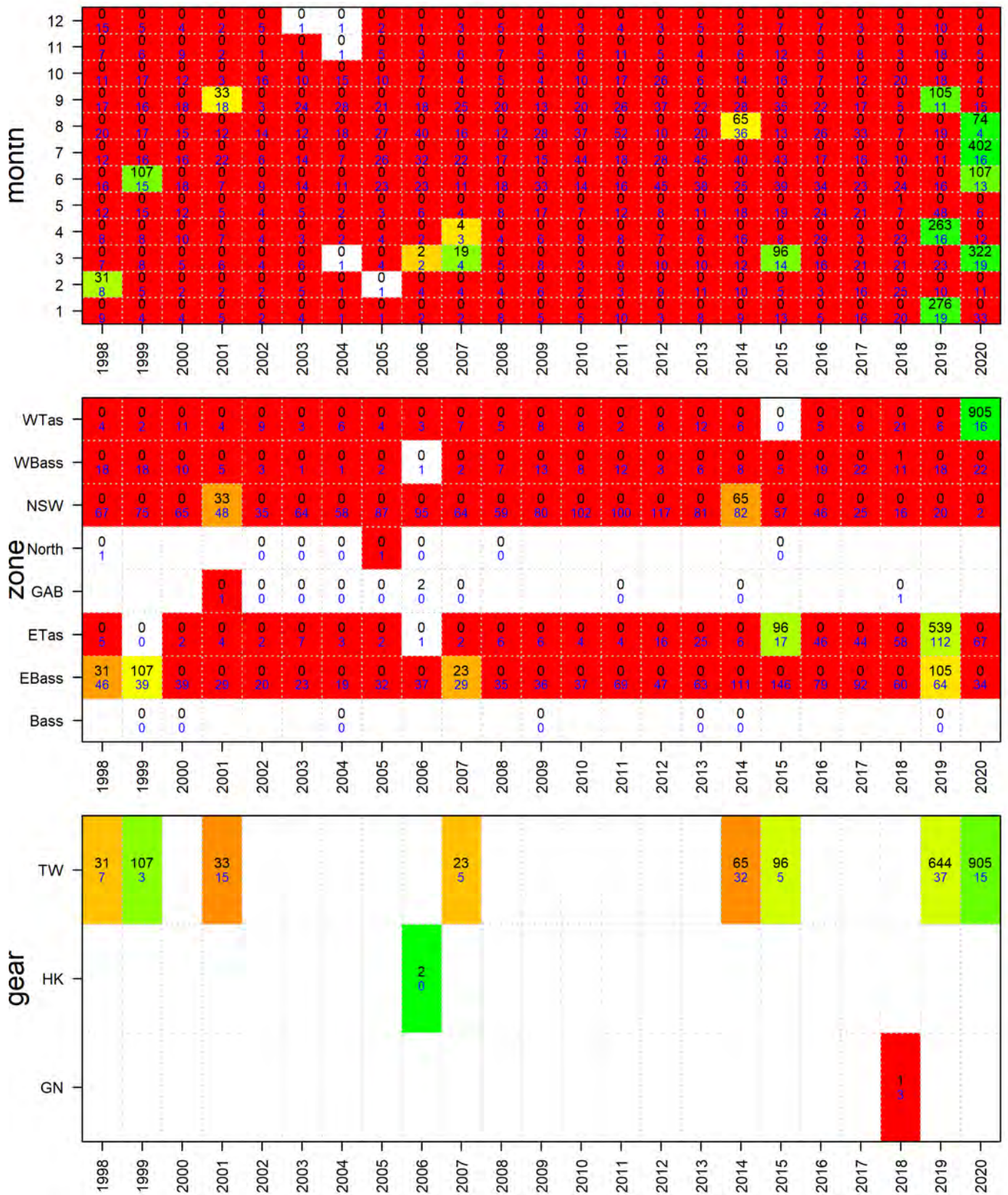
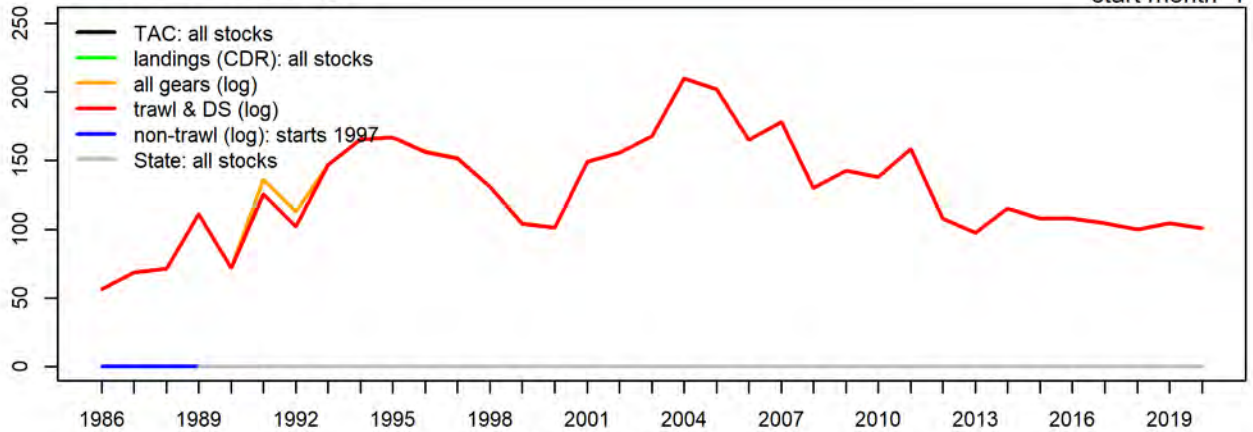


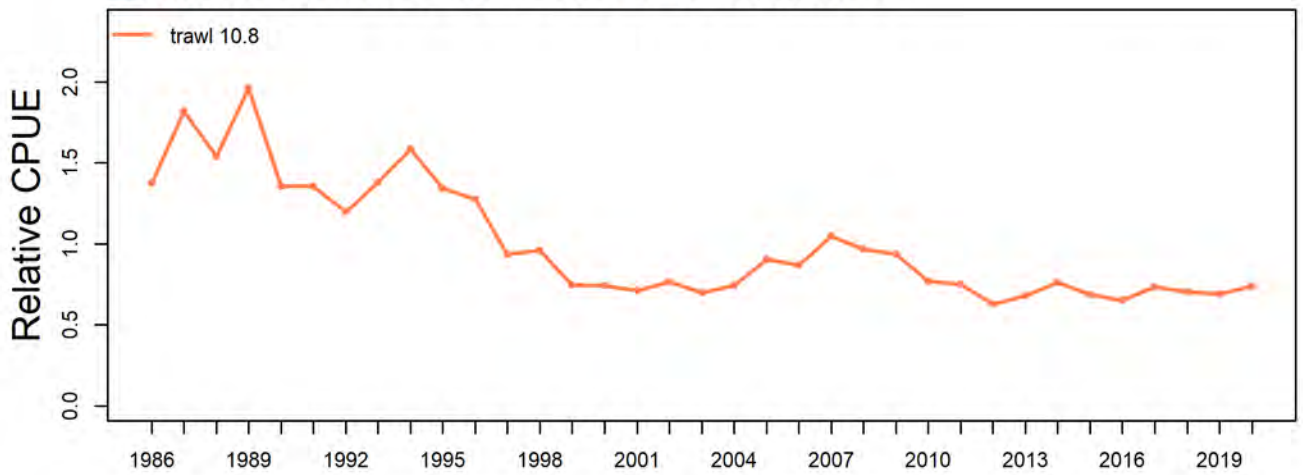
Figure 79 Onboard length data sampling coverage by month (top), zone (middle) and gear for Frostfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# King Dory

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

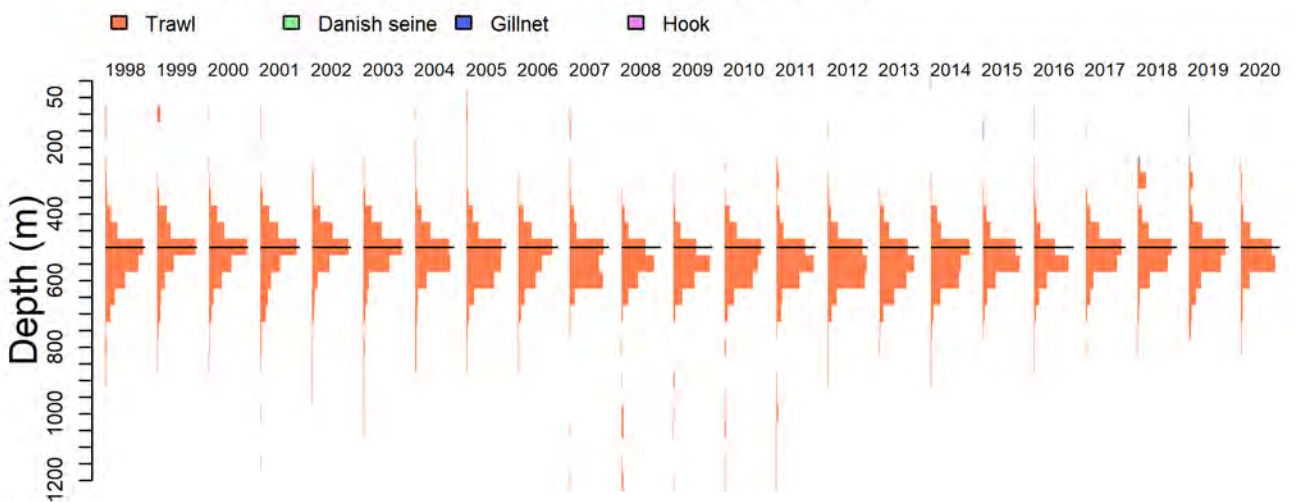
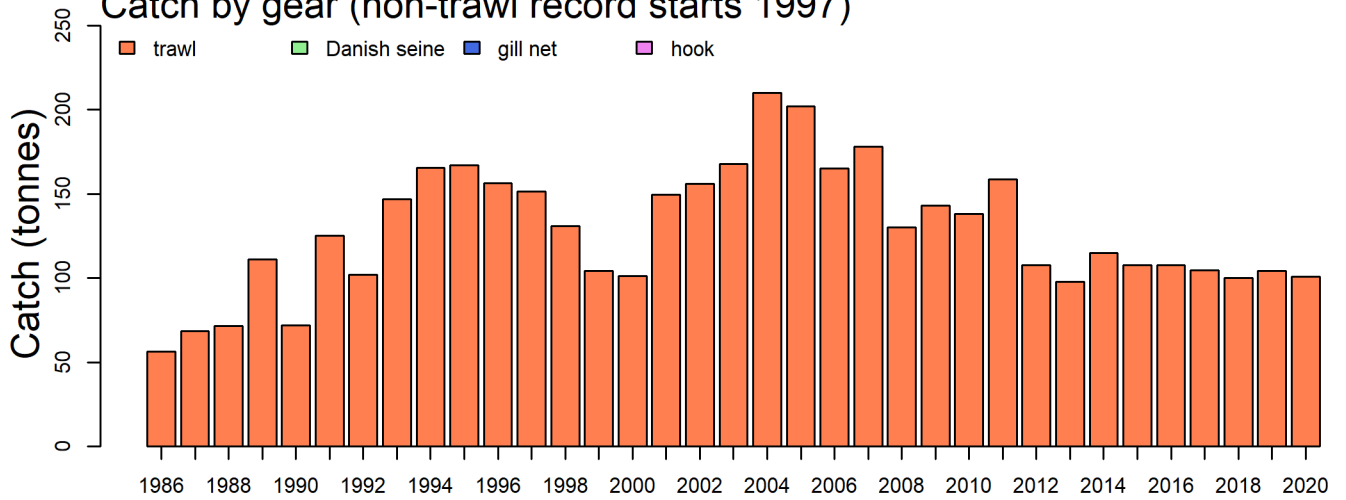


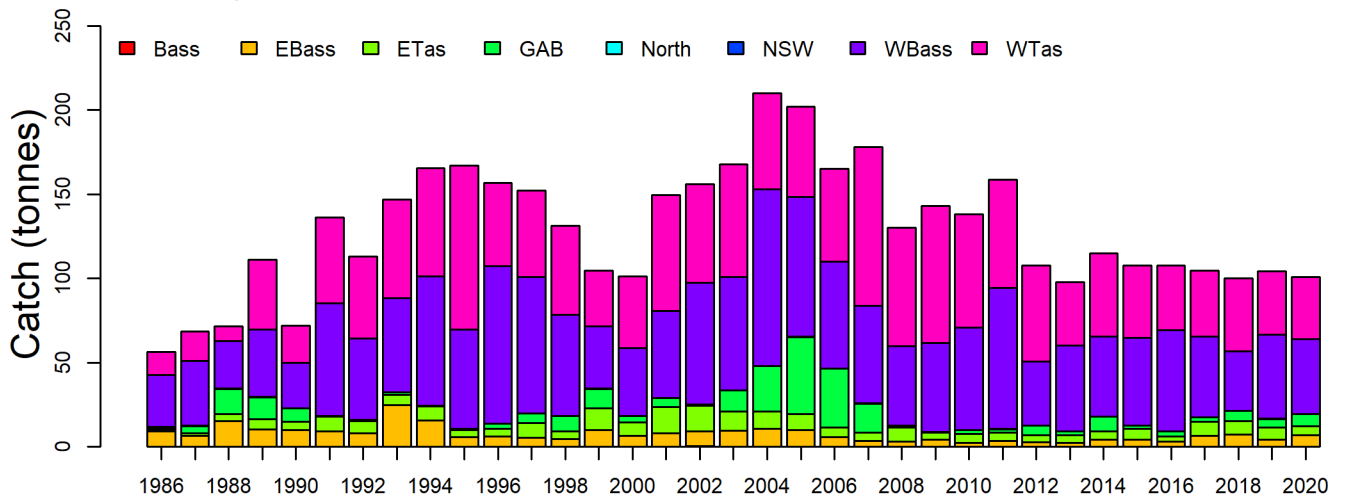
Figure 80 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for King Dory. For more information contact AFMA on (02) 6225 5555.

# King Dory

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

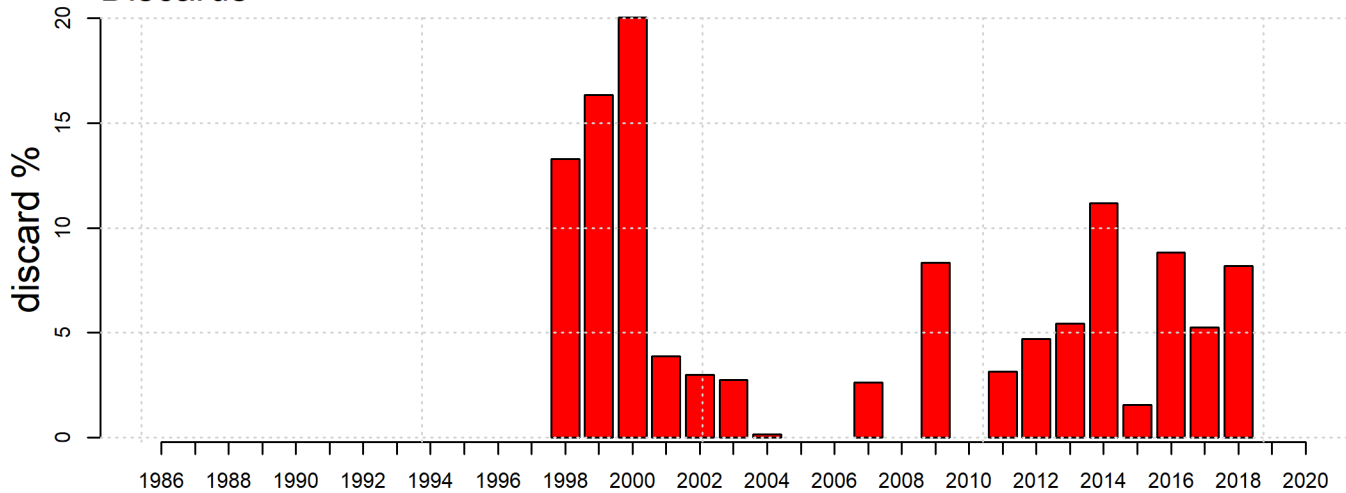


Figure 81 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for King Dory. For more information contact AFMA on (02) 6225 5555.

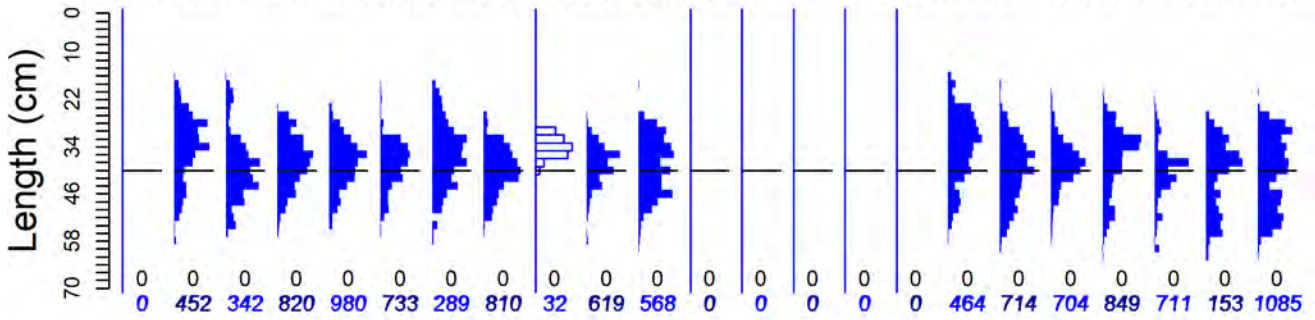


# King Dory

Mon Aug 16 10:34:32 2021

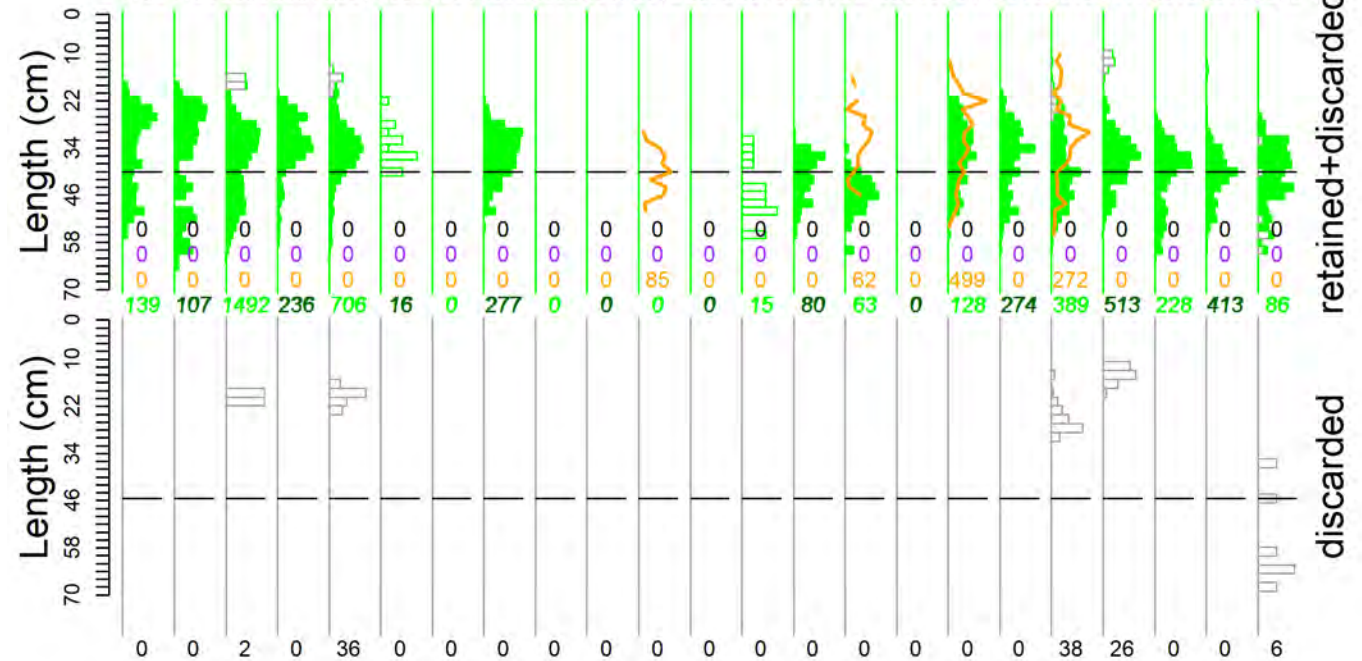
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

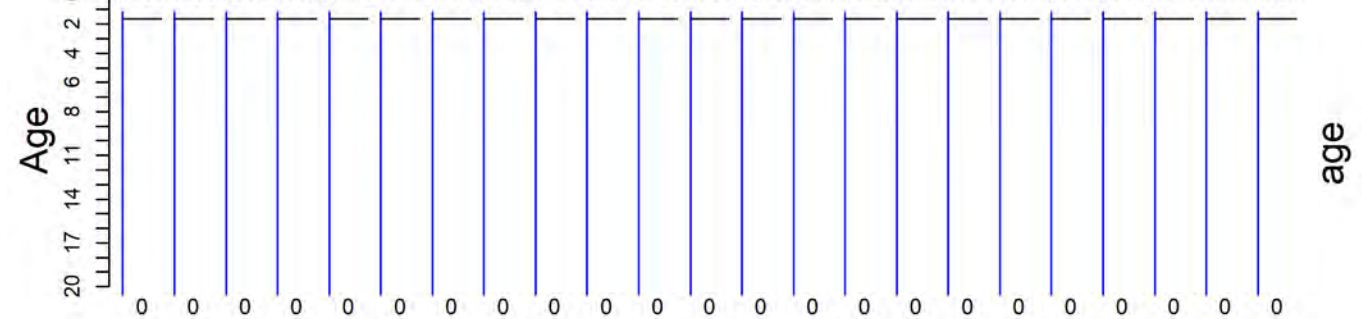


Figure 82 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for King Dory. For more information contact AFMA on (02) 6225 5555.

# King Dory

# Port length data

Mon Aug 16 10:34:33 2021

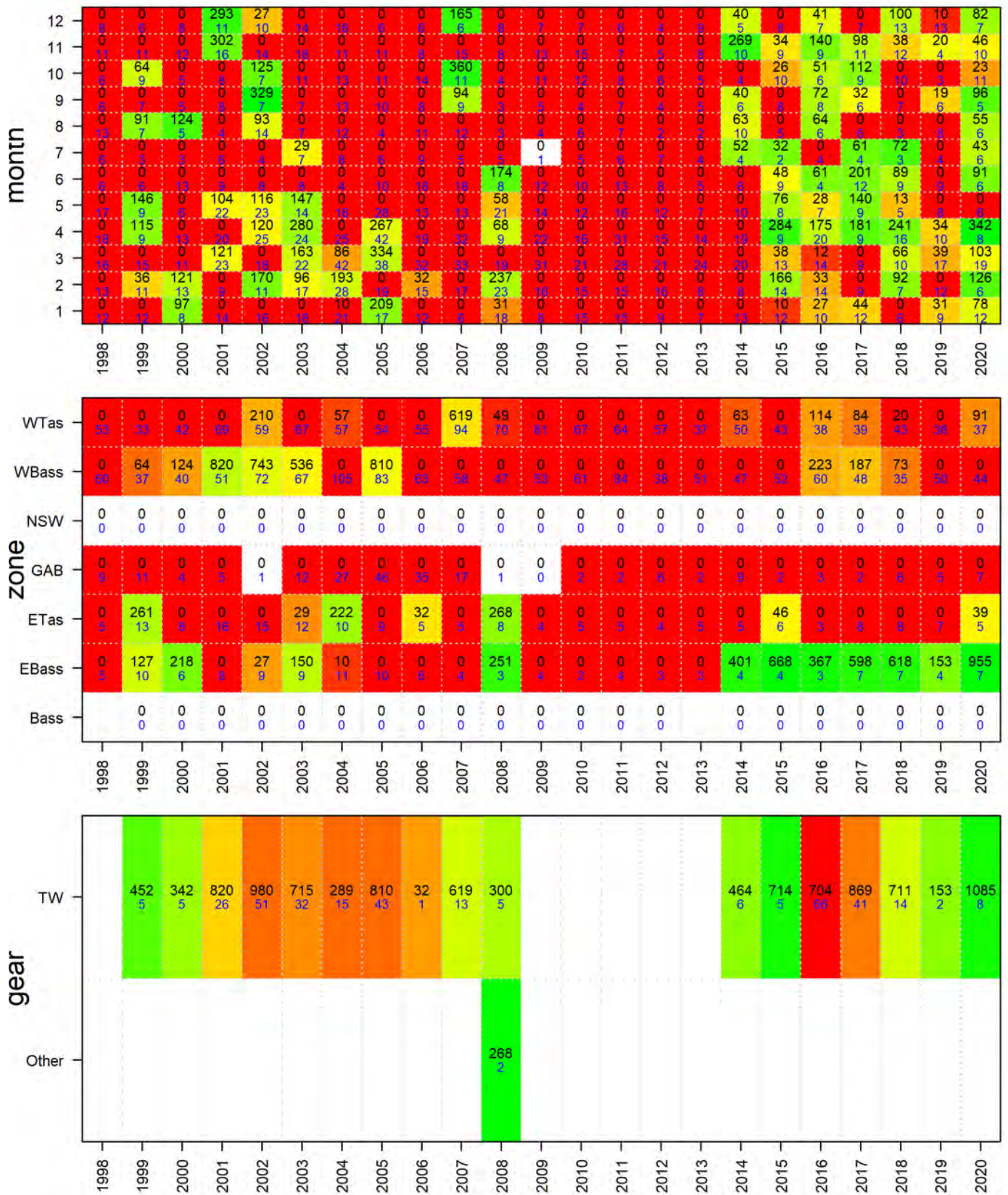


Figure 83 Port length data sampling coverage by month (top), zone (middle) and gear for King Dory. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# King Dory

# Onboard discard weight data

Mon Aug 16 10:34:33 2021

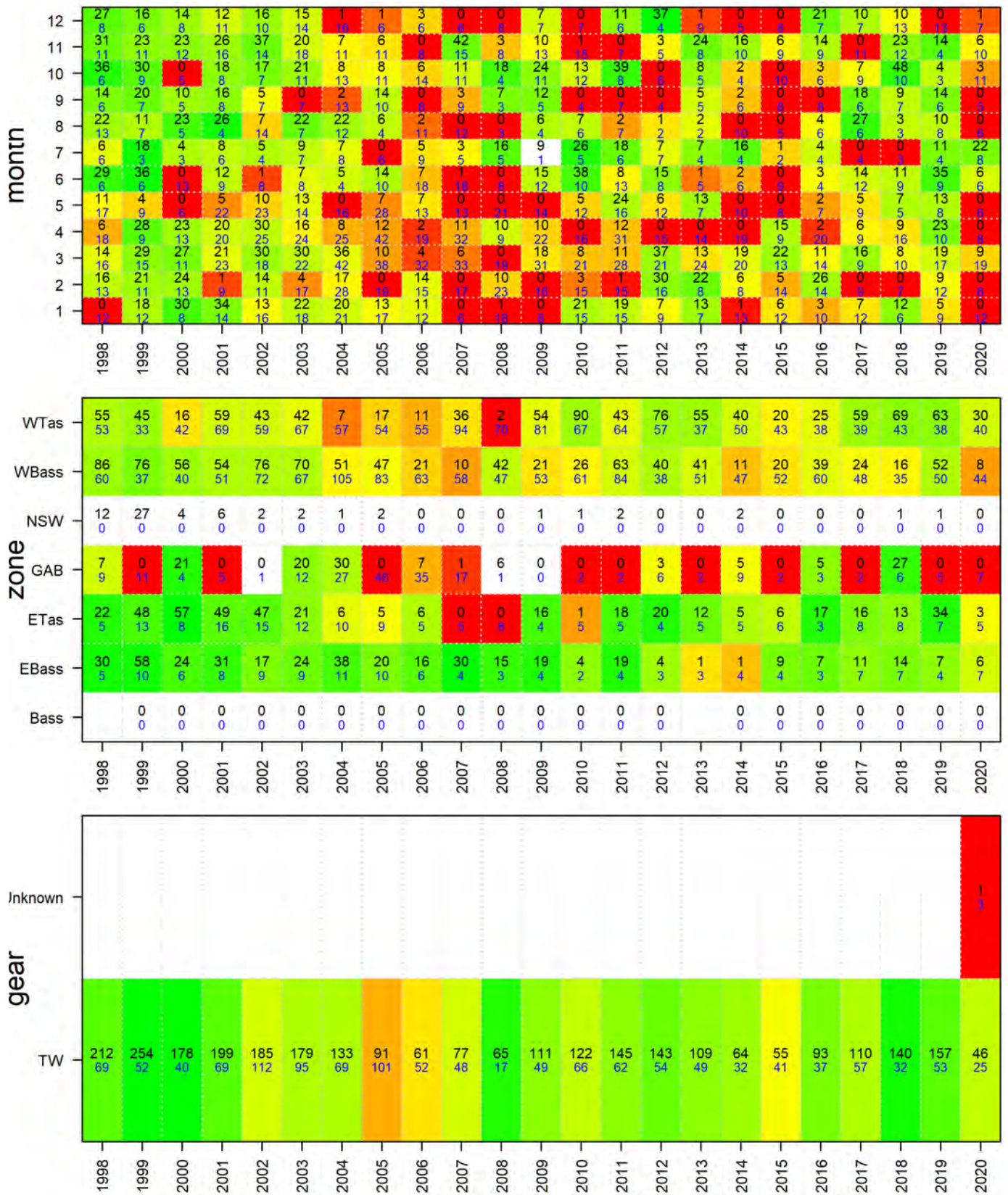


Figure 84 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for King Dory. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# King Dory

# Onboard length data

Mon Aug 16 10:34:34 2021

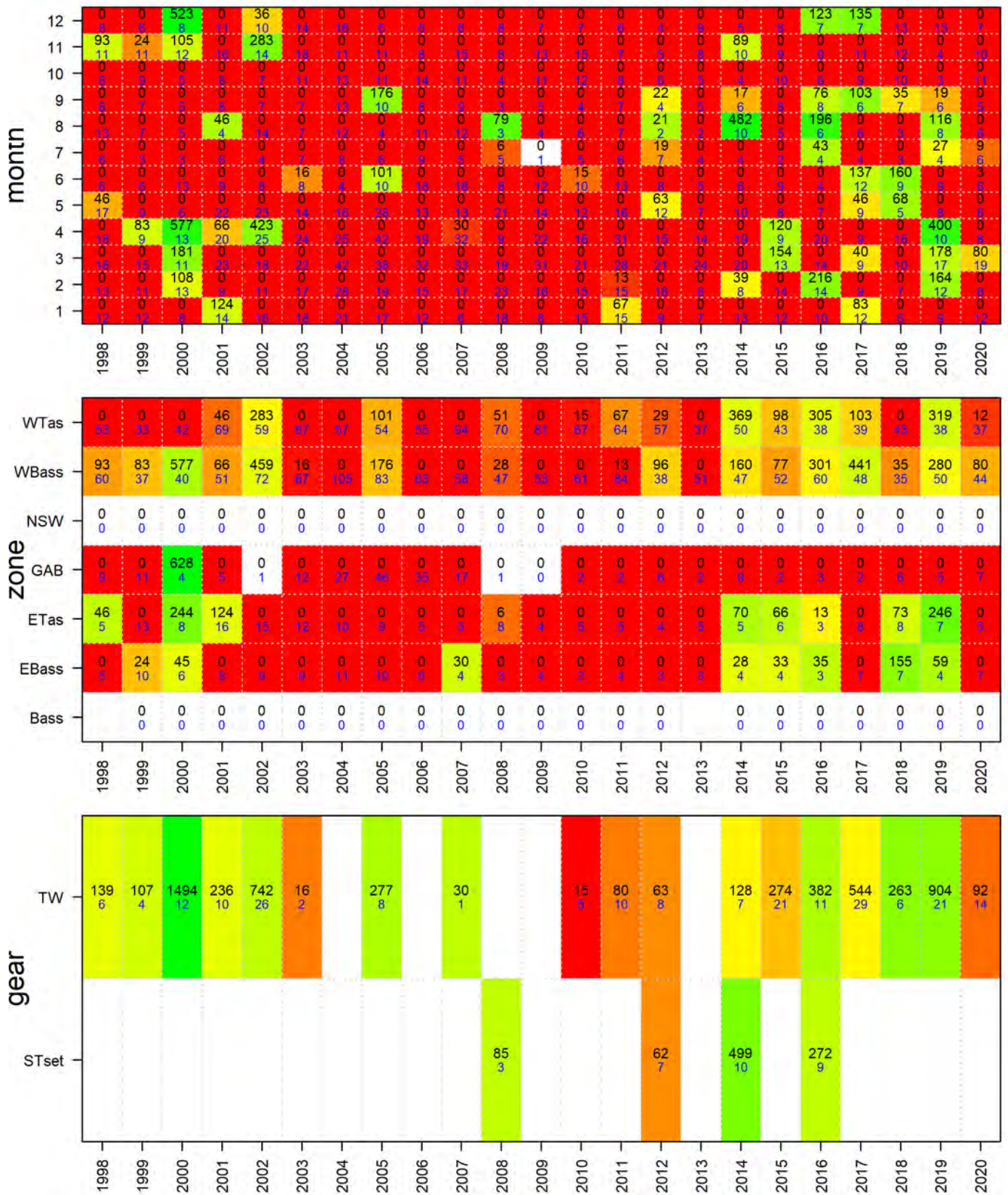
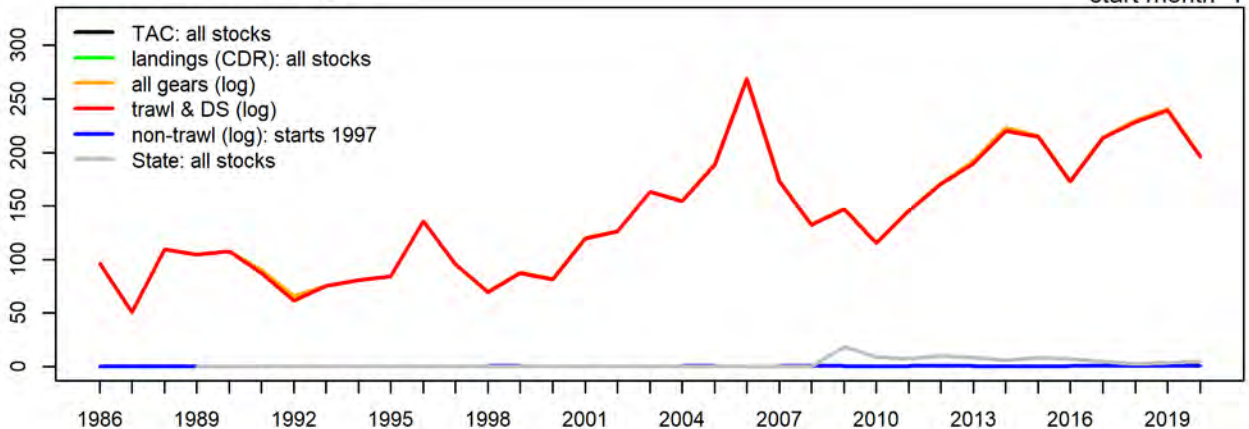


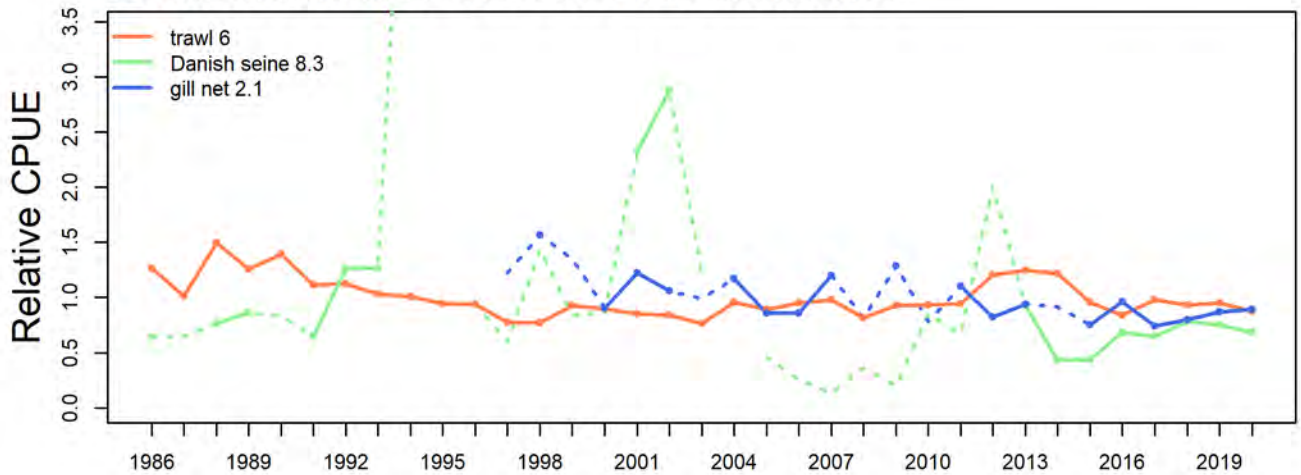
Figure 85 Onboard length data sampling coverage by month (top), zone (middle) and gear for King Dory. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Latchet

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

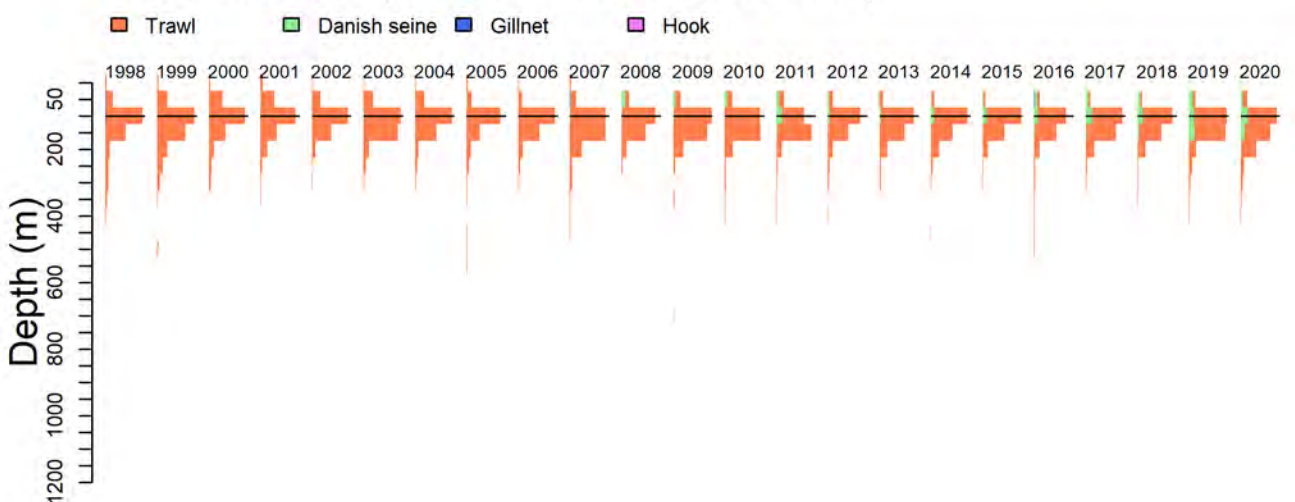
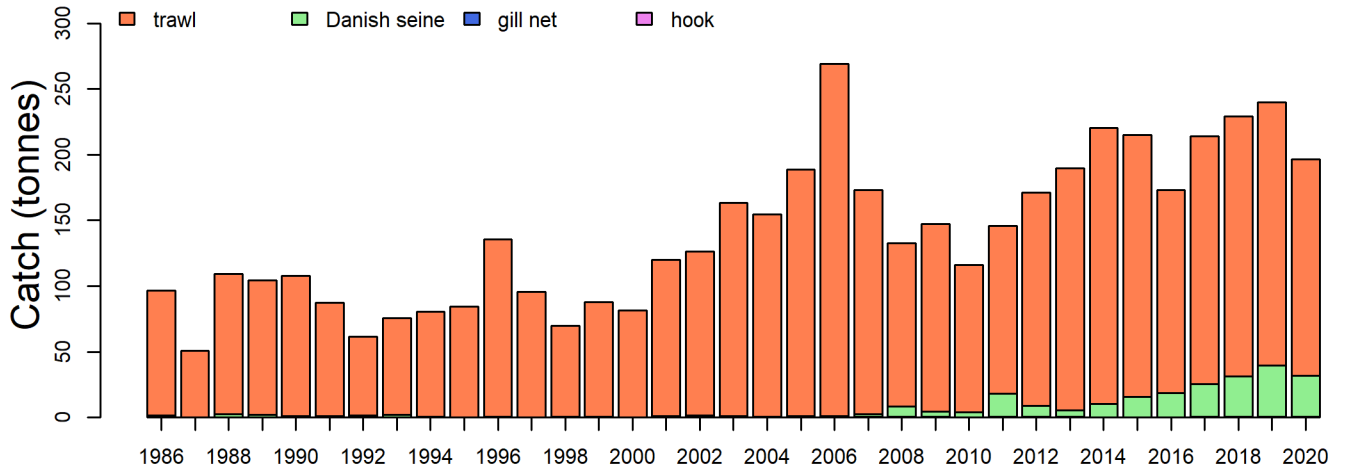


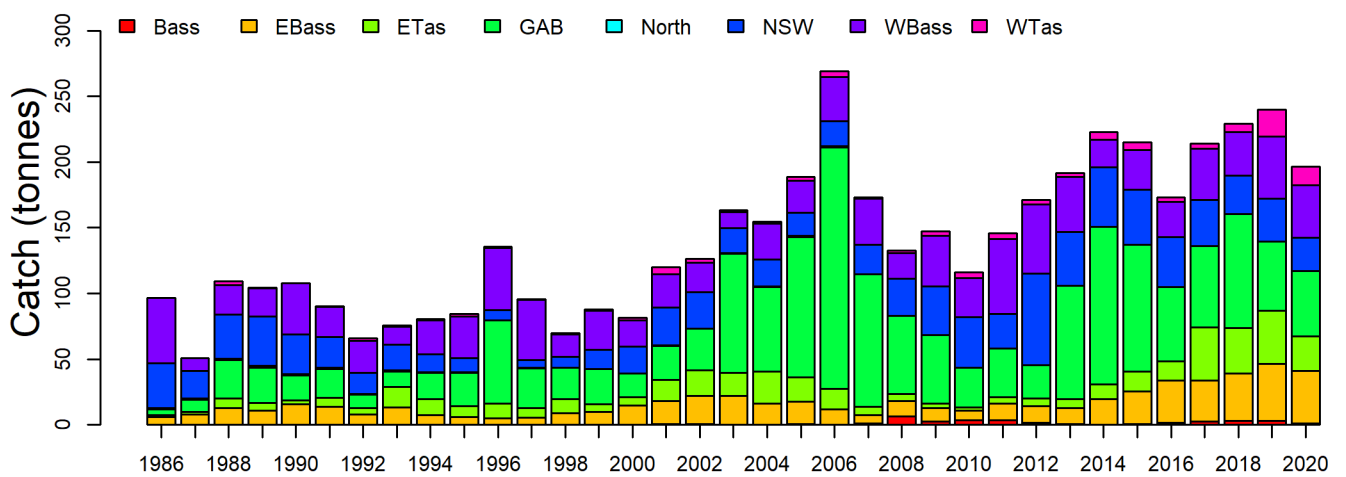
Figure 86 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Latchet. For more information contact AFMA on (02) 6225 5555.

# Latchet

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

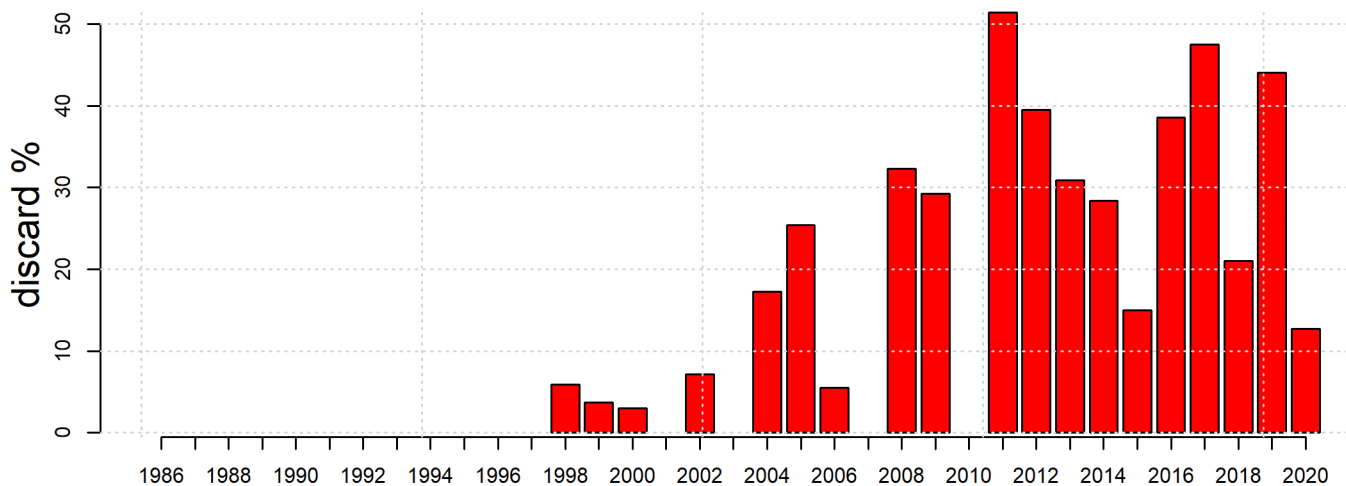
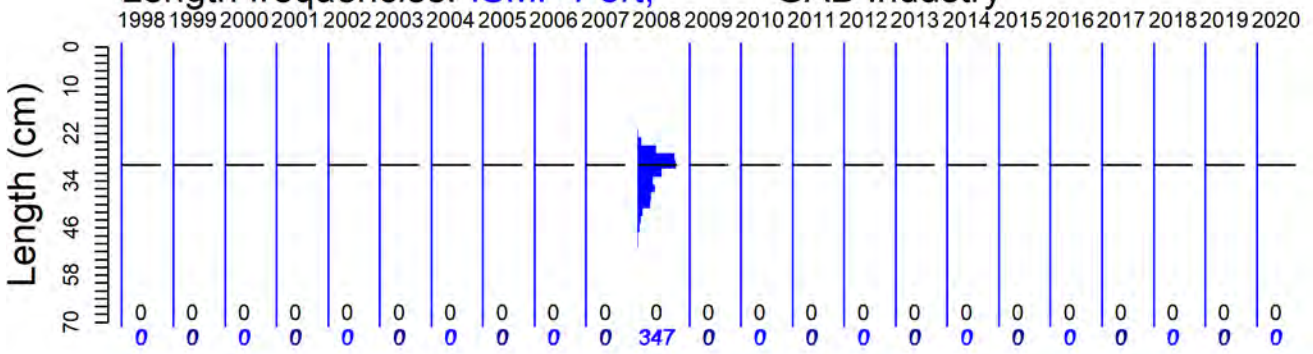


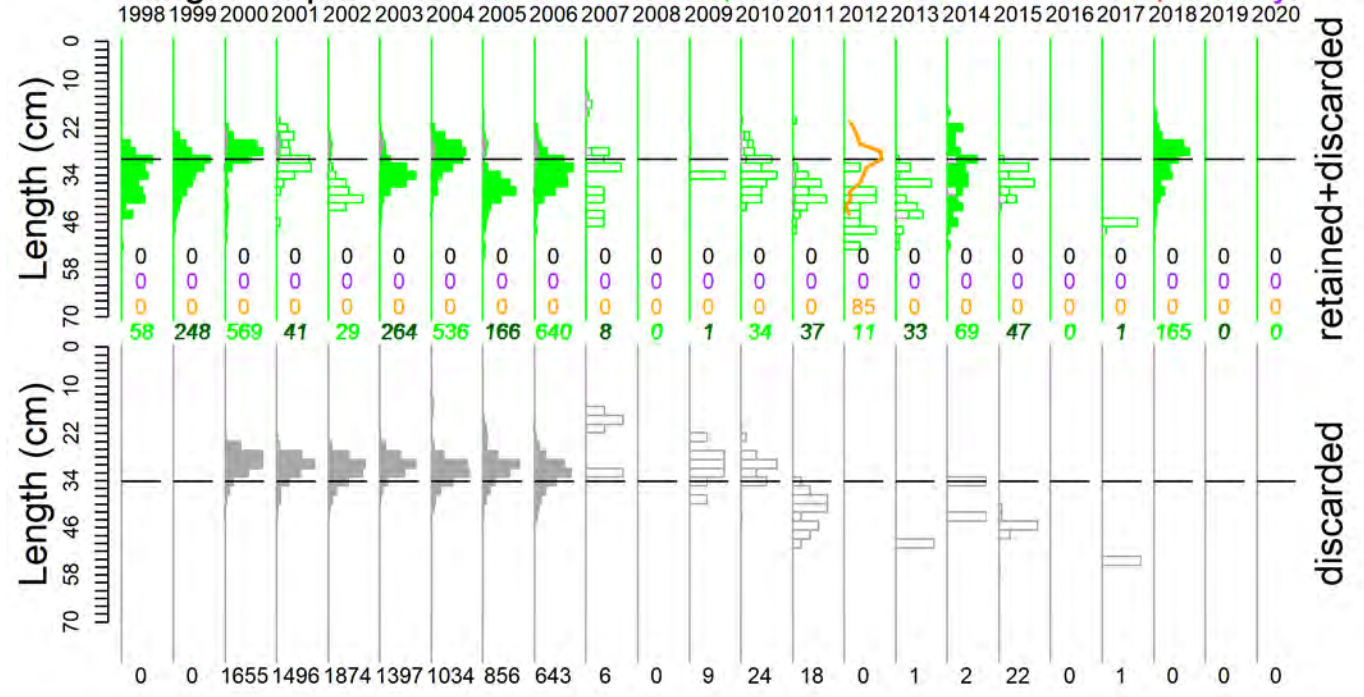
Figure 87 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Latchet. For more information contact AFMA on (02) 6225 5555.

# Latchet

Length frequencies: ISMP Port, GAB Industry



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry



## Age frequency

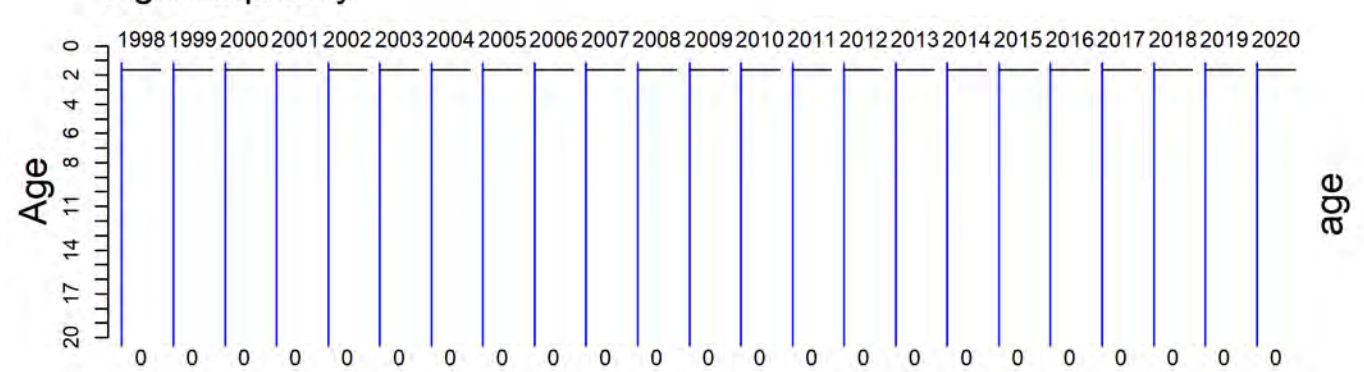


Figure 88 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Latchet. For more information contact AFMA on (02) 6225 5555.

# Latchet

# Port length data

Mon Aug 16 10:34:40 2021

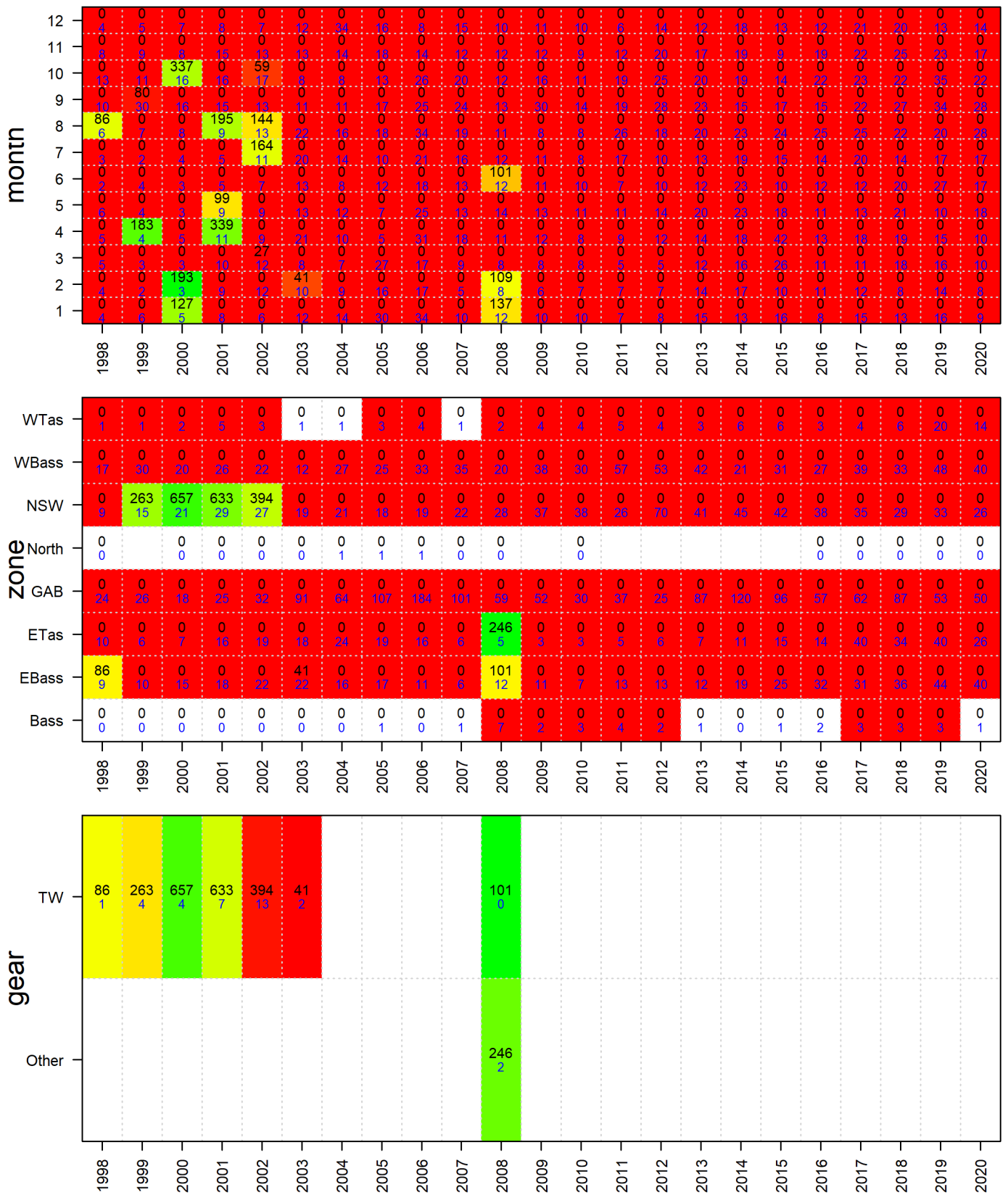


Figure 89 Port length data sampling coverage by month (top), zone (middle) and gear for Latchet. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Latchet

## Onboard discard weight data

Mon Aug 16 10:34:40 2021

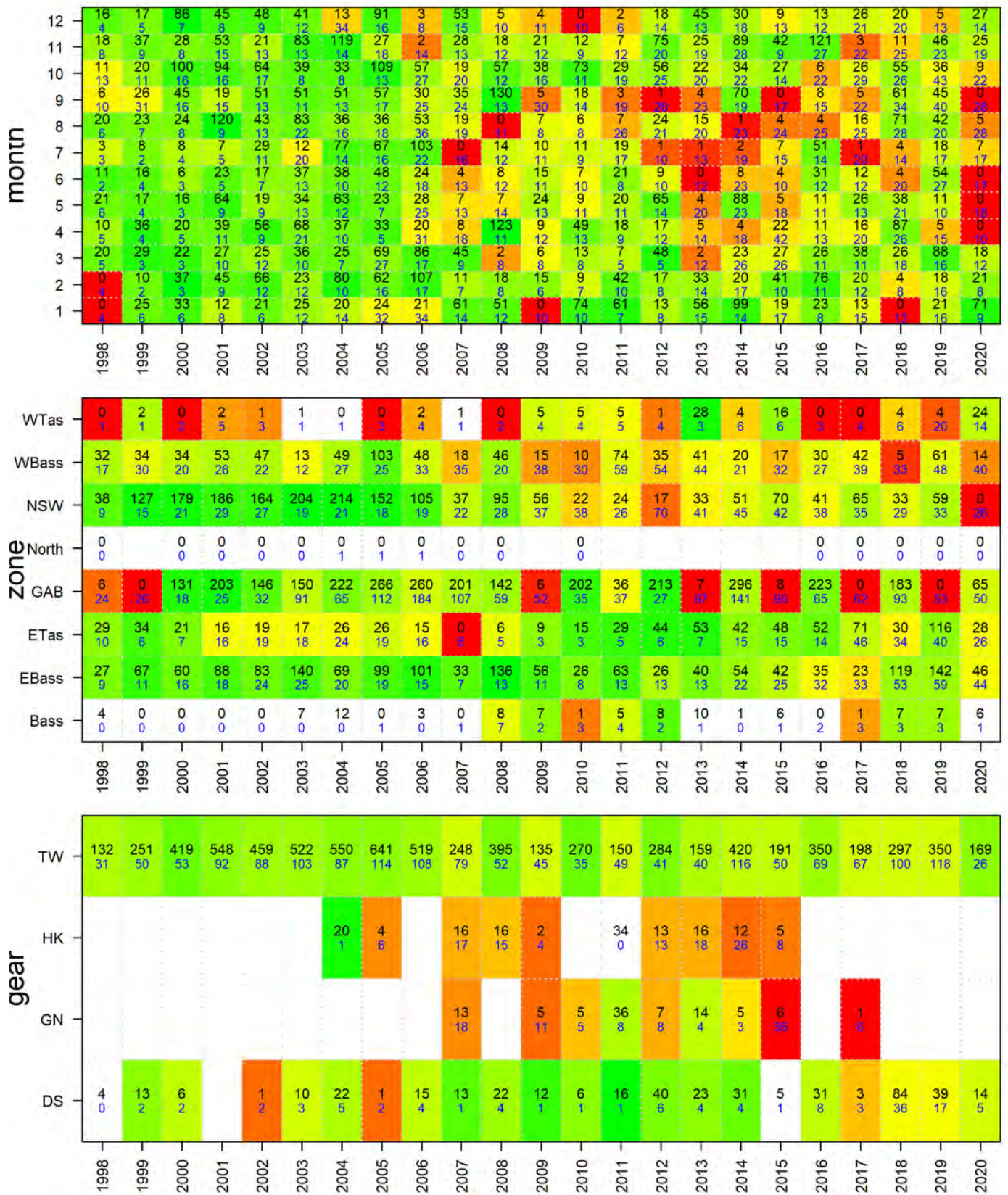


Figure 90 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Latchet. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Latchet

# Onboard length data

Mon Aug 16 10:34:41 2021

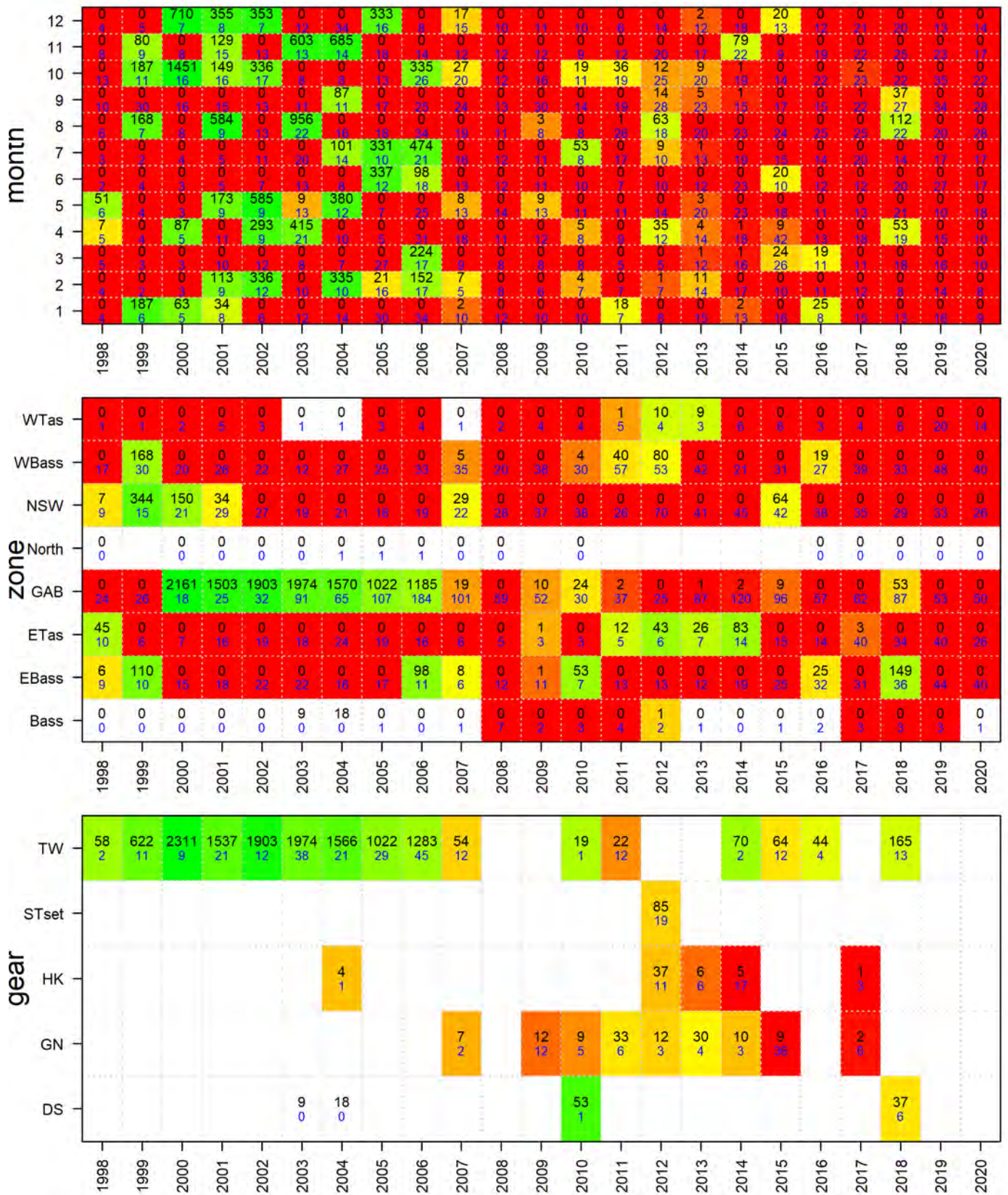
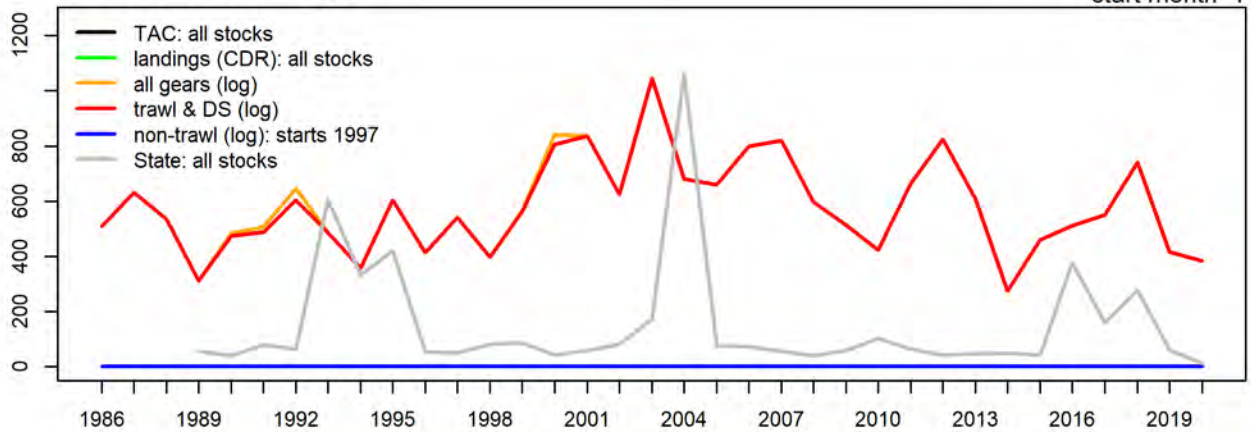


Figure 91 Onboard length data sampling coverage by month (top), zone (middle) and gear for Latchet. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Squid

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

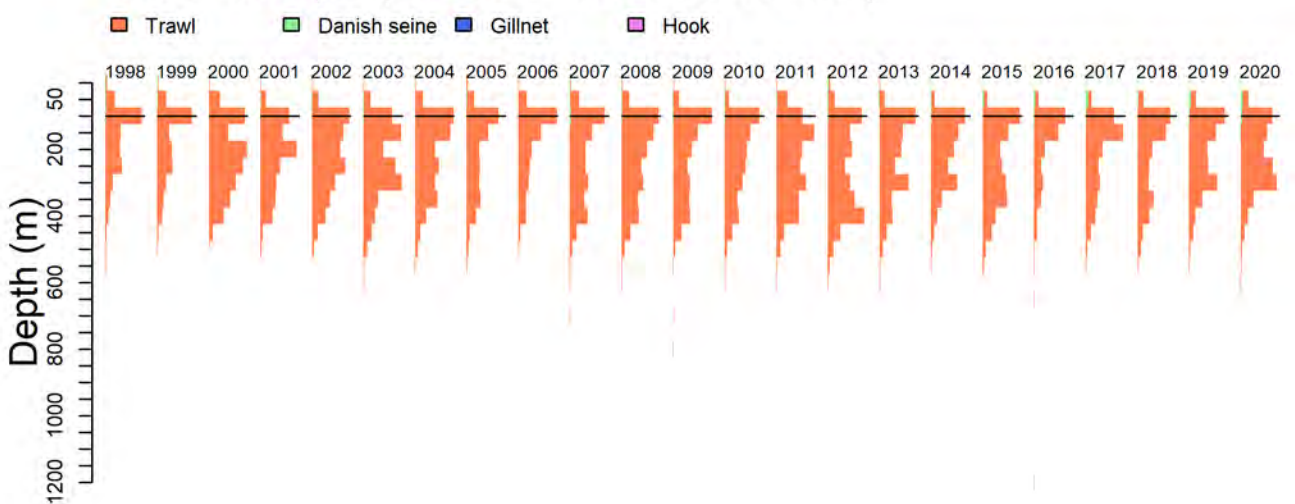
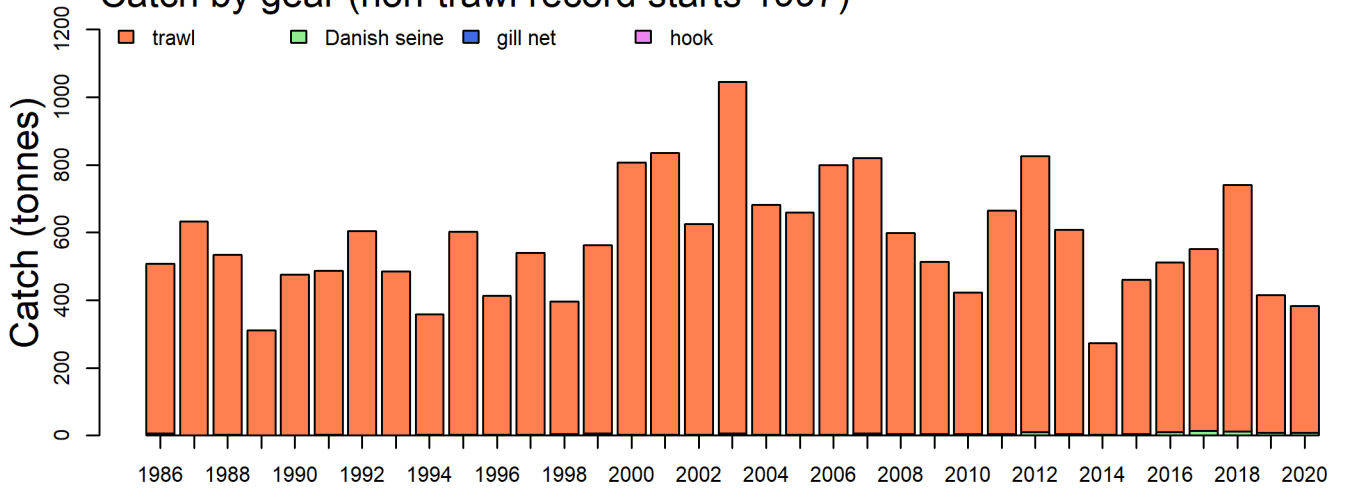


Figure 92 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Squid. For more information contact AFMA on (02) 6225 5555.

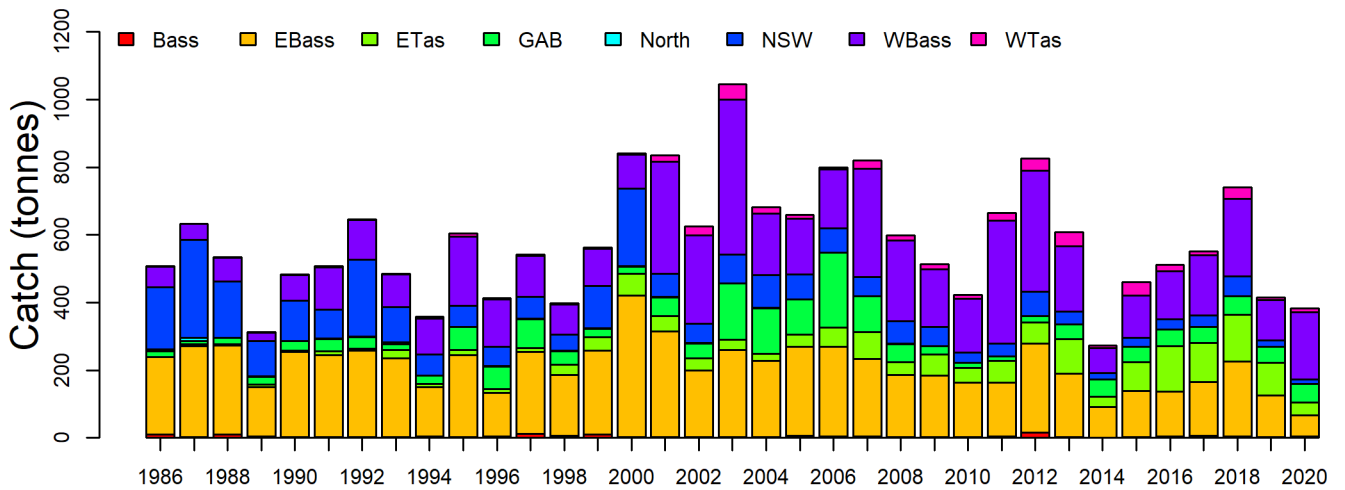
# Squid

Mon Aug 16 10:34:49 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

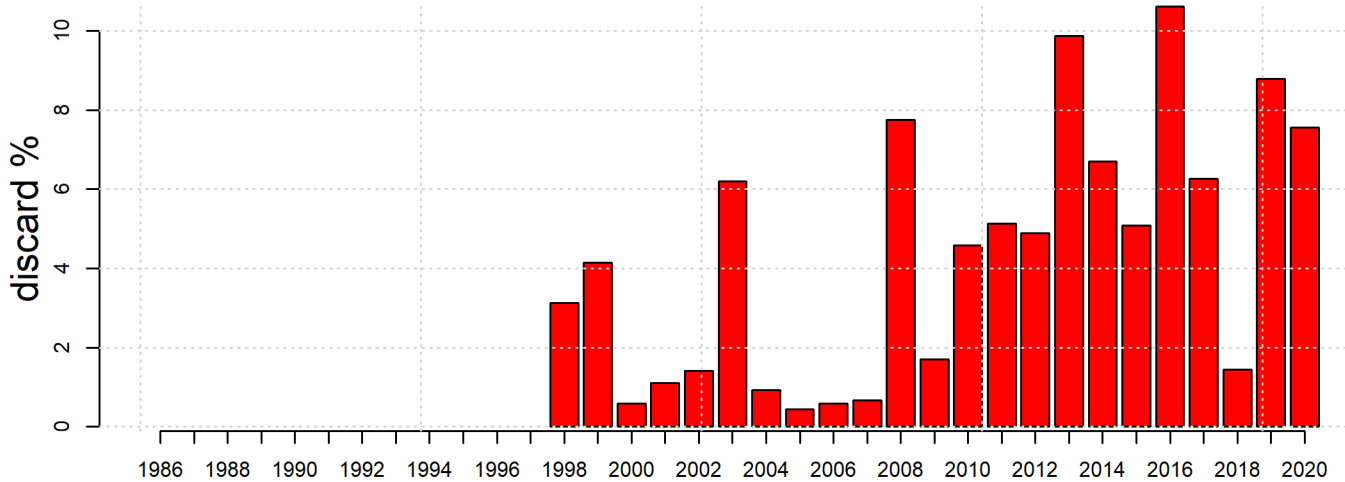
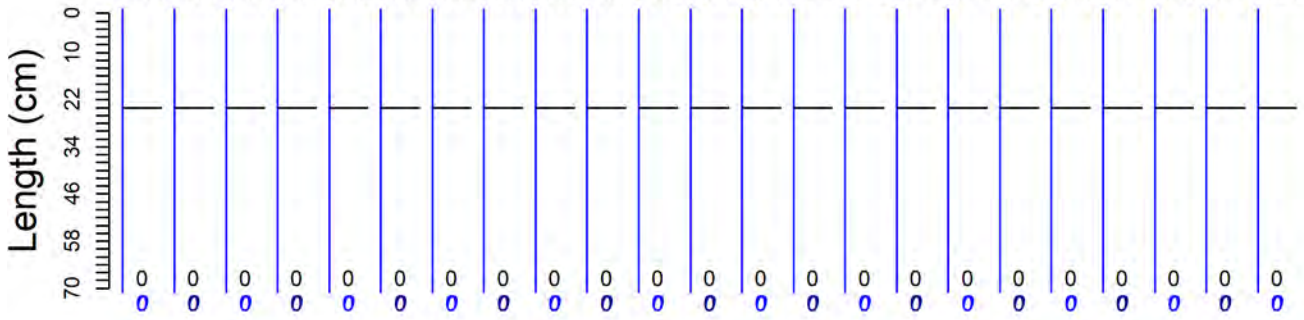


Figure 93 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Squid. For more information contact AFMA on (02) 6225 5555.

### Squid

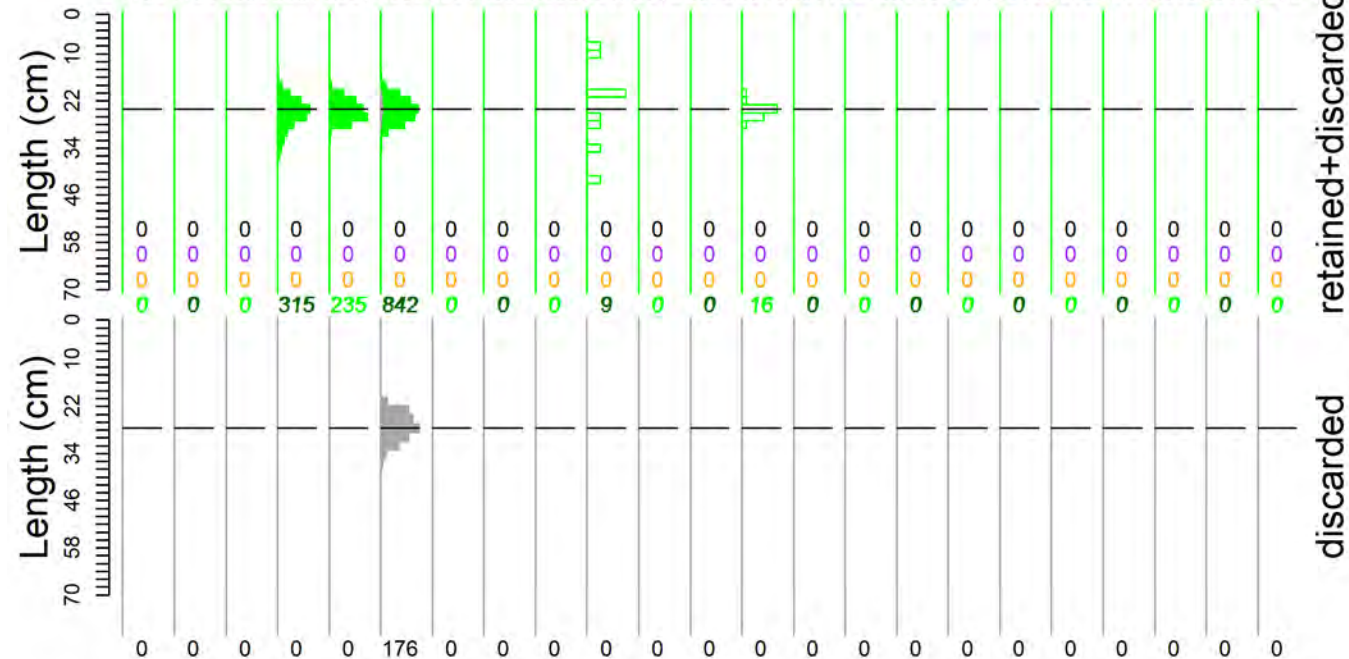
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



### Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

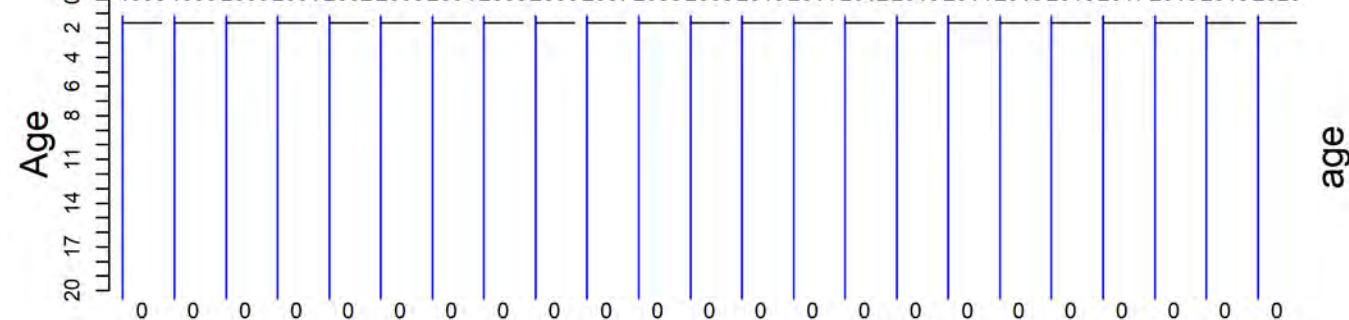


Figure 94 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Squid. For more information contact AFMA on (02) 6225 5555.

# Squid

# Onboard discard weight data

Mon Aug 16 10:34:50 2021

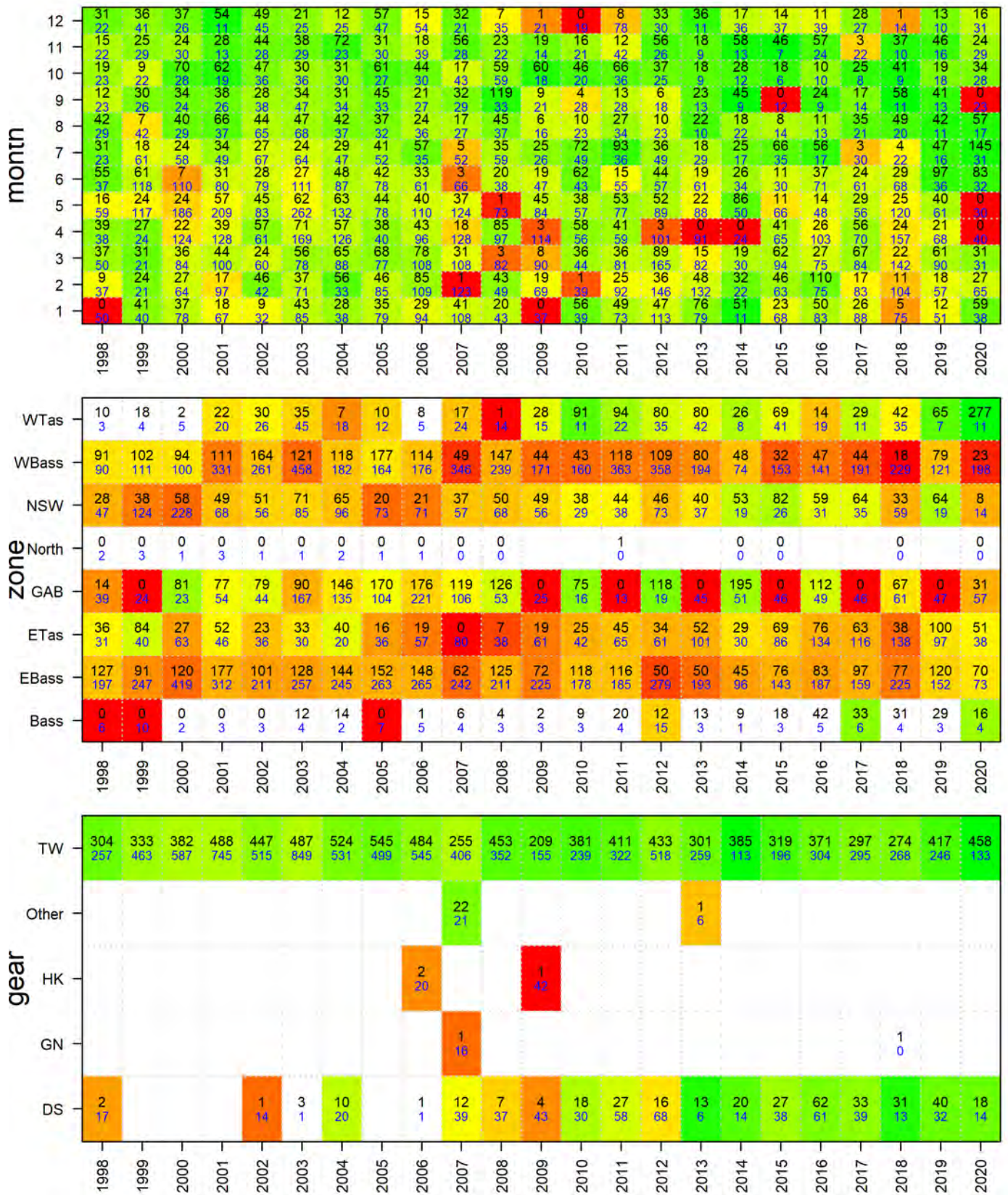


Figure 95 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Squid. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Squid

# Onboard length data

Mon Aug 16 10:34:51 2021

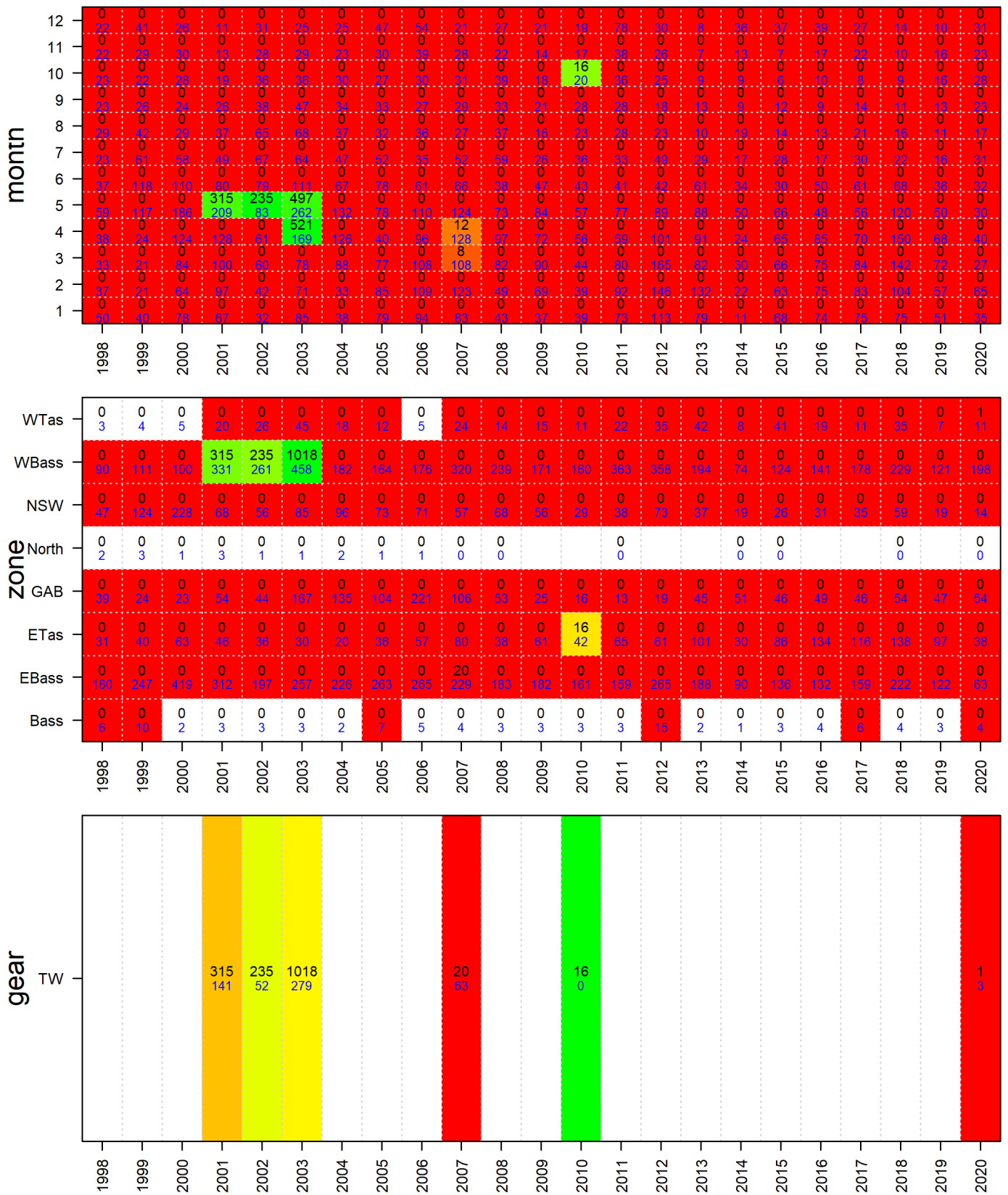
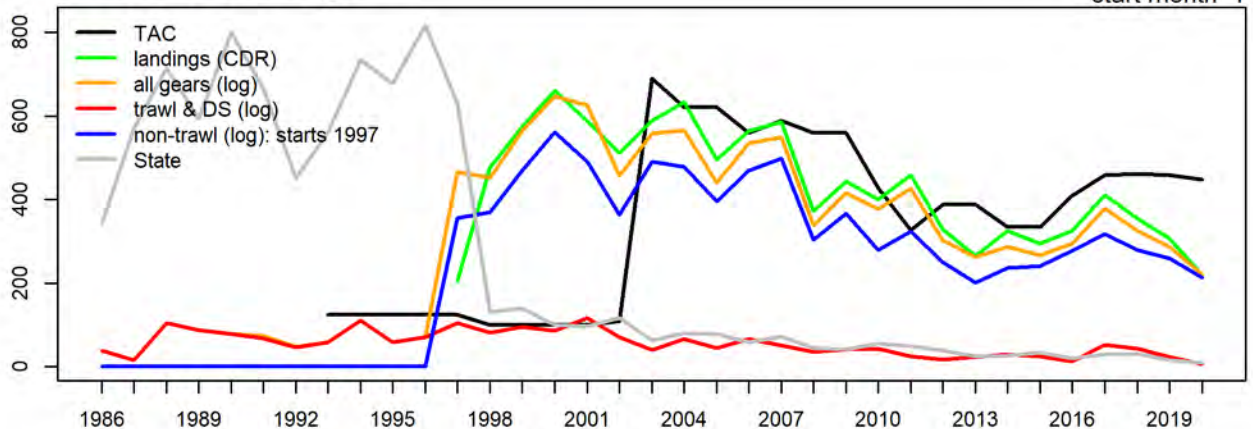


Figure 96 Onboard length data sampling coverage by month (top), zone (middle) and gear for Squid. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

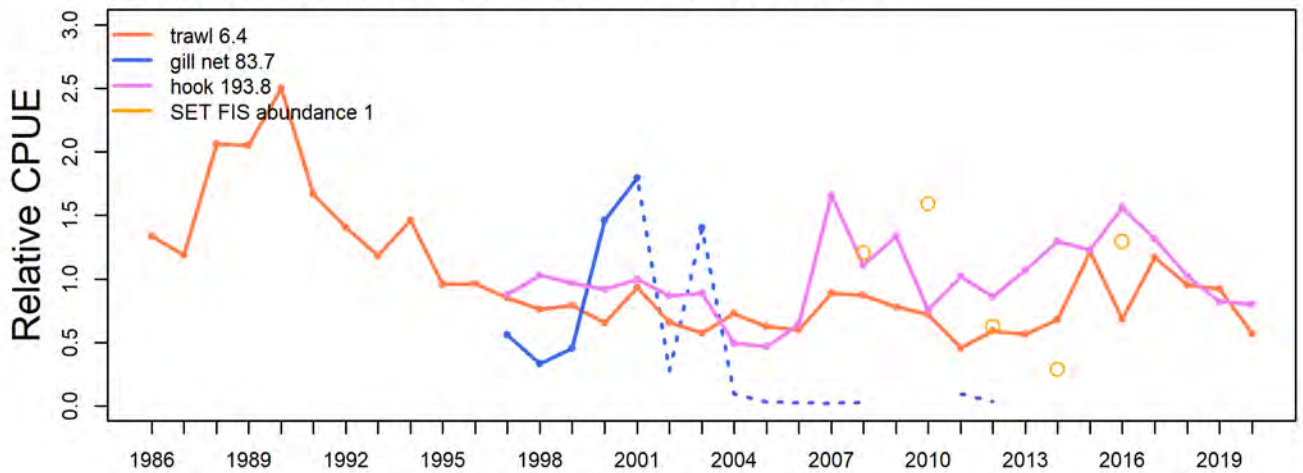
# Blue-eye Trevalla

## TAC and landings

Mon Aug 16 10:34:53 2021  
 region ALL unit code TBE sa code TBE  
 37445001 37445014  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

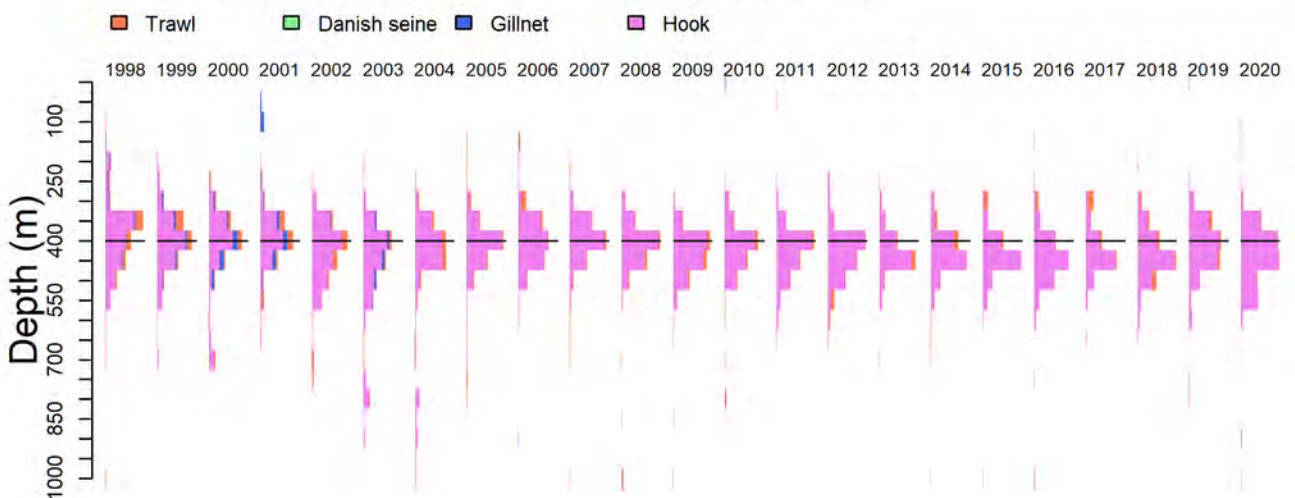


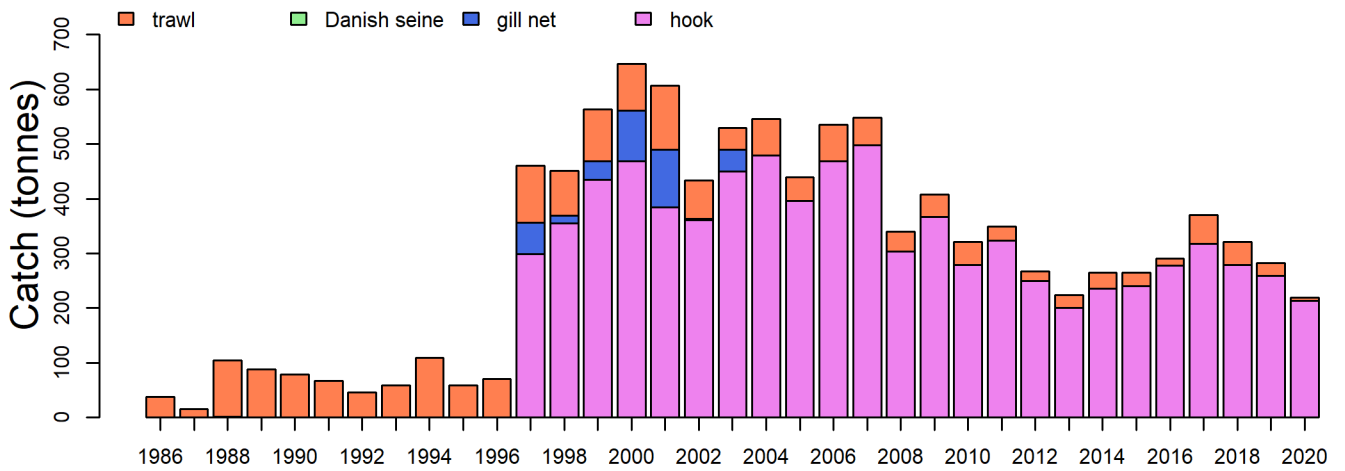
Figure 97 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Blue-eye Trevalla. For more information contact AFMA on (02) 6225 5555.



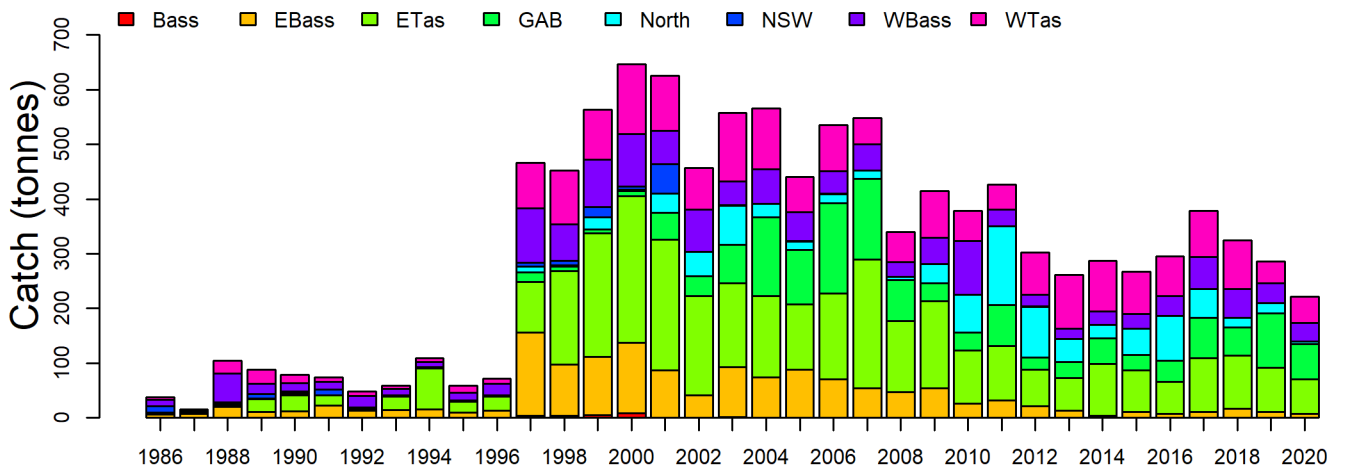
# Blue-eye Trevalla

Mon Aug 16 10:34:54 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

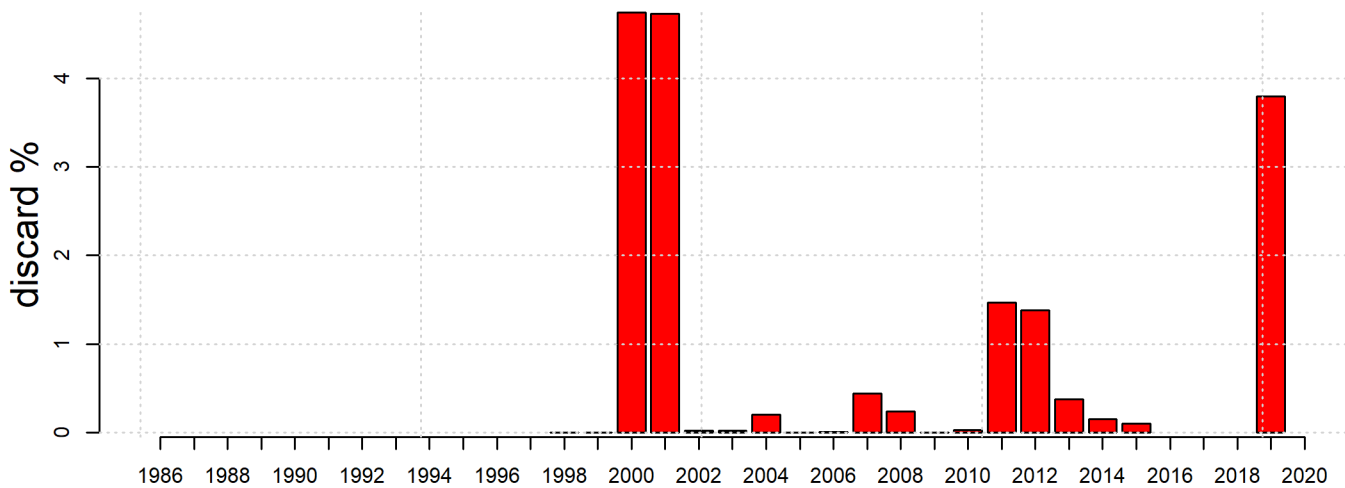


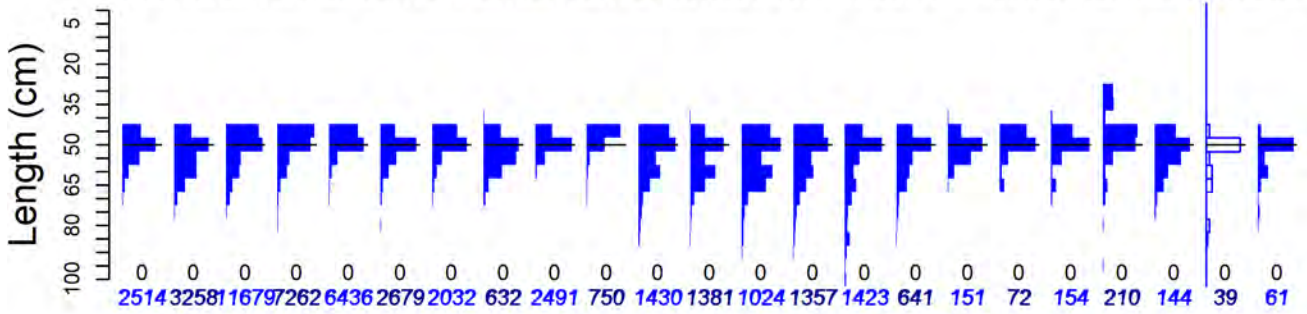
Figure 98 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Blue-eye Trevalla. For more information contact AFMA on (02) 6225 5555.

# Blue-eye Trevalla

Mon Aug 16 10:34:55 2021

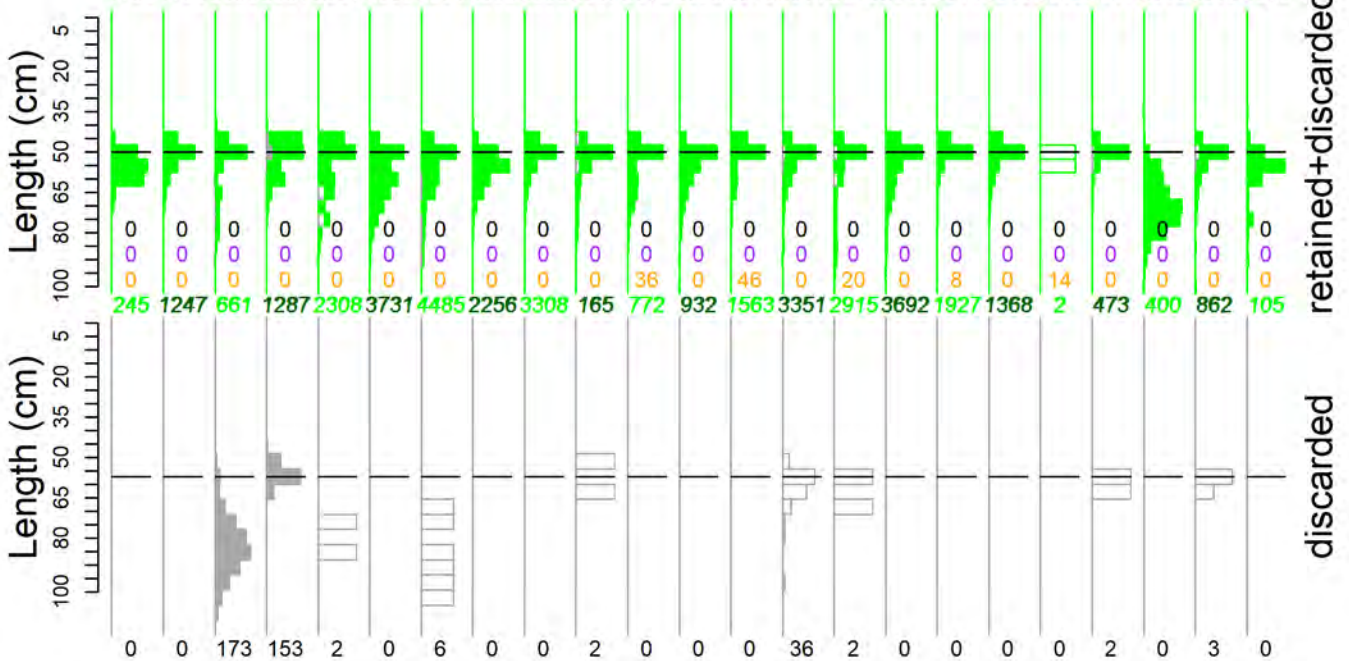
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

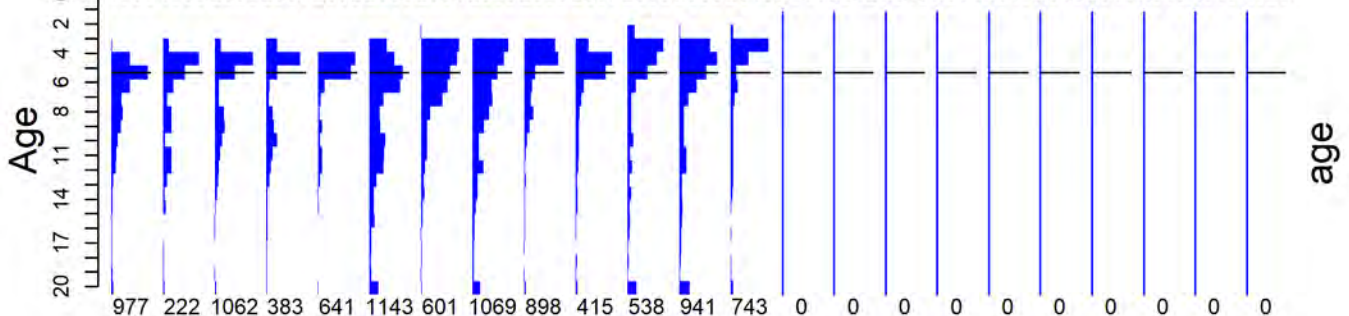


Figure 99 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Blue-eye Trevalla. For more information contact AFMA on (02) 6225 5555.

# Blue-eye Trevalla

# Port length data

Mon Aug 16 10:34:56 2021

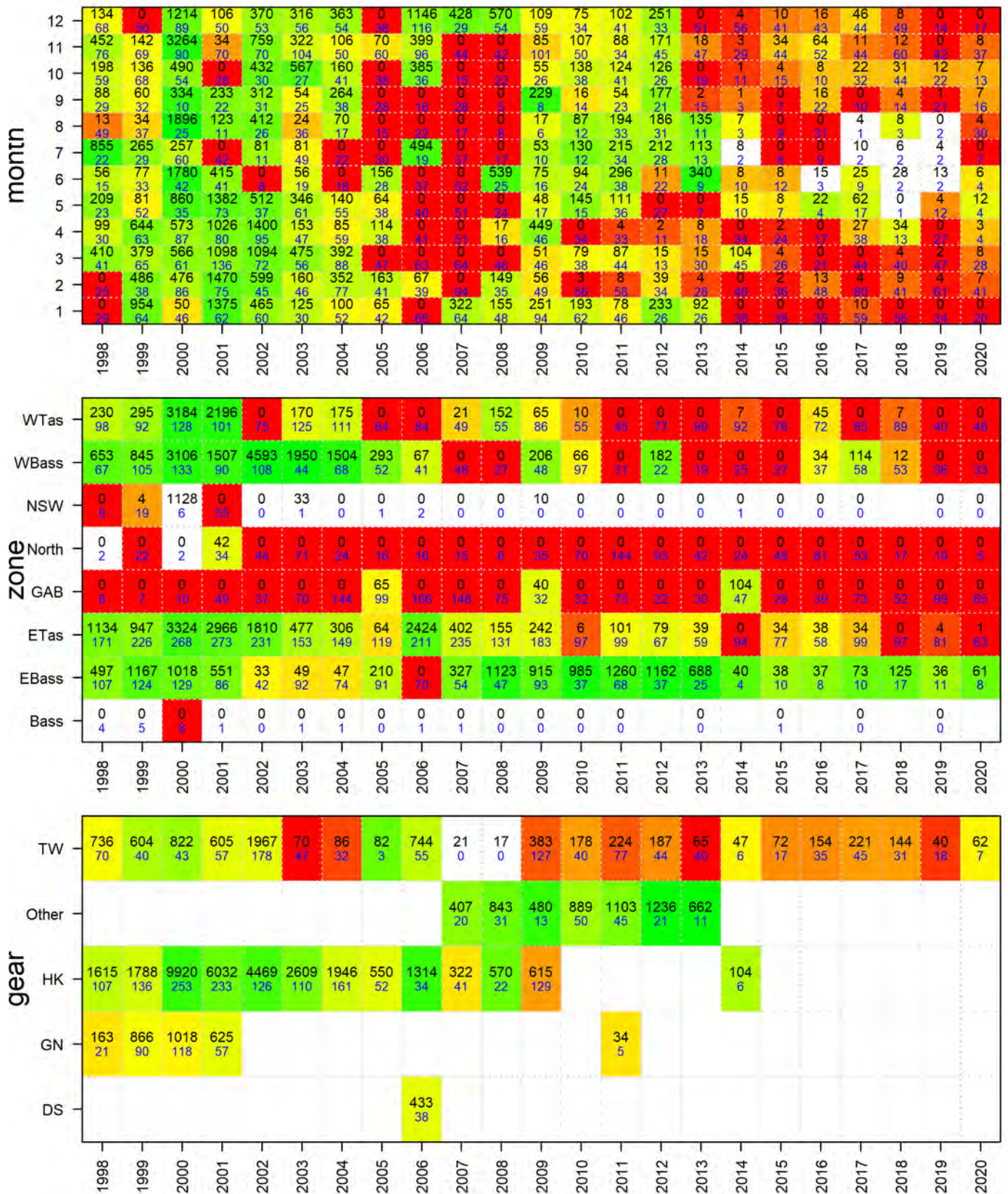


Figure 100 Port length data sampling coverage by month (top), zone (middle) and gear for Blue-eye Trevalla. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue-eye Trevalla Onboard discard weight data

Mon Aug 16 10:34:57 2021

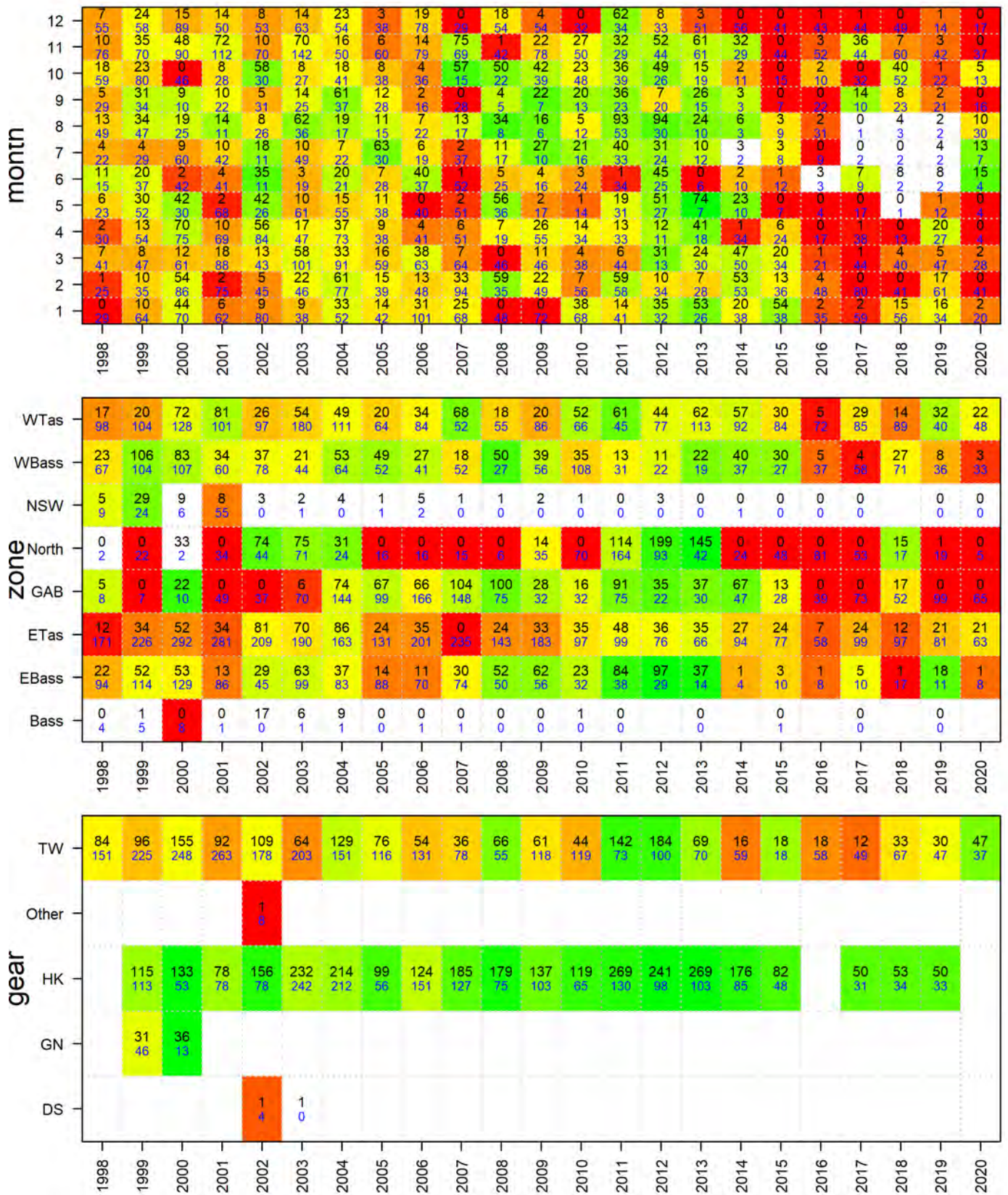


Figure 101 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Blue-eye Trevalla. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue-eye Trevalla

# Onboard length data

Mon Aug 16 10:34:58 2021

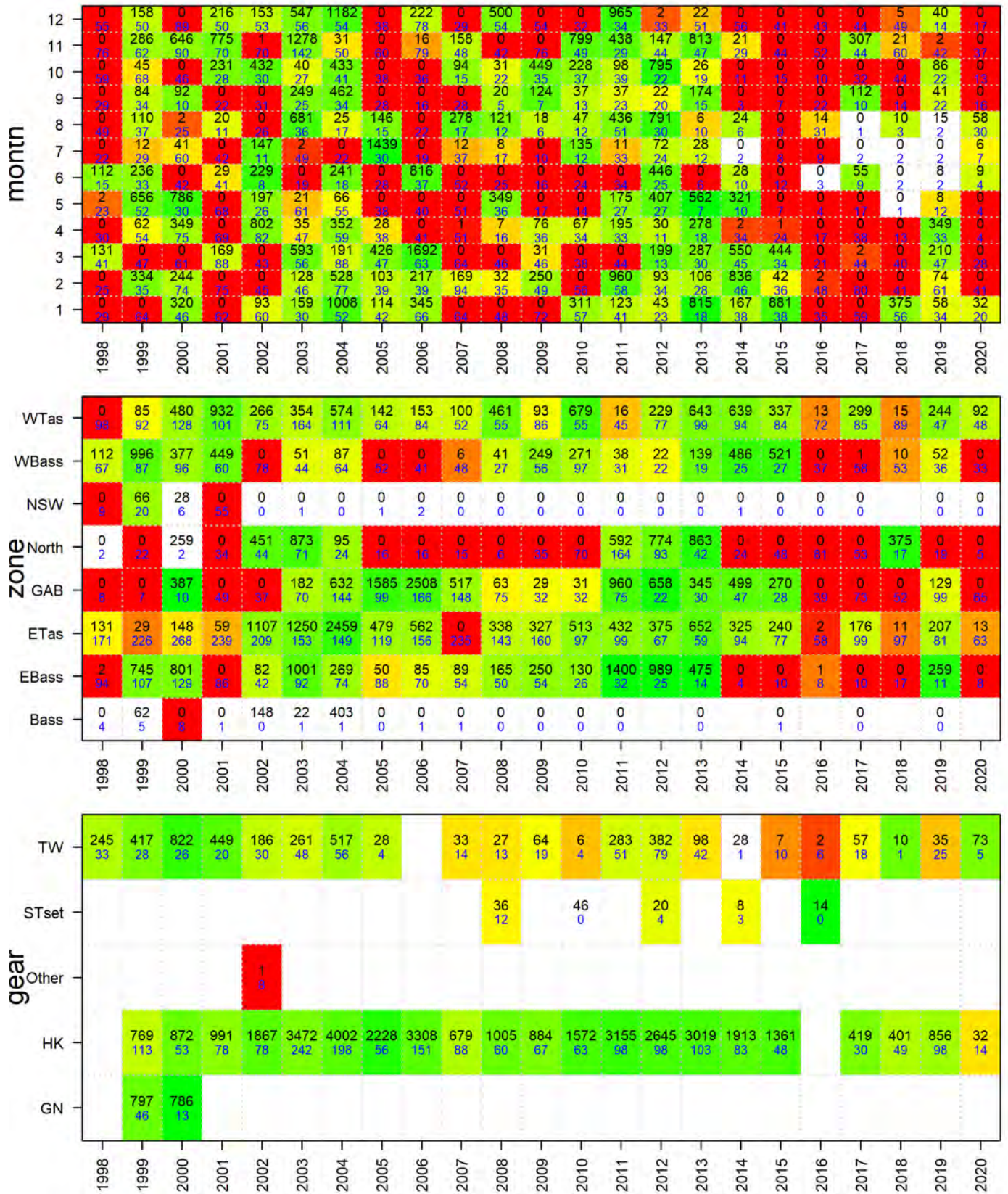


Figure 102 Onboard length data sampling coverage by month (top), zone (middle) and gear for Blue-eye Trevalla. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue-eye Trevalla

# Age data

Mon Aug 16 10:34:58 2021

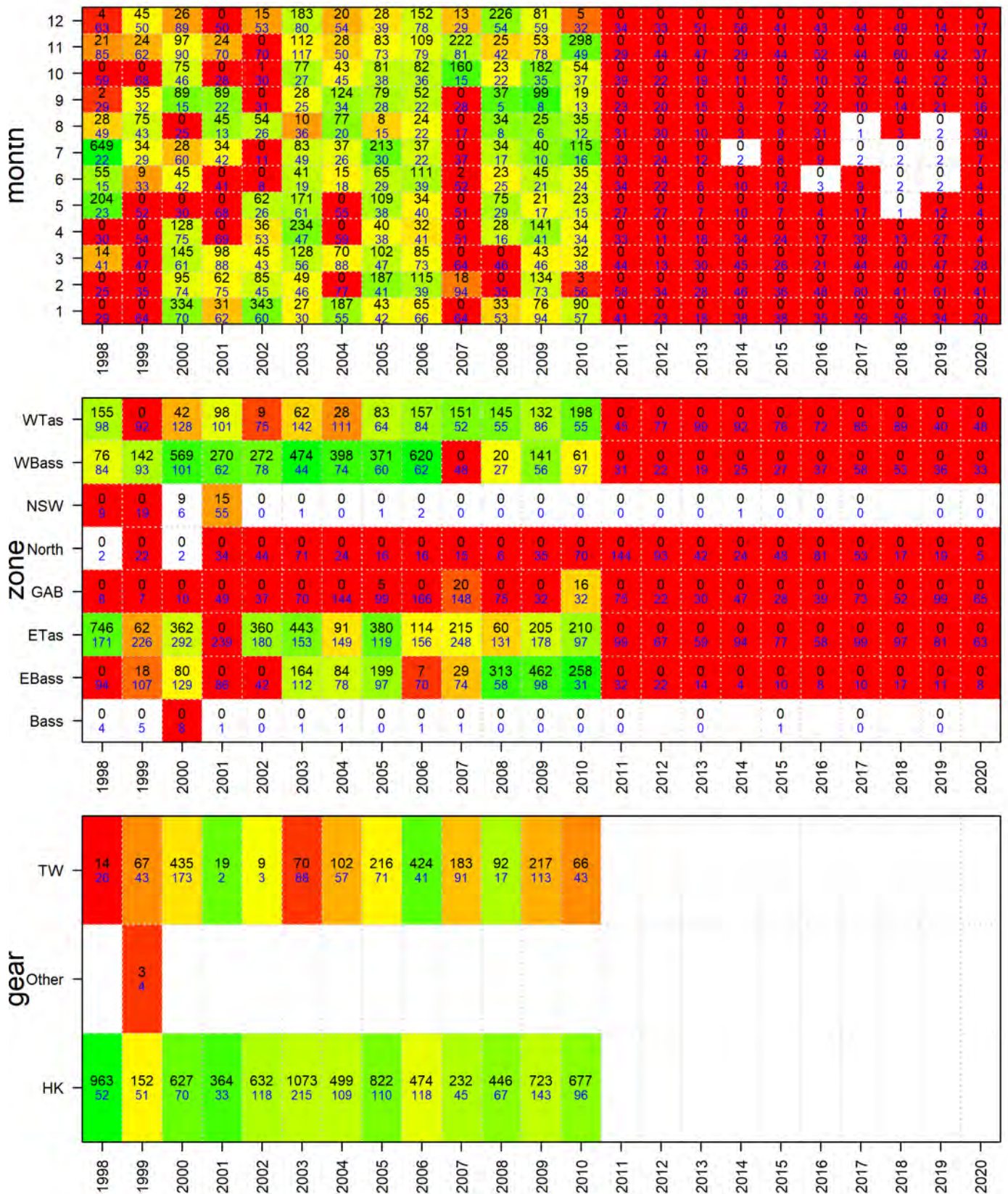
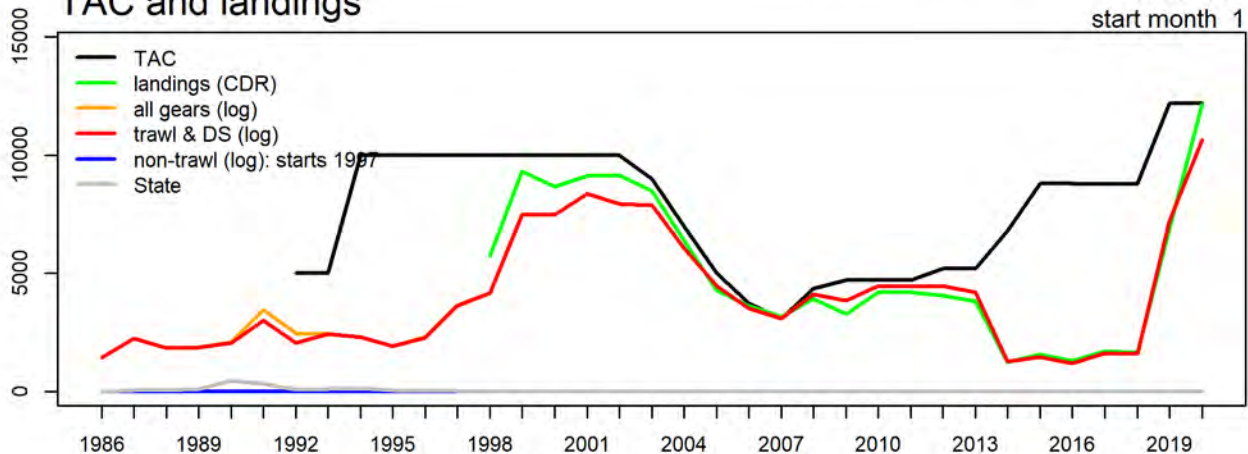
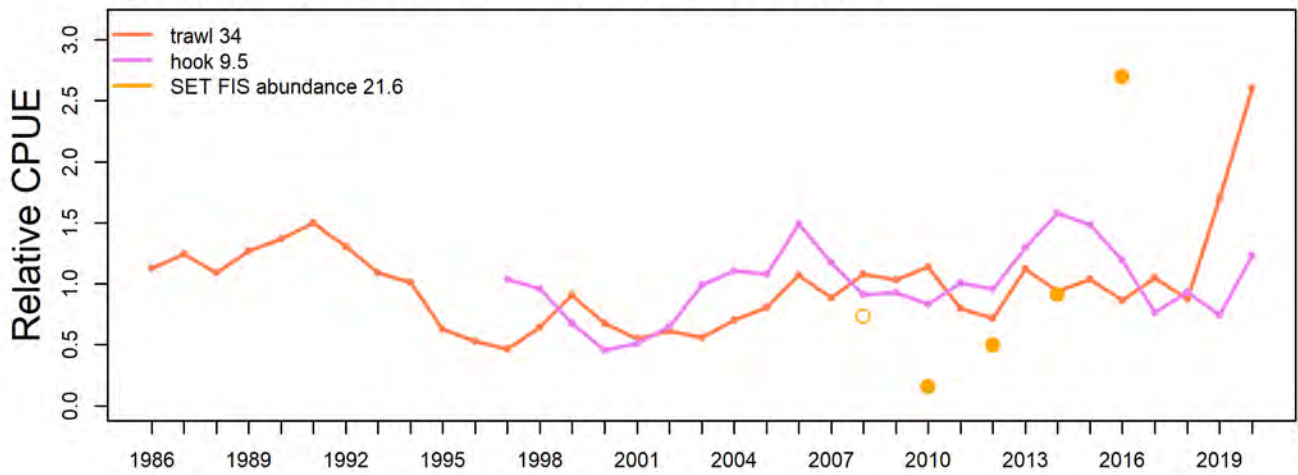


Figure 103 Age data sampling coverage by month (top), zone (middle) and gear for Blue-eye Trevalla. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Grenadier TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

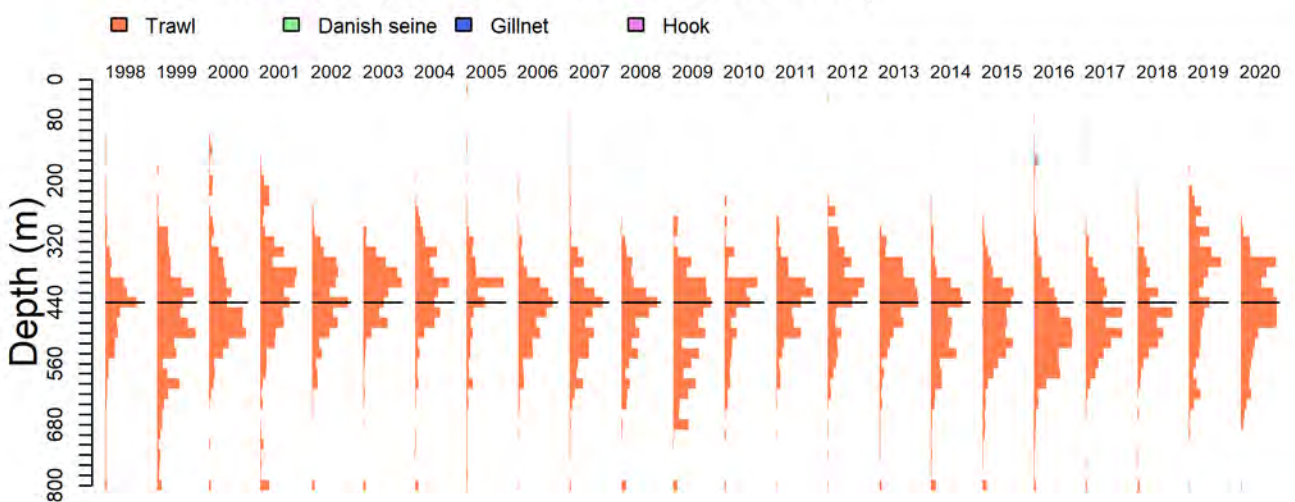
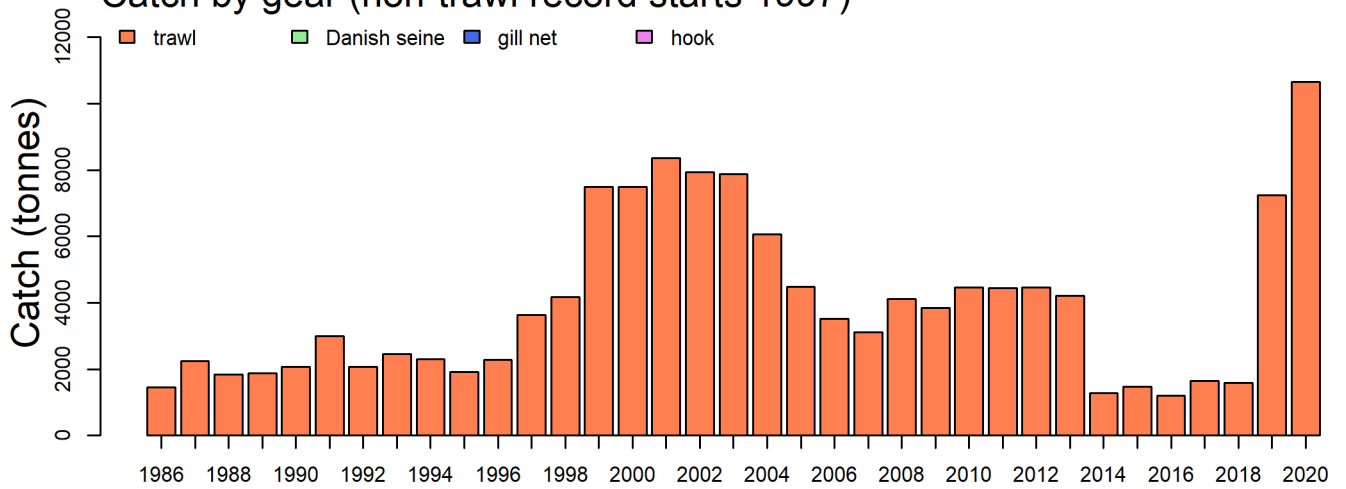


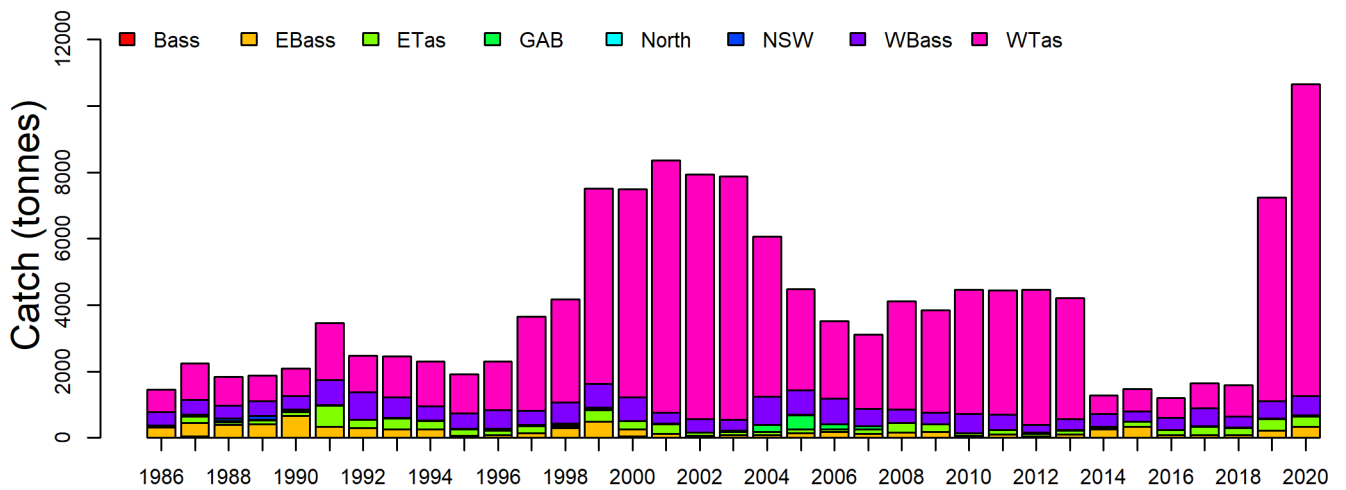
Figure 104 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Blue Grenadier. For more information contact AFMA on (02) 6225 5555.

# Blue Grenadier

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

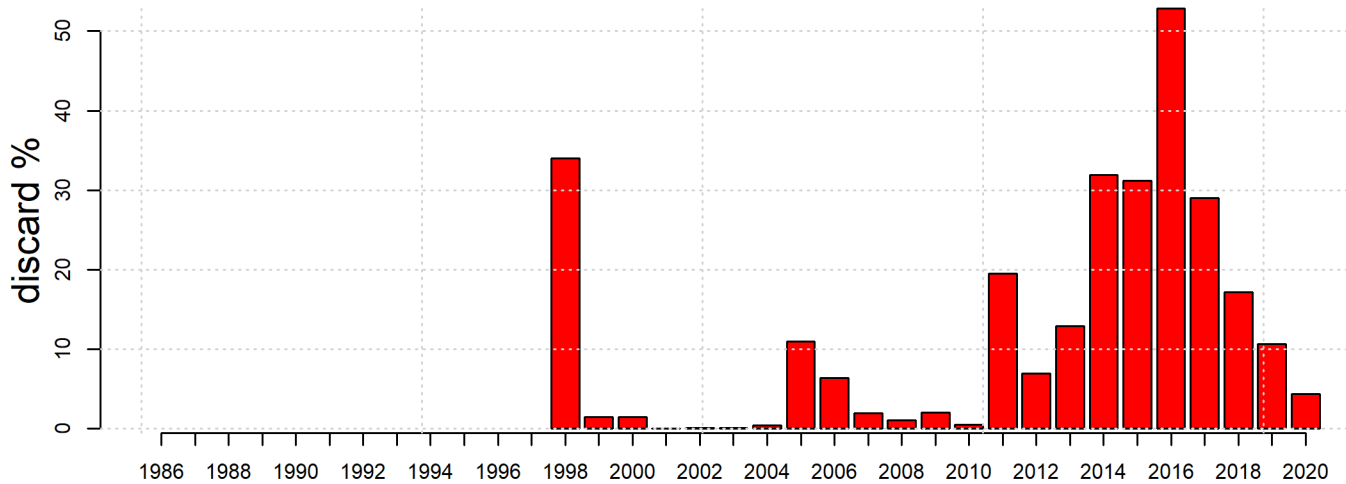


Figure 105 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Blue Grenadier. For more information contact AFMA on (02) 6225 5555.

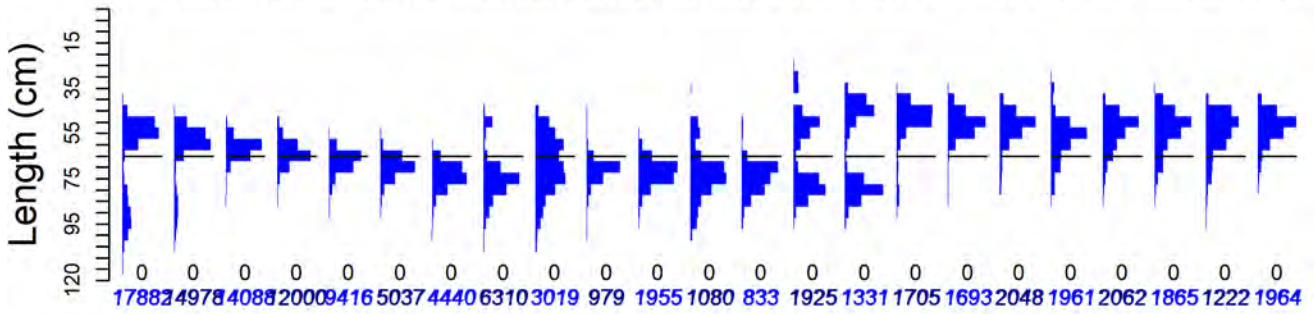


# Blue Grenadier

Mon Aug 16 10:35:05 2021

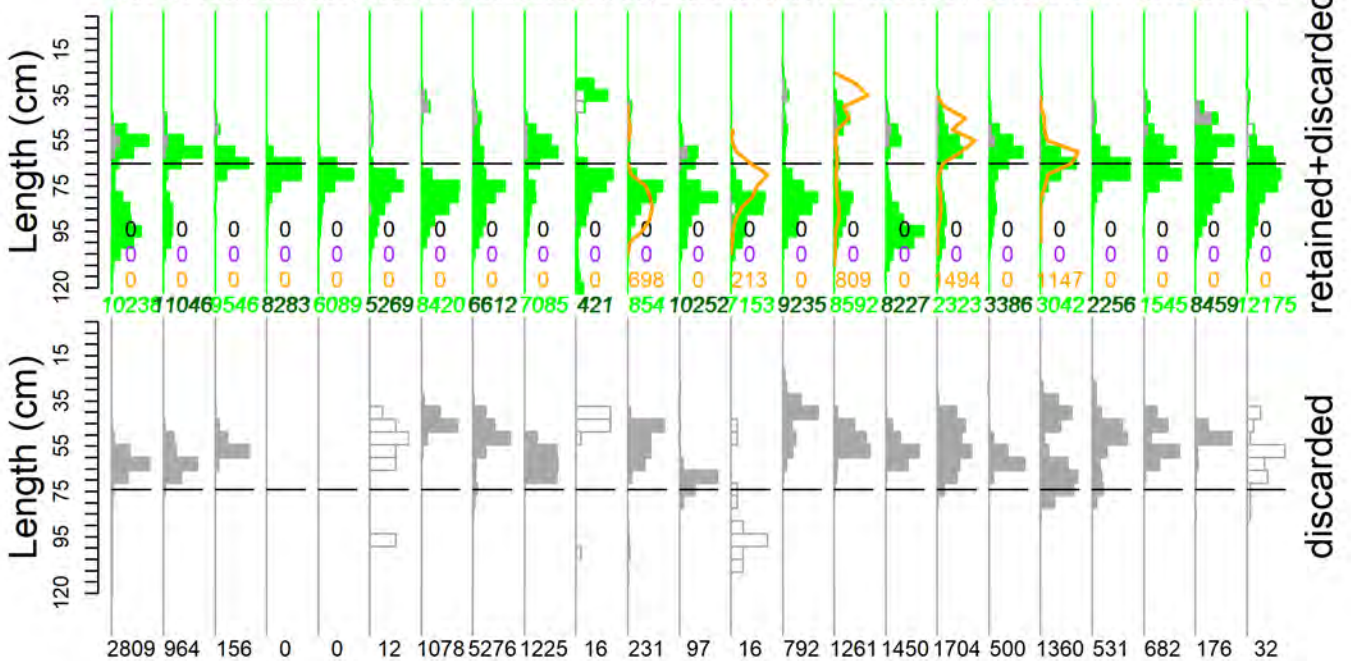
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

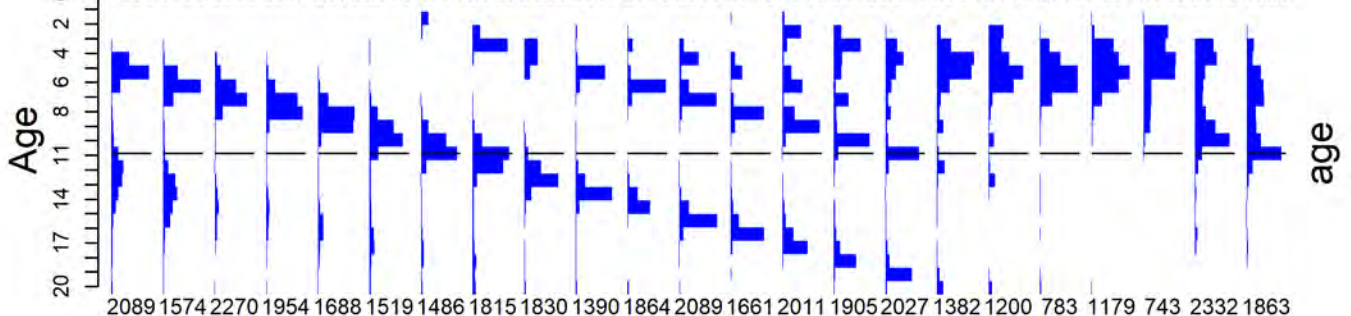


Figure 106 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Blue Grenadier. For more information contact AFMA on (02) 6225 5555.

# Blue Grenadier

# Port length data

Mon Aug 16 10:35:07 2021

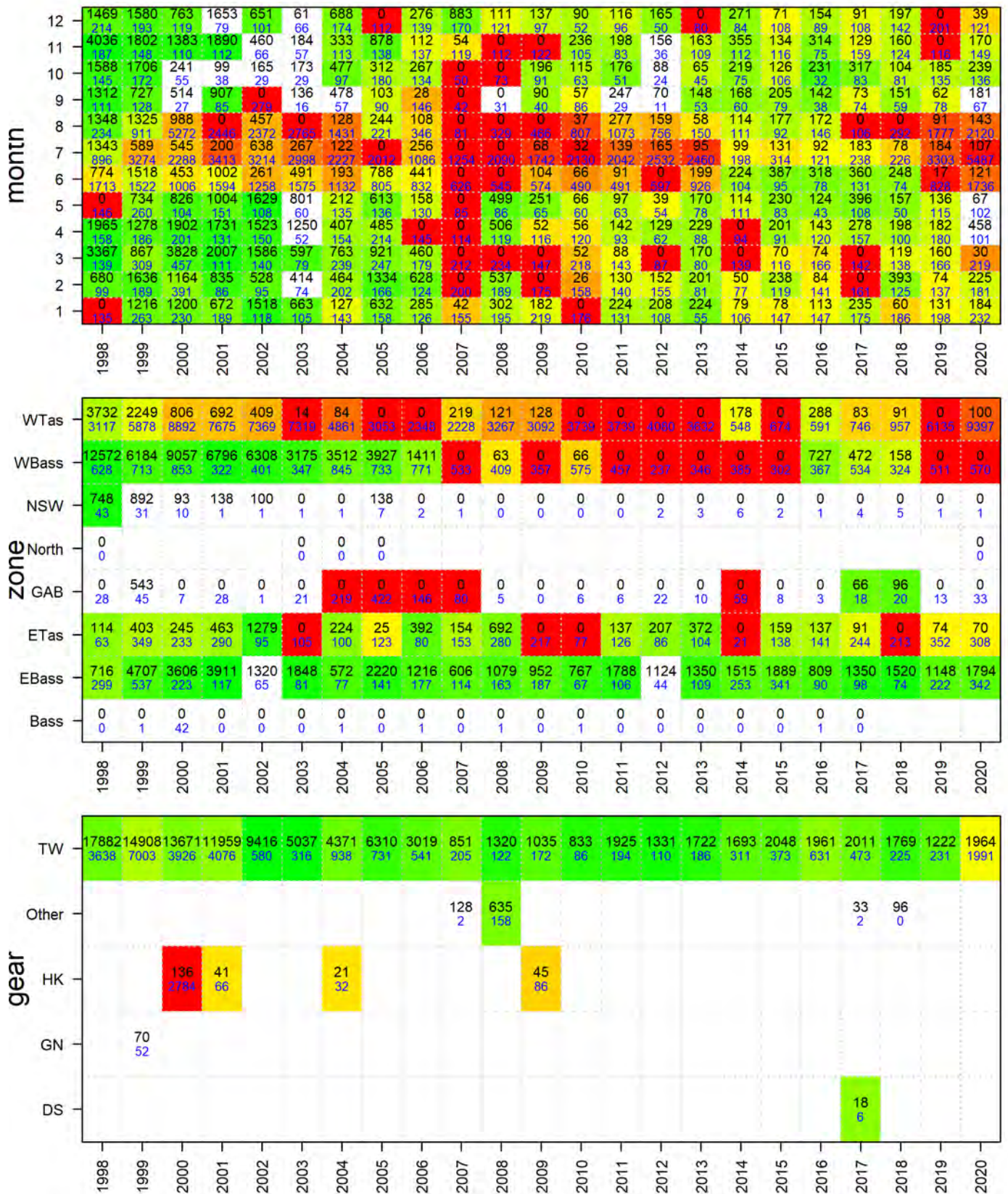


Figure 107 Port length data sampling coverage by month (top), zone (middle) and gear for Blue Grenadier. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Grenadier

# Onboard discard weight data

Mon Aug 16 10:35:08 2021

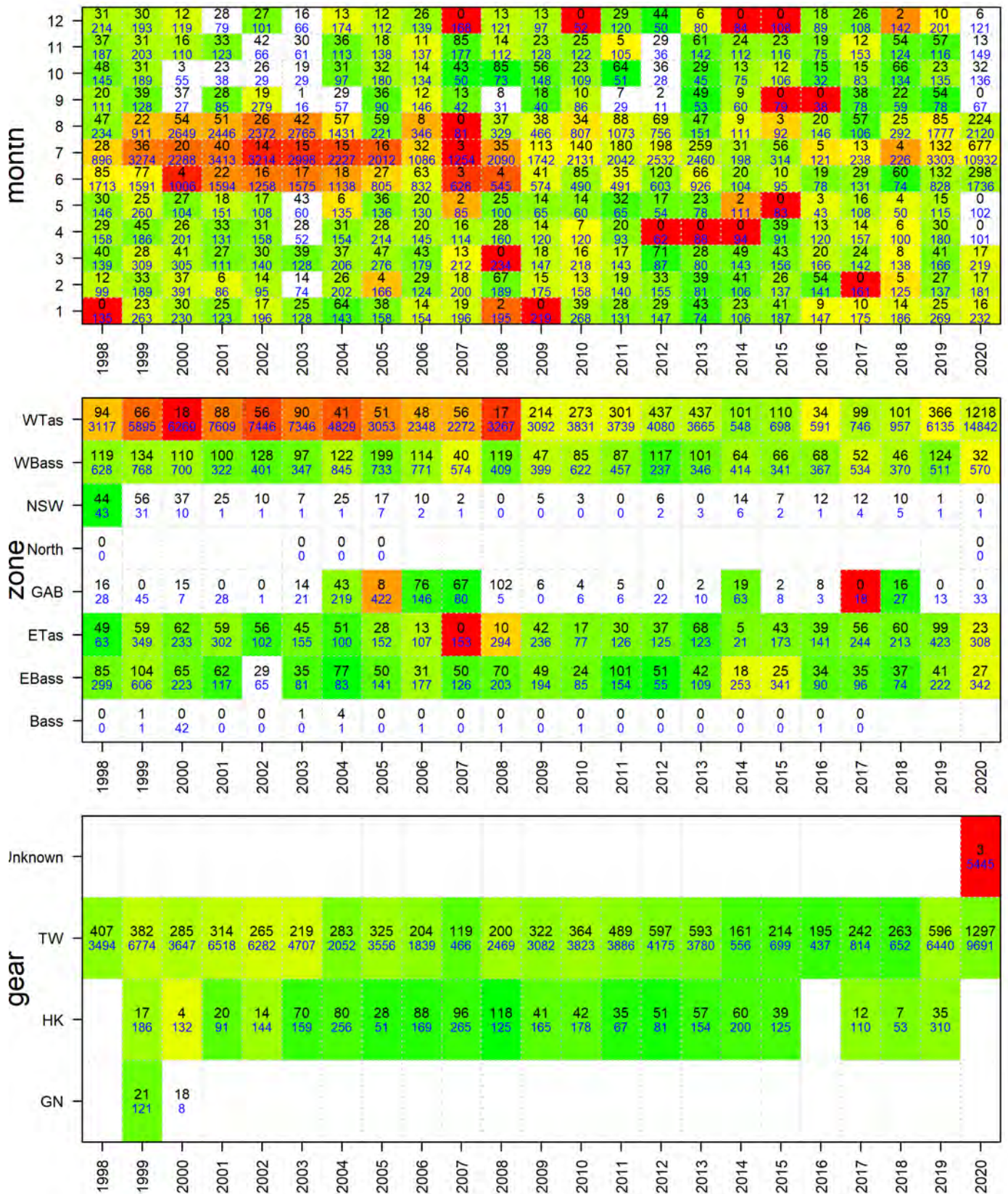


Figure 108 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Blue Grenadier. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Grenadier

# Onboard length data

Mon Aug 16 10:35:08 2021

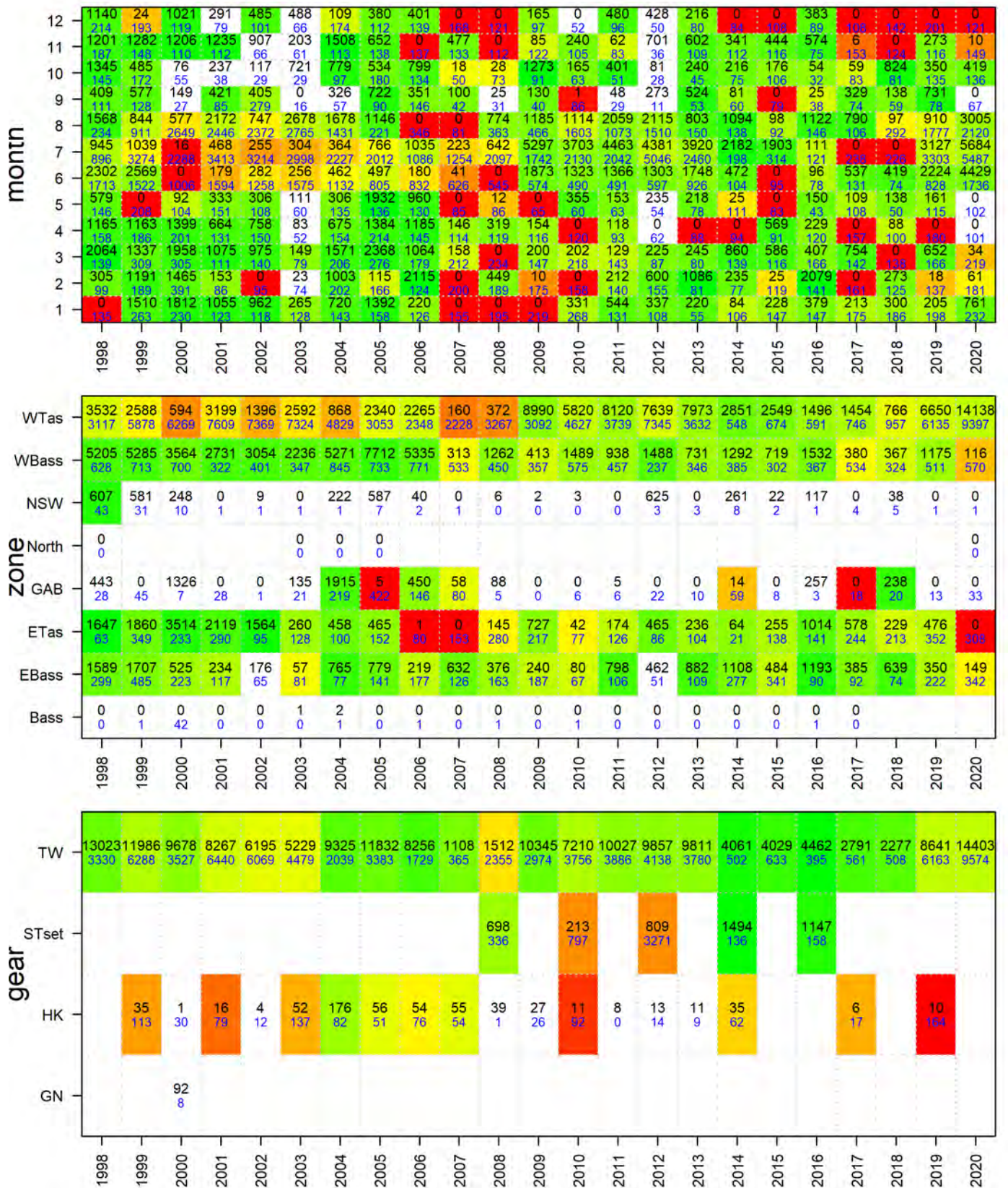


Figure 109 Onboard length data sampling coverage by month (top), zone (middle) and gear for Blue Grenadier. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Grenadier

# Age data

Mon Aug 16 10:35:09 2021

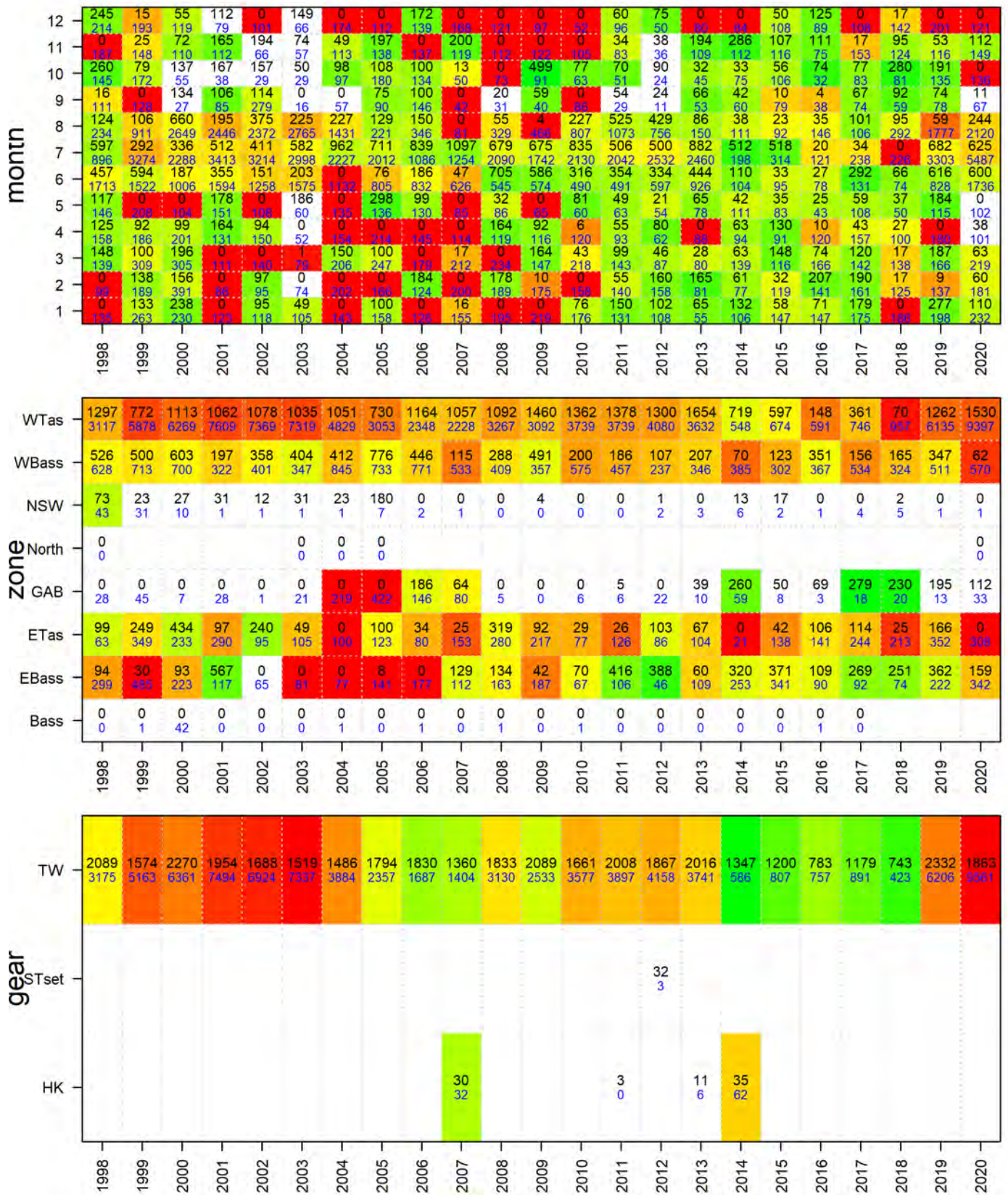
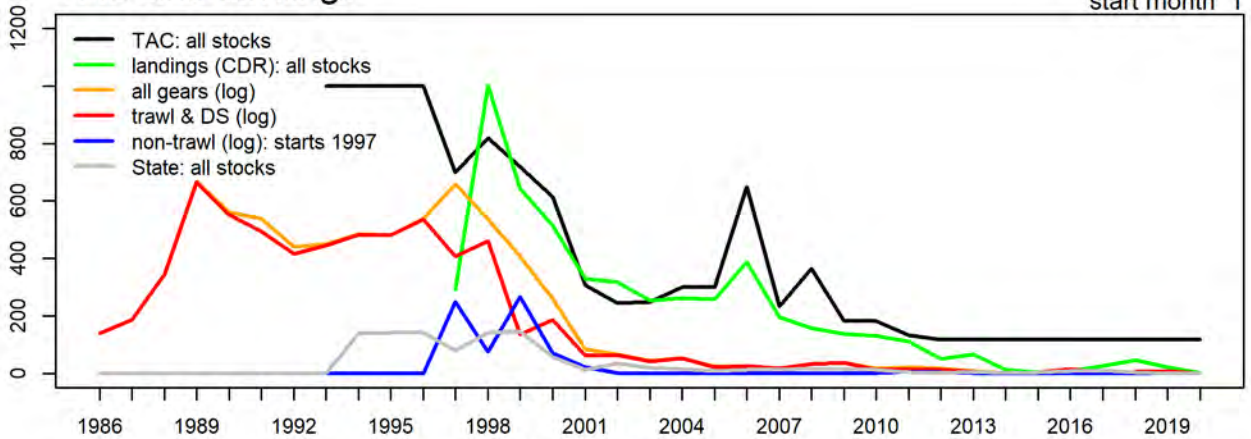


Figure 110 Age data sampling coverage by month (top), zone (middle) and gear for Blue Grenadier. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

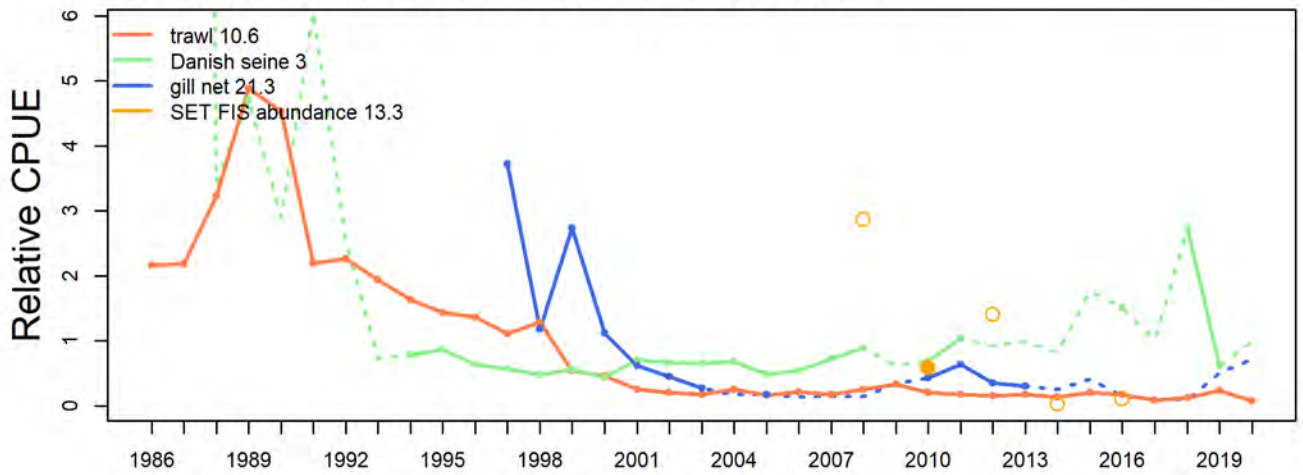
# Blue Warehouse East

## TAC and landings

Mon Aug 16 10:35:11 2021  
 region SEFEAST unit code TRT sa code TRTE  
 37445005  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

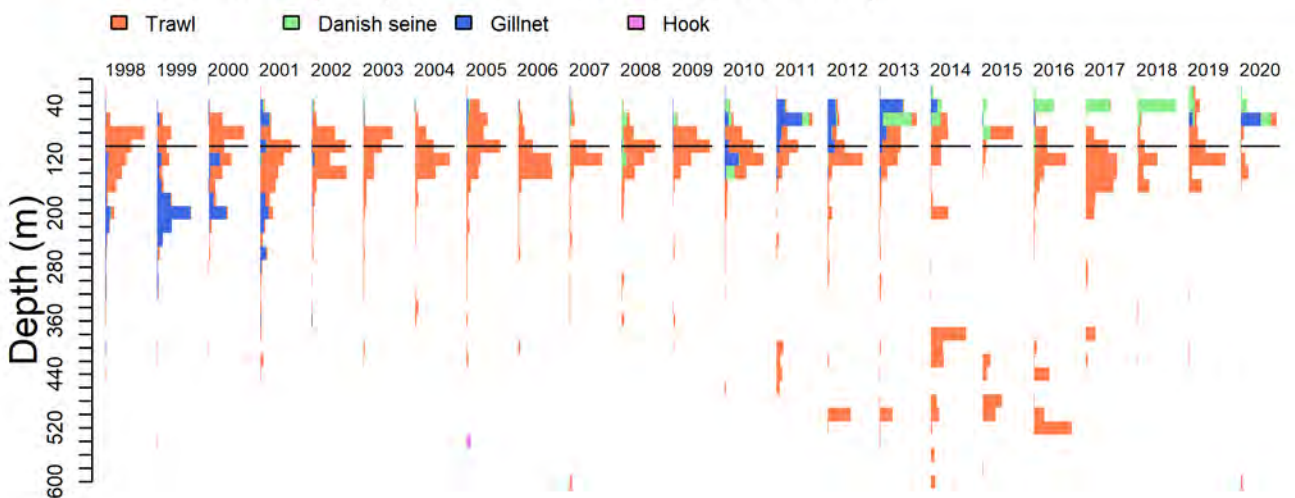
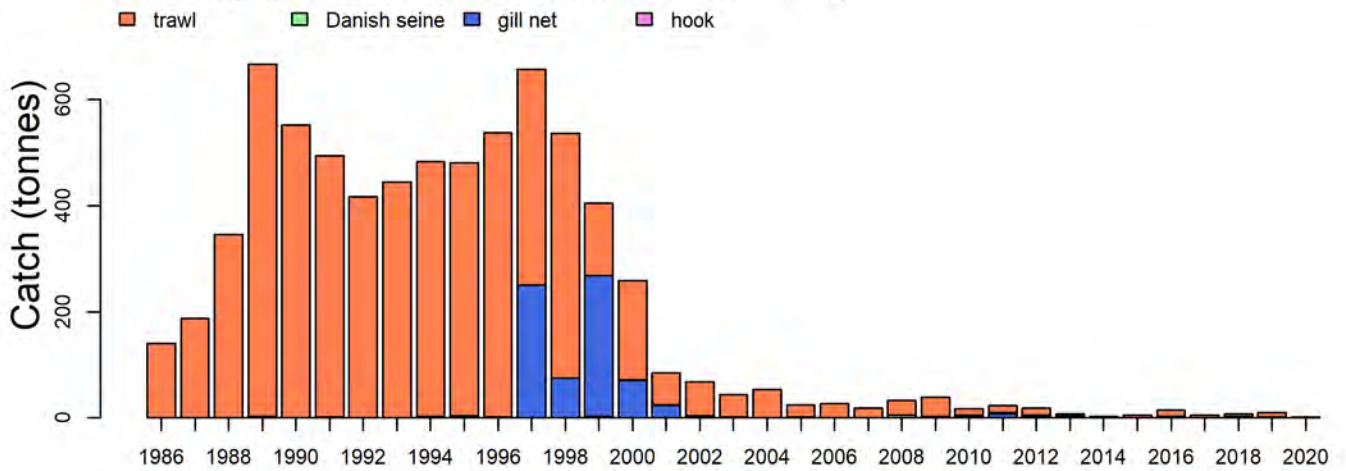


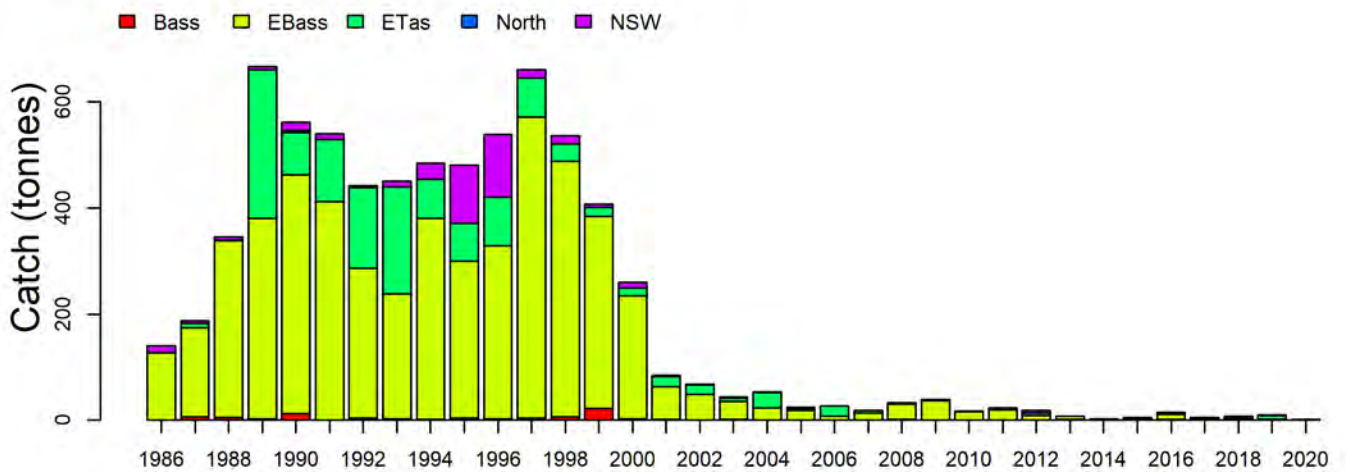
Figure 111 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Blue Warehouse East. For more information contact AFMA on (02) 6225 5555.

# Blue Warehouse East

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

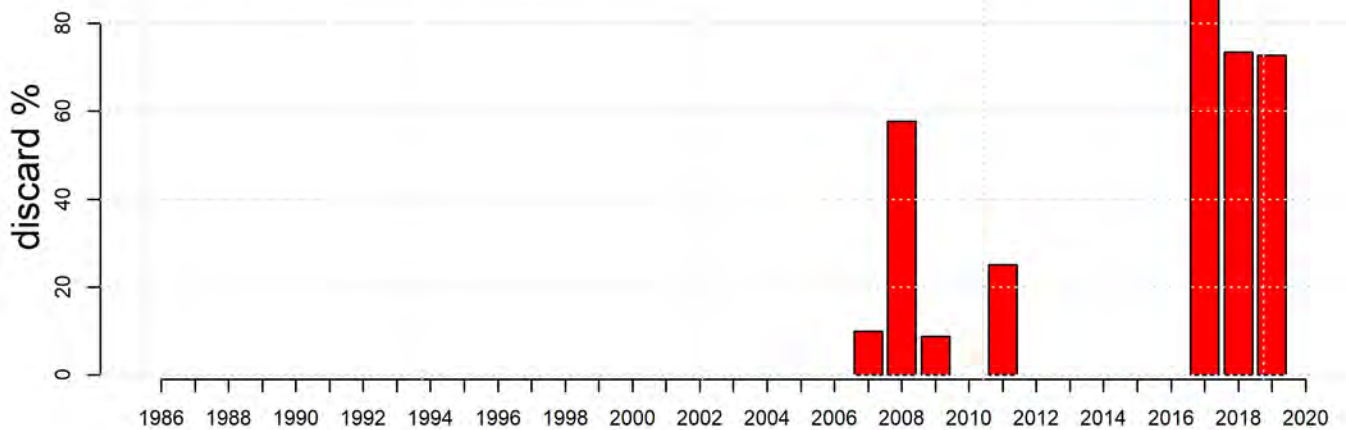


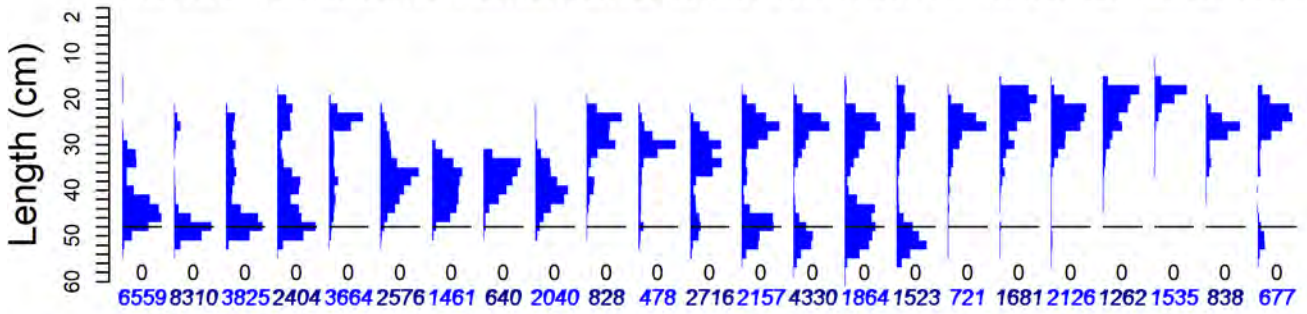
Figure 112 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Blue Warehouse East. For more information contact AFMA on (02) 6225 5555.

# Blue Warehouse East

Mon Aug 16 10:35:13 2021

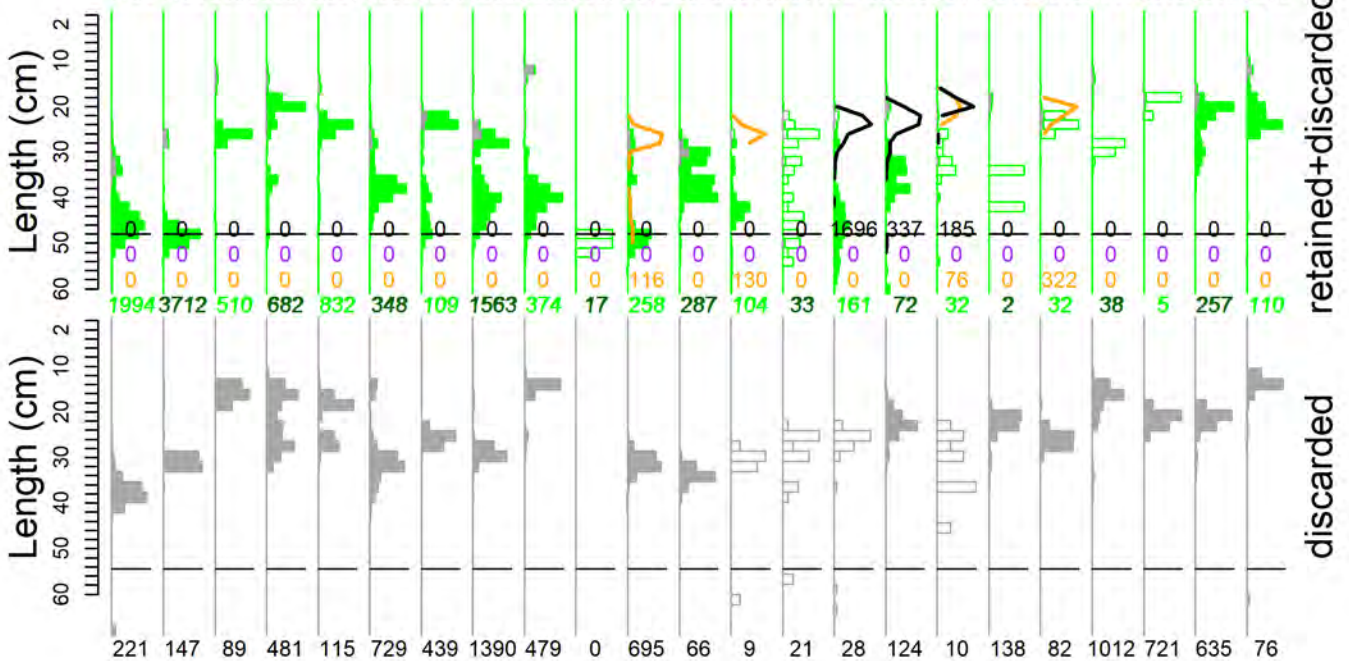
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

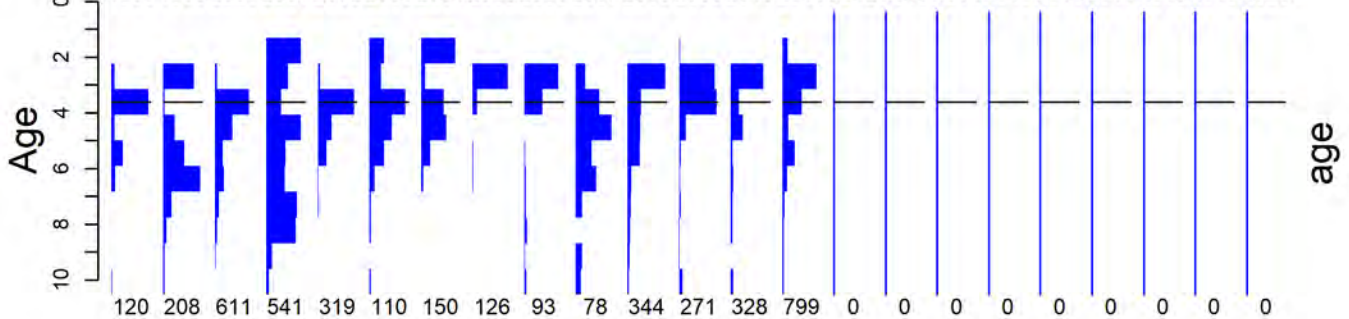


Figure 113 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Blue Warehouse East. For more information contact AFMA on (02) 6225 5555.



# Blue Warehouse East

# Port length data

Mon Aug 16 10:35:14 2021

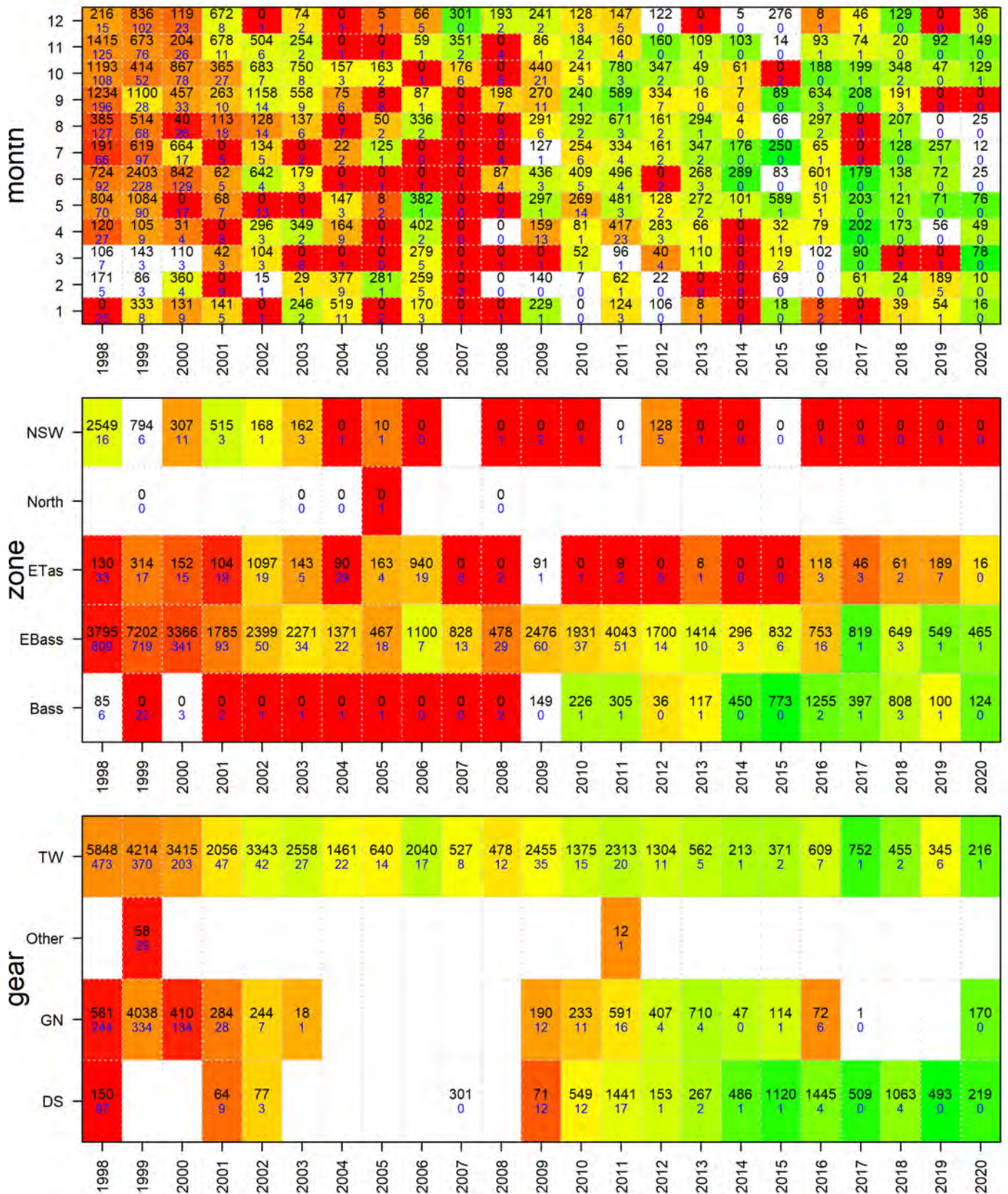


Figure 114 Port length data sampling coverage by month (top), zone (middle) and gear for Blue Warehouse East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Warehouse East Onboard discard weight data

Mon Aug 16 10:35:14 2021

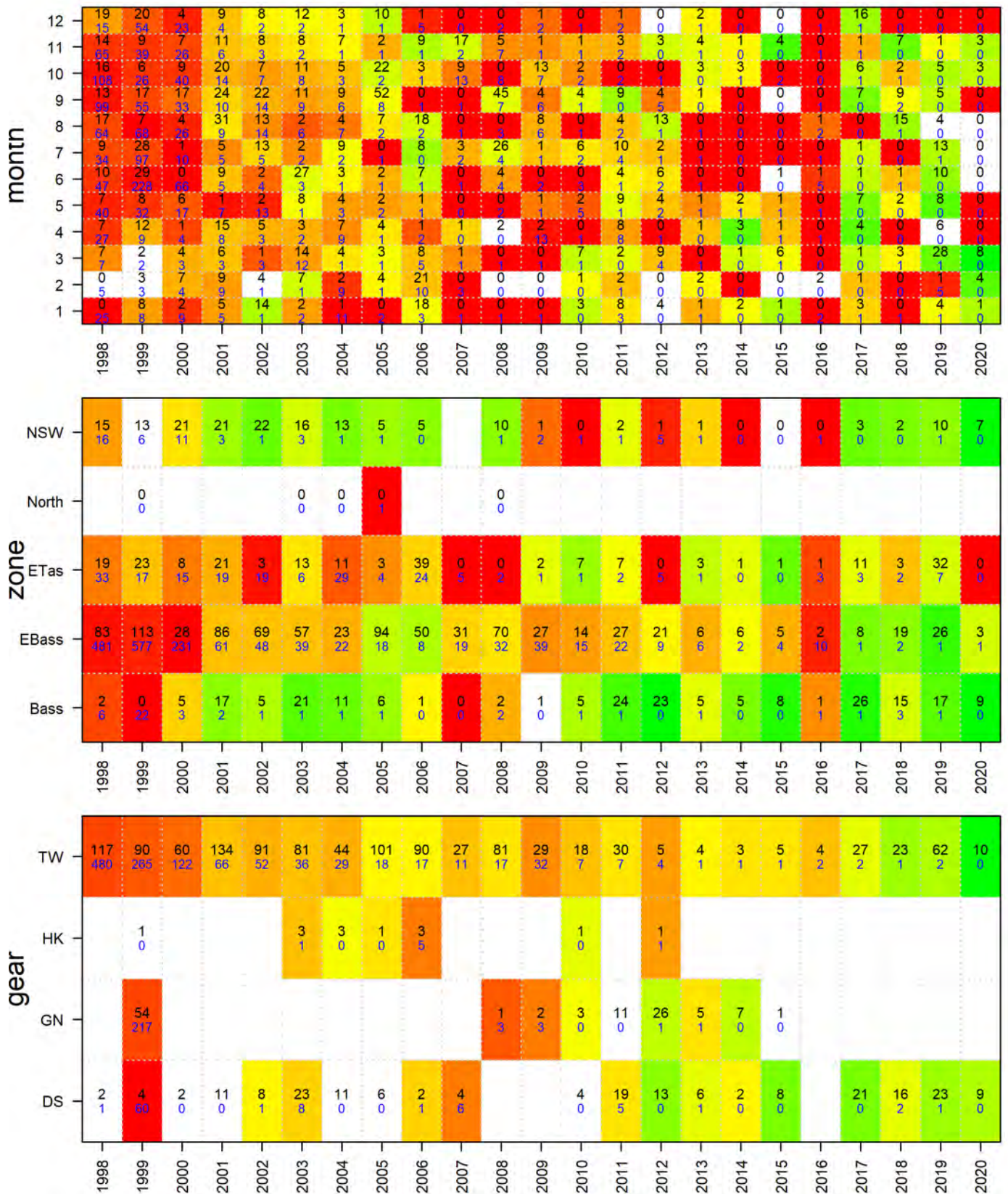


Figure 115 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Blue Warehouse East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Warehouse East

# Onboard length data

Mon Aug 16 10:35:15 2021

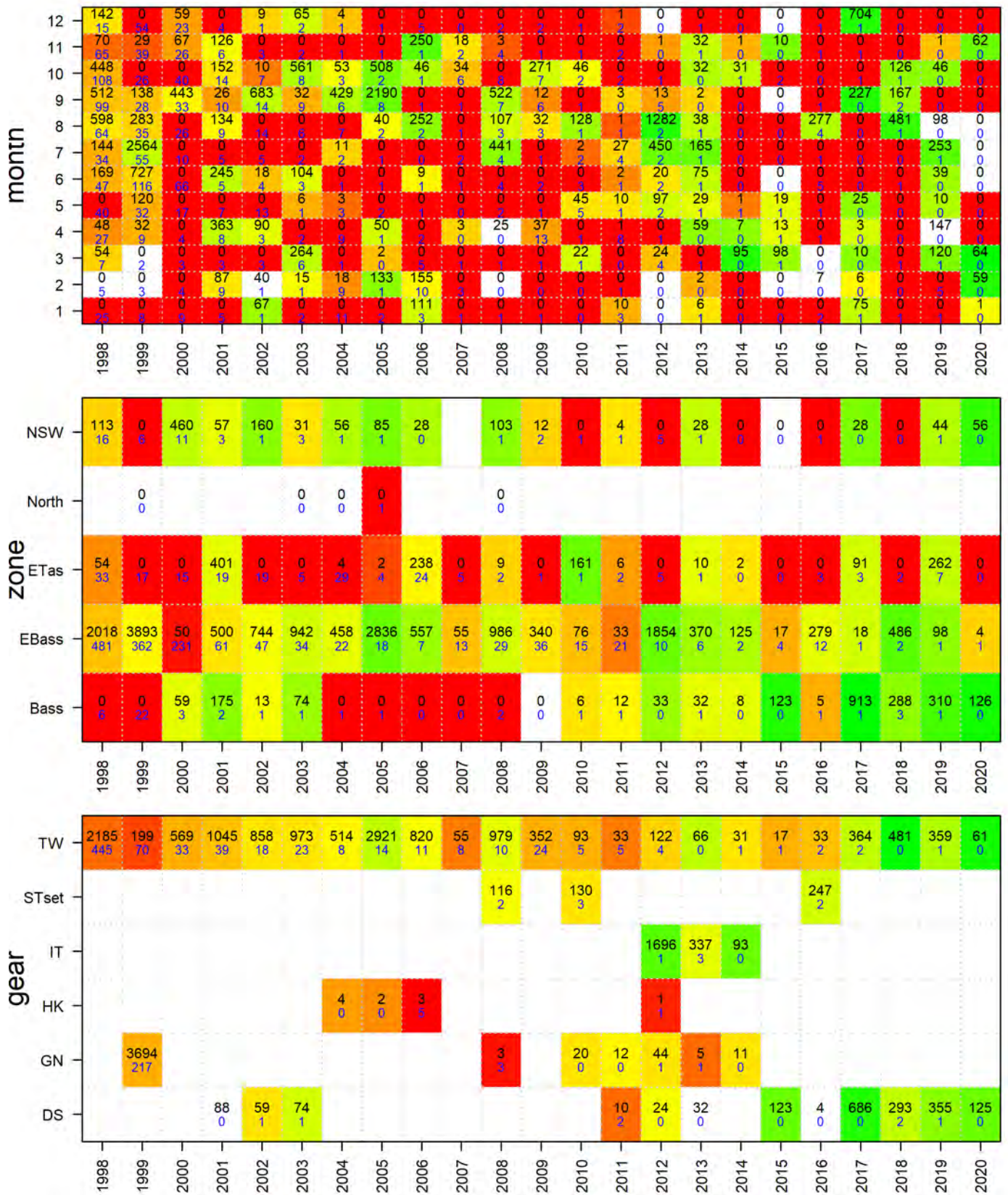


Figure 116 Onboard length data sampling coverage by month (top), zone (middle) and gear for Blue Warehouse East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Warehou East

# Age data

Mon Aug 16 10:35:16 2021

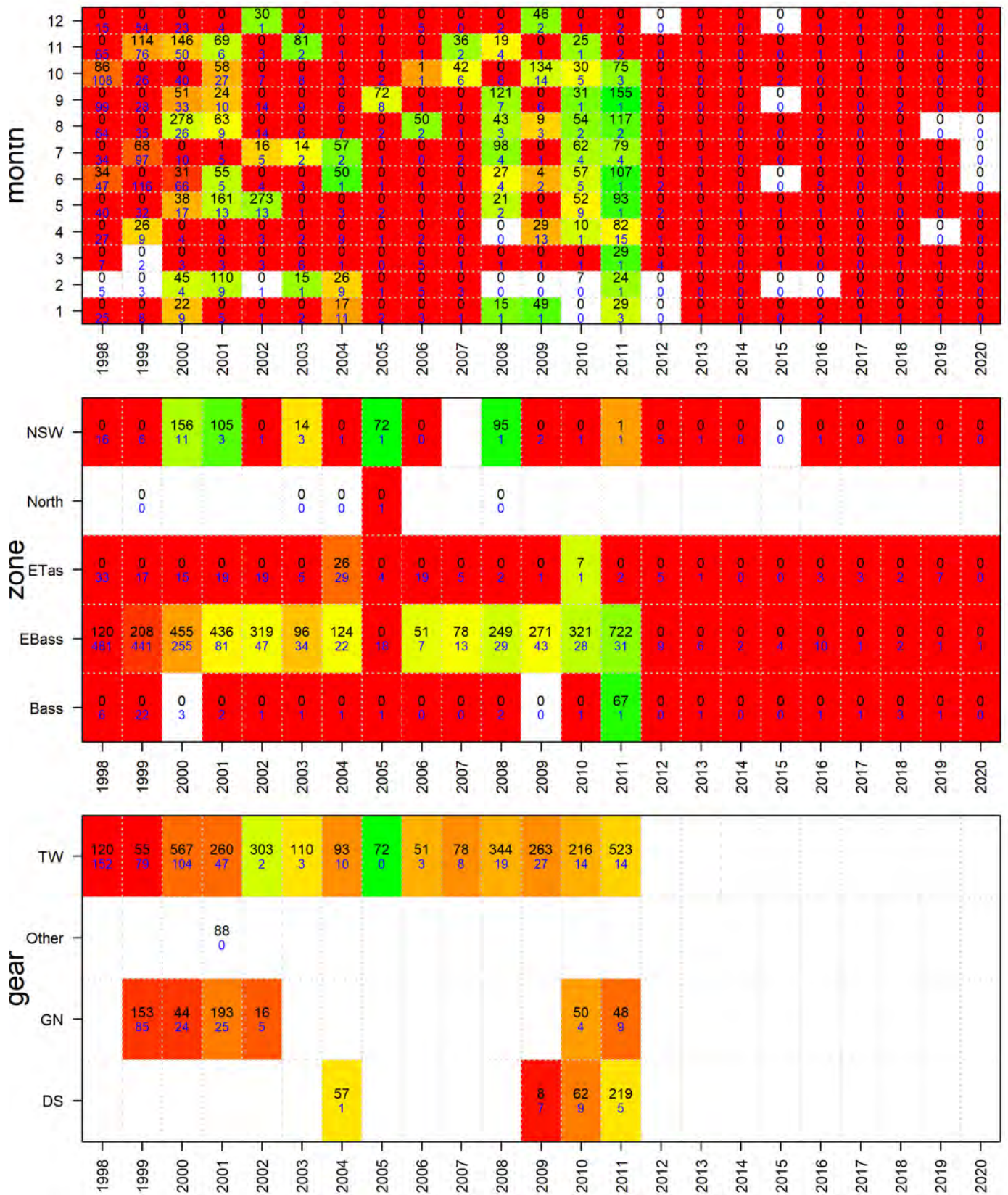
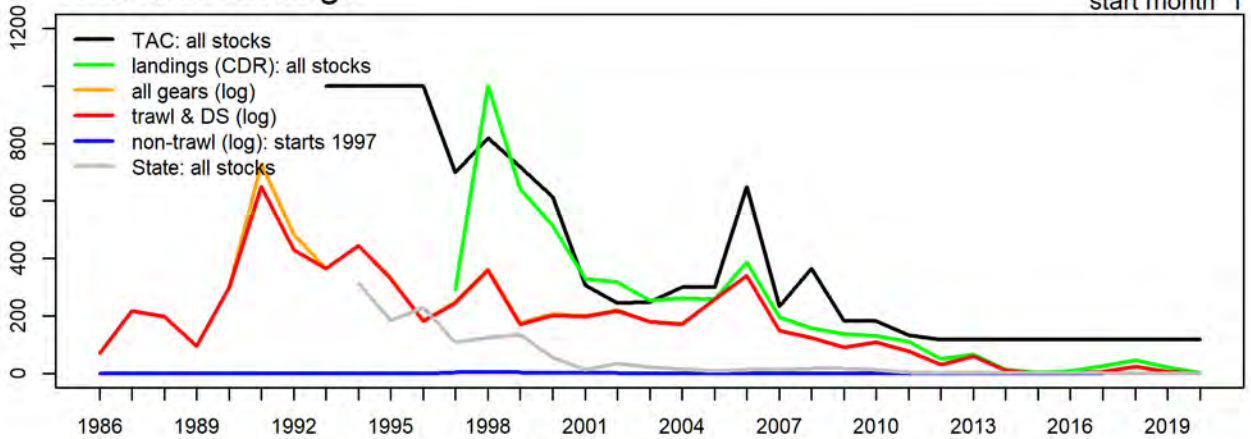


Figure 117 Age data sampling coverage by month (top), zone (middle) and gear for Blue Warehou East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

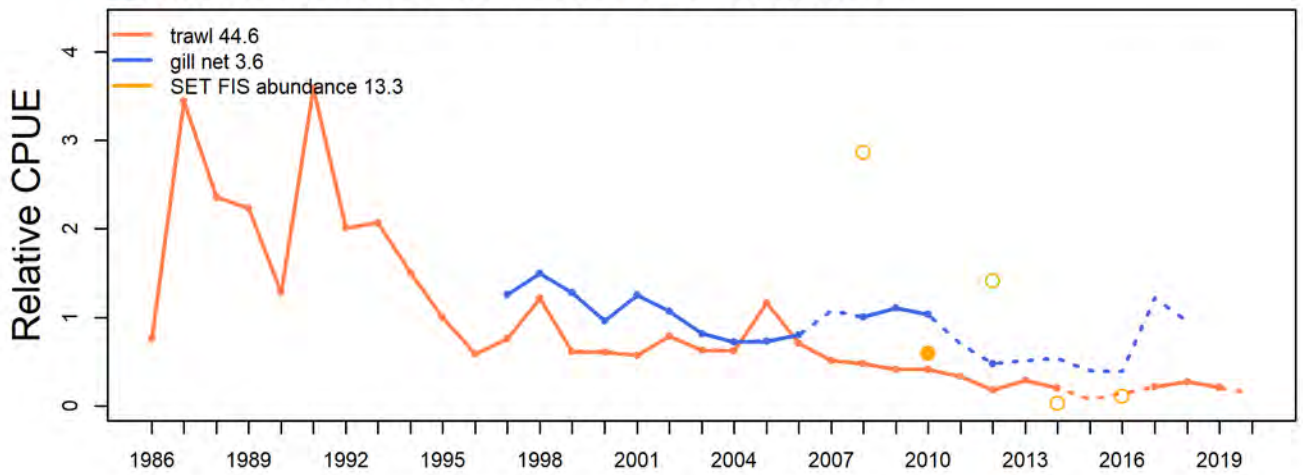
# Blue Warehouse West

Mon Aug 16 10:35:17 2021  
 region SEFWEST unit code TRT sa code TRTW  
 37445005  
 start month 1

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

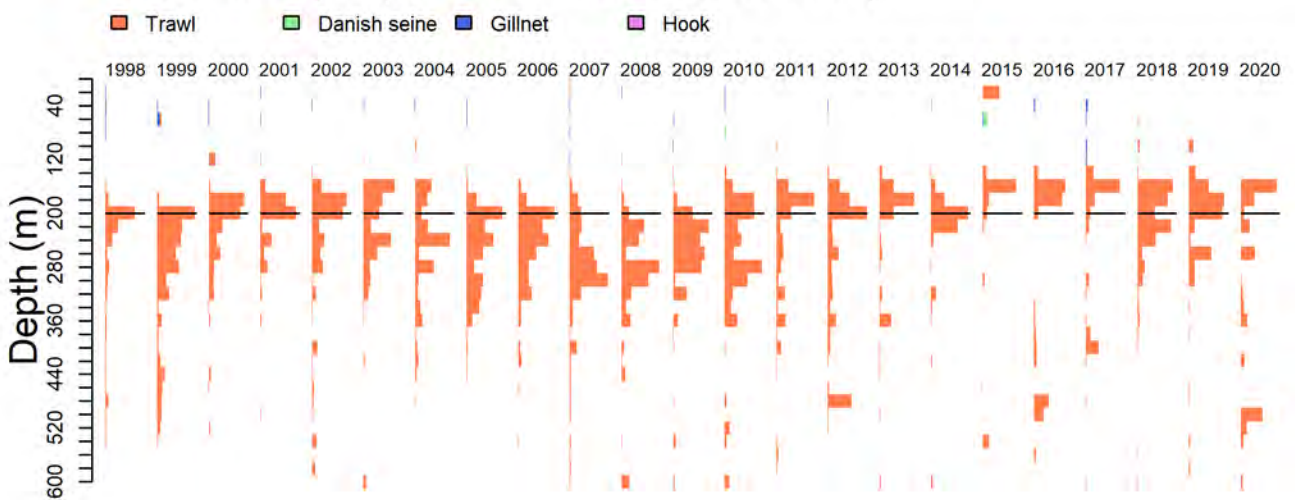
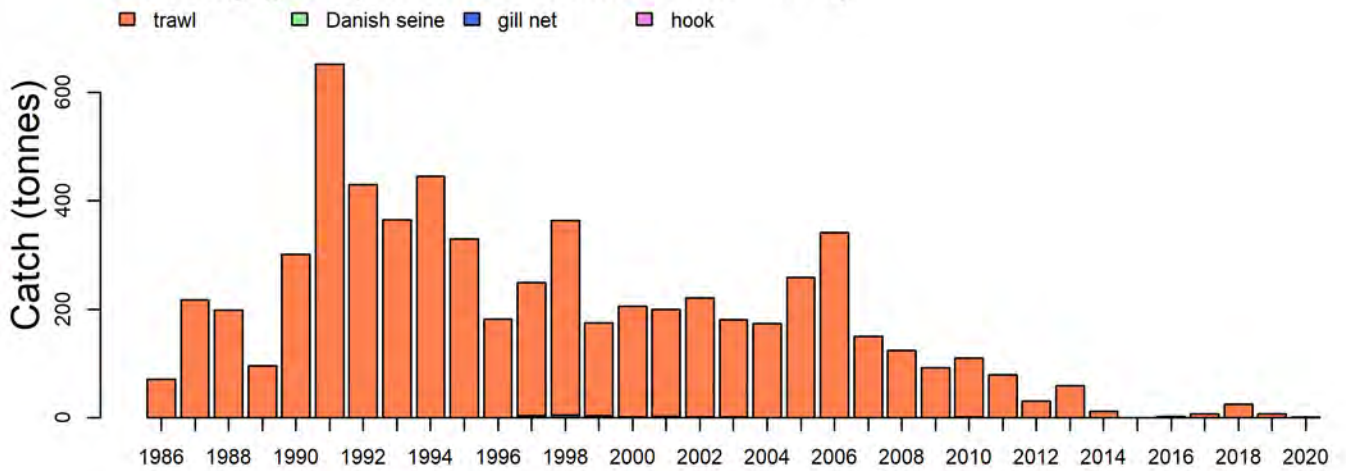


Figure 118 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Blue Warehouse West. For more information contact AFMA on (02) 6225 5555.

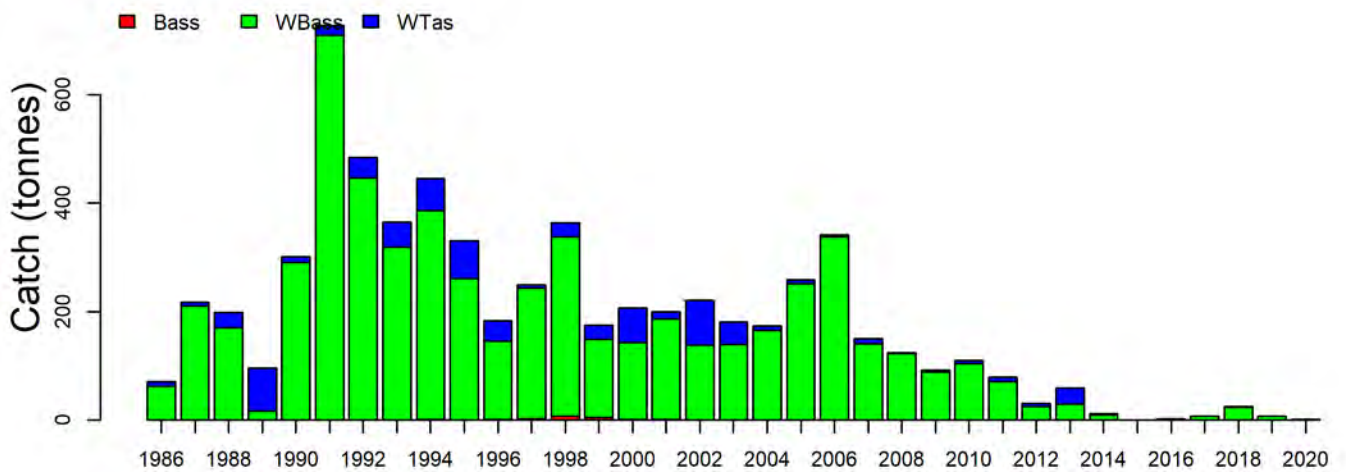
# Blue Warehouse West

Mon Aug 16 10:35:18 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

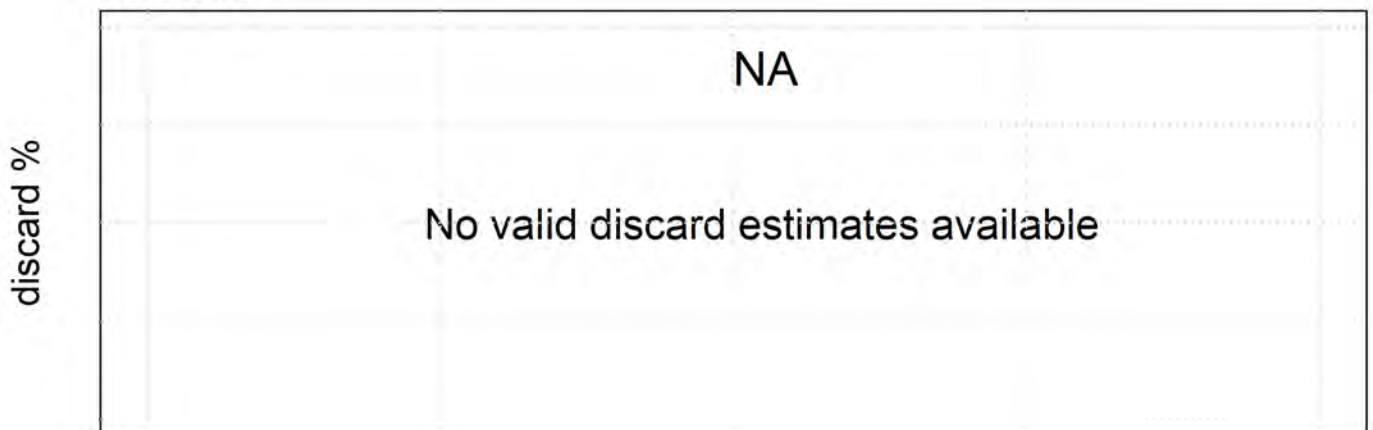


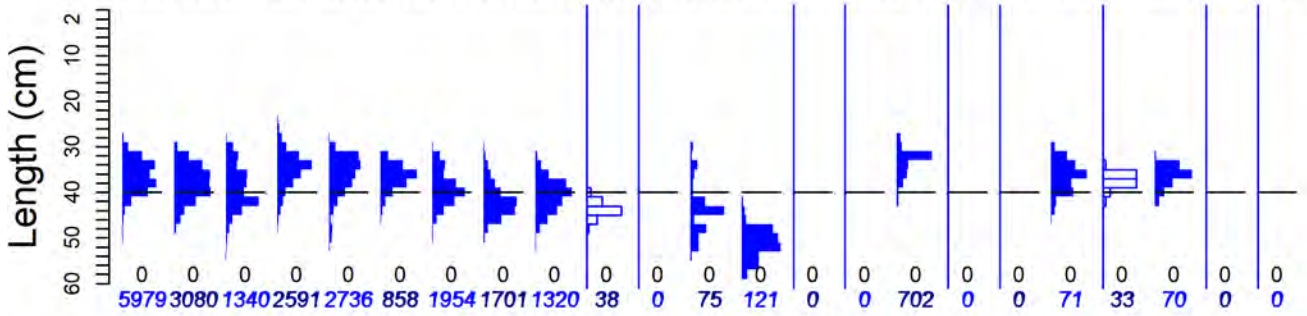
Figure 119 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Blue Warehouse West. For more information contact AFMA on (02) 6225 5555.

# Blue Warehou West

Mon Aug 16 10:35:18 2021

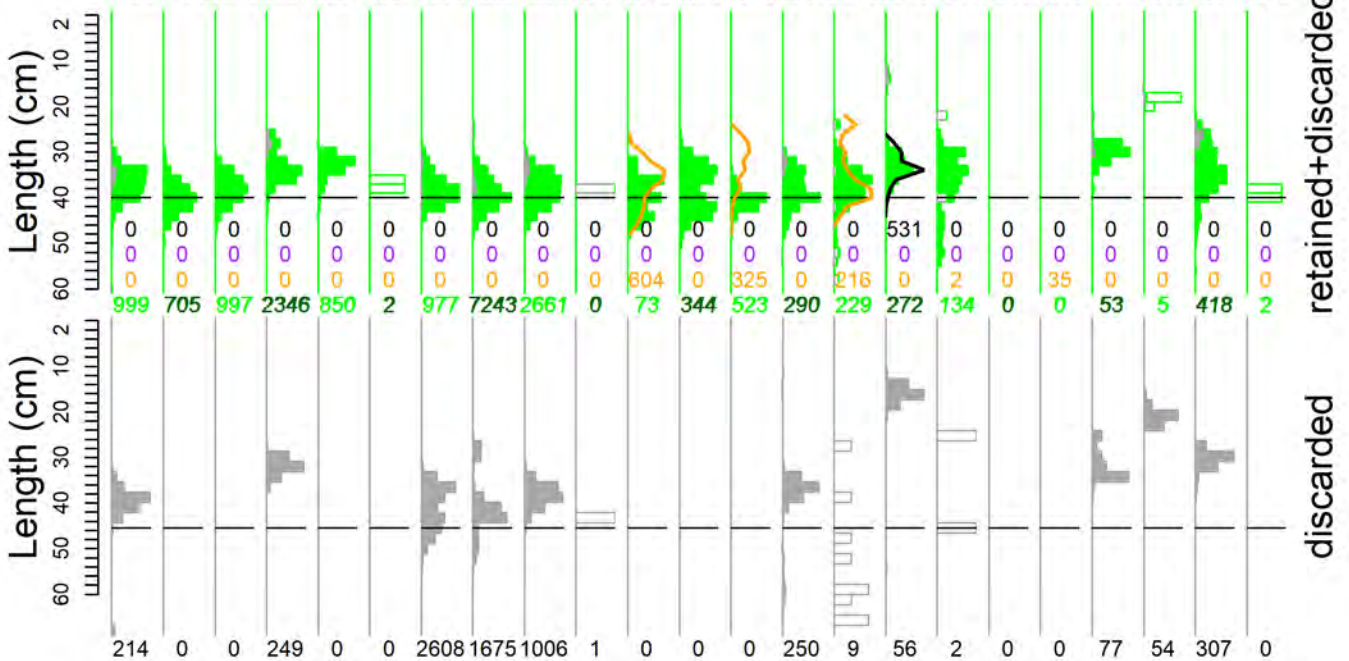
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

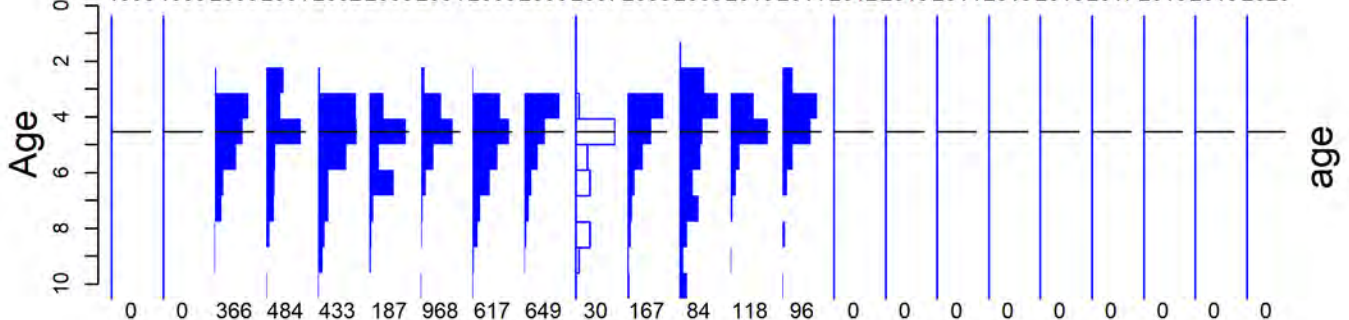


Figure 120 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Blue Warehou West. For more information contact AFMA on (02) 6225 5555.

# Blue Warehouse West

# Port length data

Mon Aug 16 10:35:19 2021

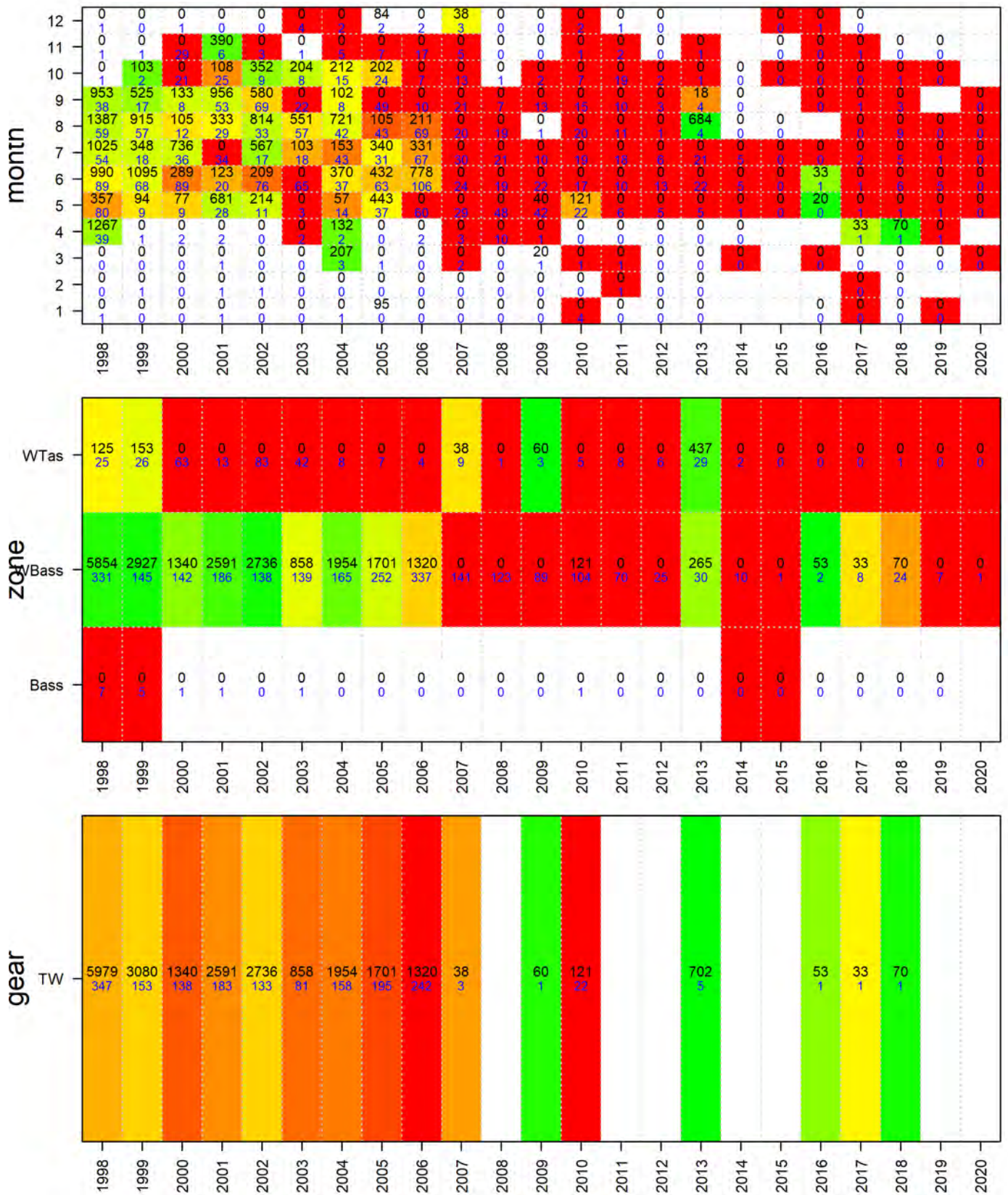


Figure 121 Port length data sampling coverage by month (top), zone (middle) and gear for Blue Warehouse West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Blue Warehouse West Onboard discard weight data

Mon Aug 16 10:35:20 2021

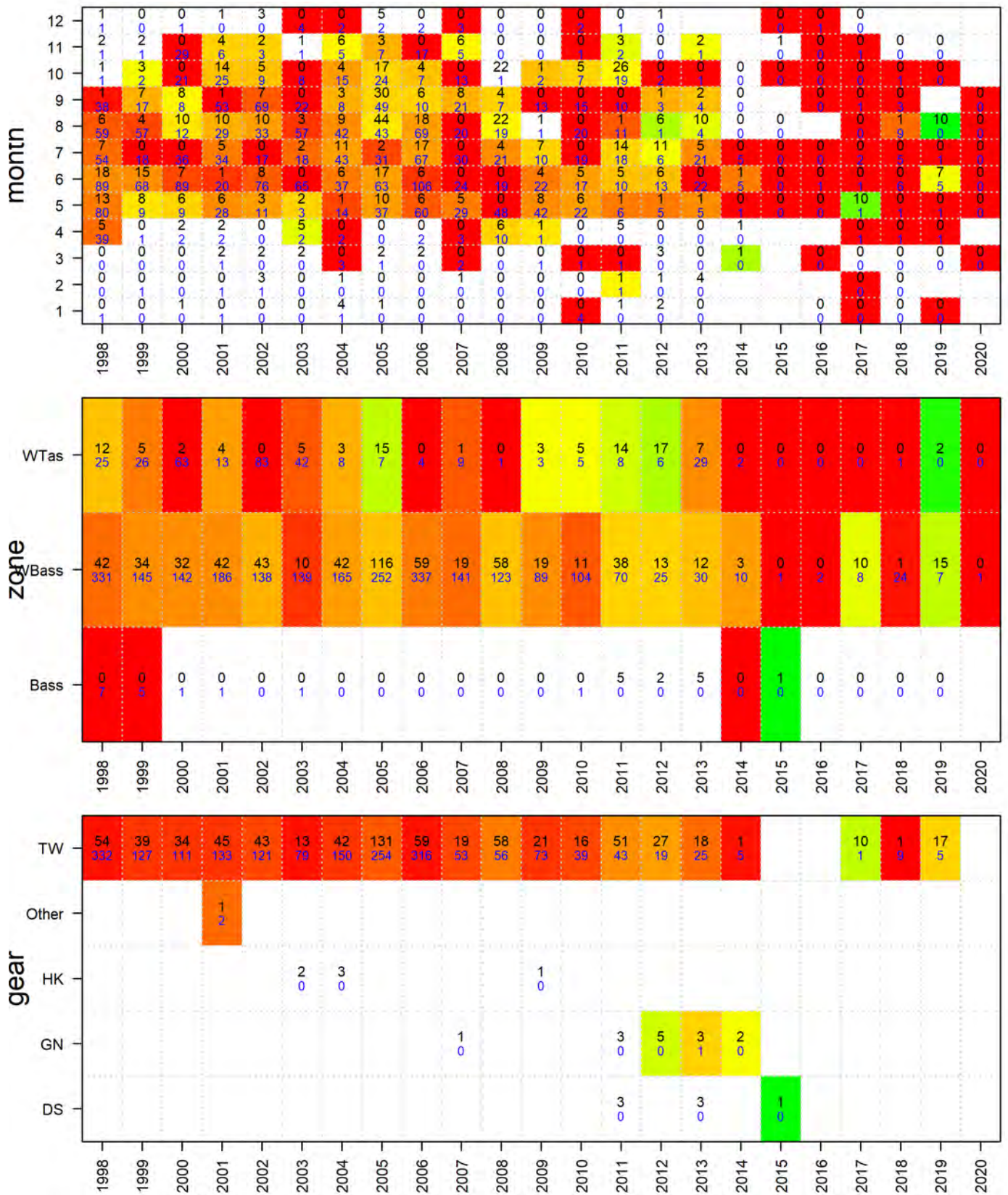


Figure 122 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Blue Warehouse West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Warehouse West

# Onboard length data

Mon Aug 16 10:35:21 2021

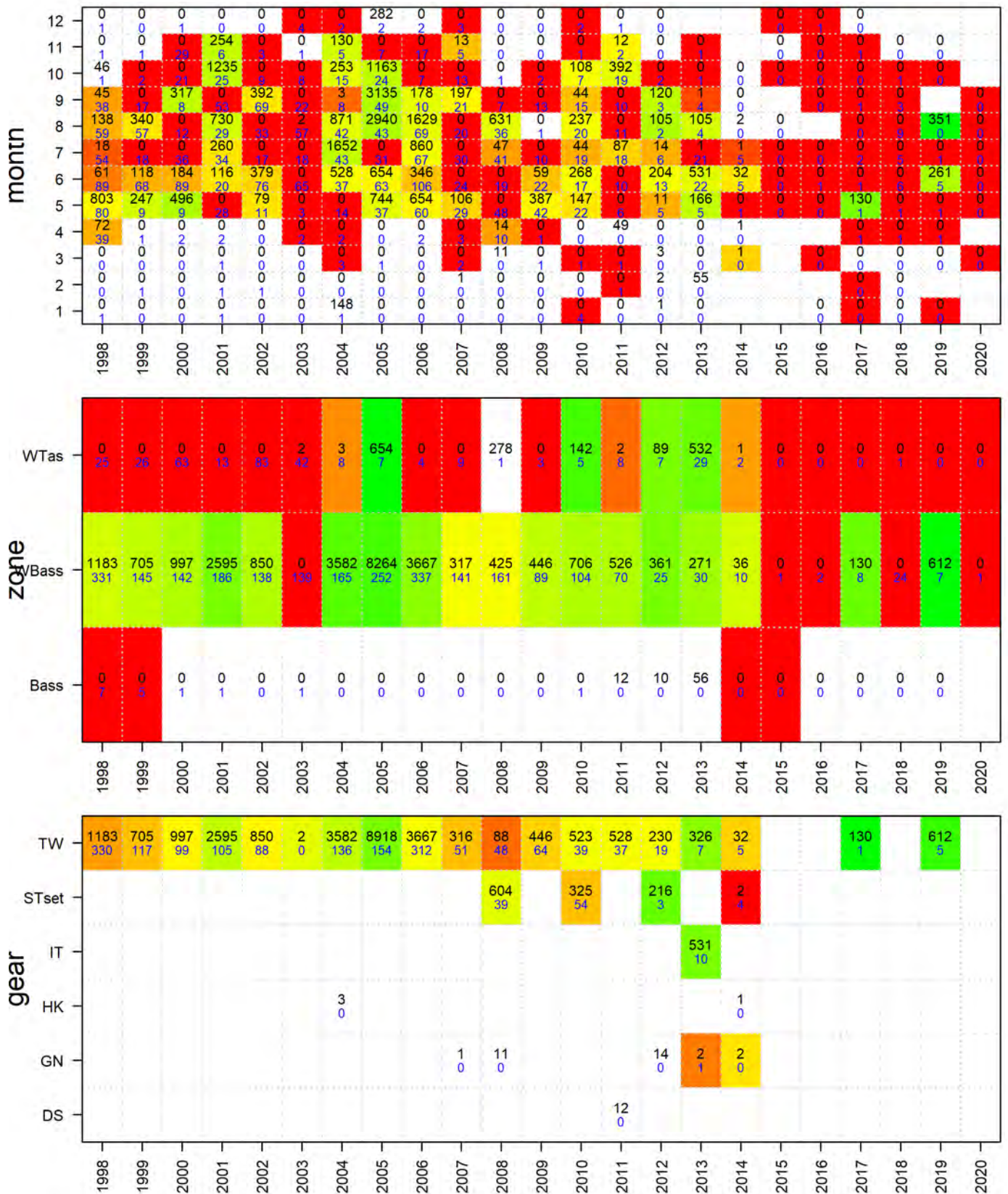


Figure 123 Onboard length data sampling coverage by month (top), zone (middle) and gear for Blue Warehouse West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Blue Warehouse West

# Age data

Mon Aug 16 10:35:21 2021

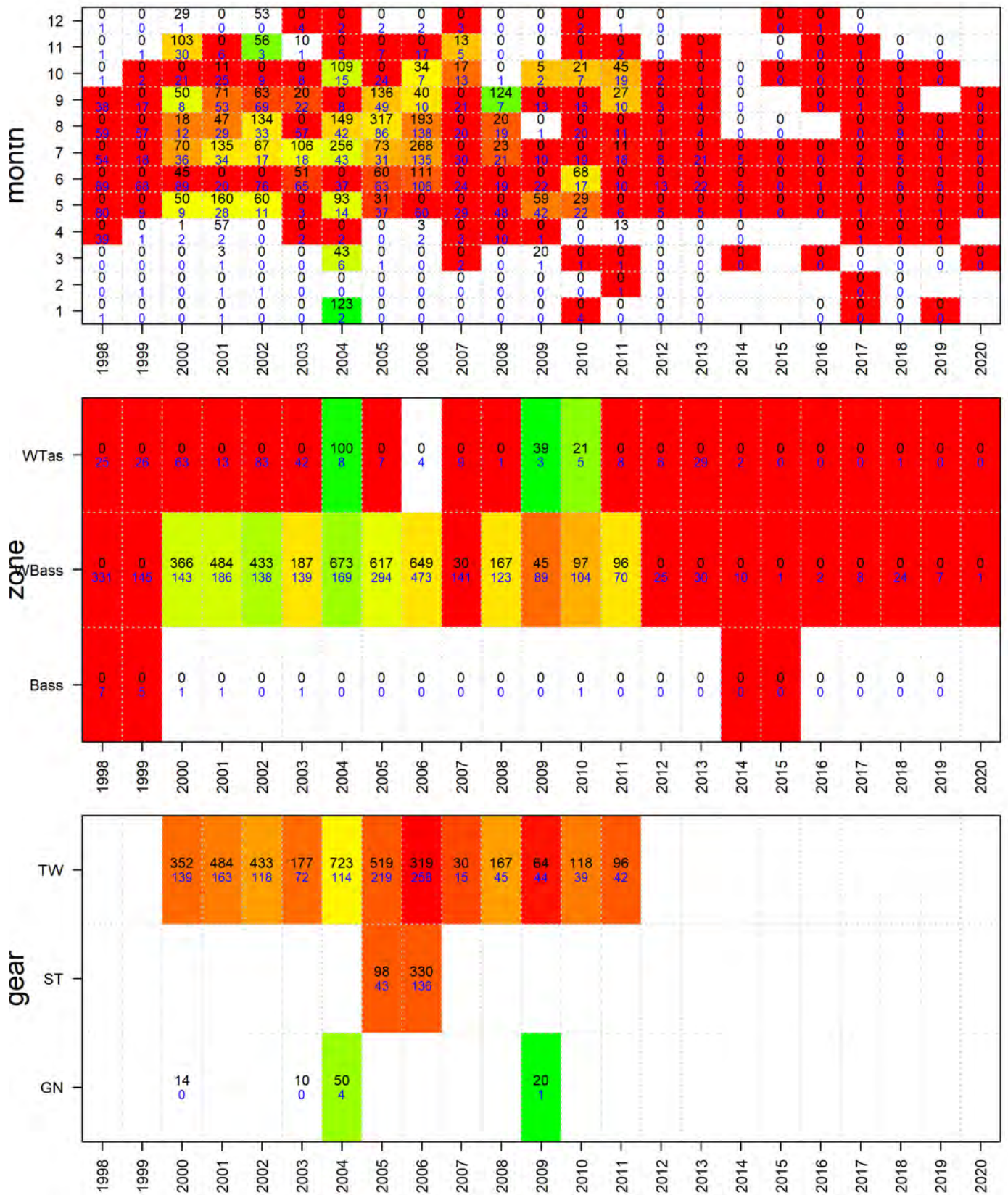
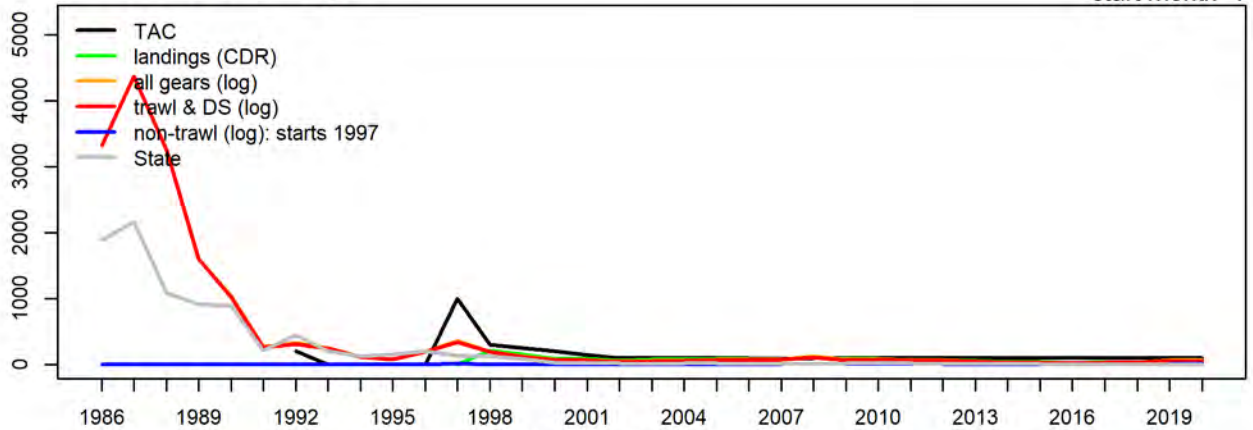


Figure 124 Age data sampling coverage by month (top), zone (middle) and gear for Blue Warehouse West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

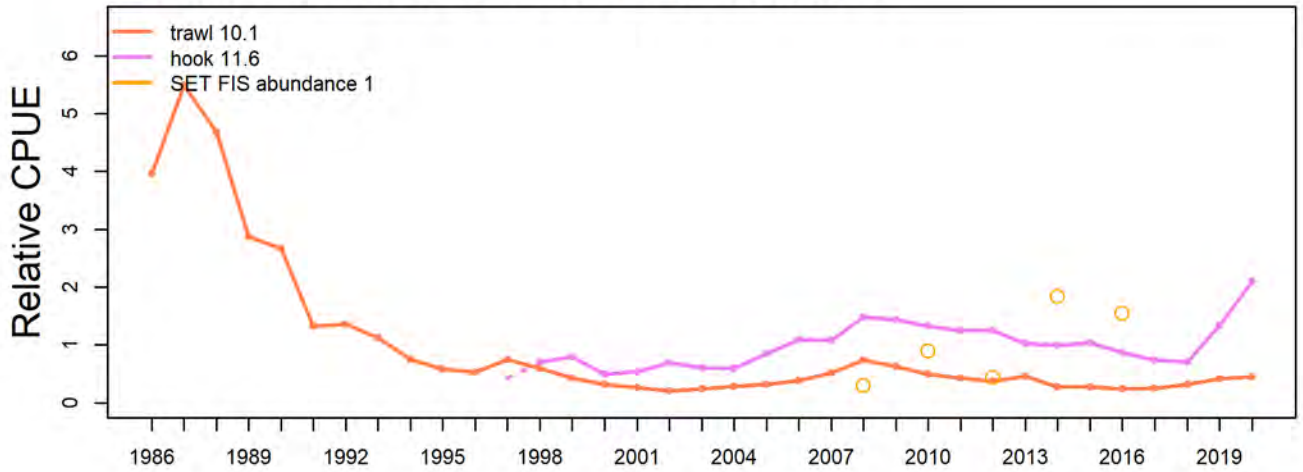
# Gemfish East

## TAC and landings

Mon Aug 16 10:35:23 2021  
 region GEMEASTnew unit code GEME sa code GEME  
 37439002  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

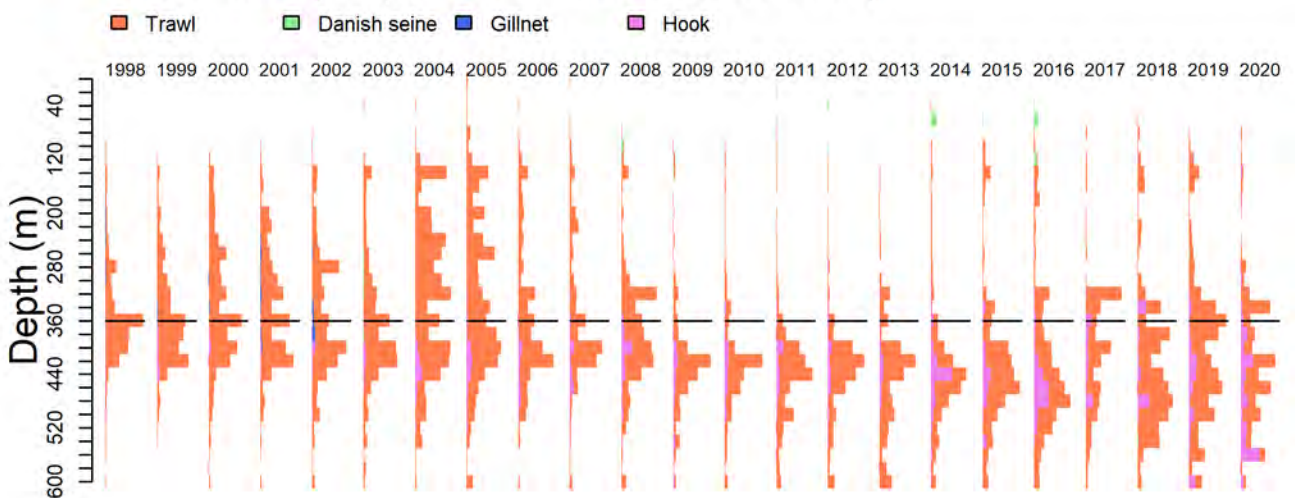
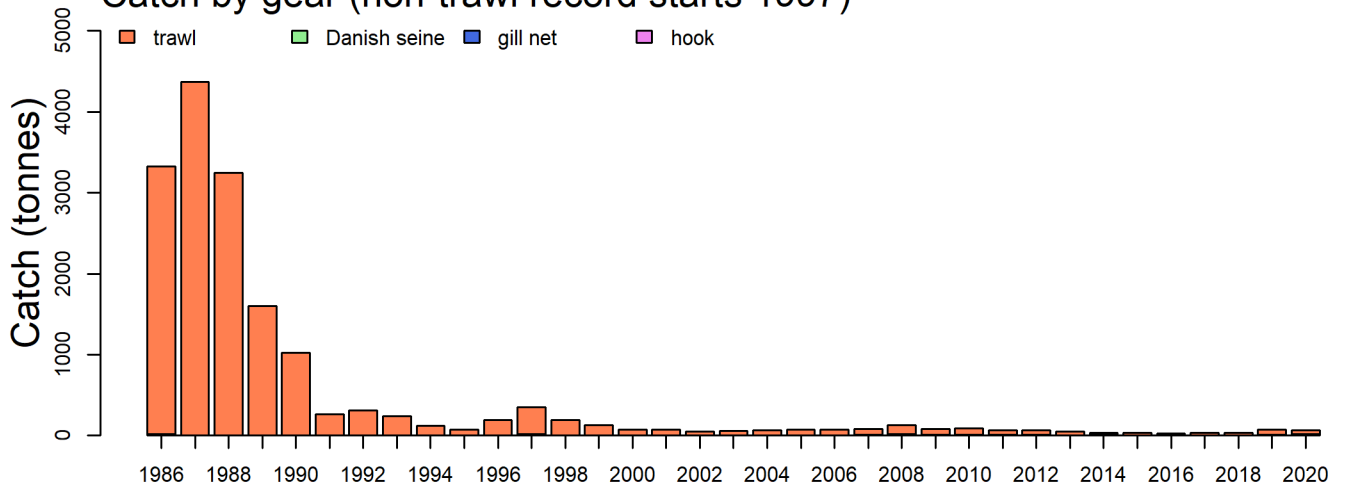


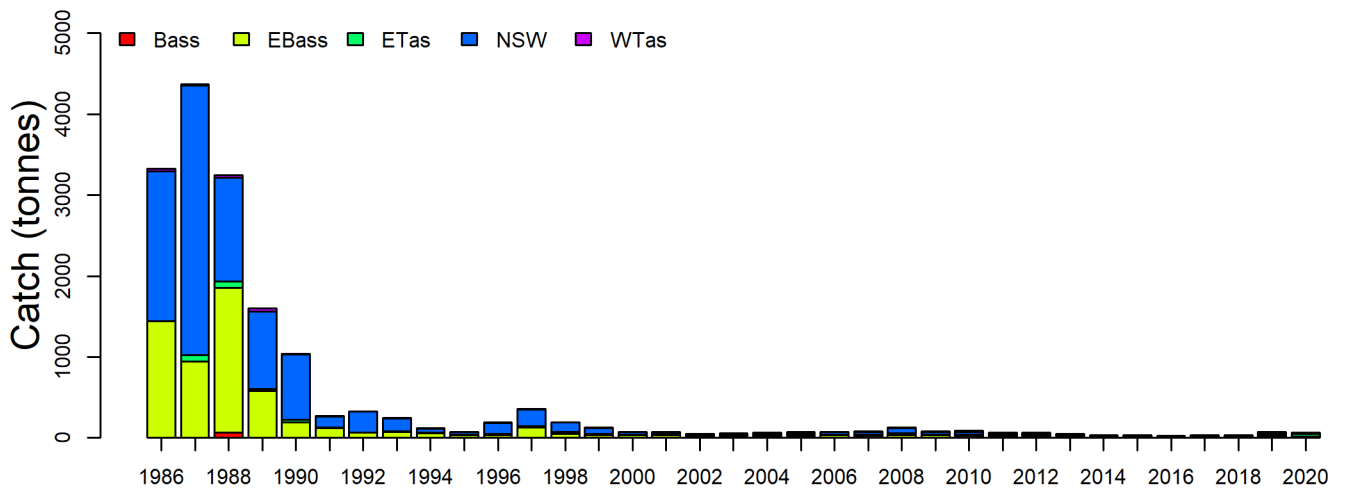
Figure 125 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Gemfish East. For more information contact AFMA on (02) 6225 5555.

# Gemfish East

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

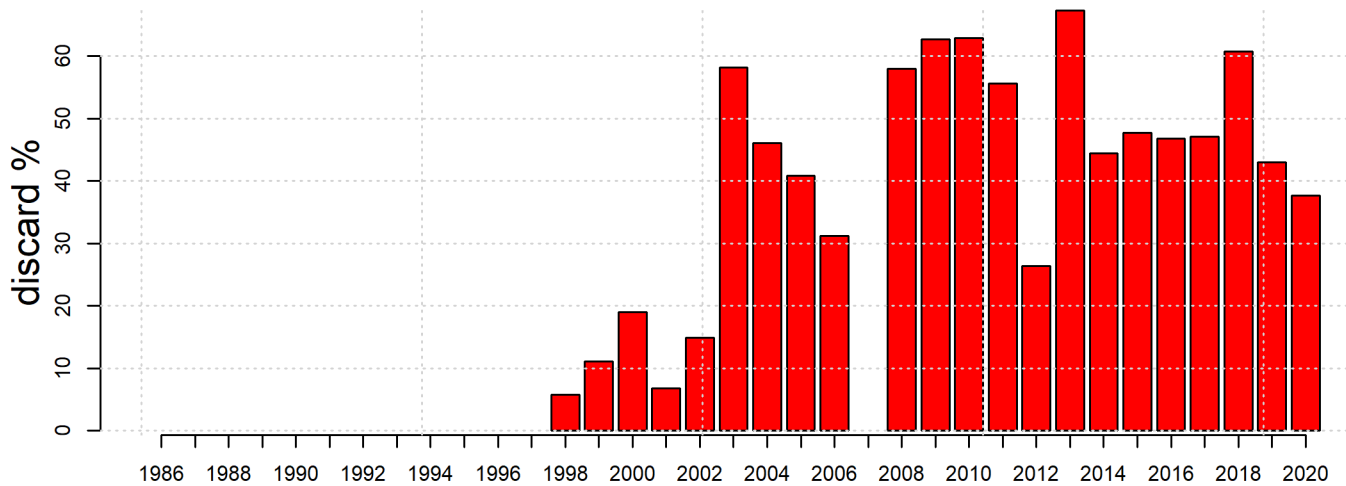


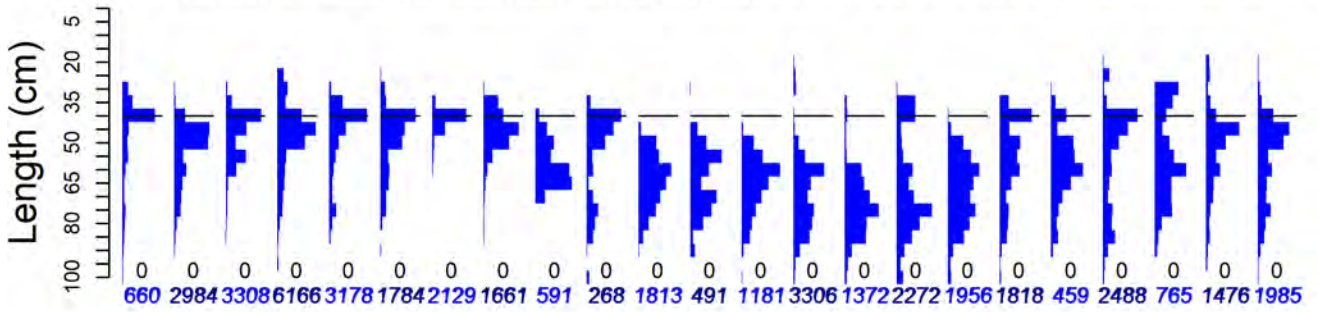
Figure 126 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Gemfish East. For more information contact AFMA on (02) 6225 5555.

# Gemfish East

Mon Aug 16 10:35:25 2021

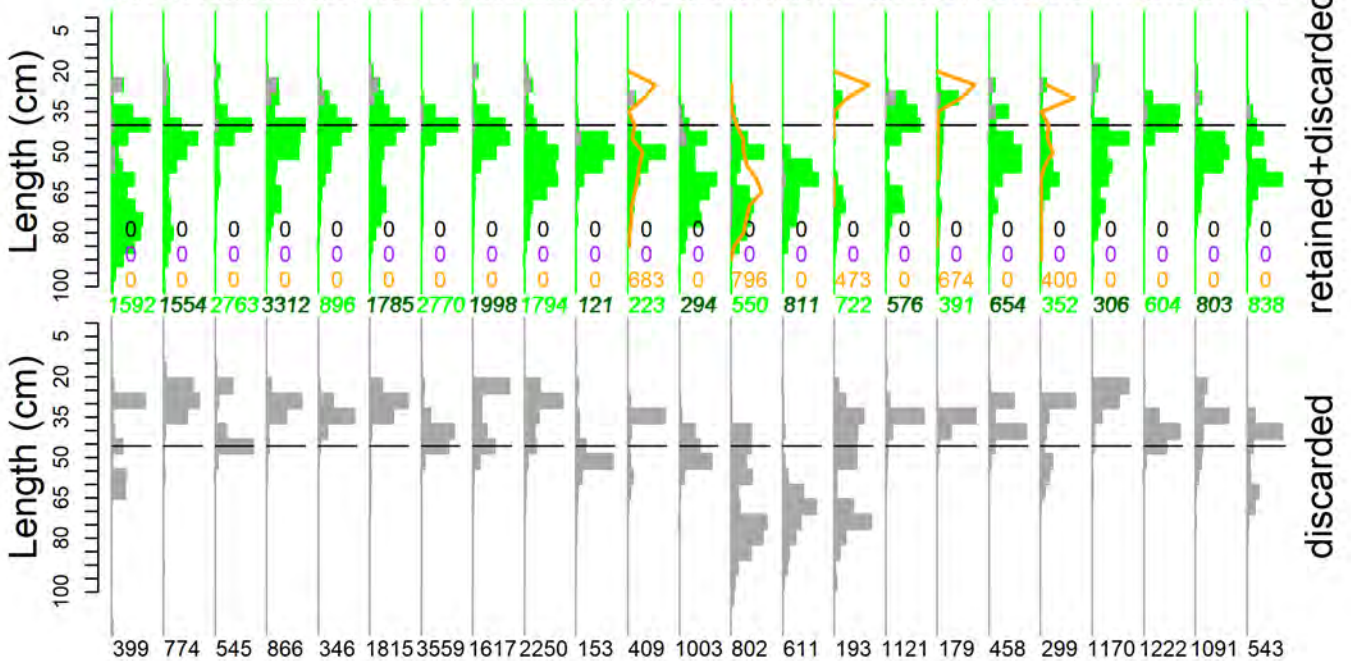
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

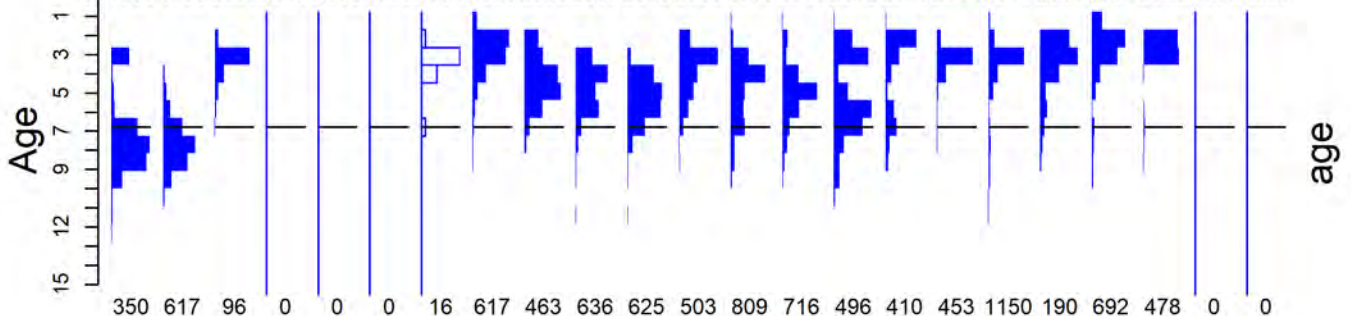


Figure 127 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Gemfish East. For more information contact AFMA on (02) 6225 5555.

# Gemfish East

# Port length data

Mon Aug 16 10:35:27 2021

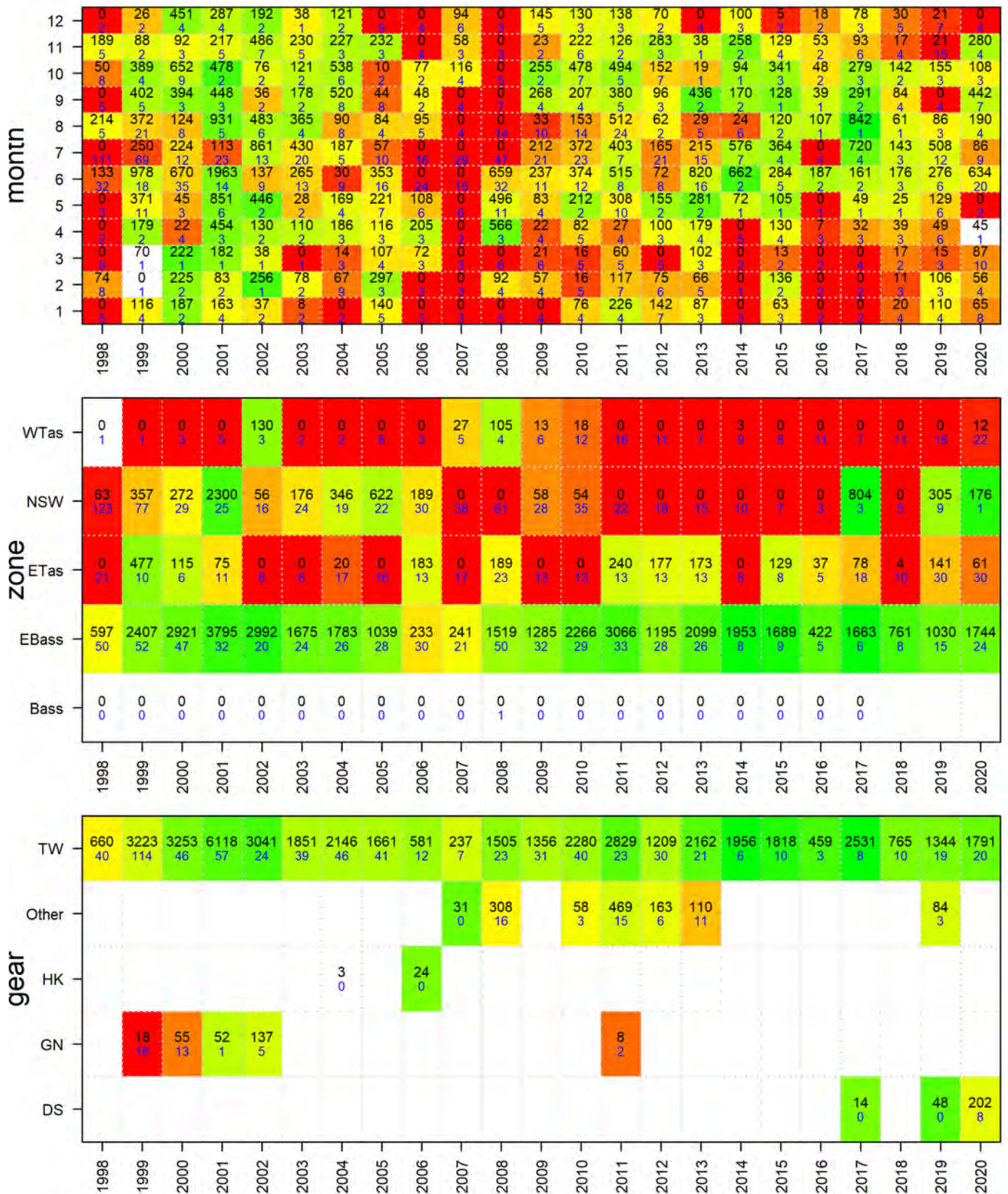


Figure 128 Port length data sampling coverage by month (top), zone (middle) and gear for Gemfish East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Gemfish East

## Onboard discard weight data

Mon Aug 16 10:35:27 2021

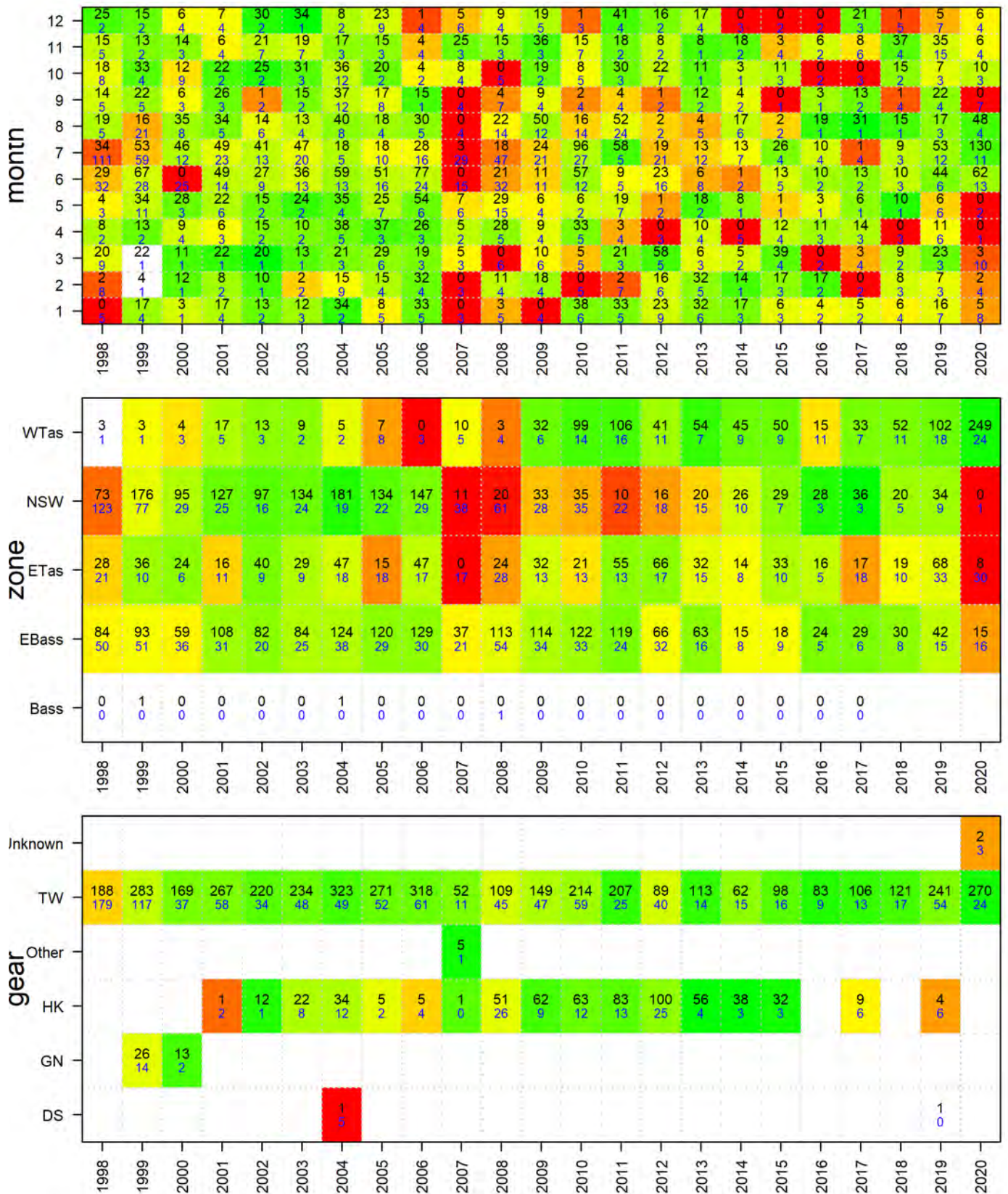


Figure 129 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Gemfish East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Gemfish East

# Onboard length data

Mon Aug 16 10:35:28 2021

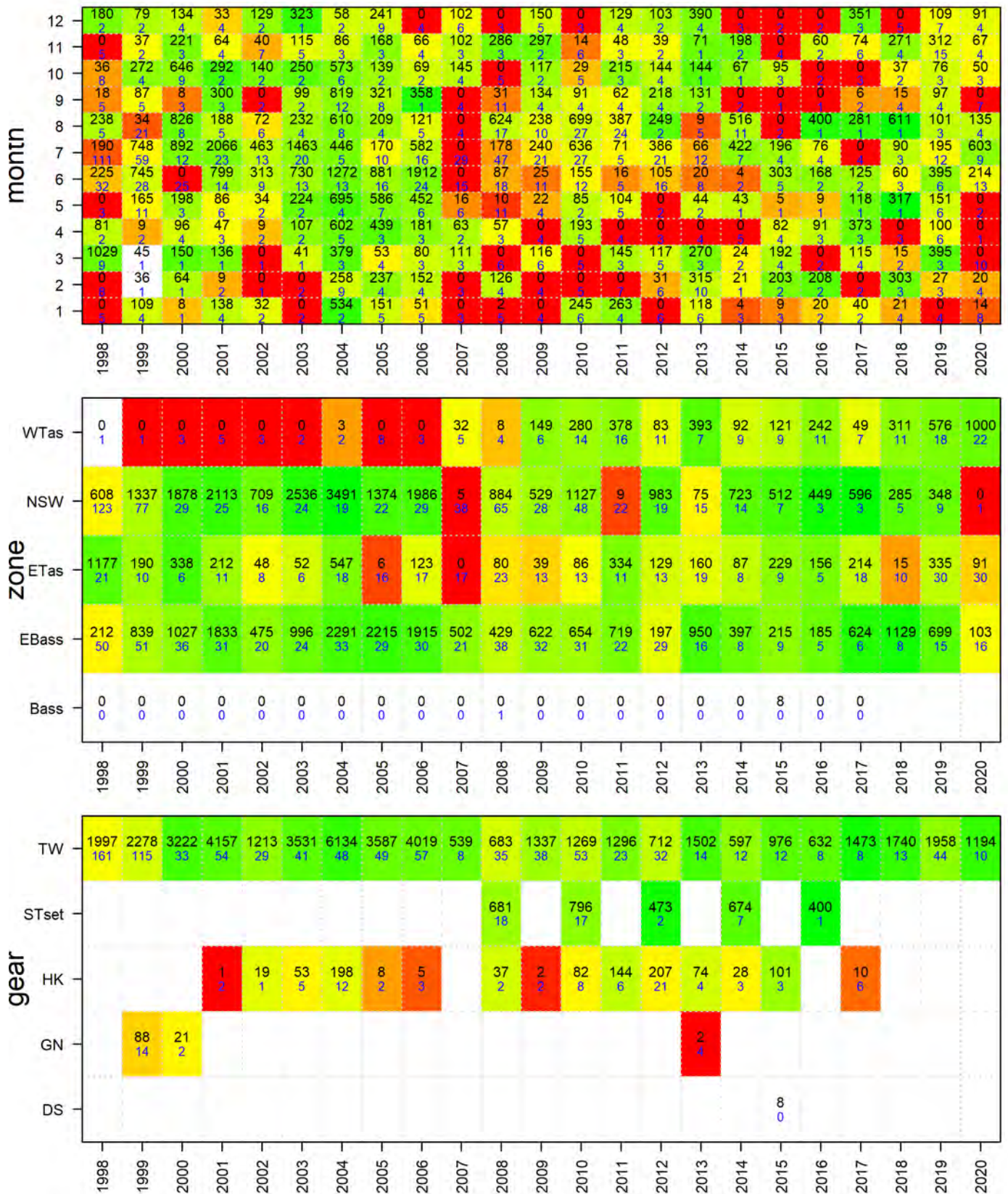


Figure 130 Onboard length data sampling coverage by month (top), zone (middle) and gear for Gemfish East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Gemfish East

## Age data

Mon Aug 16 10:35:29 2021

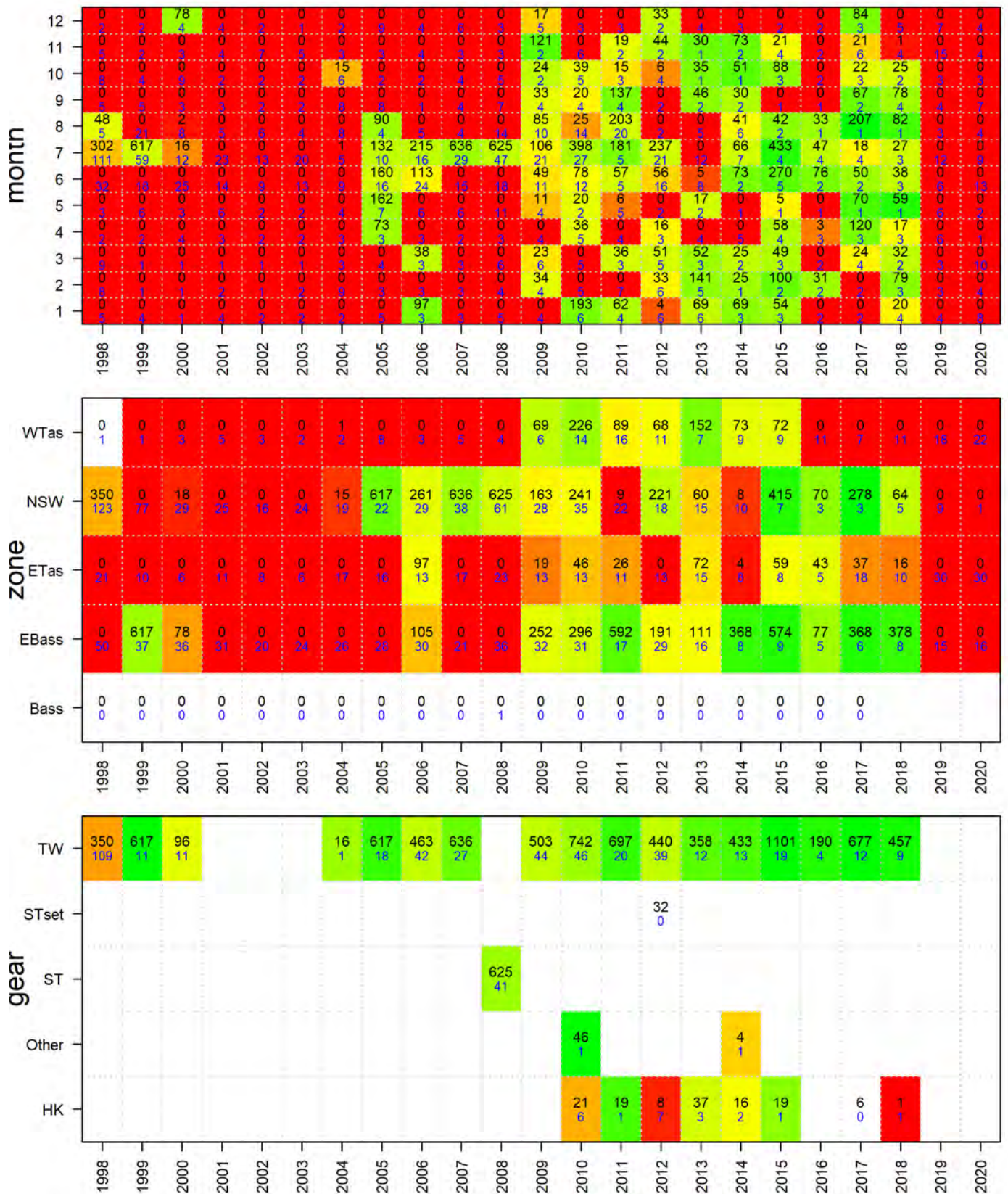
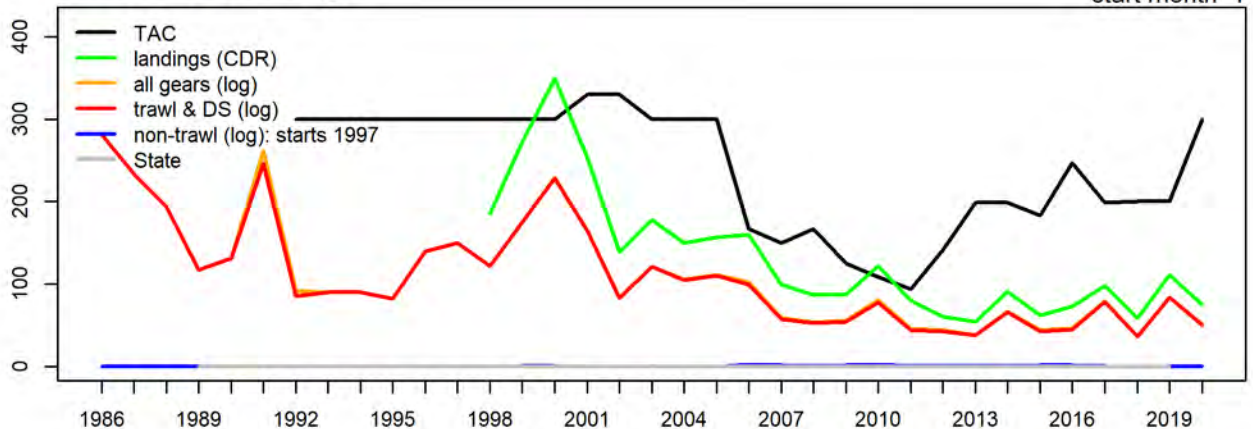


Figure 131 Age data sampling coverage by month (top), zone (middle) and gear for Gemfish East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

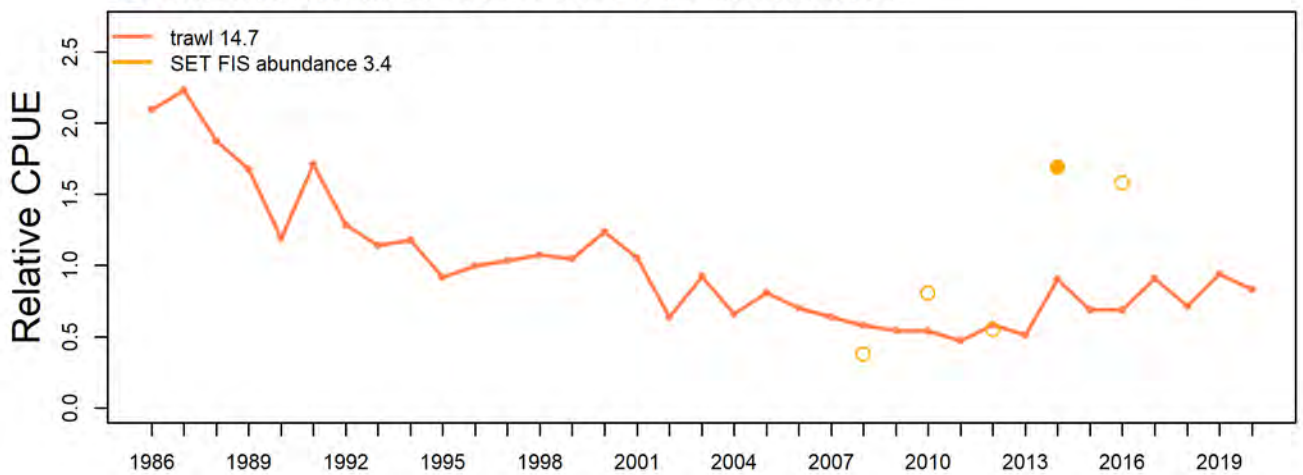
# Gemfish West

## TAC and landings

Mon Aug 16 10:35:30 2021  
 region GEMWESTnew unit code GEMW sa code GEMW  
 37439002  
 start month 1



## Geometric mean CPUE & SET FIS abundance



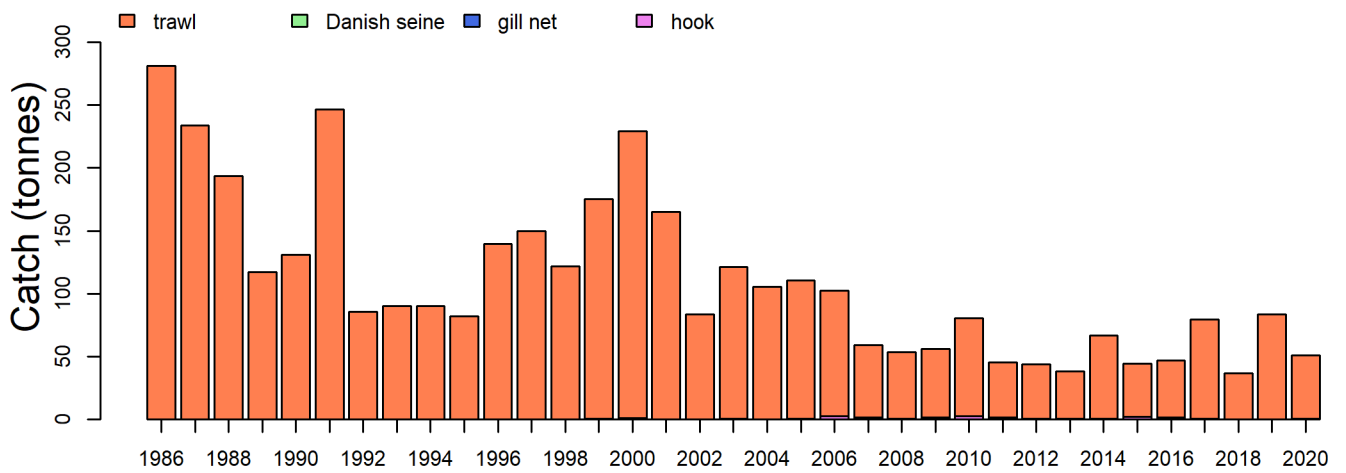
## Catch at depth (non-trawl record starts 1997)



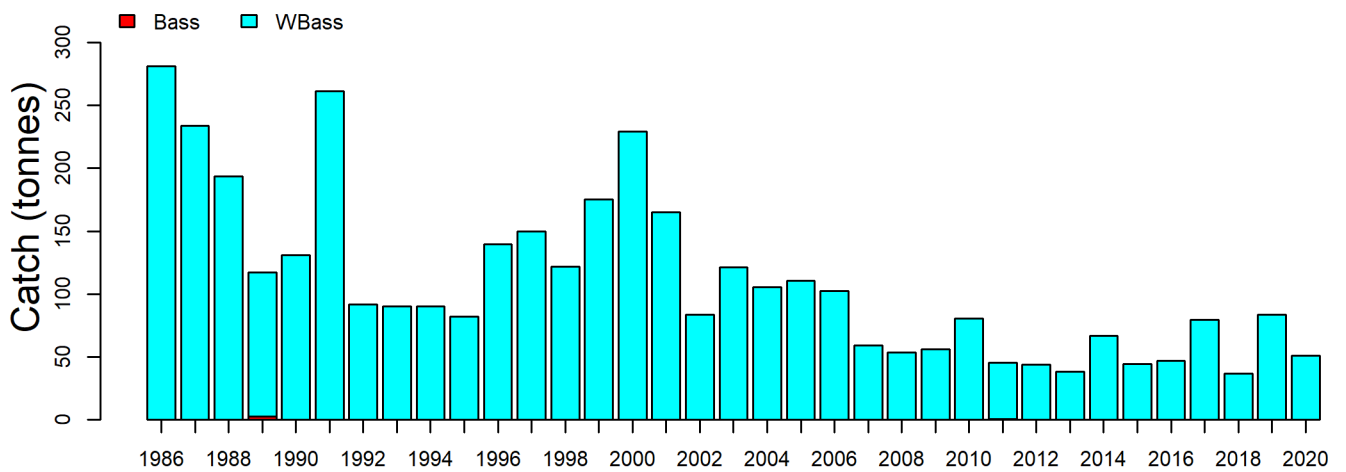
Figure 132 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Gemfish West. For more information contact AFMA on (02) 6225 5555.

# Gemfish West

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

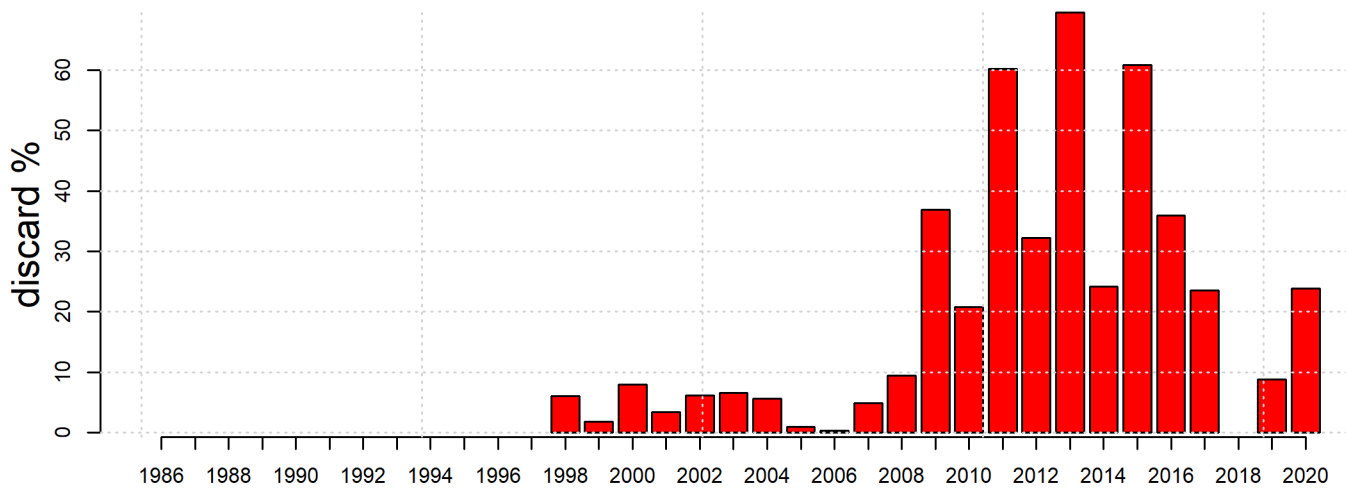


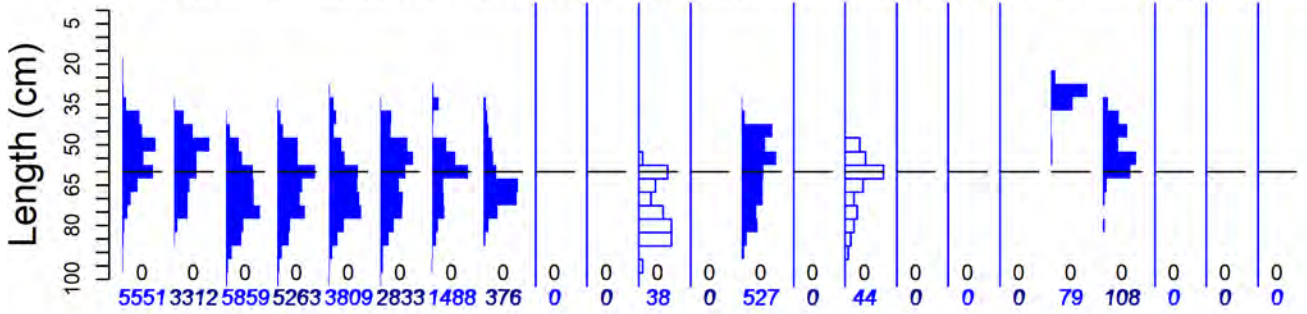
Figure 133 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Gemfish West. For more information contact AFMA on (02) 6225 5555.

# Gemfish West

Mon Aug 16 10:35:32 2021

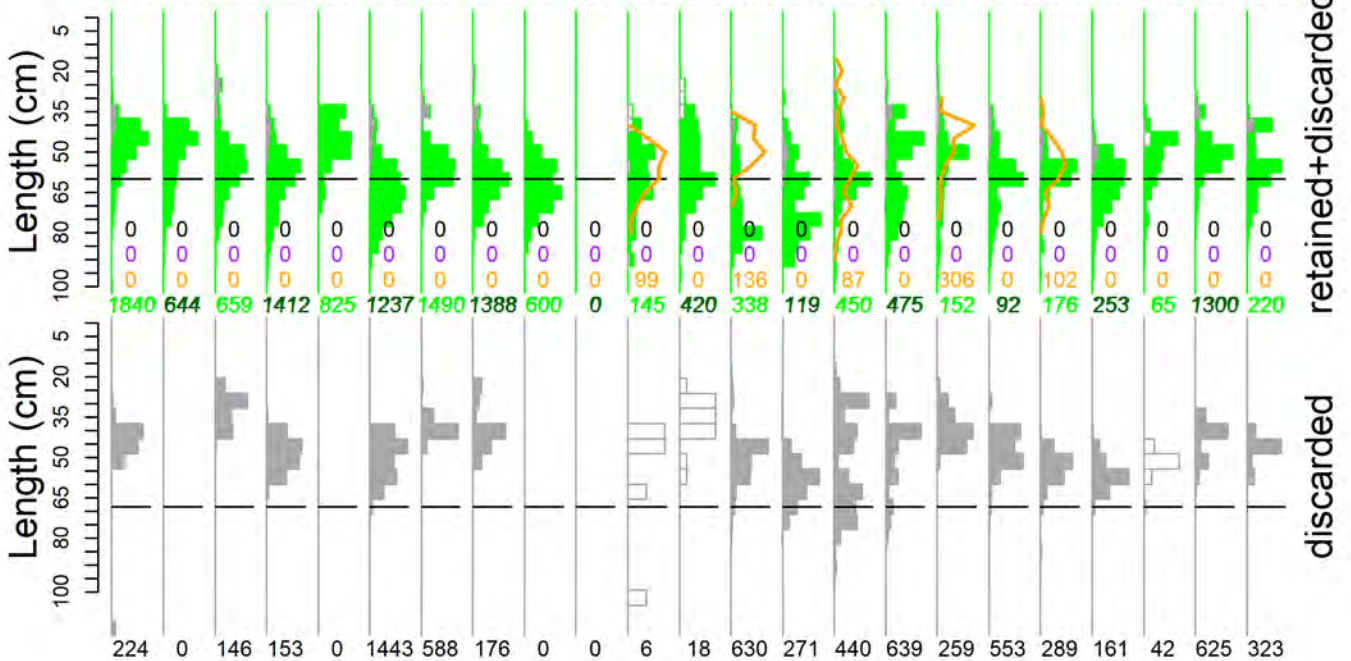
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

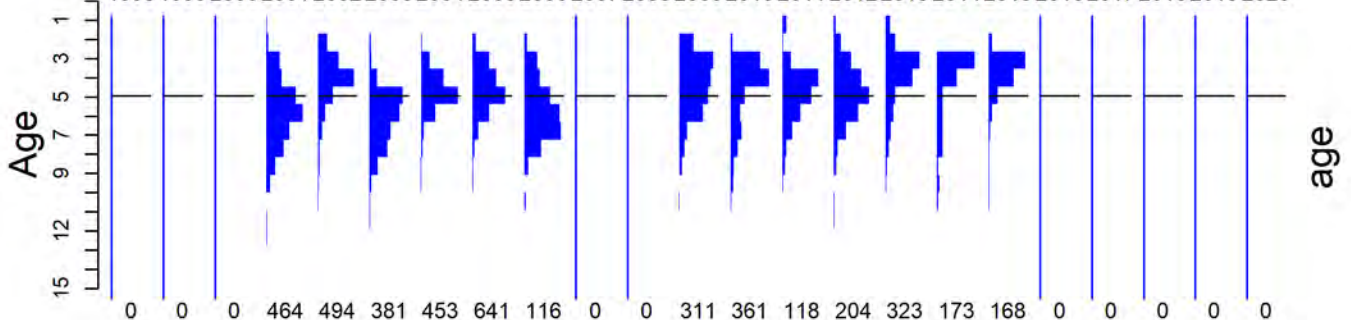


Figure 134 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Gemfish West. For more information contact AFMA on (02) 6225 5555.

# Gemfish West

# Port length data

Mon Aug 16 10:35:33 2021

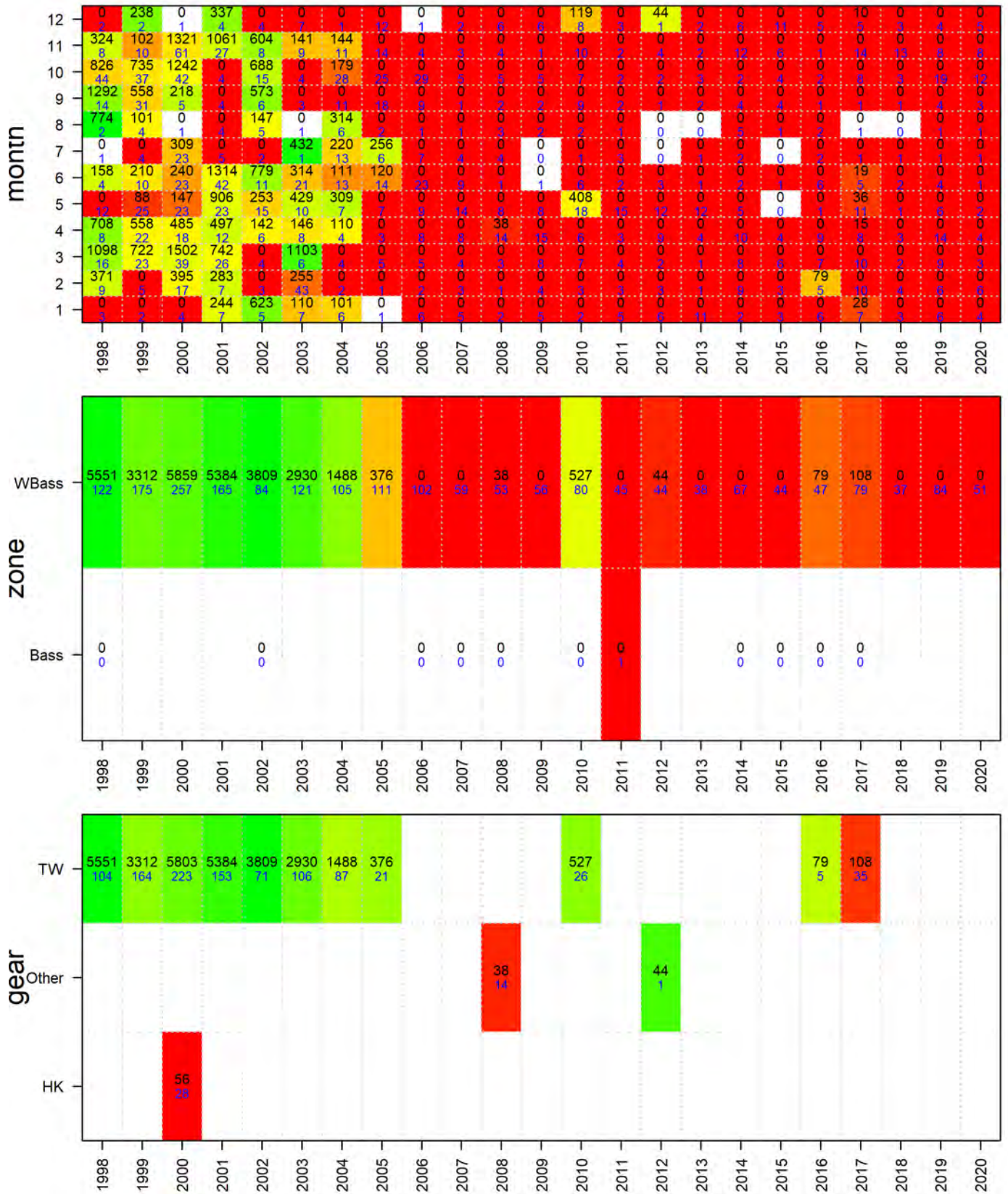


Figure 135 Port length data sampling coverage by month (top), zone (middle) and gear for Gemfish West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Gemfish West

## Onboard discard weight data

Mon Aug 16 10:35:33 2021

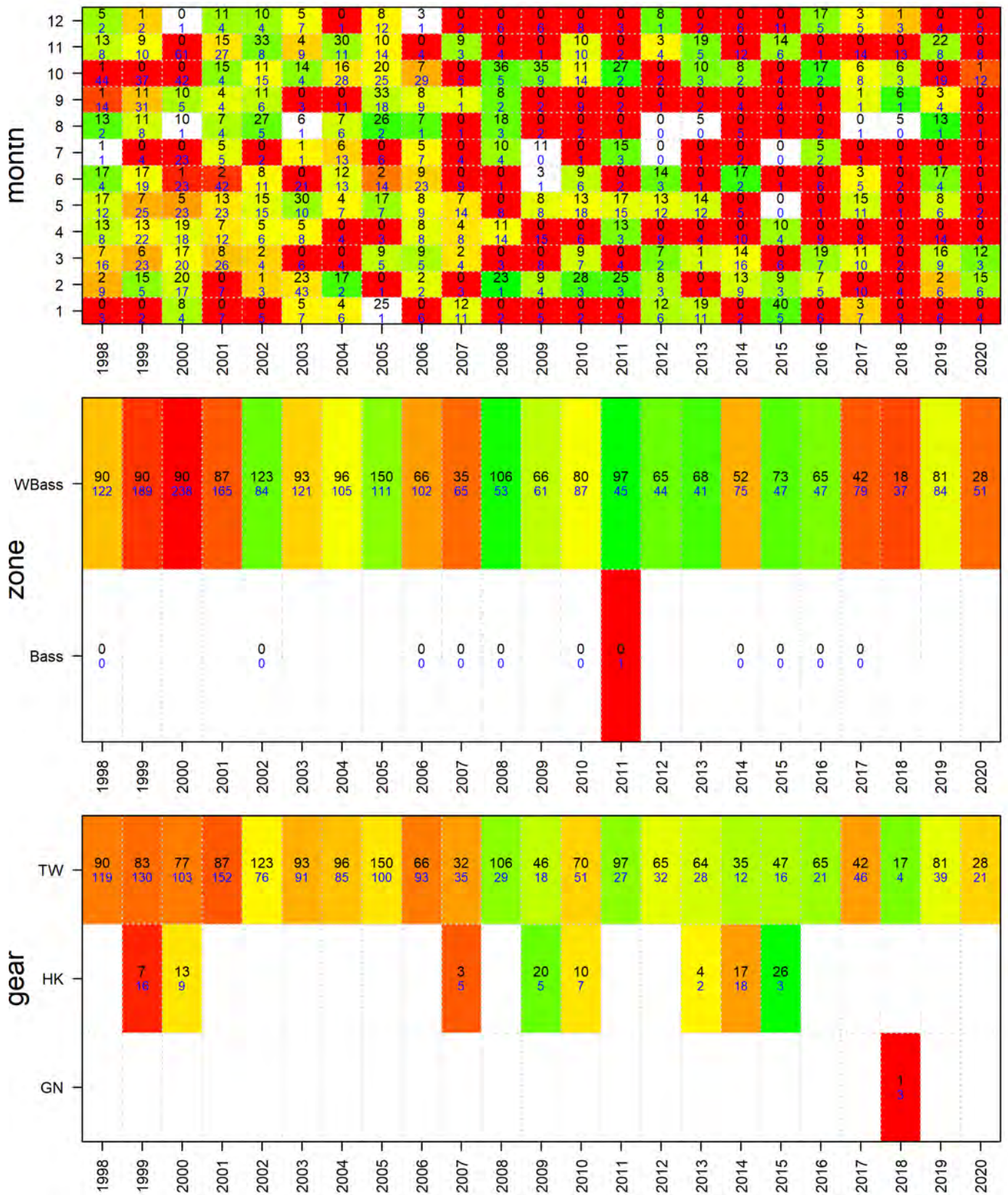


Figure 136 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Gemfish West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Gemfish West

# Onboard length data

Mon Aug 16 10:35:34 2021

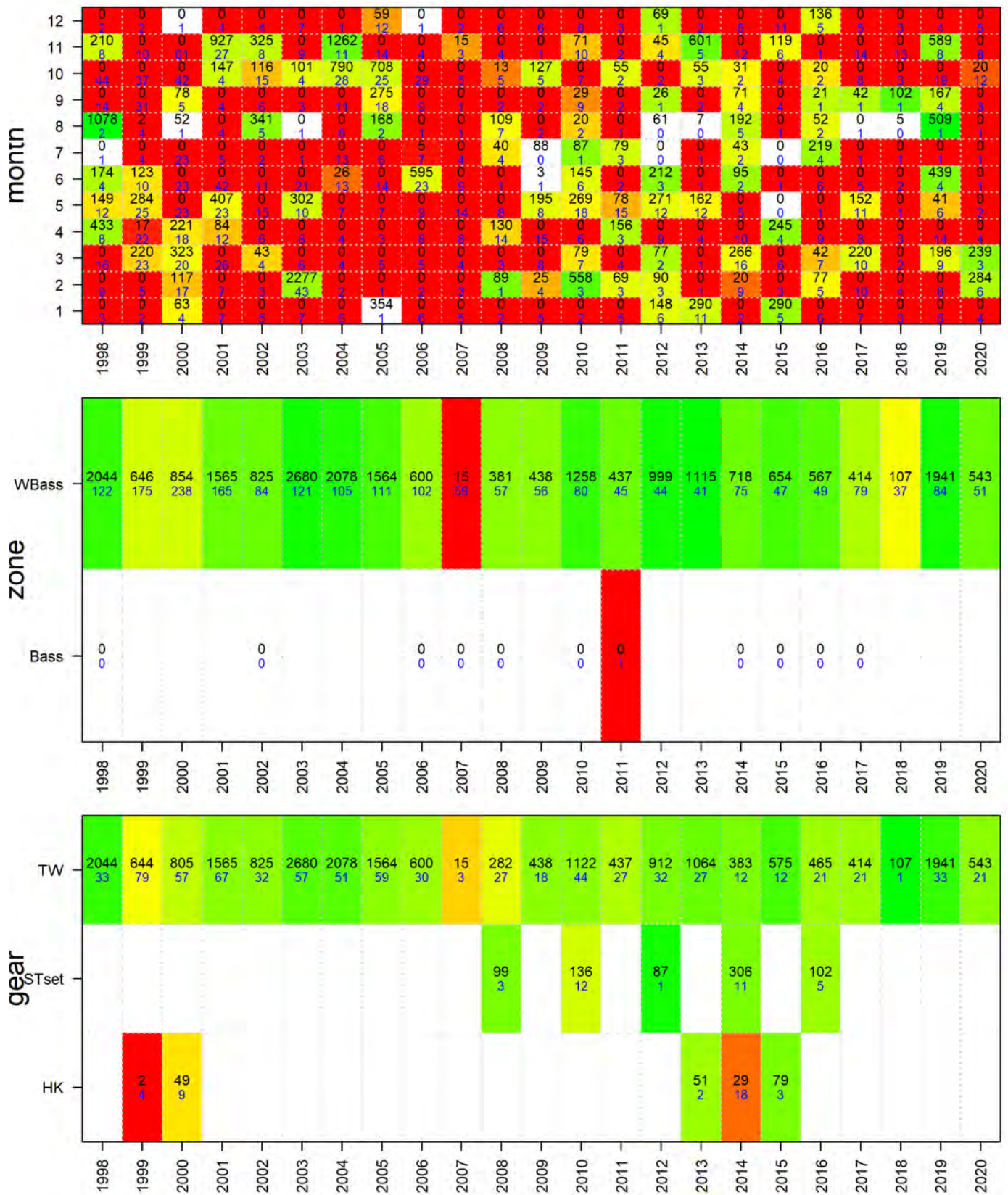


Figure 137 Onboard length data sampling coverage by month (top), zone (middle) and gear for Gemfish West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Gemfish West

# Age data

Mon Aug 16 10:35:35 2021

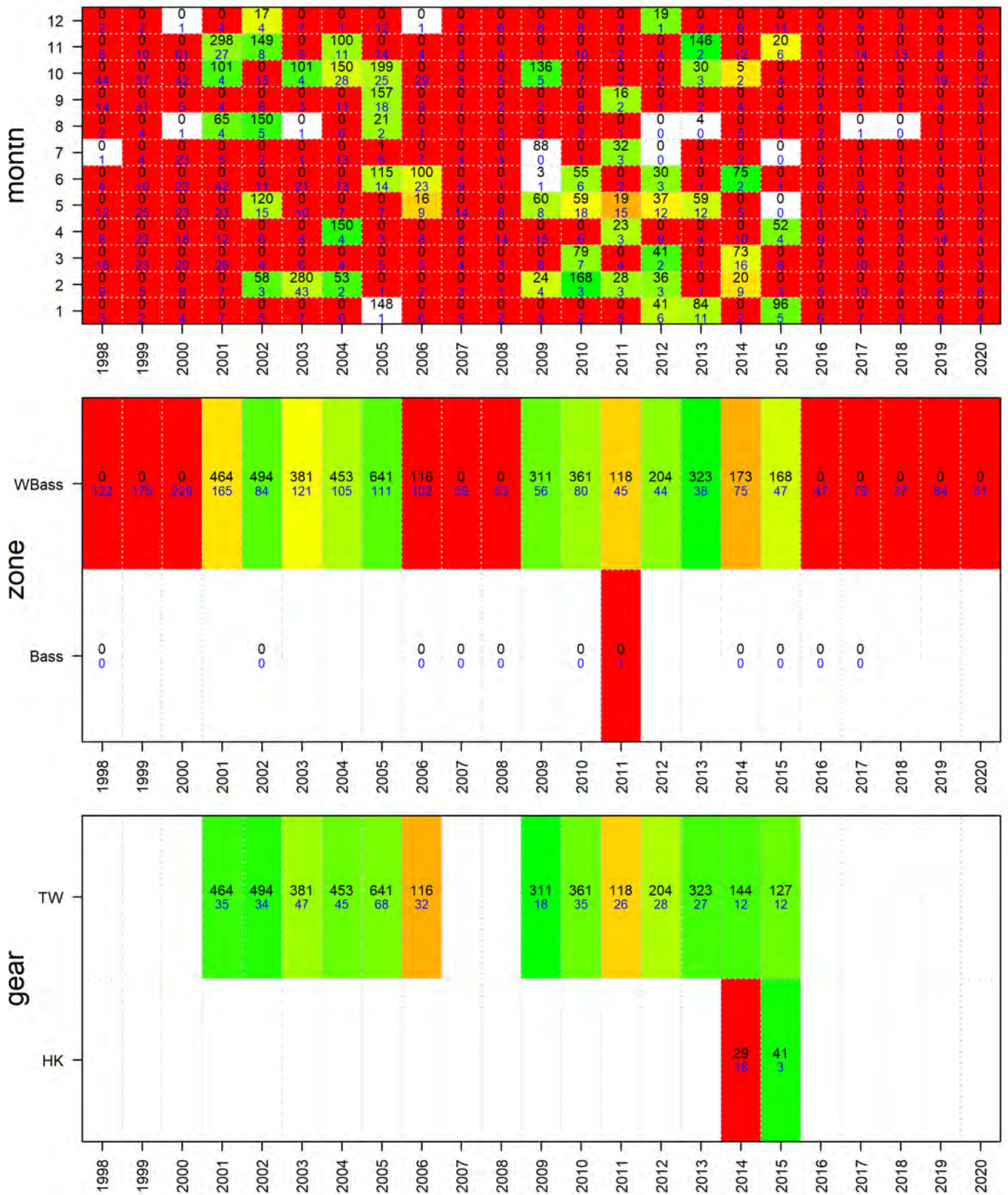
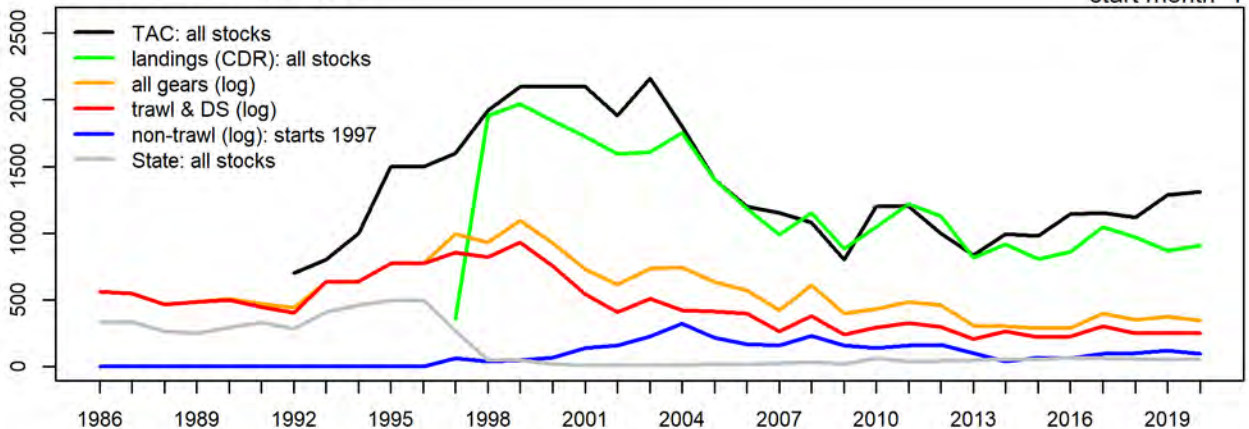
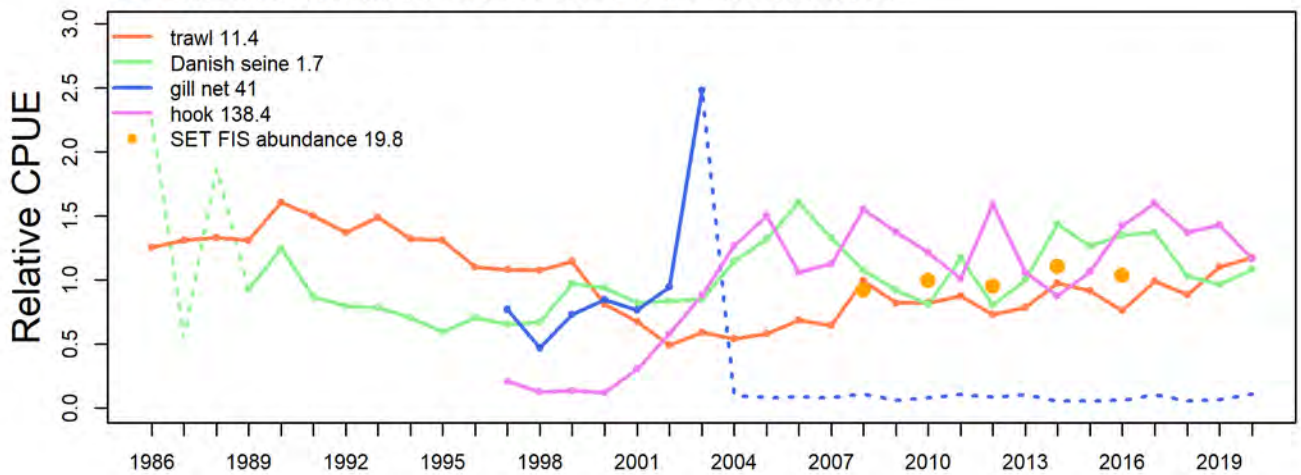


Figure 138 Age data sampling coverage by month (top), zone (middle) and gear for Gemfish West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Pink Ling East TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

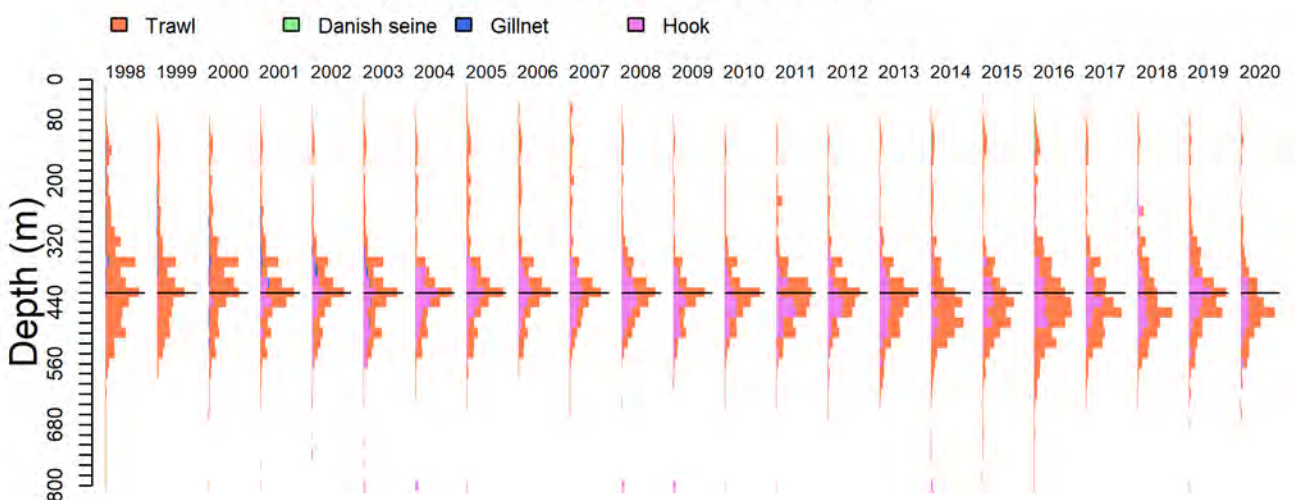
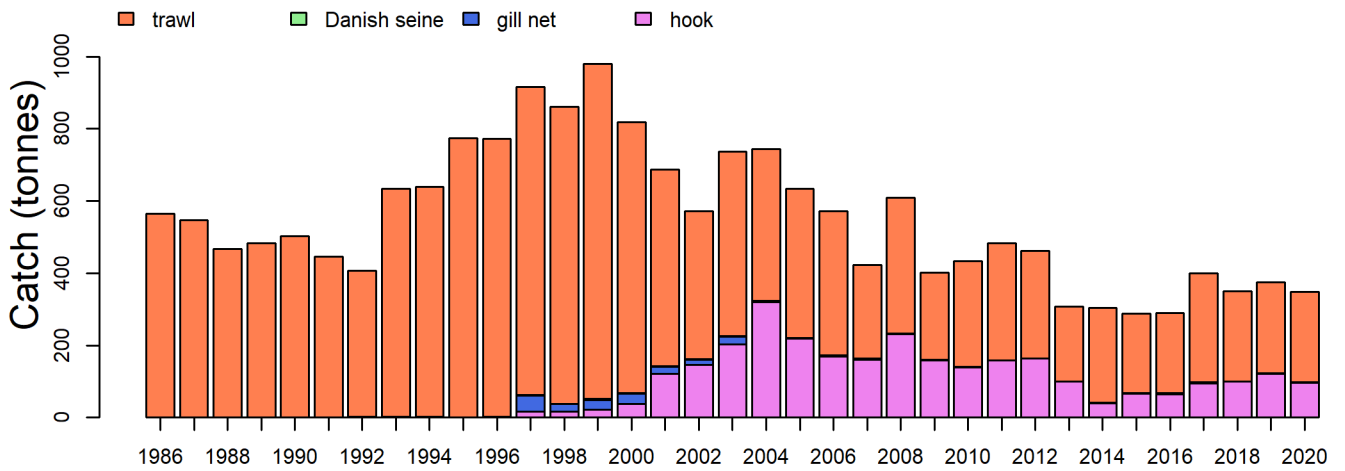


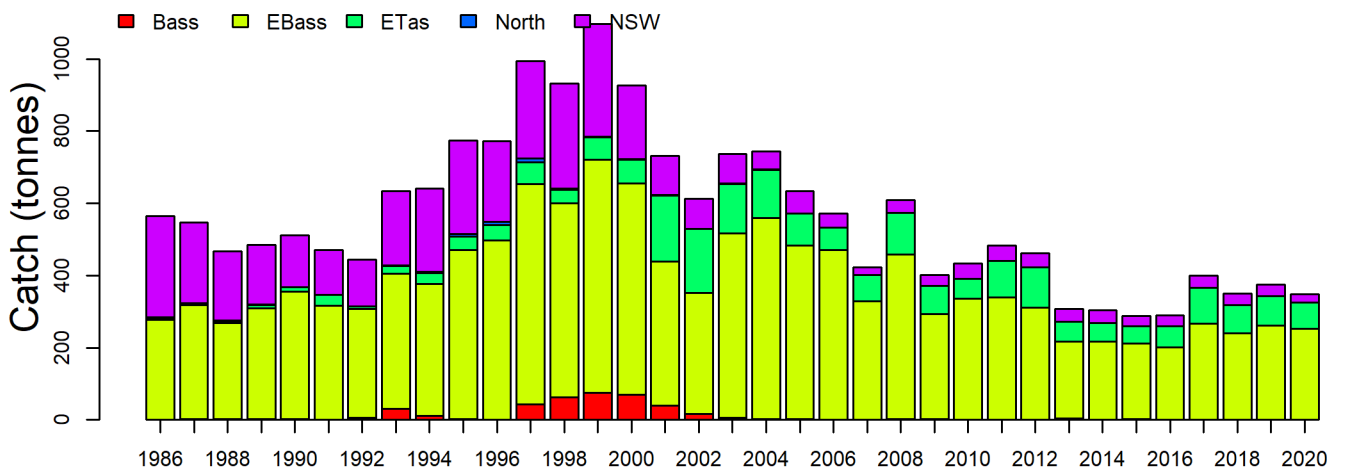
Figure 139 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Pink Ling East. For more information contact AFMA on (02) 6225 5555.

# Pink Ling East

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

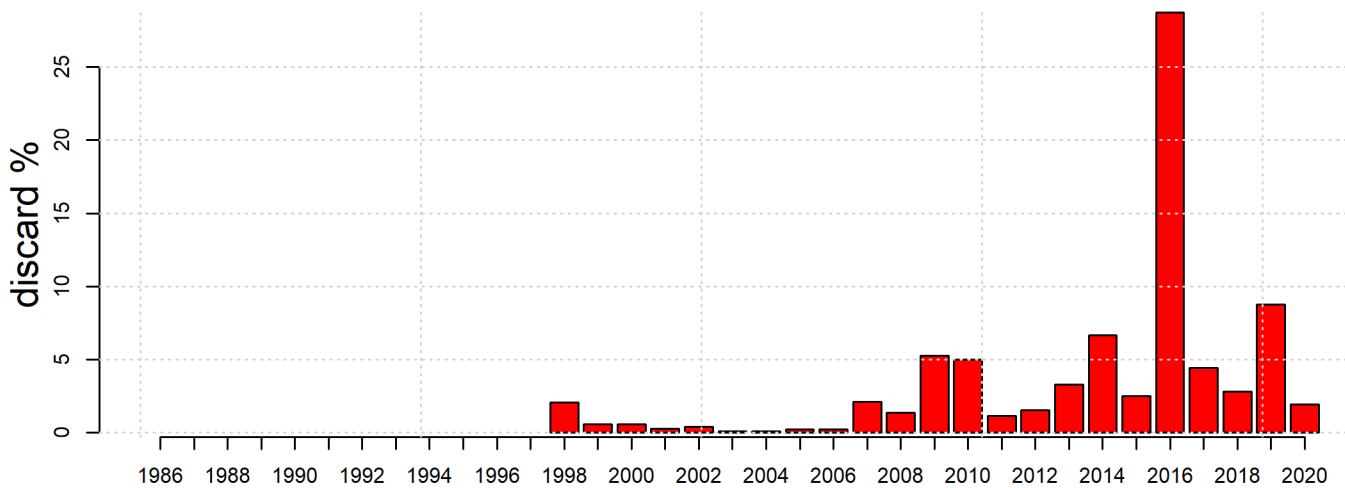


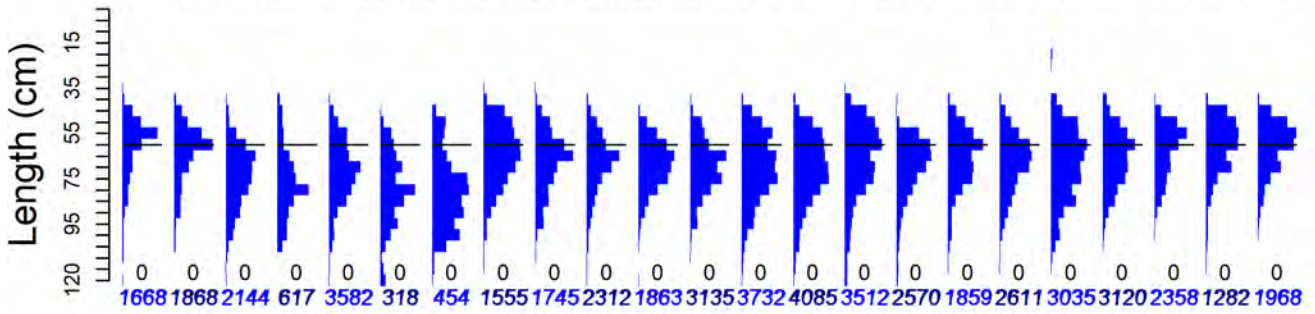
Figure 140 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Pink Ling East. For more information contact AFMA on (02) 6225 5555.

# Pink Ling East

Mon Aug 16 10:35:42 2021

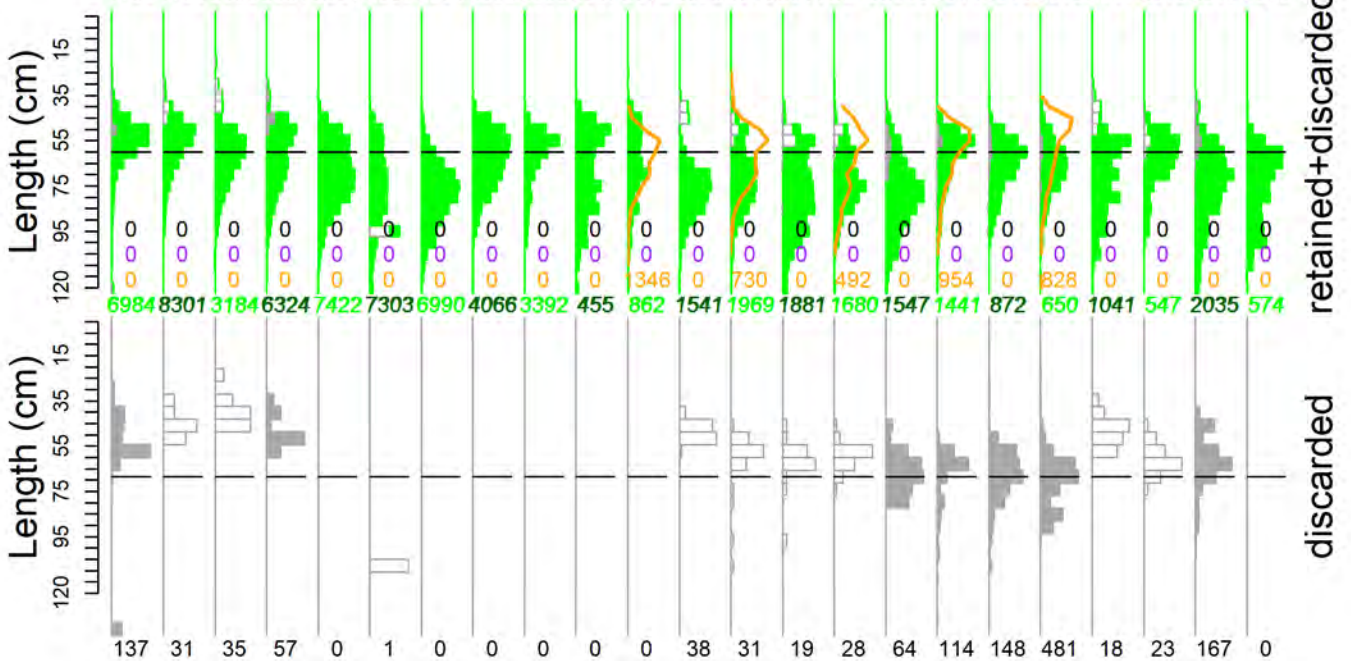
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

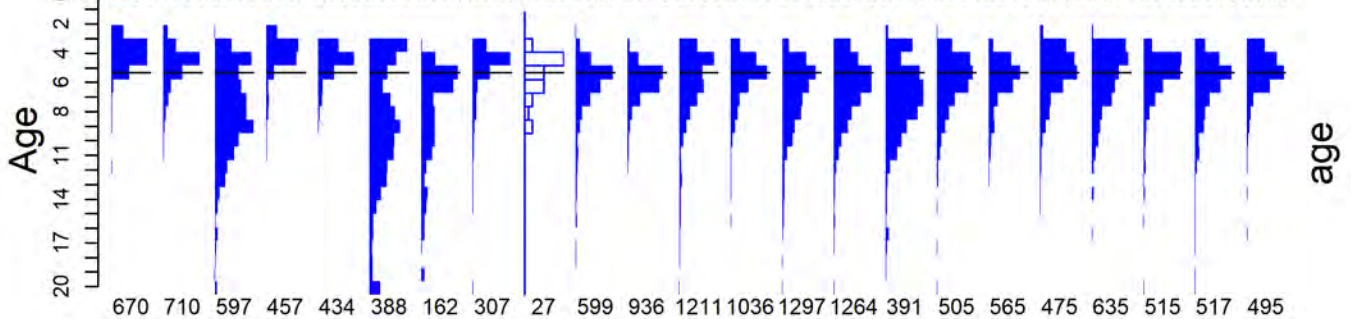


Figure 141 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Pink Ling East. For more information contact AFMA on (02) 6225 5555.

# Pink Ling East

# Port length data

Mon Aug 16 10:35:43 2021

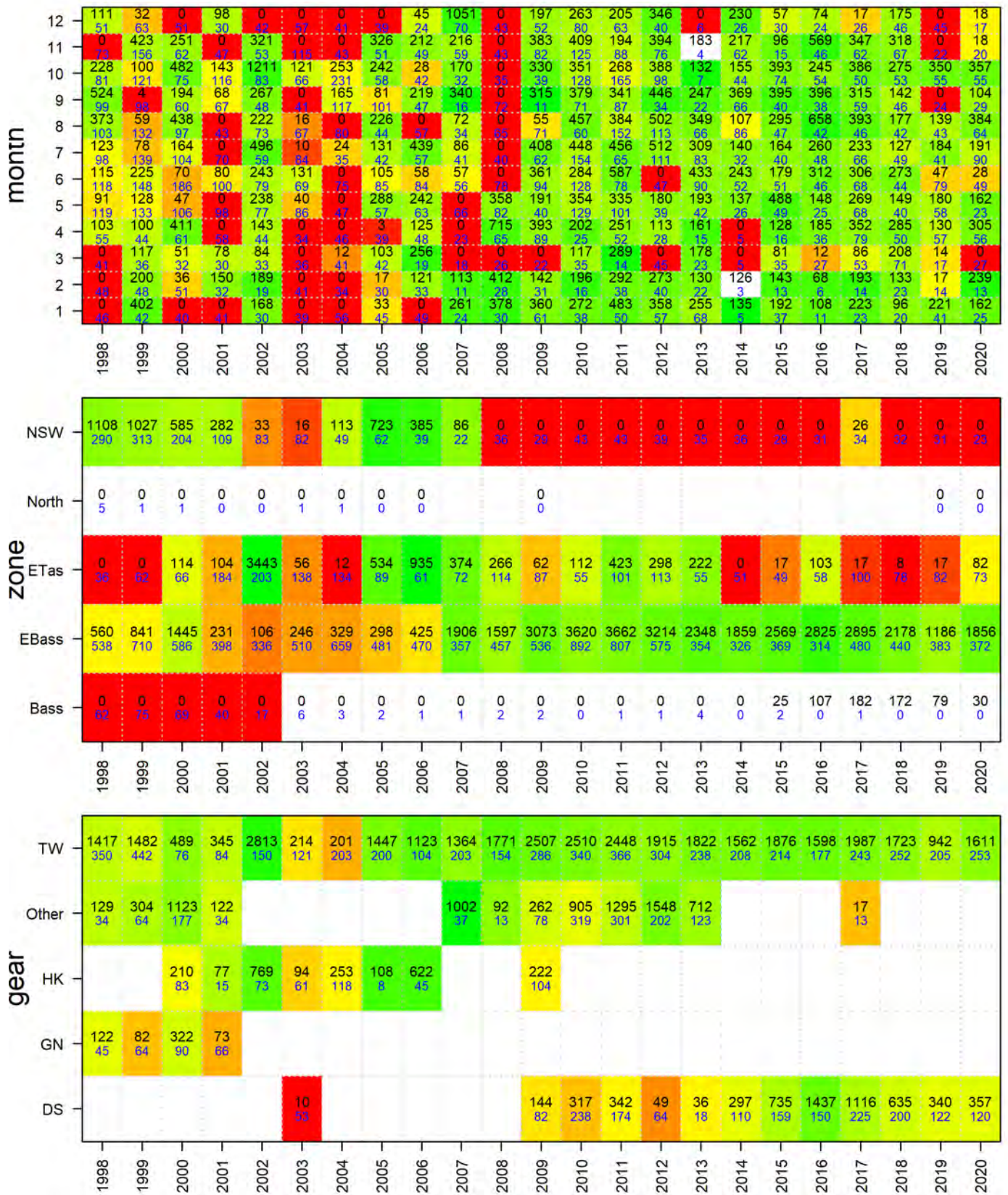


Figure 142 Port length data sampling coverage by month (top), zone (middle) and gear for Pink Ling East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Pink Ling East

# Onboard discard weight data

Mon Aug 16 10:35:44 2021

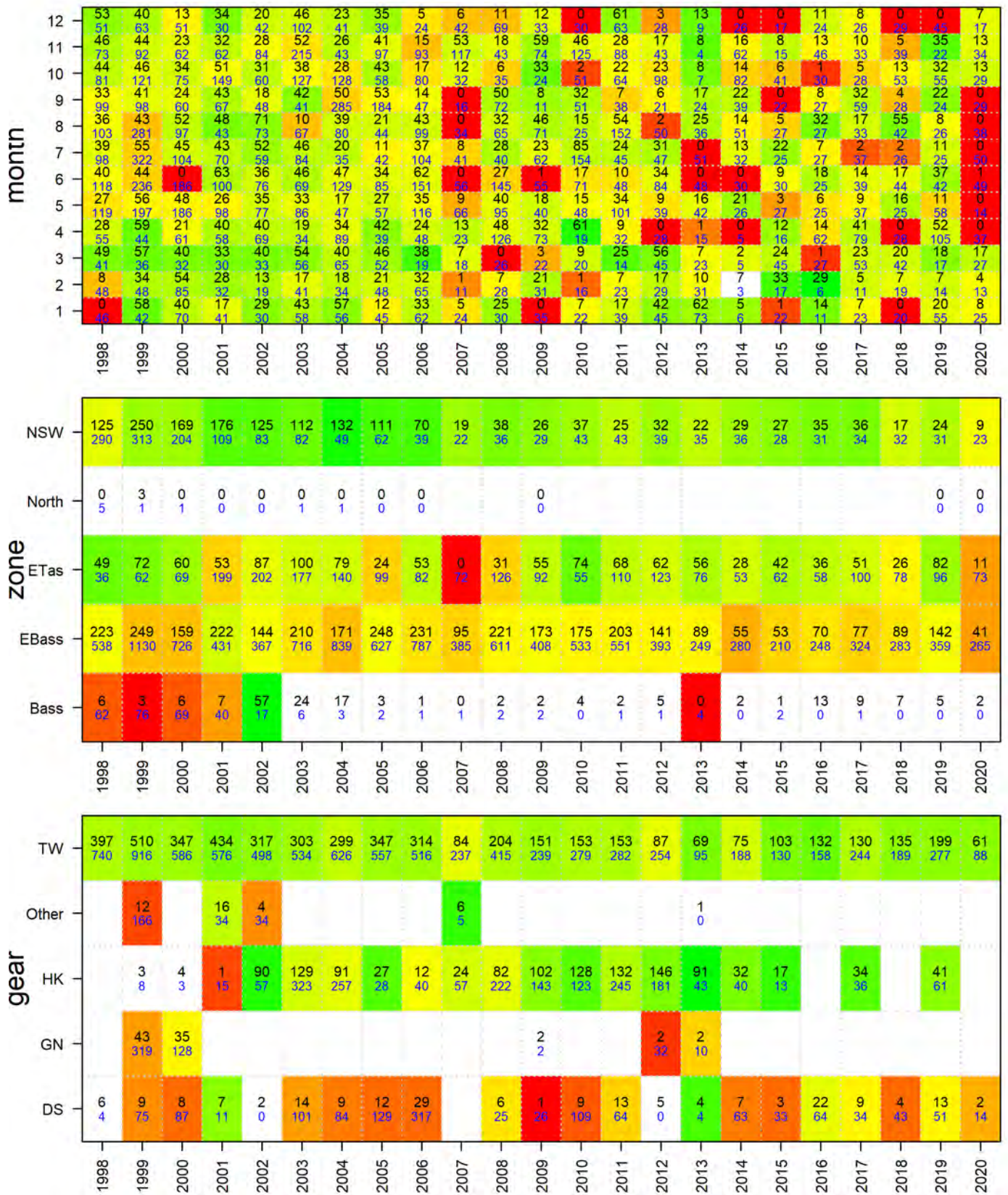


Figure 143 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Pink Ling East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Pink Ling East

# Onboard length data

Mon Aug 16 10:35:44 2021

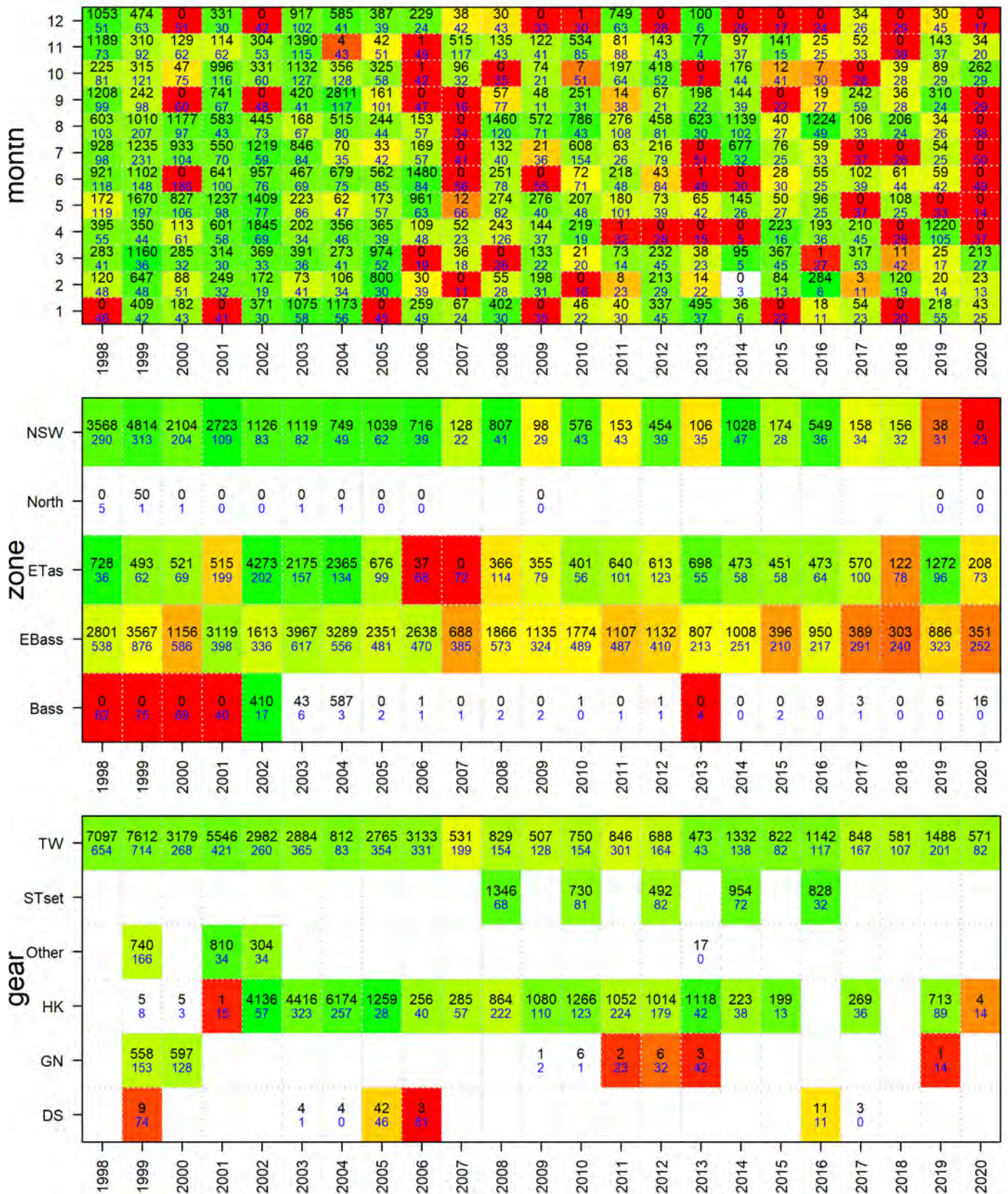


Figure 144 Onboard length data sampling coverage by month (top), zone (middle) and gear for Pink Ling East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Pink Ling East

# Age data

Mon Aug 16 10:35:45 2021

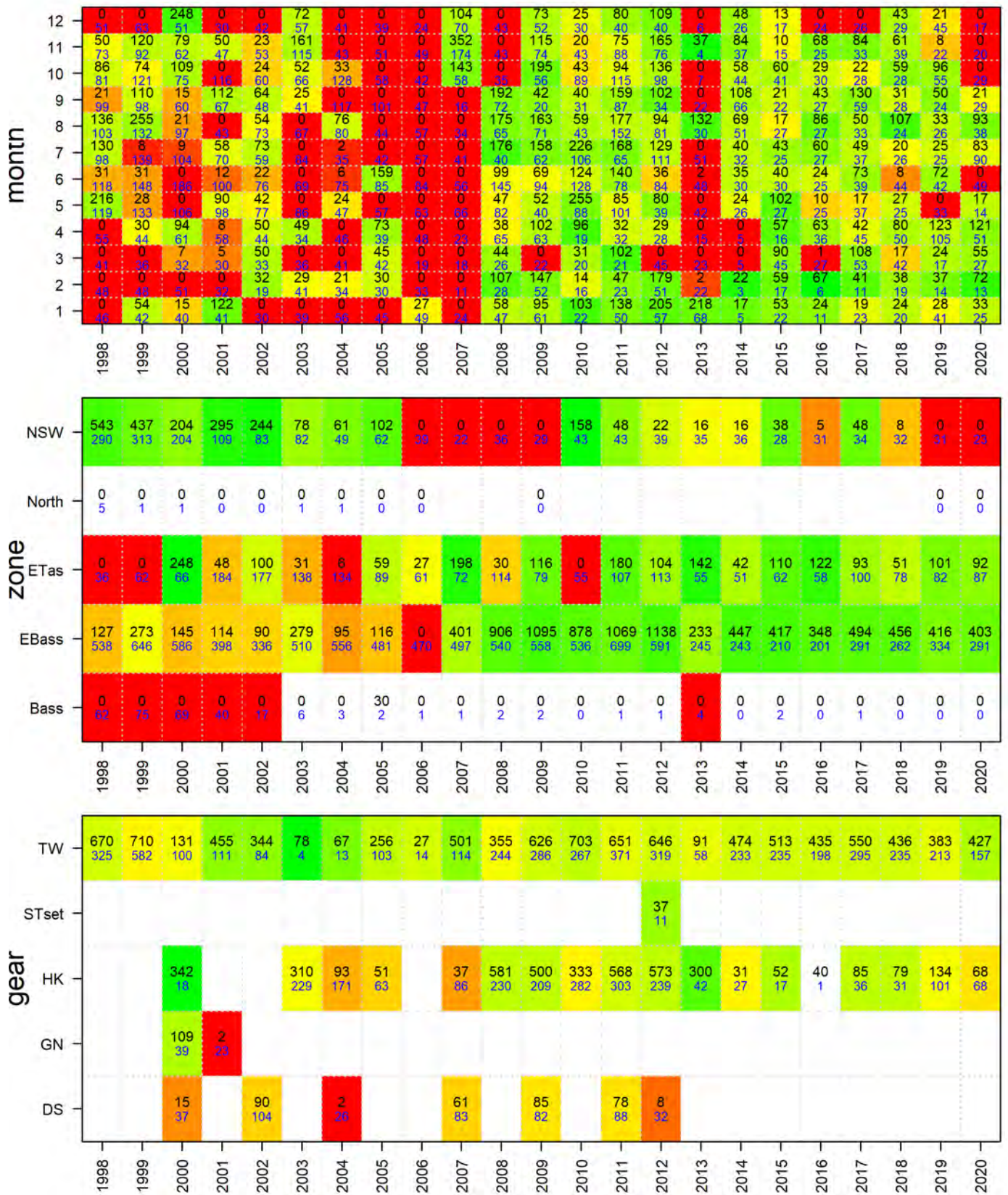
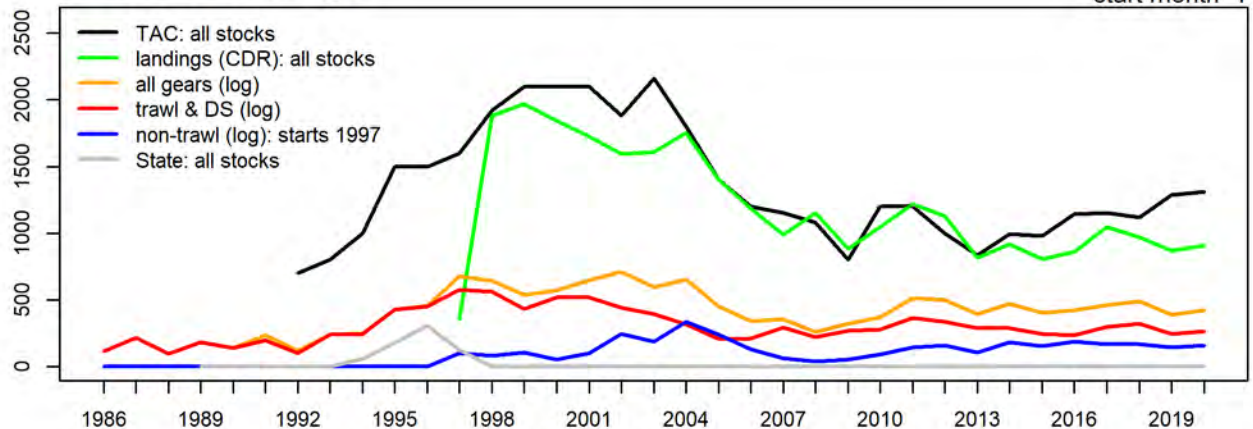


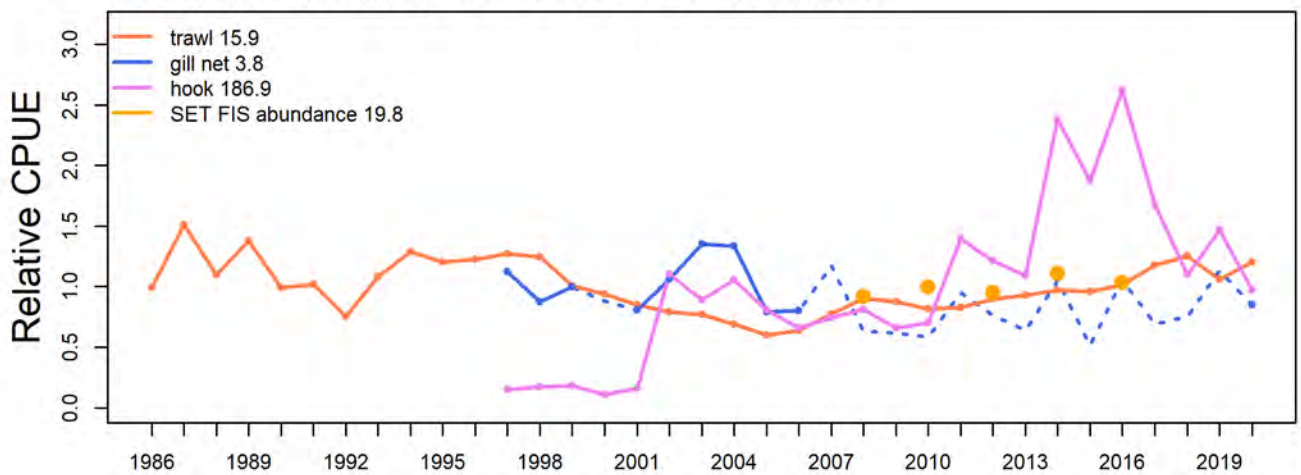
Figure 145 Age data sampling coverage by month (top), zone (middle) and gear for Pink Ling East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Pink Ling West TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

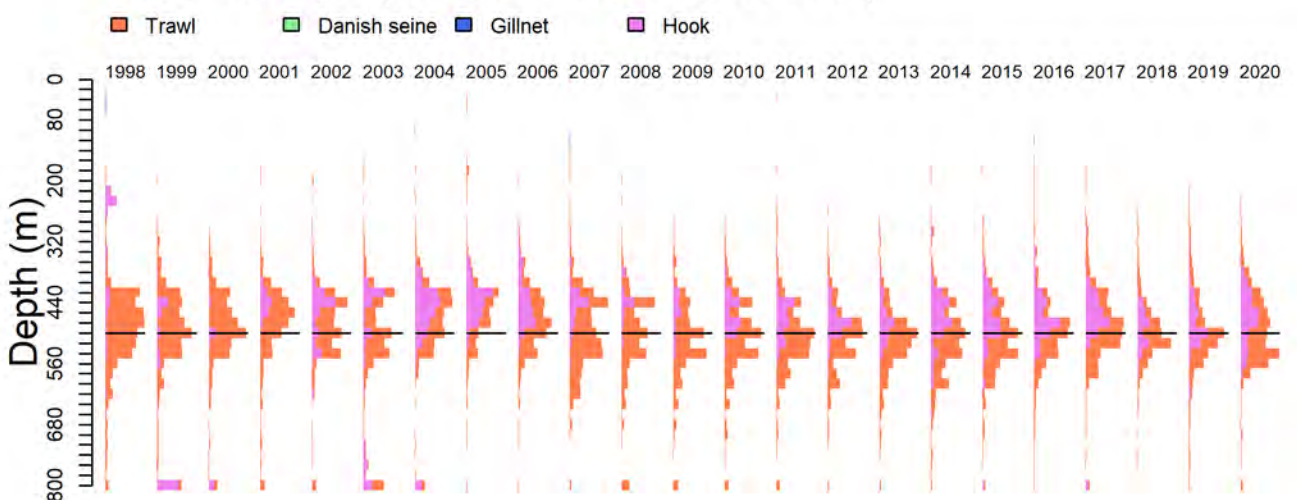
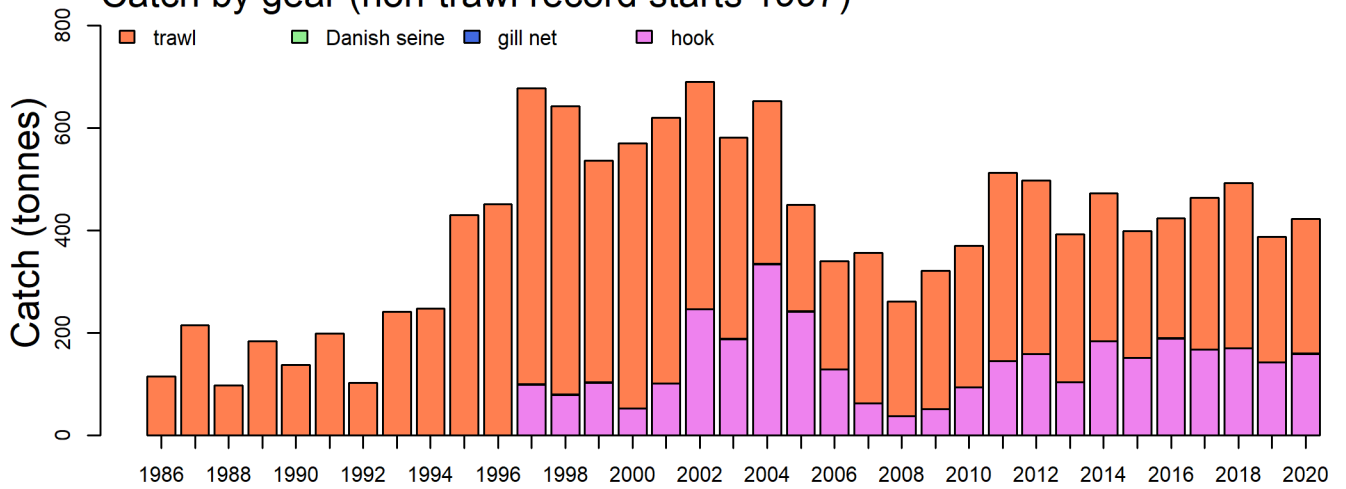


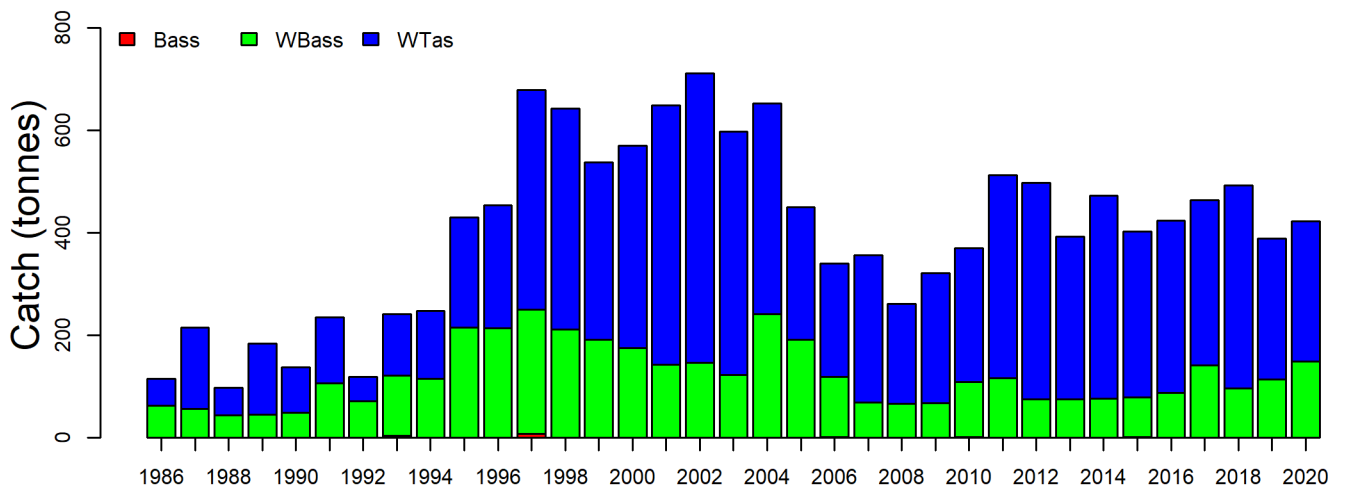
Figure 146 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Pink Ling West. For more information contact AFMA on (02) 6225 5555.

# Pink Ling West

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

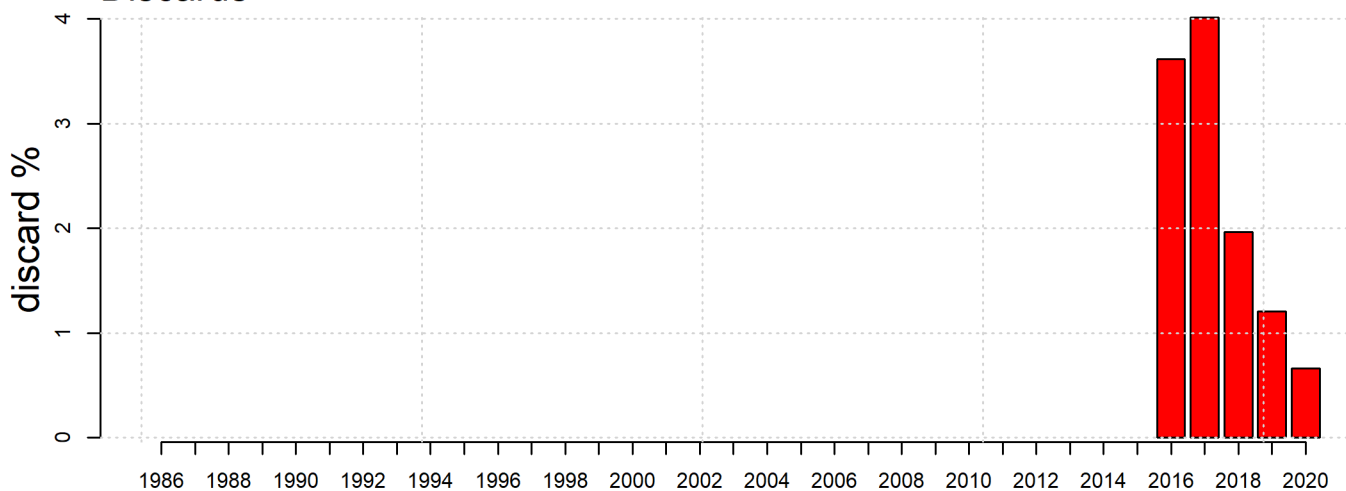


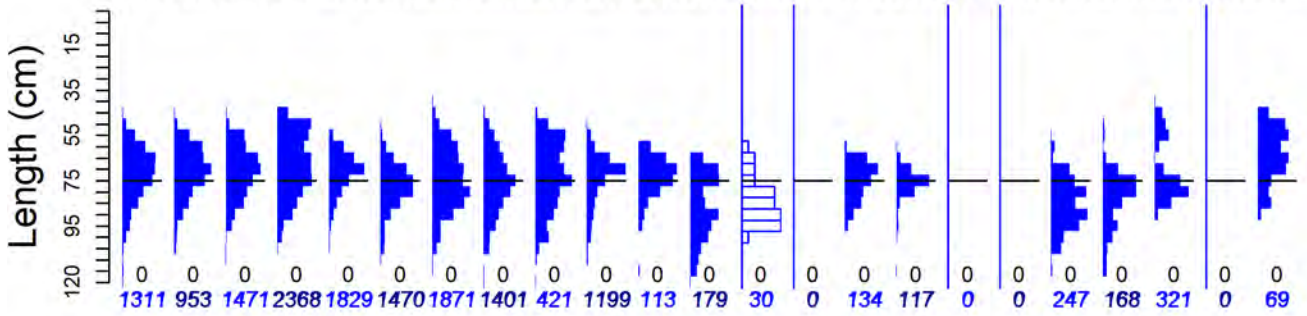
Figure 147 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Pink Ling West. For more information contact AFMA on (02) 6225 5555.

# Pink Ling West

Mon Aug 16 10:35:50 2021

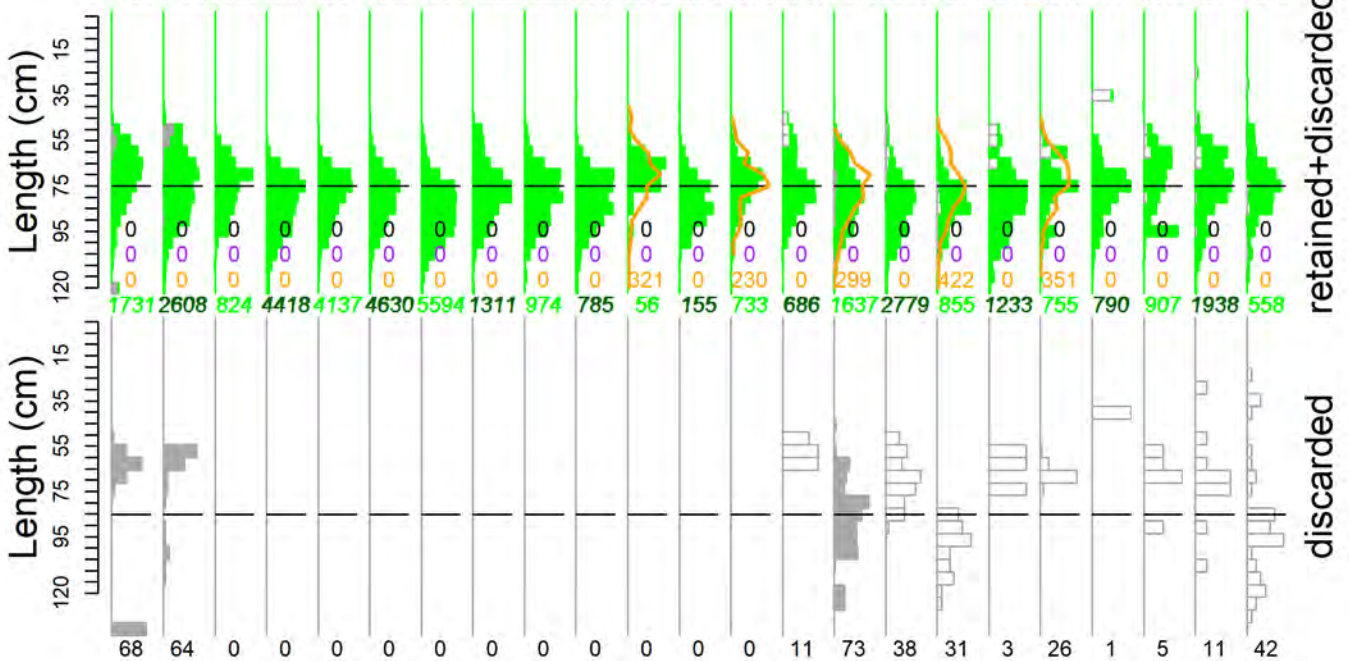
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

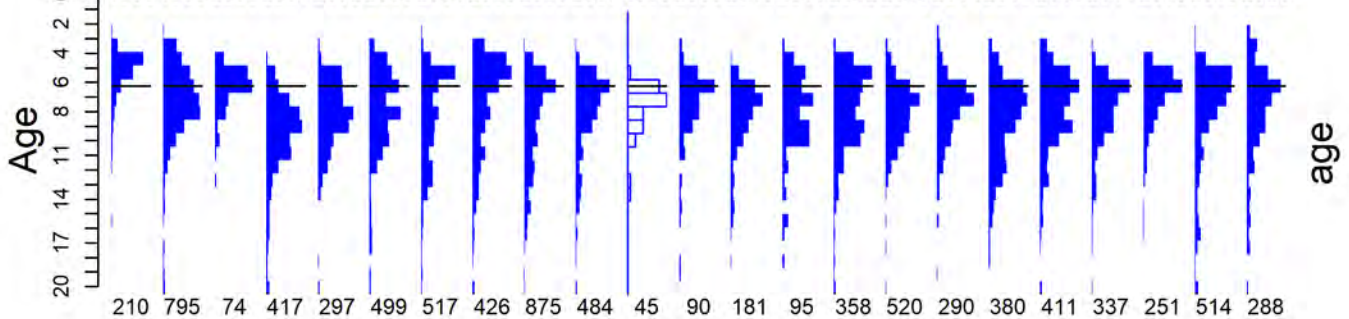


Figure 148 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Pink Ling West. For more information contact AFMA on (02) 6225 5555.

# Pink Ling West

# Port length data

Mon Aug 16 10:35:51 2021

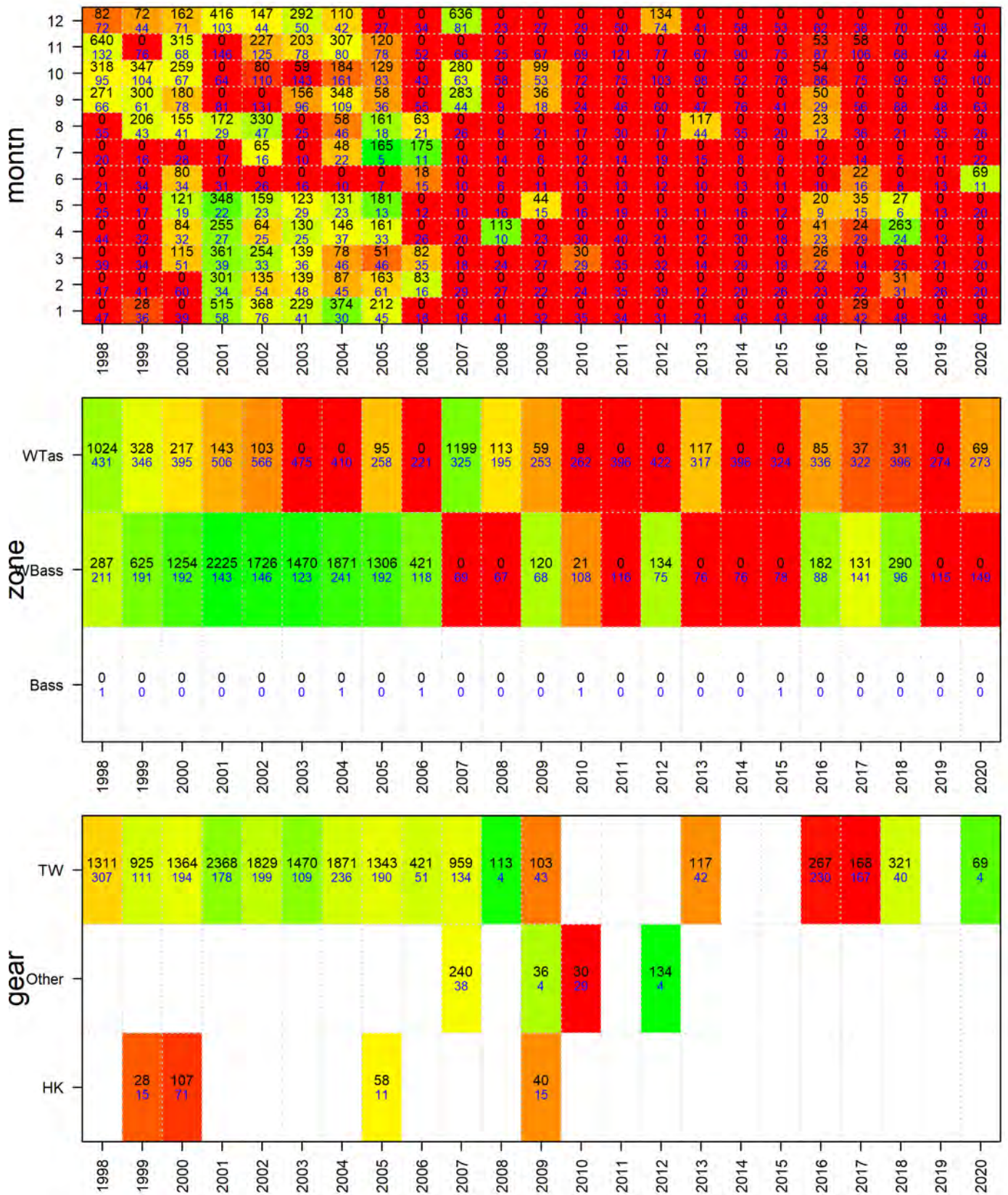


Figure 149 Port length data sampling coverage by month (top), zone (middle) and gear for Pink Ling West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Pink Ling West

# Onboard discard weight data

Mon Aug 16 10:35:52 2021

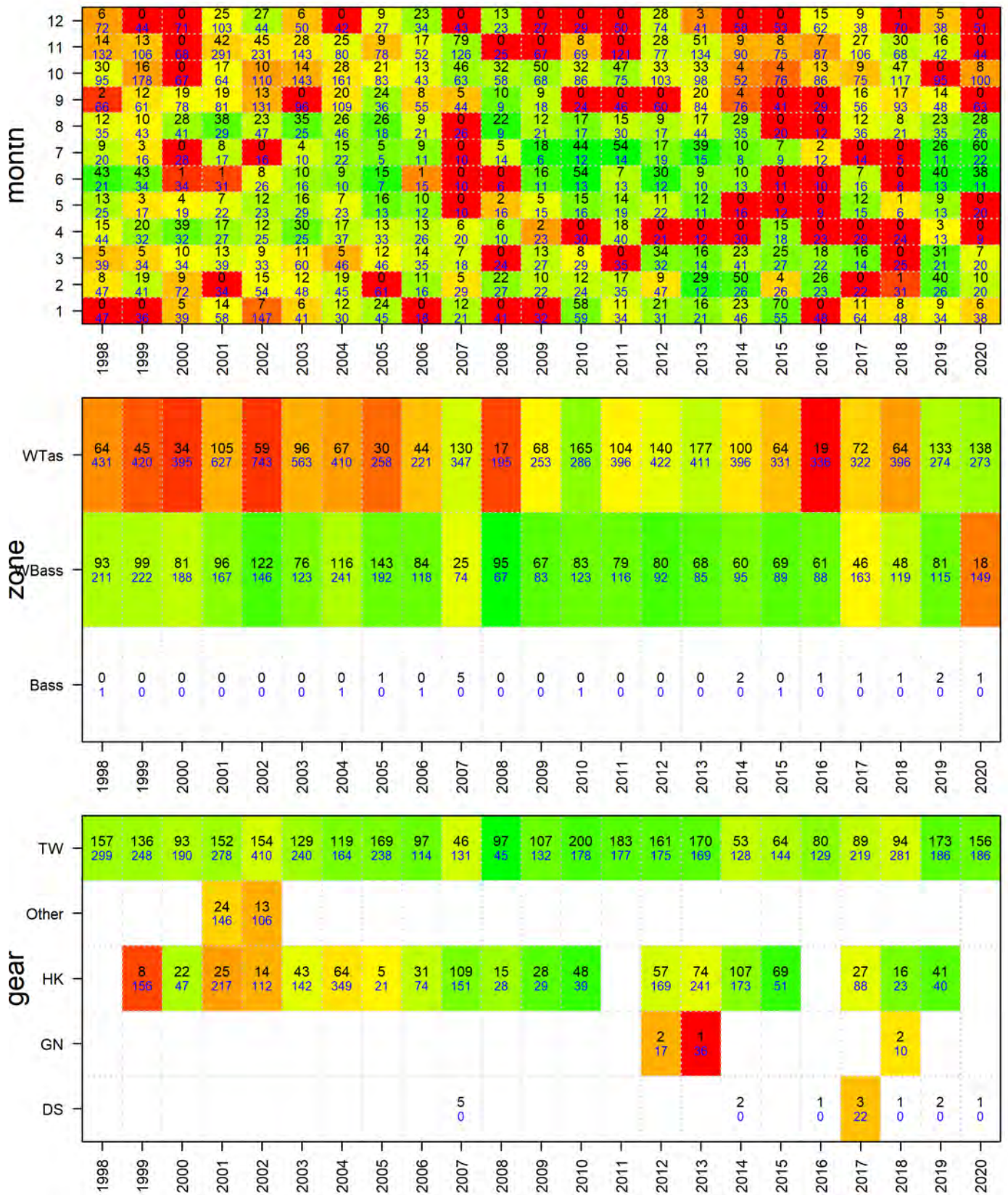


Figure 150 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Pink Ling West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Pink Ling West

# Onboard length data

Mon Aug 16 10:35:53 2021

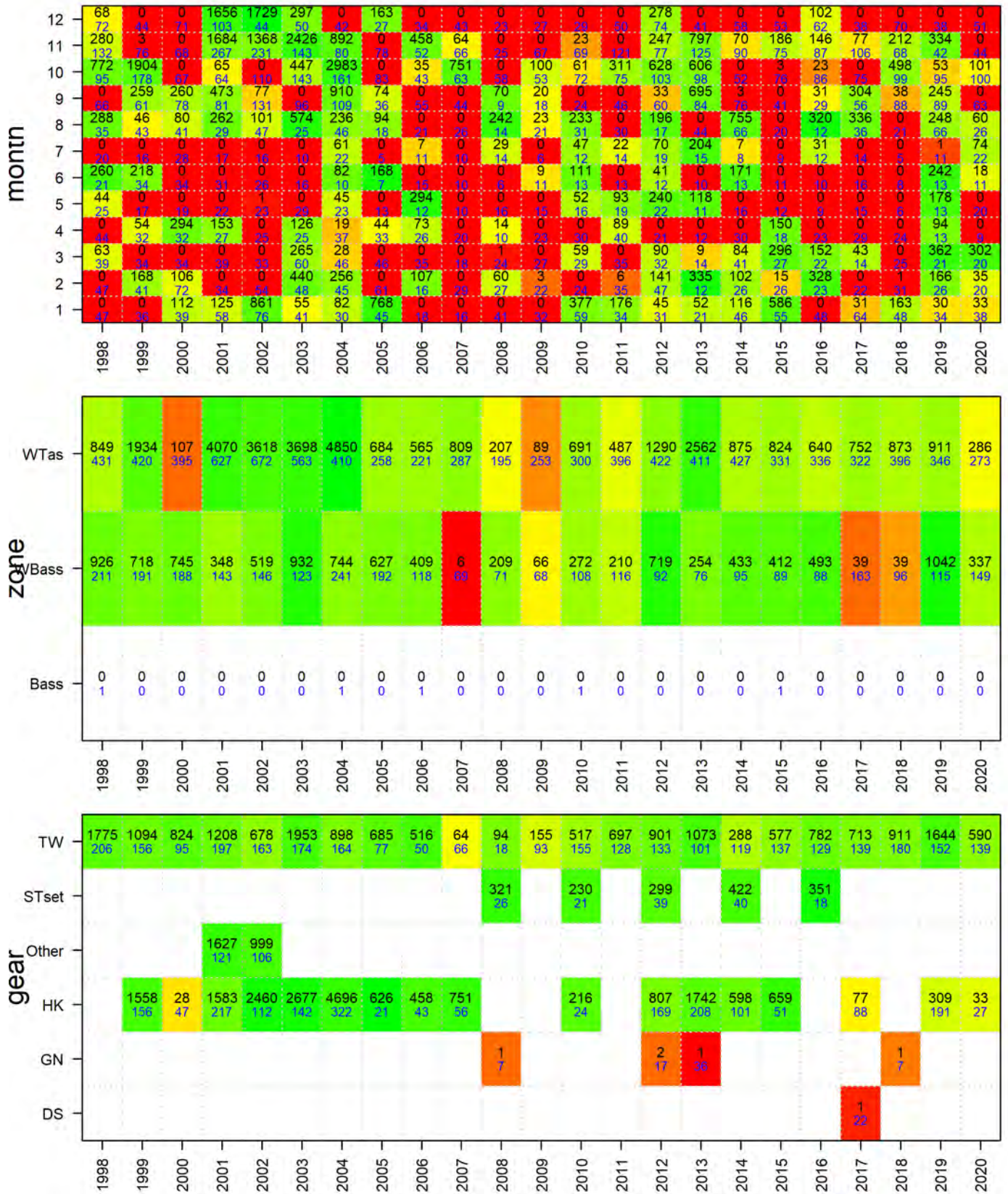


Figure 151 Onboard length data sampling coverage by month (top), zone (middle) and gear for Pink Ling West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Pink Ling West

# Age data

Mon Aug 16 10:35:54 2021

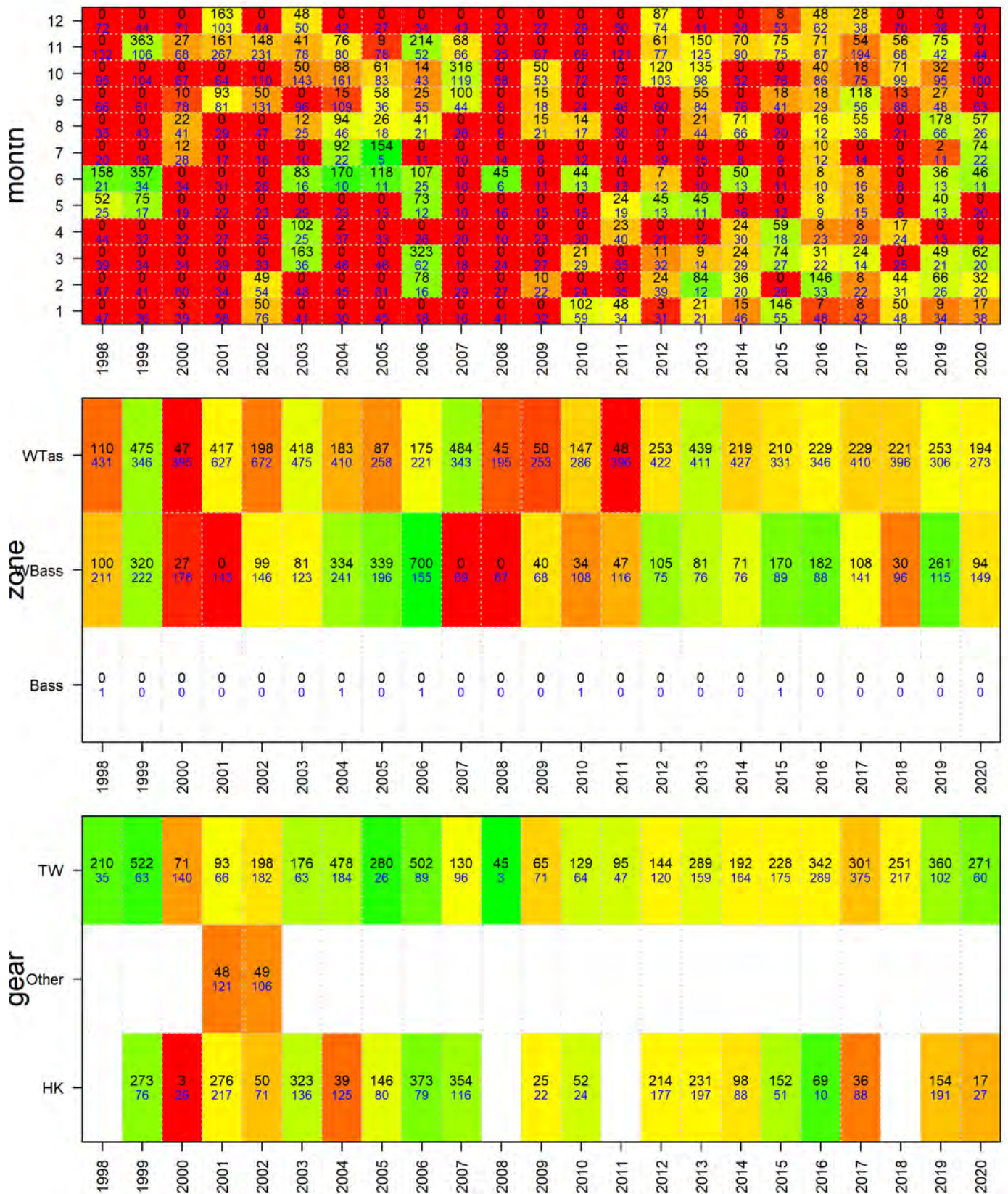
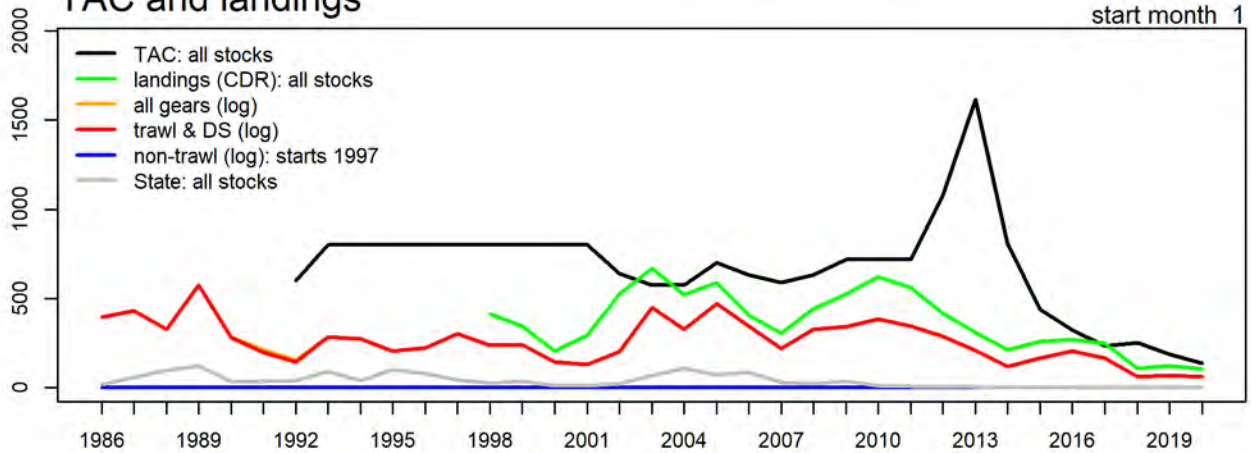


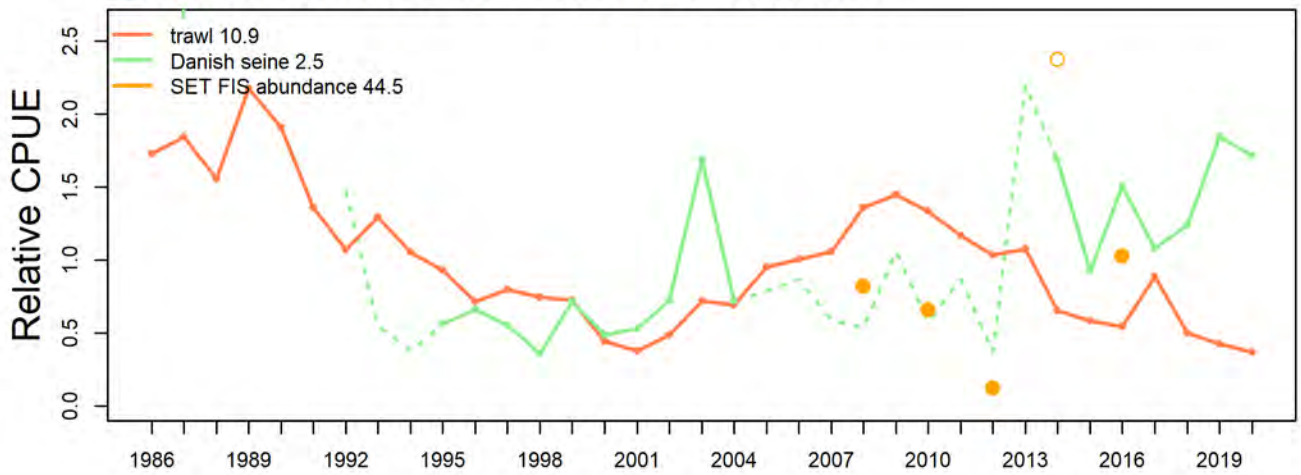
Figure 152 Age data sampling coverage by month (top), zone (middle) and gear for Pink Ling West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory East

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

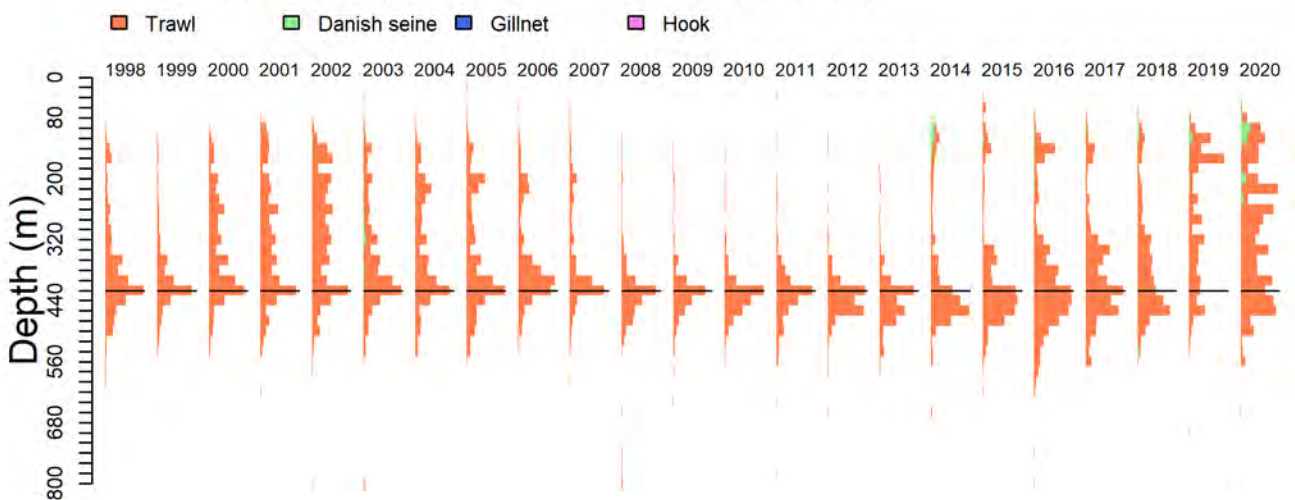
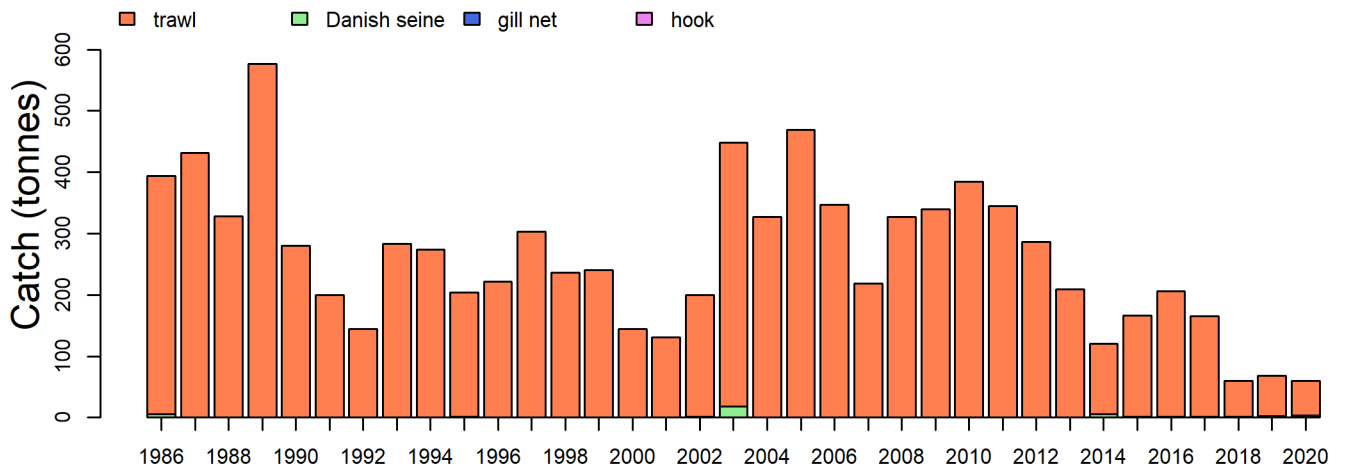


Figure 153 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Mirror Dory East. For more information contact AFMA on (02) 6225 5555.

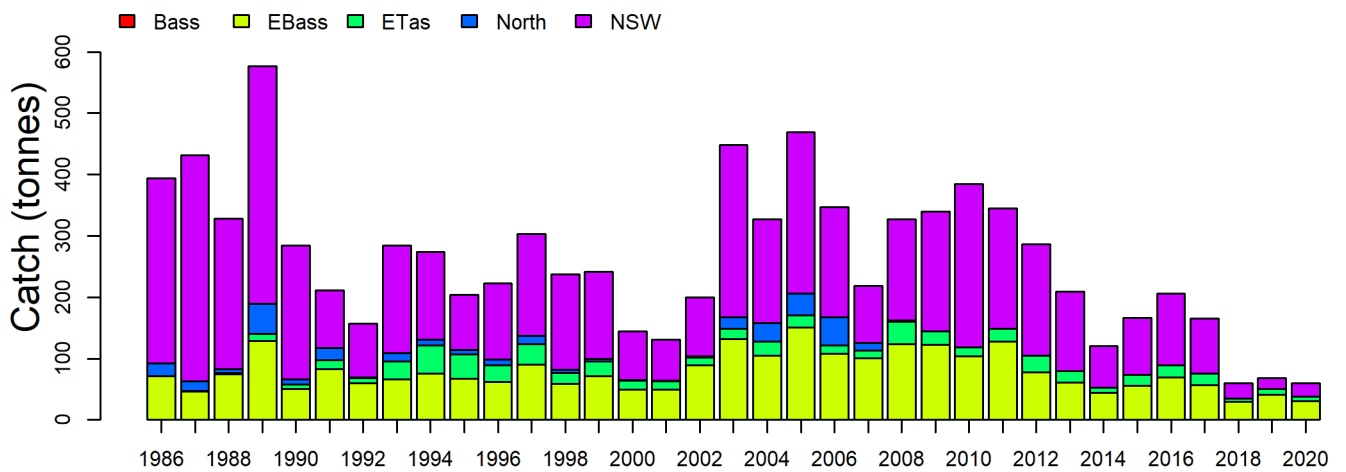


# Mirror Dory East

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

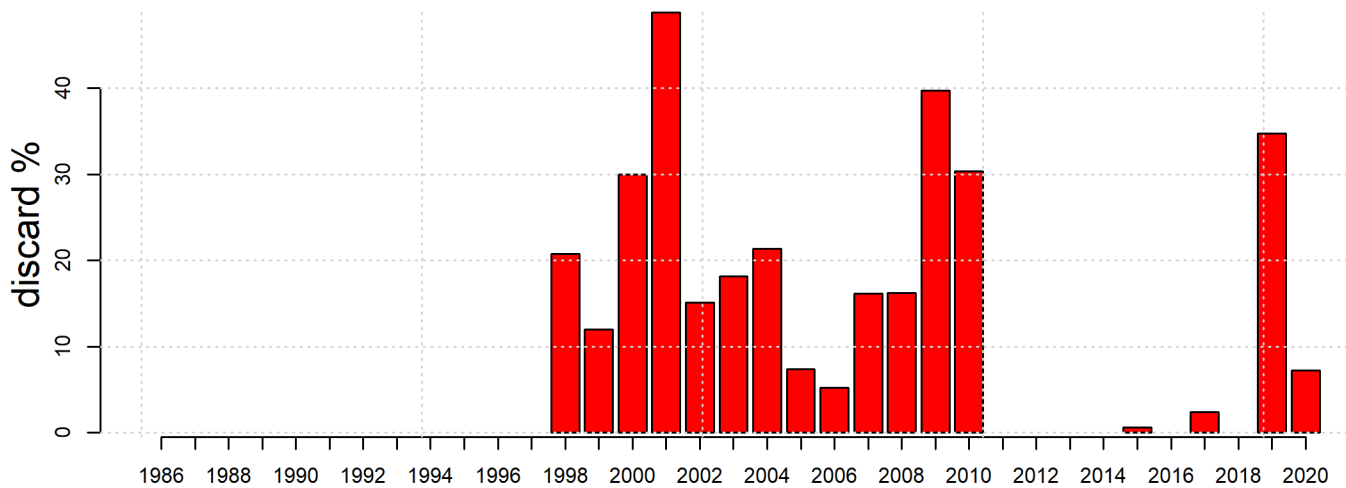


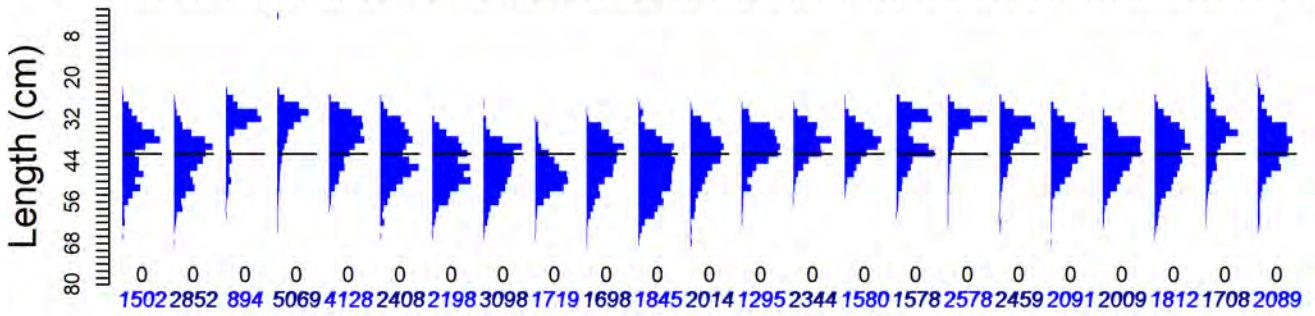
Figure 154 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Mirror Dory East. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory East

Mon Aug 16 10:35:59 2021

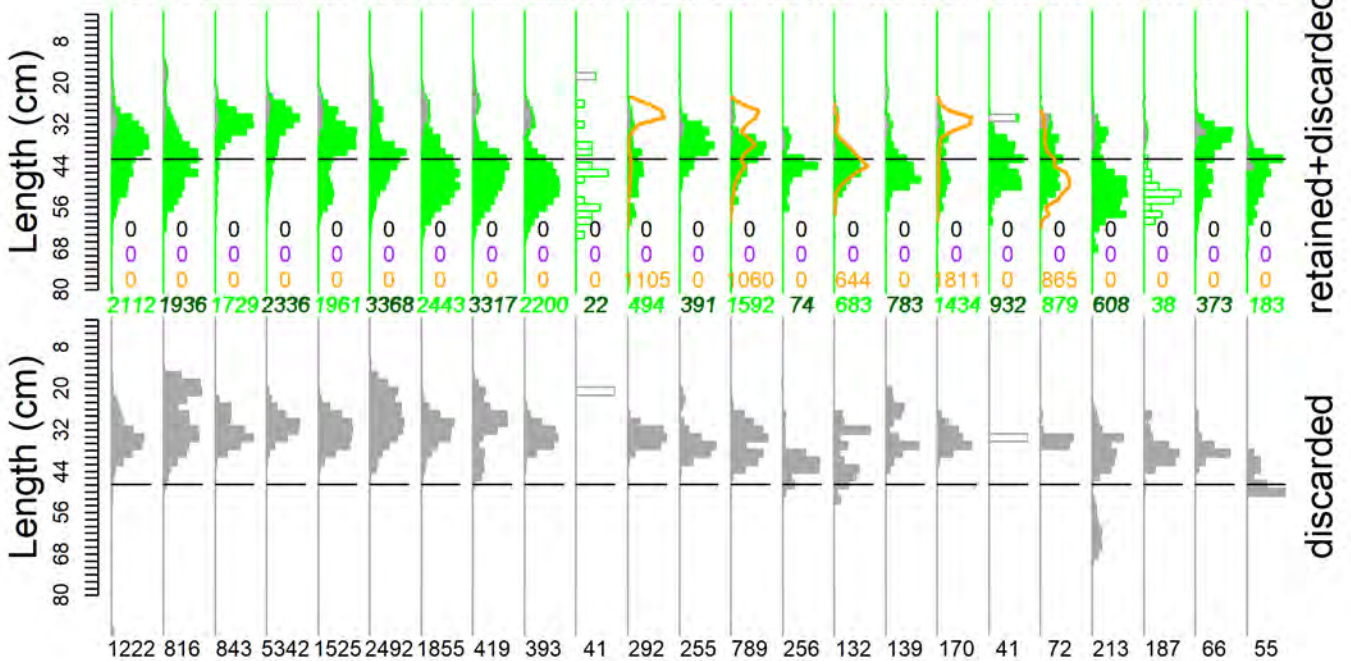
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

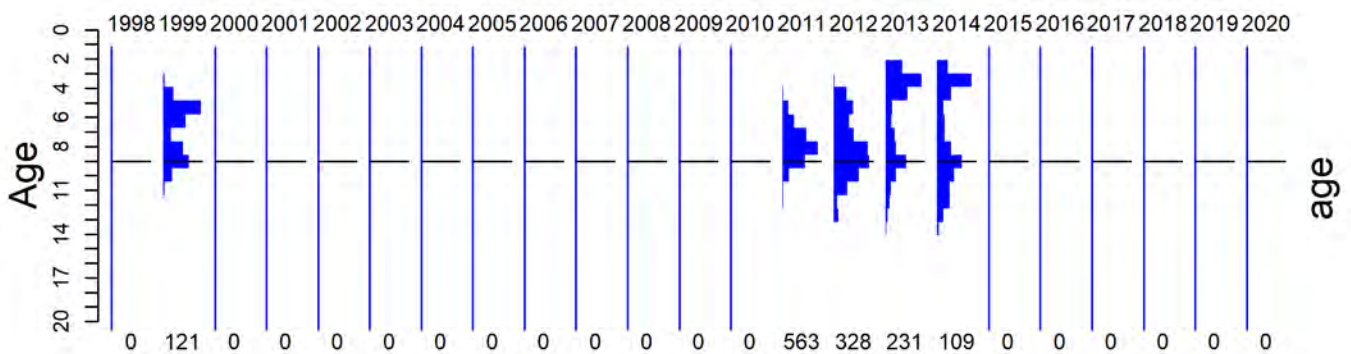


Figure 155 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Mirror Dory East. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory East

# Port length data

Mon Aug 16 10:36:00 2021

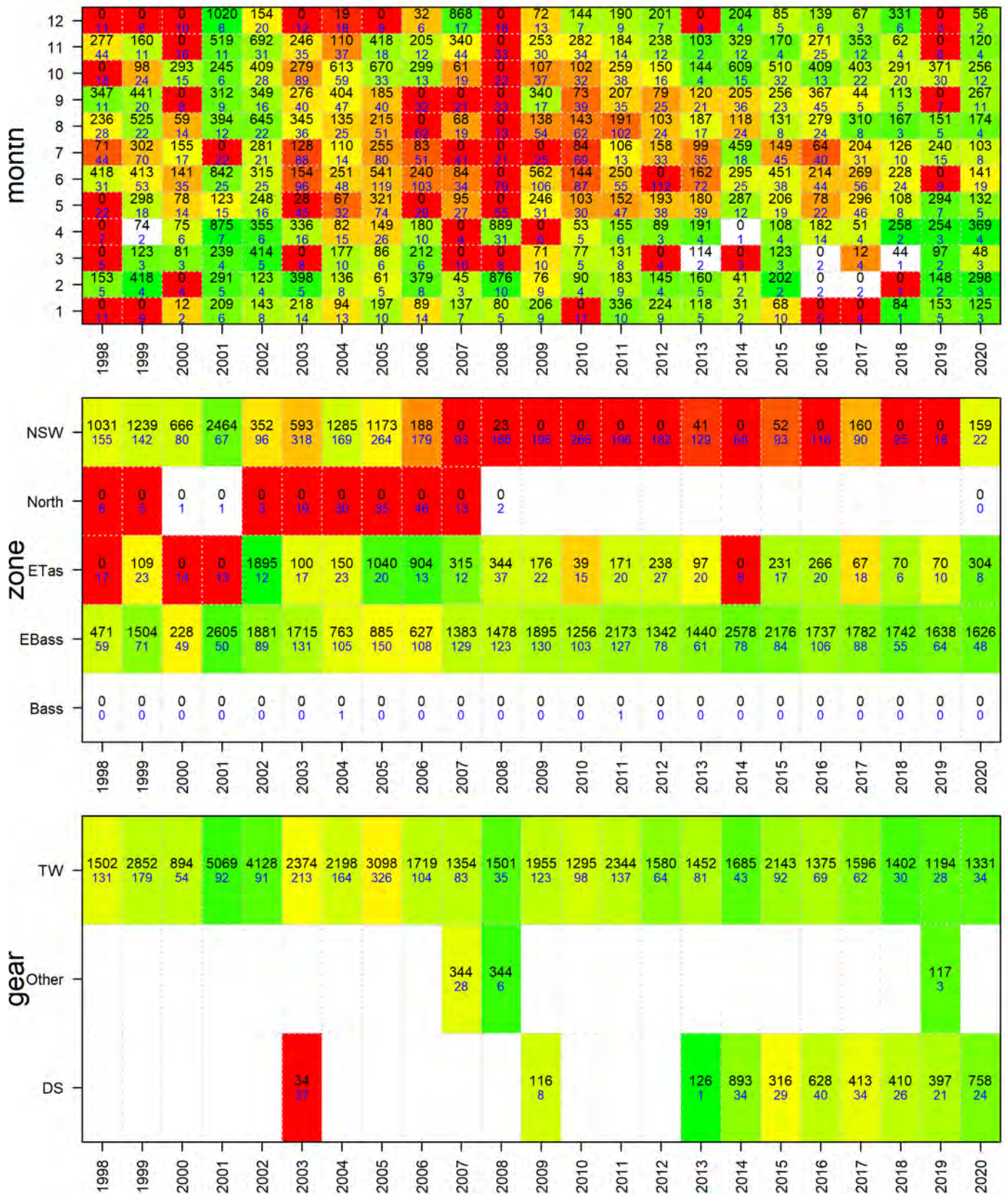


Figure 156 Port length data sampling coverage by month (top), zone (middle) and gear for Mirror Dory East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory East

# Onboard discard weight data

Mon Aug 16 10:36:01 2021

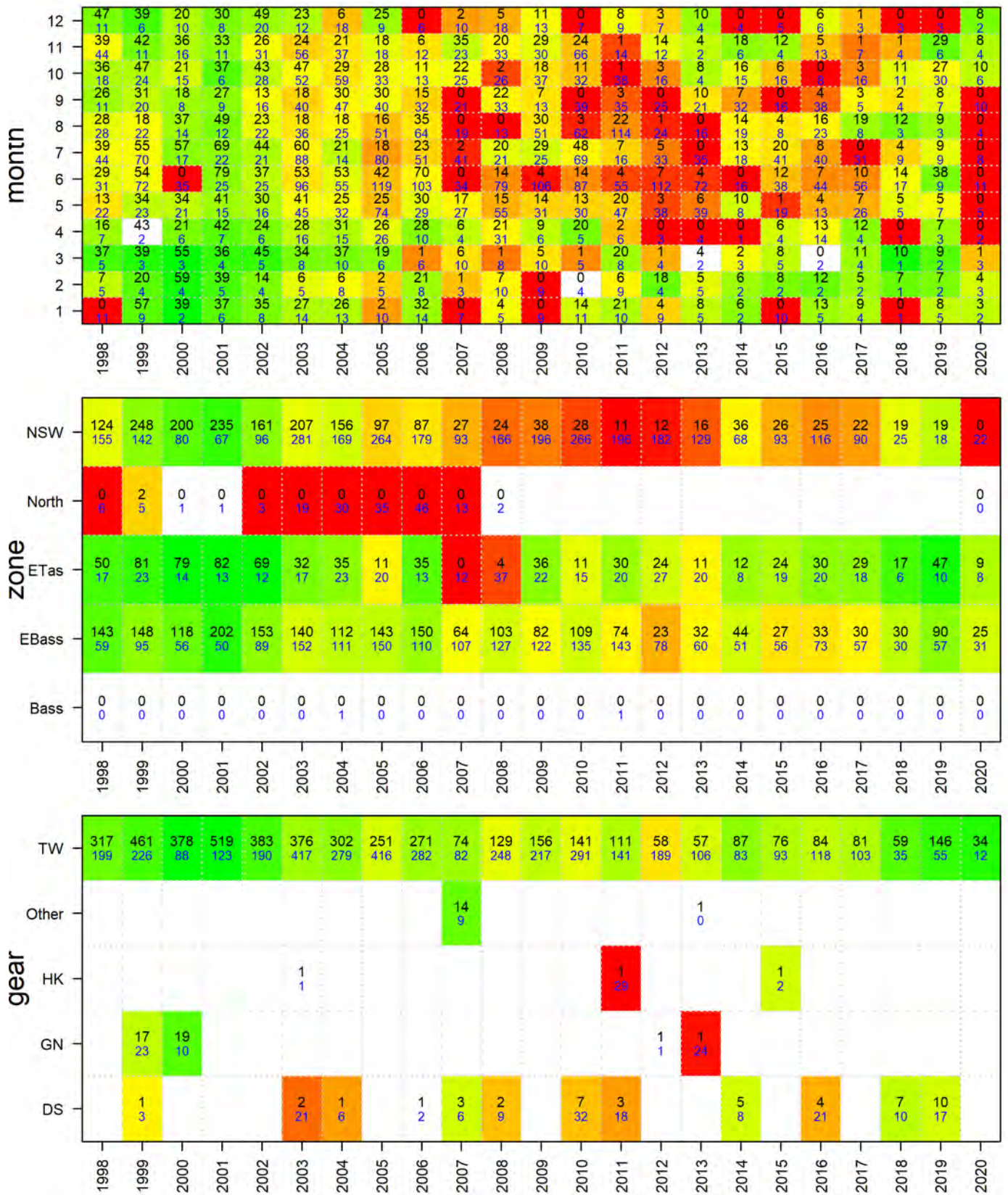


Figure 157 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Mirror Dory East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory East

# Onboard length data

Mon Aug 16 10:36:02 2021

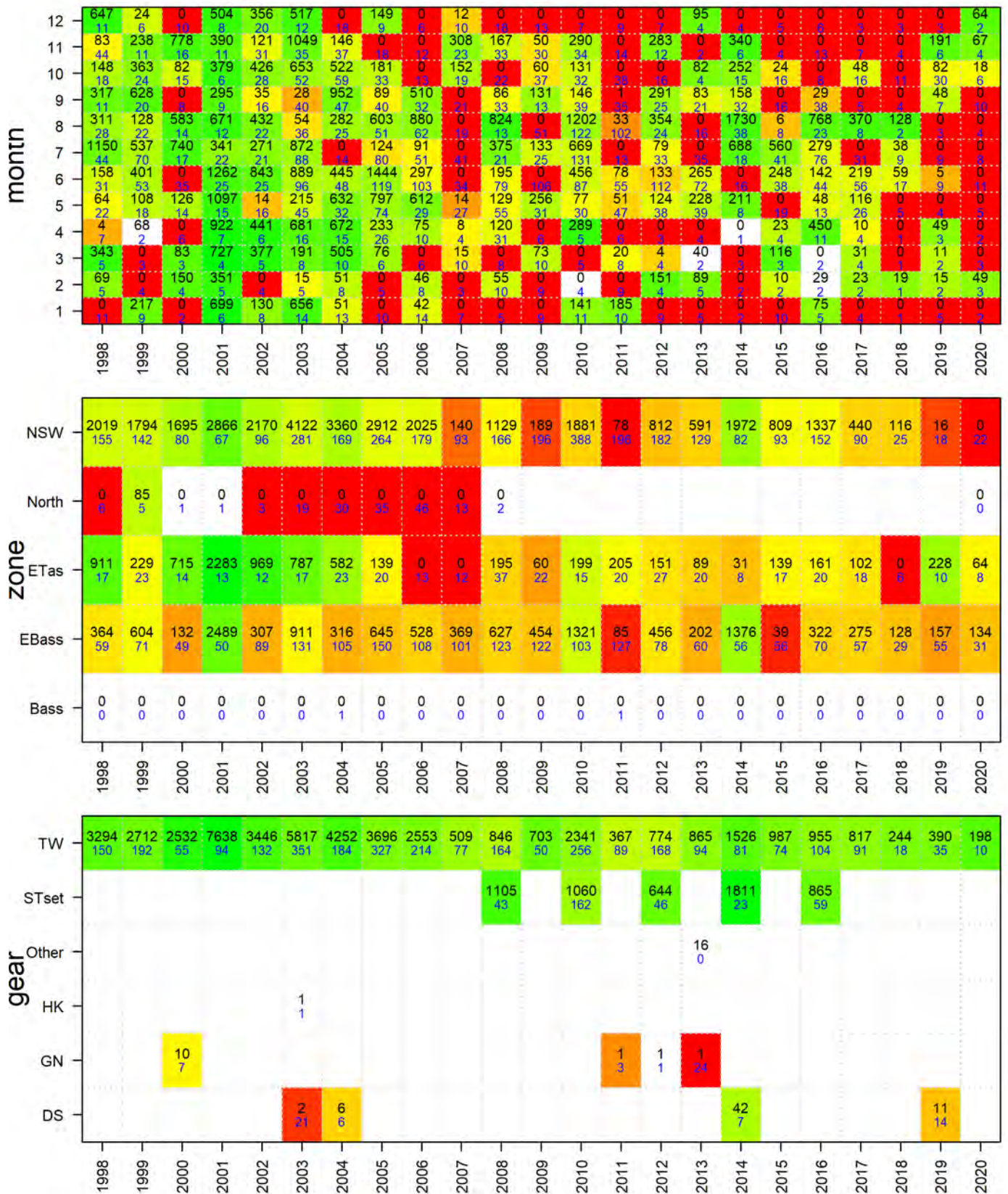


Figure 158 Onboard length data sampling coverage by month (top), zone (middle) and gear for Mirror Dory East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory East

# Age data

Mon Aug 16 10:36:02 2021

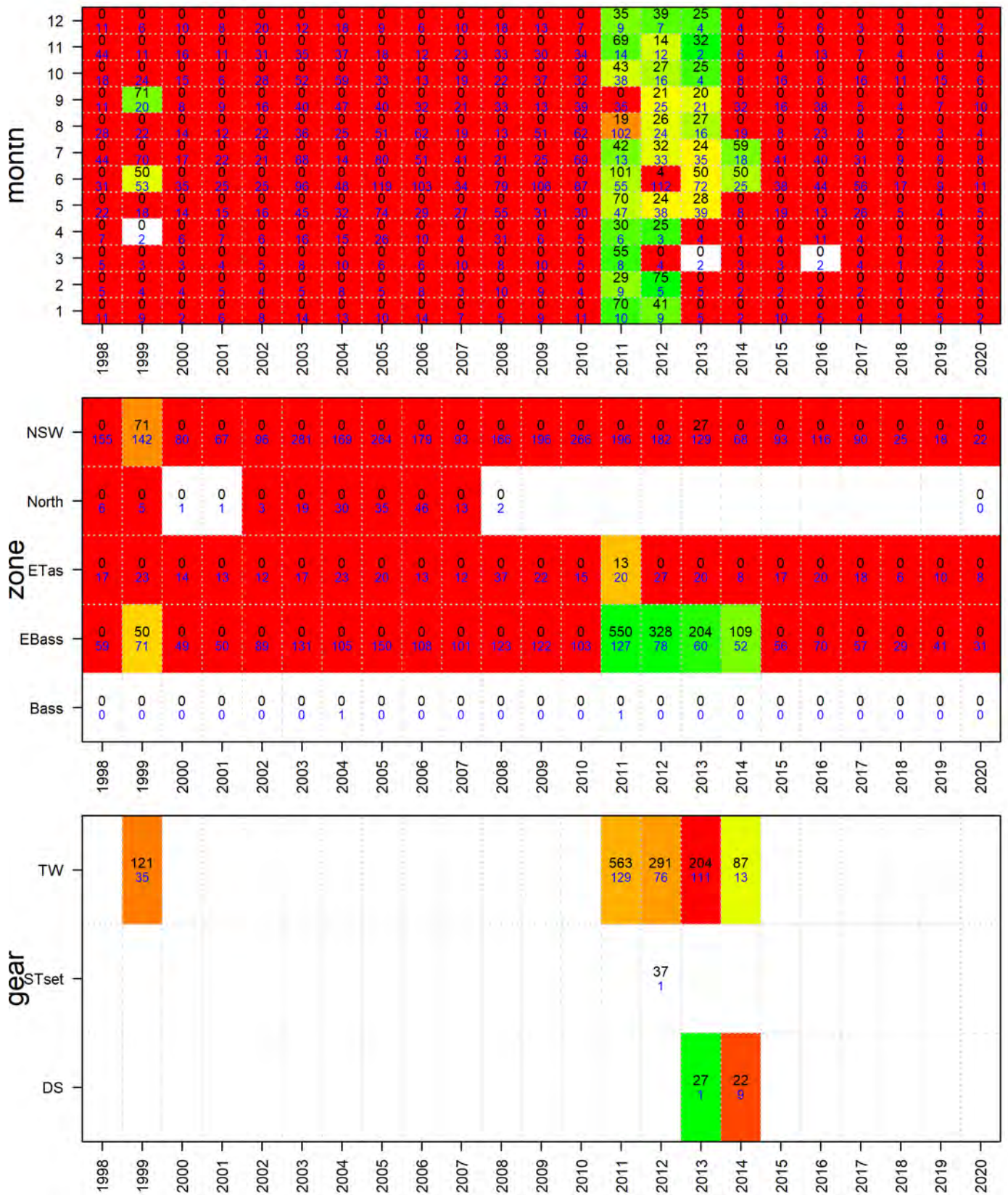
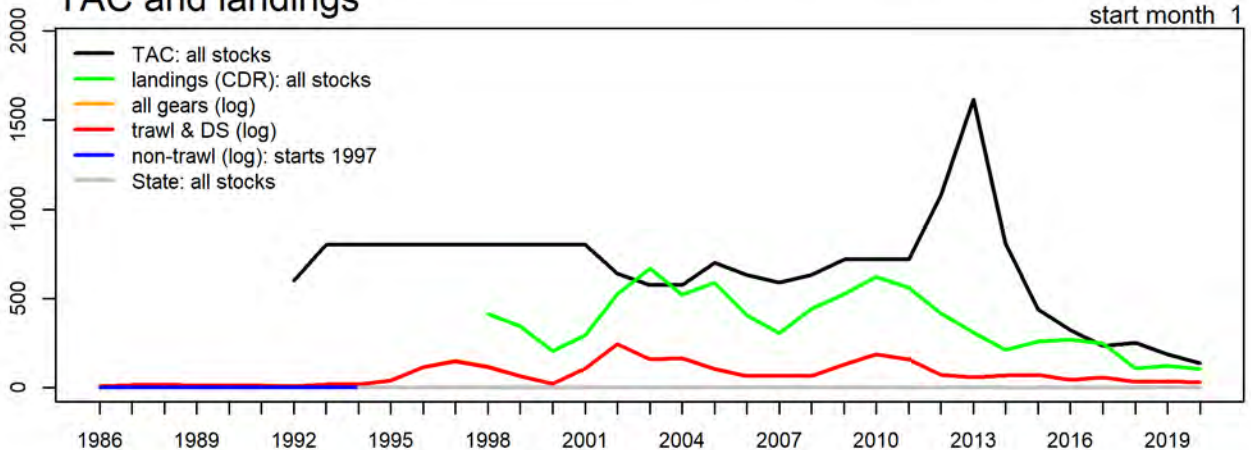


Figure 159 Age data sampling coverage by month (top), zone (middle) and gear for Mirror Dory East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

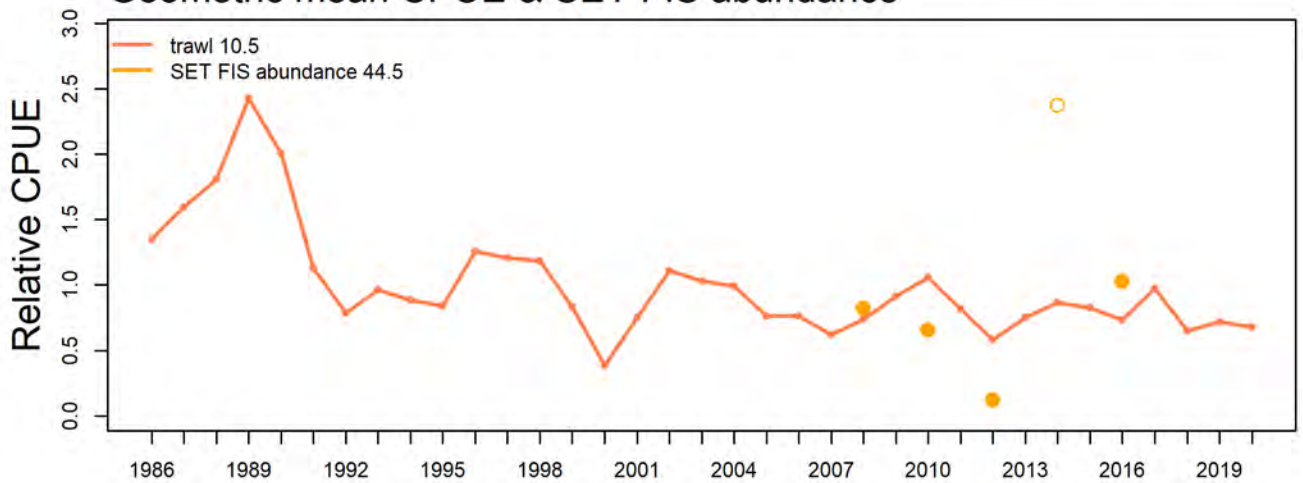
# Mirror Dory West

## TAC and landings

Mon Aug 16 10:36:04 2021  
 region SEFWEST unit code DOM sa code DOMW  
 37264003  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

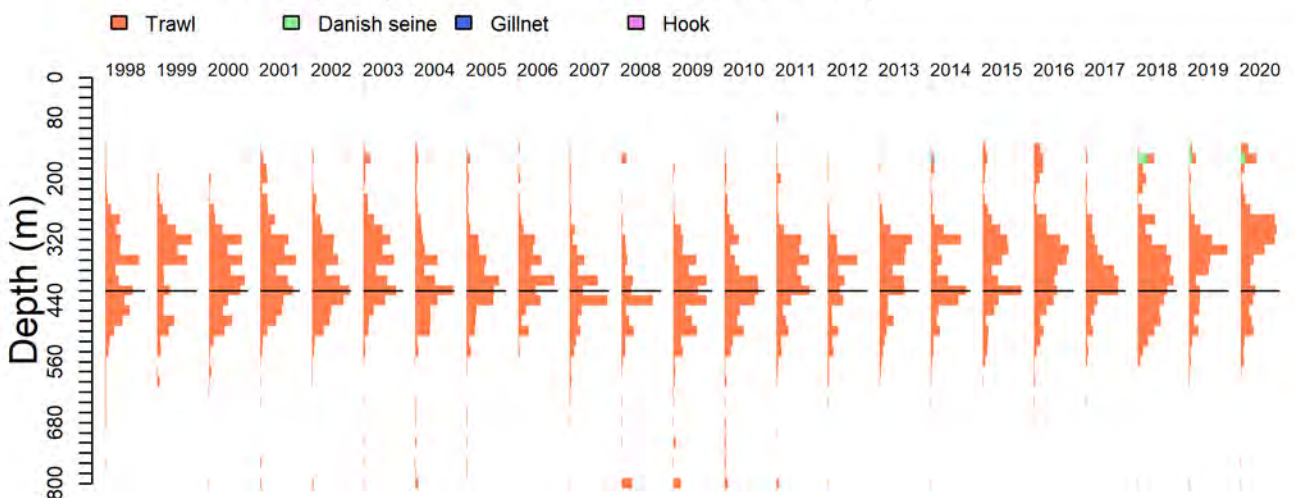
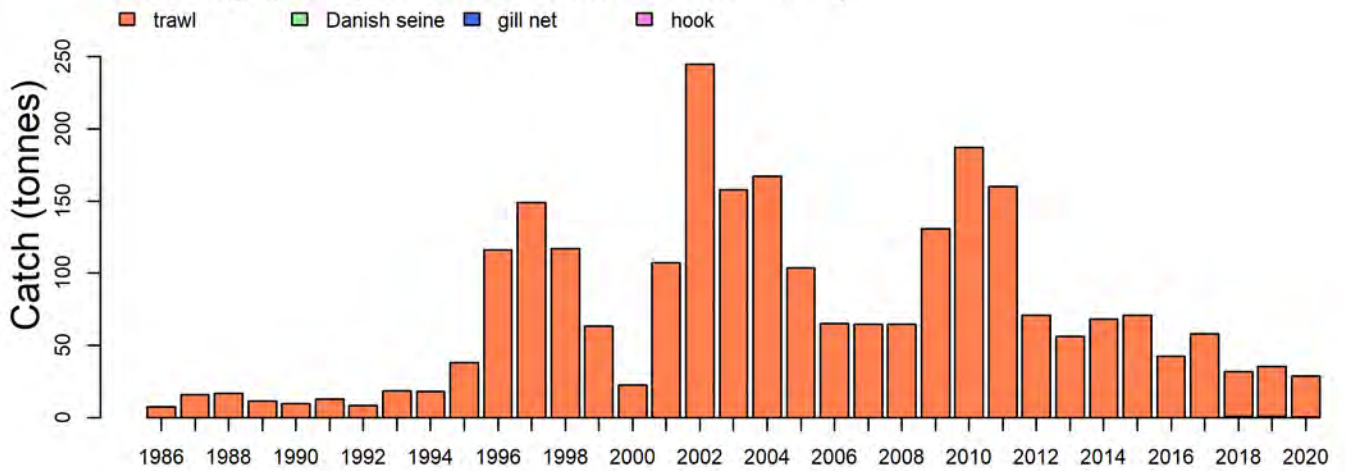


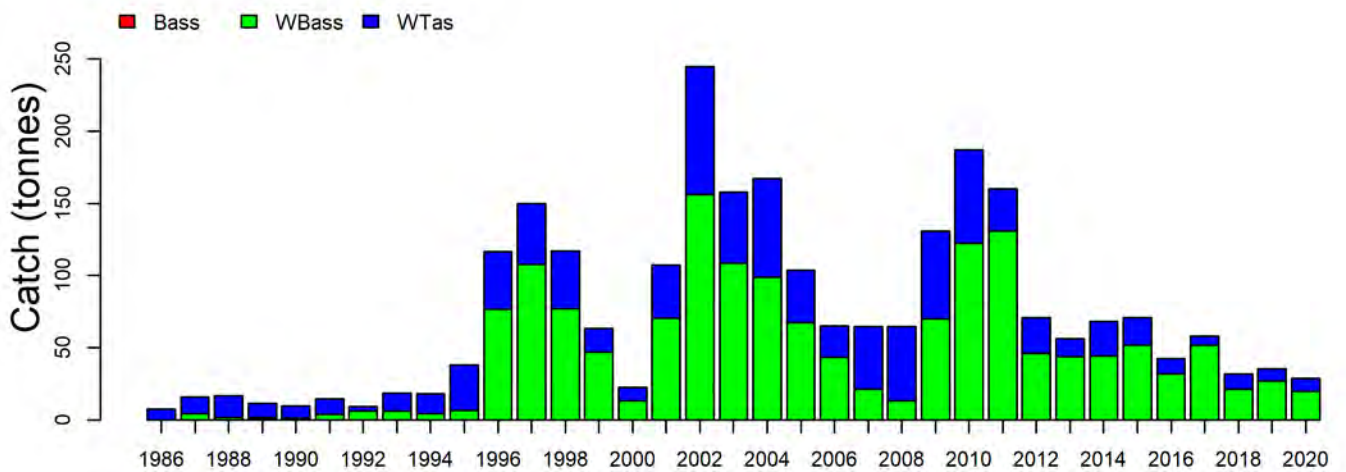
Figure 160 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Mirror Dory West. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory West

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

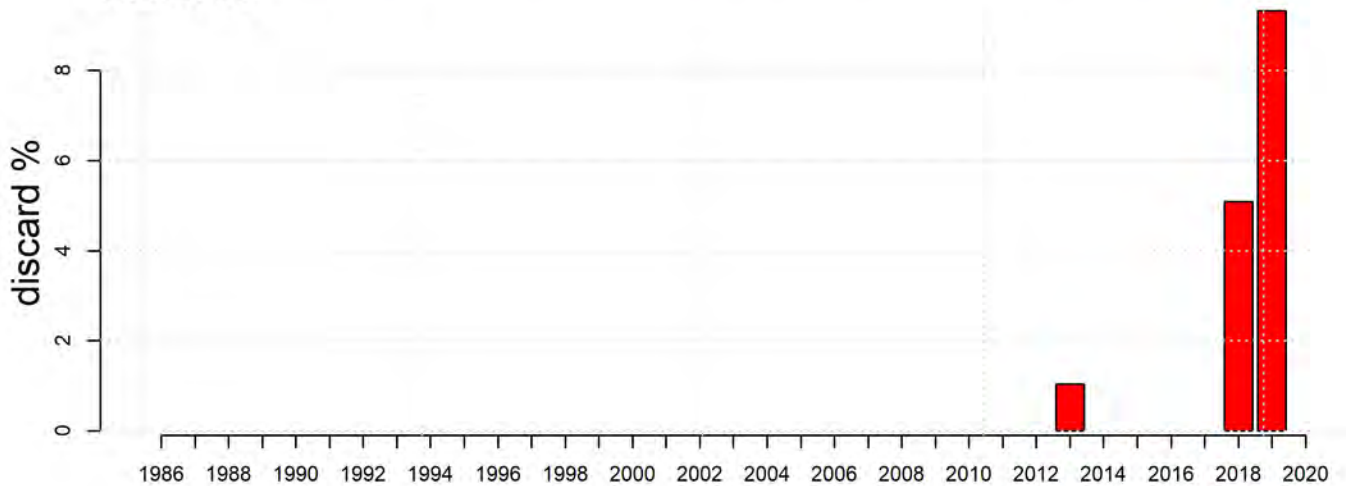


Figure 161 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Mirror Dory West. For more information contact AFMA on (02) 6225 5555.

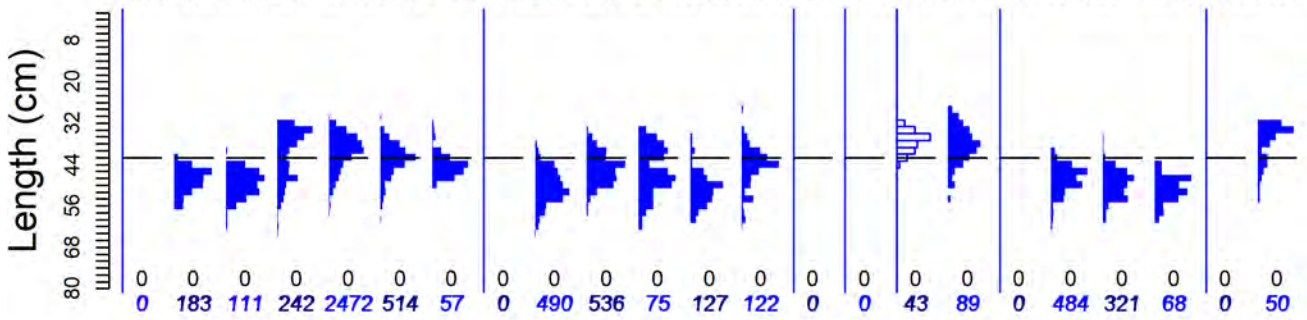


# Mirror Dory West

Mon Aug 16 10:36:06 2021

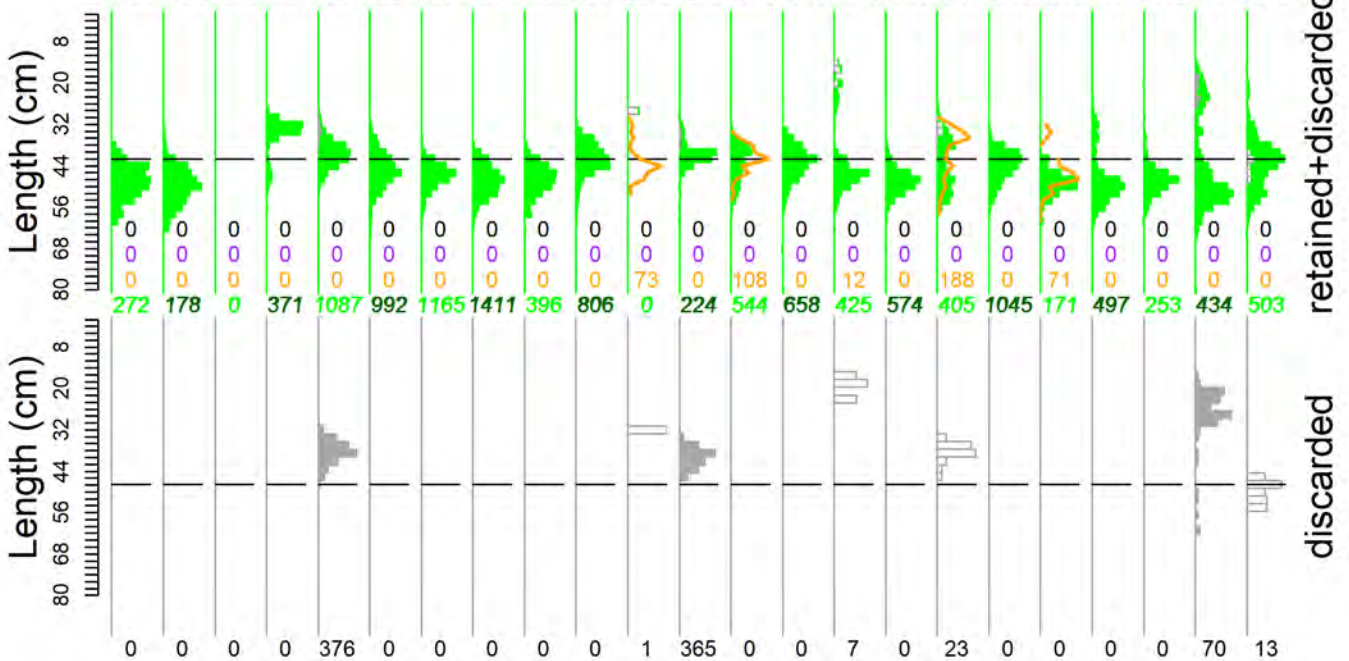
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

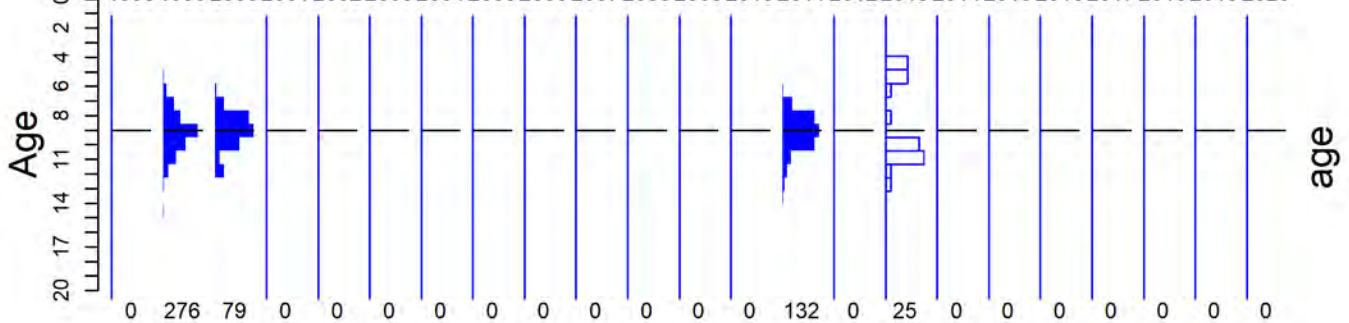


Figure 162 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Mirror Dory West. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory West

# Port length data

Mon Aug 16 10:36:07 2021

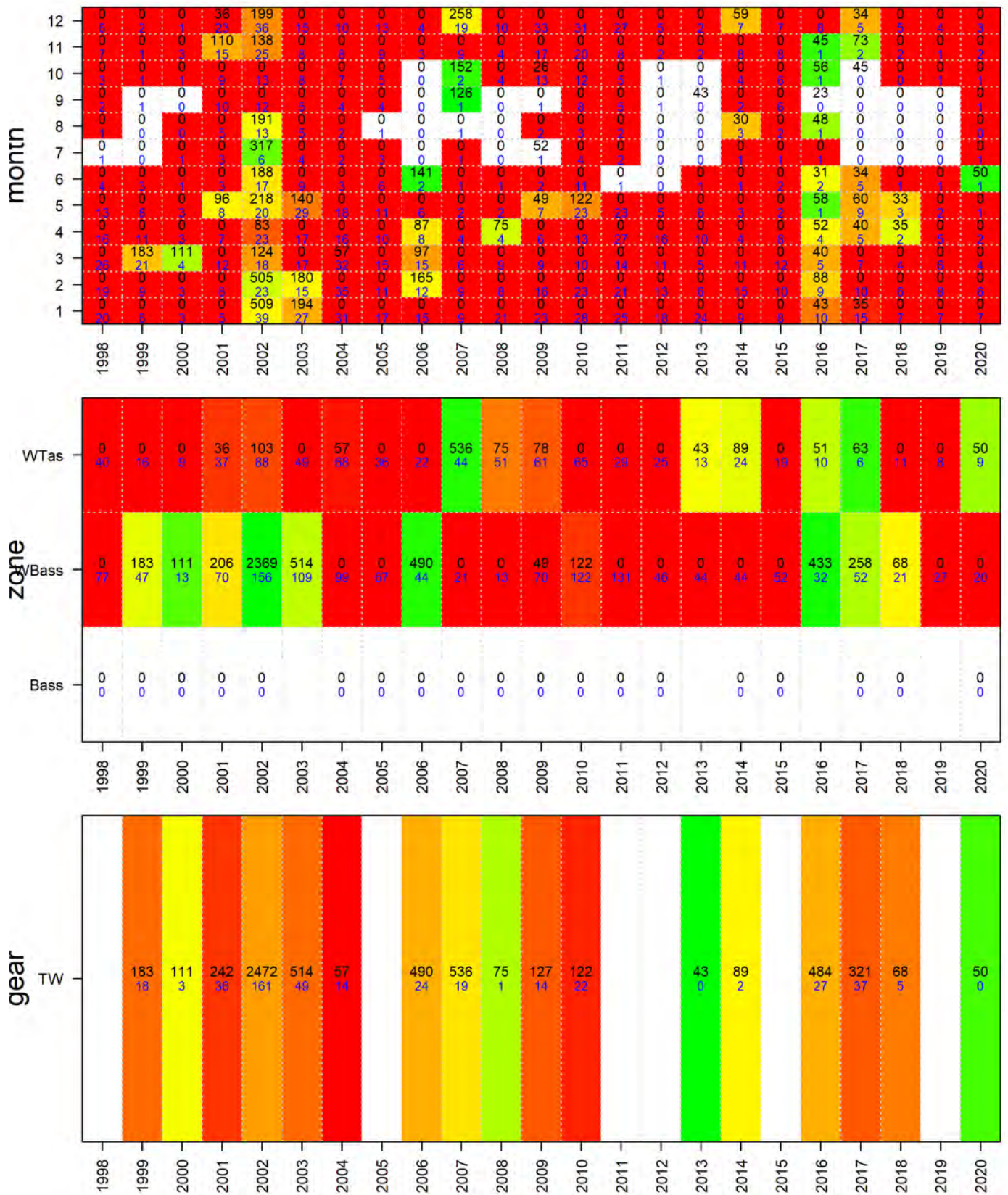


Figure 163 Port length data sampling coverage by month (top), zone (middle) and gear for Mirror Dory West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory West Onboard discard weight data

Mon Aug 16 10:36:07 2021

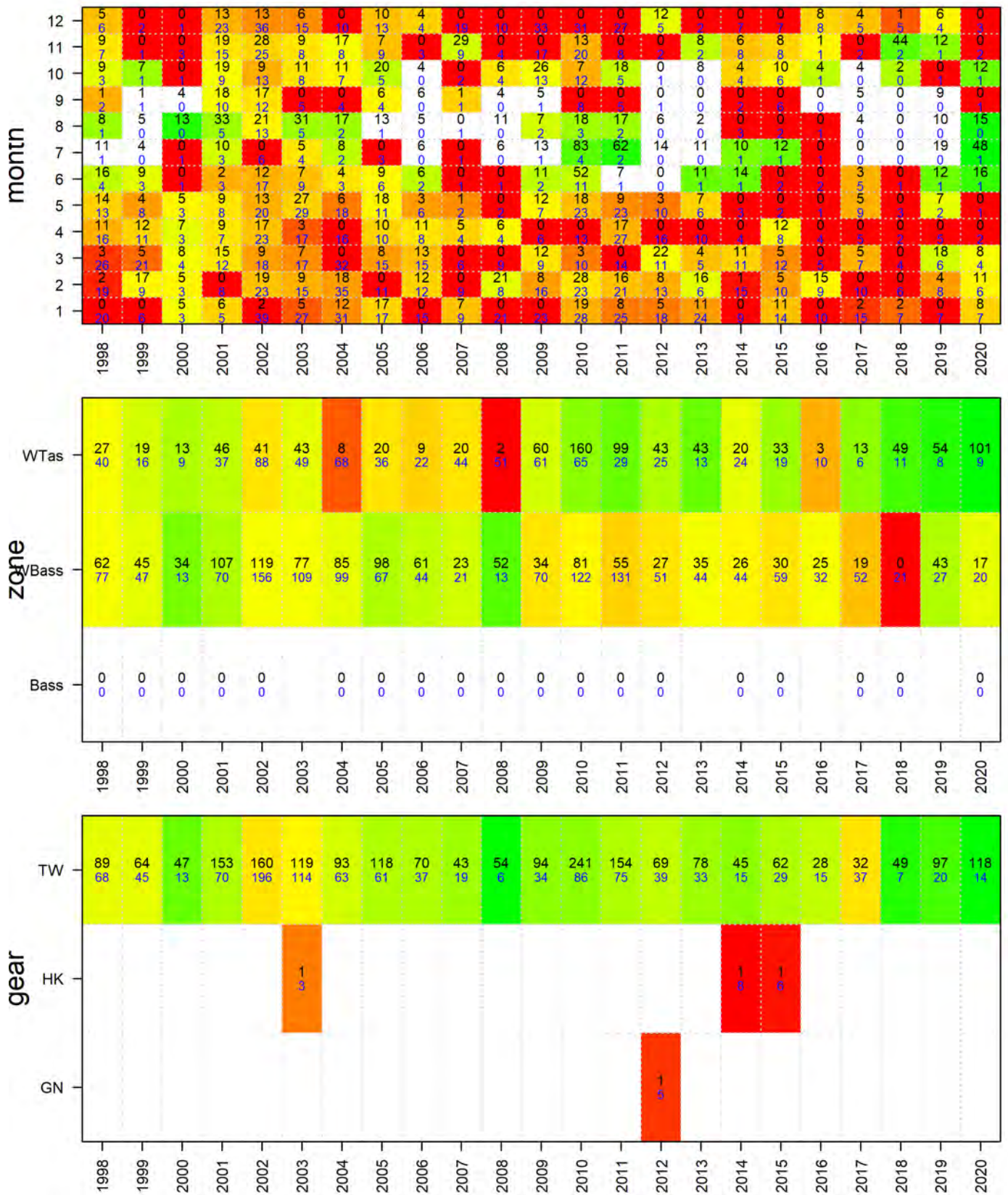


Figure 164 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Mirror Dory West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory West

# Onboard length data

Mon Aug 16 10:36:08 2021

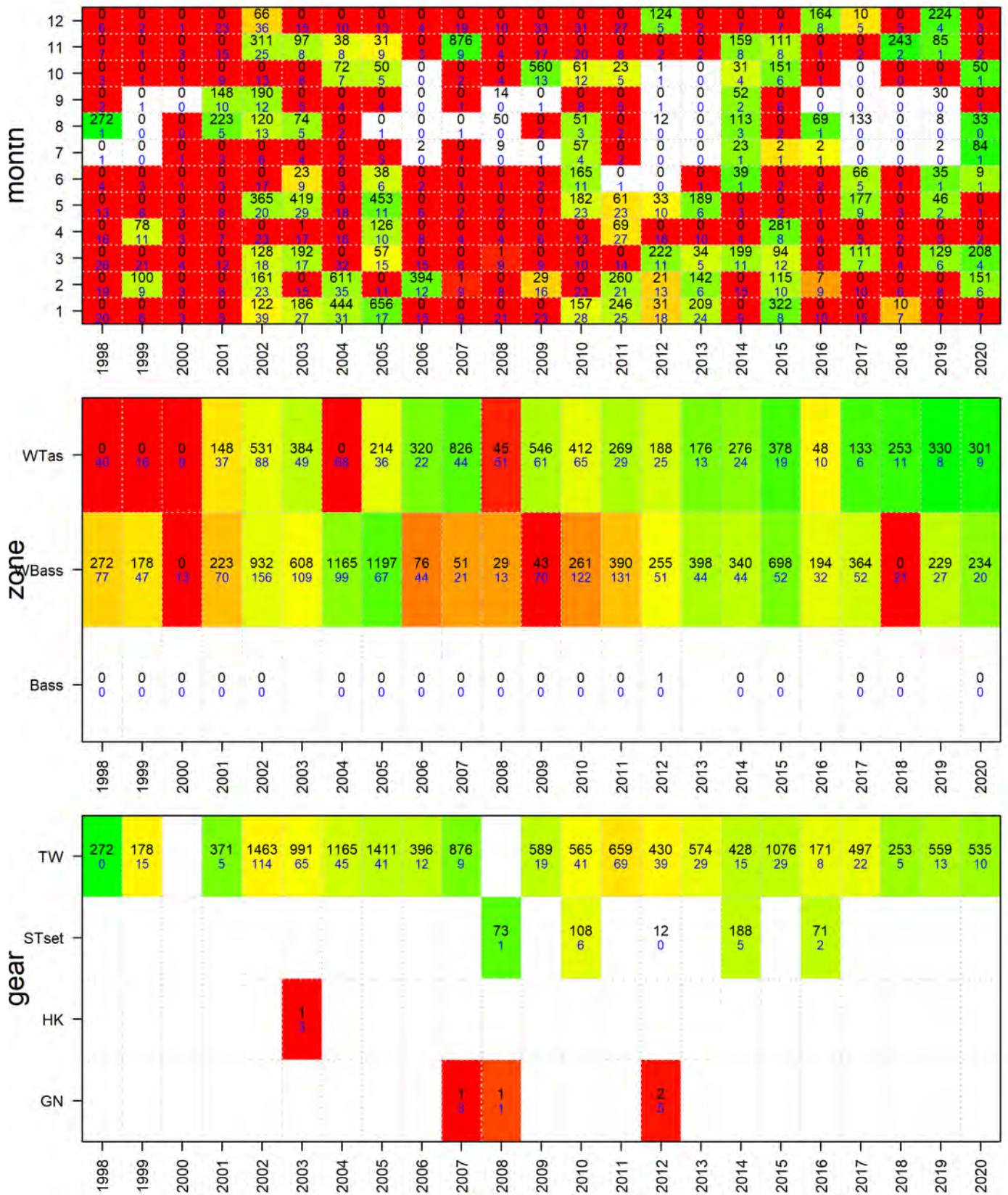


Figure 165 Onboard length data sampling coverage by month (top), zone (middle) and gear for Mirror Dory West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Mirror Dory West

# Age data

Mon Aug 16 10:36:09 2021

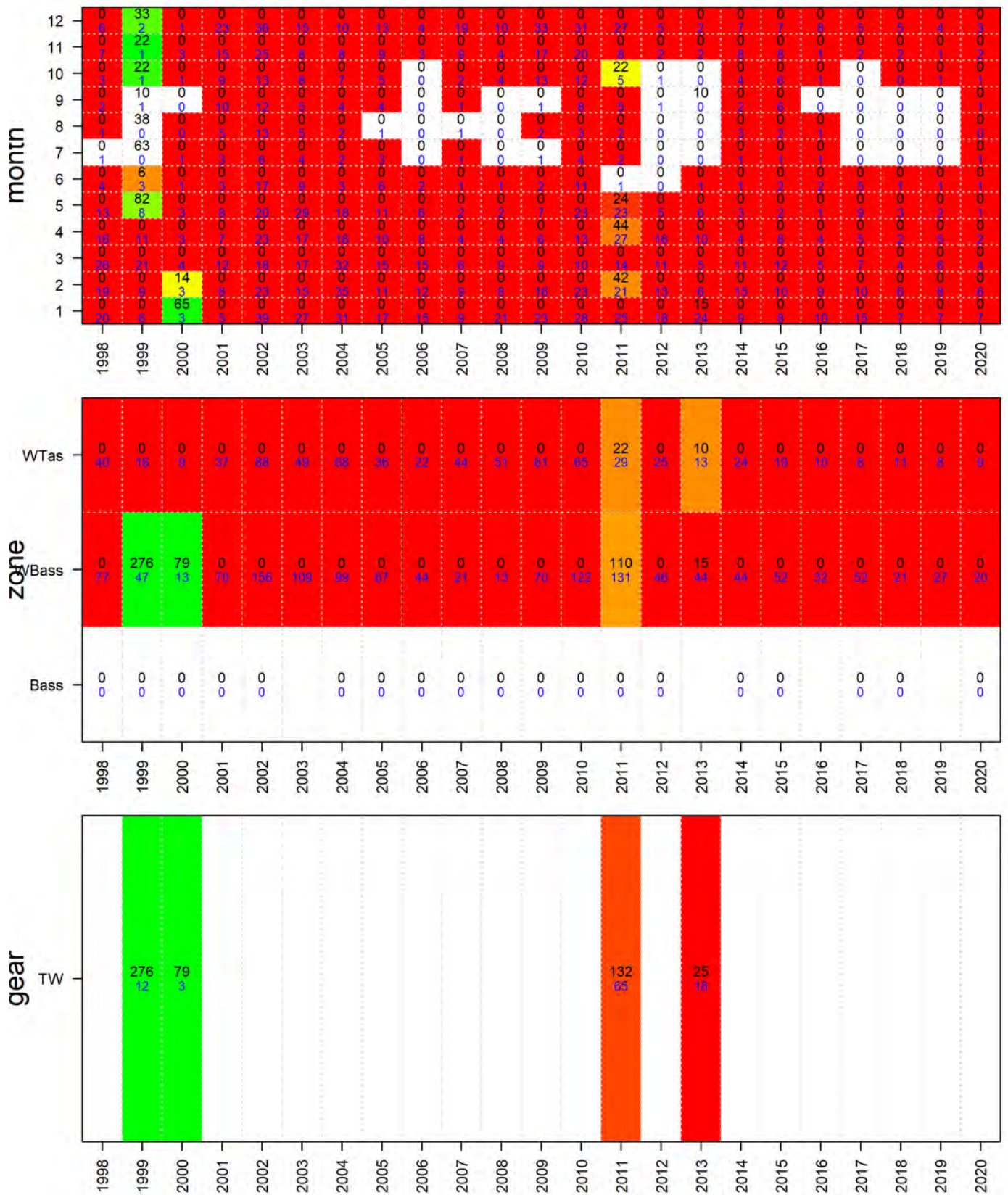
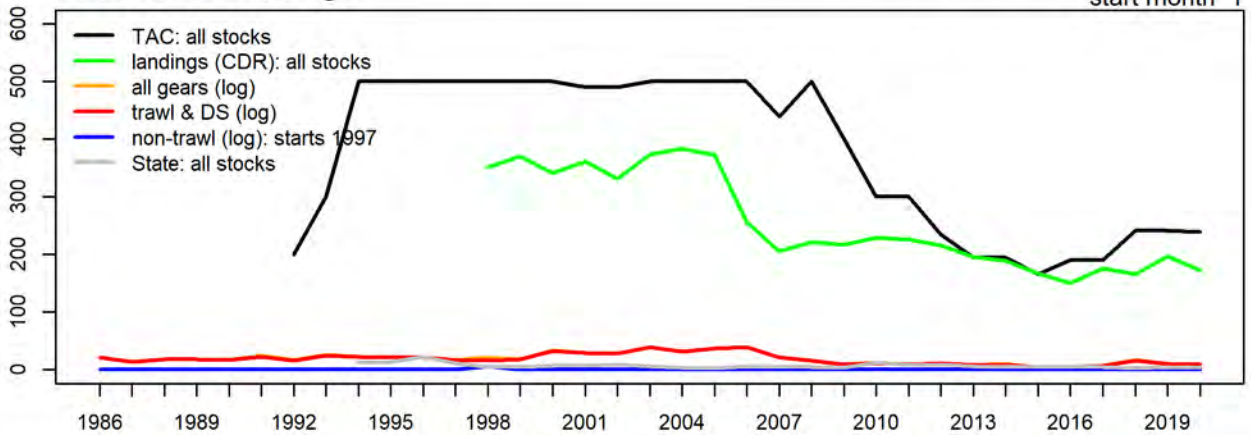


Figure 166 Age data sampling coverage by month (top), zone (middle) and gear for Mirror Dory West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

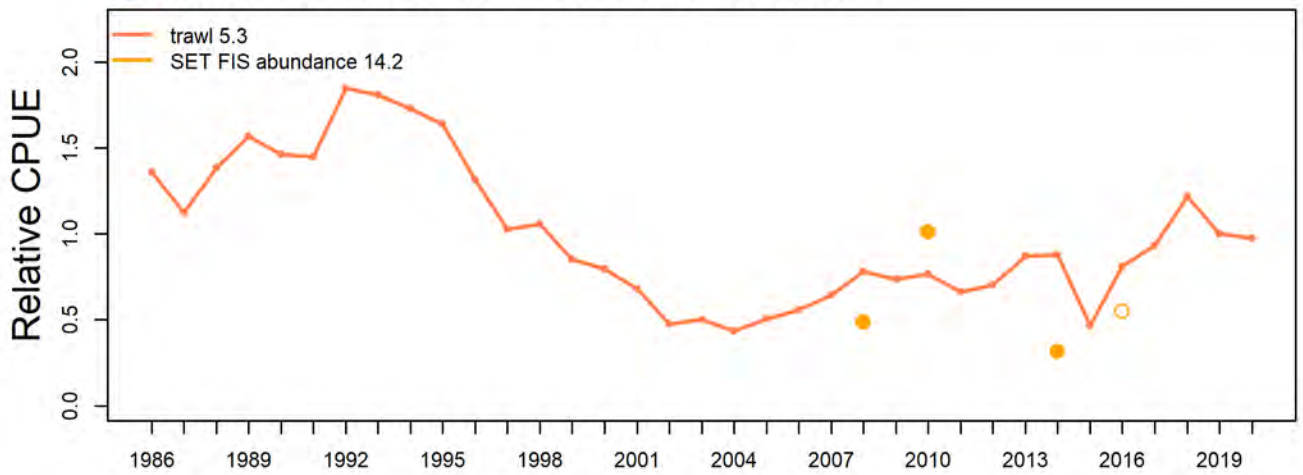
# Ocean Perch Inshore

## TAC and landings

Mon Aug 16 10:36:10 2021  
 region SET unit code REG sa code REI  
 37287001 37287901 37287093  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

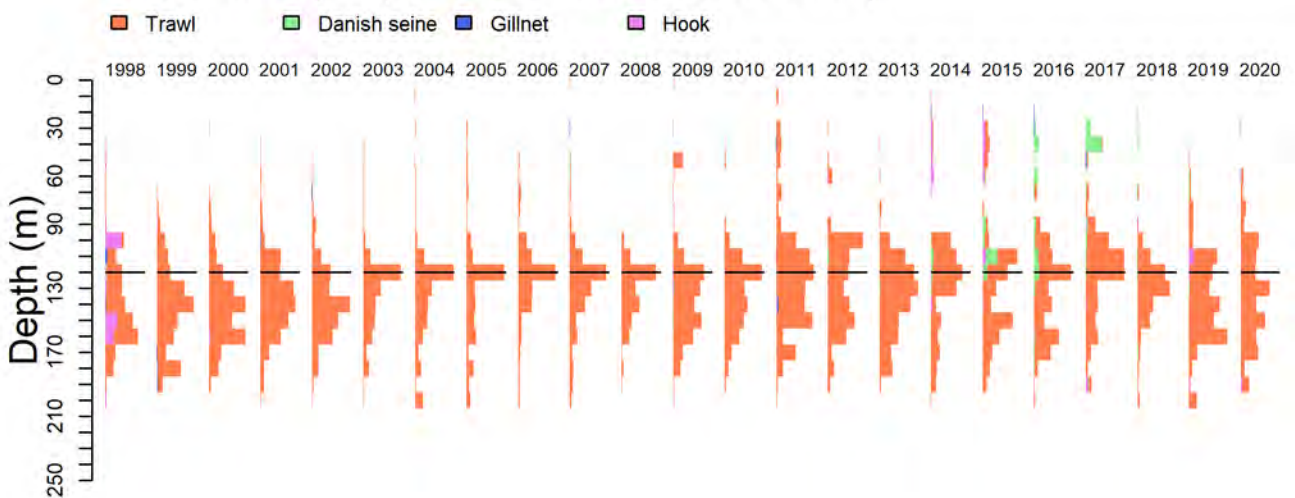
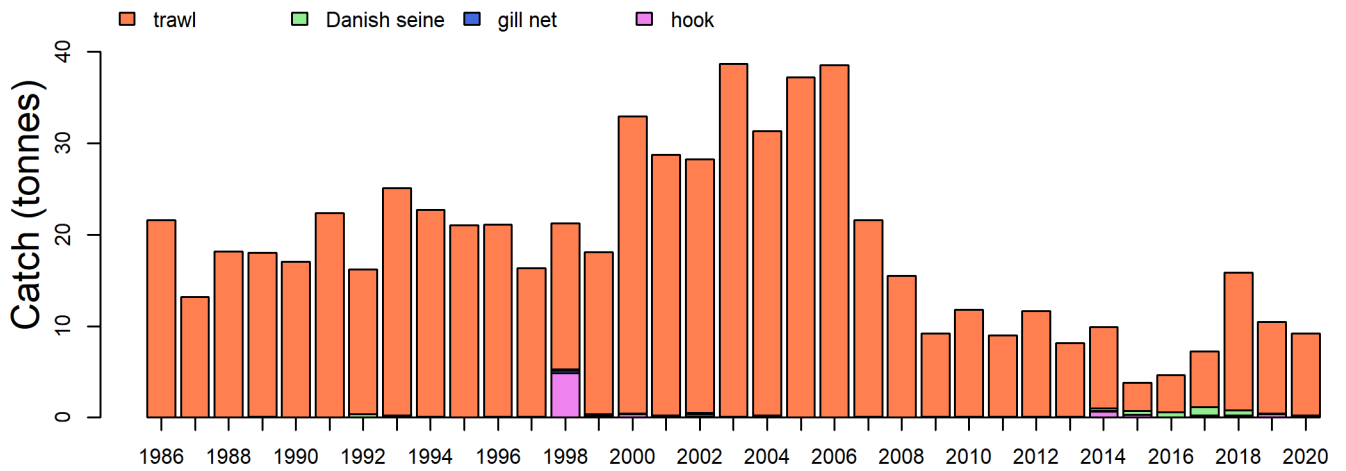


Figure 167 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Ocean Perch Inshore. For more information contact AFMA on (02) 6225 5555.

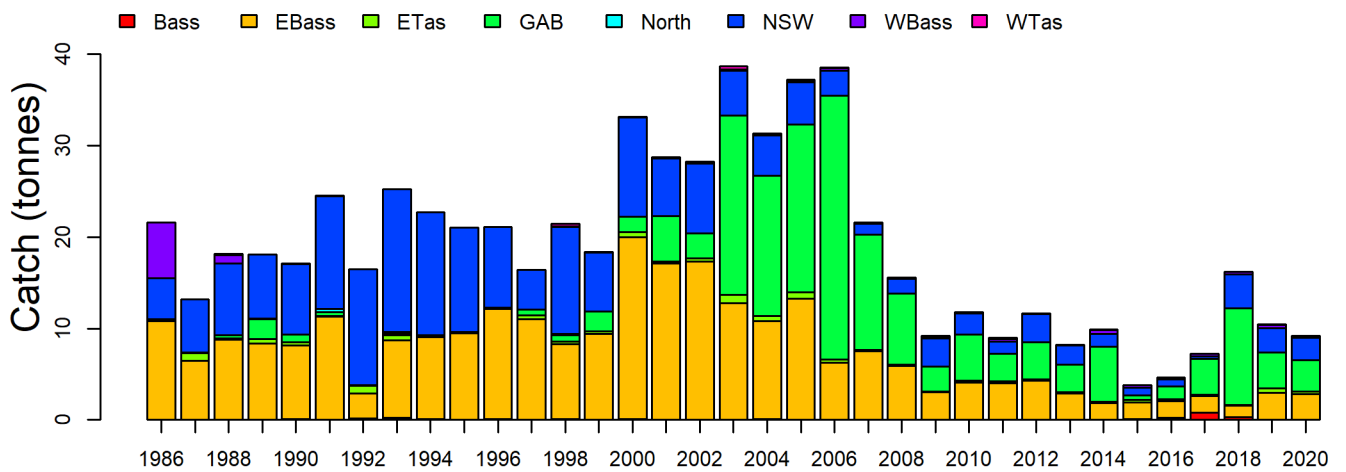
# Ocean Perch Inshore

## Catch by gear (non-trawl record starts 1997)

Mon Aug 16 10:36:11 2021



## Catch by zone



## Discards

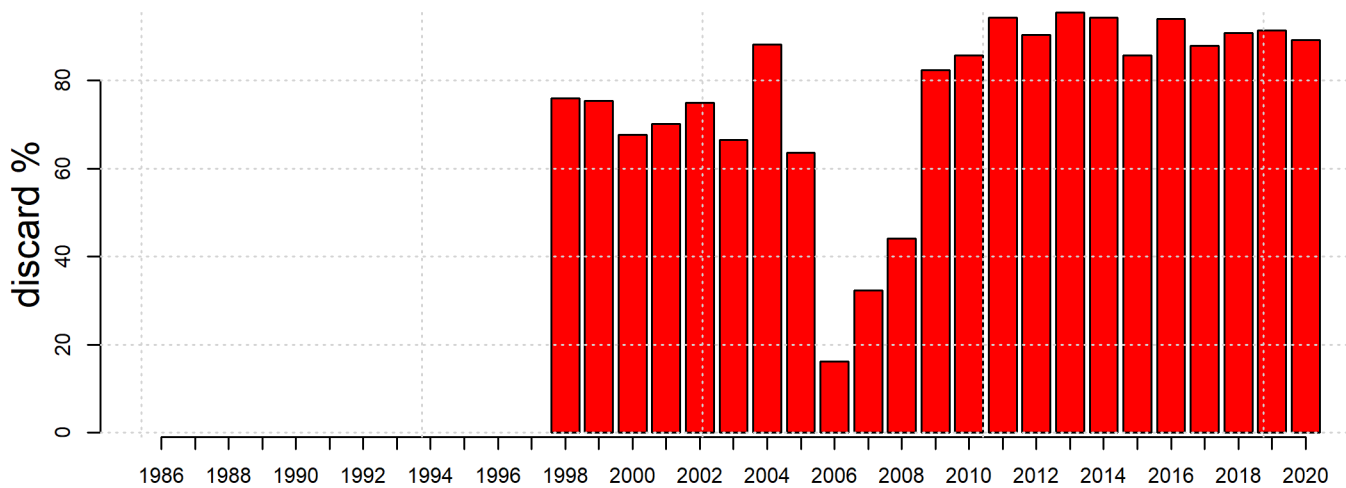


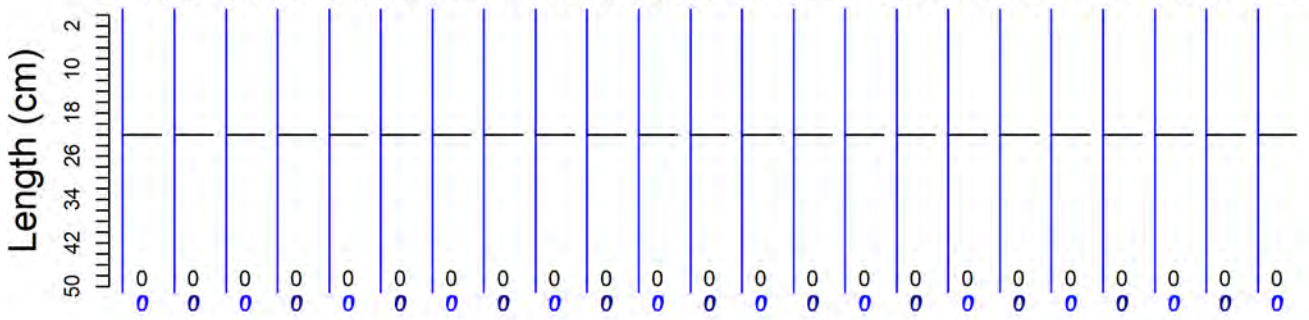
Figure 168 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Ocean Perch Inshore. For more information contact AFMA on (02) 6225 5555.

# Ocean Perch Inshore

Mon Aug 16 10:36:12 2021

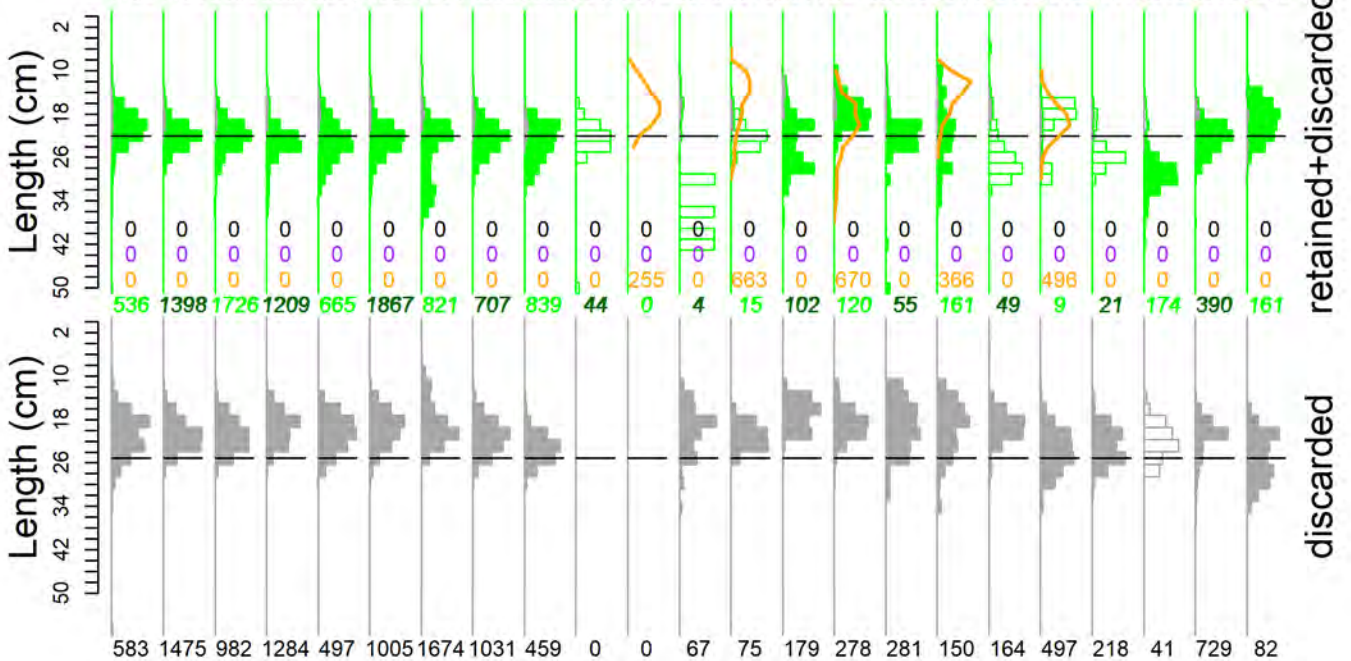
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

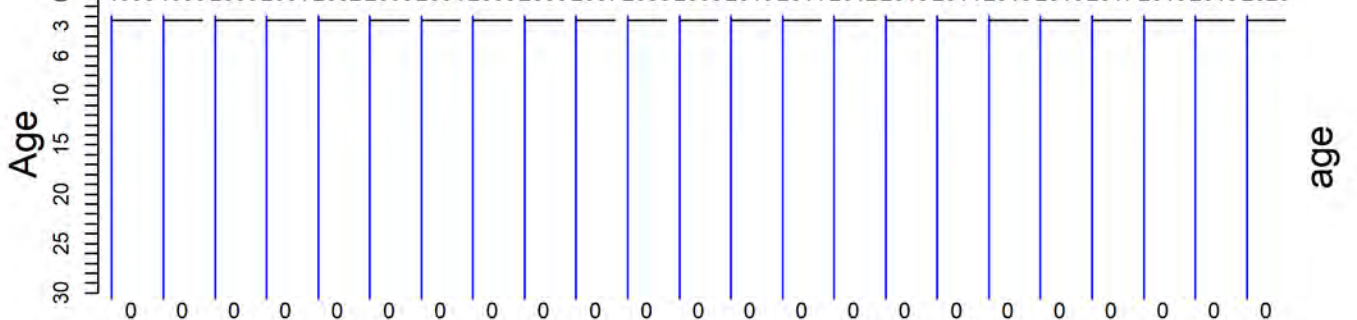


Figure 169 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Ocean Perch Inshore. For more information contact AFMA on (02) 6225 5555.



# Ocean Perch Inshore onboard discard weight data

Mon Aug 16 10:36:13 2021

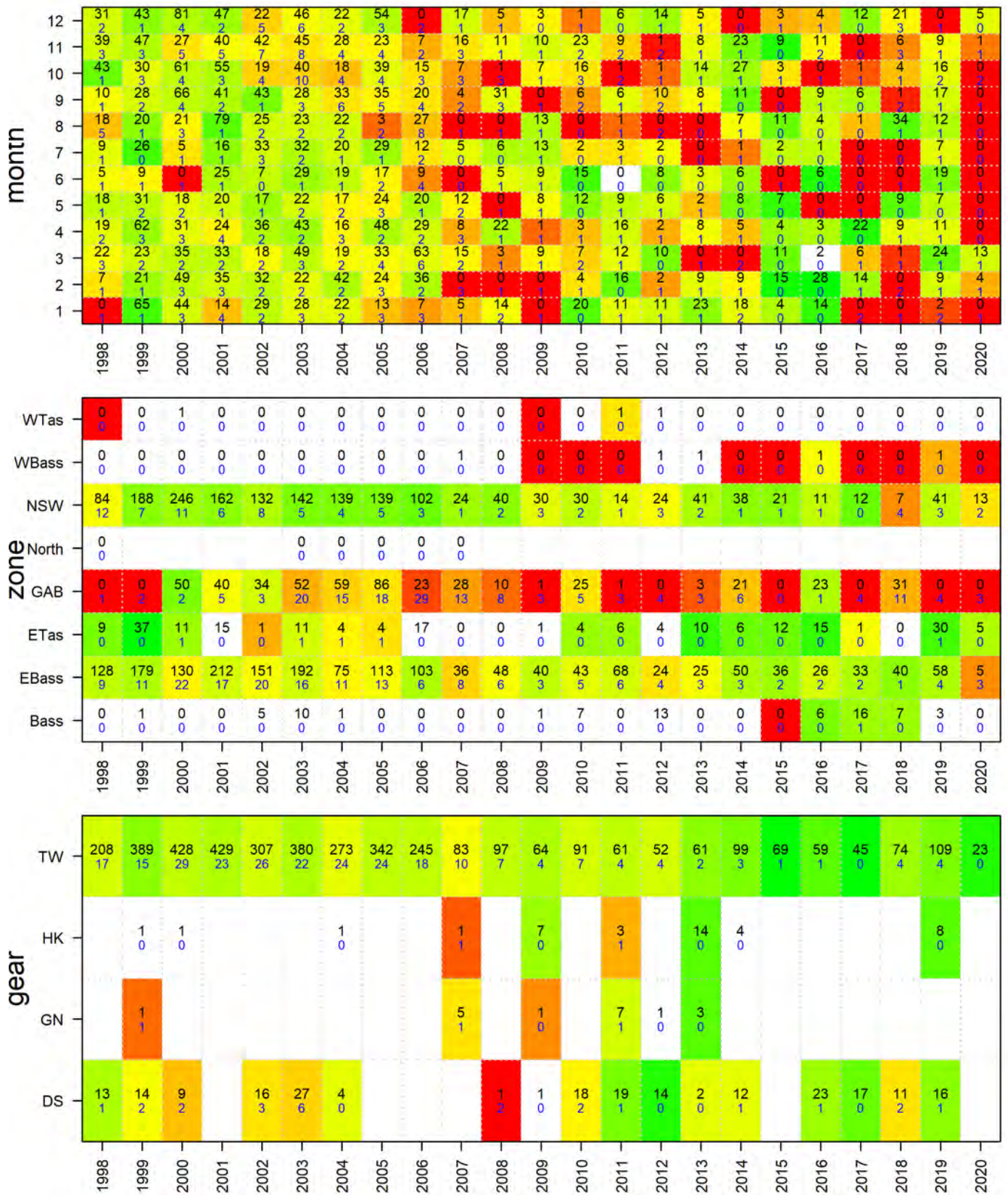


Figure 170 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Ocean Perch Inshore. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Ocean Perch Inshore Onboard length data

Mon Aug 16 10:36:14 2021

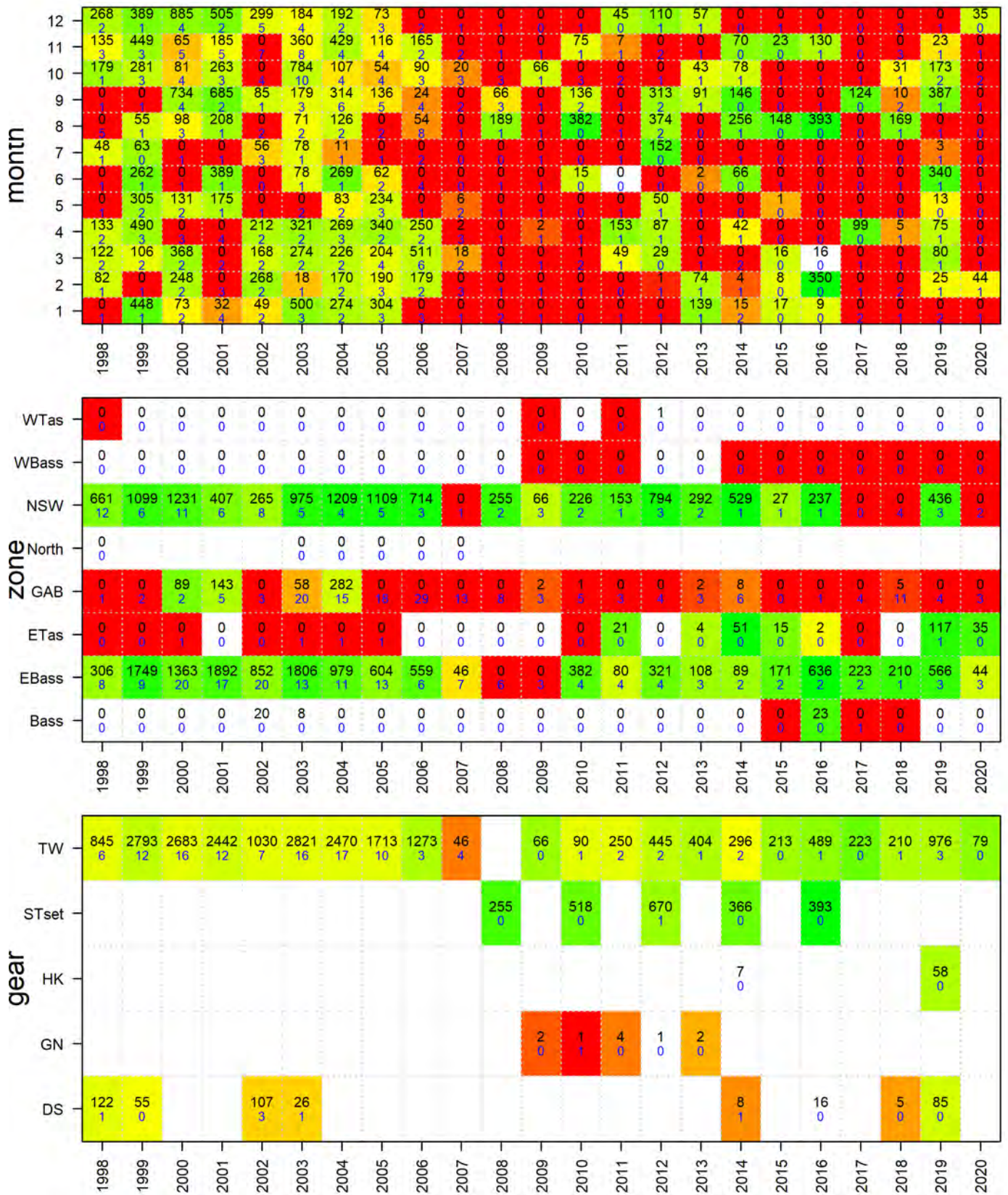
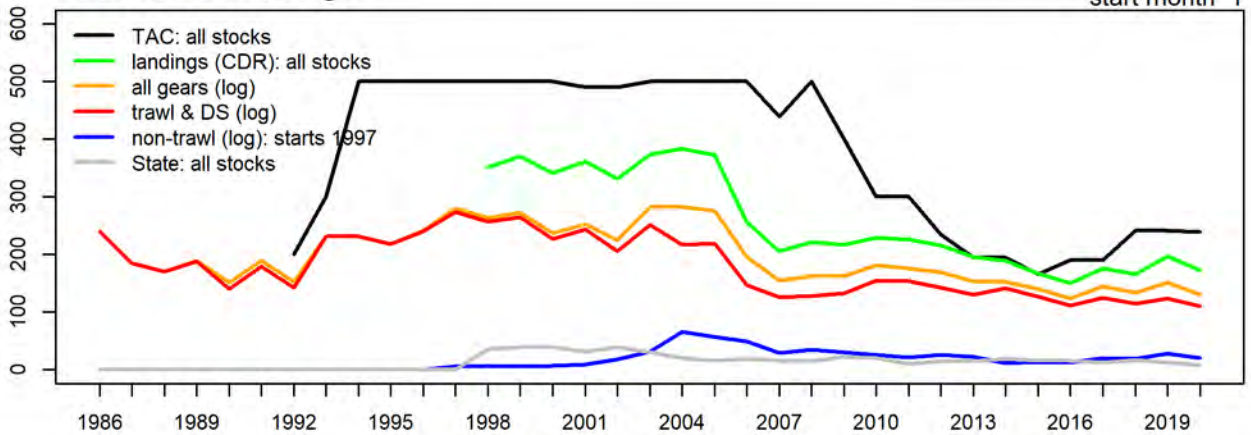


Figure 171 Onboard length data sampling coverage by month (top), zone (middle) and gear for Ocean Perch Inshore. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

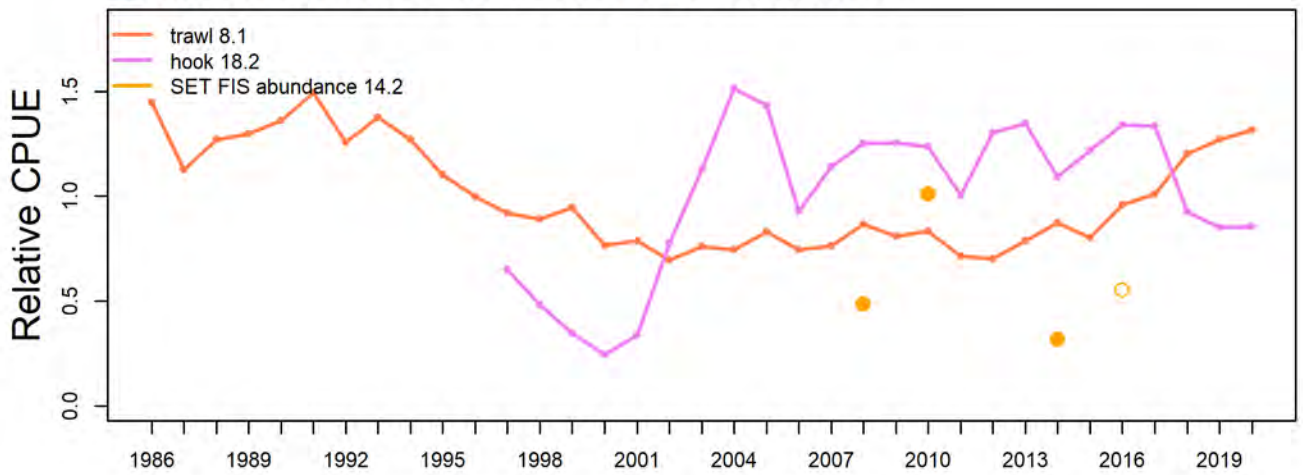
# Ocean Perch Offshore

## TAC and landings

Mon Aug 16 10:36:16 2021  
 region SET unit code REG sa code REO  
 37287001 37287901 37287093  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

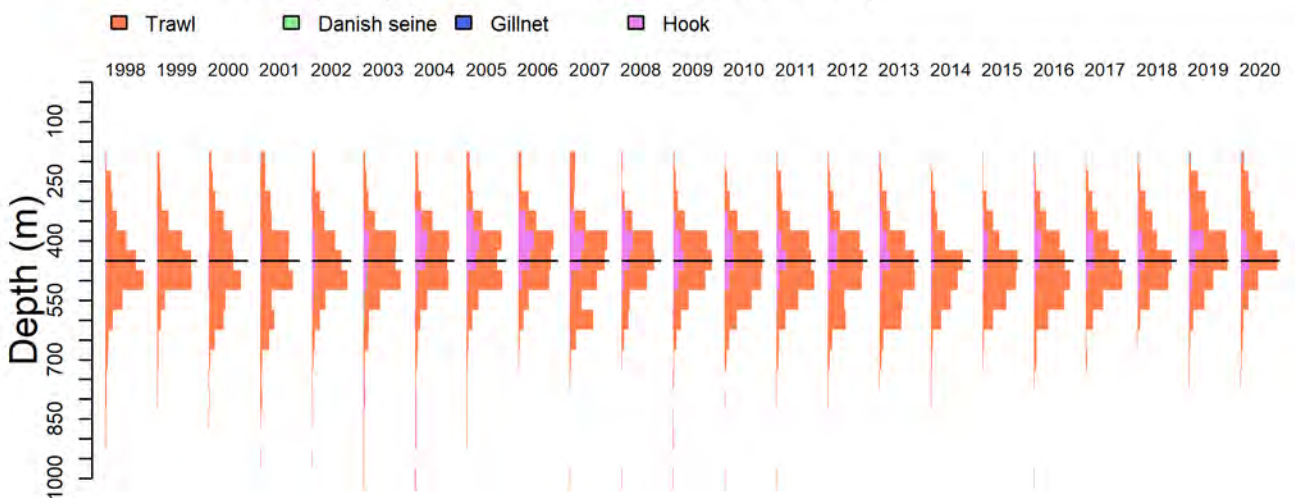
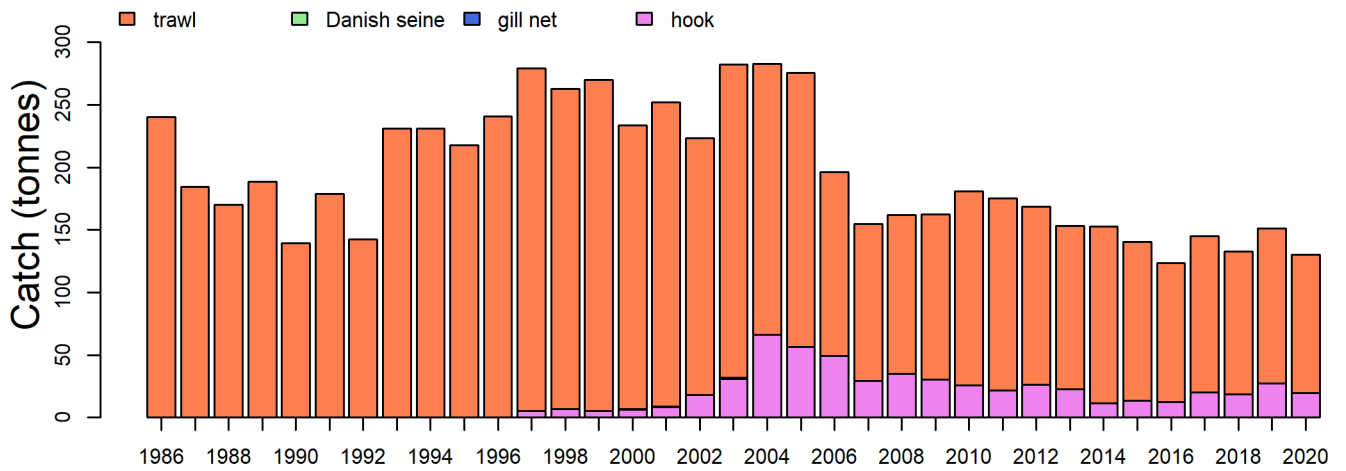


Figure 172 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Ocean Perch Offshore. For more information contact AFMA on (02) 6225 5555.

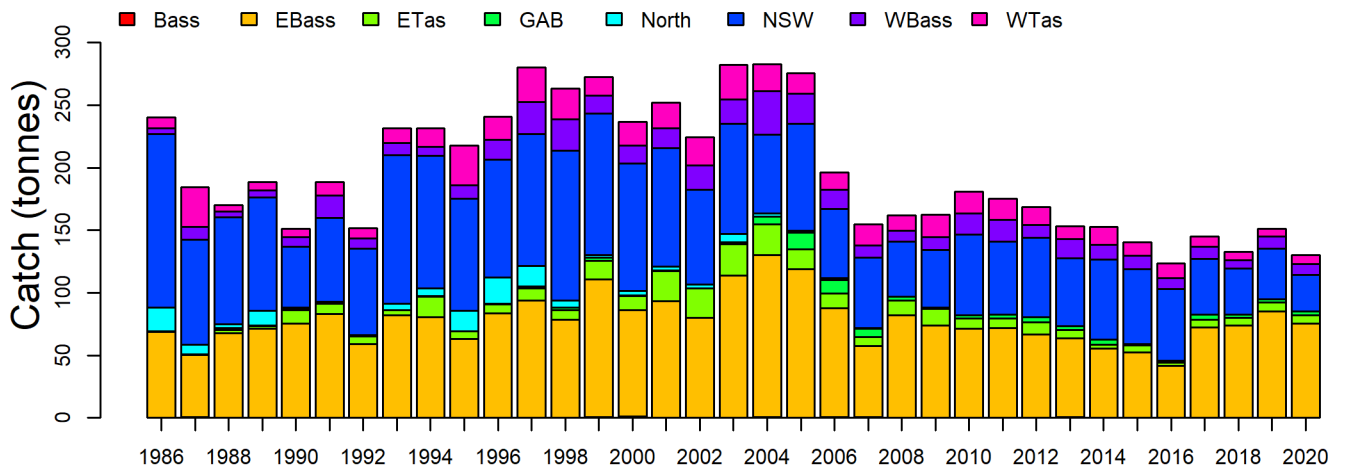
# Ocean Perch Offshore

## Catch by gear (non-trawl record starts 1997)

Mon Aug 16 10:36:19 2021



## Catch by zone



## Discards

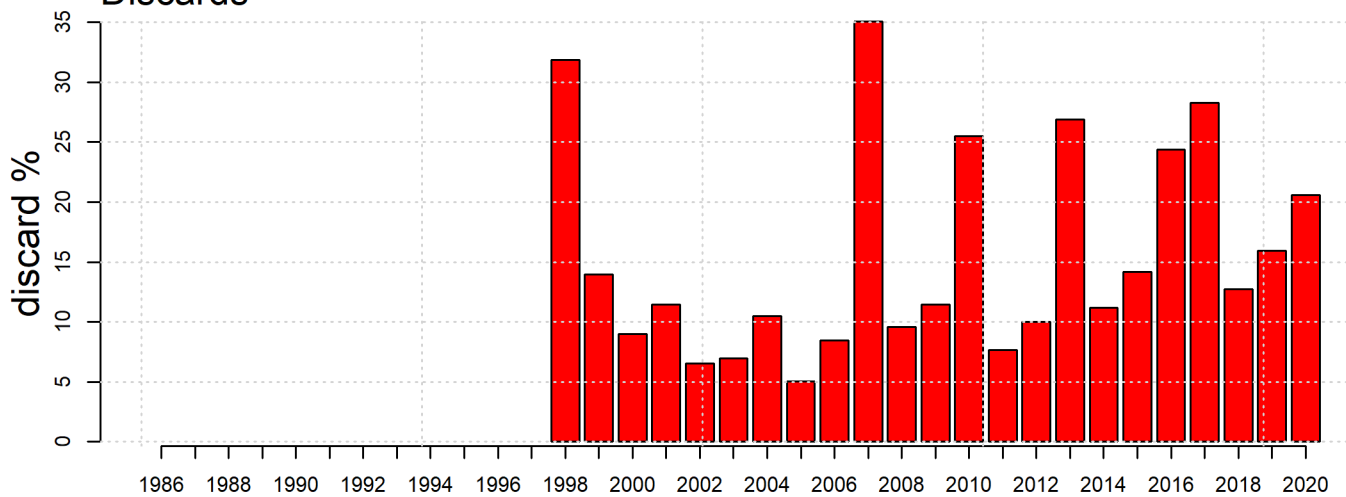


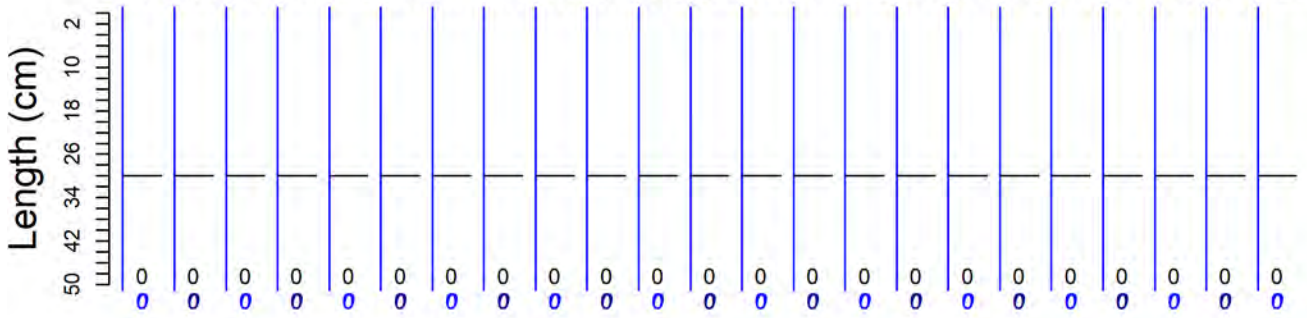
Figure 173 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Ocean Perch Offshore. For more information contact AFMA on (02) 6225 5555.

# Ocean Perch Offshore

Mon Aug 16 10:36:19 2021

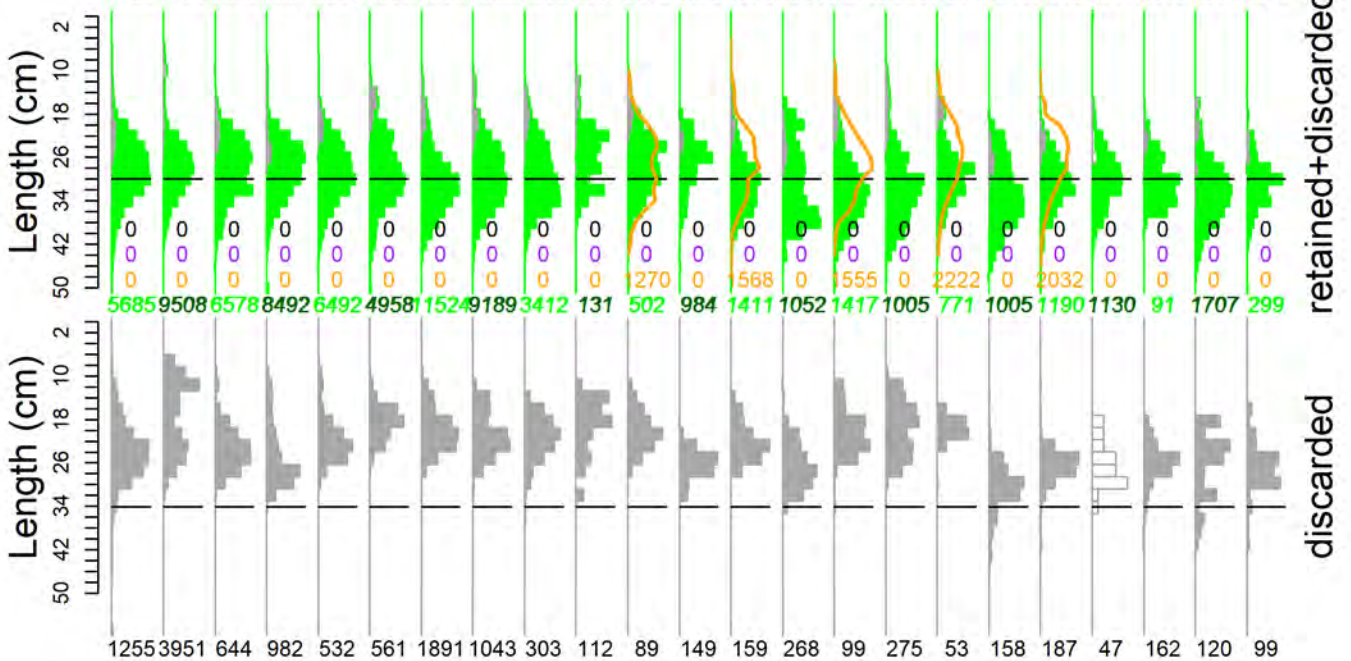
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

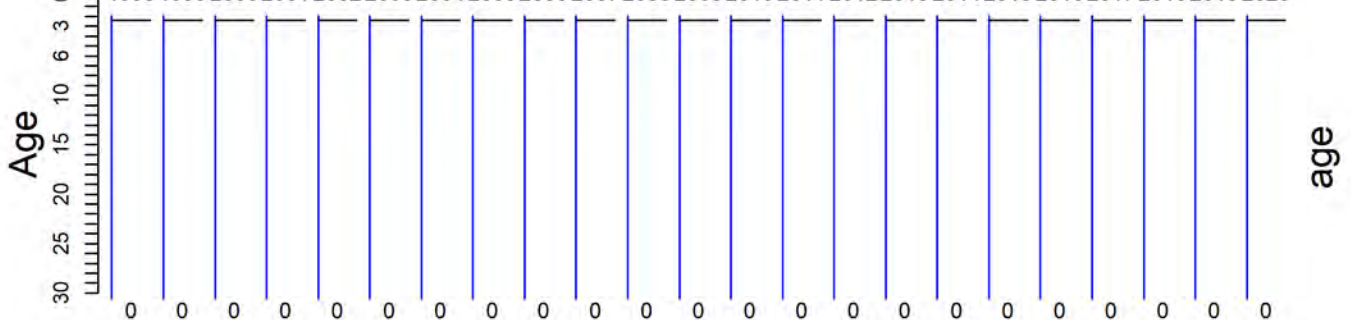


Figure 174 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Ocean Perch Offshore. For more information contact AFMA on (02) 6225 5555.

# Ocean Perch Offshore onboard discard weight data

Mon Aug 16 10:36:20 2021

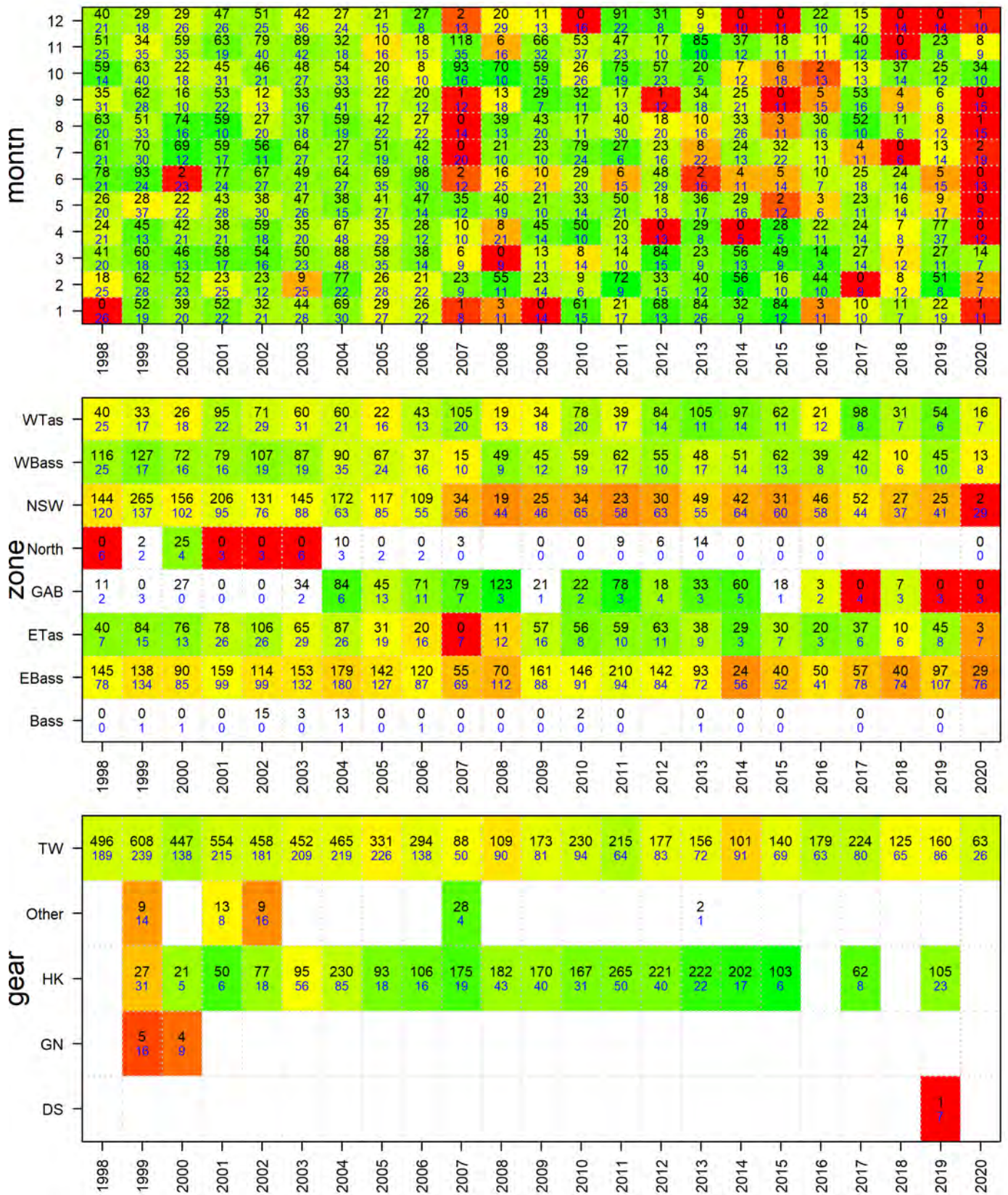


Figure 175 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Ocean Perch Offshore. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Ocean Perch Offshore Onboard length data

Mon Aug 16 10:36:21 2021

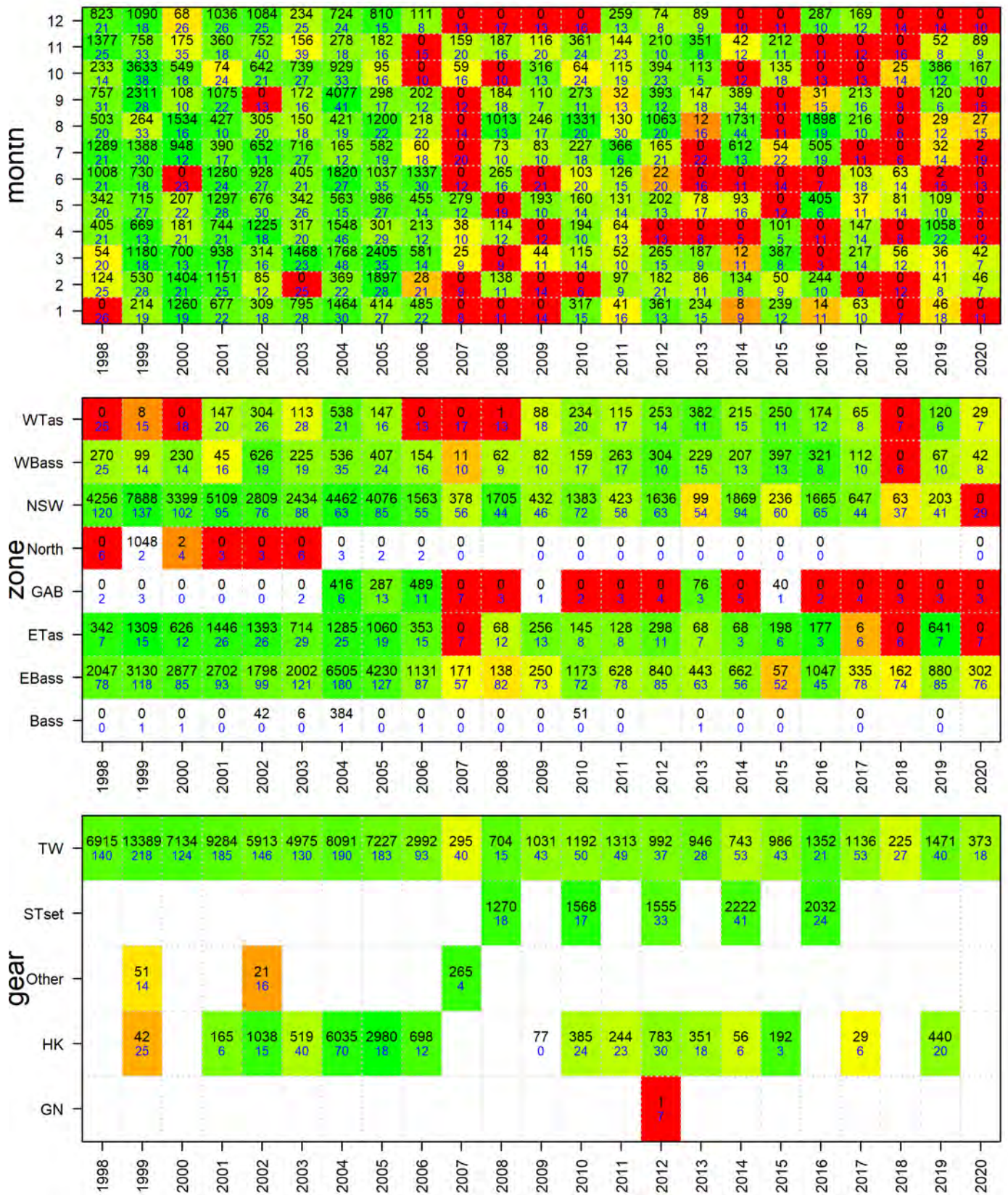
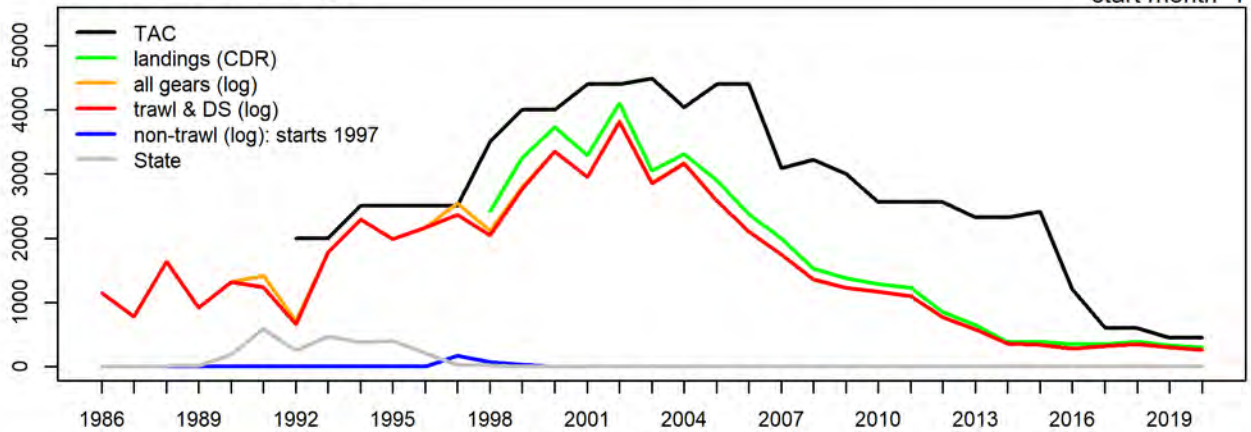


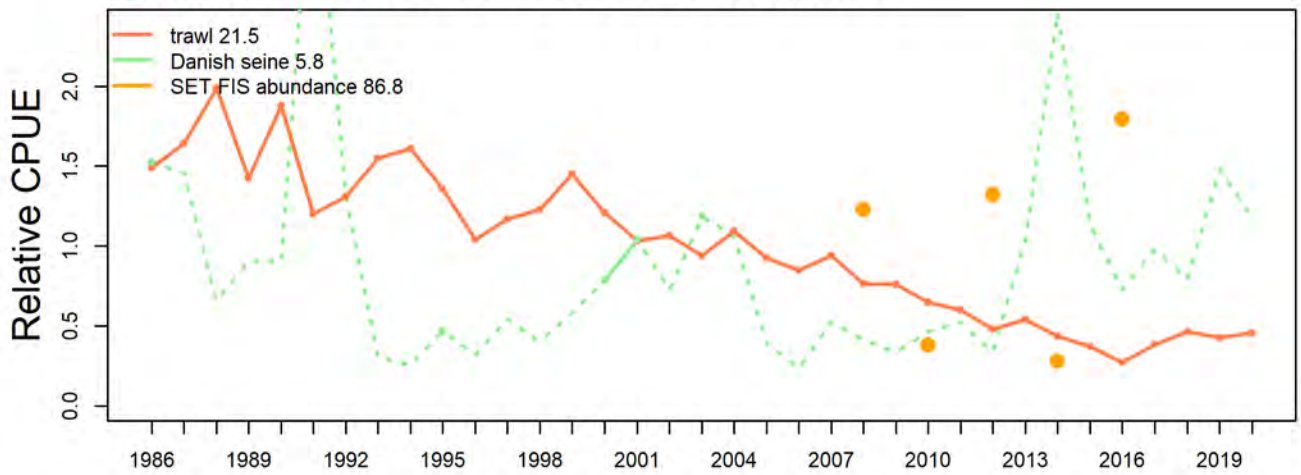
Figure 176 Onboard length data sampling coverage by month (top), zone (middle) and gear for Ocean Perch Offshore. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Silver Warehou TAC and landings

Mon Aug 16 10:36:24 2021  
region SET unit code TRS sa code TRS  
37445006  
start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

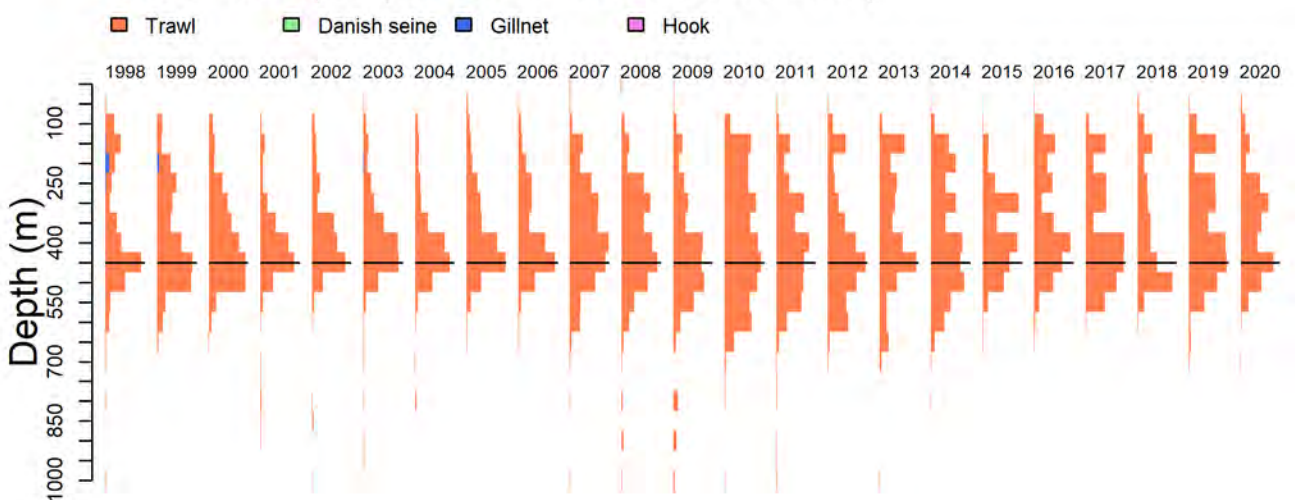


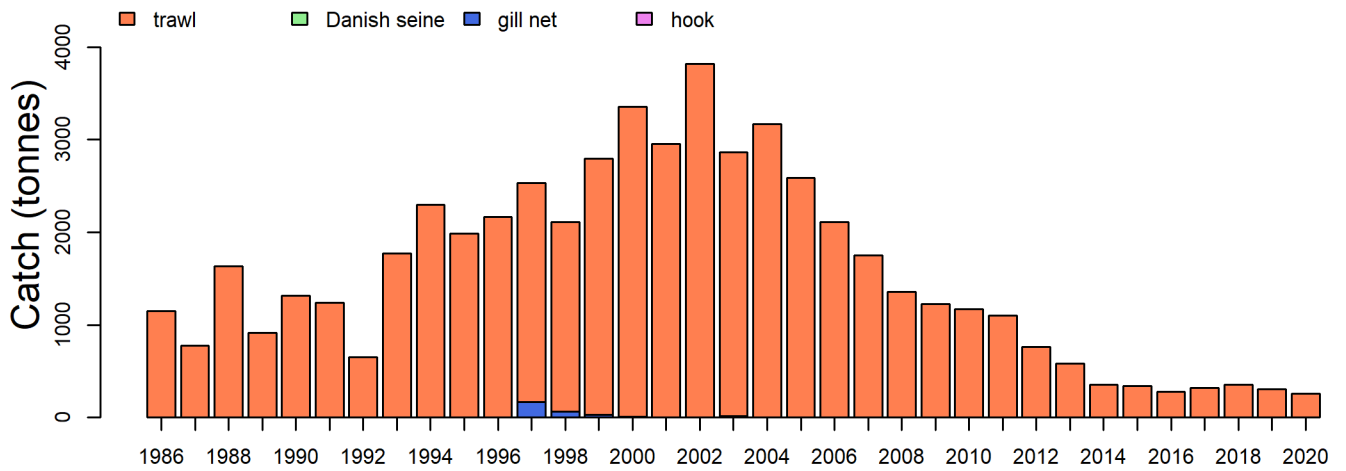
Figure 177 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Silver Warehou. For more information contact AFMA on (02) 6225 5555.



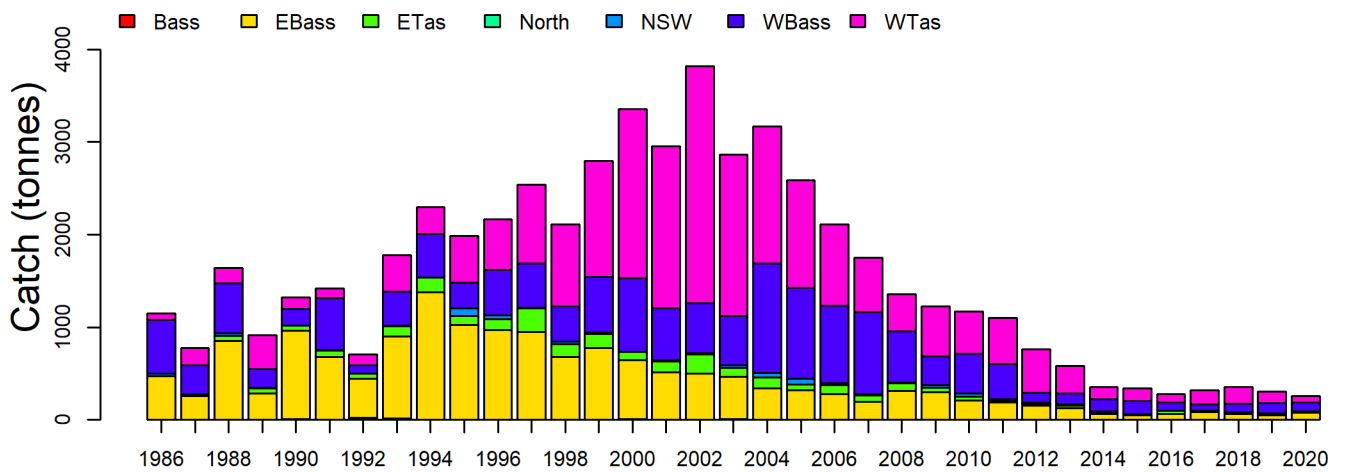
# Silver Warehou

Mon Aug 16 10:36:26 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

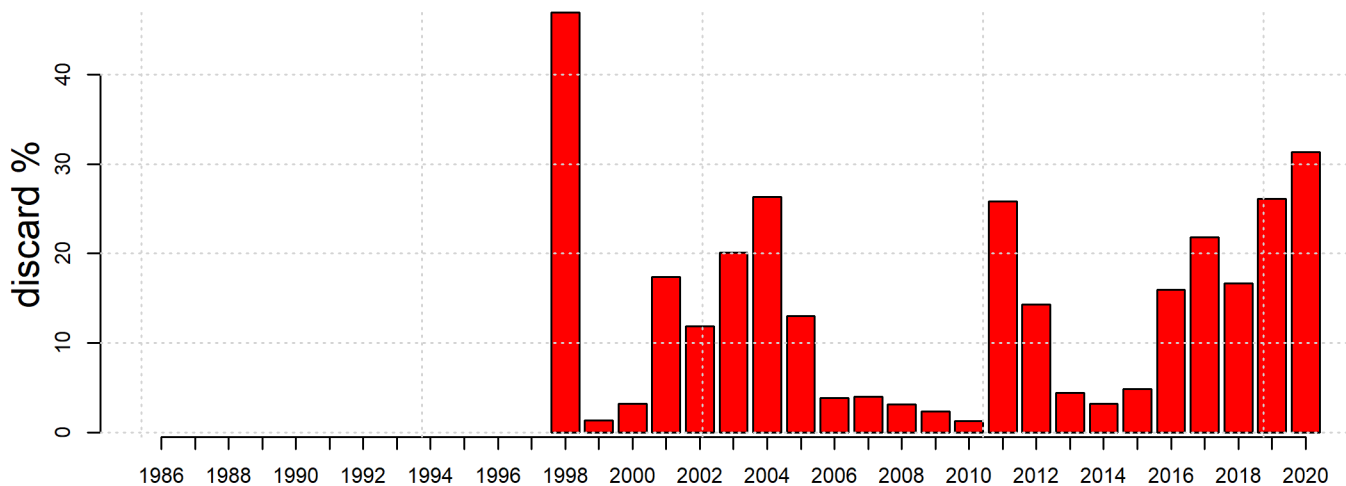


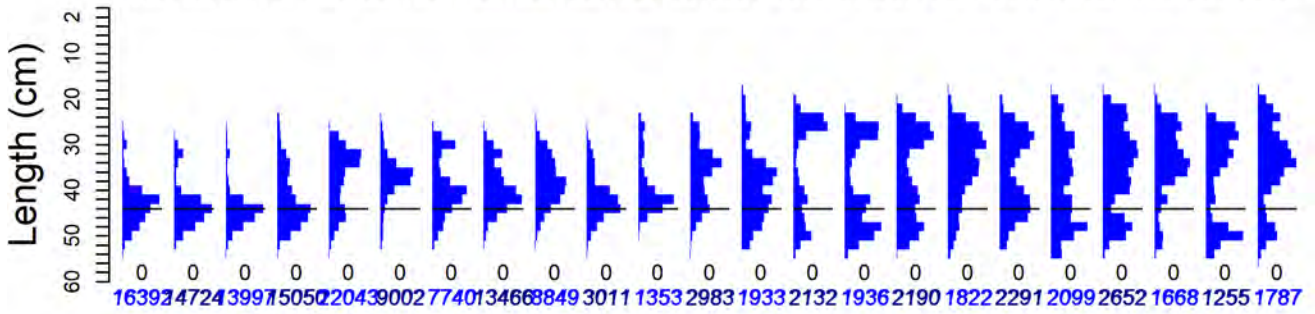
Figure 178 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Silver Warehou. For more information contact AFMA on (02) 6225 5555.

# Silver Warehou

Mon Aug 16 10:36:27 2021

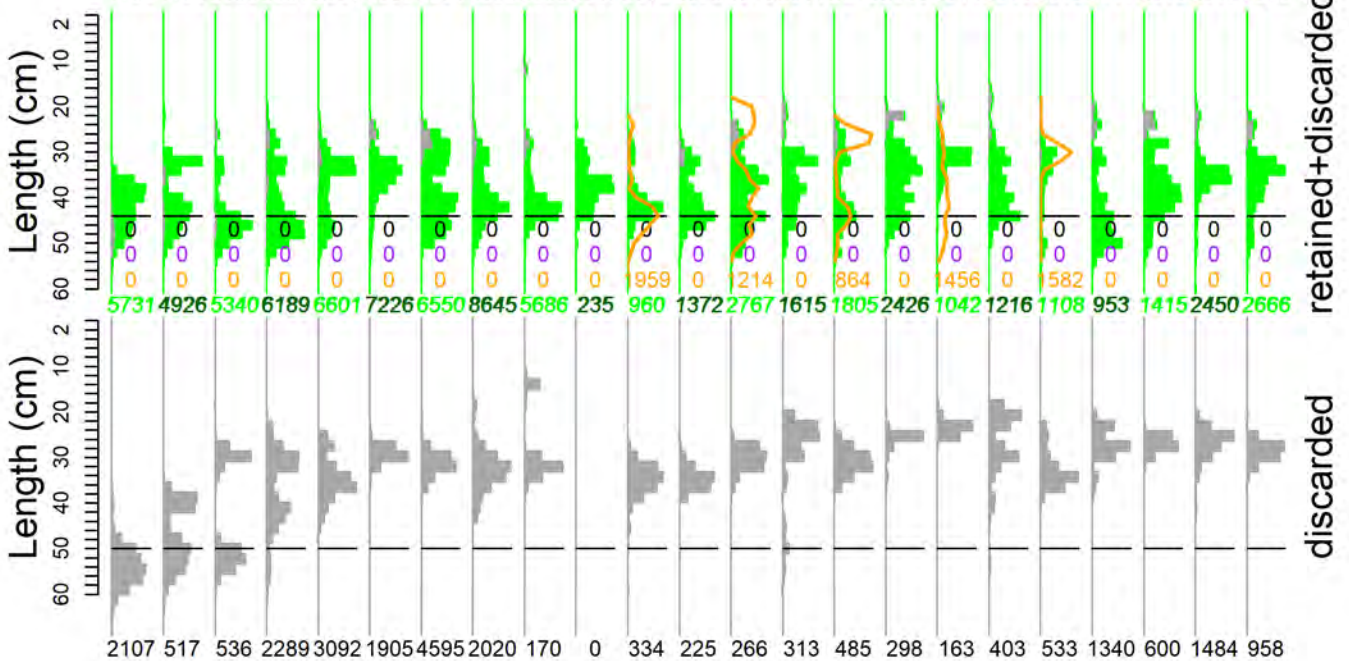
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

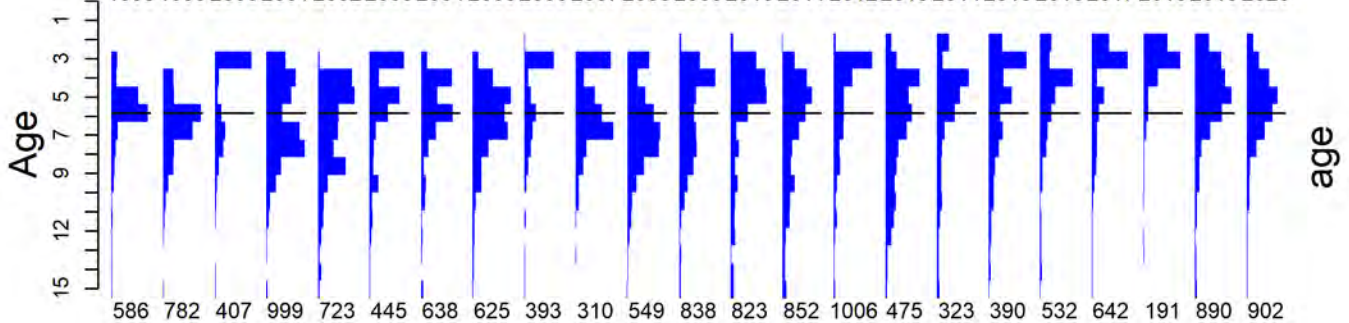


Figure 179 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Silver Warehou. For more information contact AFMA on (02) 6225 5555.

# Silver Warehou

# Port length data

Mon Aug 16 10:36:29 2021

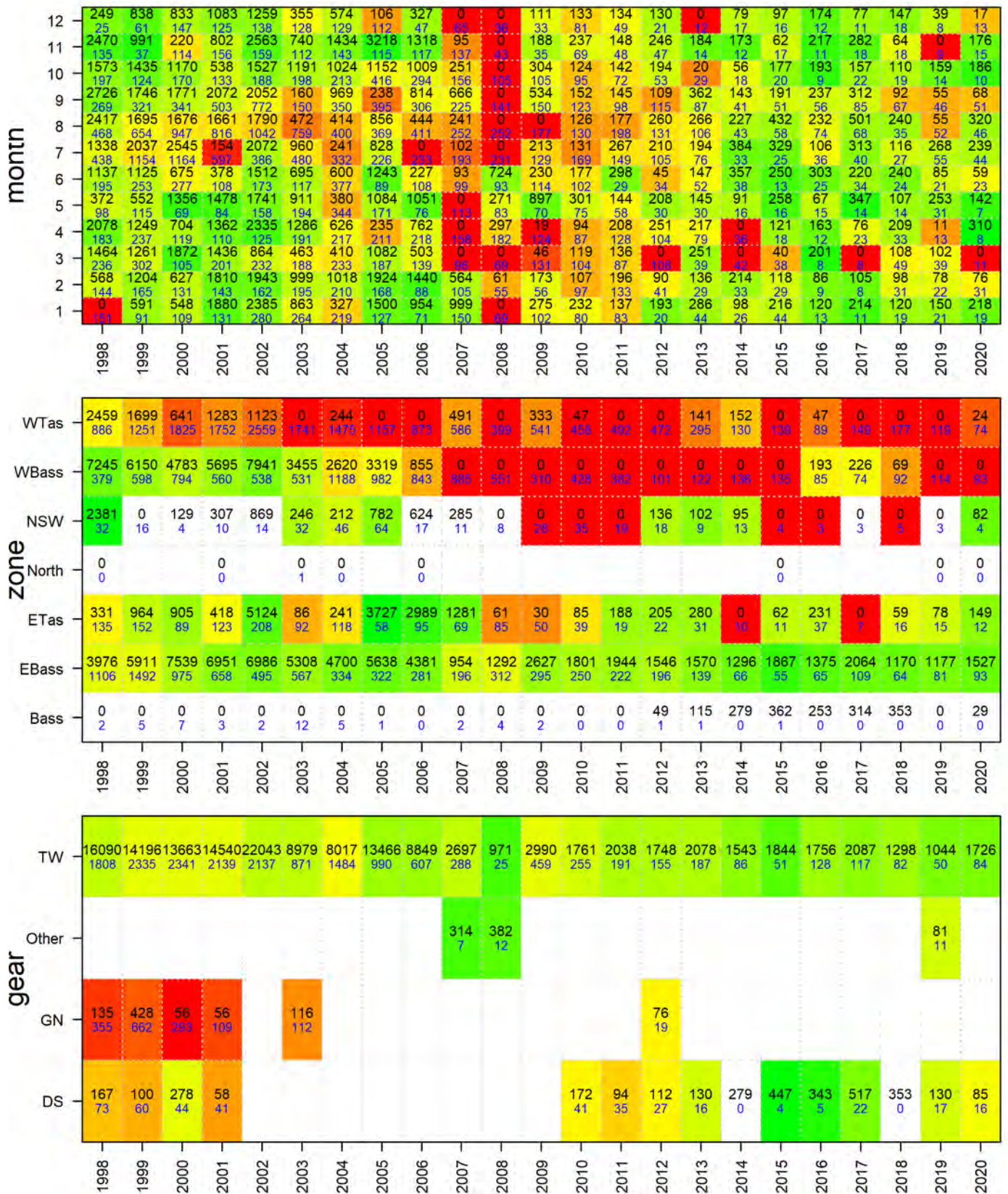


Figure 180 Port length data sampling coverage by month (top), zone (middle) and gear for Silver Warehou. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Silver Warehouse

## Onboard discard weight data

Mon Aug 16 10:36:29 2021

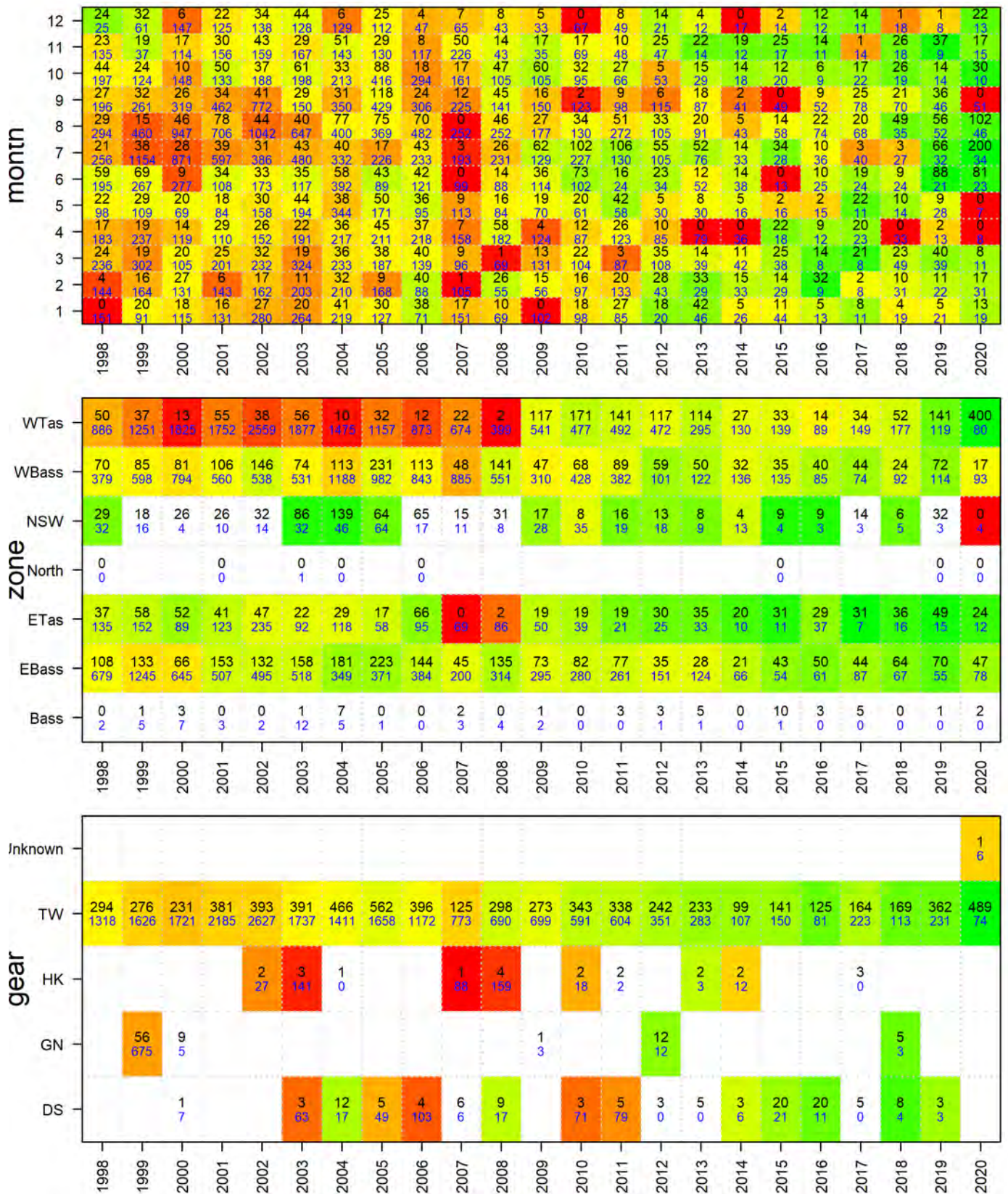


Figure 181 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Silver Warehouse. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Silver Warehou

# Onboard length data

Mon Aug 16 10:36:30 2021

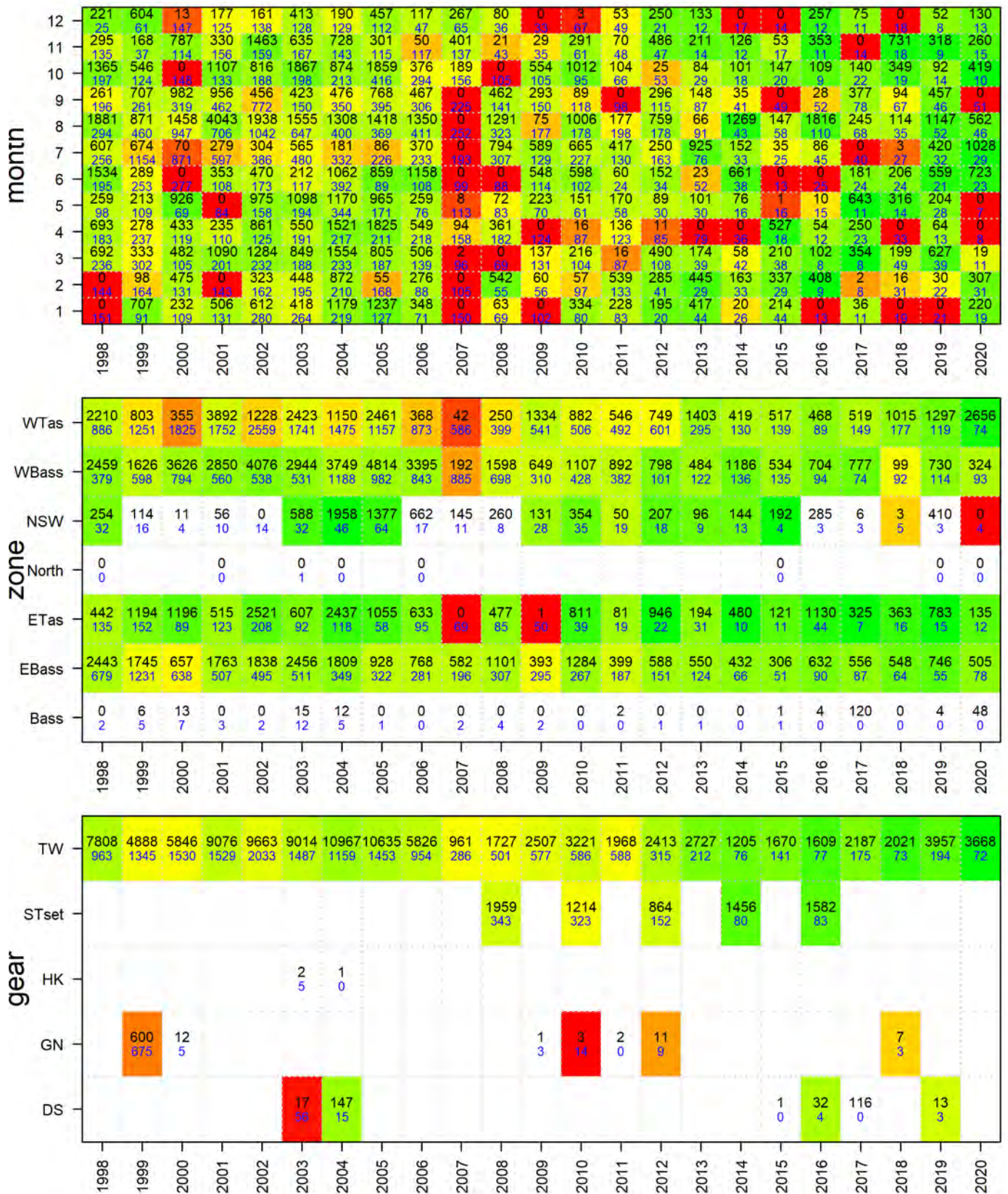


Figure 182 Onboard length data sampling coverage by month (top), zone (middle) and gear for Silver Warehou. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Silver Warehou

# Age data

Mon Aug 16 10:36:31 2021

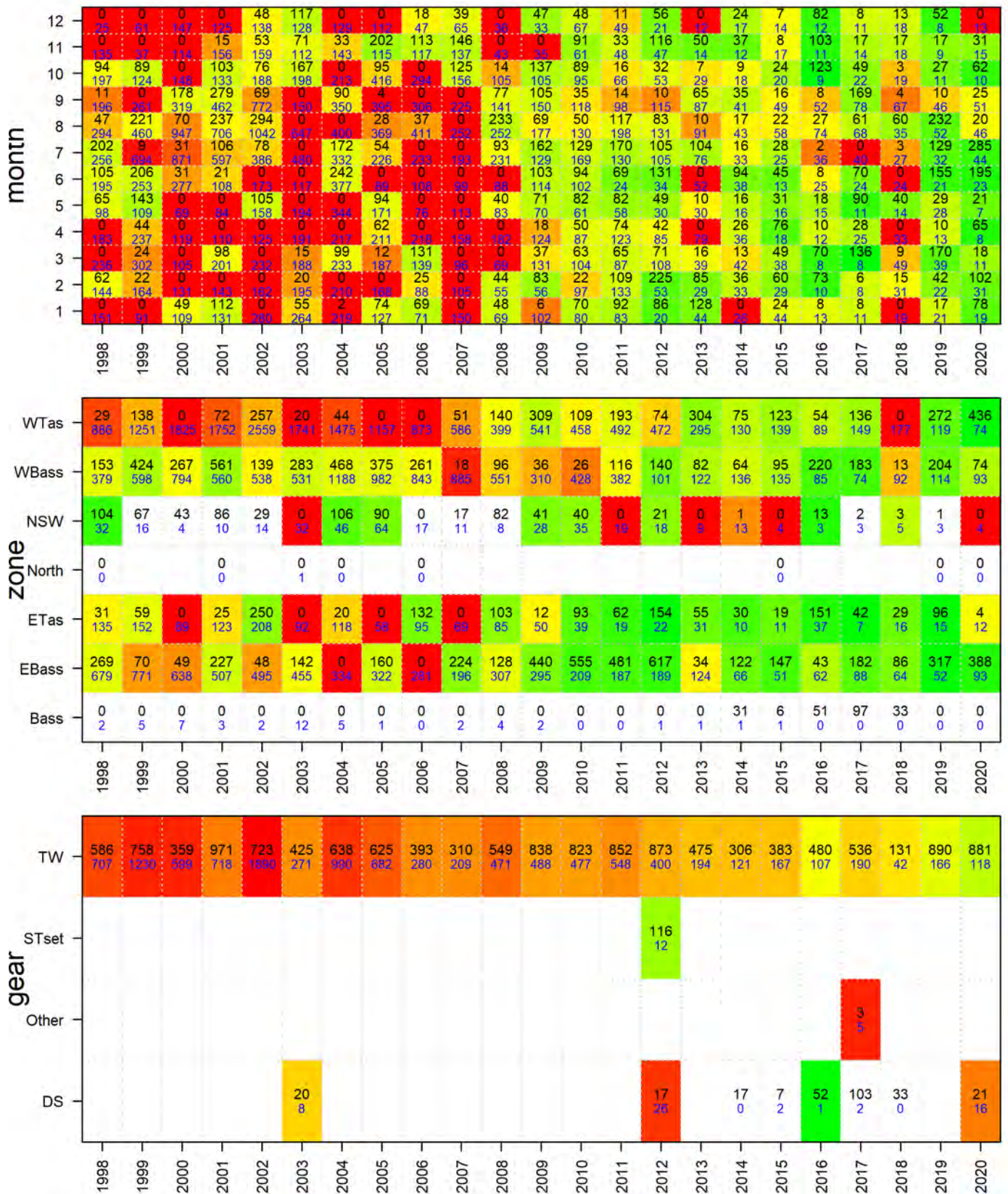
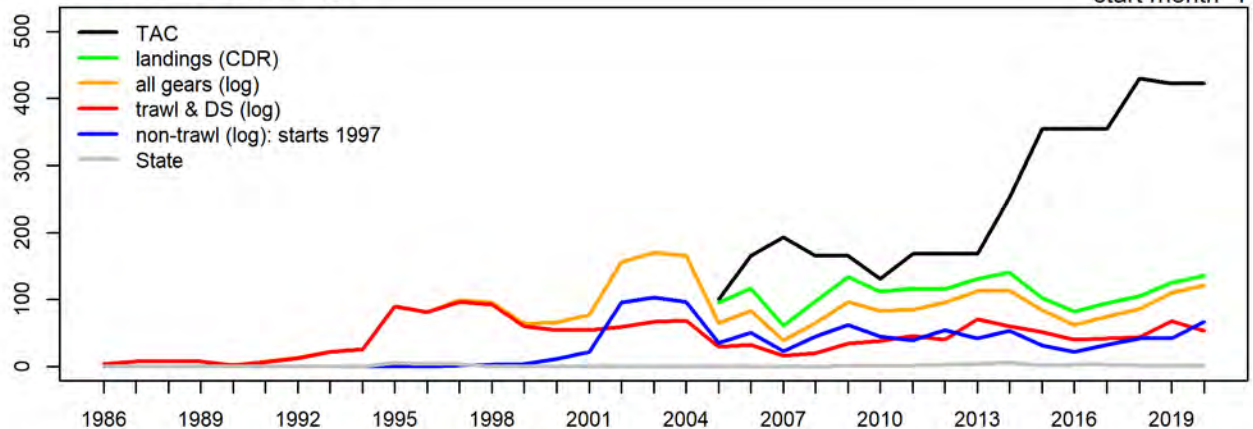


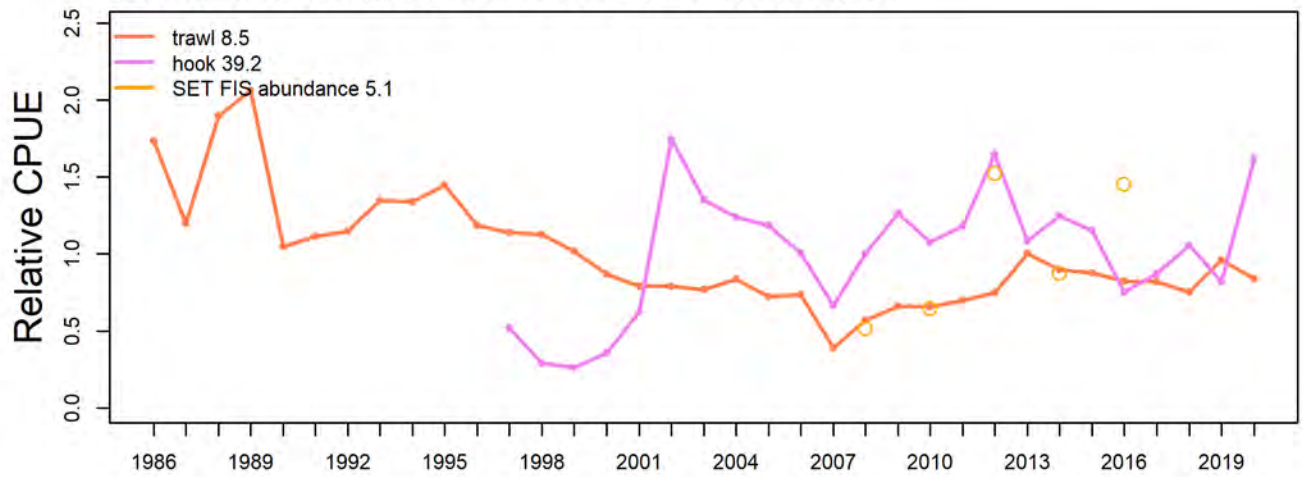
Figure 183 Age data sampling coverage by month (top), zone (middle) and gear for Silver Warehou. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Ribaldo

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

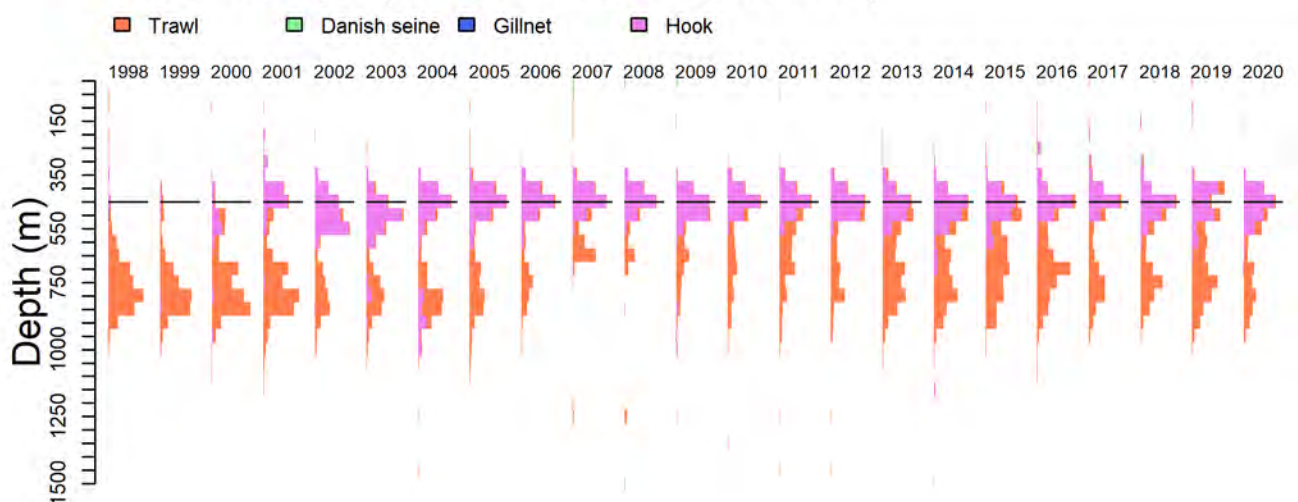
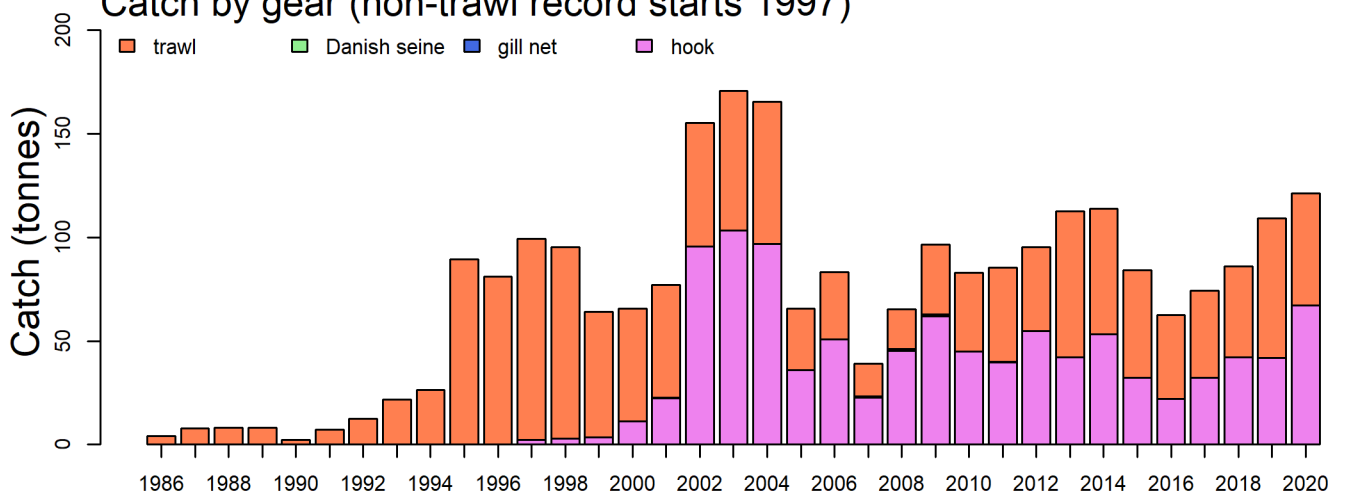


Figure 184 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Ribaldo. For more information contact AFMA on (02) 6225 5555.

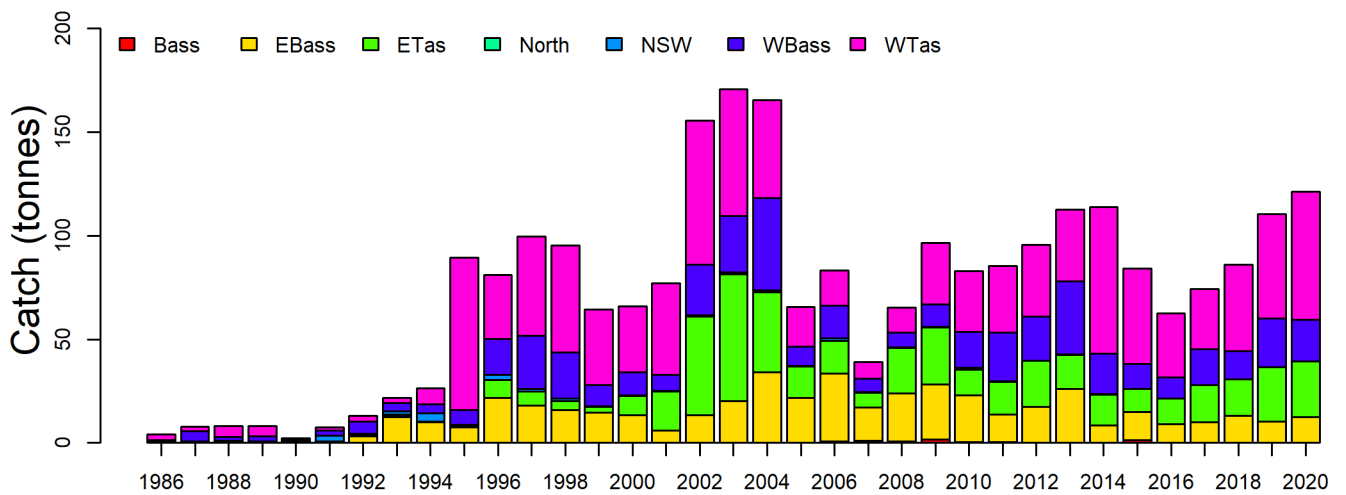
# Ribaldo

Mon Aug 16 10:36:34 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

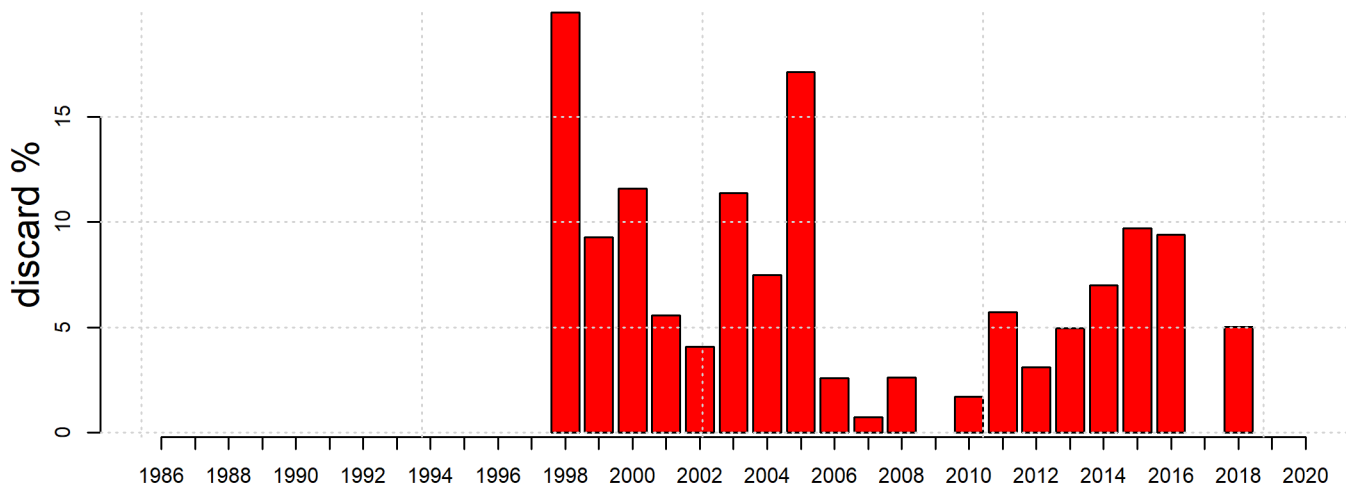


Figure 185 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Ribaldo. For more information contact AFMA on (02) 6225 5555.

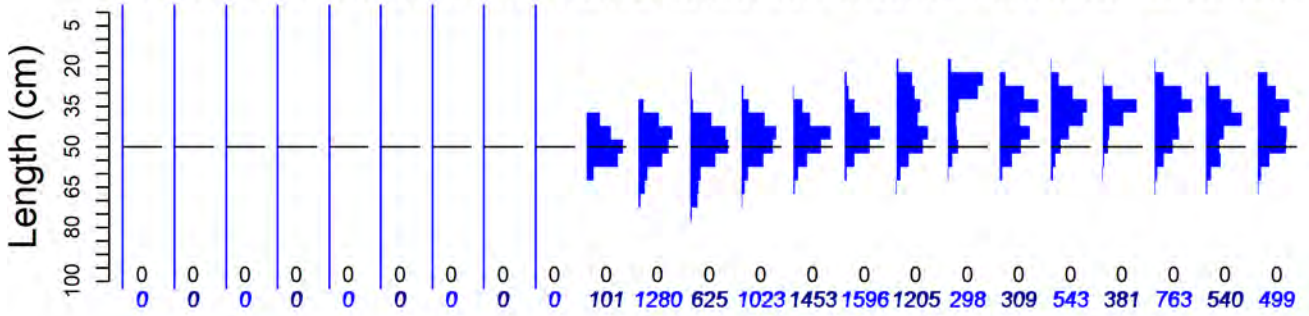


# Ribaldo

Mon Aug 16 10:36:34 2021

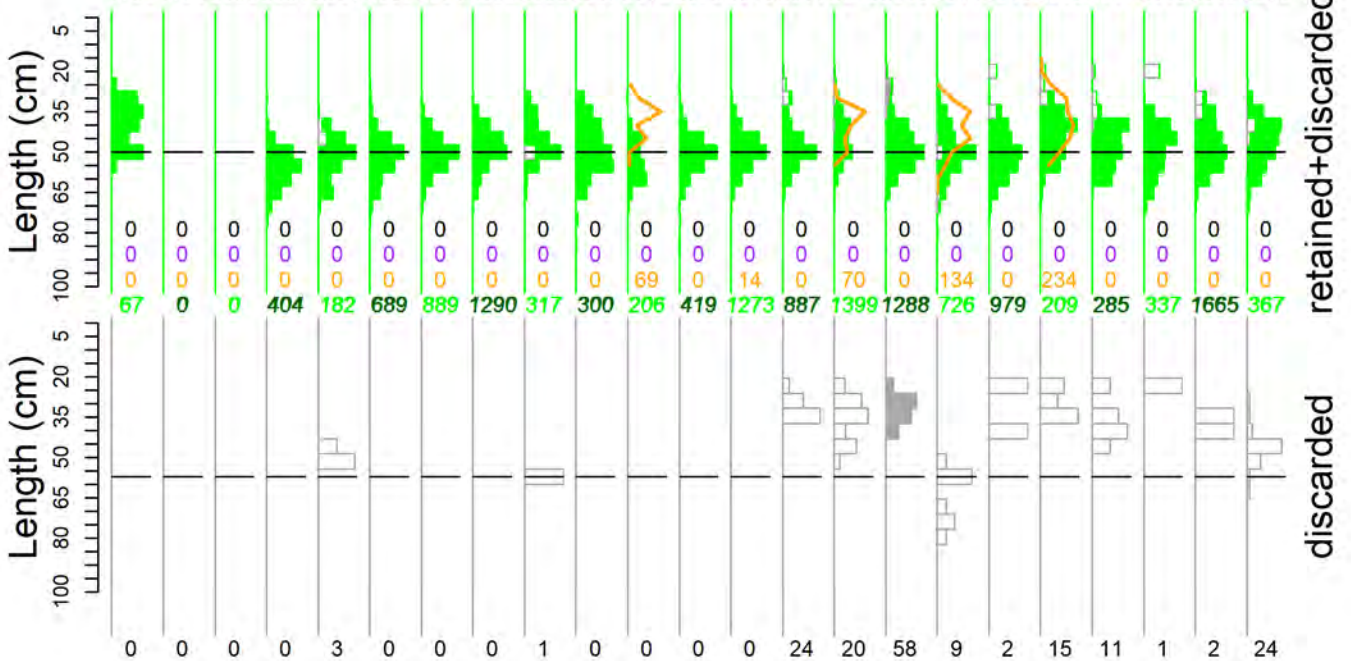
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

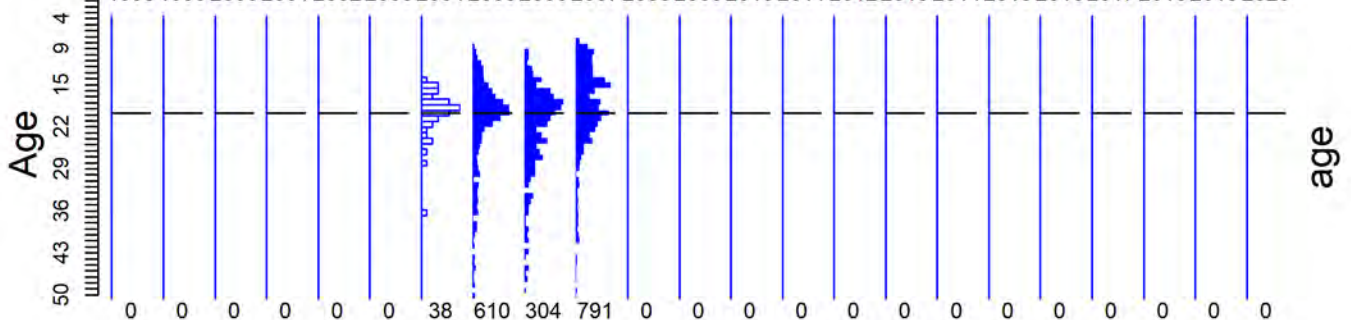


Figure 186 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Ribaldo. For more information contact AFMA on (02) 6225 5555.

# Ribaldo

## Port length data

Mon Aug 16 10:36:35 2021

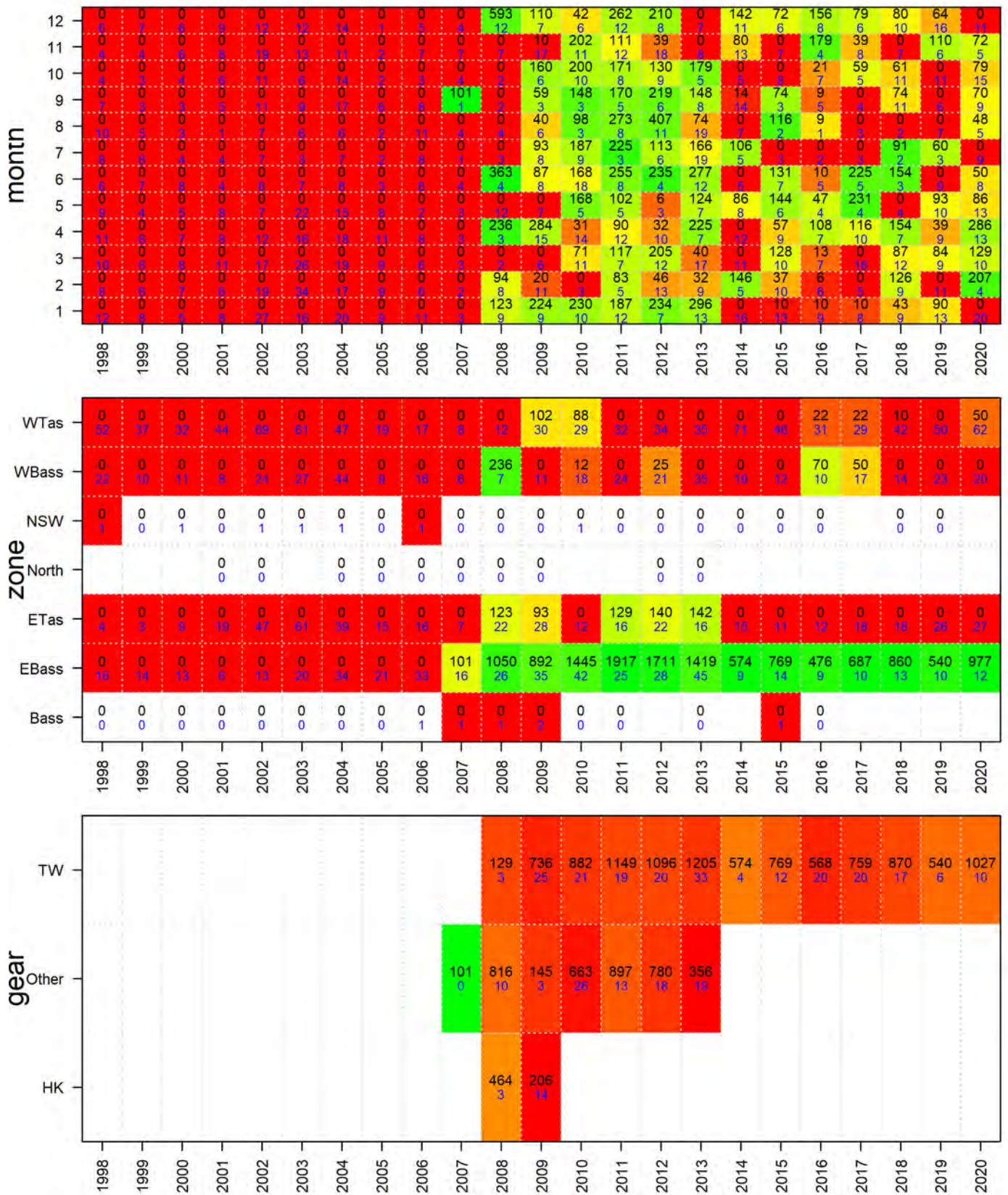


Figure 187 Port length data sampling coverage by month (top), zone (middle) and gear for Ribaldo. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Ribaldo

## Onboard discard weight data

Mon Aug 16 10:36:36 2021

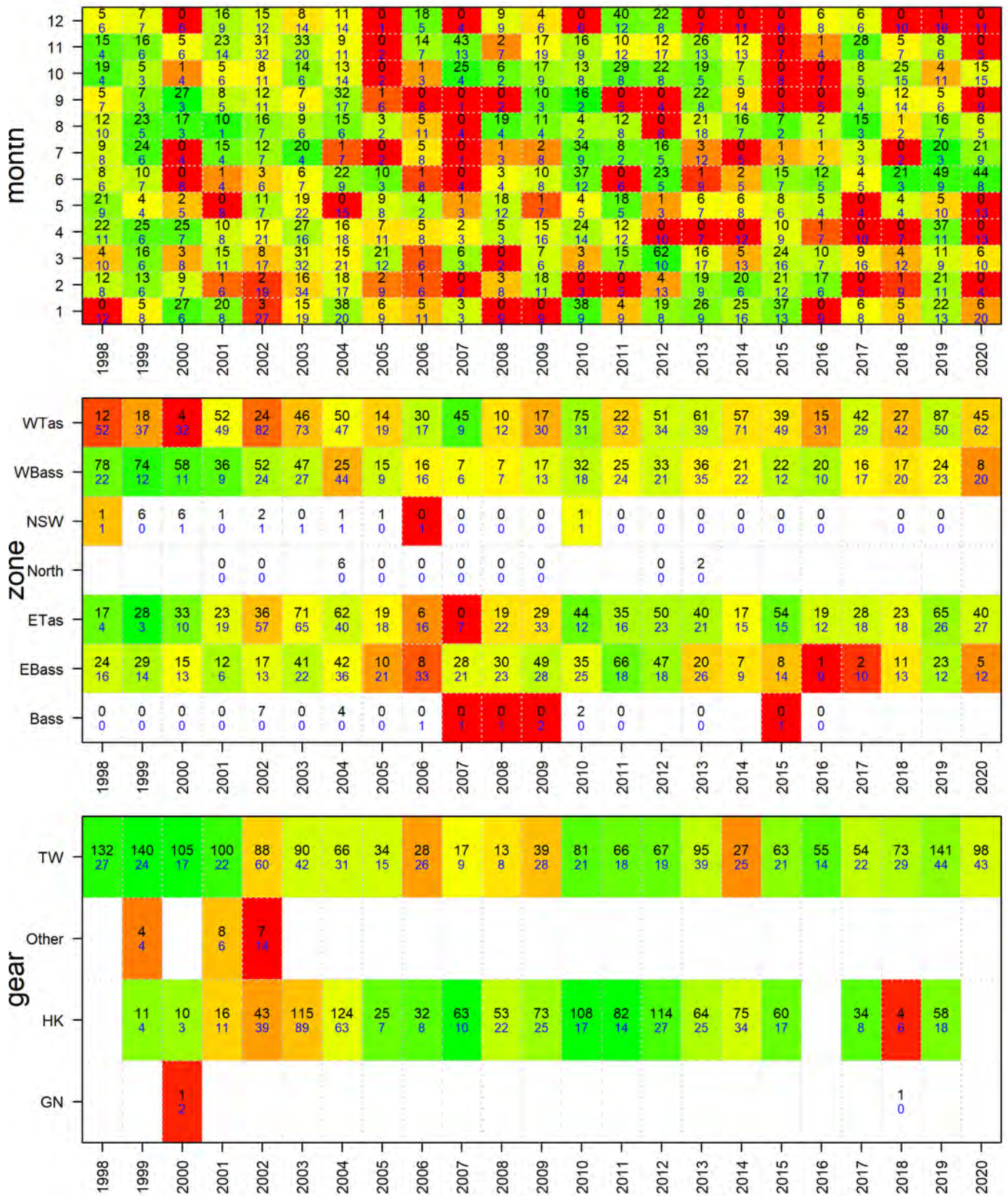


Figure 188 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Ribaldo. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Ribaldo

## Onboard length data

Mon Aug 16 10:36:37 2021

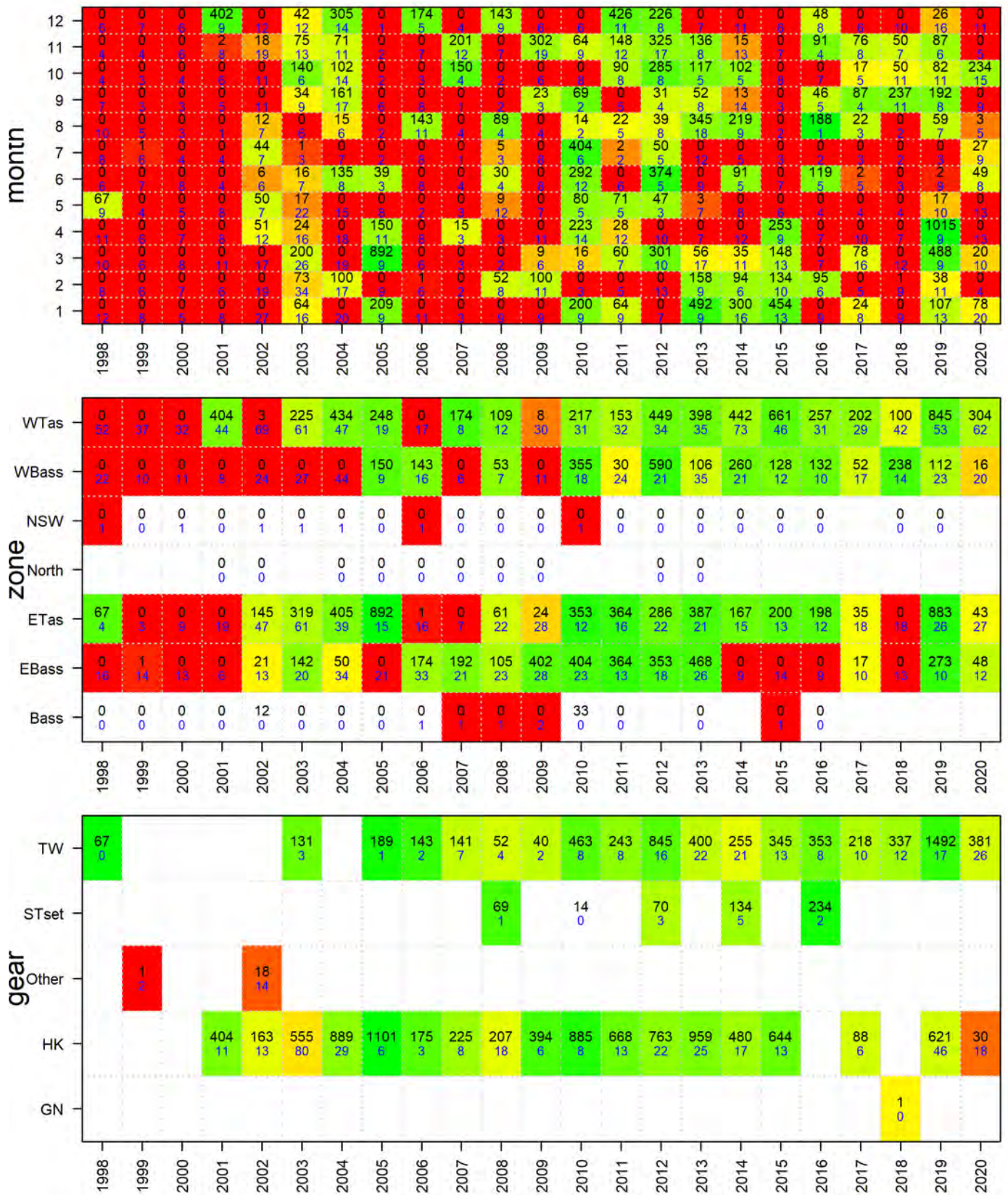


Figure 189 Onboard length data sampling coverage by month (top), zone (middle) and gear for Ribaldo. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Ribaldo

# Age data

Mon Aug 16 10:36:38 2021

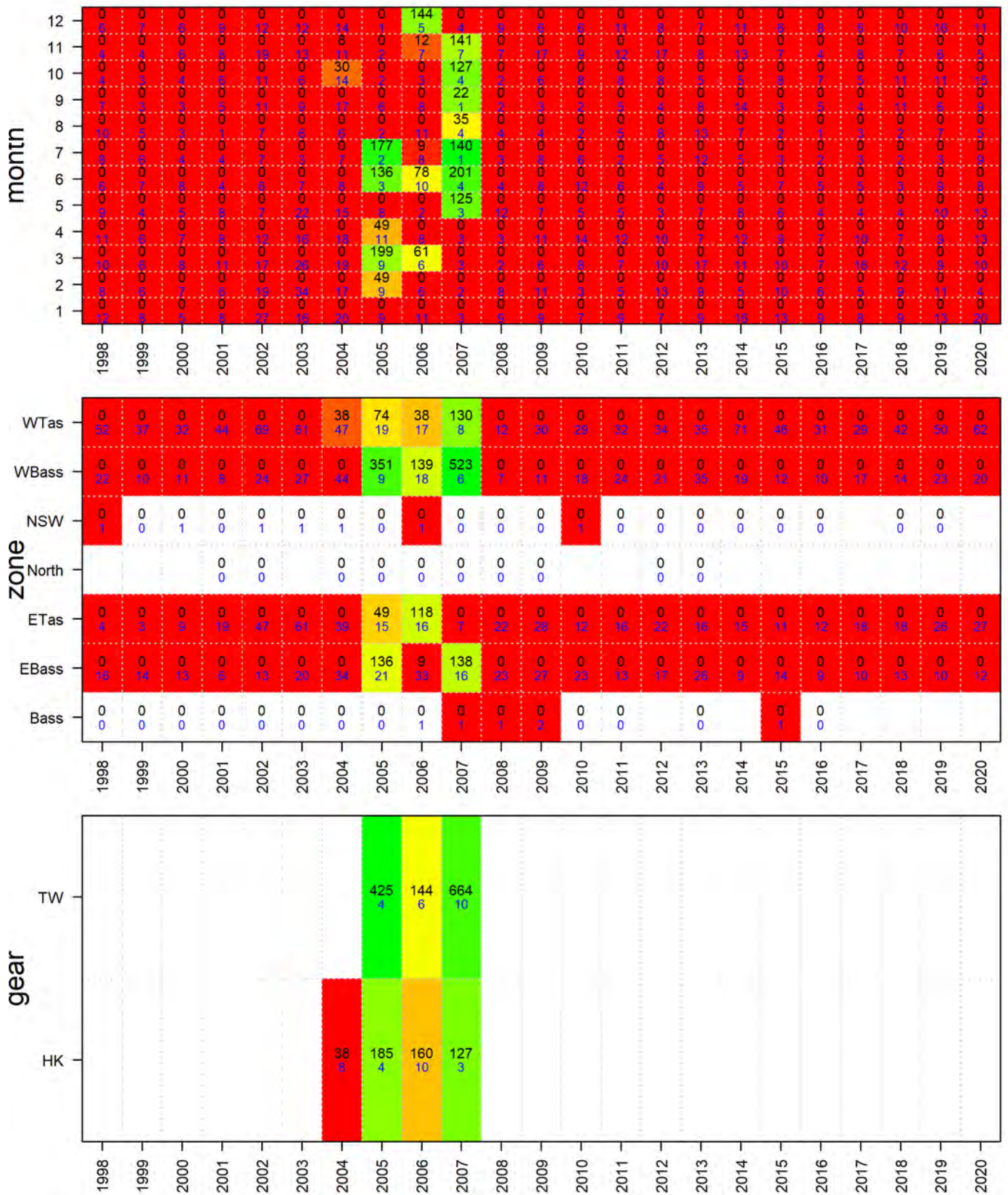
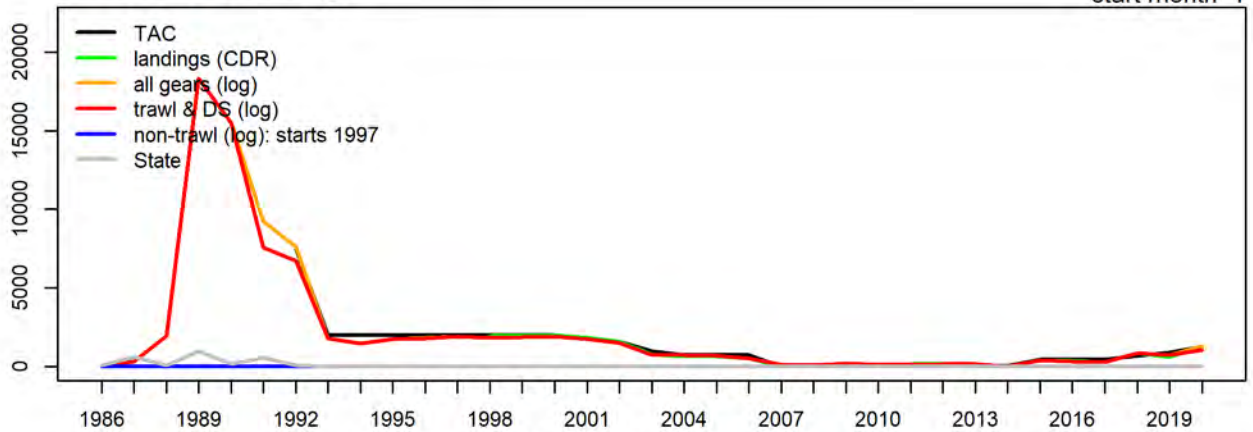


Figure 190 Age data sampling coverage by month (top), zone (middle) and gear for Ribaldo. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

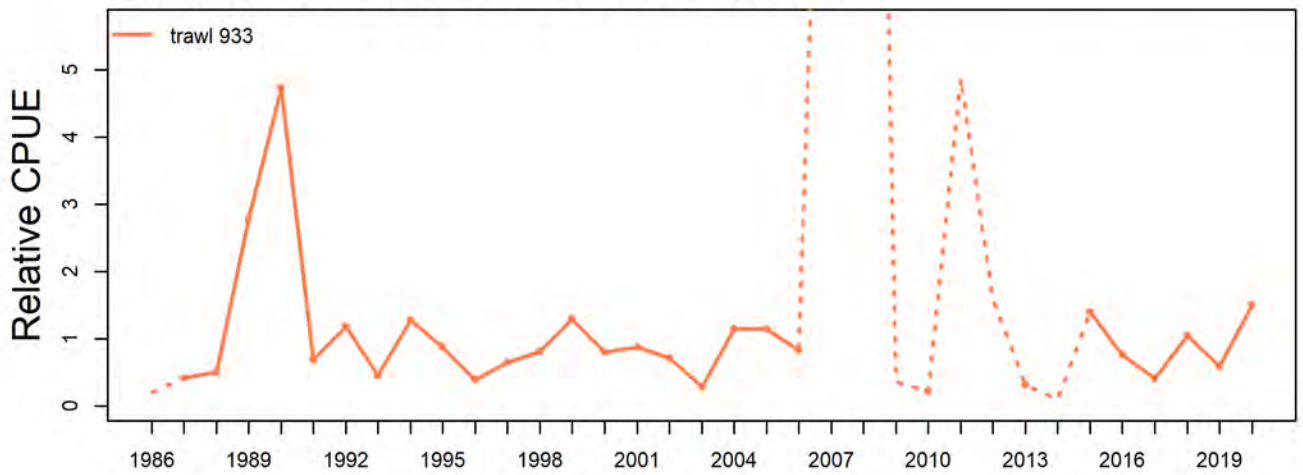
# Orange Roughy East

## TAC and landings

Mon Aug 16 10:36:39 2021  
 region OR10 unit code ORE sa code ORE  
 37255009  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

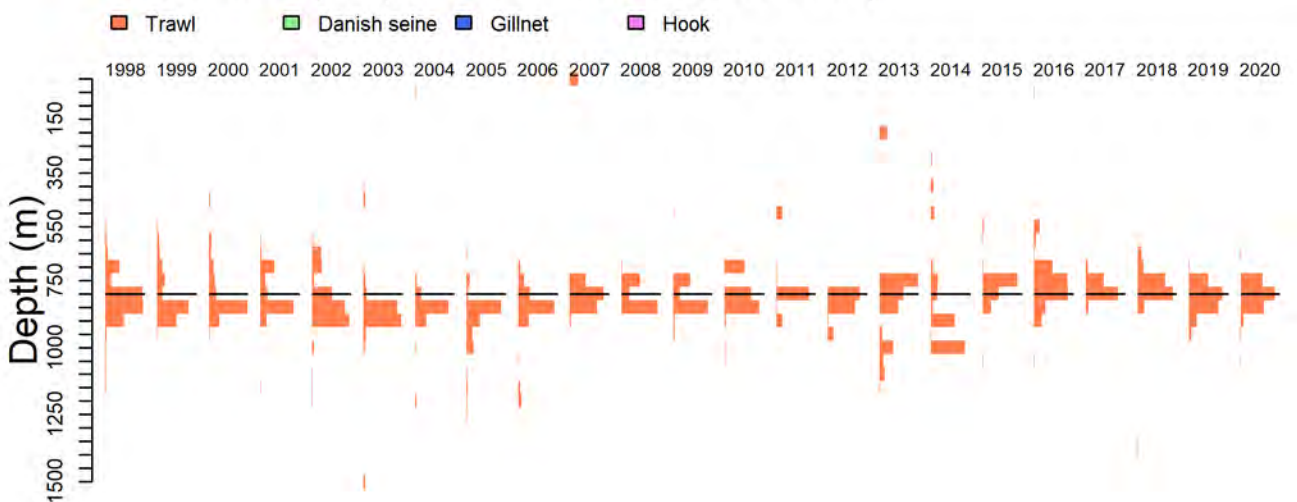
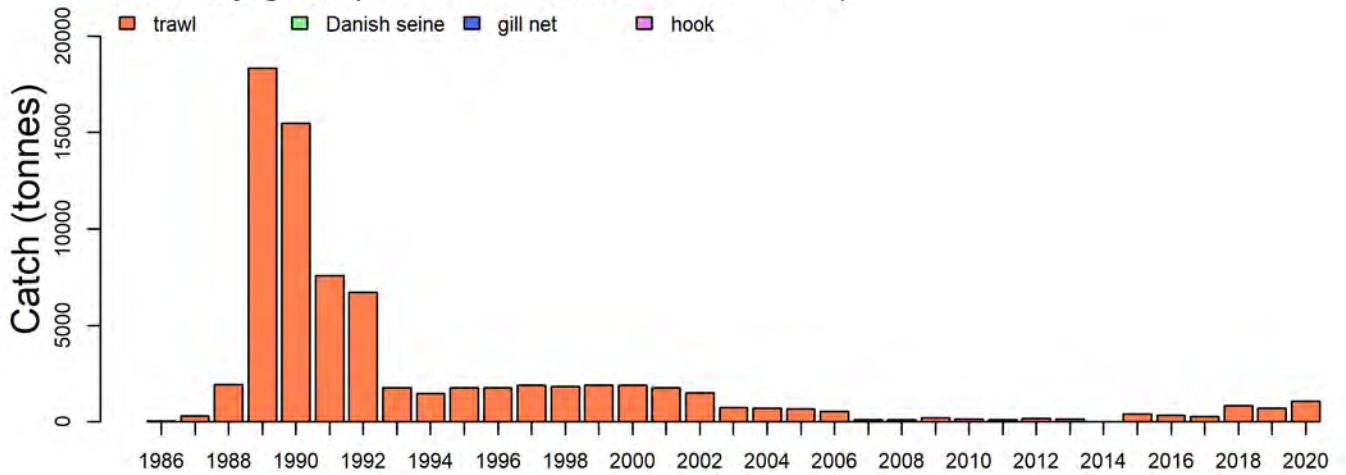


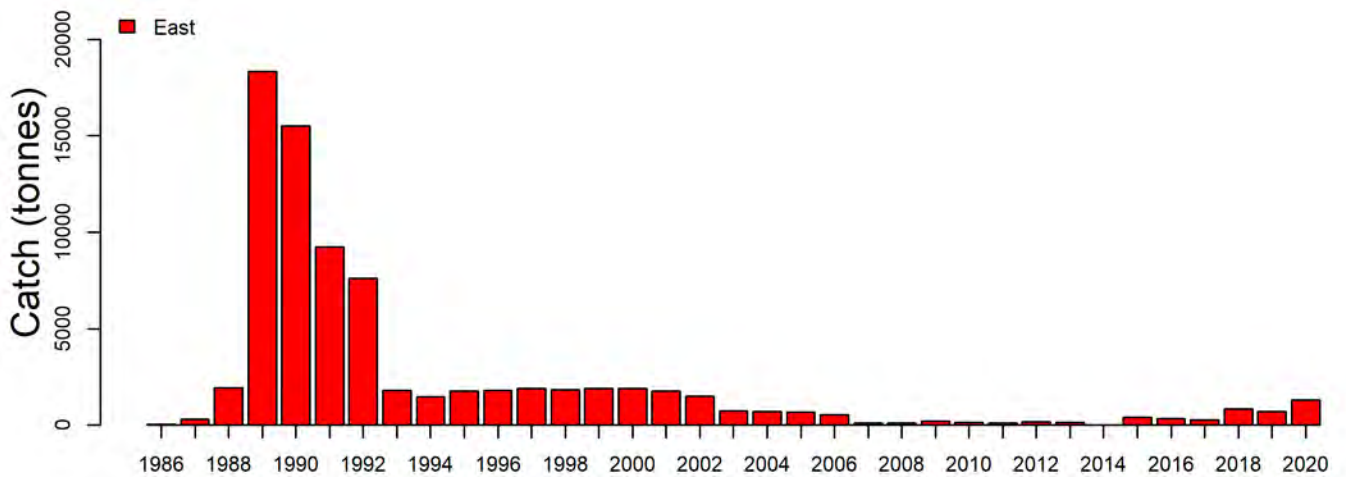
Figure 191 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Orange Roughy East. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy East

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

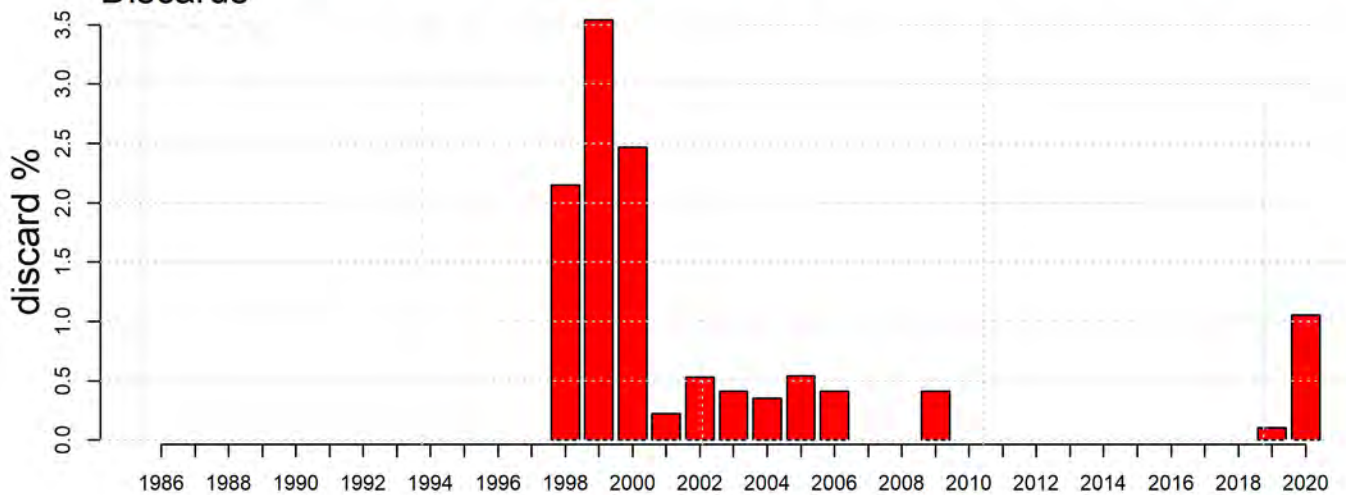


Figure 192 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Orange Roughy East. For more information contact AFMA on (02) 6225 5555.





# Orange Roughy East Onboard discard weight data

Mon Aug 16 10:36:43 2021

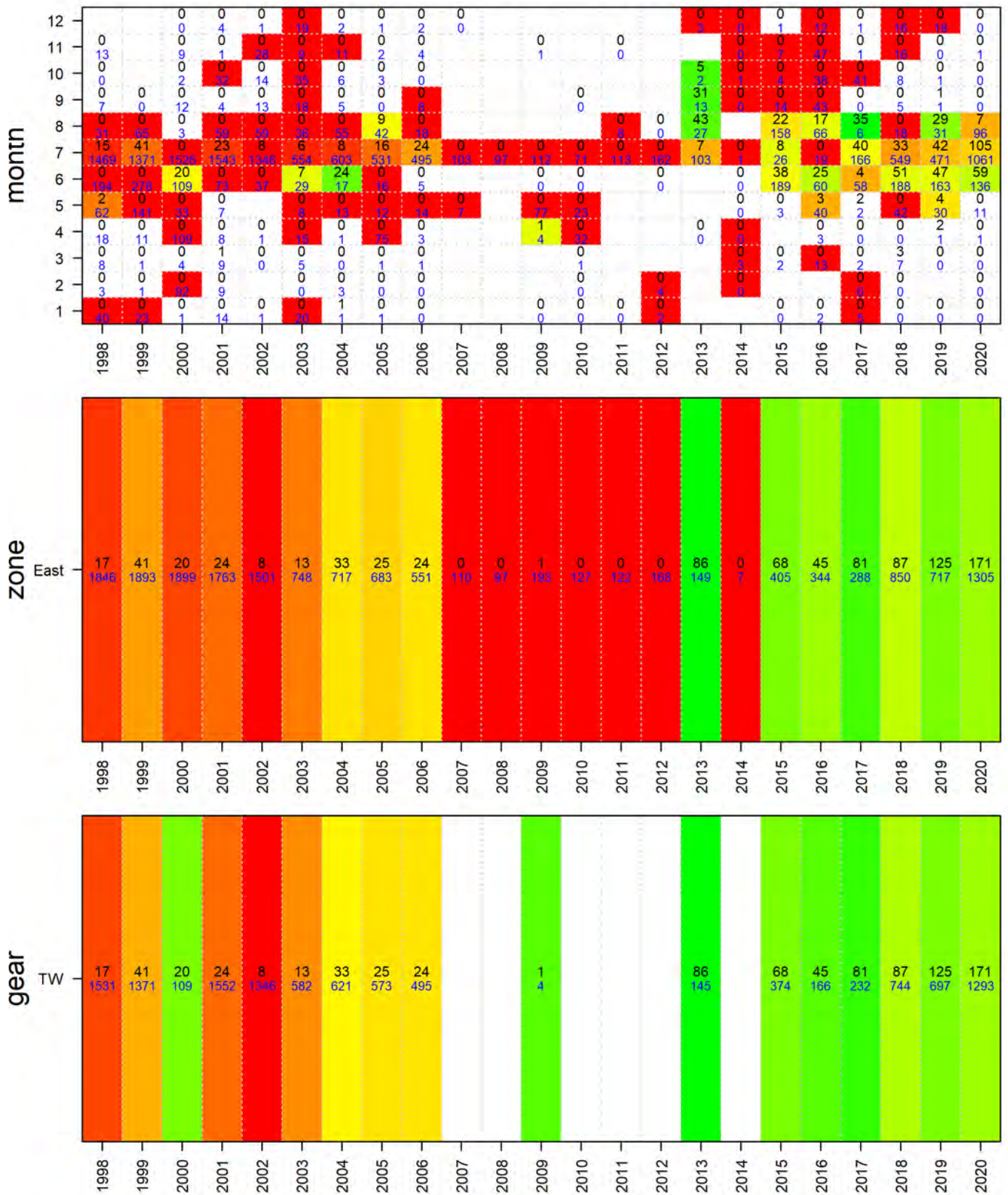


Figure 194 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Orange Roughy East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy East Onboard length data

Mon Aug 16 10:36:43 2021

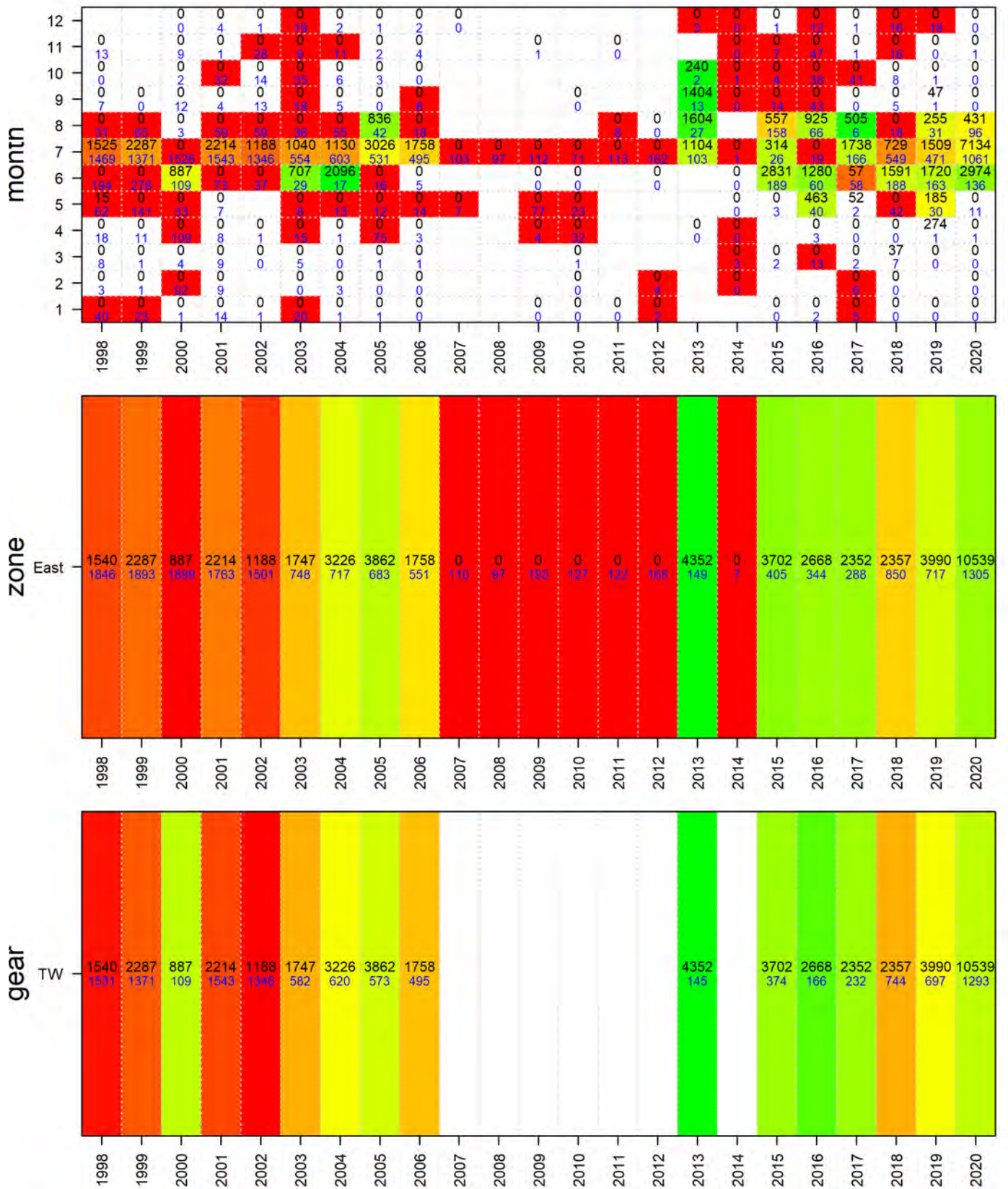


Figure 195 Onboard length data sampling coverage by month (top), zone (middle) and gear for Orange Roughy East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy East

# Age data

Mon Aug 16 10:36:44 2021

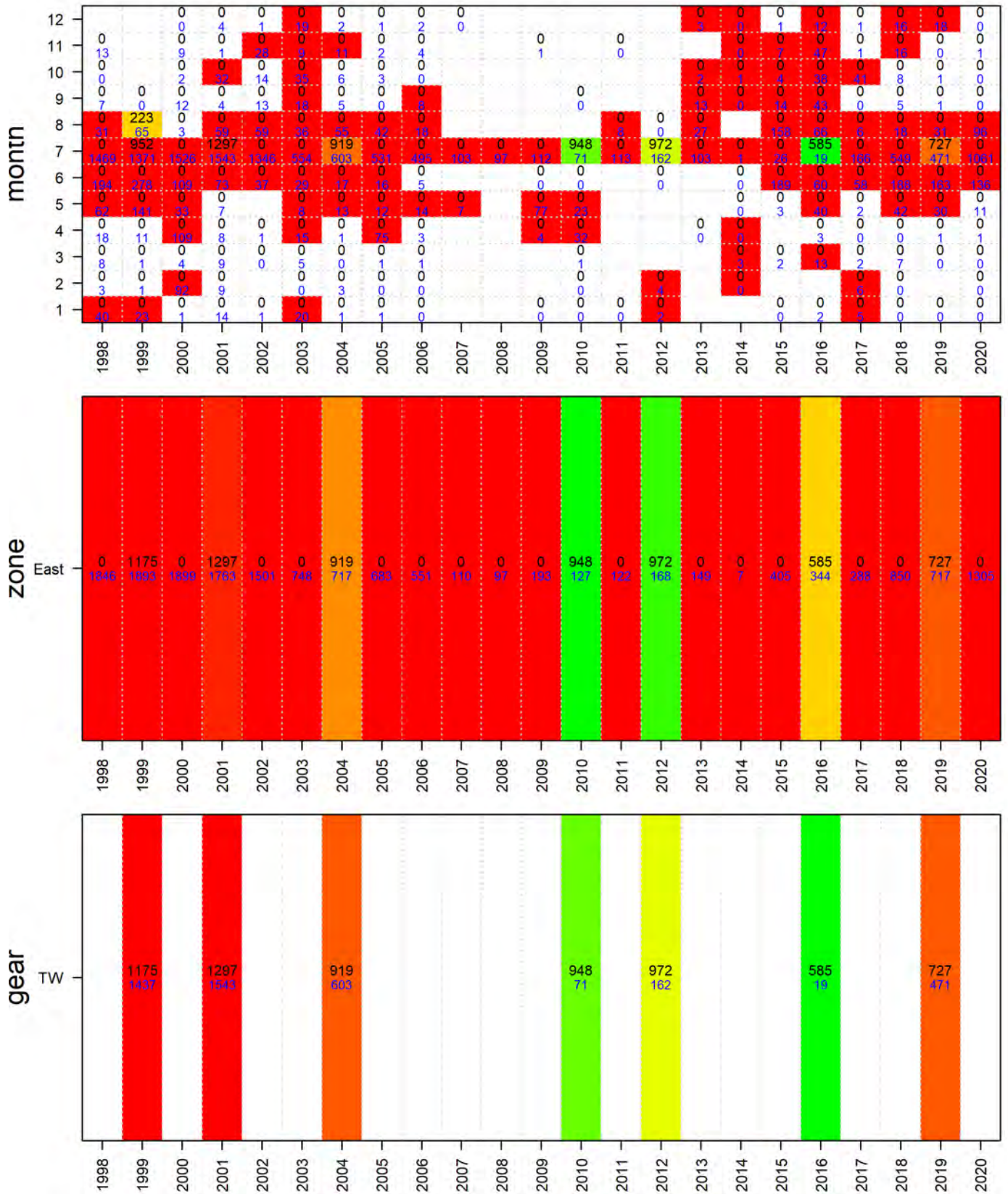
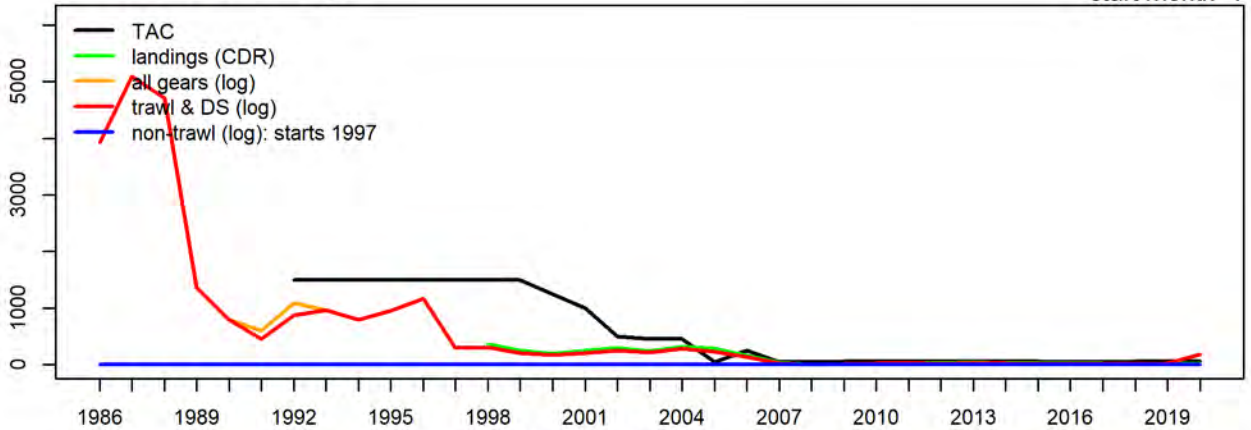
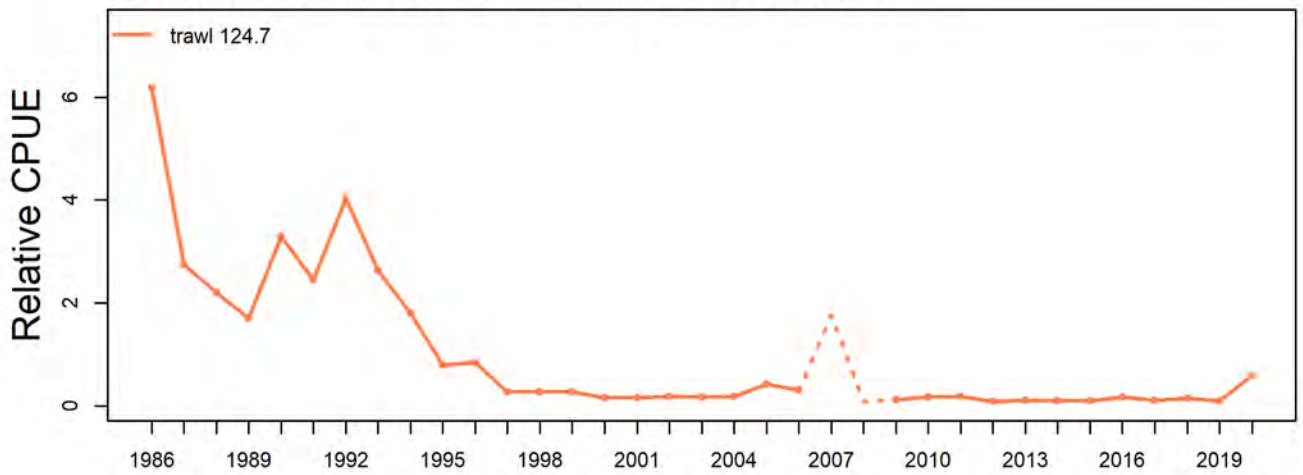


Figure 196 Age data sampling coverage by month (top), zone (middle) and gear for Orange Roughy East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy West TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

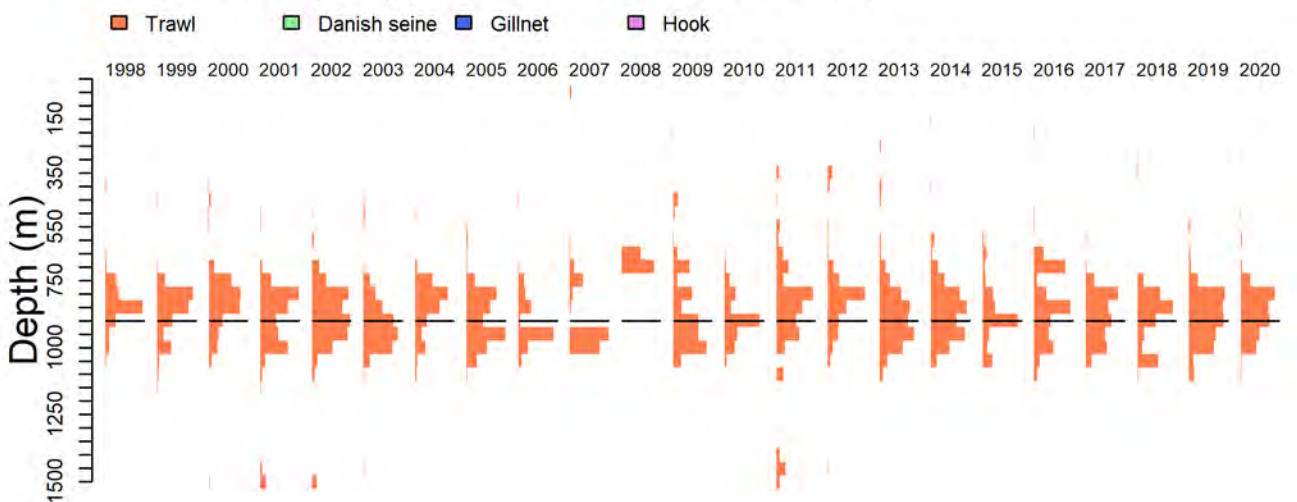
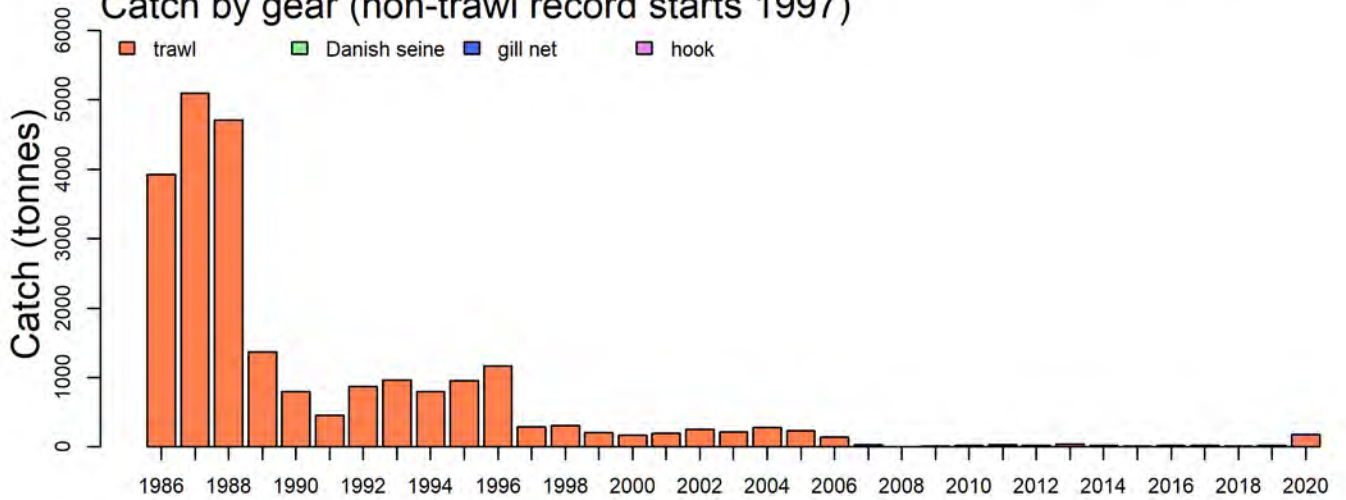


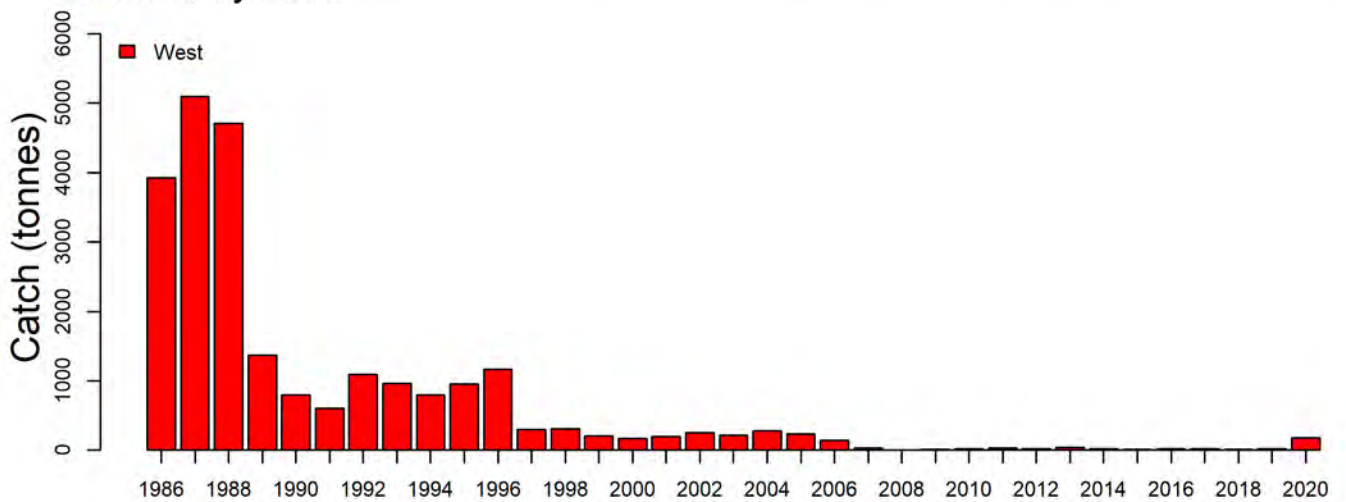
Figure 197 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Orange Roughy West. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy West

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

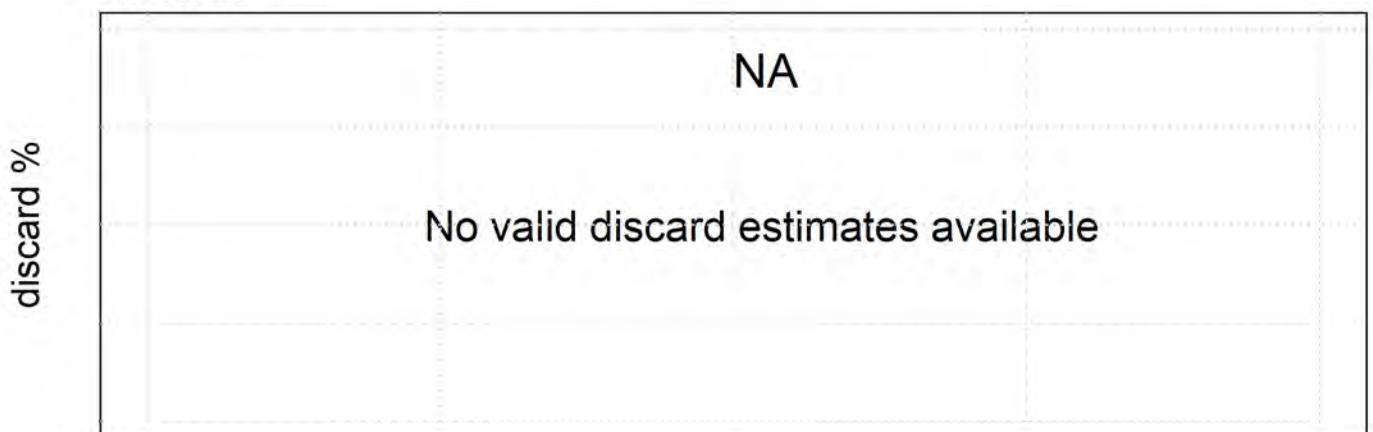


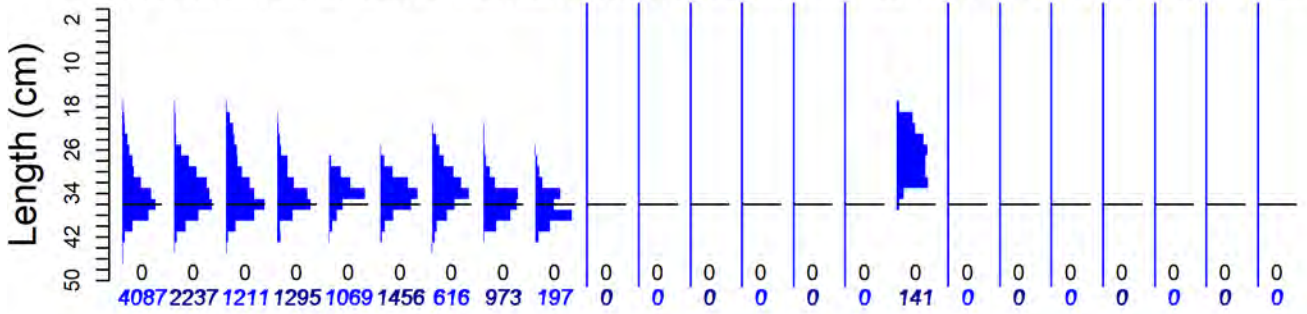
Figure 198 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Orange Roughy West. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy West

Mon Aug 16 10:36:47 2021

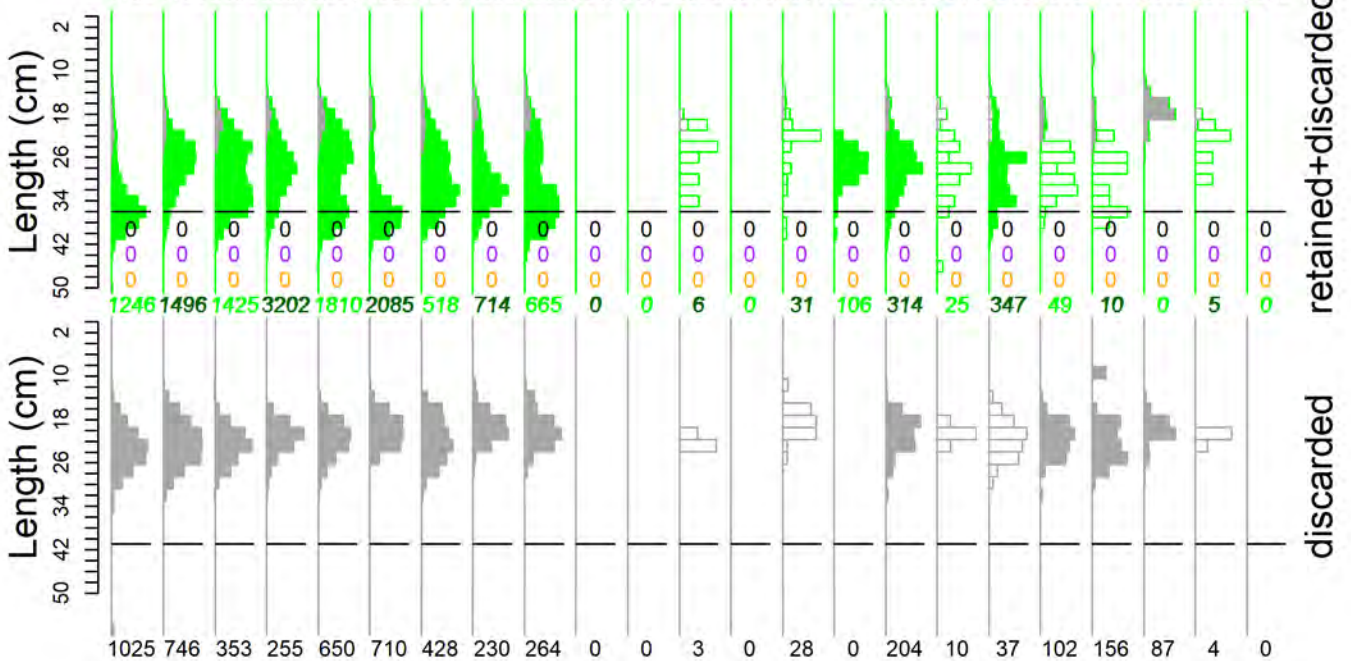
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

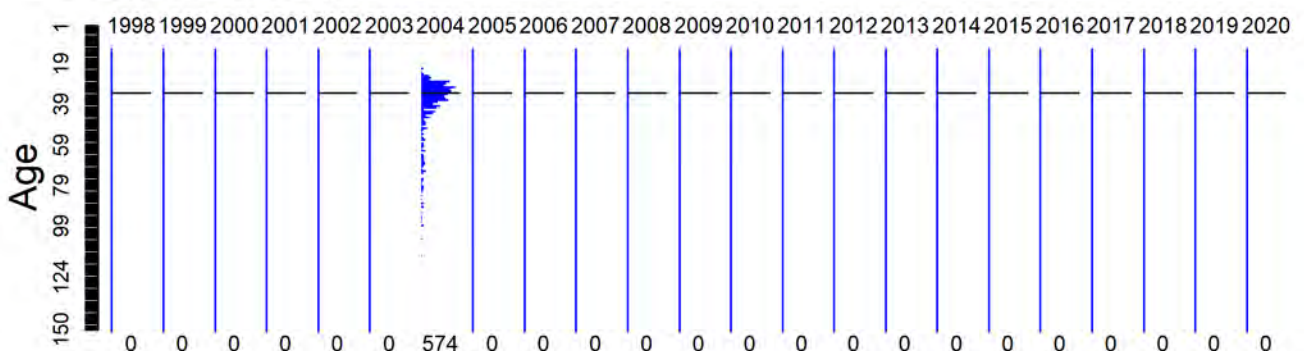


Figure 199 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Orange Roughy West. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy West

# Port length data

Mon Aug 16 10:36:48 2021

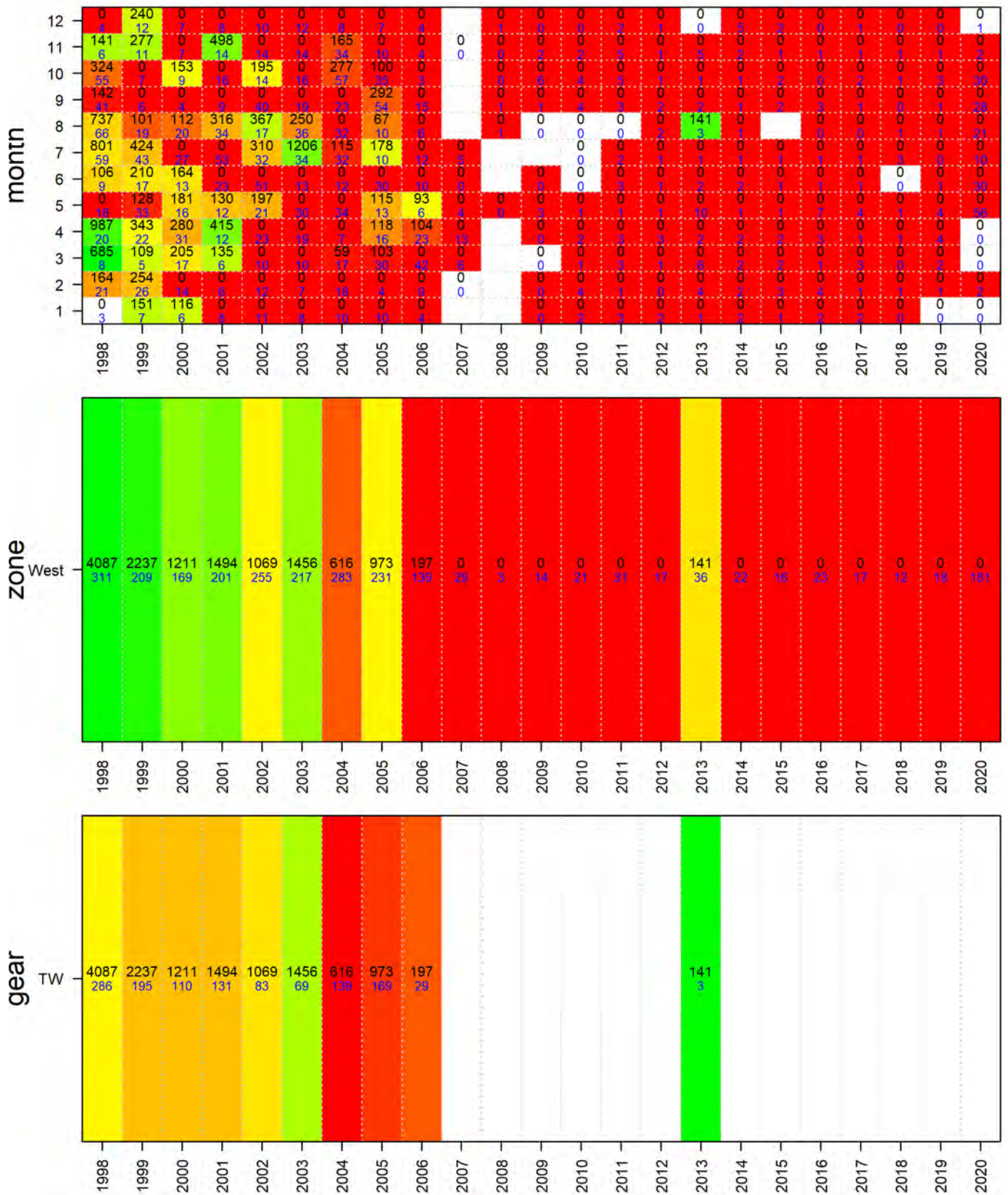


Figure 200 Port length data sampling coverage by month (top), zone (middle) and gear for Orange Roughy West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy West Onboard discard weight data

Mon Aug 16 10:36:49 2021

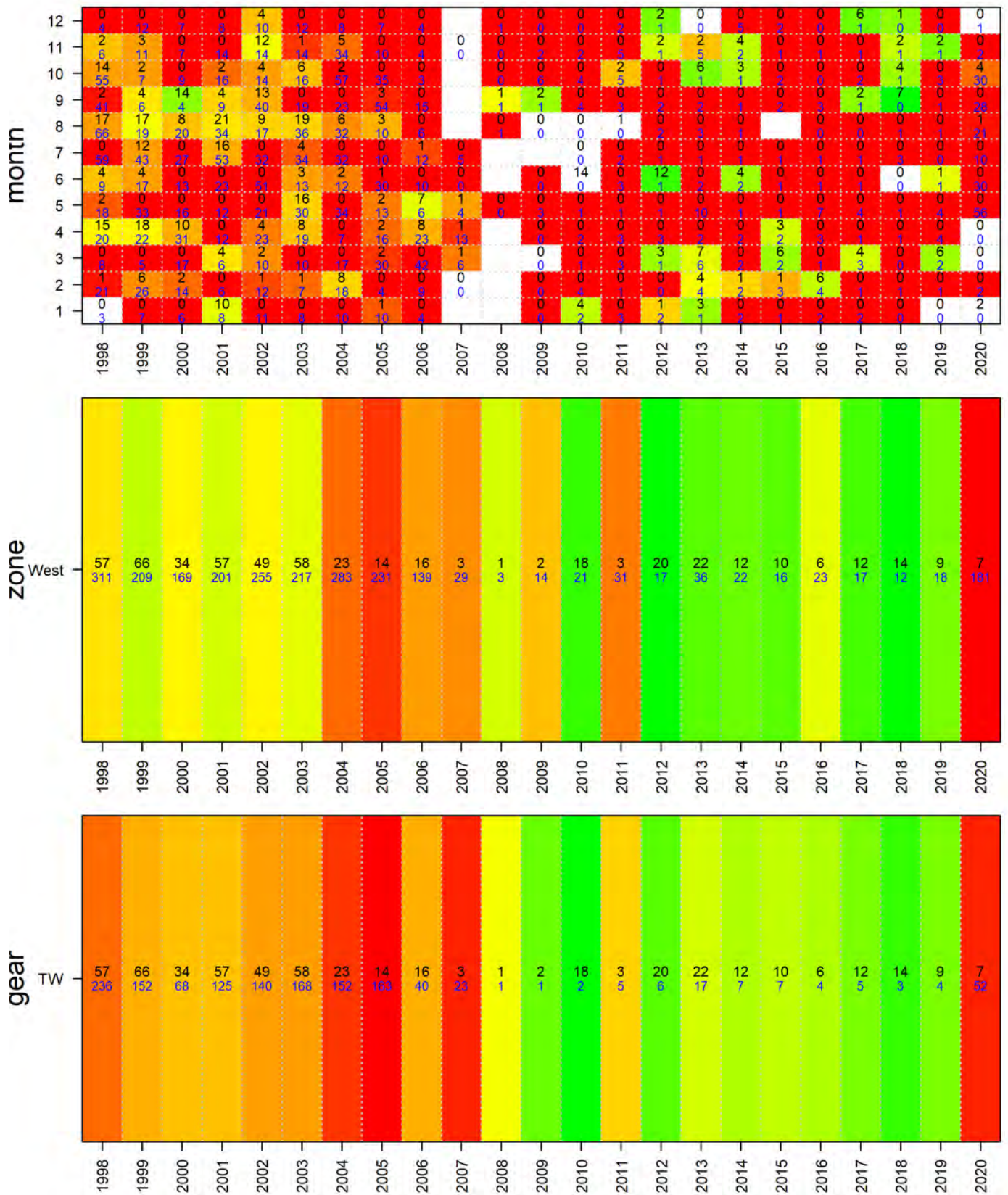


Figure 201 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Orange Roughy West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Orange Roughy West Onboard length data

Mon Aug 16 10:36:50 2021

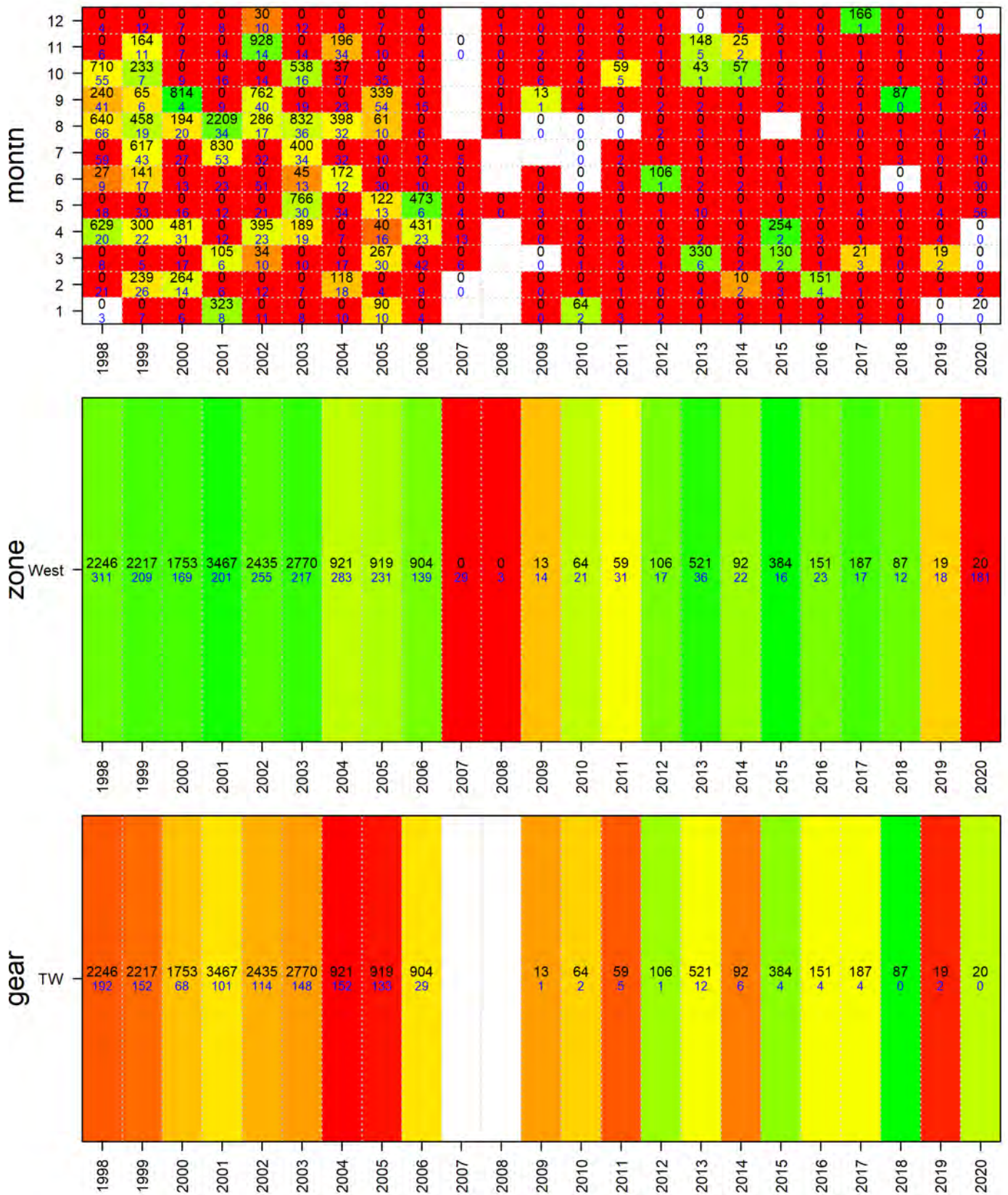


Figure 202 Onboard length data sampling coverage by month (top), zone (middle) and gear for Orange Roughy West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy West

# Age data

Mon Aug 16 10:36:51 2021

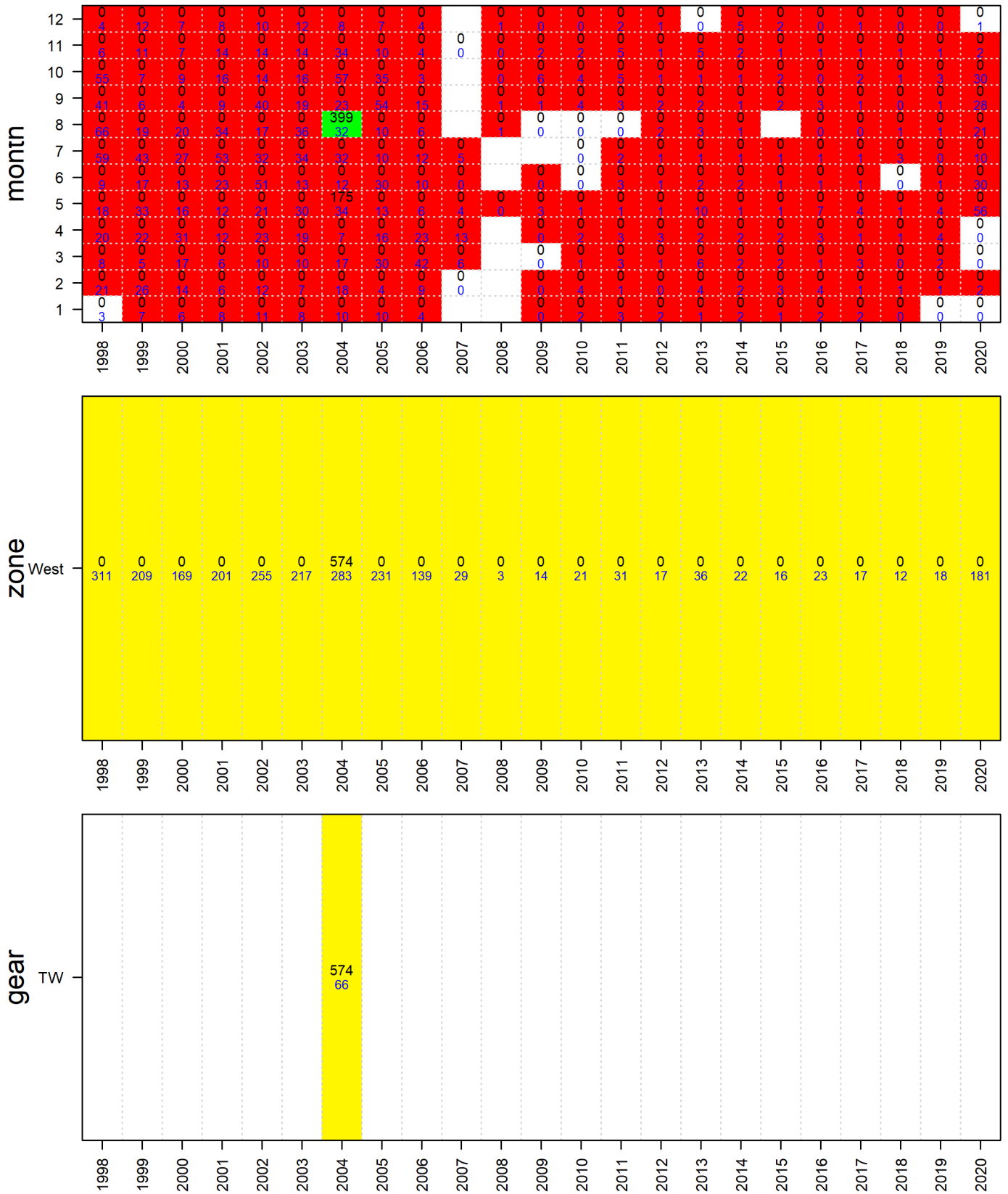
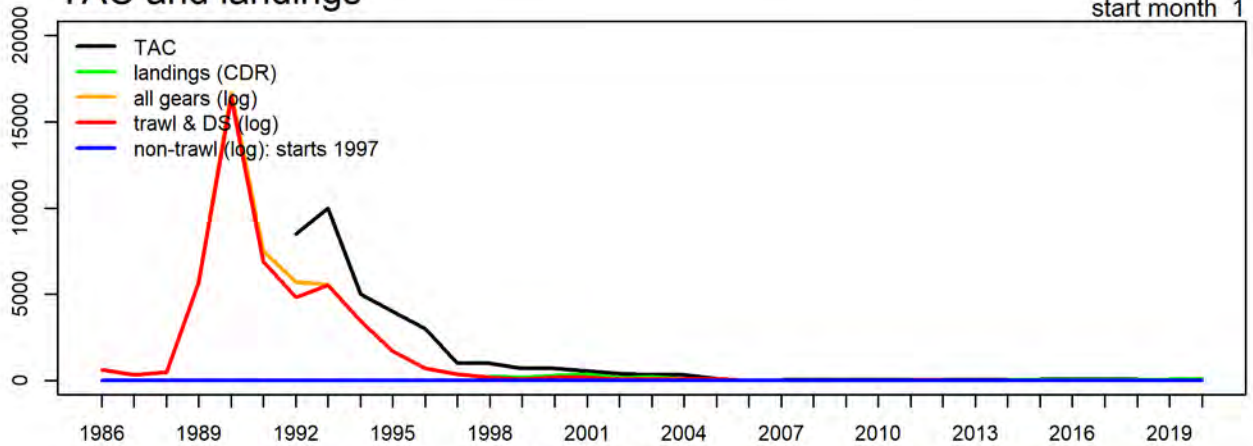


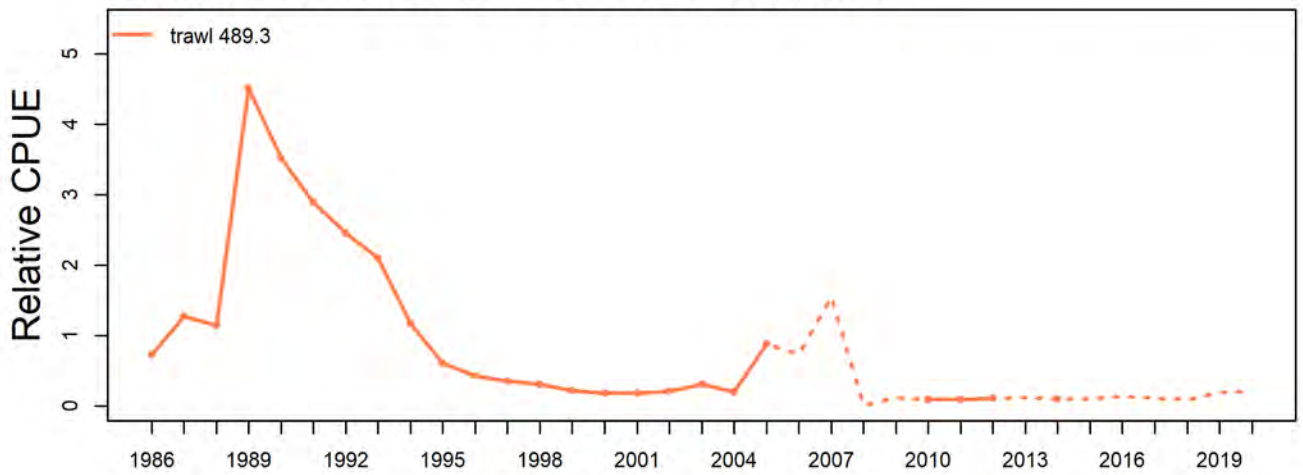
Figure 203 Age data sampling coverage by month (top), zone (middle) and gear for Orange Roughy West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy South

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

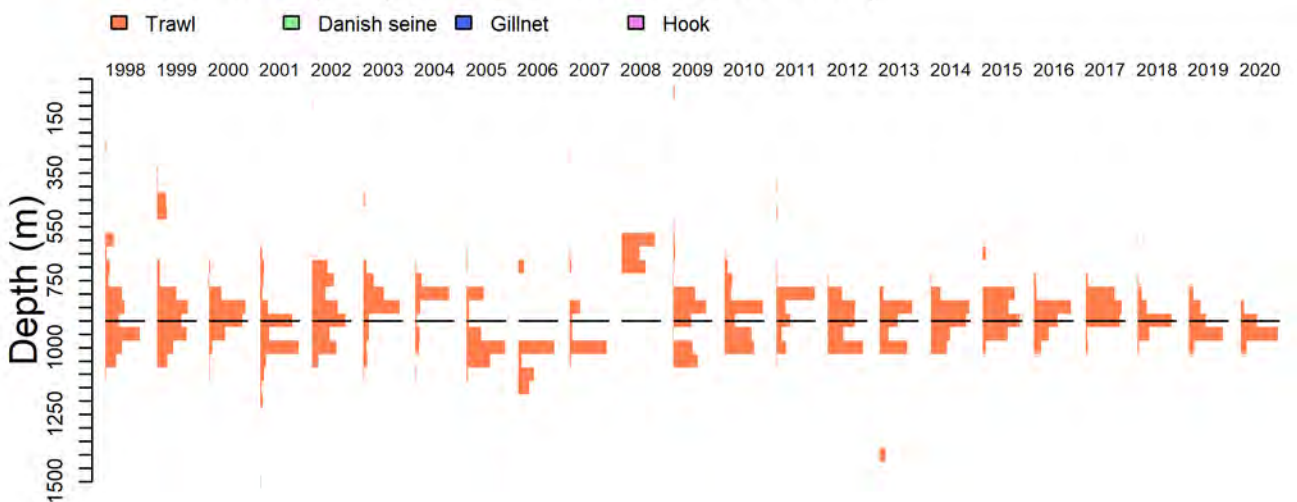
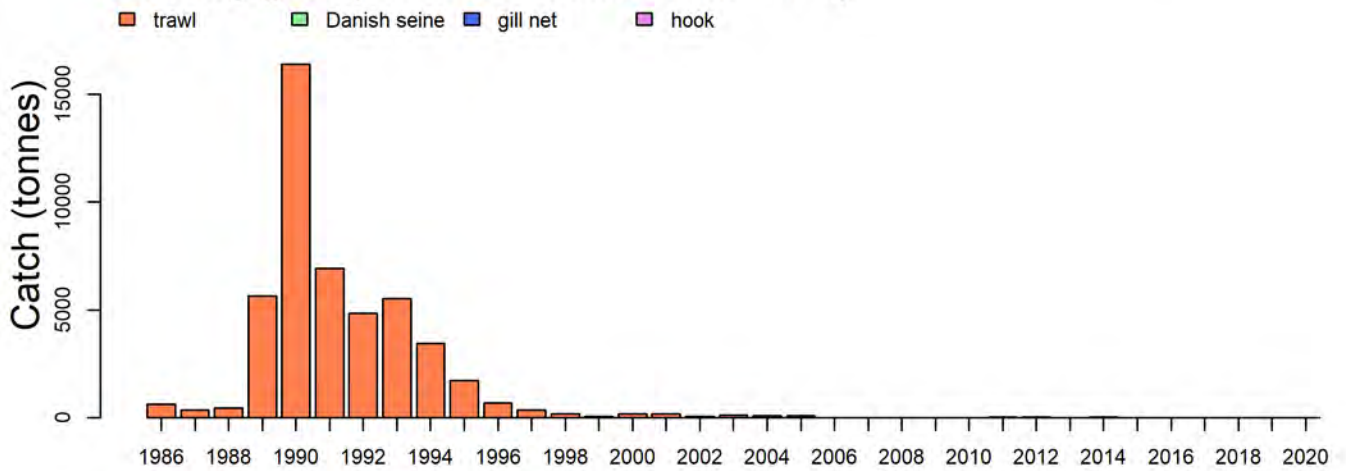


Figure 204 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Orange Roughy South. For more information contact AFMA on (02) 6225 5555.

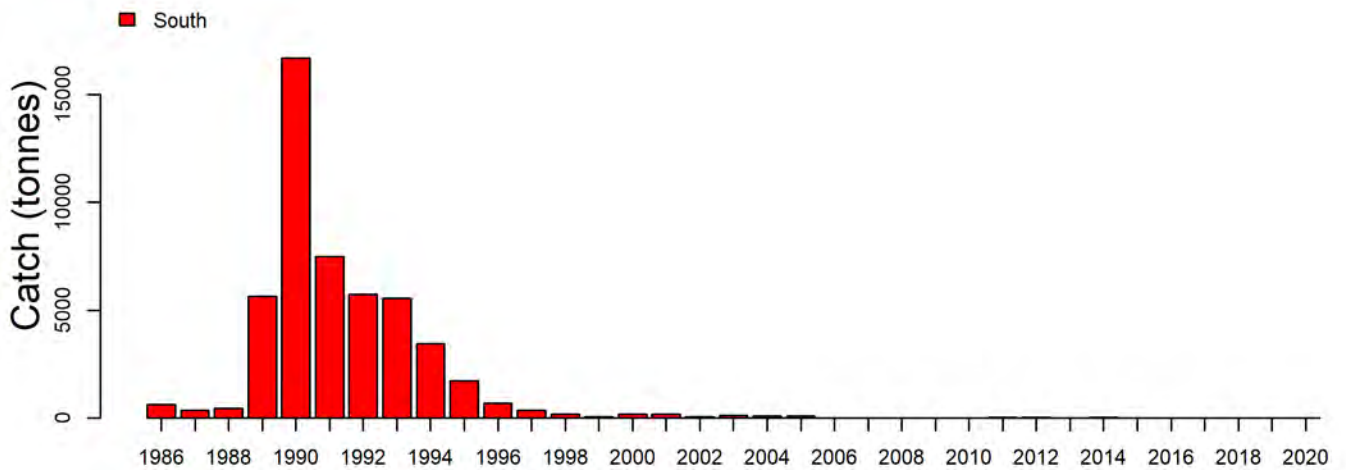
# Orange Roughy South

## Catch by gear (non-trawl record starts 1997)

Mon Aug 16 10:36:53 2021



## Catch by zone



## Discards

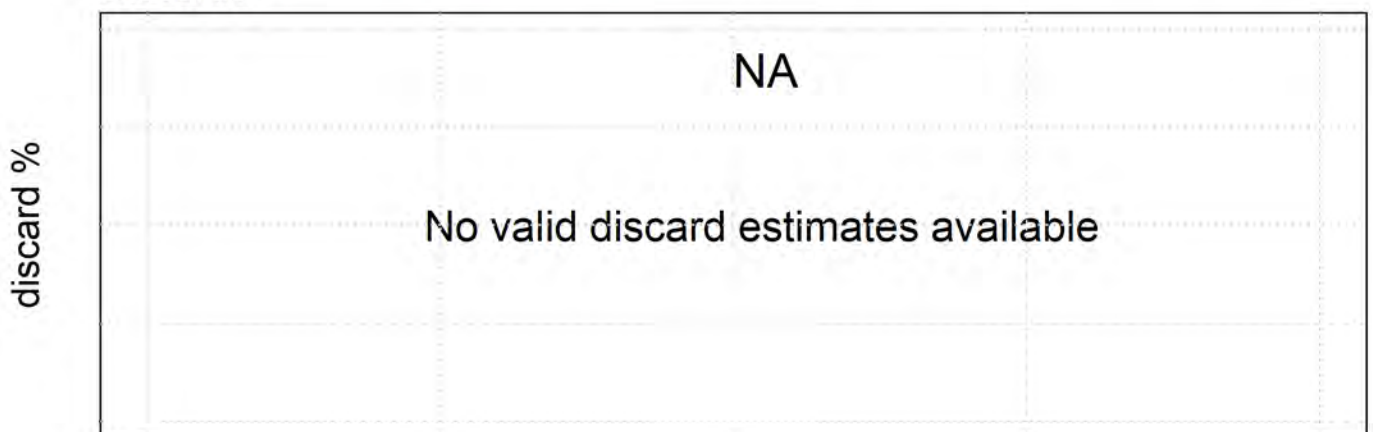


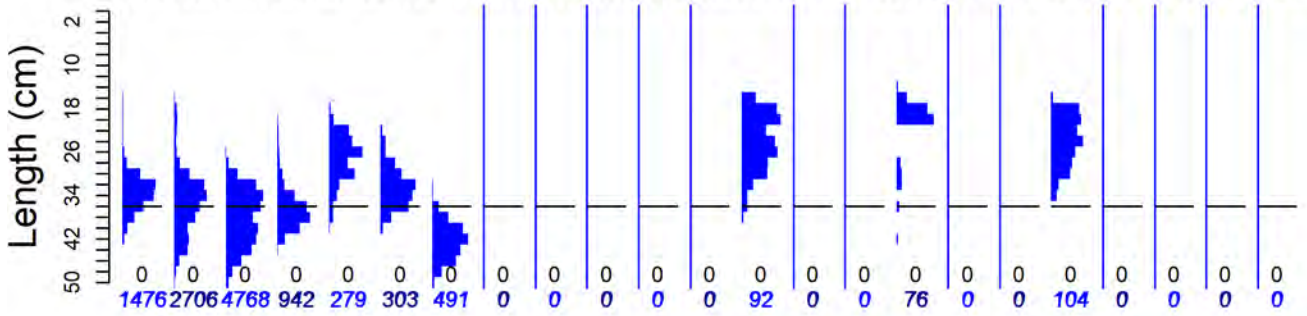
Figure 205 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Orange Roughy South. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy South

Mon Aug 16 10:36:53 2021

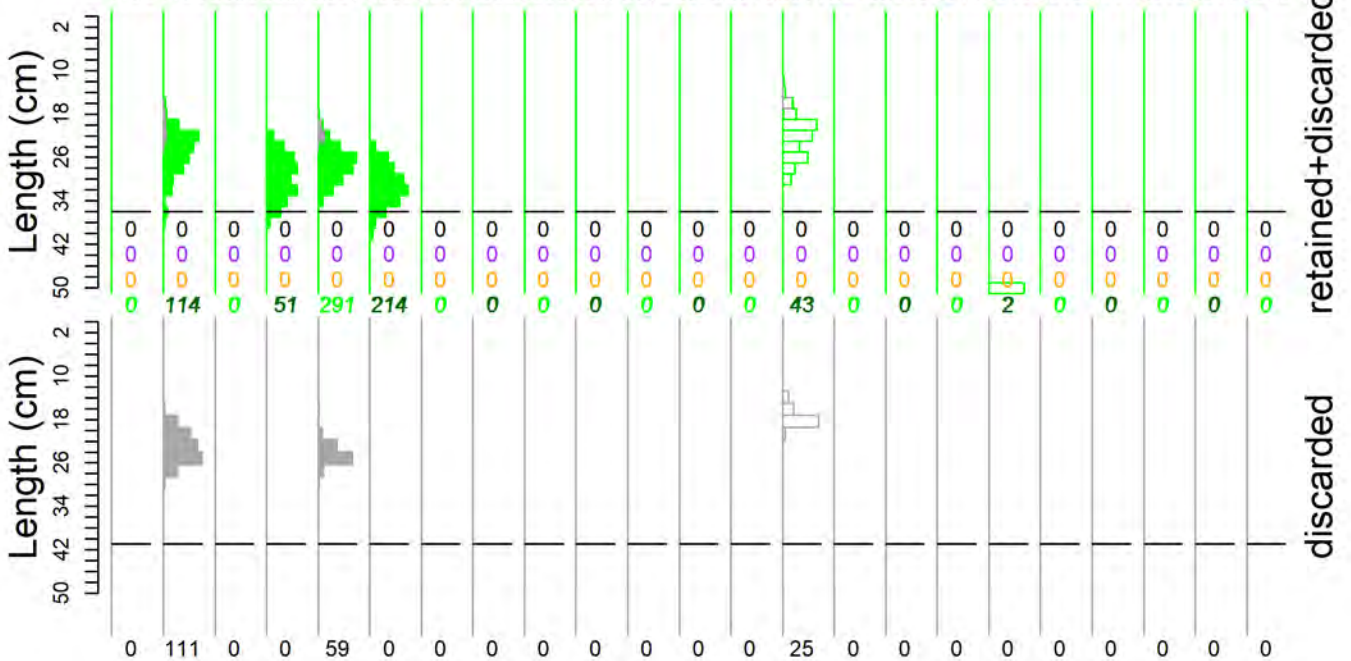
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

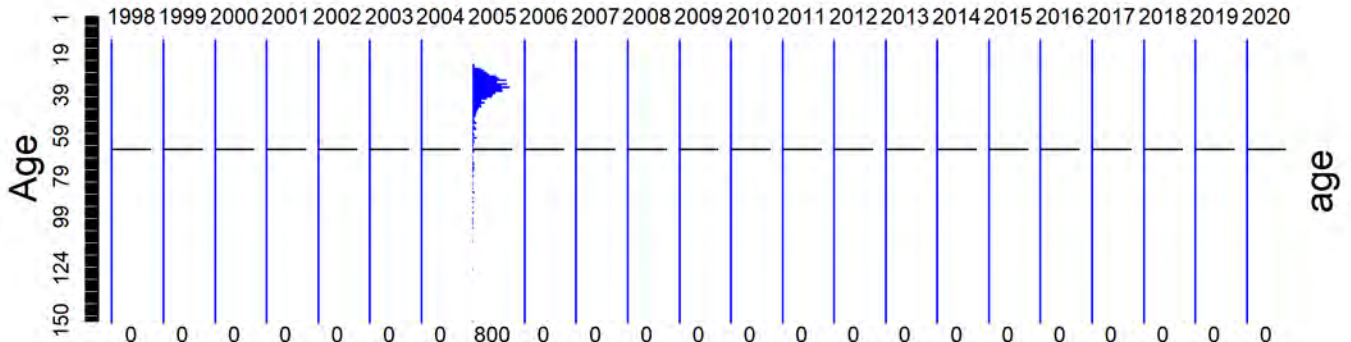


Figure 206 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Orange Roughy South. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy South Port length data

Mon Aug 16 10:36:54 2021

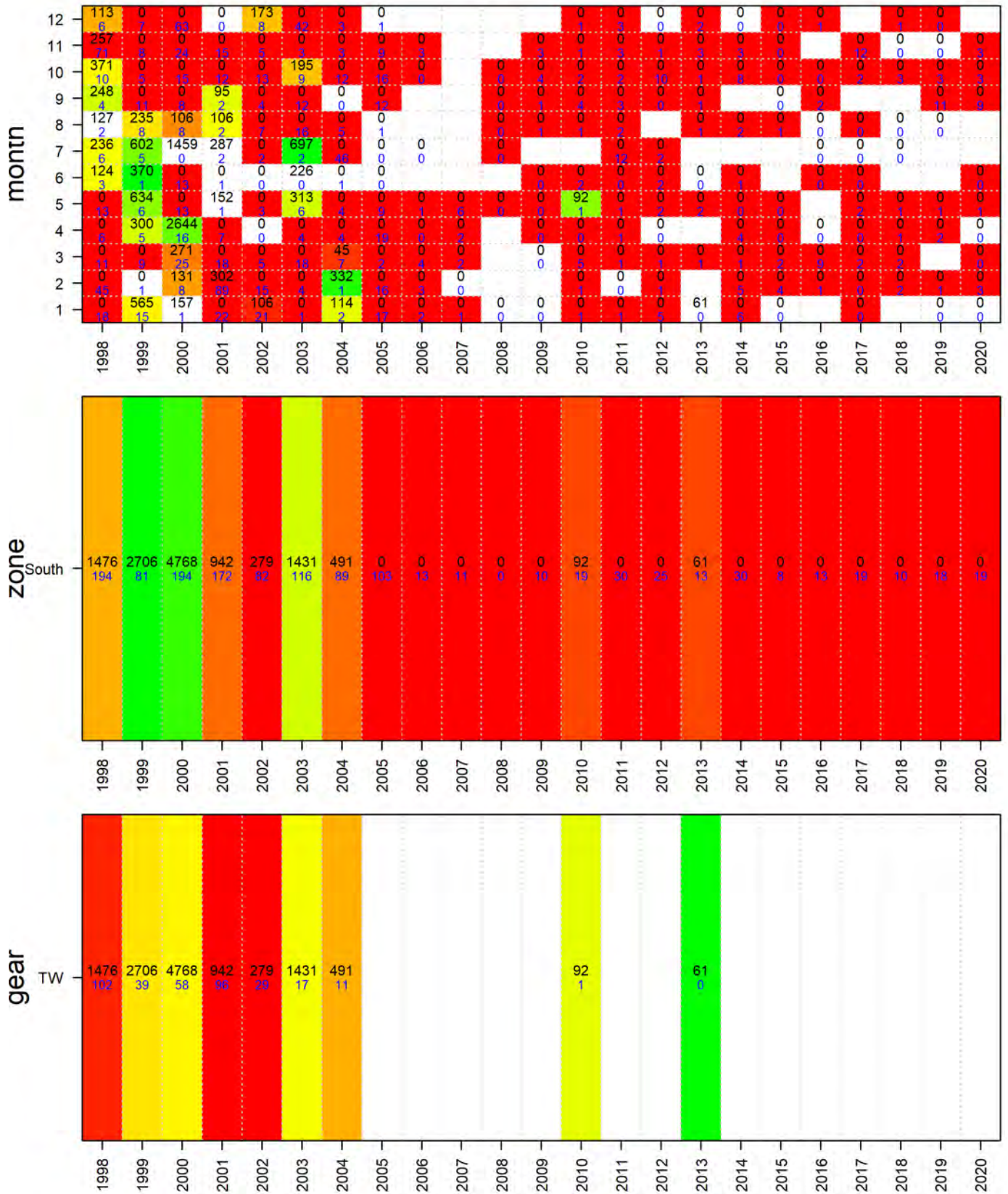


Figure 207 Port length data sampling coverage by month (top), zone (middle) and gear for Orange Roughy South. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy Southboard discard weight data

Mon Aug 16 10:36:55 2021

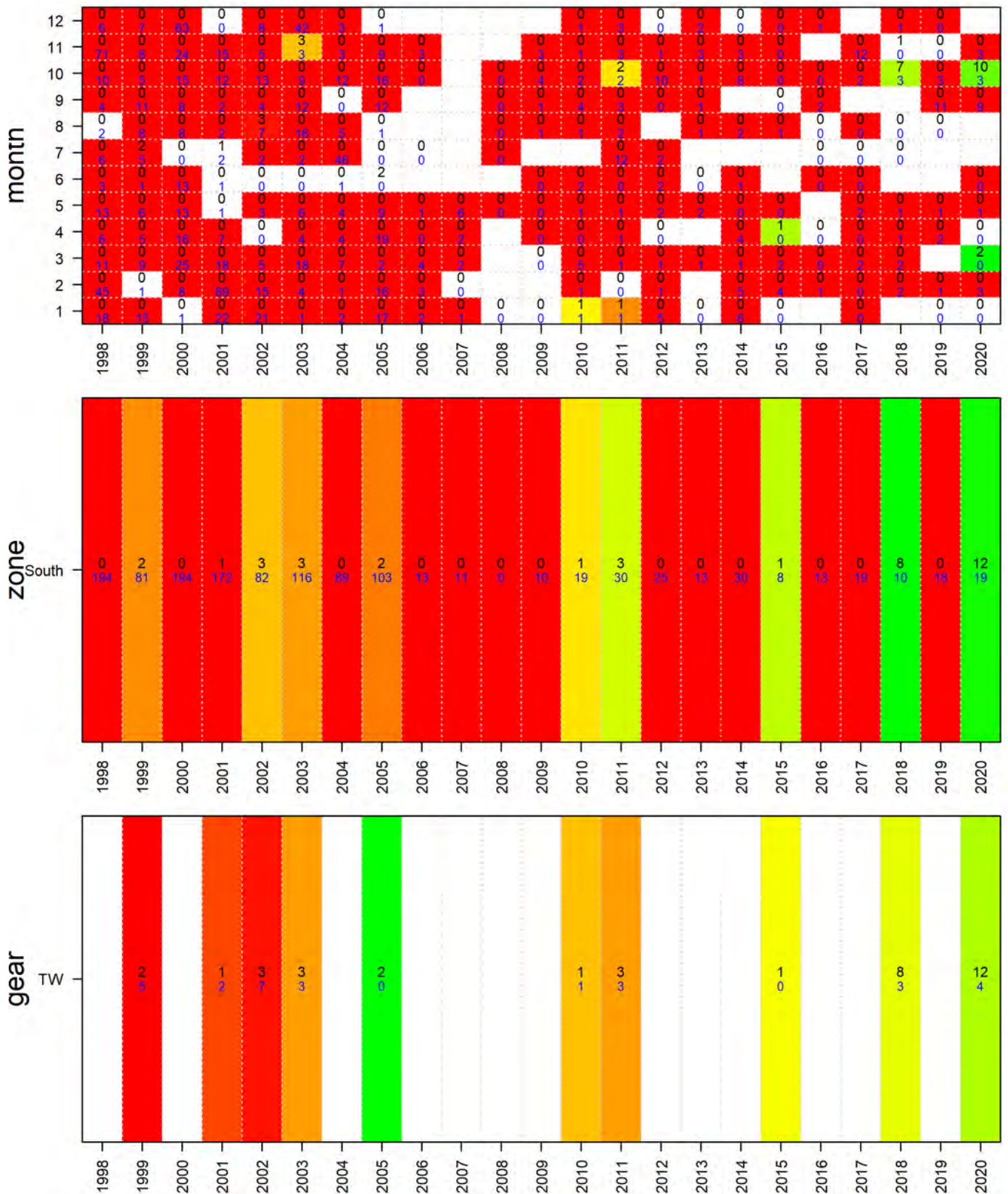


Figure 208 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Orange Roughy South. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy South Onboard length data

Mon Aug 16 10:36:56 2021

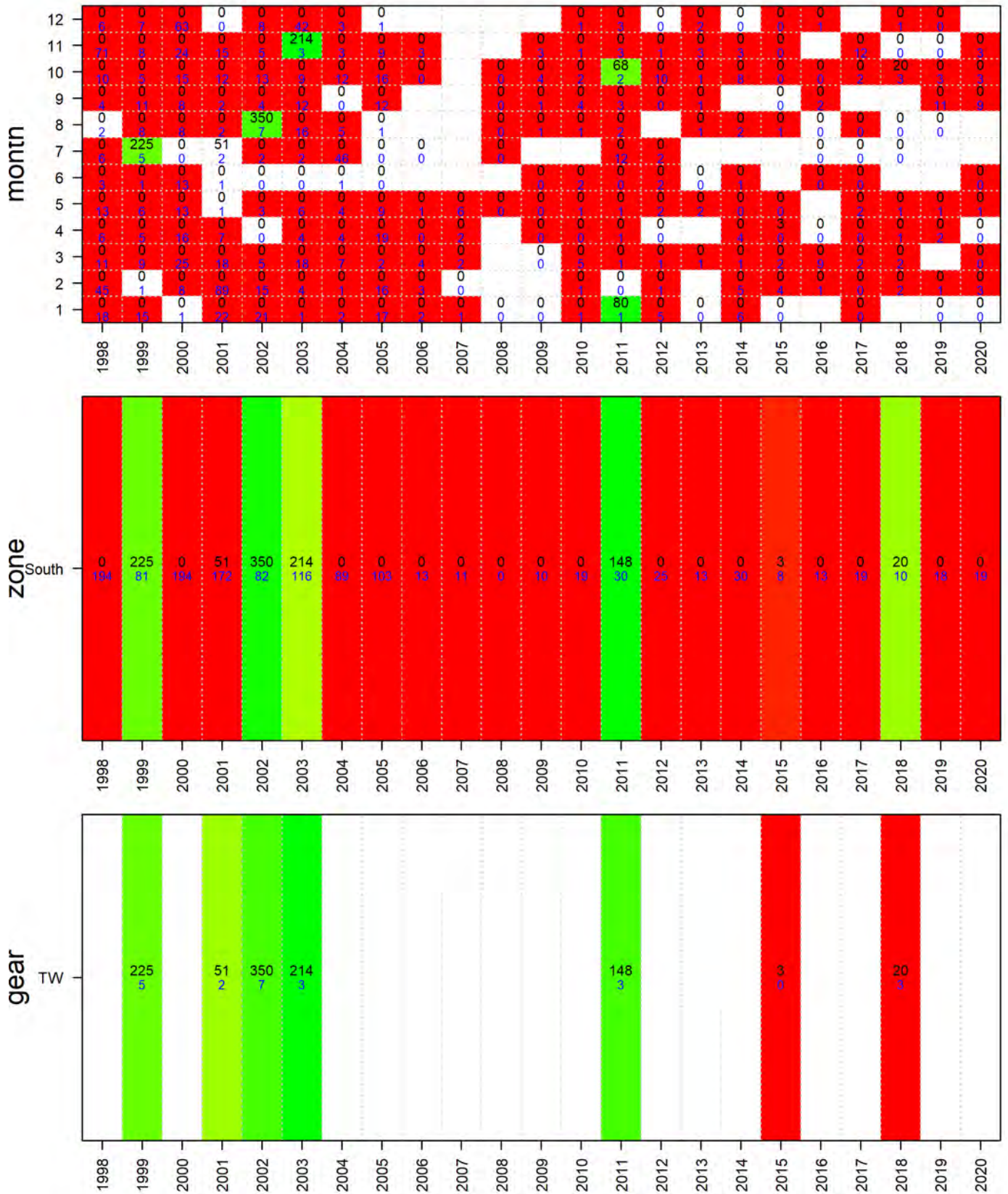


Figure 209 Onboard length data sampling coverage by month (top), zone (middle) and gear for Orange Roughy South. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Orange Roughy South

# Age data

Mon Aug 16 10:36:57 2021

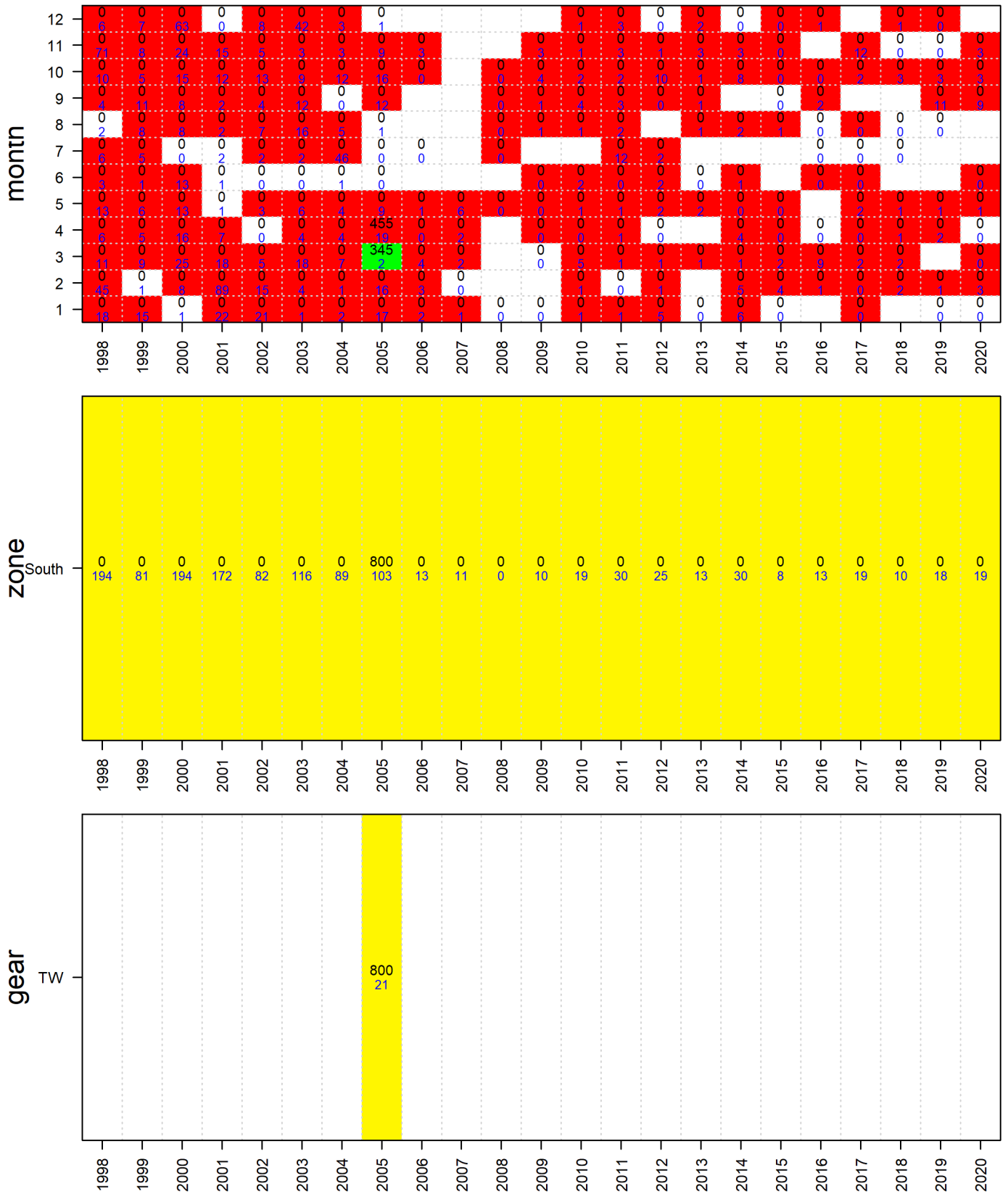
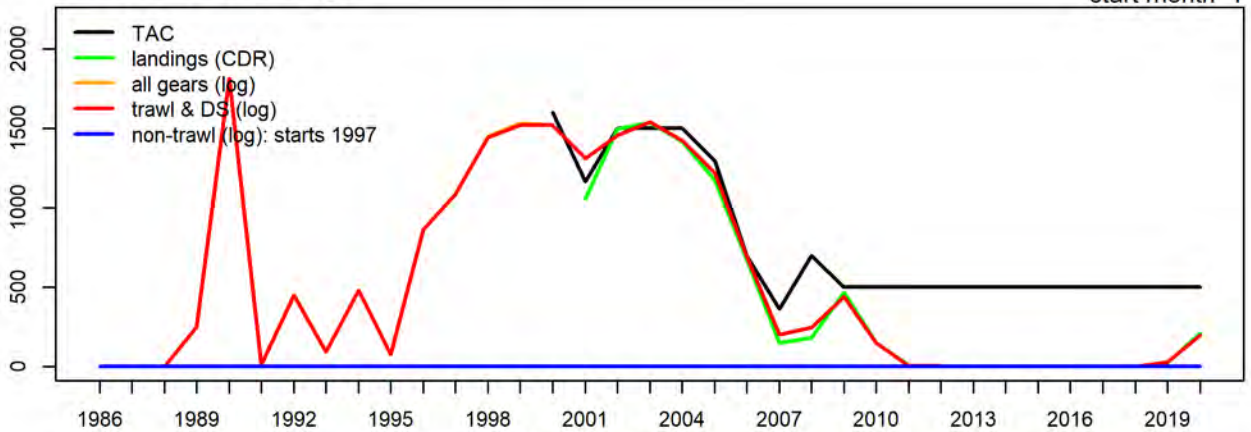


Figure 210 Age data sampling coverage by month (top), zone (middle) and gear for Orange Roughy South. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

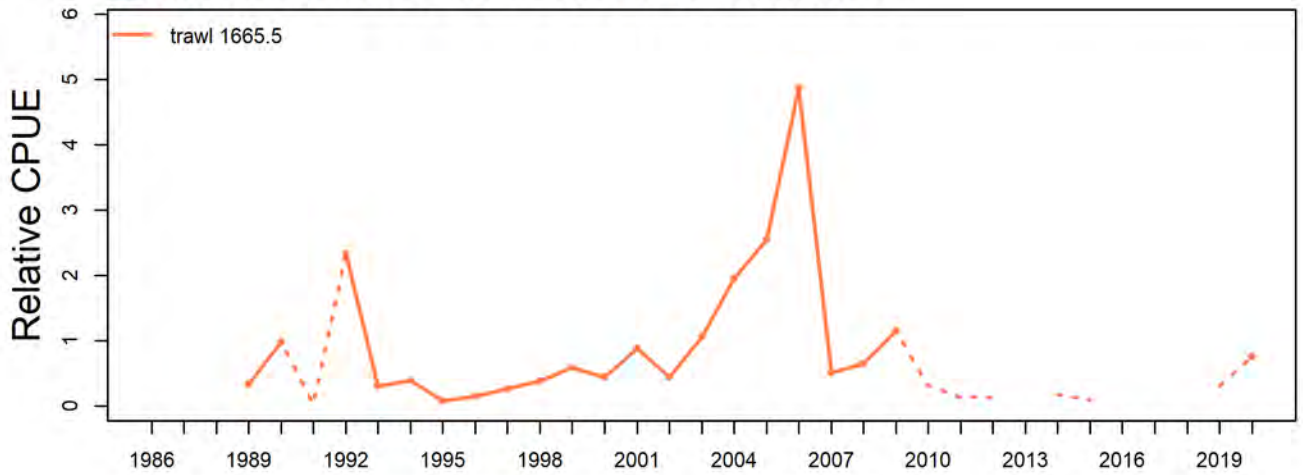
# Orange Roughy Cascade

## TAC and landings

Mon Aug 16 10:36:57 2021  
 region OR40 unit code ORC sa code ORC  
 37255009  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

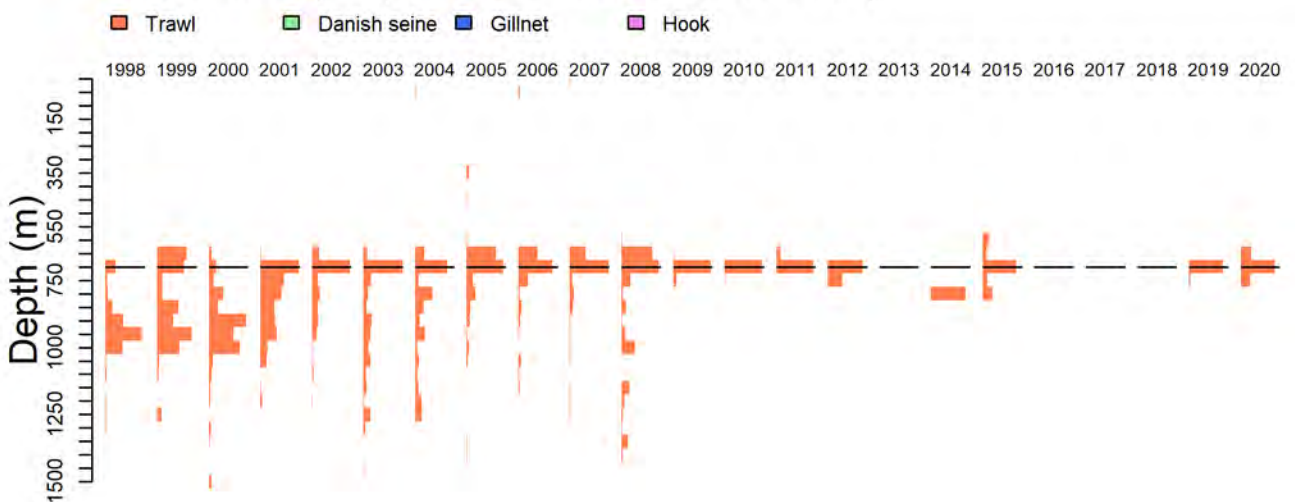
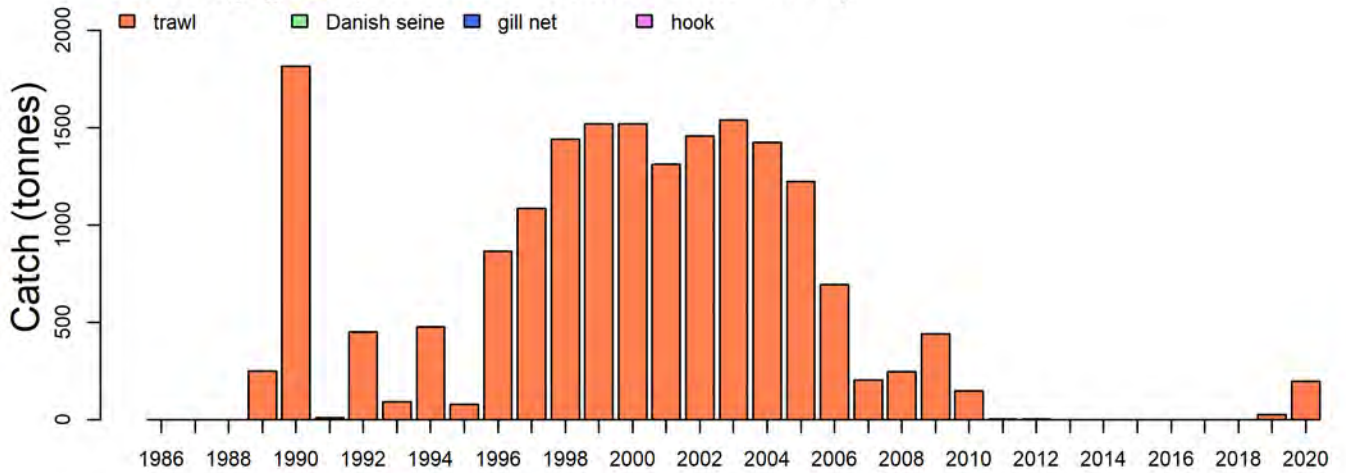


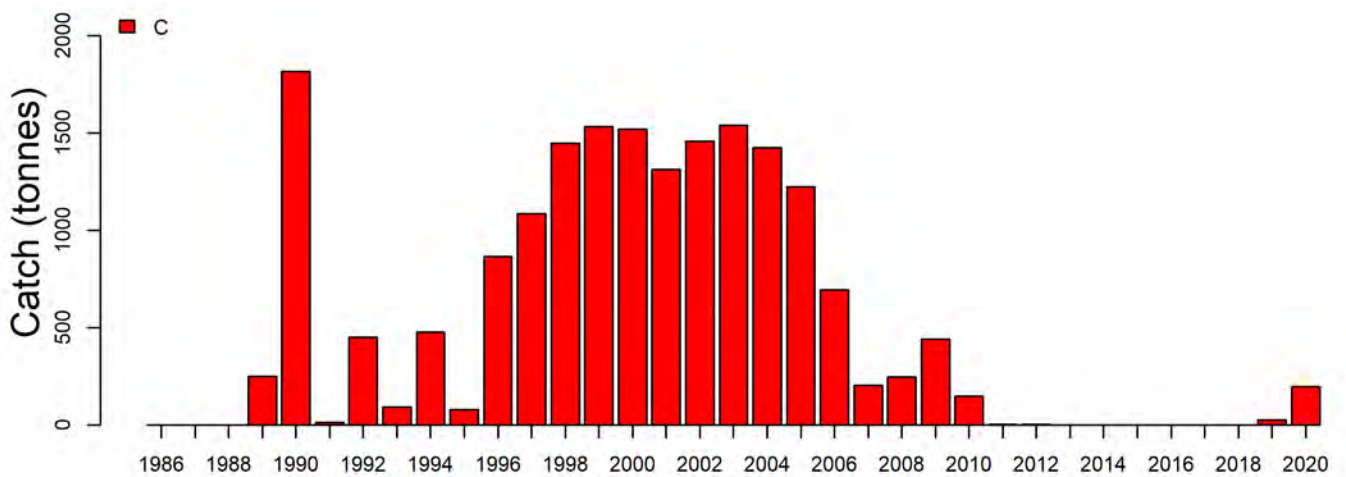
Figure 211 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Orange Roughy Cascade. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy Cascade

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

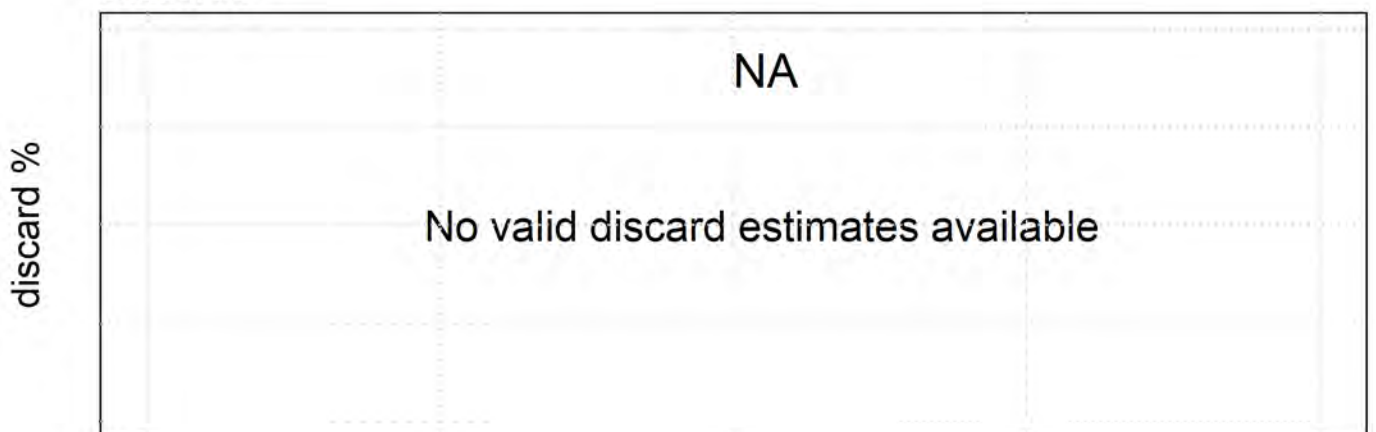


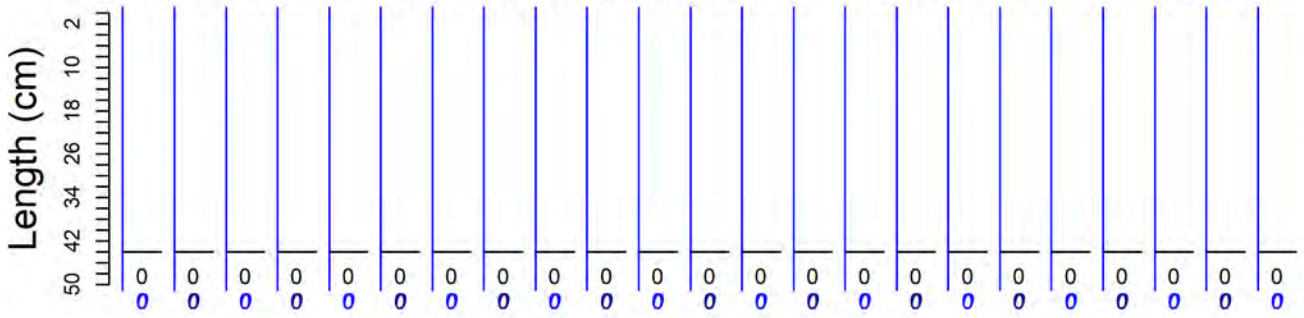
Figure 212 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Orange Roughy Cascade. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy Cascade

Mon Aug 16 10:36:59 2021

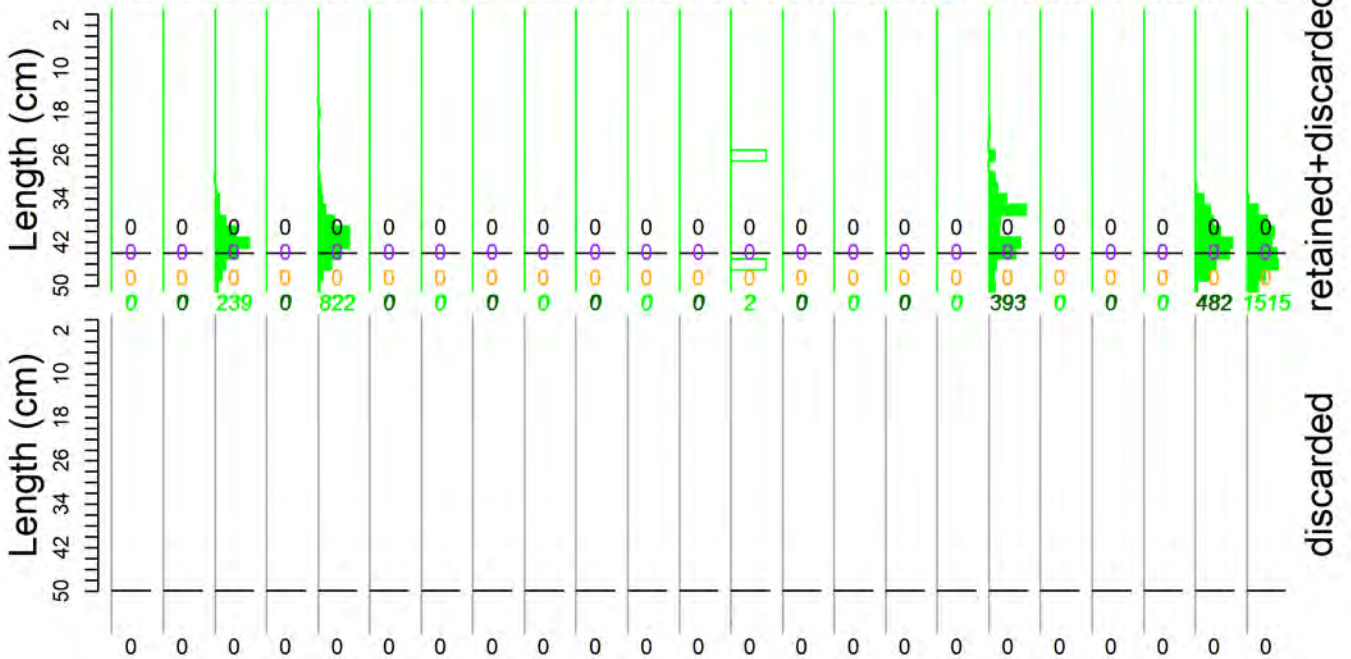
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

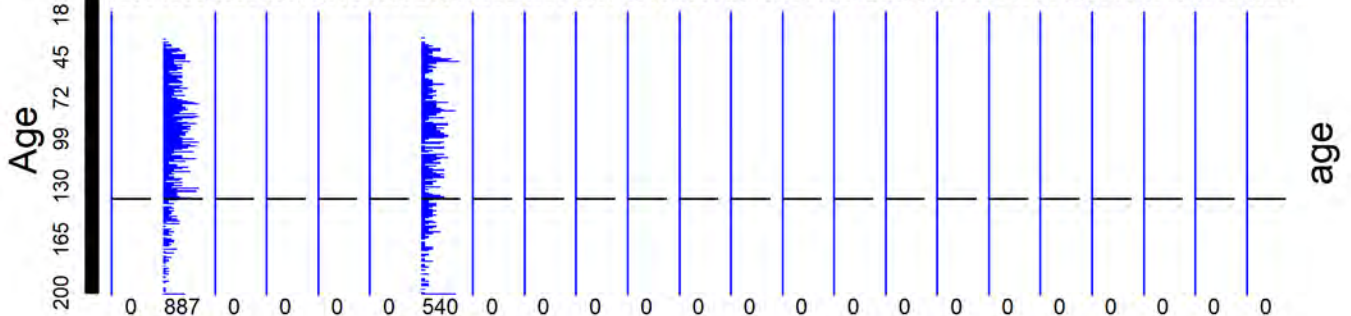


Figure 213 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Orange Roughy Cascade. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy Cascade

Mon Aug 16 10:37:00 2021

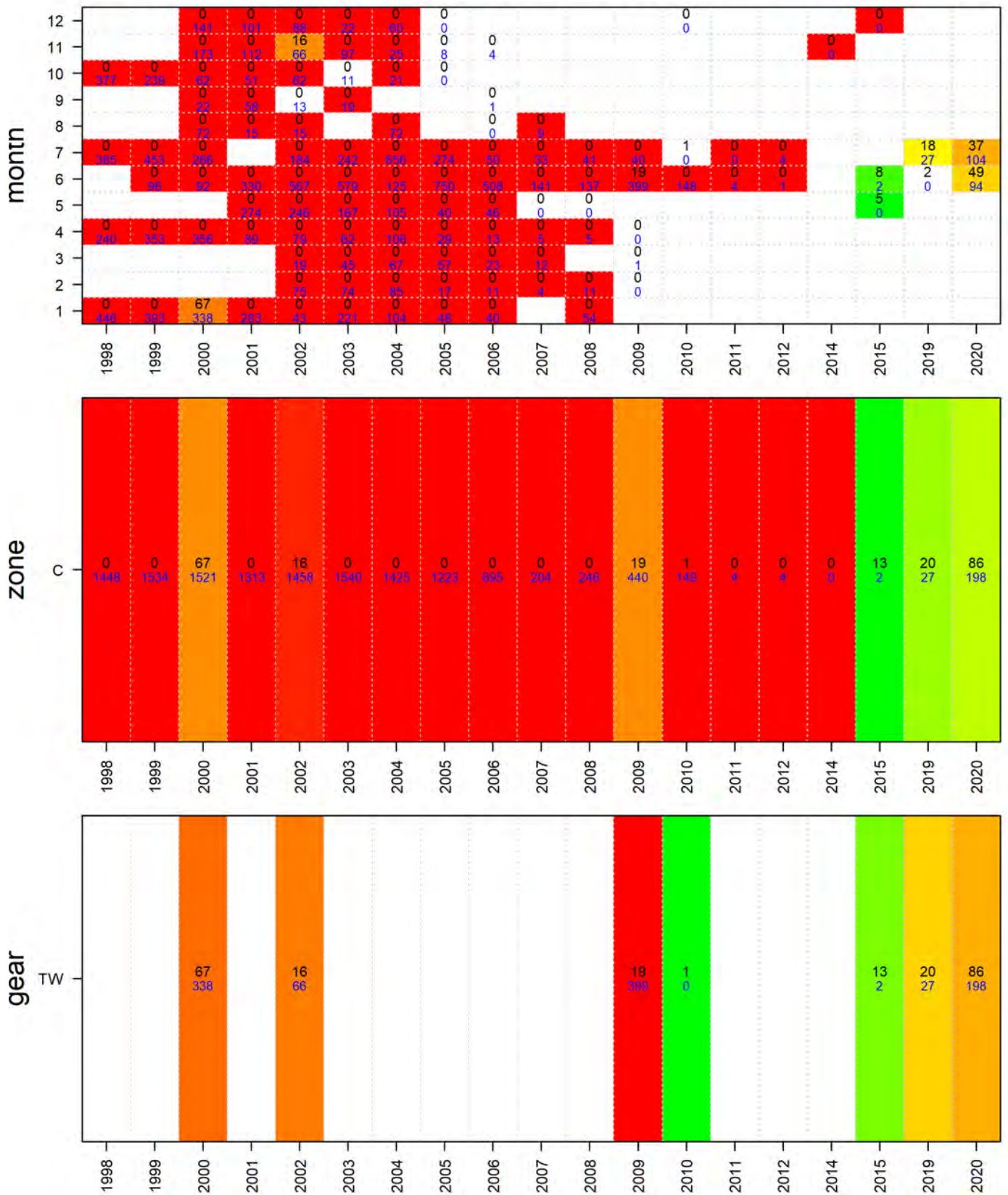


Figure 214 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Orange Roughy Cascade. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy Cascade Onboard length data

Mon Aug 16 10:37:01 2021

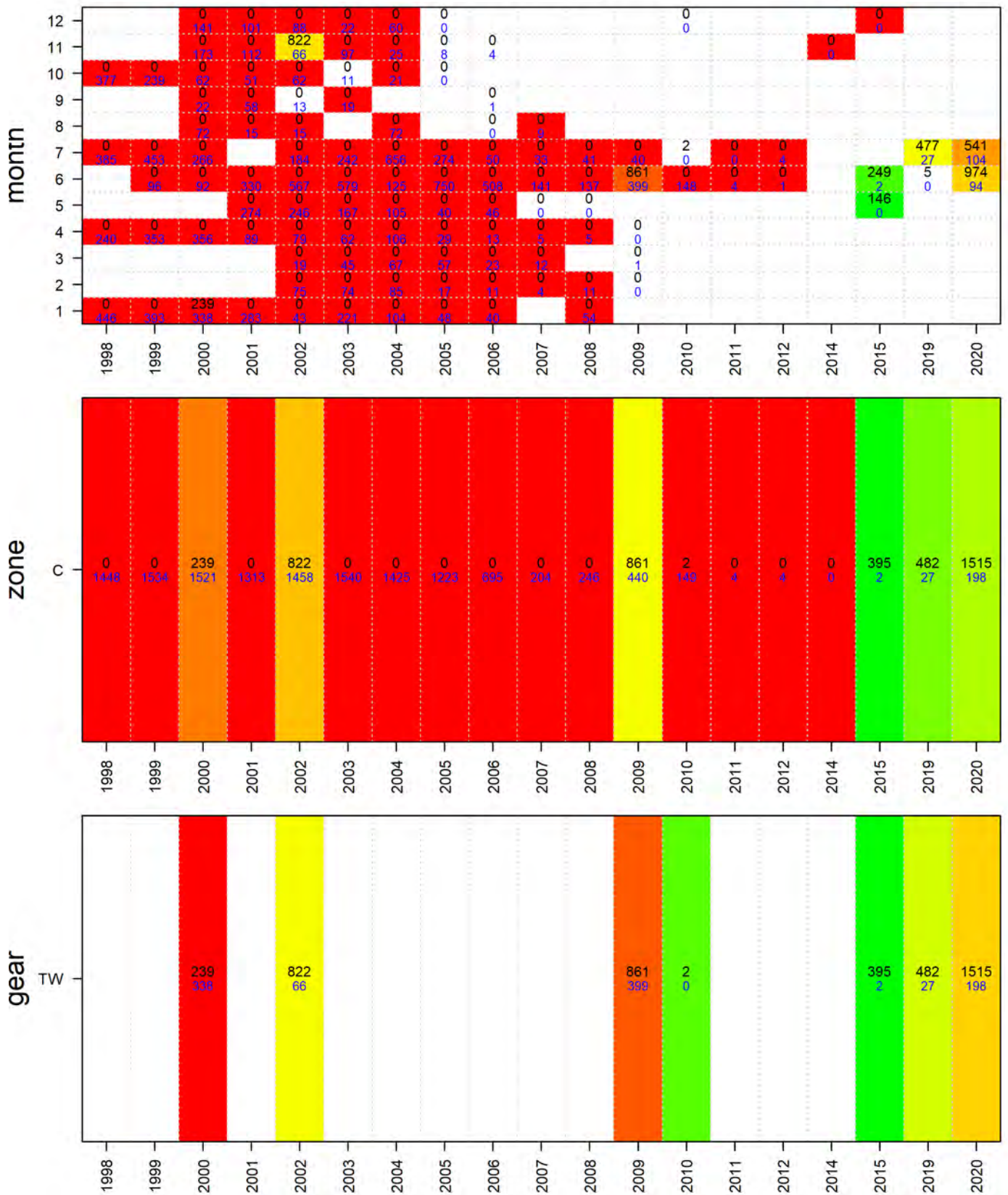


Figure 215 Onboard length data sampling coverage by month (top), zone (middle) and gear for Orange Roughy Cascade. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy Cascade

# Age data

Mon Aug 16 10:37:02 2021

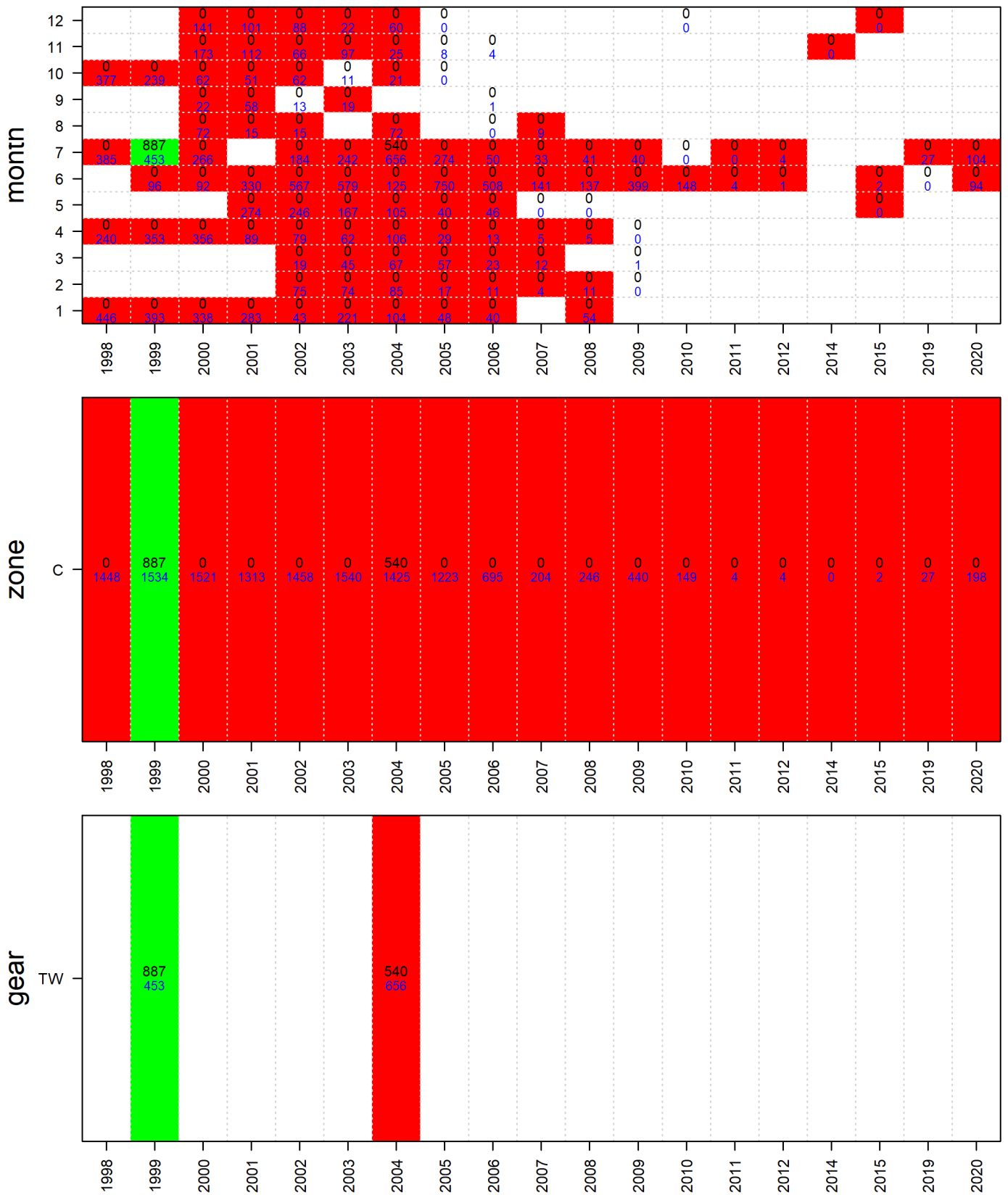
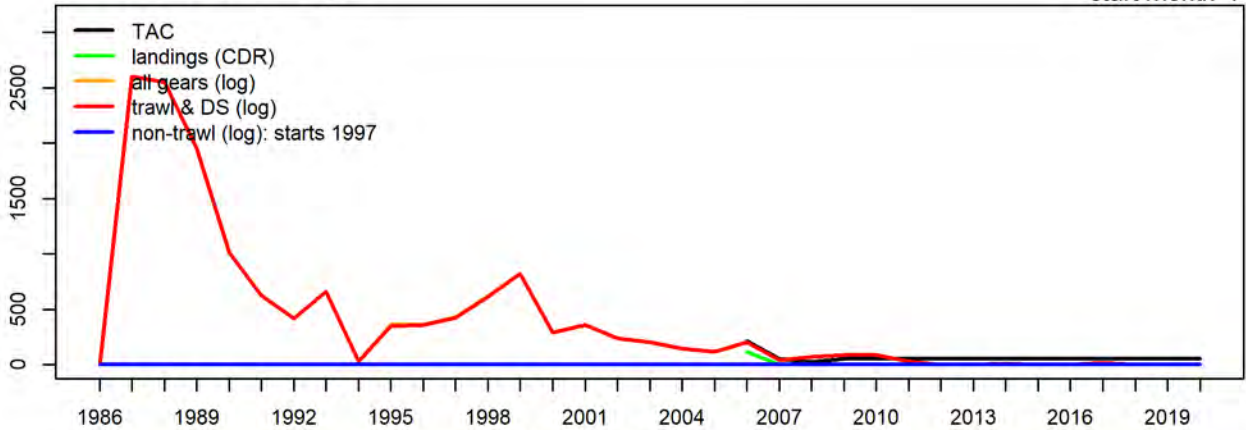


Figure 216 Age data sampling coverage by month (top), zone (middle) and gear for Orange Roughy Cascade. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

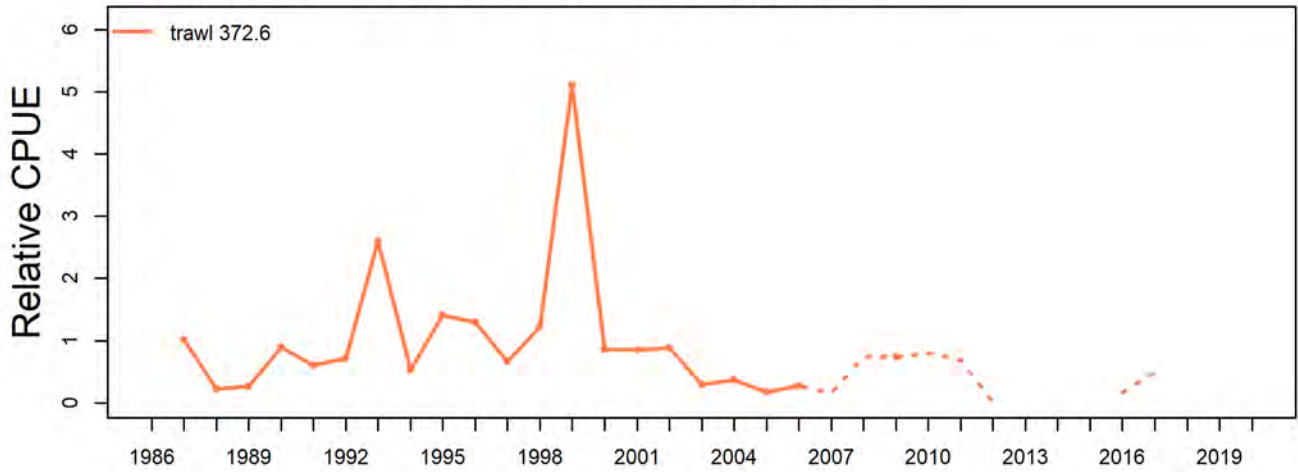
# Orange Roughy GAB

## TAC and landings

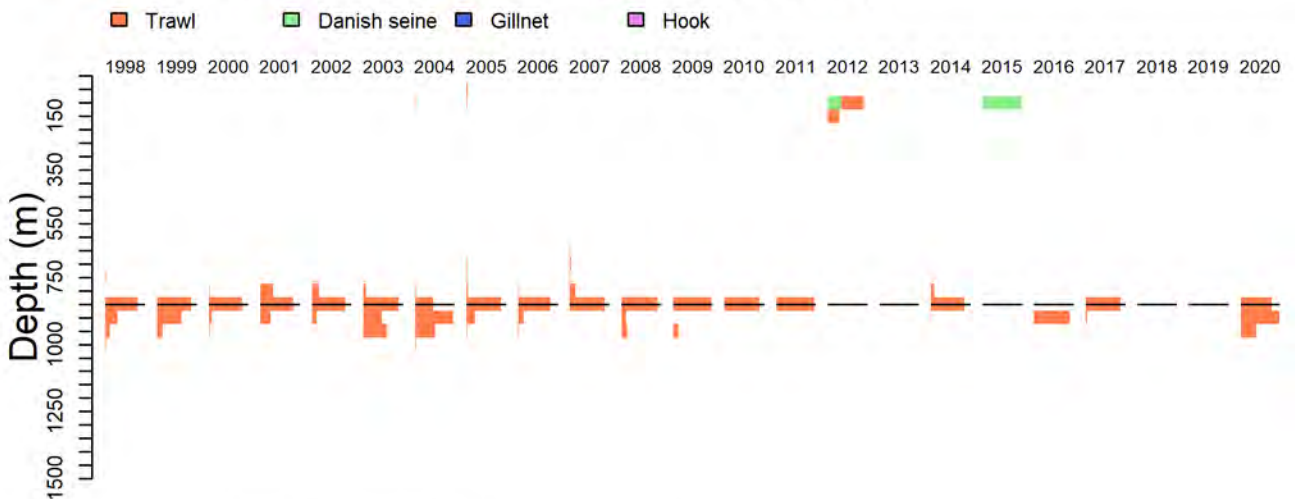
Mon Aug 16 10:37:03 2021  
 region GAB unit code ORG sa code ORG  
 37255009  
 start month 7



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)



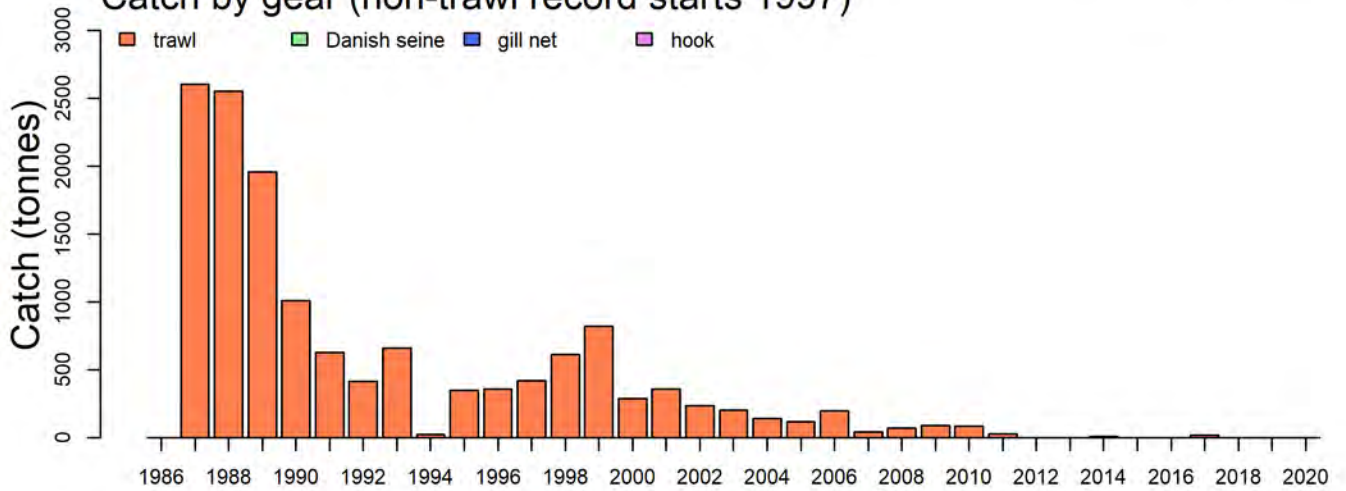
Financial year 2020 is incomplete

Figure 217 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Orange Roughy GAB. For more information contact AFMA on (02) 6225 5555.

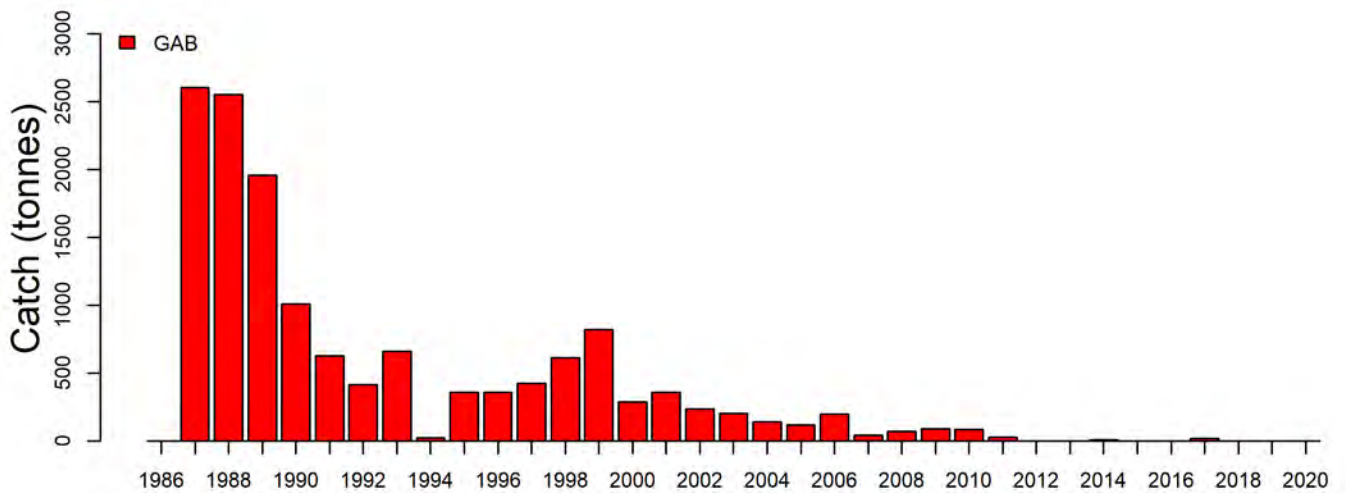


# Orange Roughy GAB

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

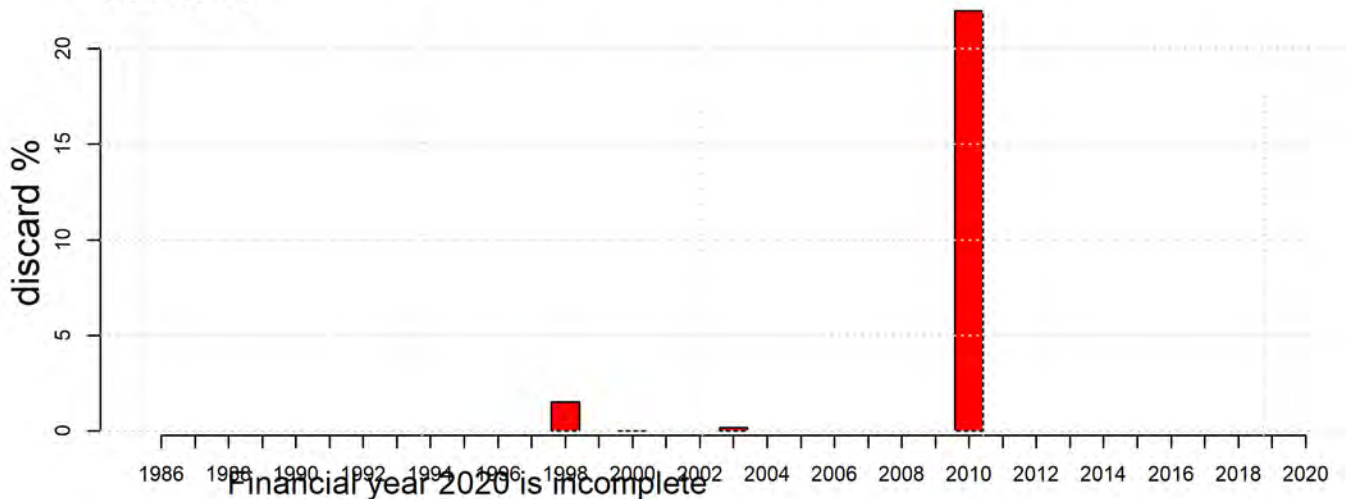


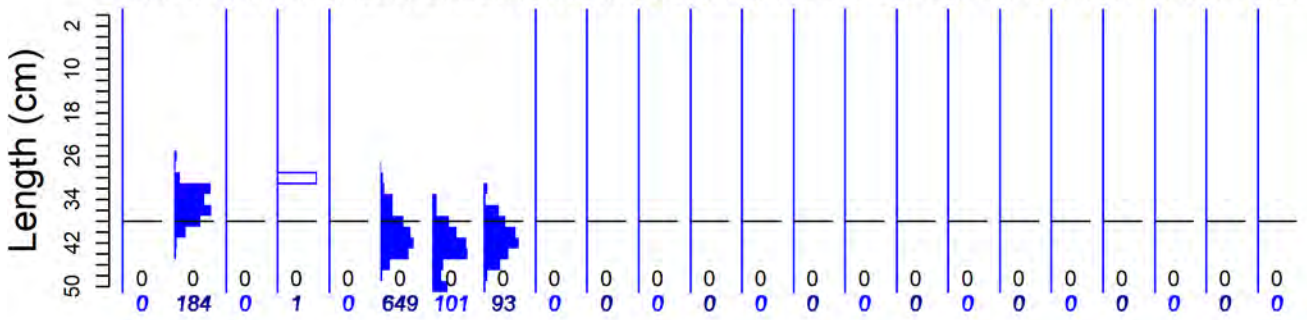
Figure 218 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Orange Roughy GAB. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy GAB

Mon Aug 16 10:37:04 2021

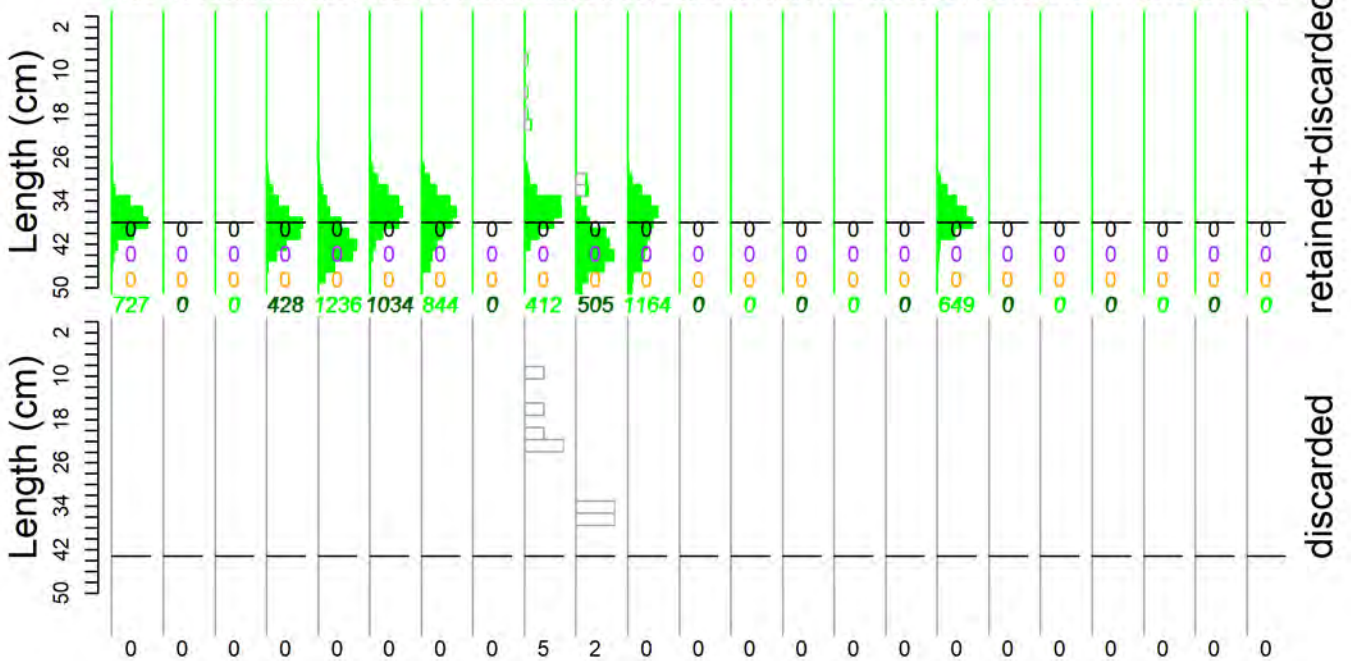
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

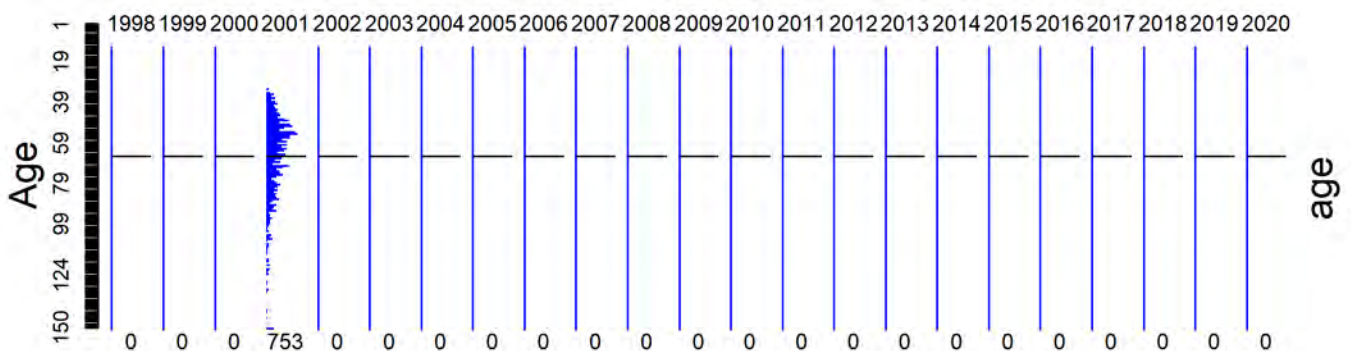


Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency



Financial year 2020 is incomplete

Figure 219 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Orange Roughy GAB. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy GAB

# Port length data

Mon Aug 16 10:37:05 2021

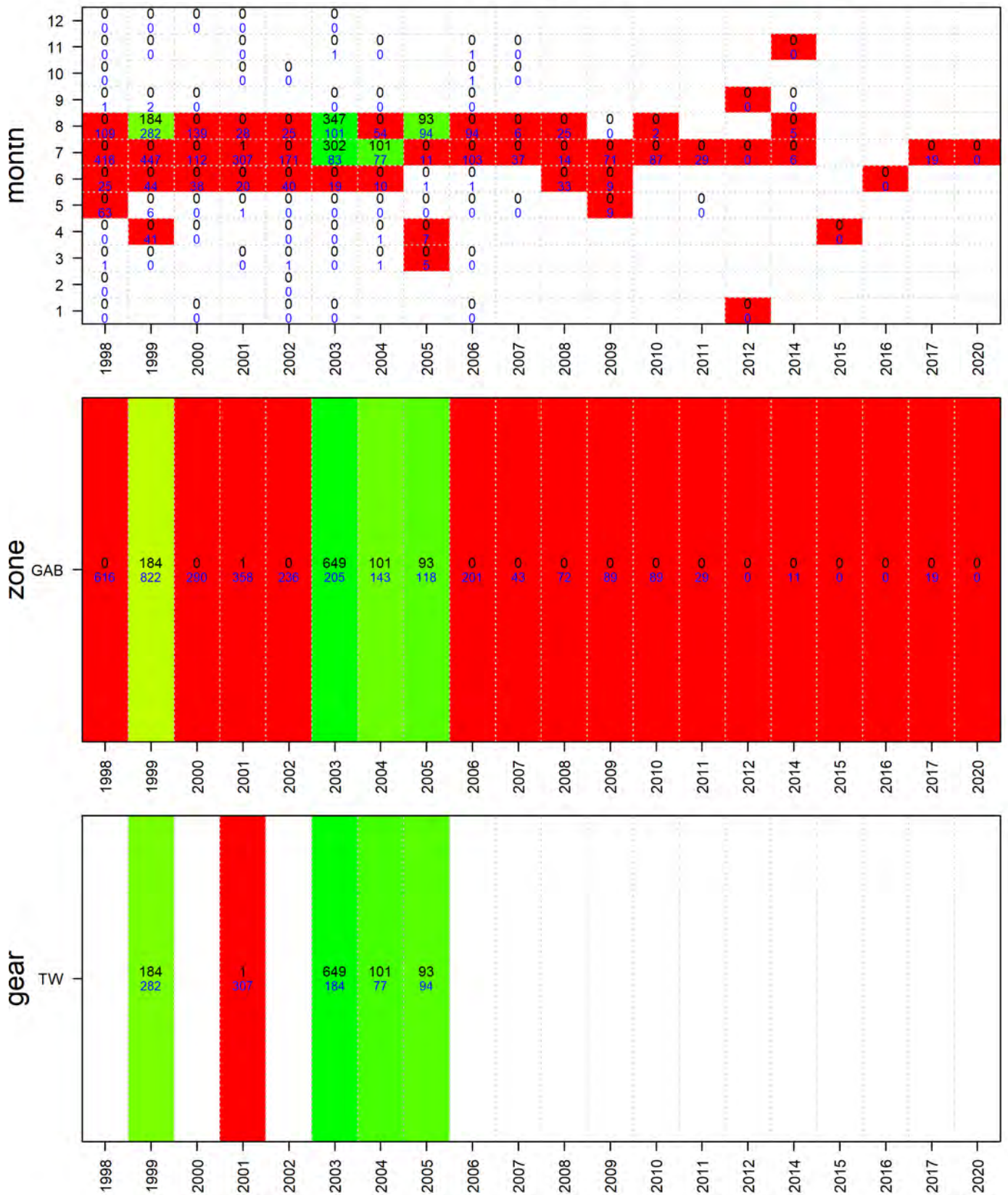


Figure 220 Port length data sampling coverage by month (top), zone (middle) and gear for Orange Roughy GAB. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy GAB onboard discard weight data

Mon Aug 16 10:37:06 2021

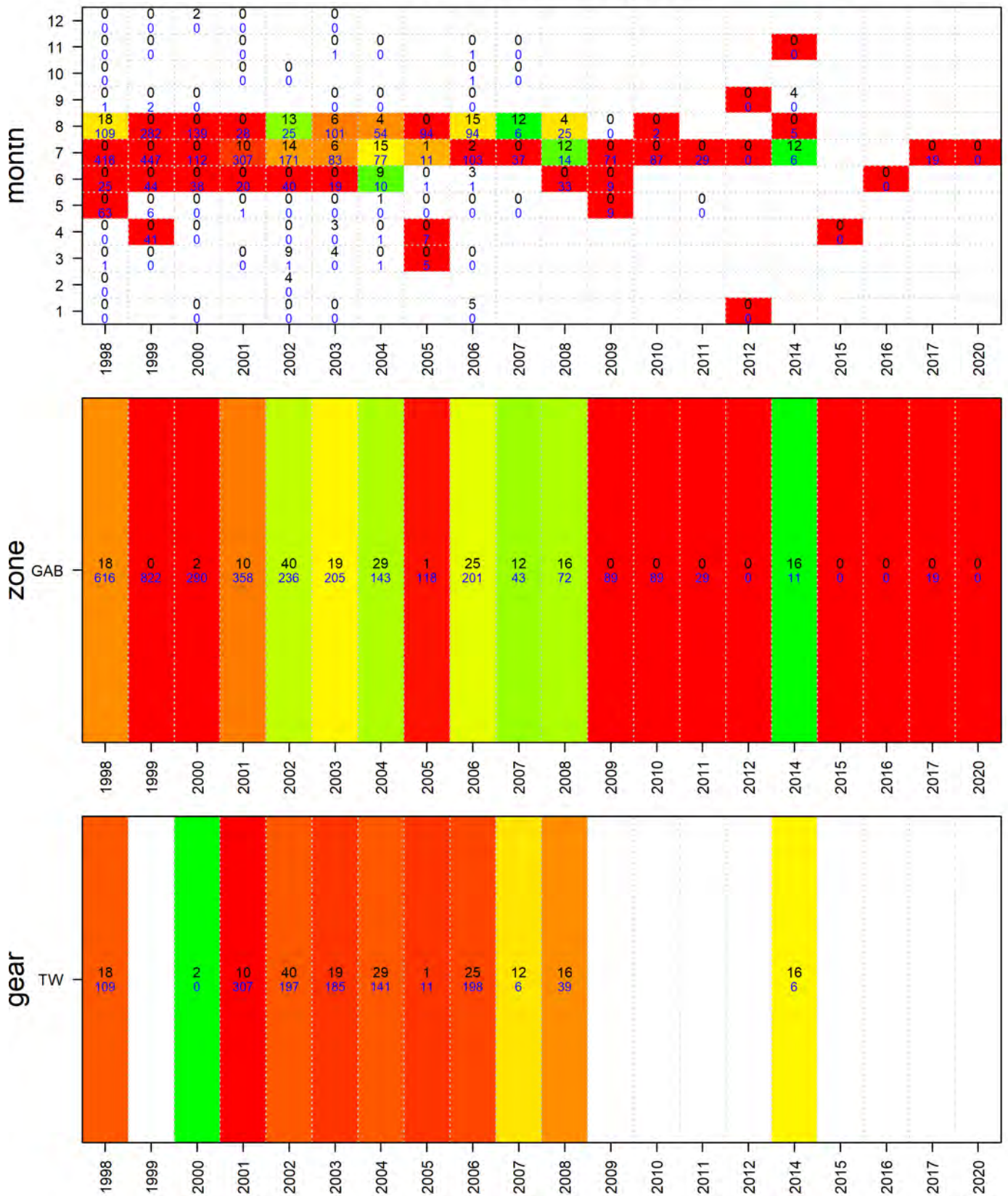


Figure 221 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Orange Roughy GAB. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy GAB Onboard length data

Mon Aug 16 10:37:07 2021

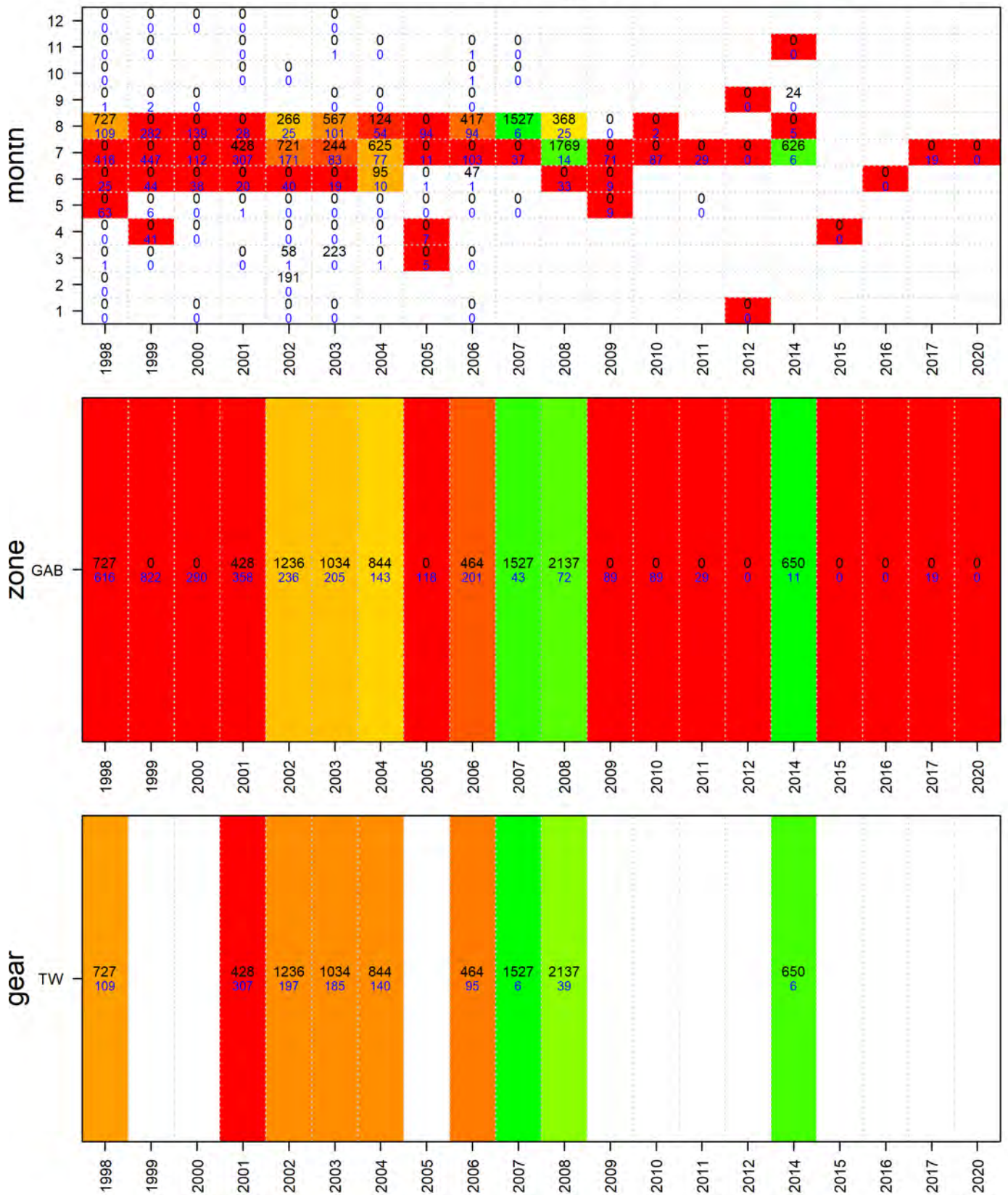


Figure 222 Onboard length data sampling coverage by month (top), zone (middle) and gear for Orange Roughy GAB. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Orange Roughy GAB

# Age data

Mon Aug 16 10:37:08 2021

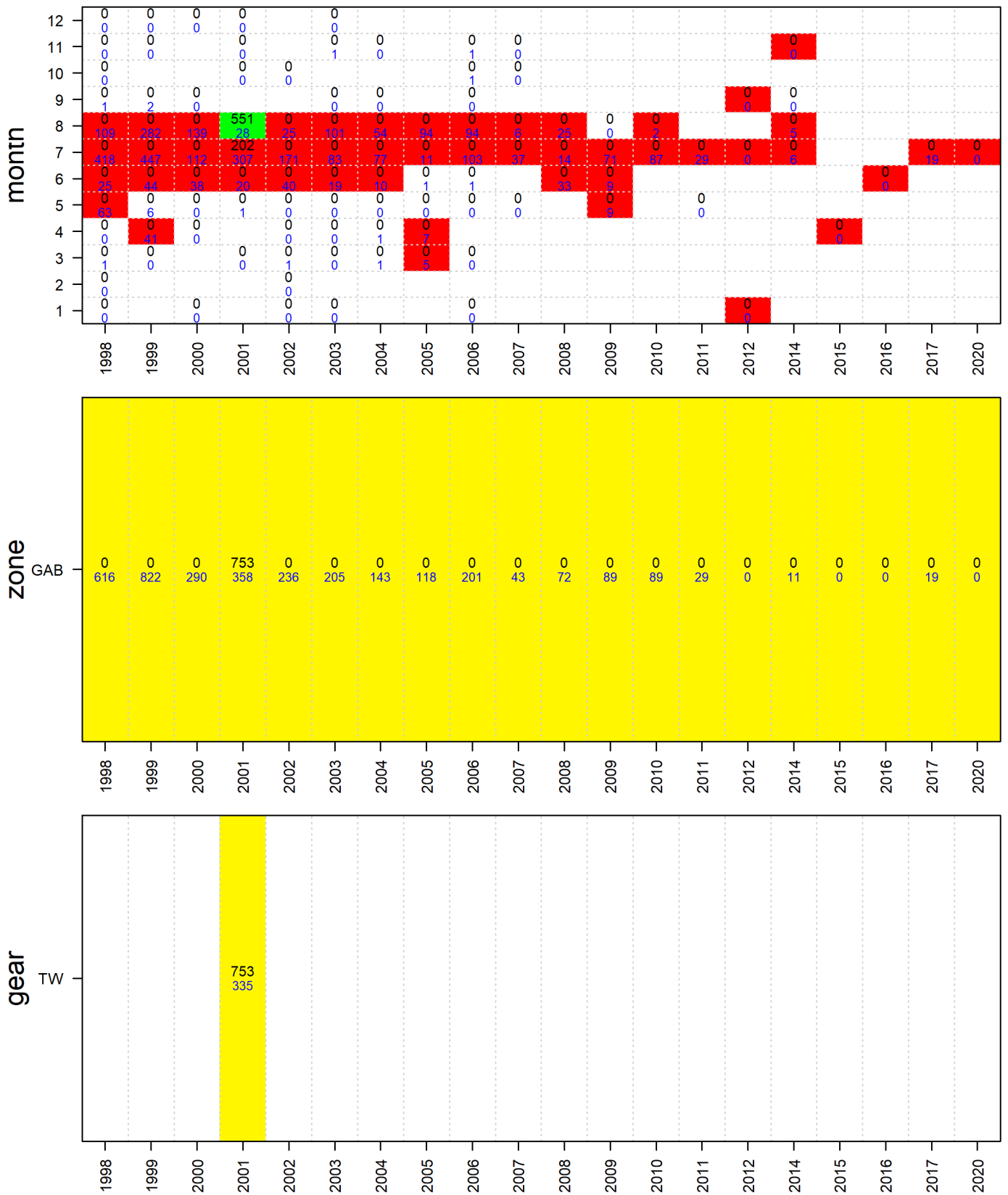
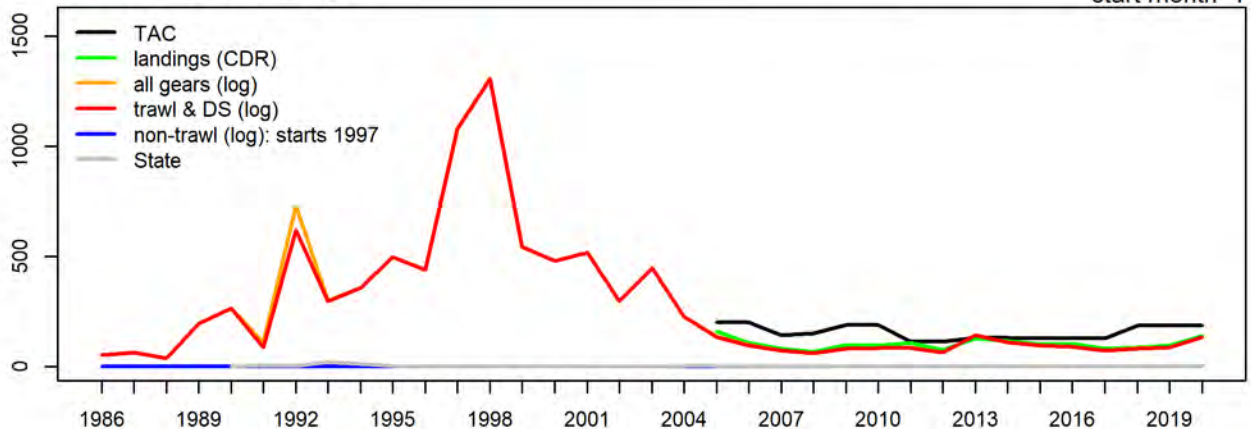


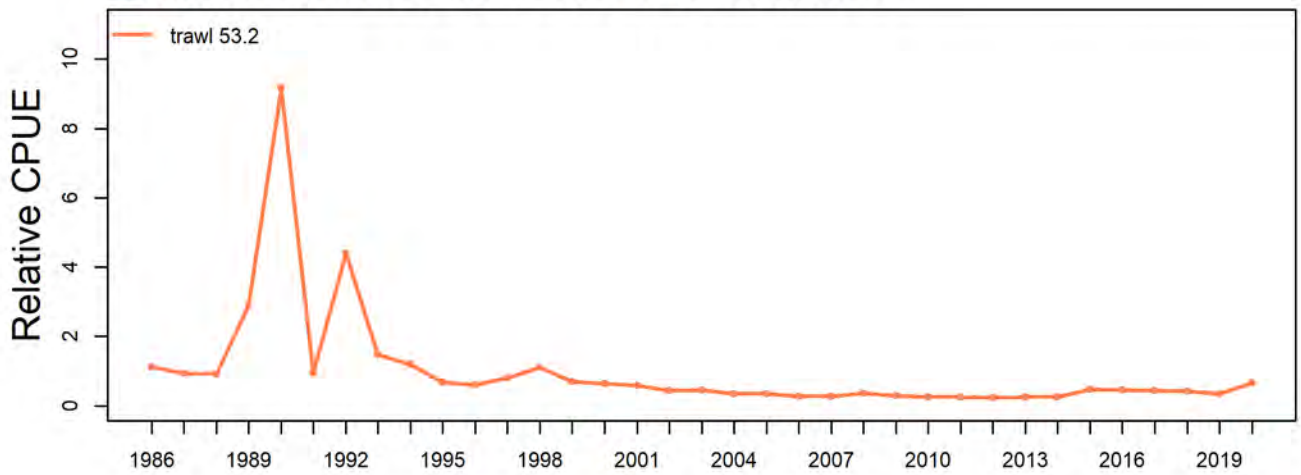
Figure 223 Age data sampling coverage by month (top), zone (middle) and gear for Orange Roughy GAB. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Oreos

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

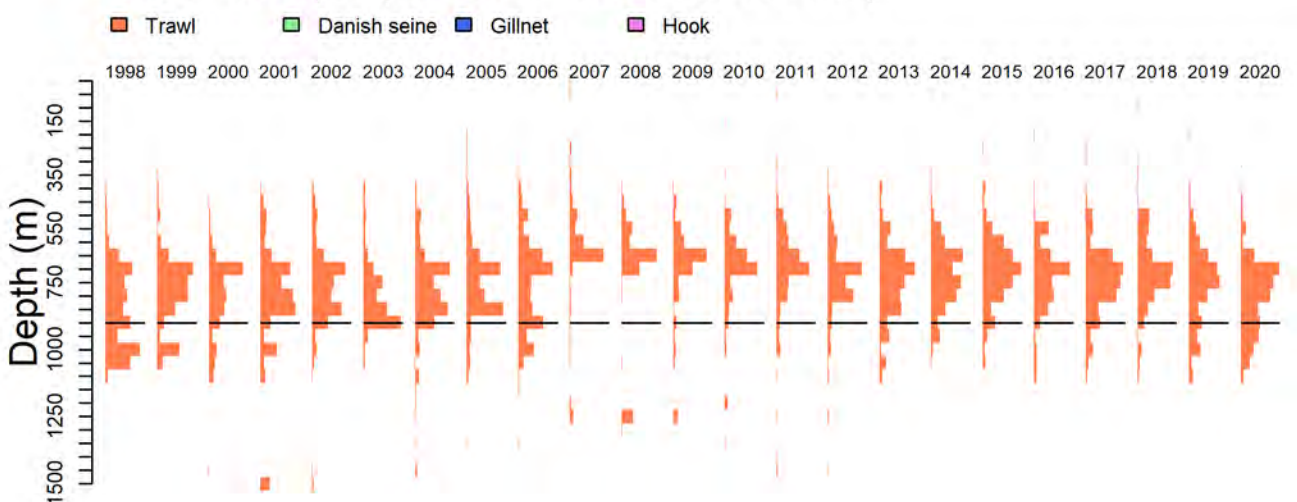
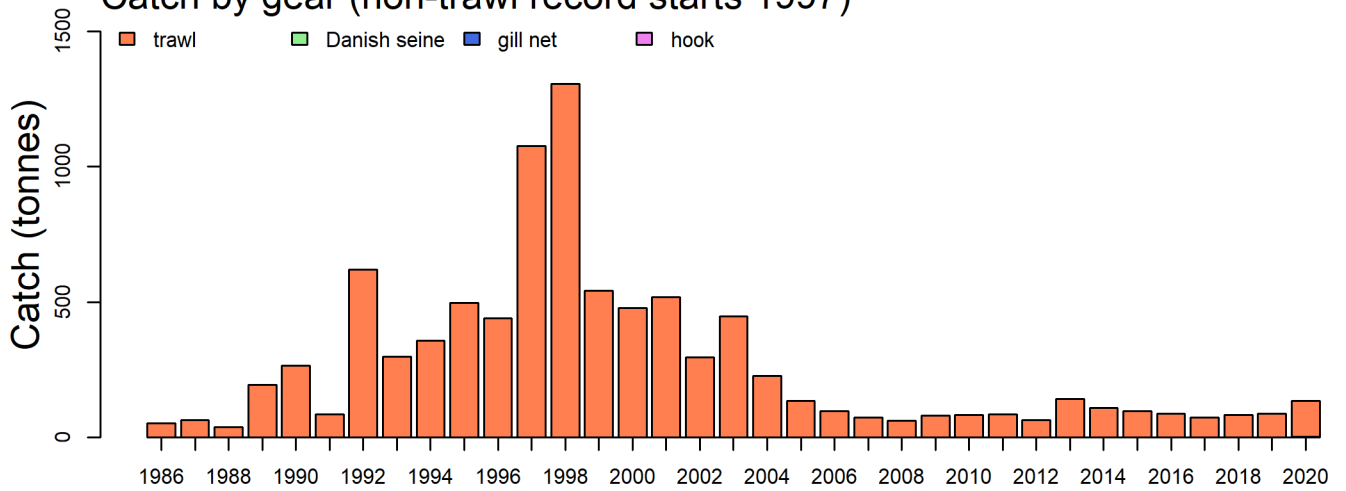


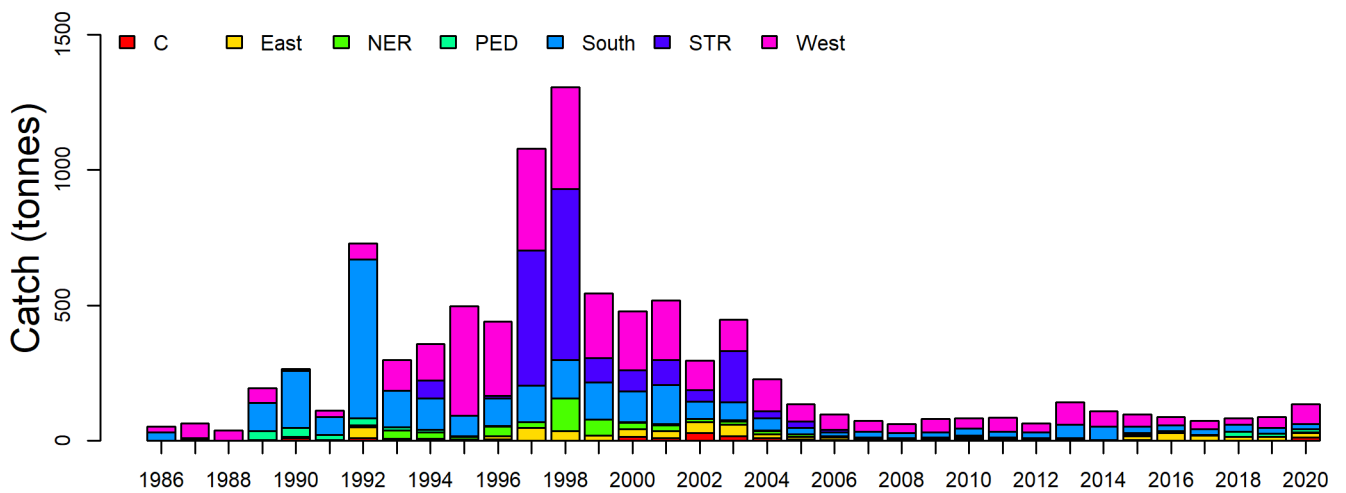
Figure 224 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Oreos. For more information contact AFMA on (02) 6225 5555.

# Oreos

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

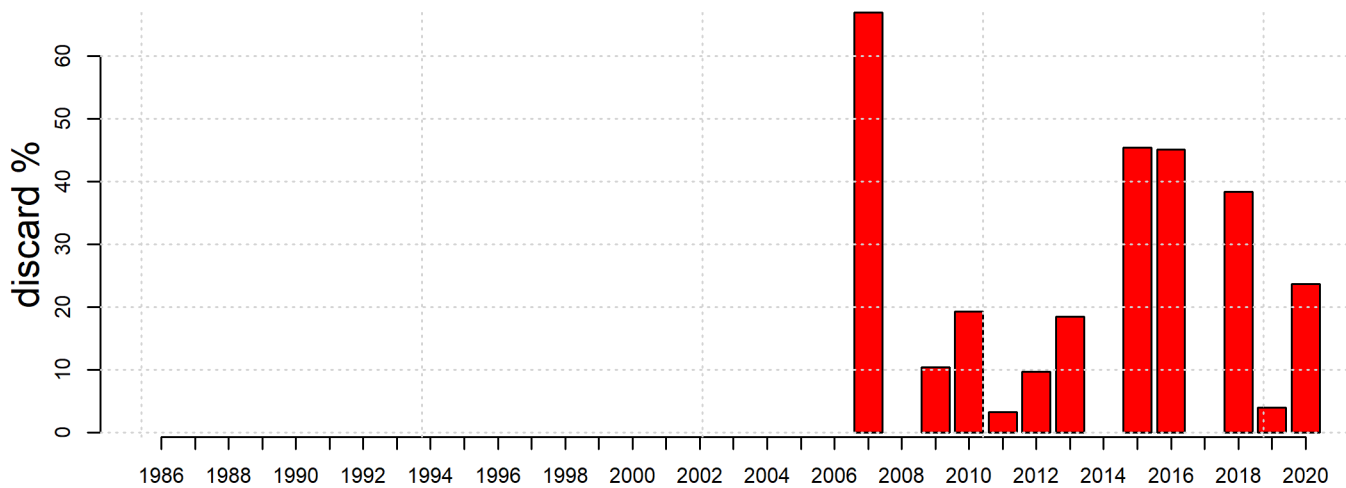


Figure 225 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Oreos. For more information contact AFMA on (02) 6225 5555.

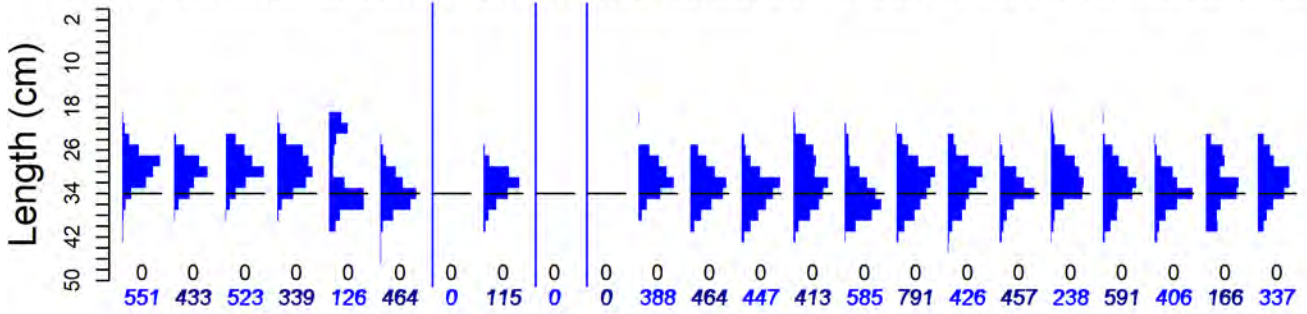


# Oreos

Mon Aug 16 10:37:11 2021

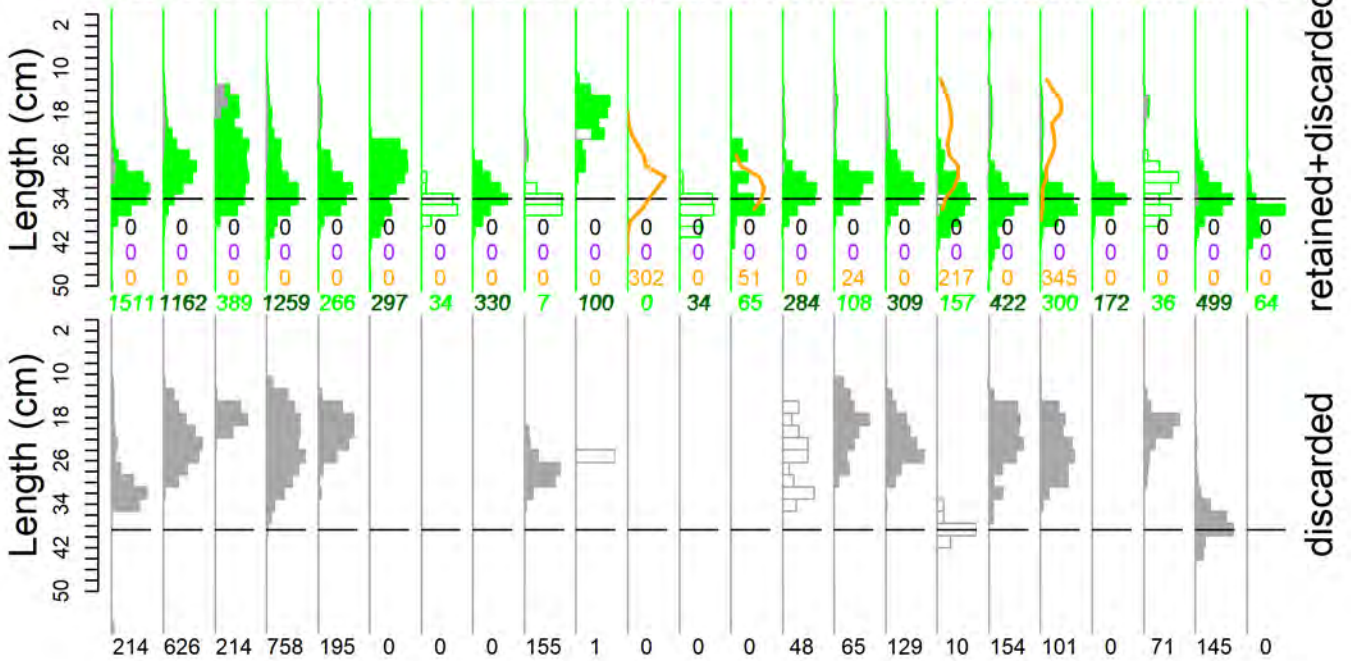
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

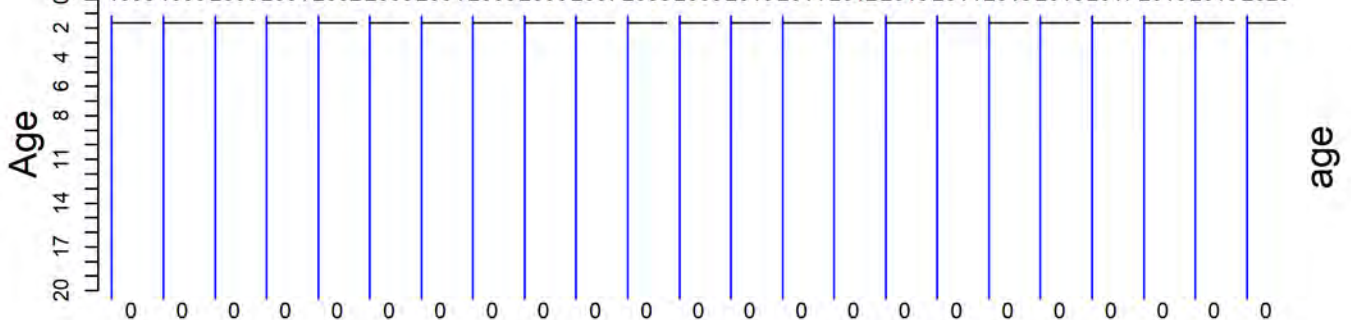


Figure 226 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Oreos. For more information contact AFMA on (02) 6225 5555.

# Oreos

# Port length data

Mon Aug 16 10:37:12 2021

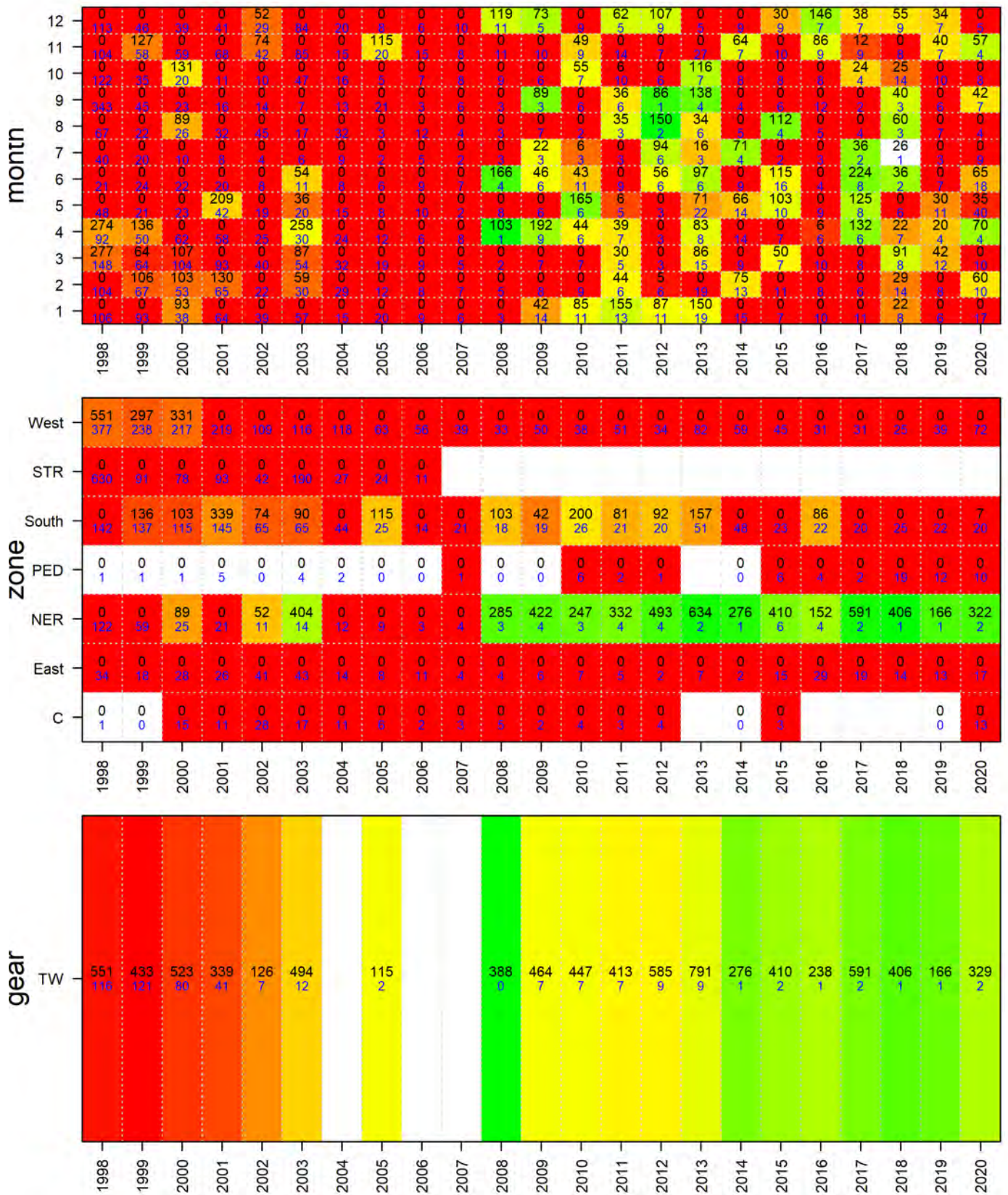


Figure 227 Port length data sampling coverage by month (top), zone (middle) and gear for Oreos. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Oreos

# Onboard discard weight data

Mon Aug 16 10:37:13 2021

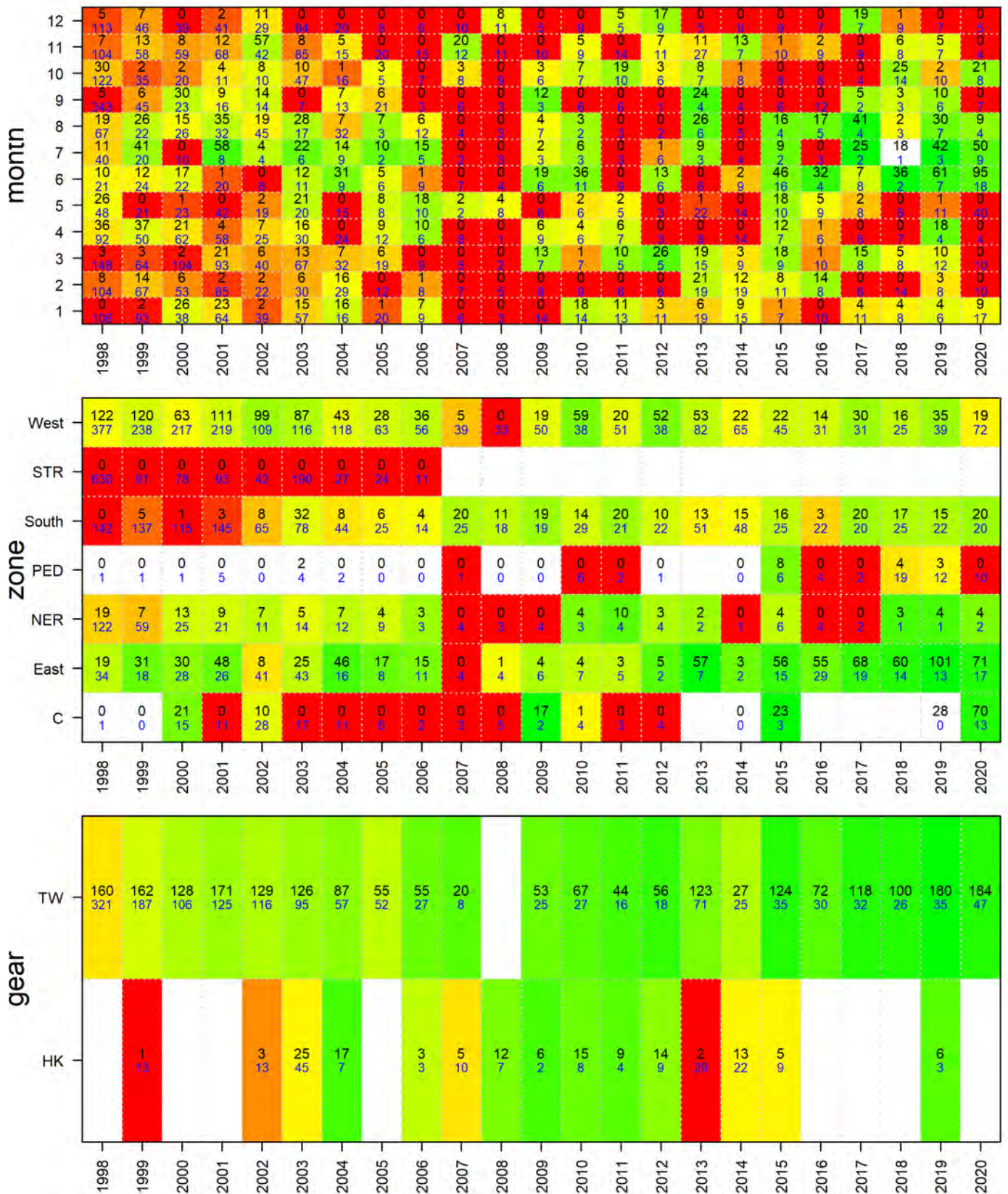


Figure 228 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Oreos. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Oreos

# Onboard length data

Mon Aug 16 10:37:13 2021

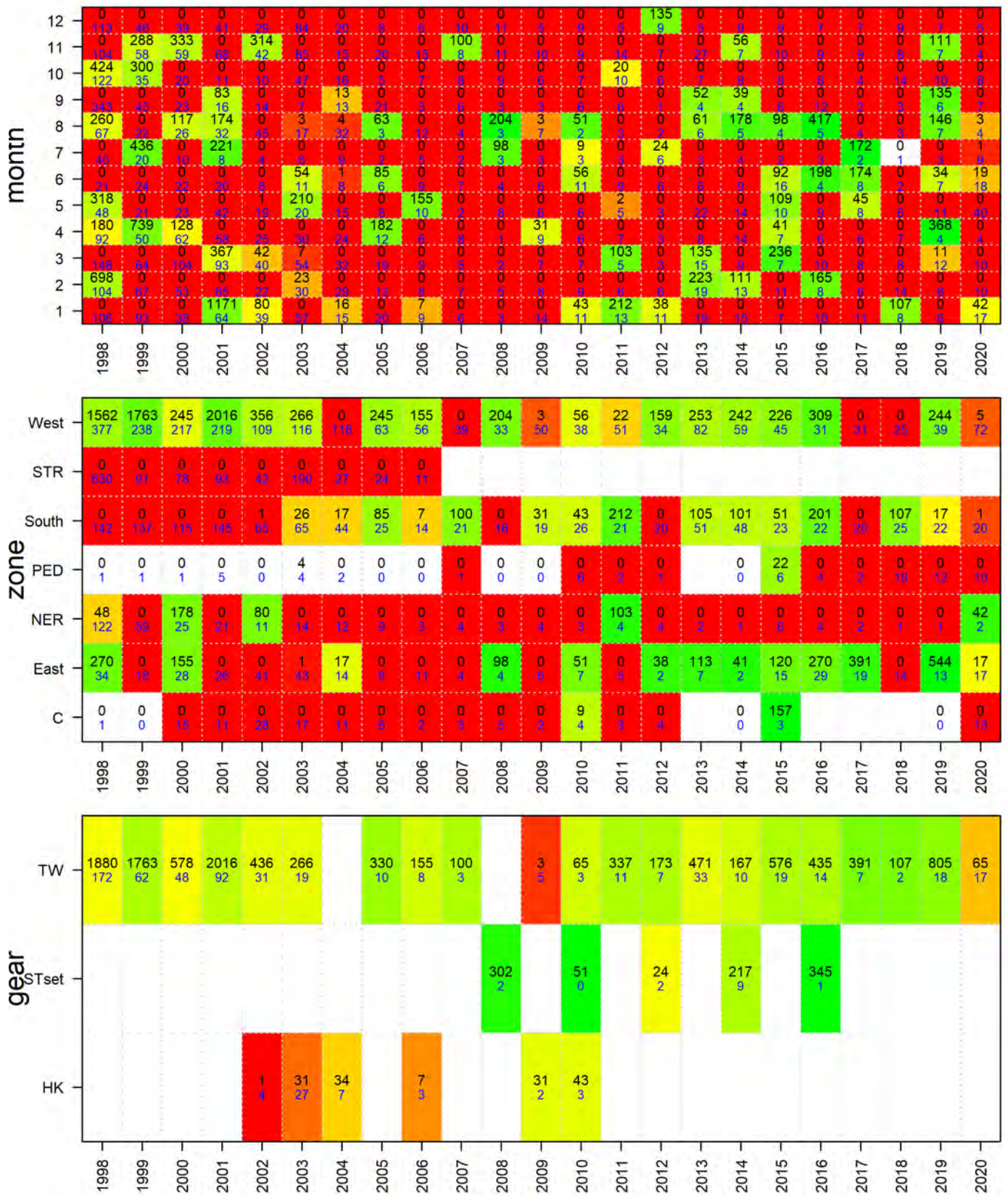
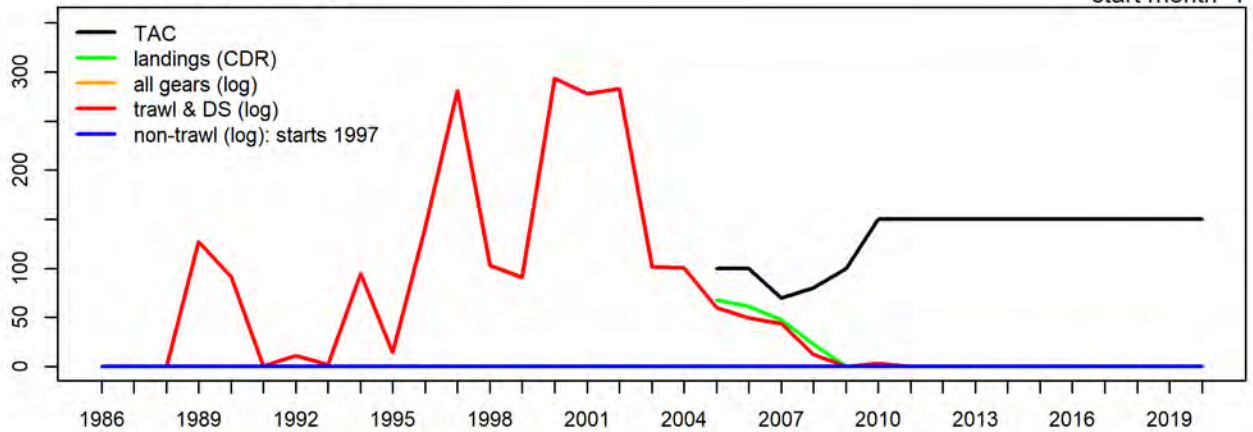


Figure 229 Onboard length data sampling coverage by month (top), zone (middle) and gear for Oreos. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

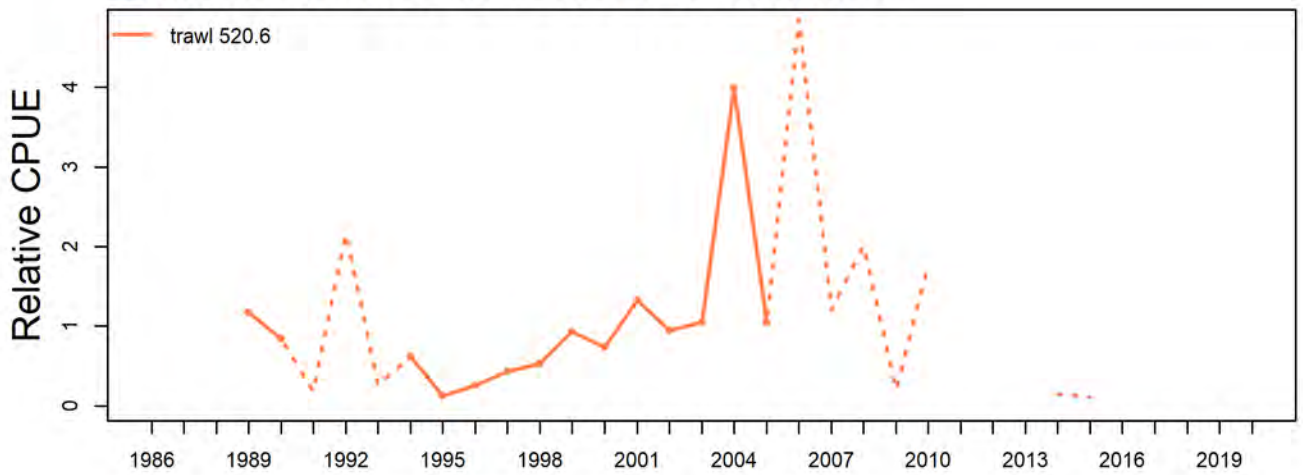
# Smooth Oreo Cascade

## TAC and landings

Mon Aug 16 10:37:15 2021  
 region OR40 unit code DOOR sa code DOOR  
 37266003  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

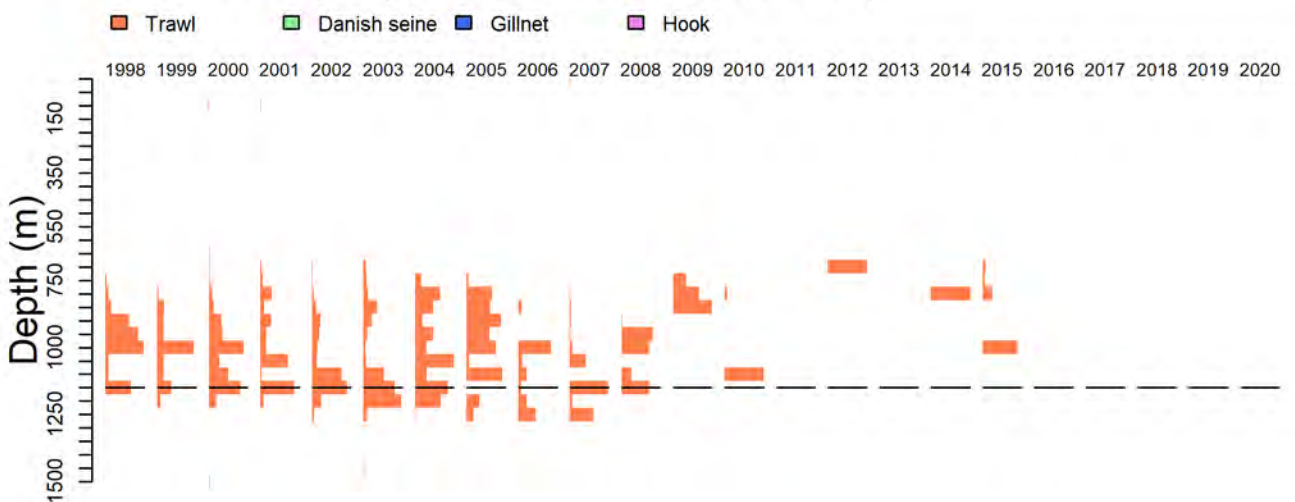
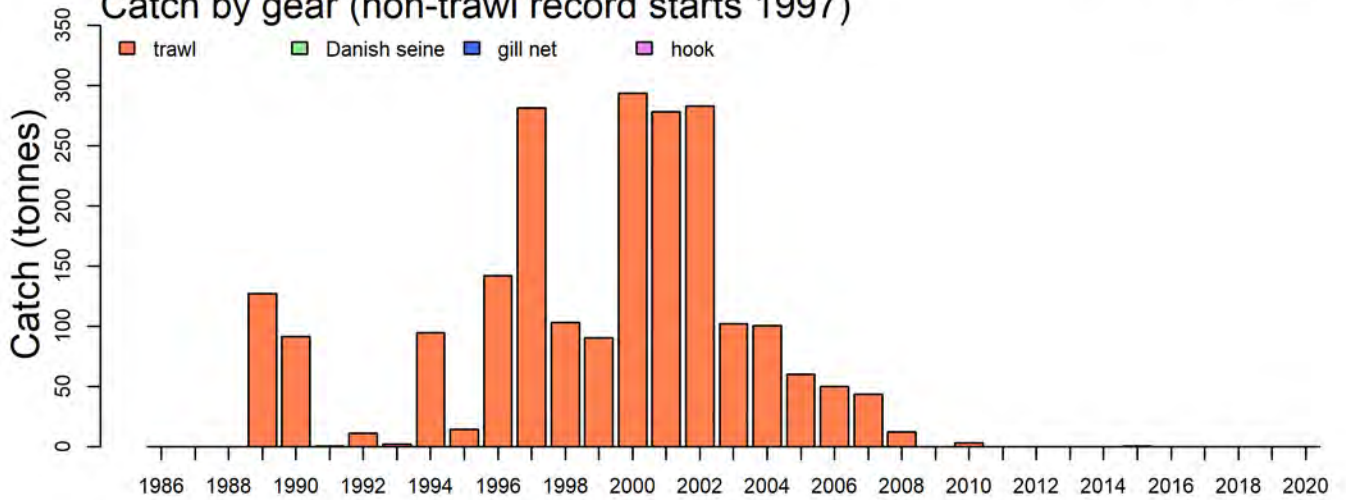


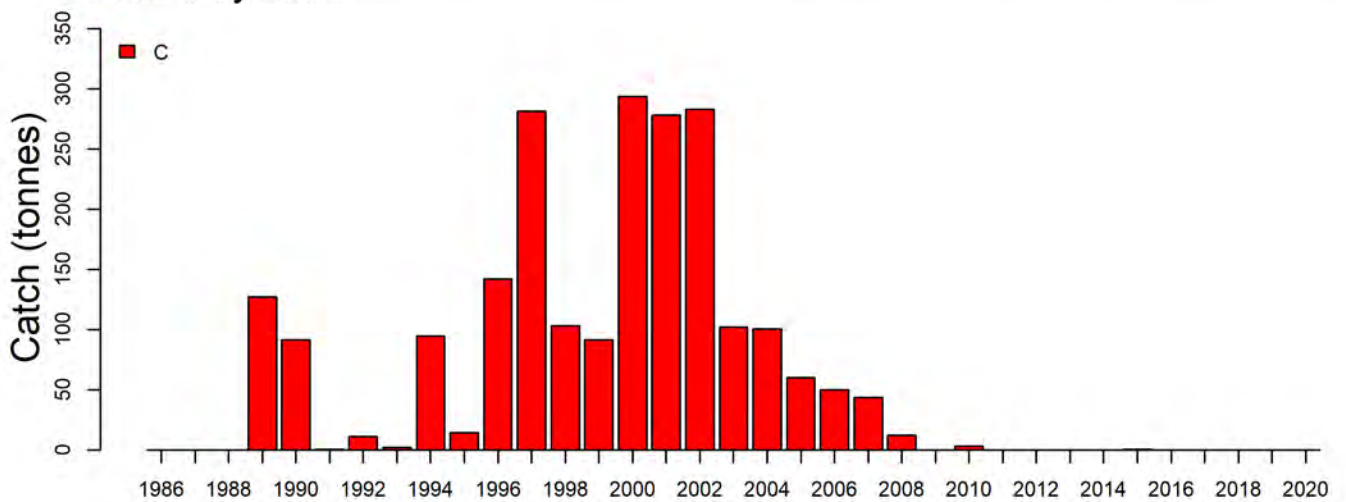
Figure 230 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Smooth Oreo Cascade. For more information contact AFMA on (02) 6225 5555.

# Smooth Oreo Cascade

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

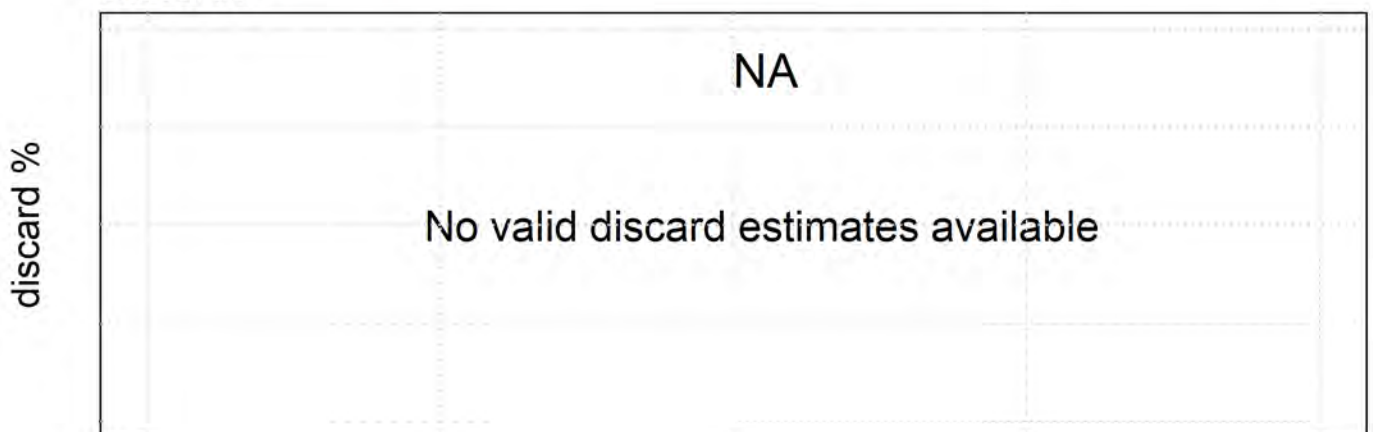


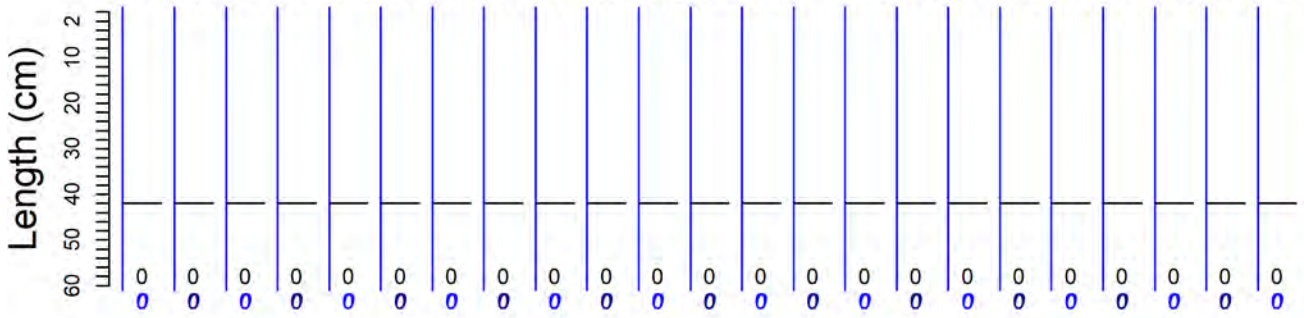
Figure 231 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Smooth Oreo Cascade. For more information contact AFMA on (02) 6225 5555.

# Smooth Oreo Cascade

Mon Aug 16 10:37:16 2021

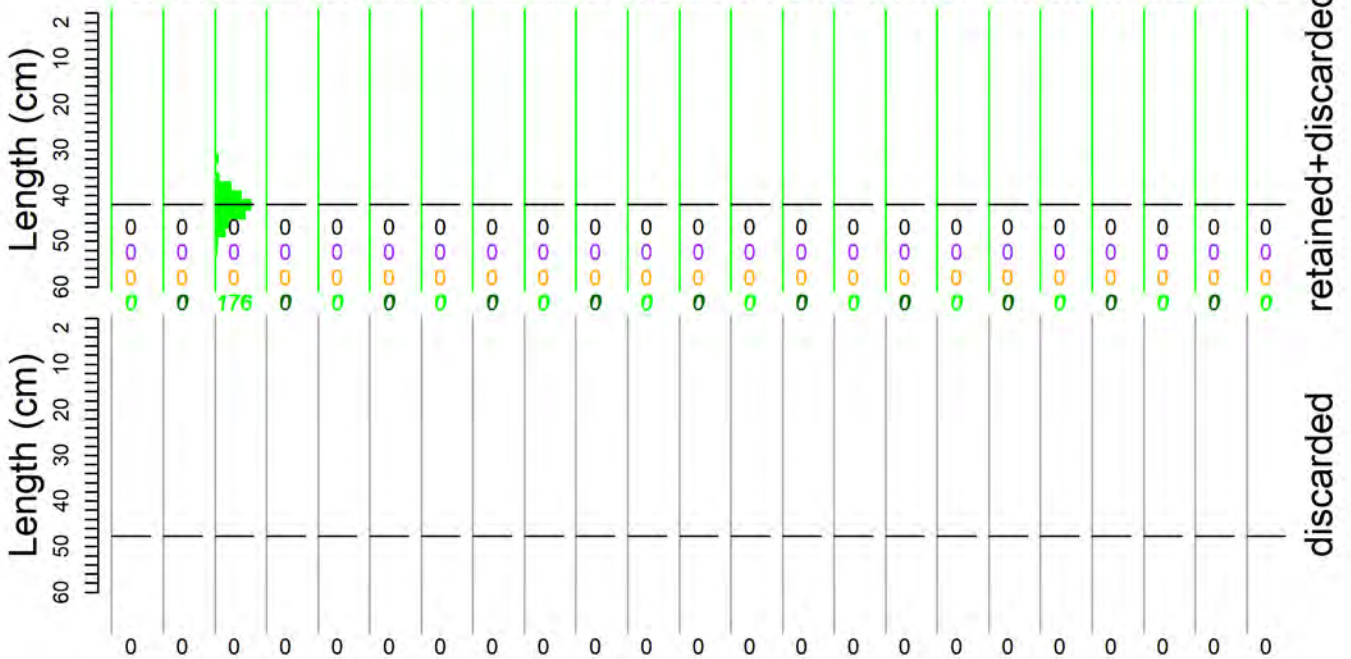
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

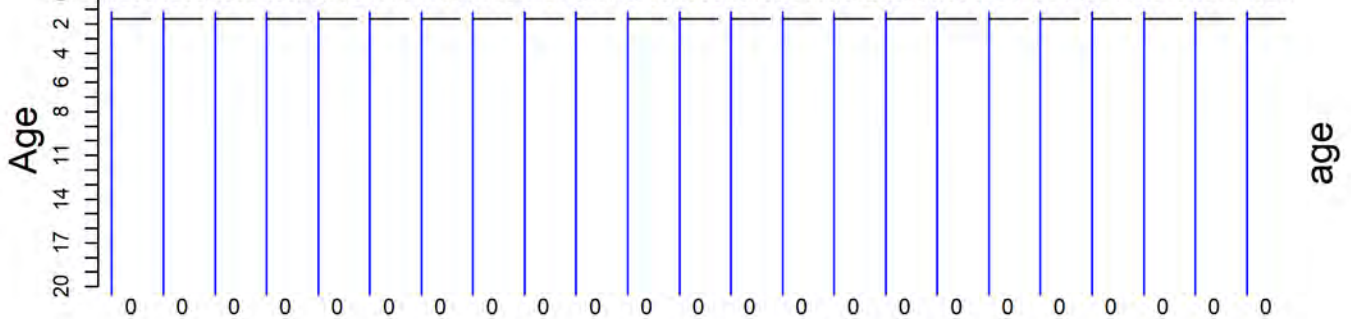


Figure 232 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Smooth Oreo Cascade. For more information contact AFMA on (02) 6225 5555.

# Smooth Ore Cascade Onboard discard weight data

Mon Aug 16 10:37:17 2021

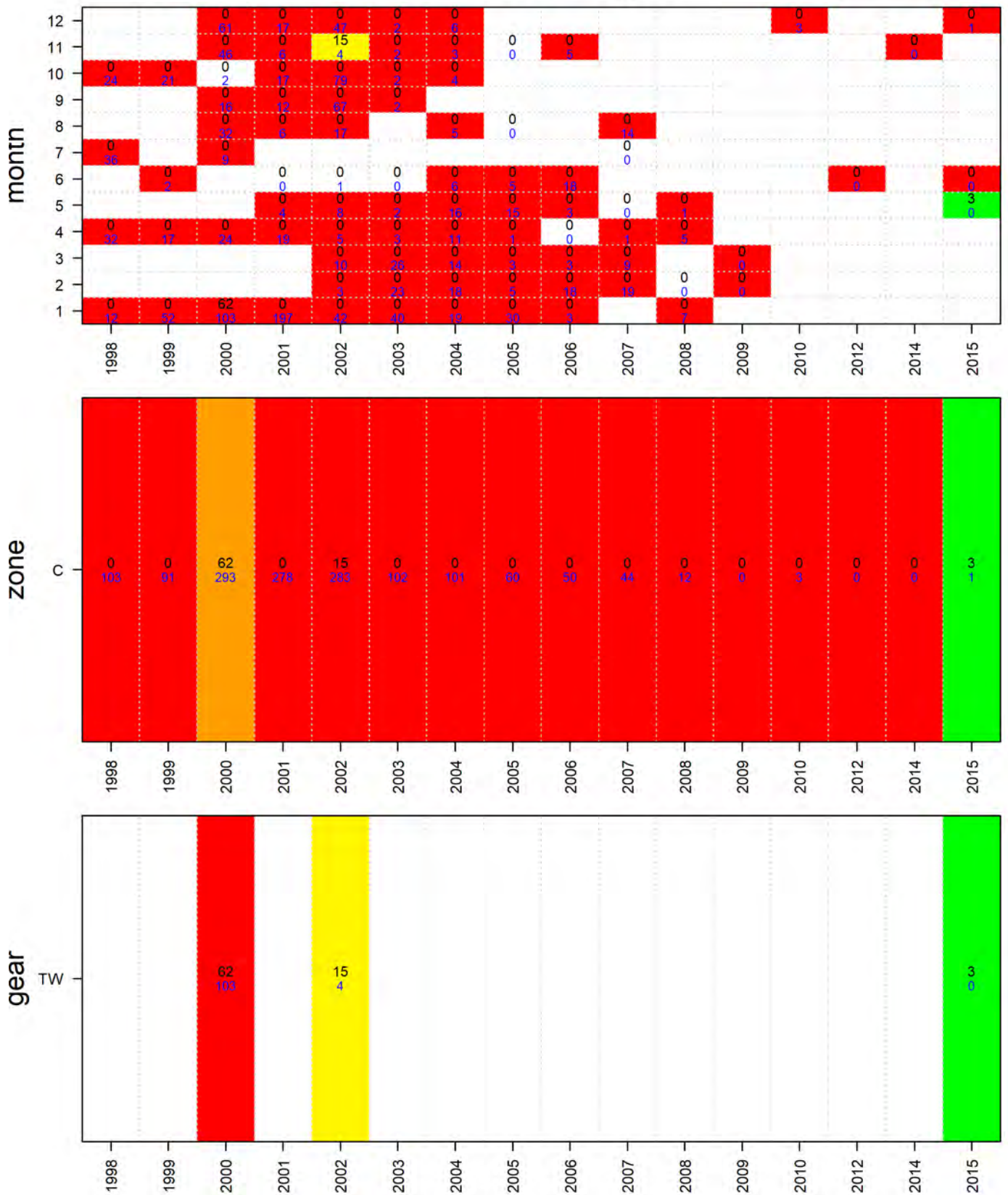


Figure 233 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Smooth Ore Cascade. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Smooth Oreo Cascade Onboard length data

Mon Aug 16 10:37:18 2021

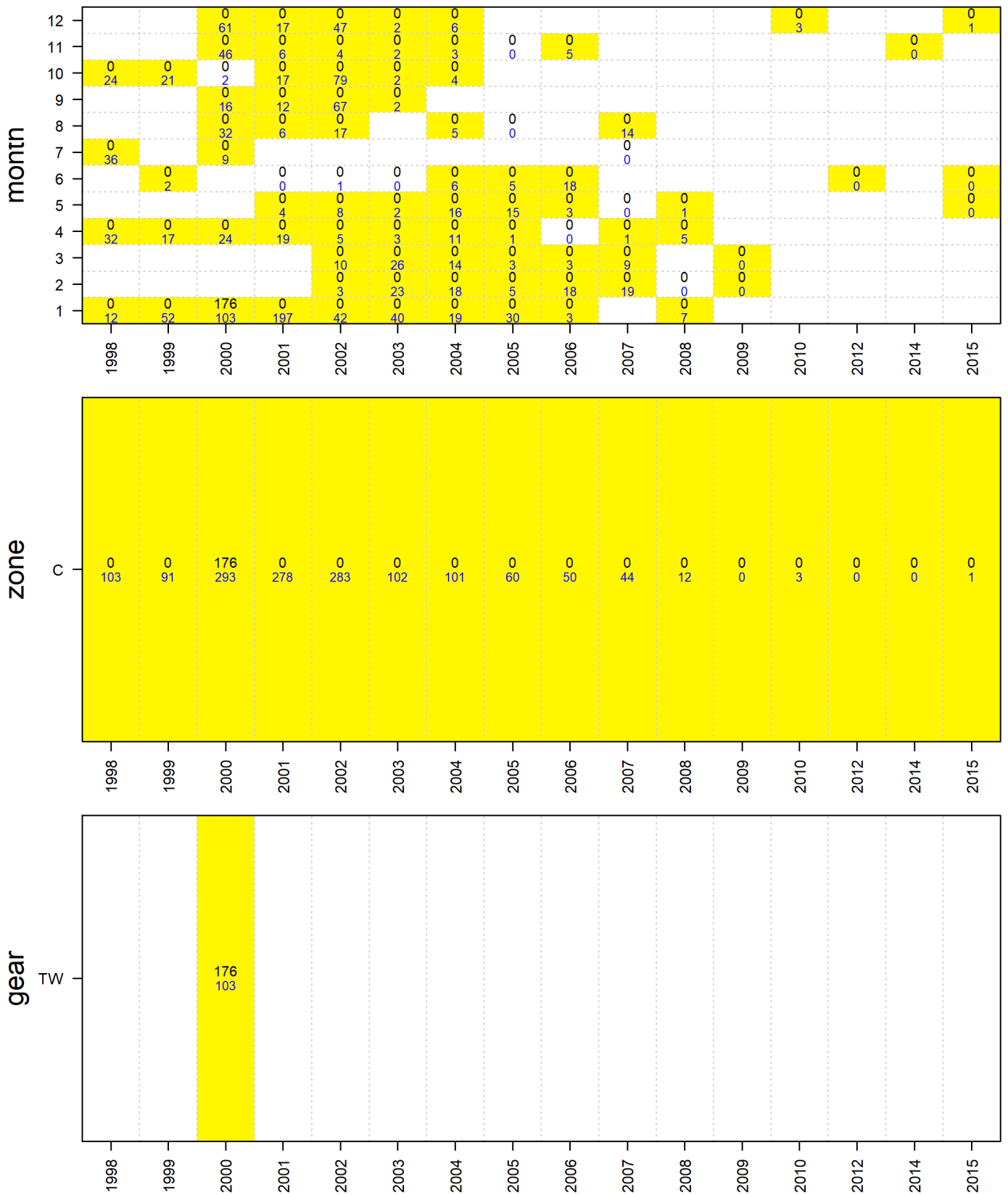
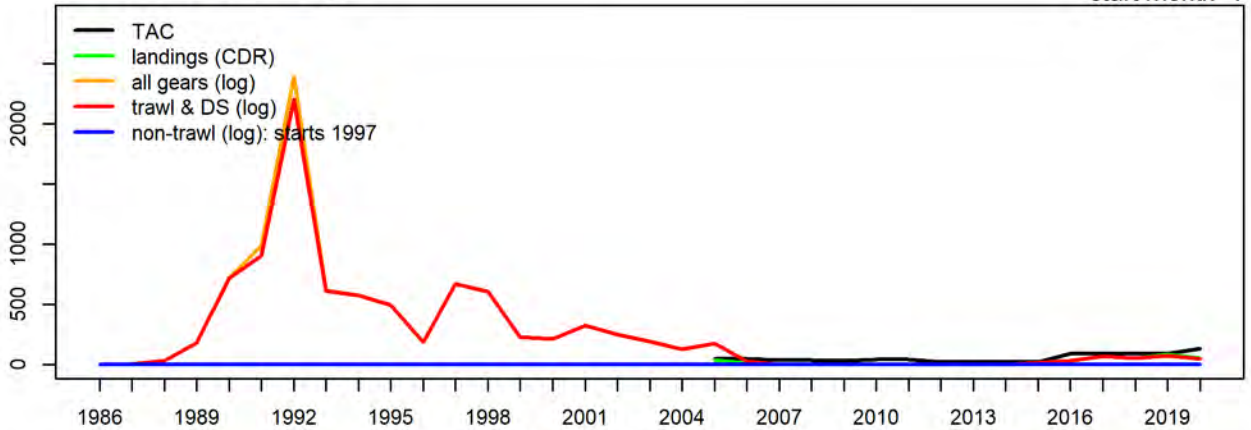


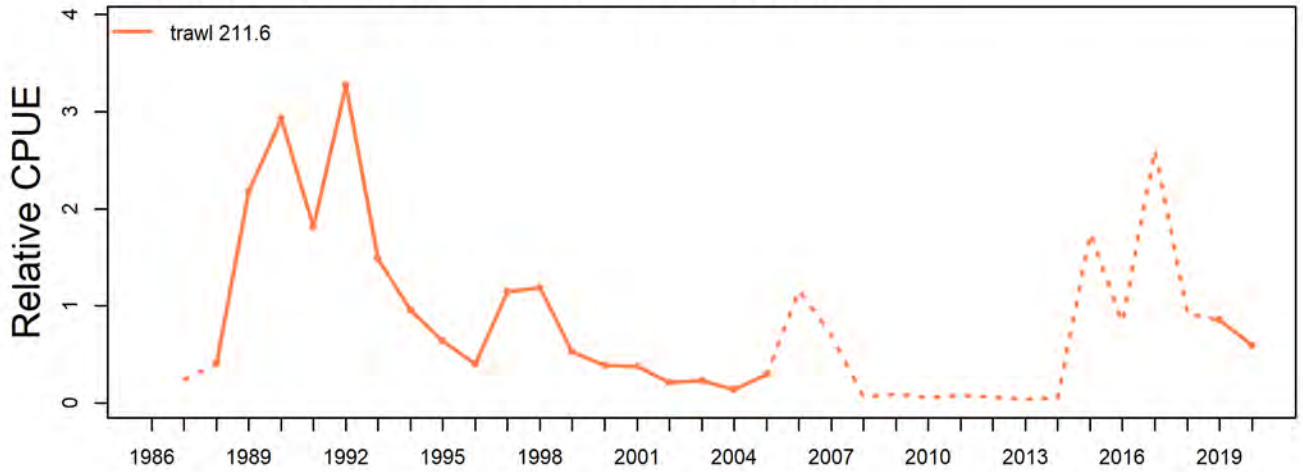
Figure 234 Onboard length data sampling coverage by month (top), zone (middle) and gear for Smooth Oreo Cascade. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Smooth Oreo Non-Cascade TAC and landings

Mon Aug 16 10:37:19 2021  
region NONC unit code DOO sa code DOO  
37266003  
start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

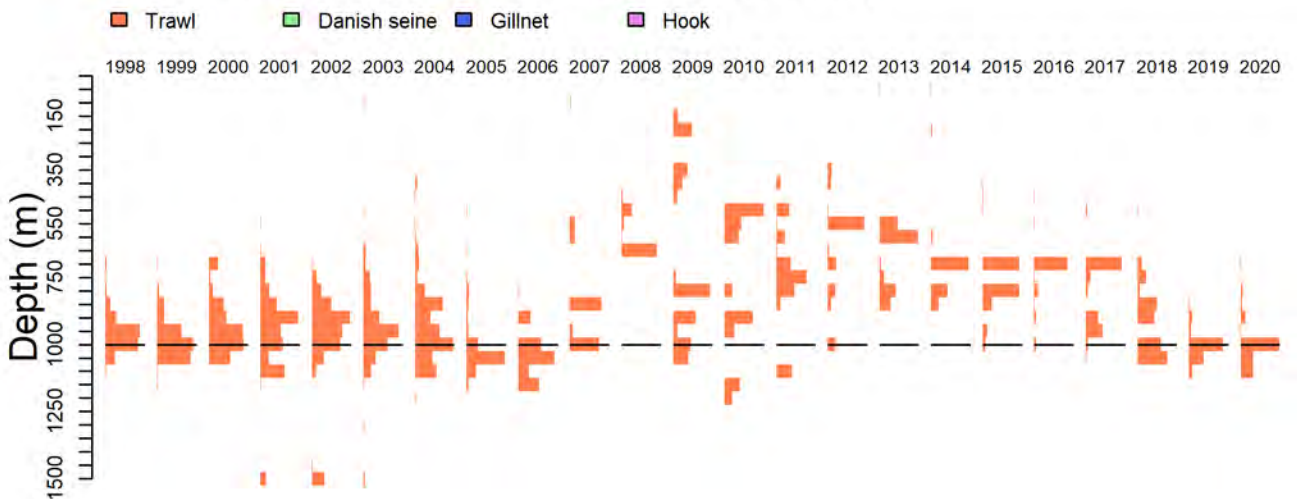
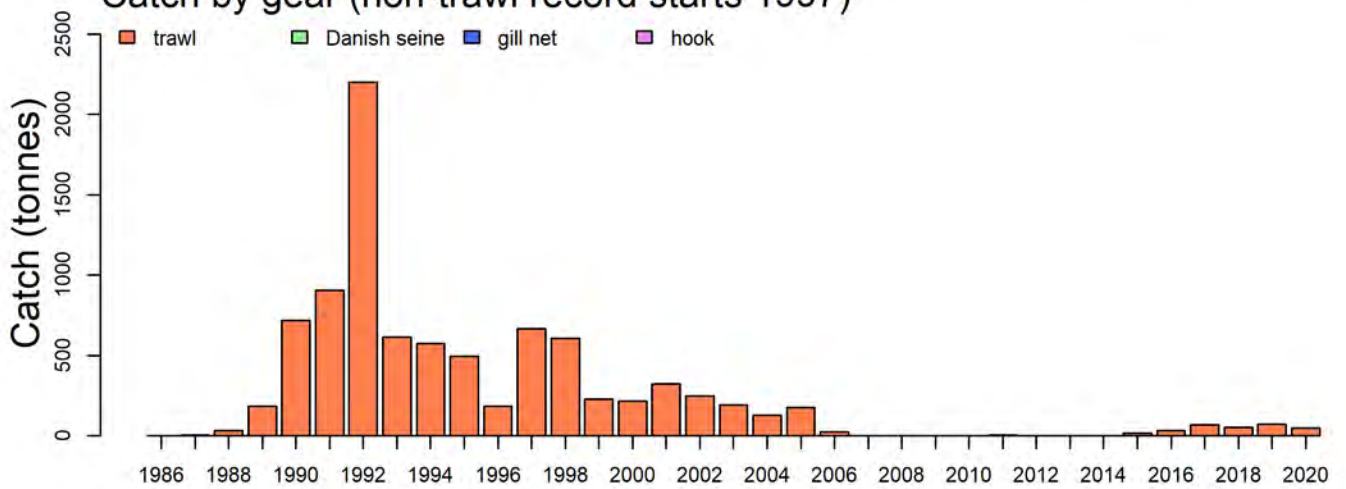


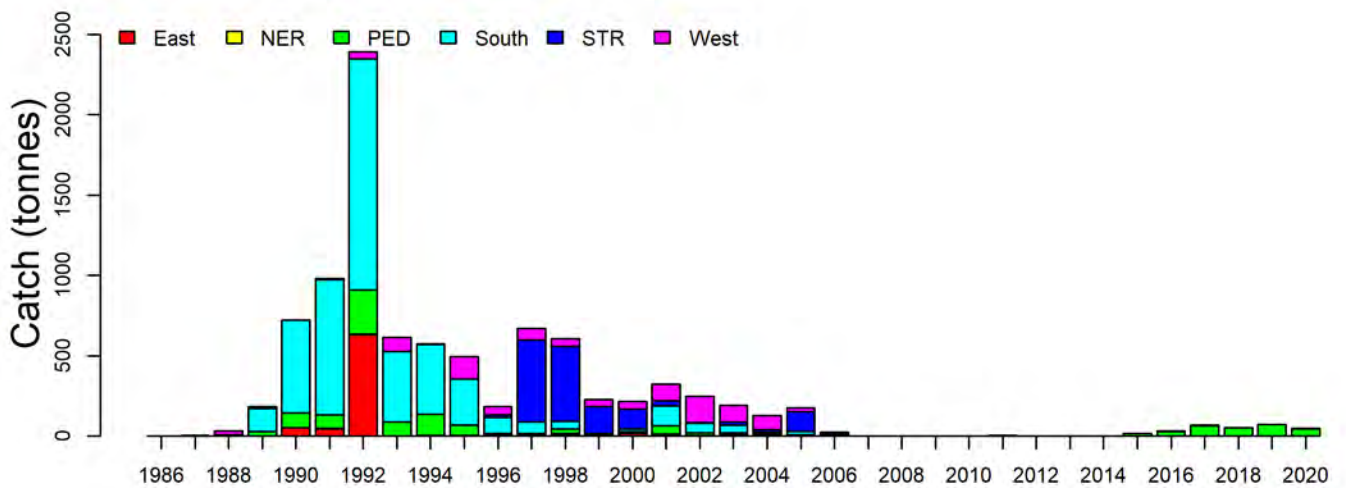
Figure 235 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Smooth Oreo Non-Cascade. For more information contact AFMA on (02) 6225 5555.

# Smooth Oreo Non-Cascade

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

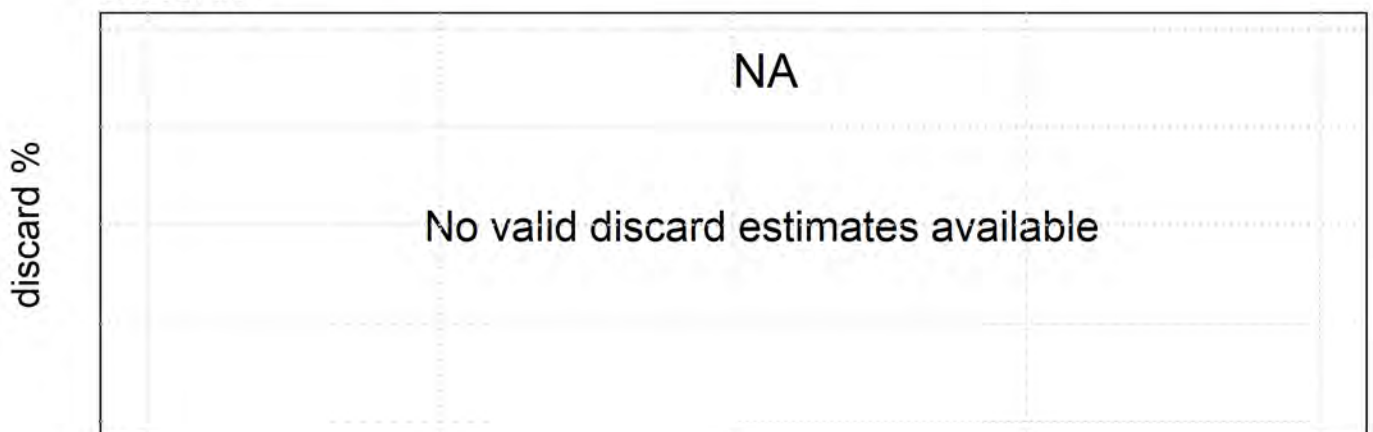


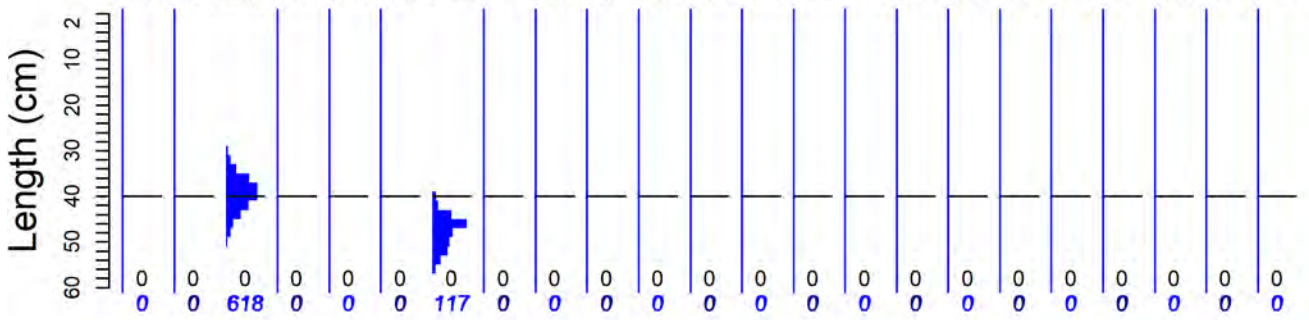
Figure 236 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Smooth Oreo Non-Cascade. For more information contact AFMA on (02) 6225 5555.

# Smooth Oreo Non-Cascade

Mon Aug 16 10:37:20 2021

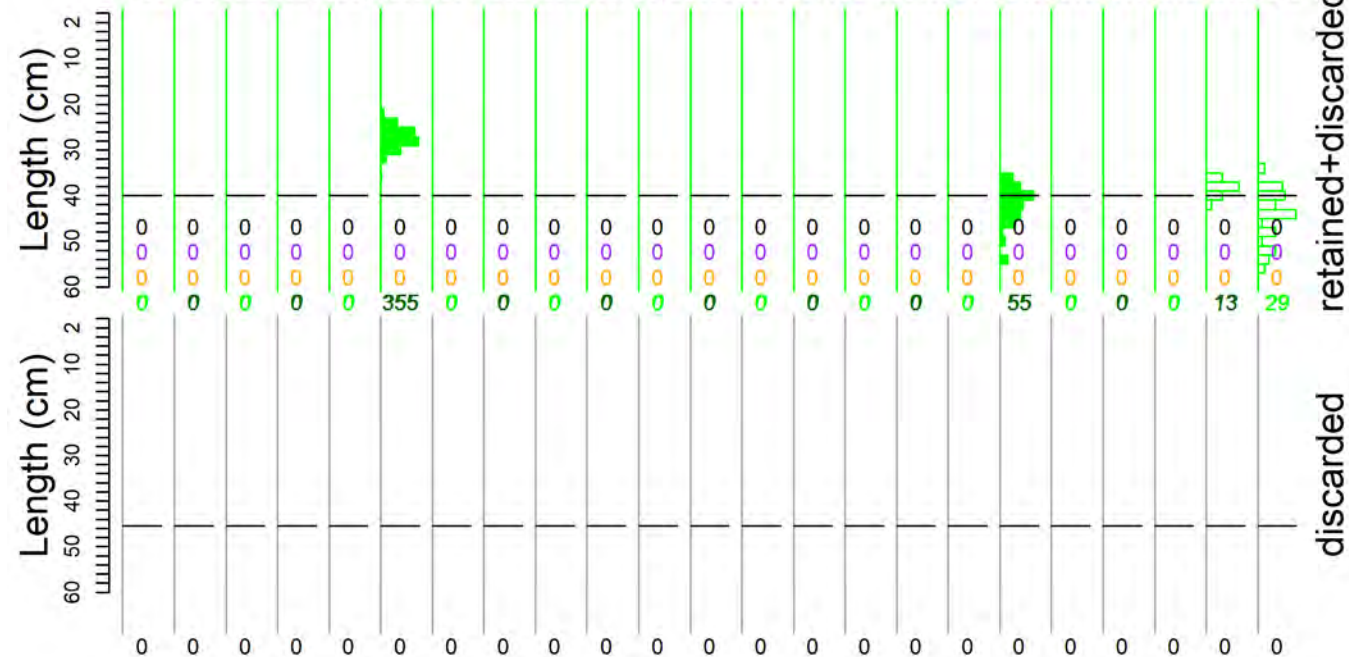
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

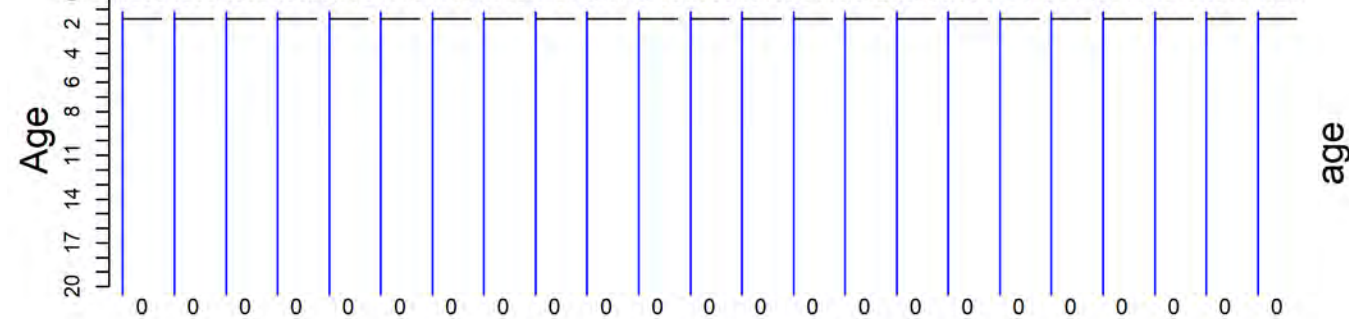


Figure 237 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Smooth Oreo Non-Cascade. For more information contact AFMA on (02) 6225 5555.

# Smooth Ore Non-Cascade Port length data

Mon Aug 16 10:37:21 2021

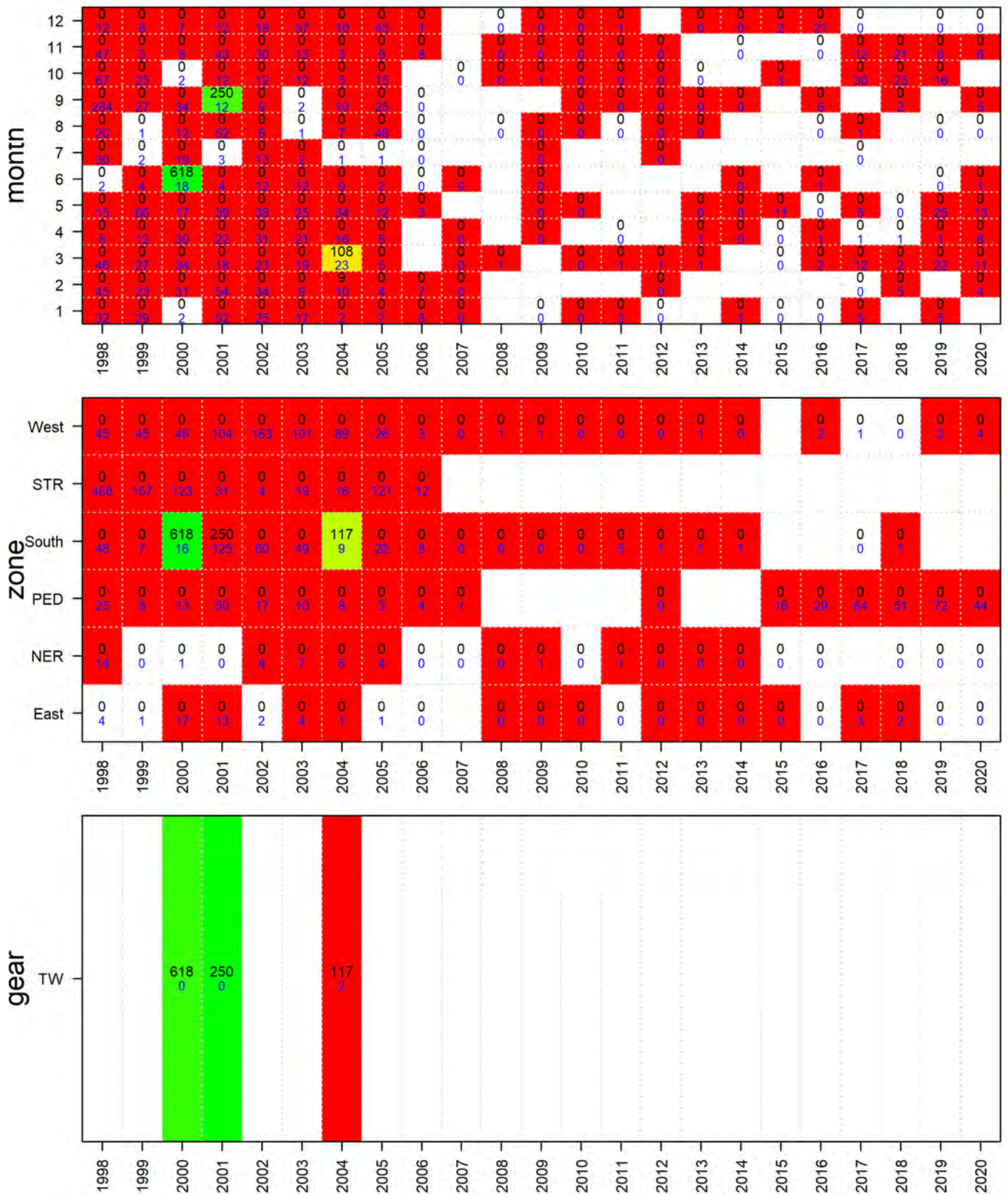


Figure 238 Port length data sampling coverage by month (top), zone (middle) and gear for Smooth Ore Non-Cascade. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Smooth Oreo Non-Cascade discard weight data

Mon Aug 16 10:37:22 2021

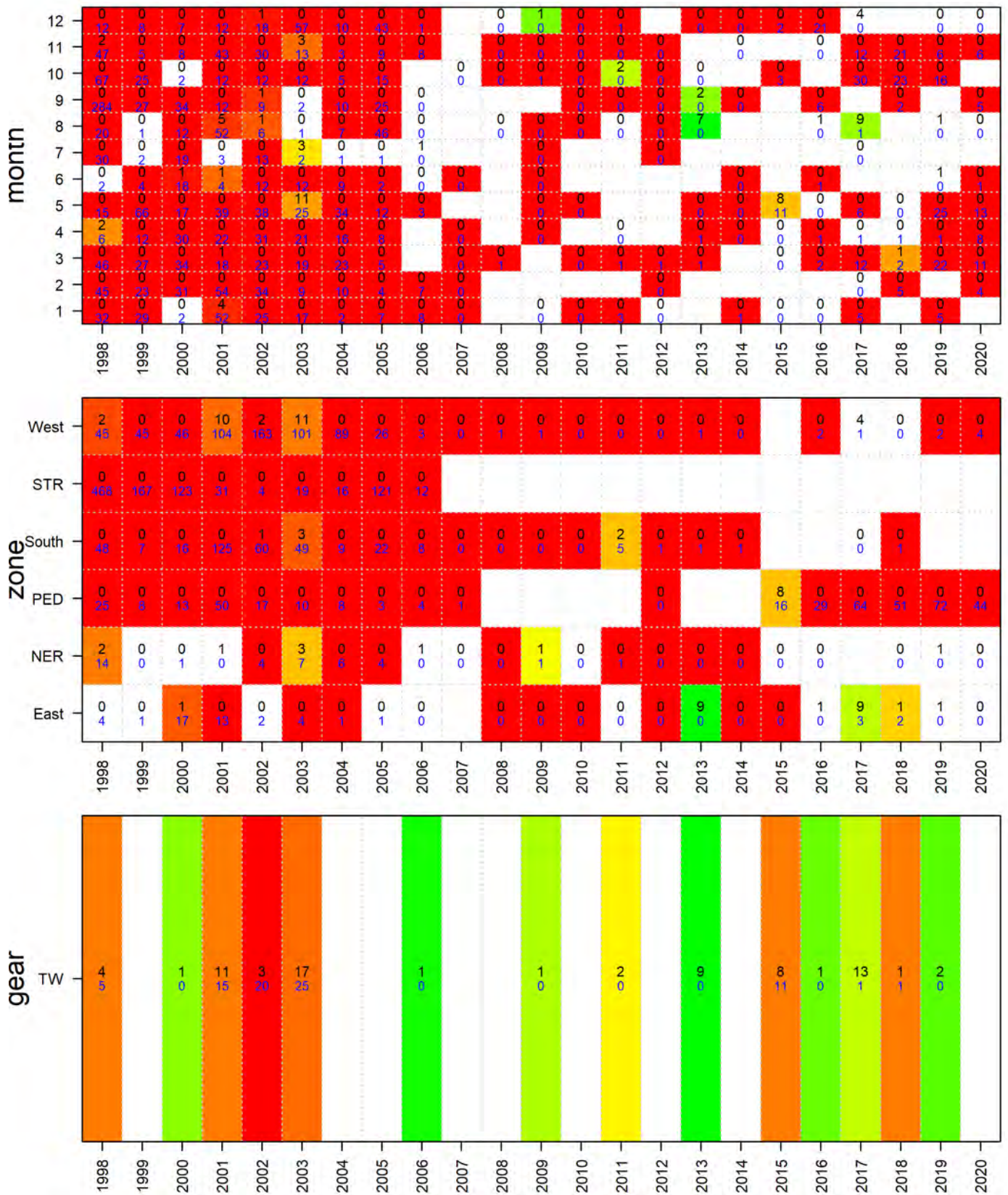


Figure 239 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Smooth Oreo Non-Cascade. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Smooth Ore Non-Cascade Onboard length data

Mon Aug 16 10:37:23 2021

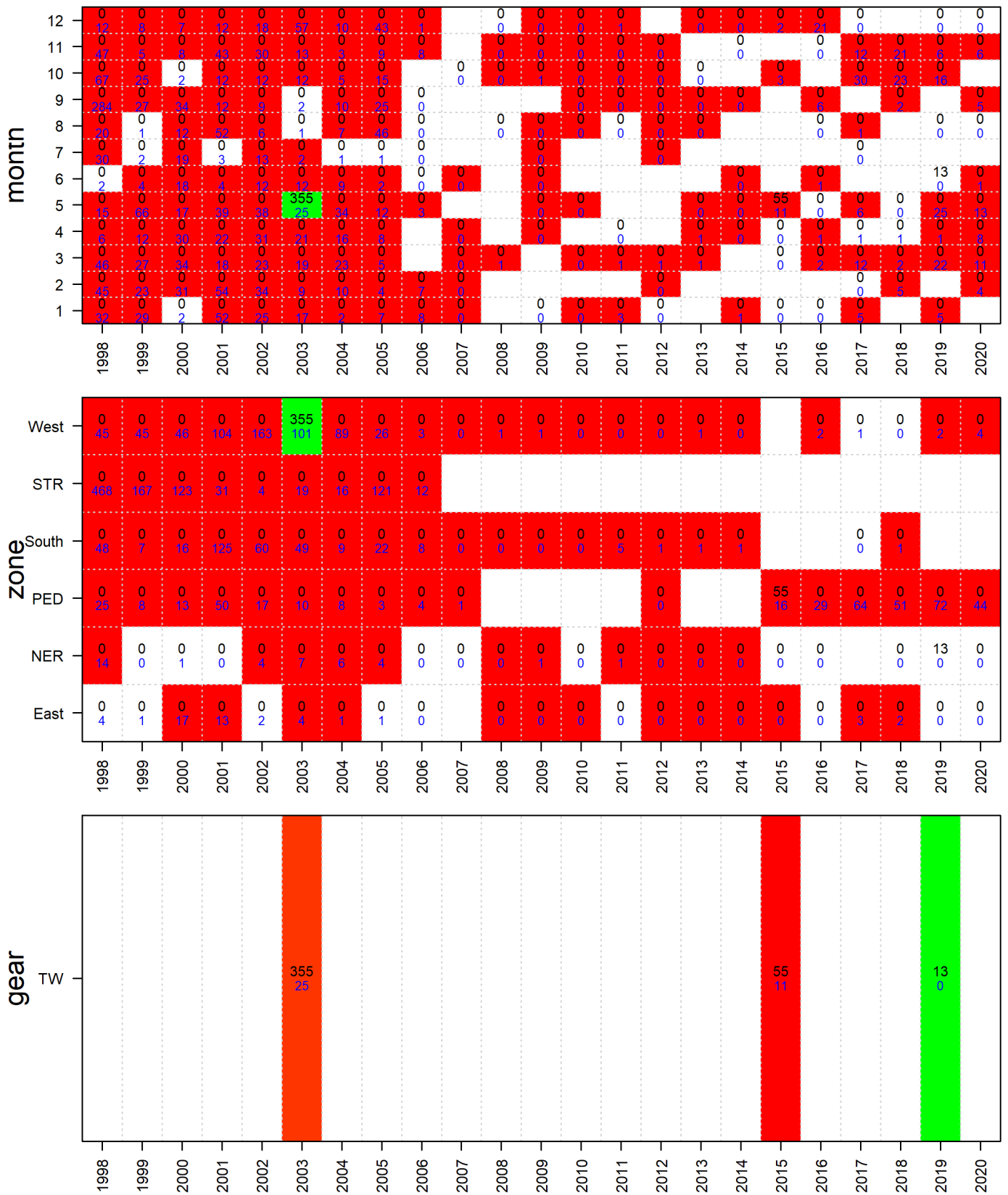
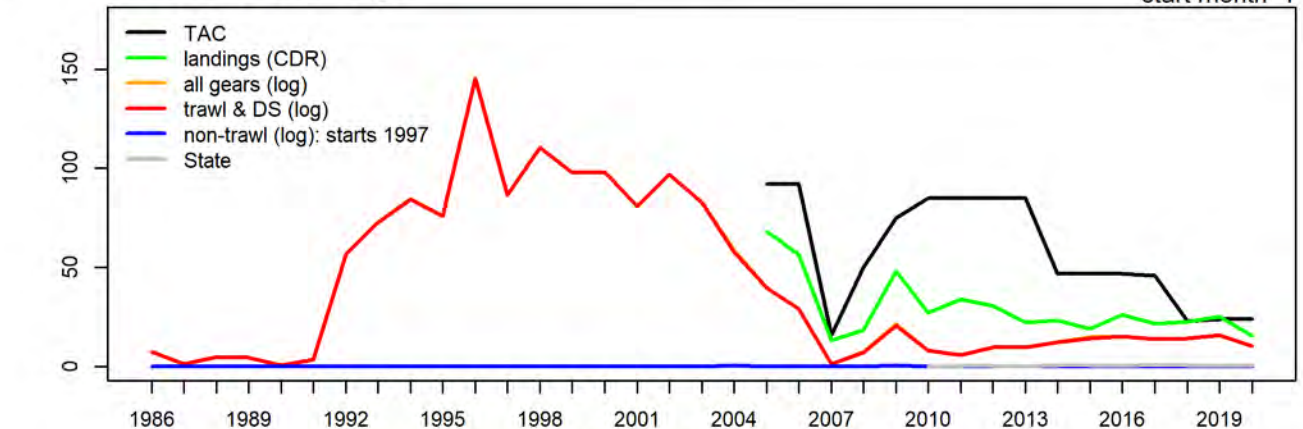


Figure 240 Onboard length data sampling coverage by month (top), zone (middle) and gear for Smooth Ore Non-Cascade. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Deepwater Shark East

region SEFEAST unit code SHOE sa code SHOE

30 37020002 37020003 37020004 37020005 37020012 37020013 37020015 37020019 37020021 .. etc see methods start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

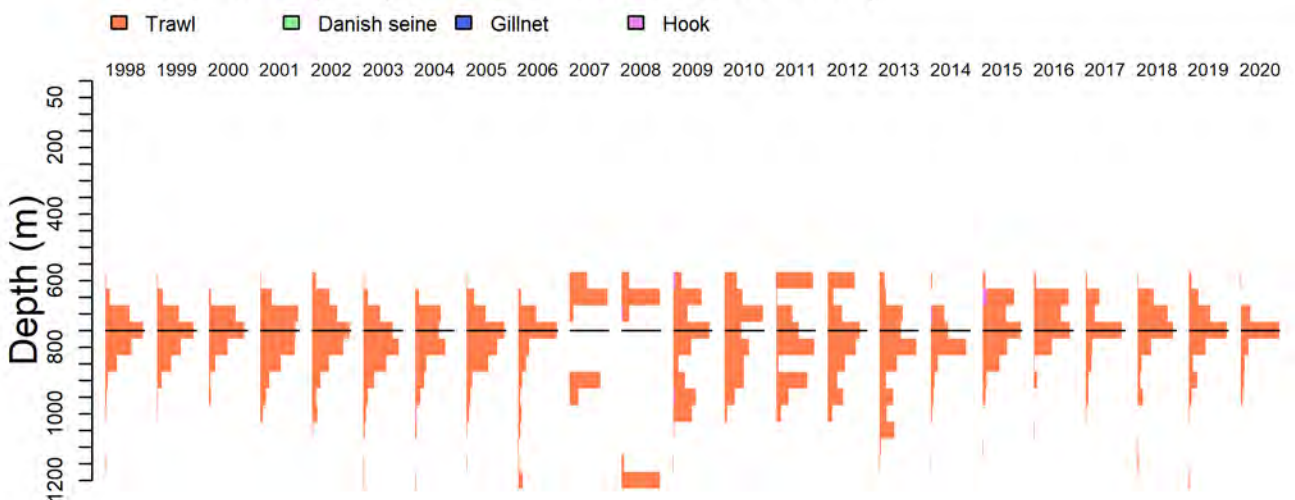


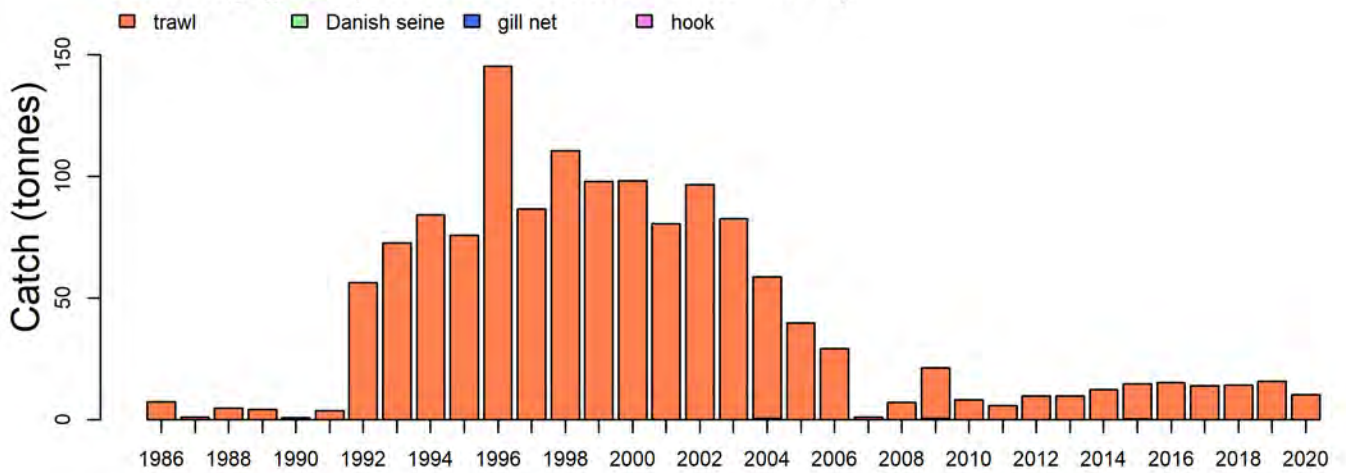
Figure 241 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Deepwater Shark East. For more information contact AFMA on (02) 6225 5555.



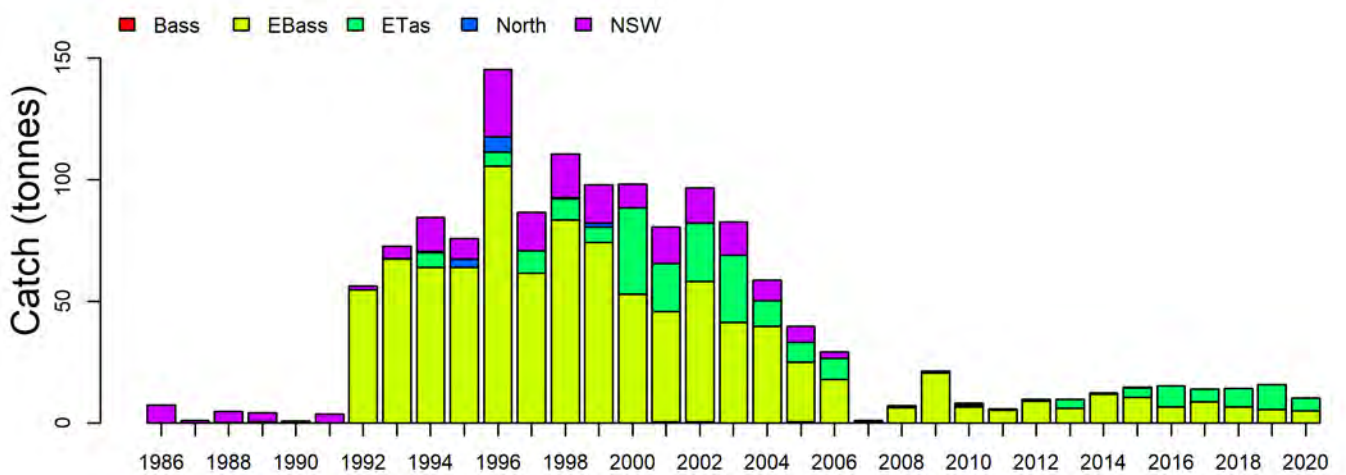
# Deepwater Shark East

Mon Aug 16 10:37:25 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

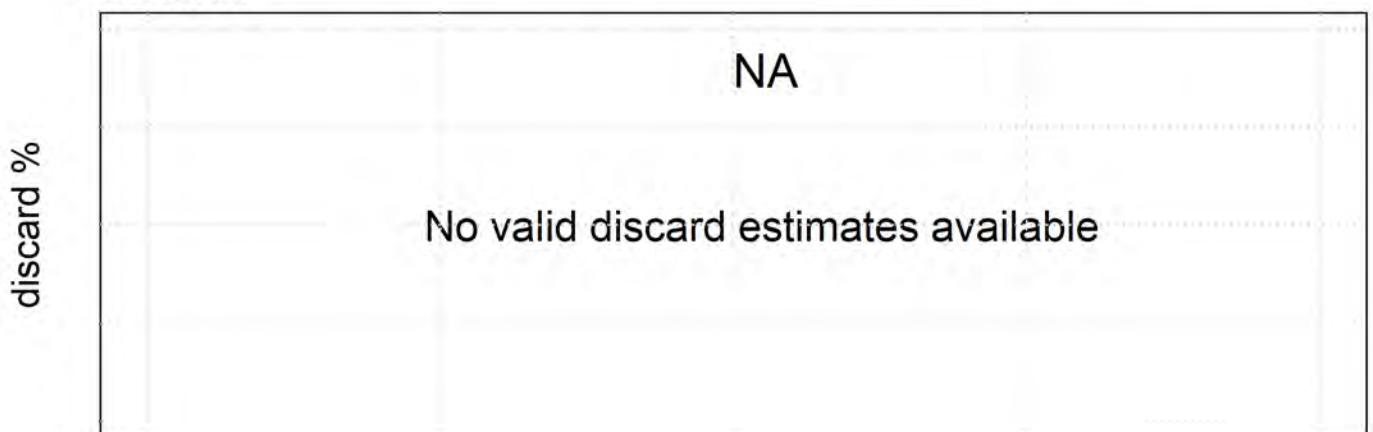


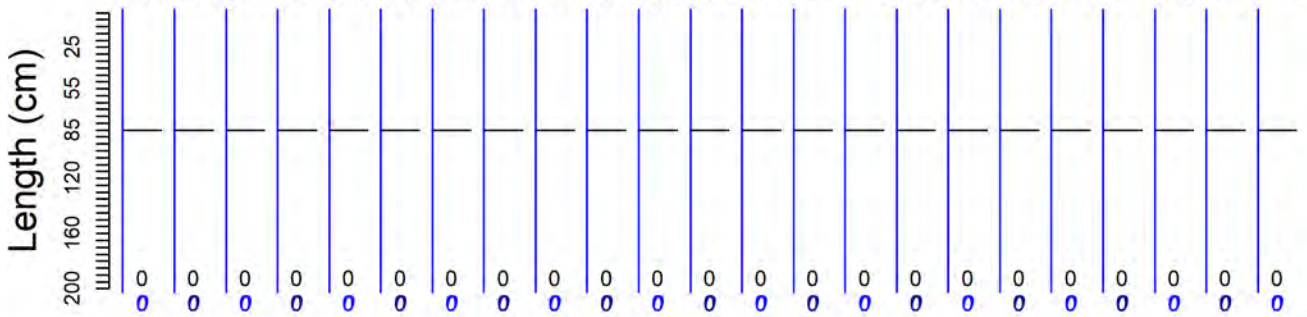
Figure 242 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Deepwater Shark East. For more information contact AFMA on (02) 6225 5555.

# Deepwater Shark East

Mon Aug 16 10:37:25 2021

Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

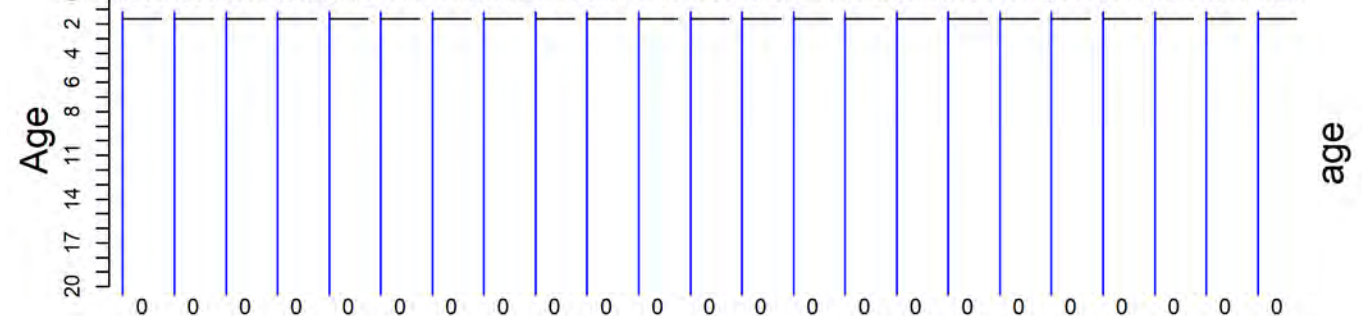


Figure 243 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Deepwater Shark East. For more information contact AFMA on (02) 6225 5555.

# Deepwater Shark East Onboard discard weight data

Mon Aug 16 10:37:26 2021

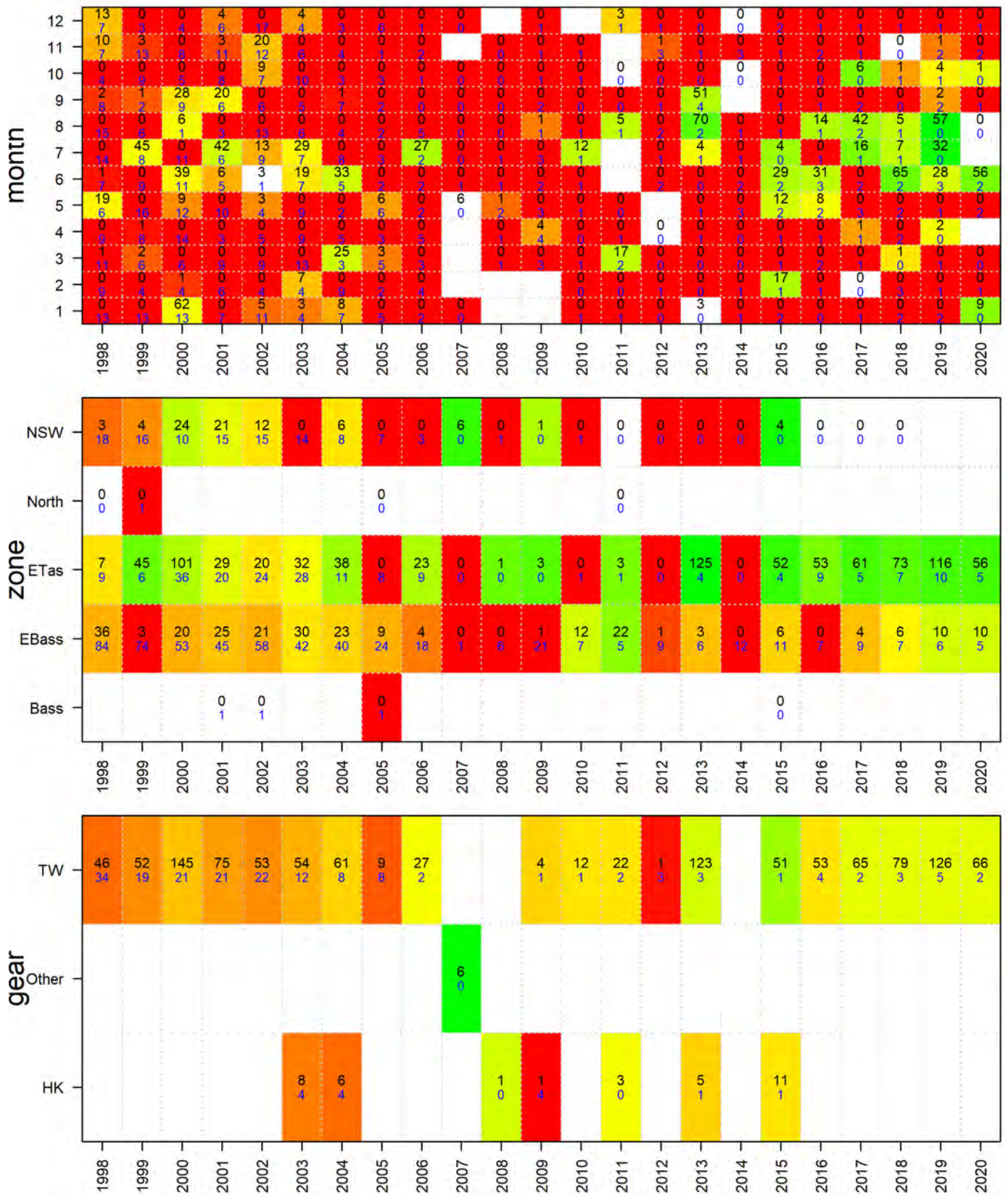


Figure 244 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Deepwater Shark East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Deepwater Shark East Onboard length data

Mon Aug 16 10:37:27 2021

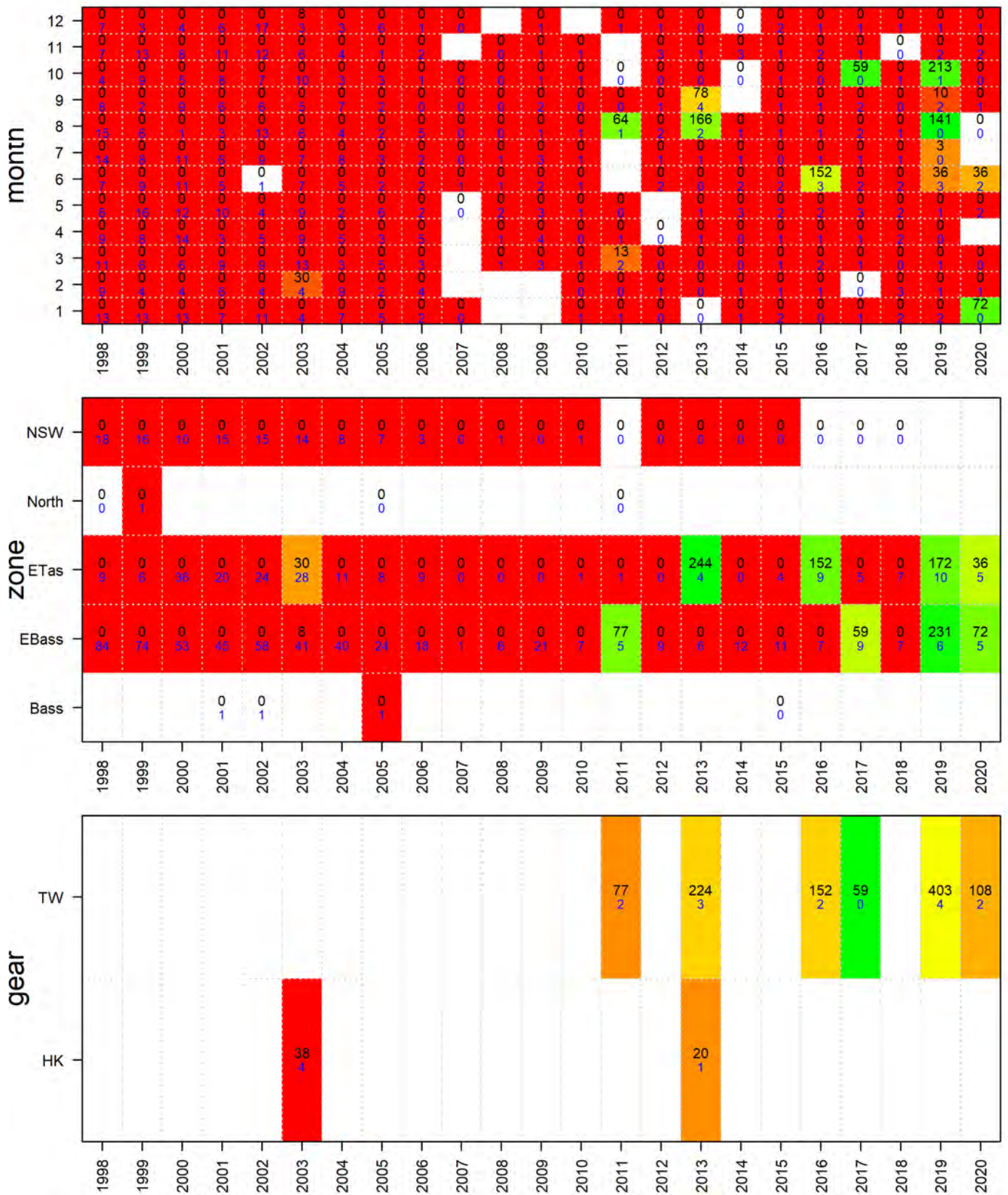


Figure 245 Onboard length data sampling coverage by month (top), zone (middle) and gear for Deepwater Shark East. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

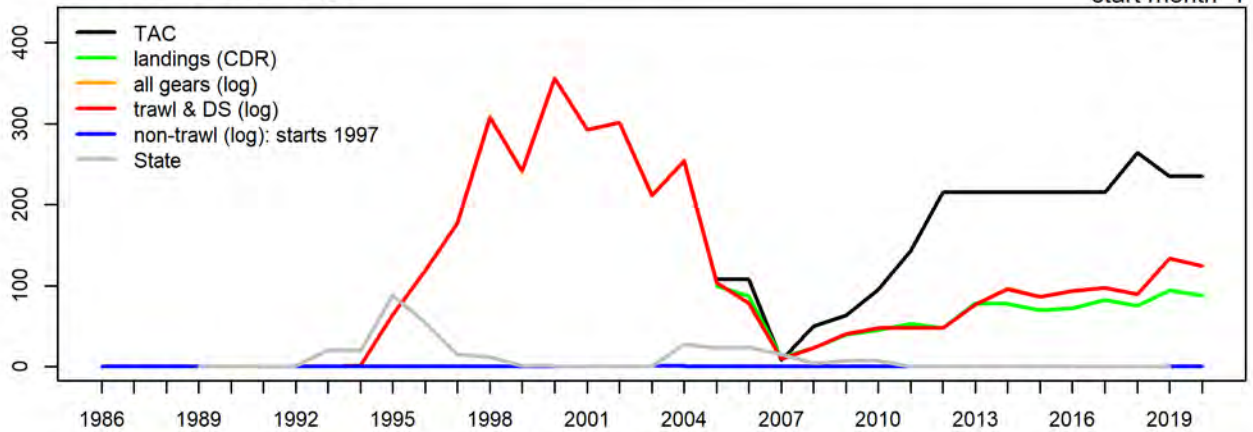
# Deepwater Shark West

Mon Aug 16 10:37:28 2021

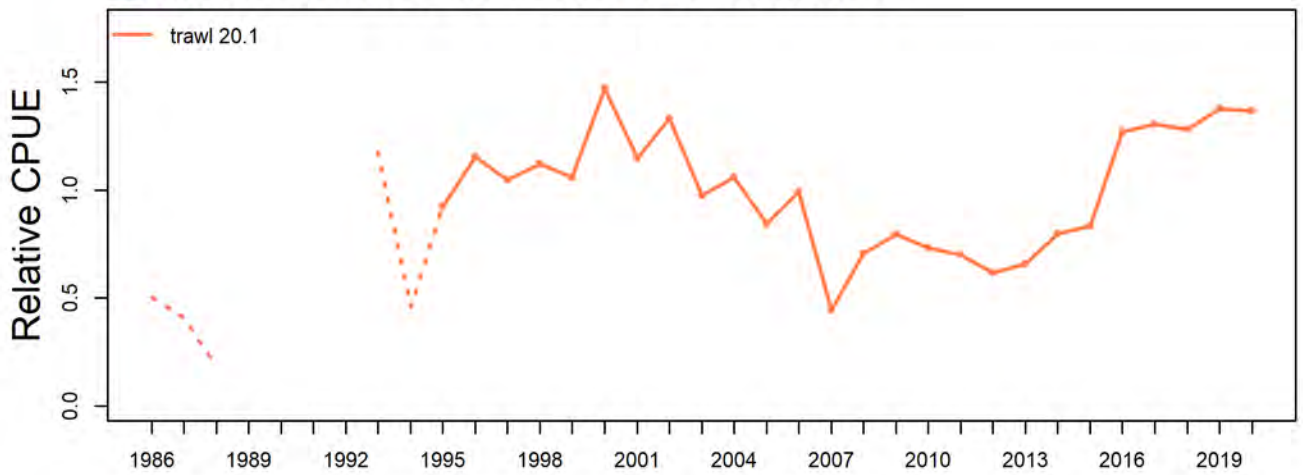
region SEFWEST unit code SHOW sa code SHOW

30 37020002 37020003 37020004 37020005 37020012 37020013 37020015 37020019 37020021 .. etc see methods start month 1

## TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

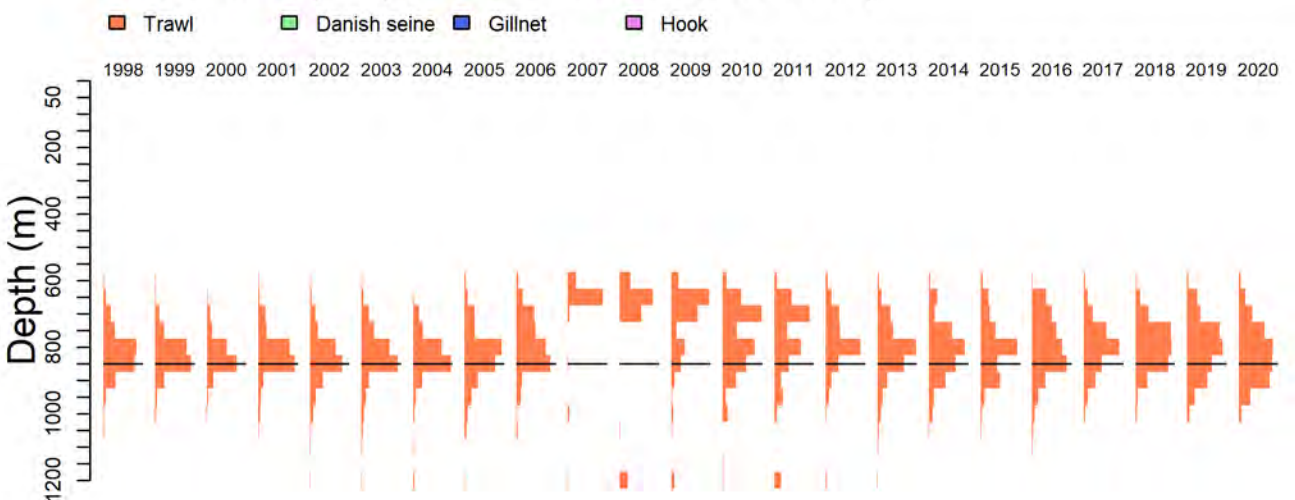
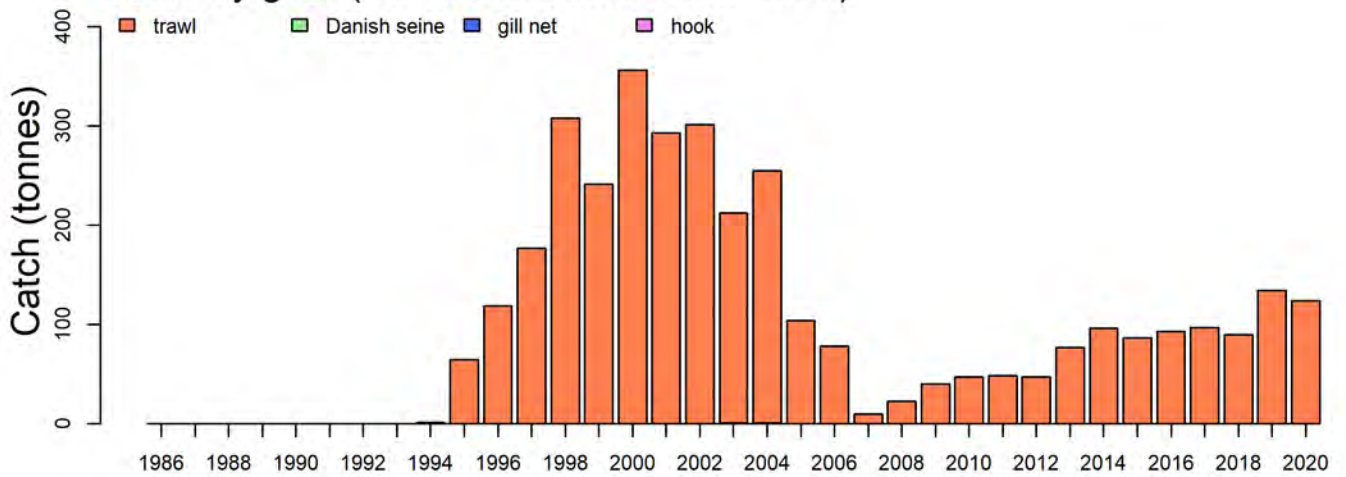


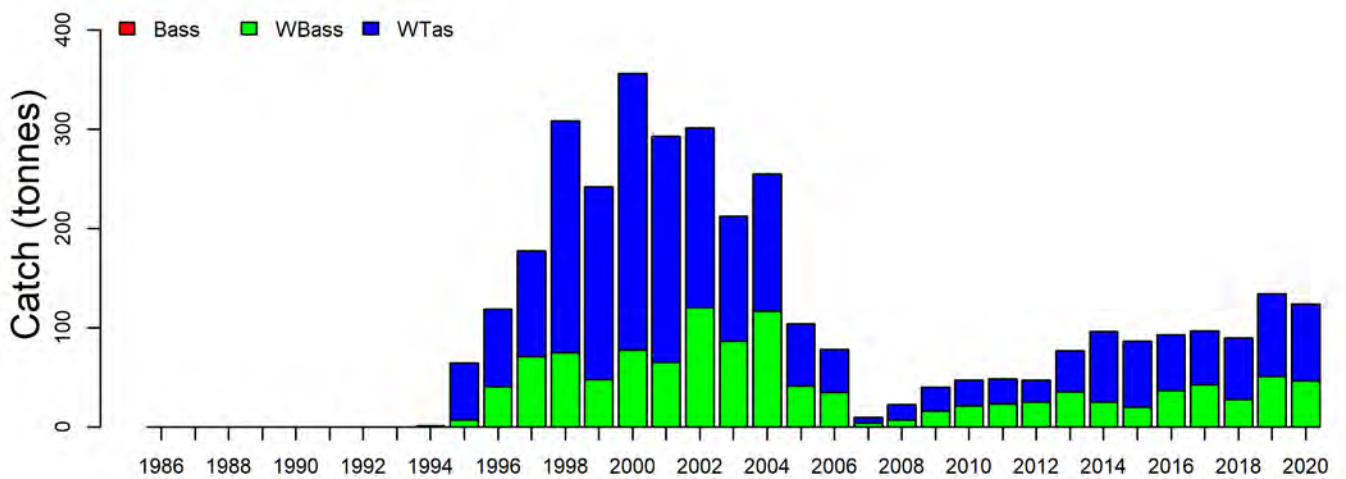
Figure 246 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Deepwater Shark West. For more information contact AFMA on (02) 6225 5555.

# Deepwater Shark West

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

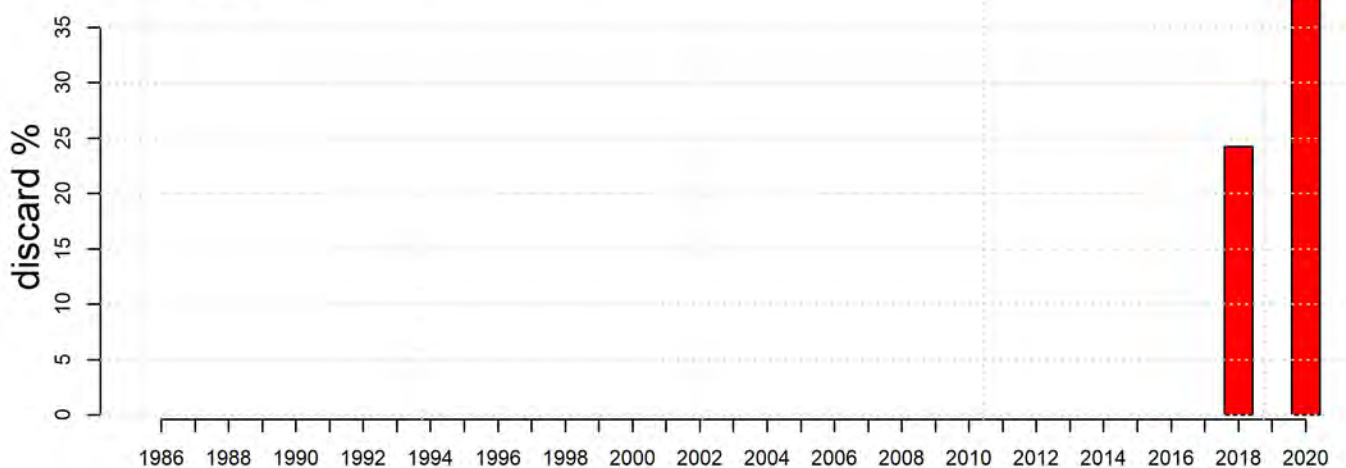


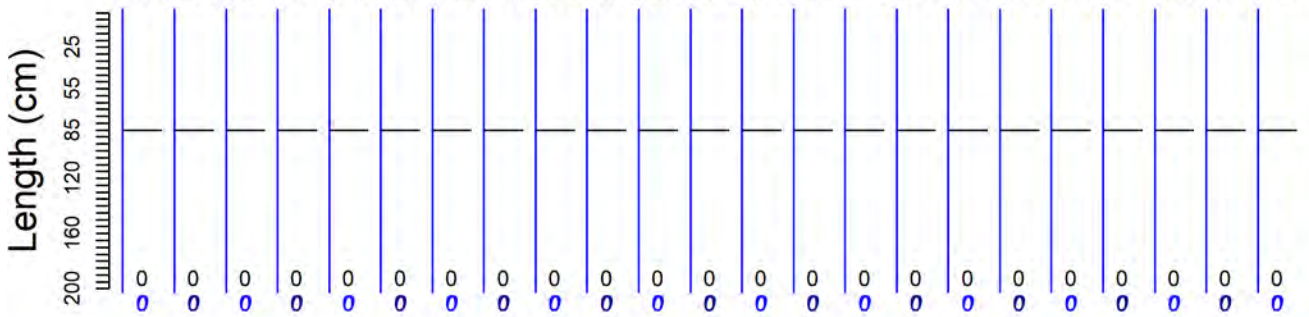
Figure 247 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Deepwater Shark West. For more information contact AFMA on (02) 6225 5555.

# Deepwater Shark West

Mon Aug 16 10:37:30 2021

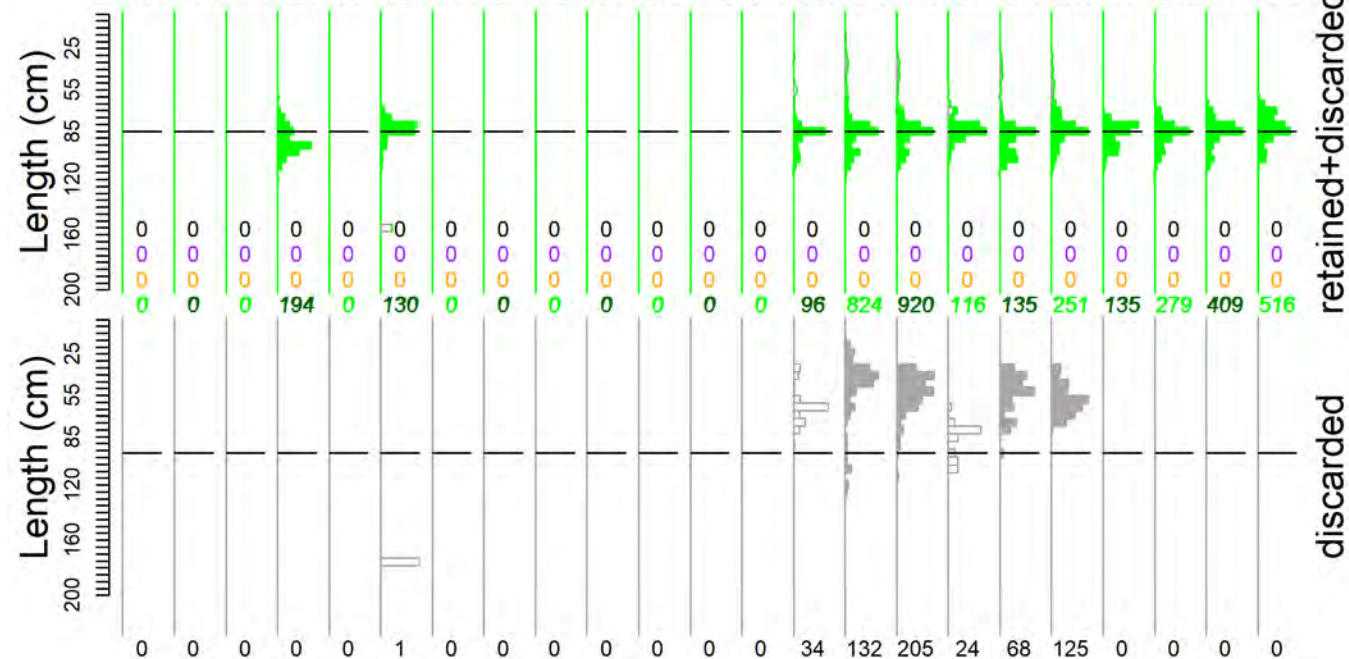
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

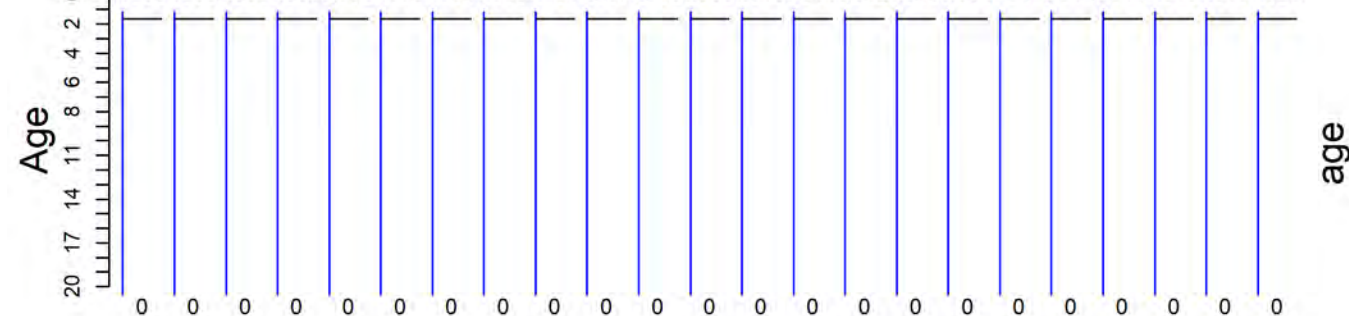


Figure 248 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Deepwater Shark West. For more information contact AFMA on (02) 6225 5555.

# Deepwater Shark Westboard discard weight data

Mon Aug 16 10:37:31 2021

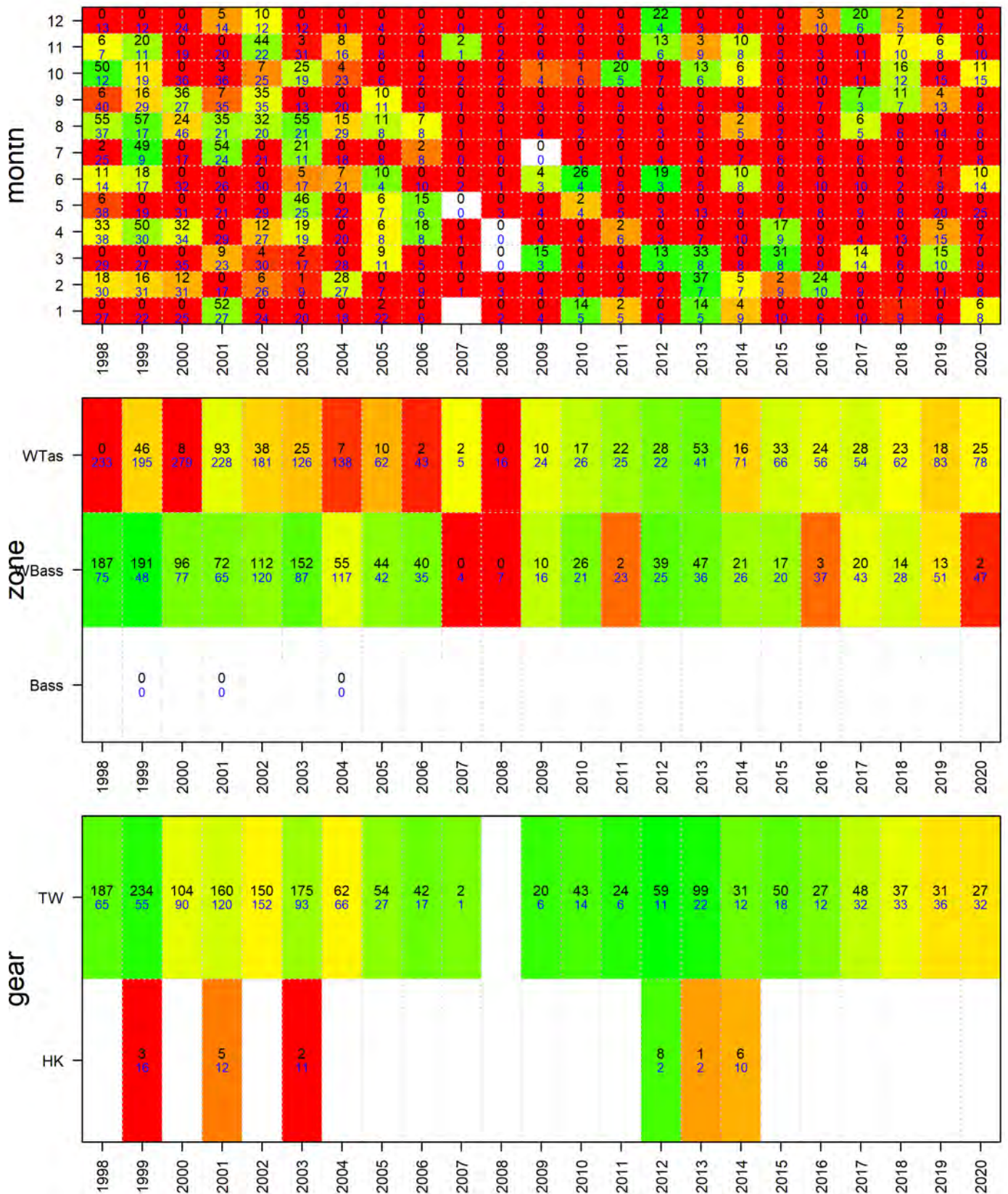


Figure 249 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Deepwater Shark West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Deepwater Shark West Onboard length data

Mon Aug 16 10:37:32 2021

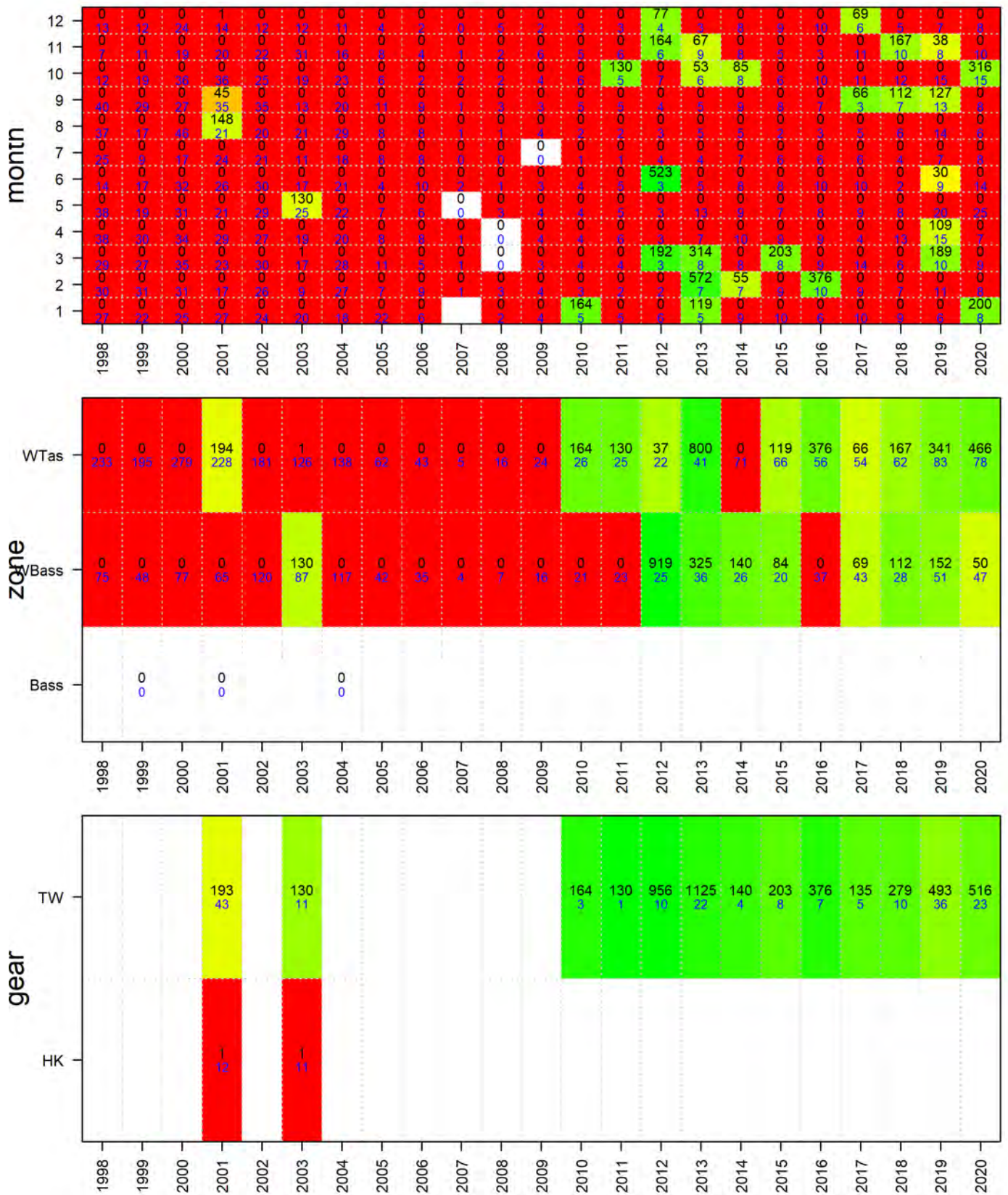
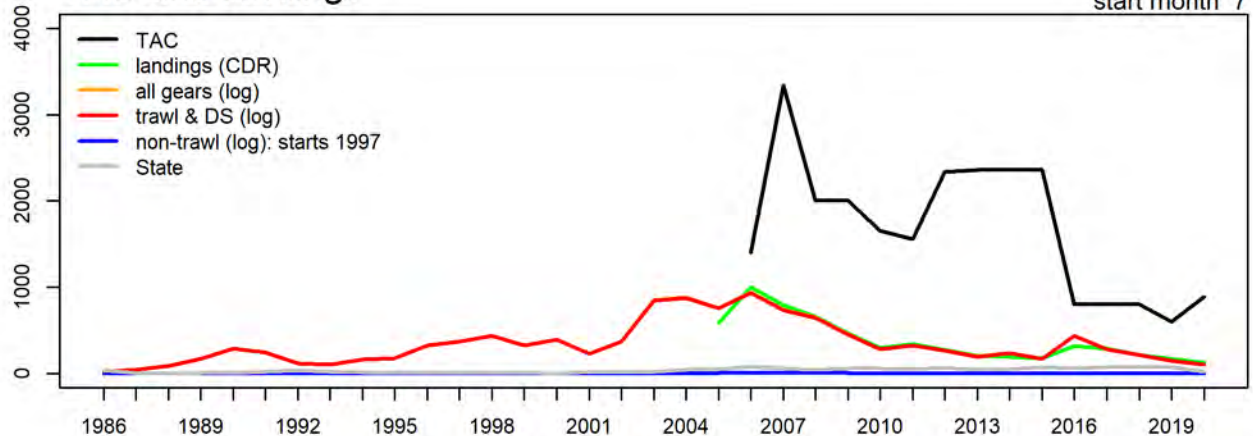
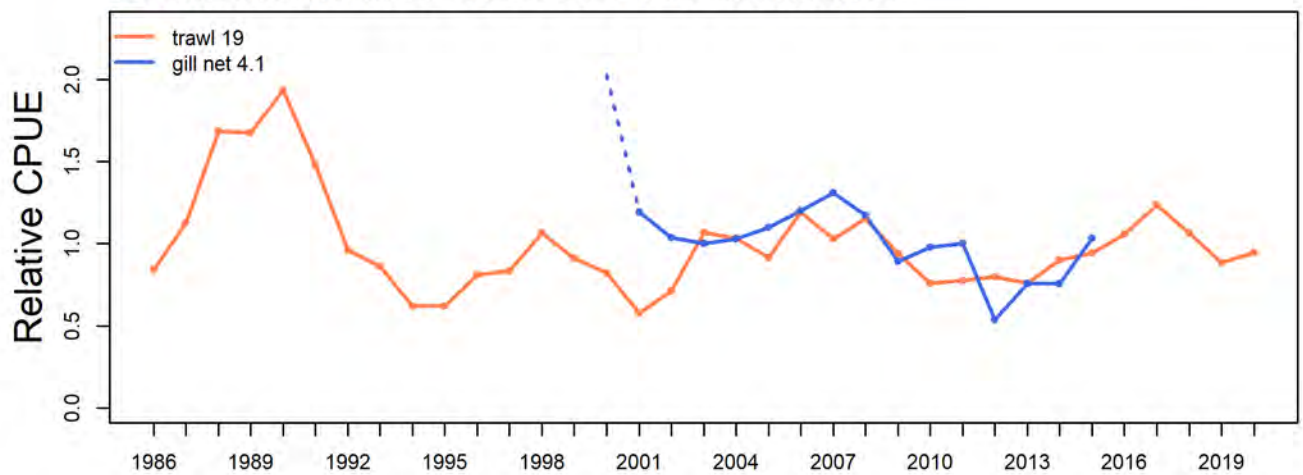


Figure 250 Onboard length data sampling coverage by month (top), zone (middle) and gear for Deepwater Shark West. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

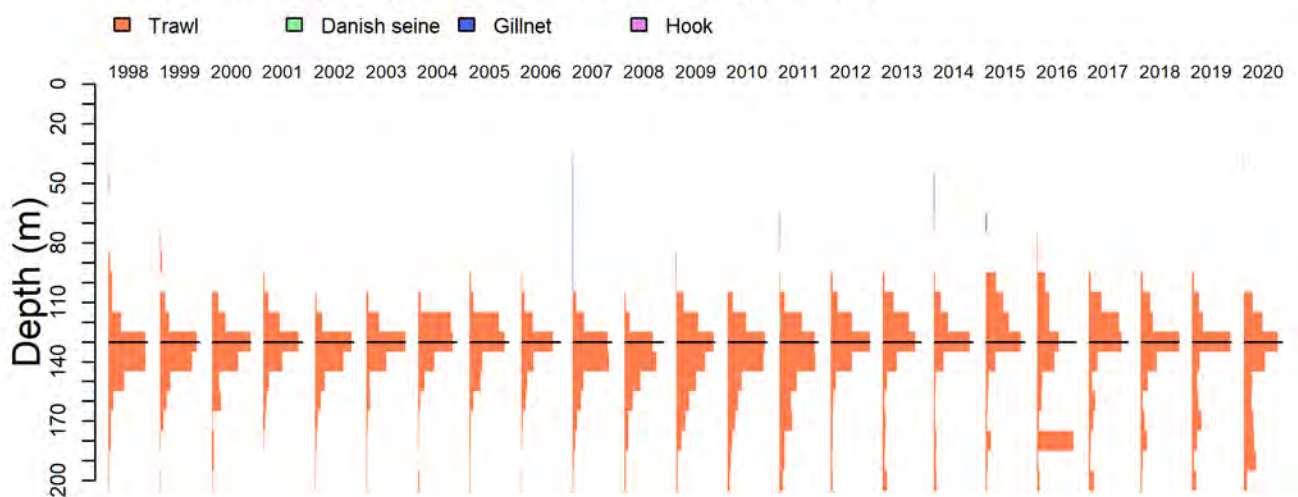
# Bight Redfish TAC and landings



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

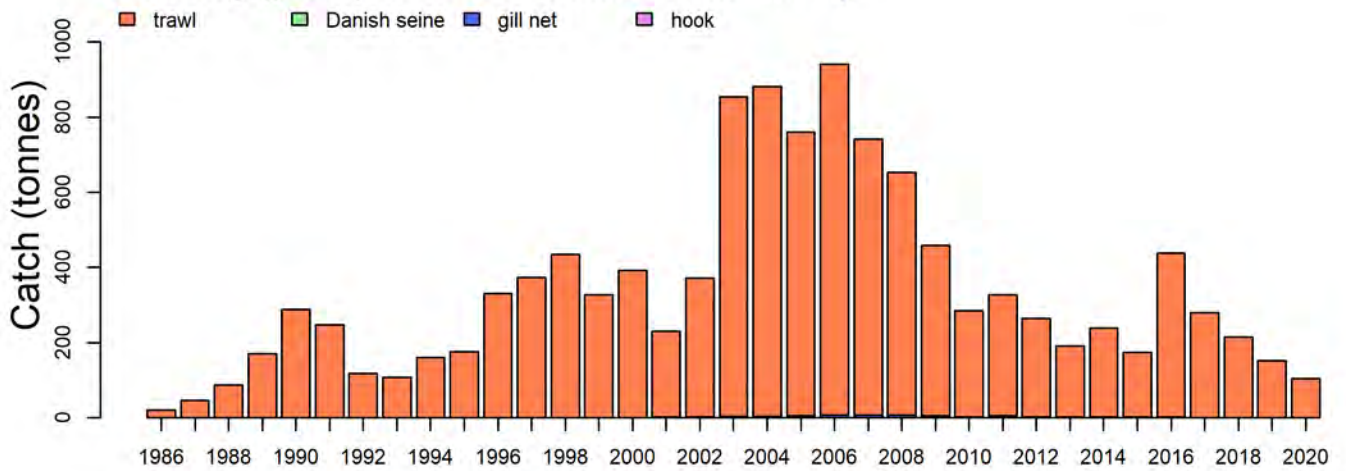


Financial year 2020 is incomplete

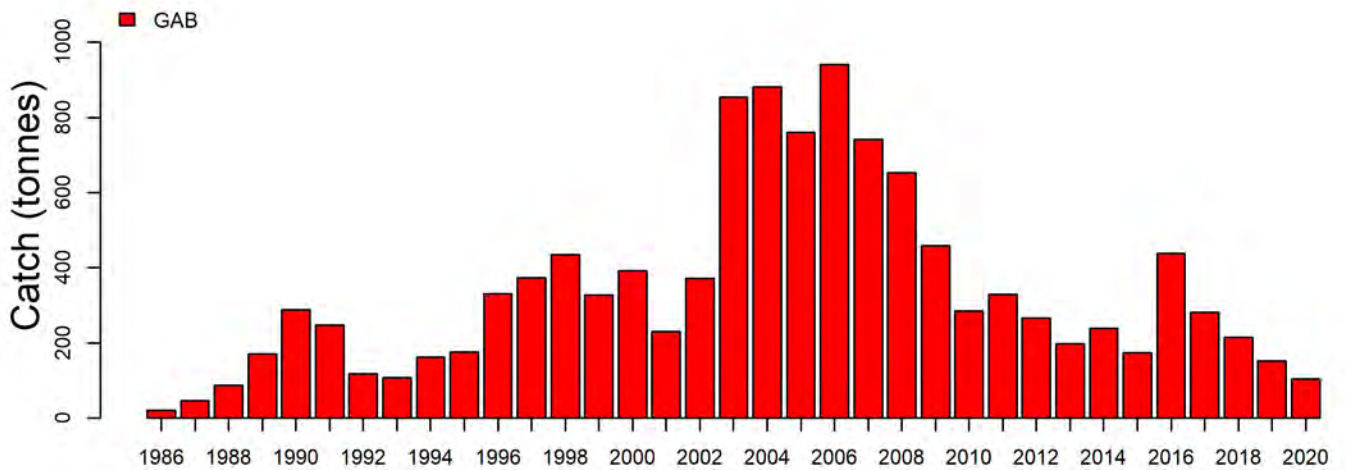
Figure 251 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Bight Redfish. For more information contact AFMA on (02) 6225 5555.

# Bight Redfish

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

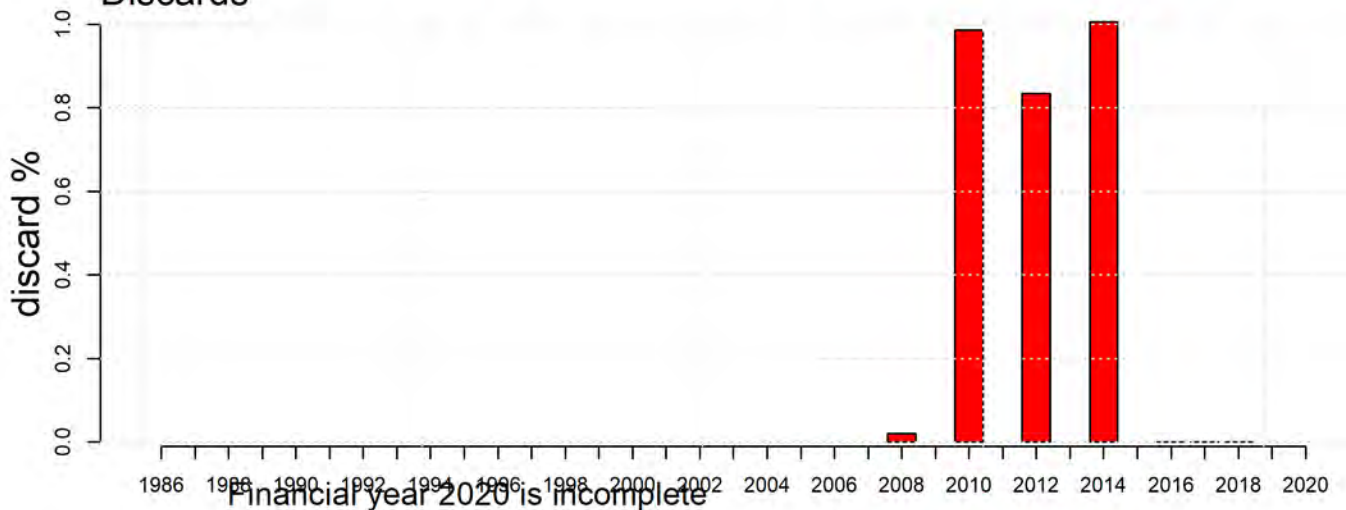


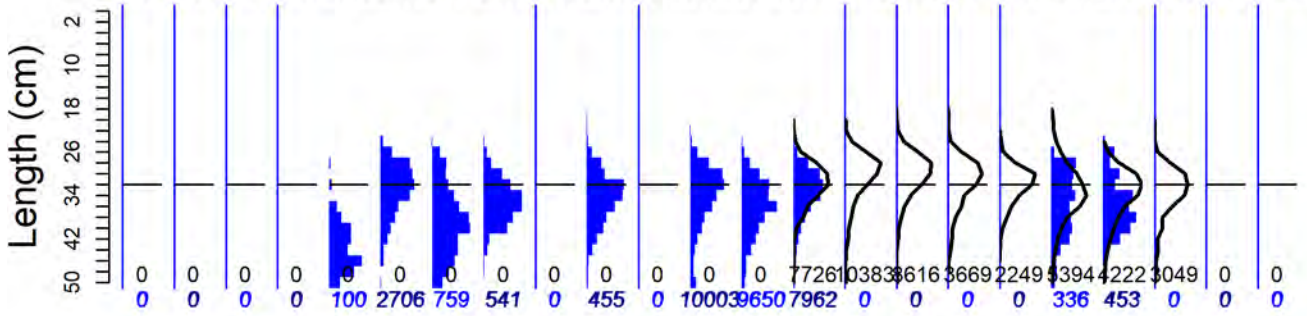
Figure 252 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Bight Redfish. For more information contact AFMA on (02) 6225 5555.

# Bight Redfish

Mon Aug 16 10:37:36 2021

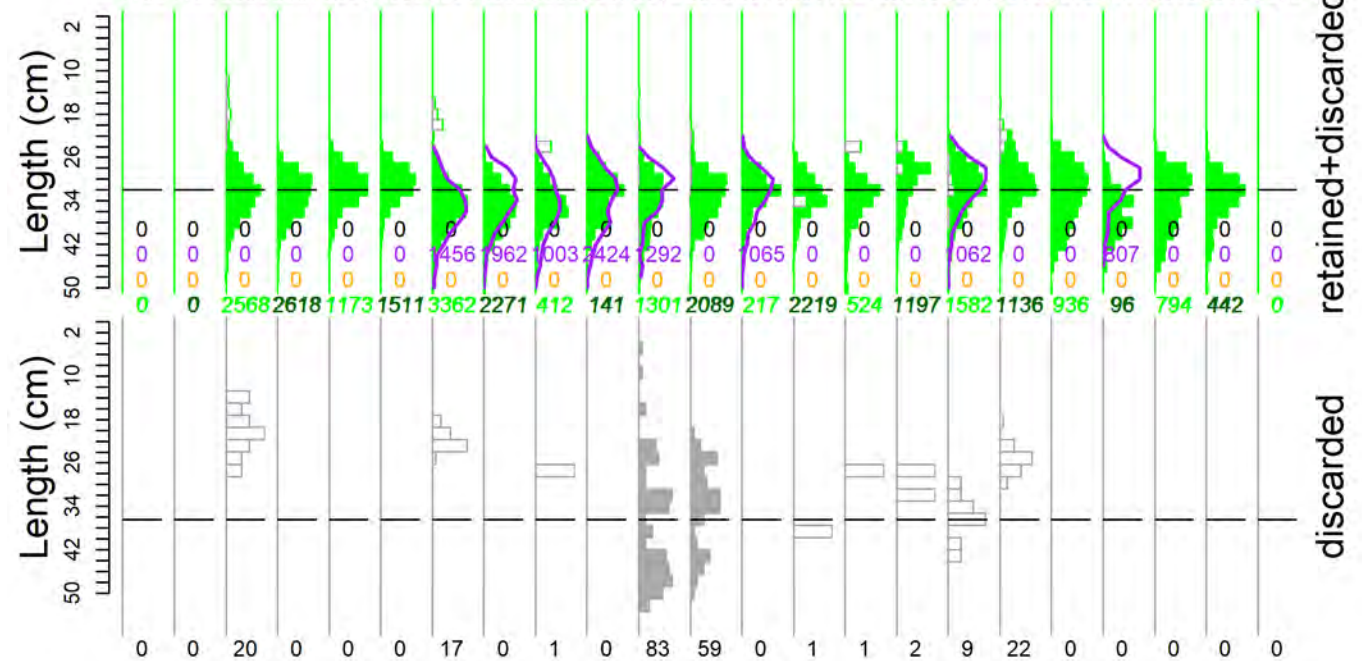
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



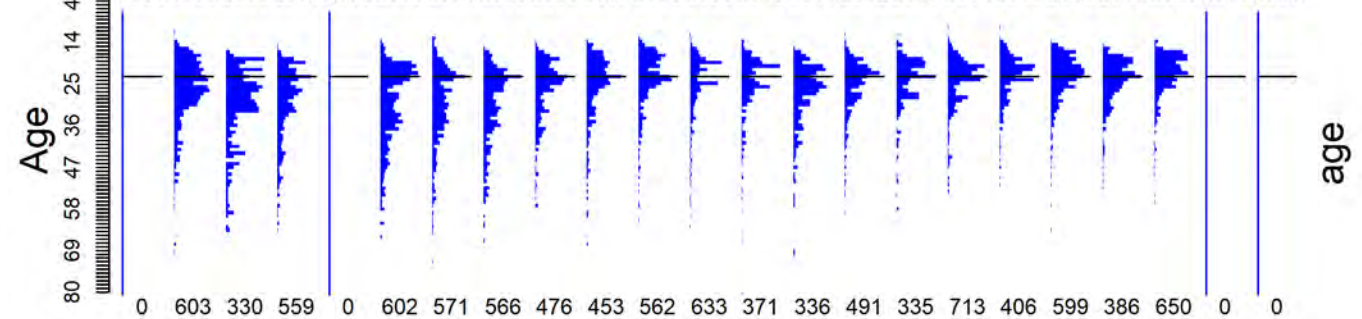
Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Financial year 2020 is incomplete

Figure 253 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Bight Redfish. For more information contact AFMA on (02) 6225 5555.

# Bight Redfish

# Port length data

Mon Aug 16 10:37:37 2021

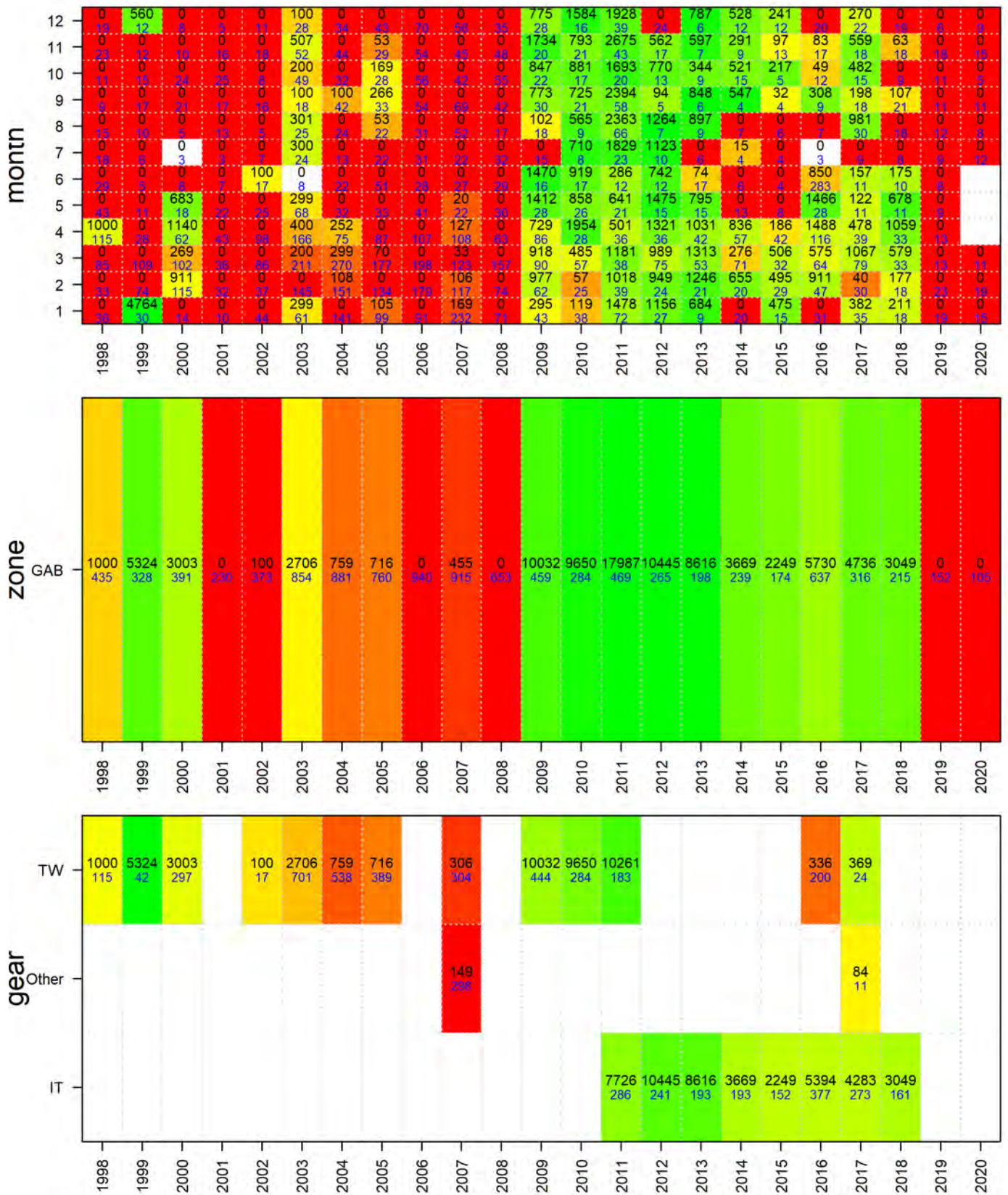


Figure 254 Port length data sampling coverage by month (top), zone (middle) and gear for Bight Redfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Bight Redfish

# Onboard discard weight data

Mon Aug 16 10:37:38 2021

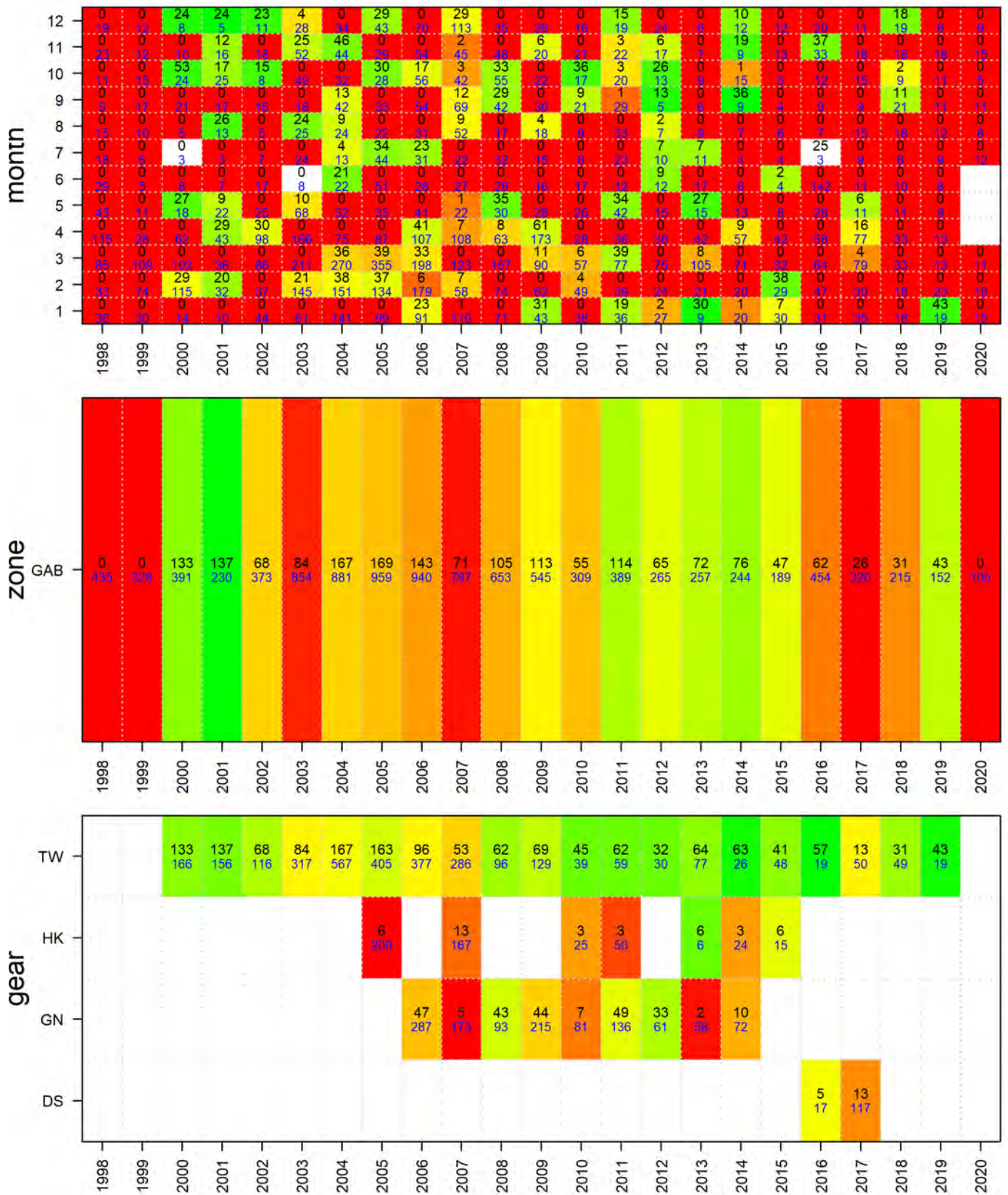


Figure 255 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Bight Redfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Bight Redfish

# Onboard length data

Mon Aug 16 10:37:39 2021

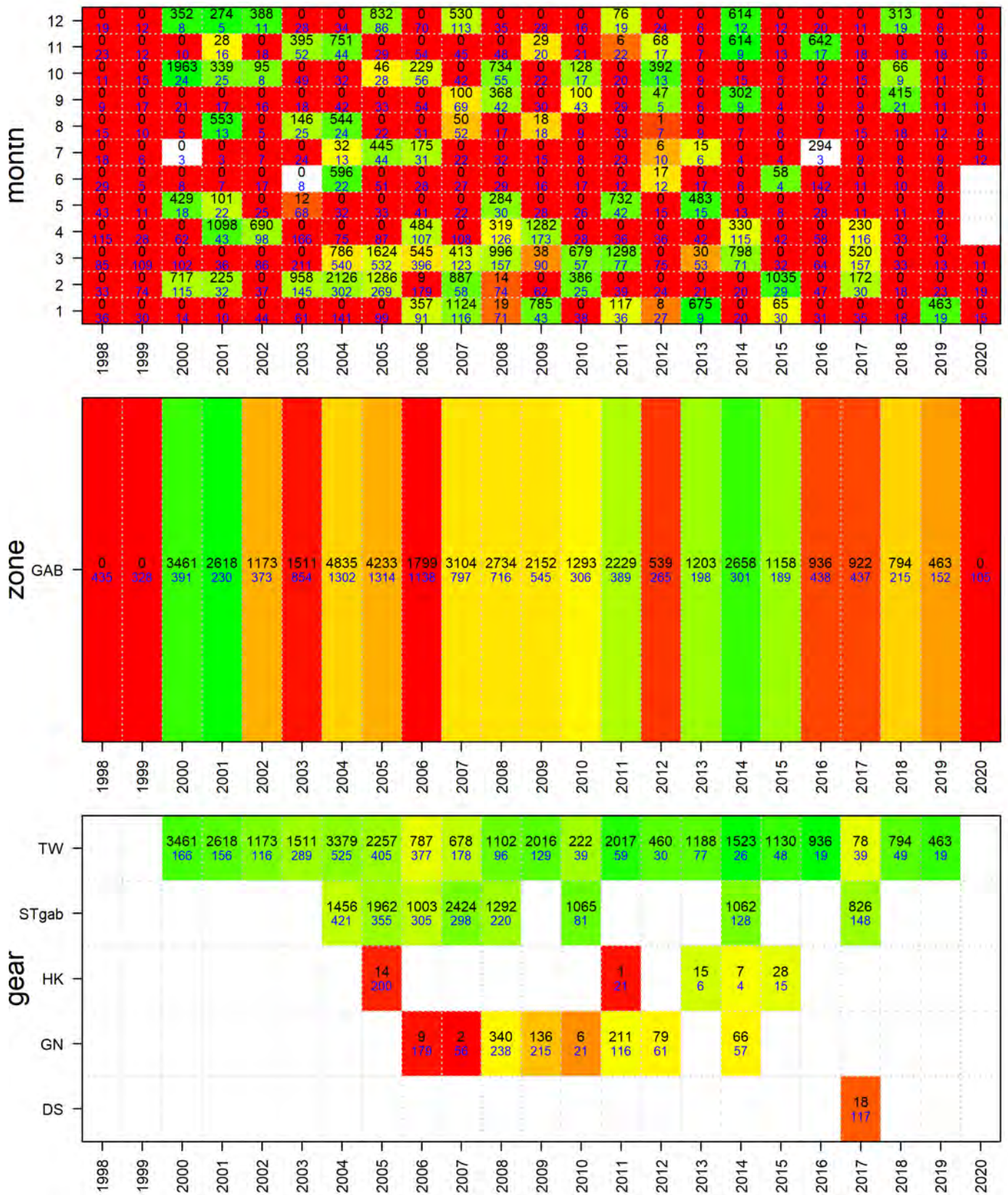


Figure 256 Onboard length data sampling coverage by month (top), zone (middle) and gear for Bight Redfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Bight Redfish

# Age data

Mon Aug 16 10:37:40 2021

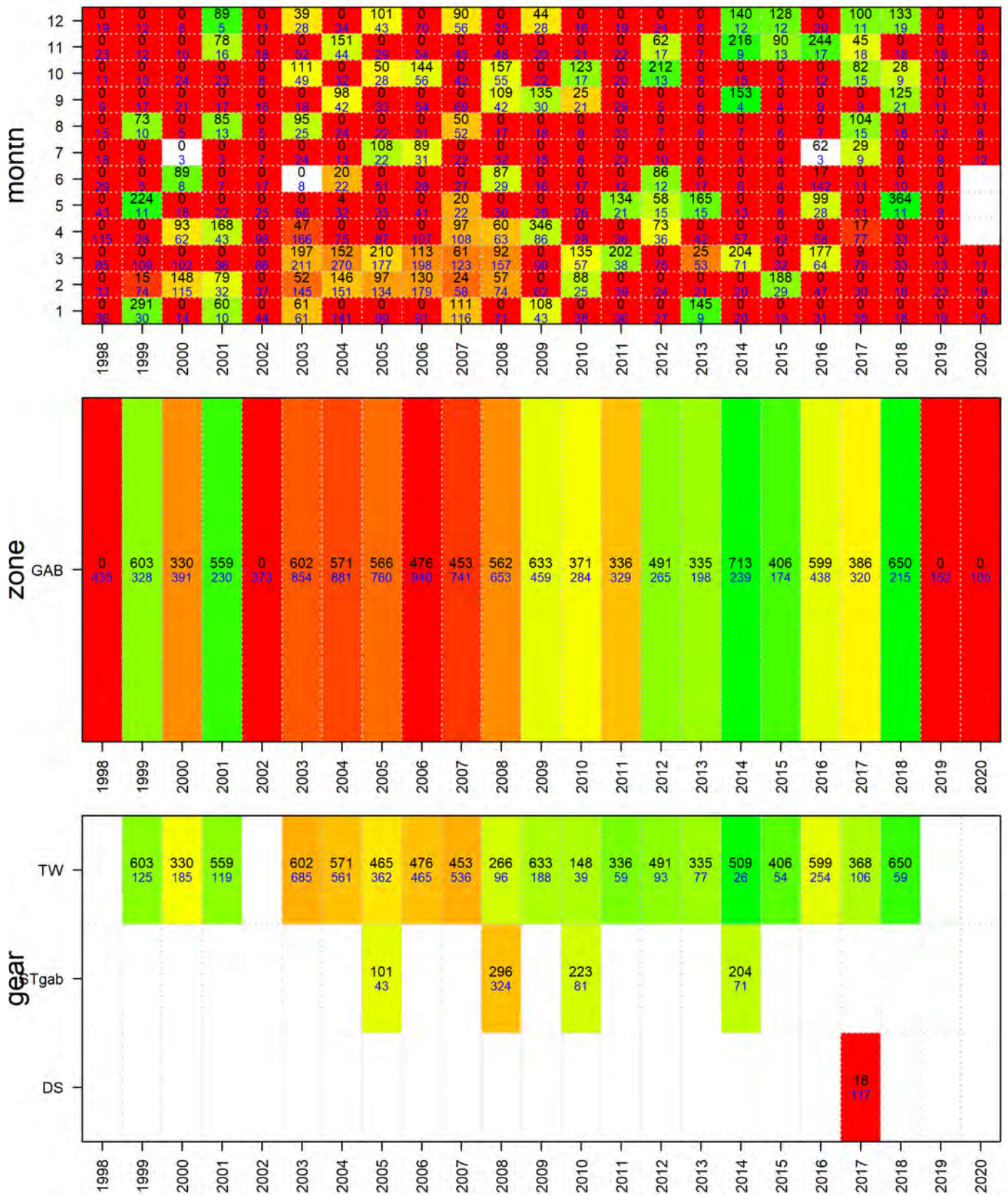


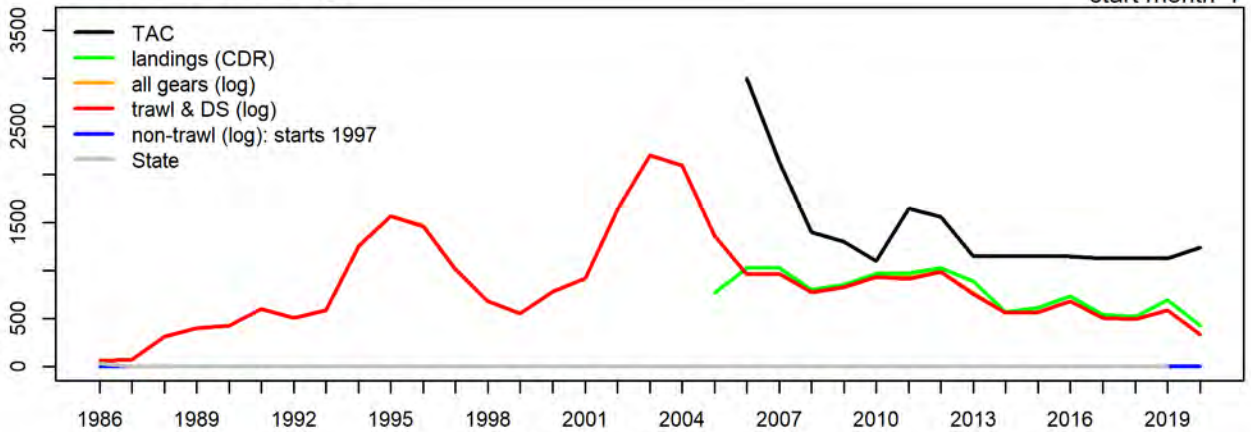
Figure 257 Age data sampling coverage by month (top), zone (middle) and gear for Bight Redfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



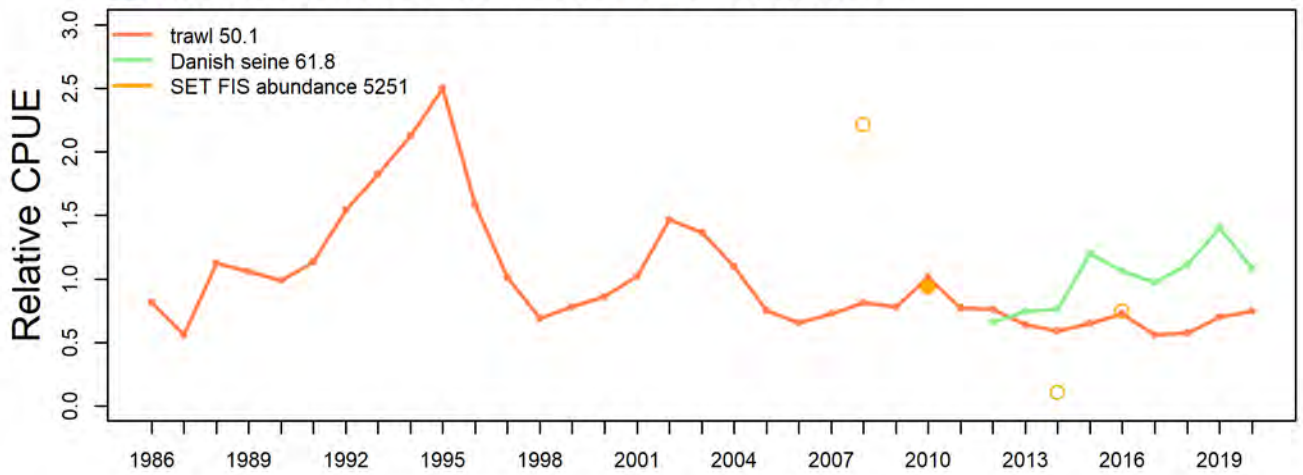
# Deepwater Flathead

## TAC and landings

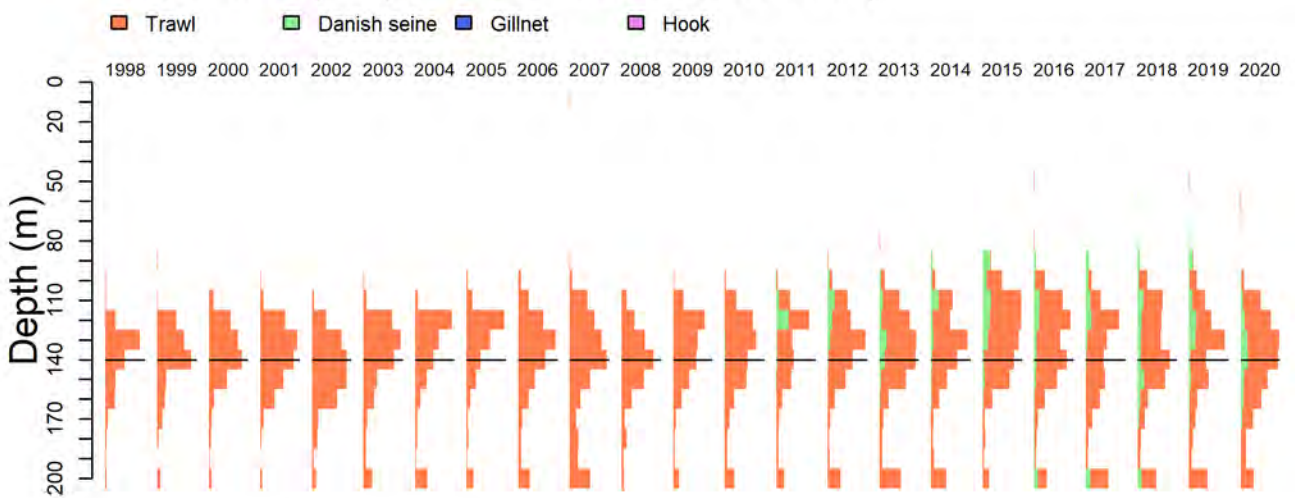
Mon Aug 16 10:37:42 2021  
 region GAB unit code FLD sa code FLD  
 37296002  
 start month 7



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

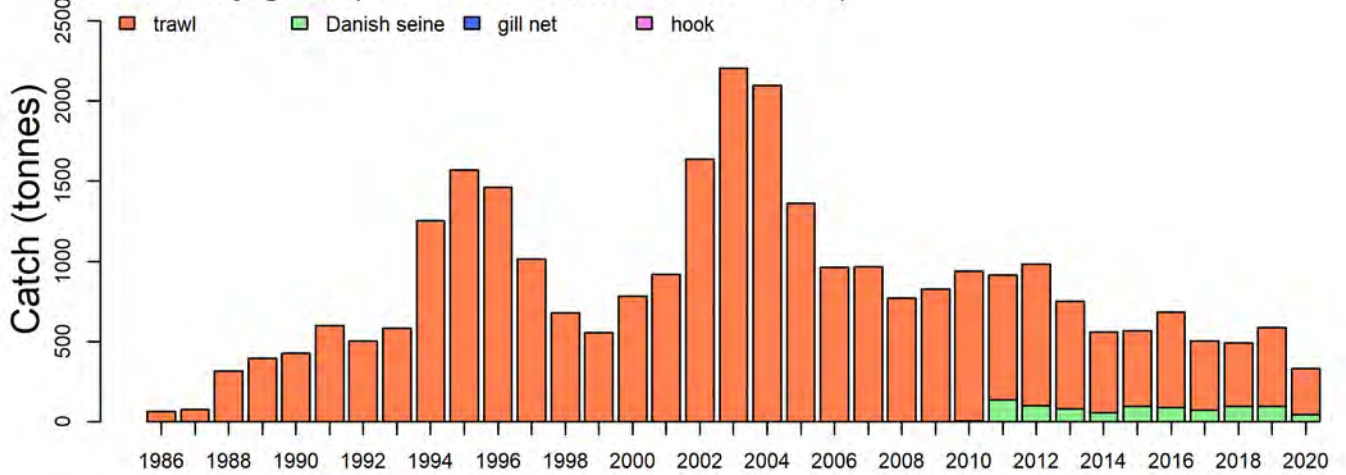


Financial year 2020 is incomplete

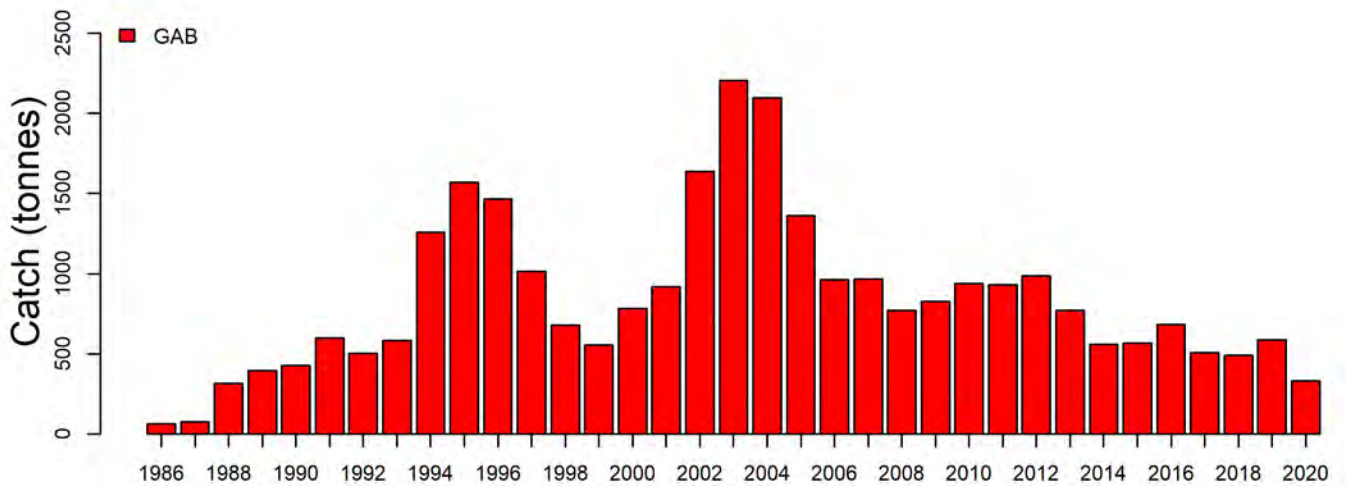
Figure 258 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Deepwater Flathead. For more information contact AFMA on (02) 6225 5555.

# Deepwater Flathead

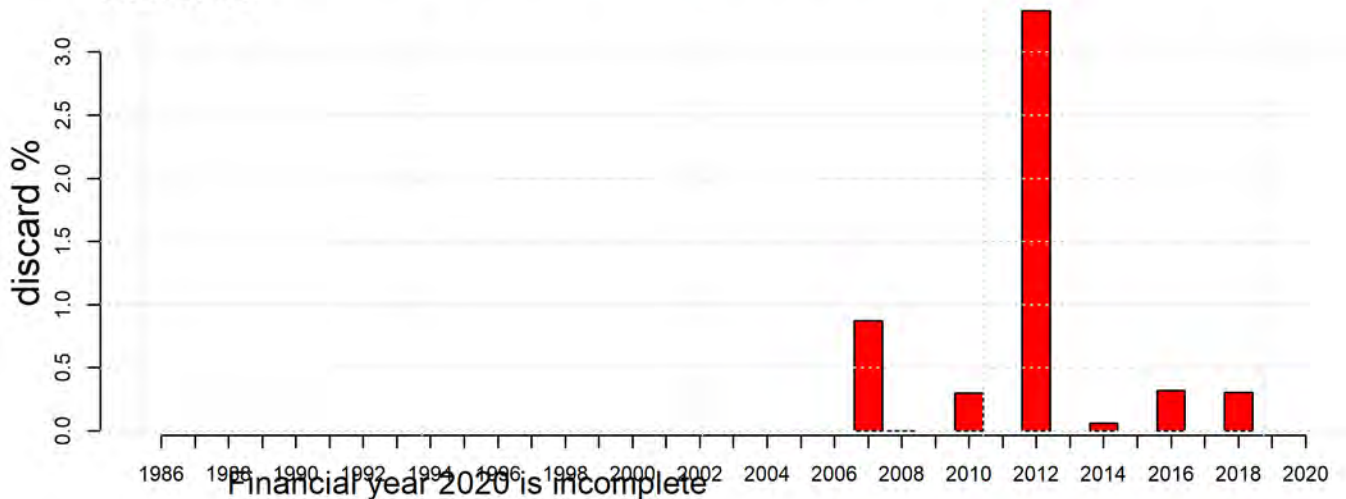
Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards



Financial year 2020 is incomplete

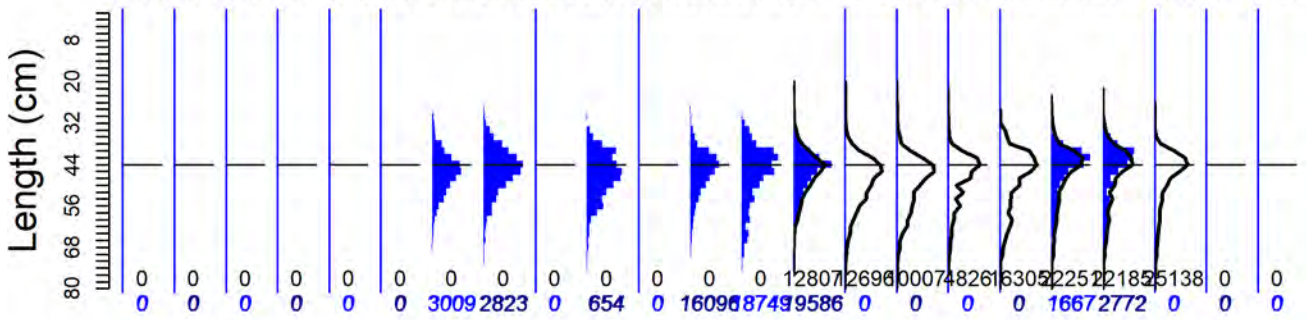
Figure 259 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Deepwater Flathead. For more information contact AFMA on (02) 6225 5555.

# Deepwater Flathead

Mon Aug 16 10:37:45 2021

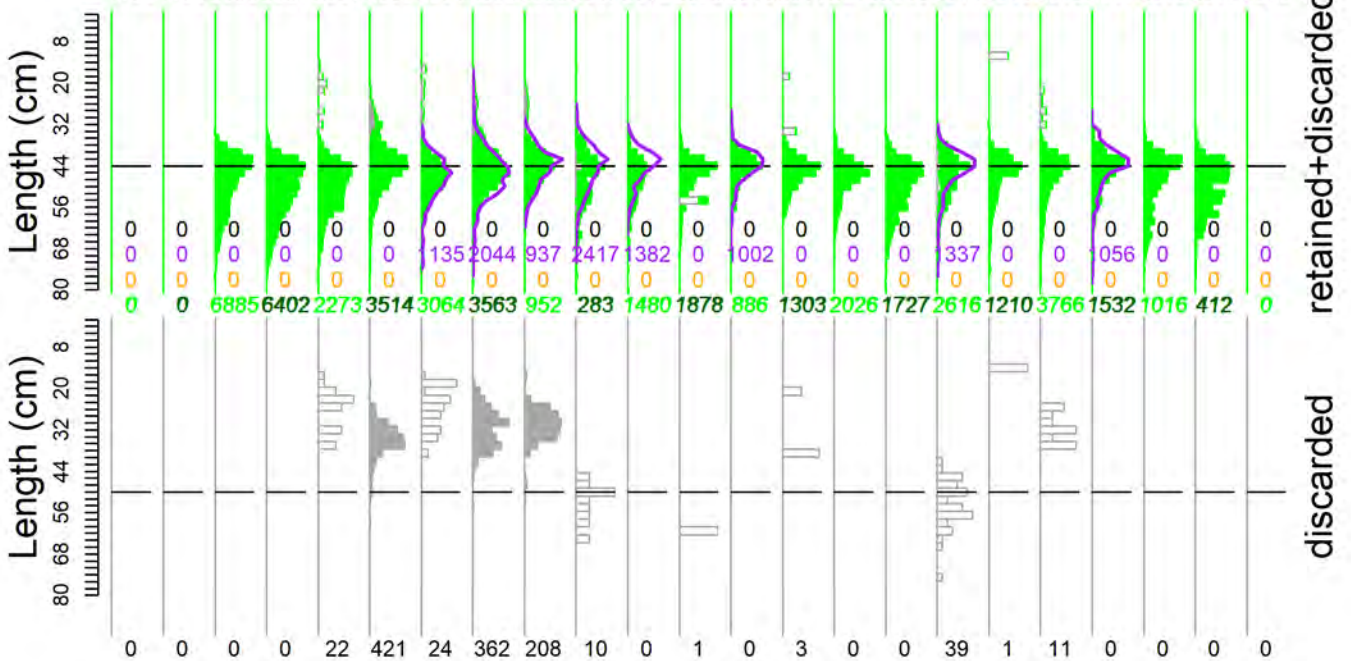
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



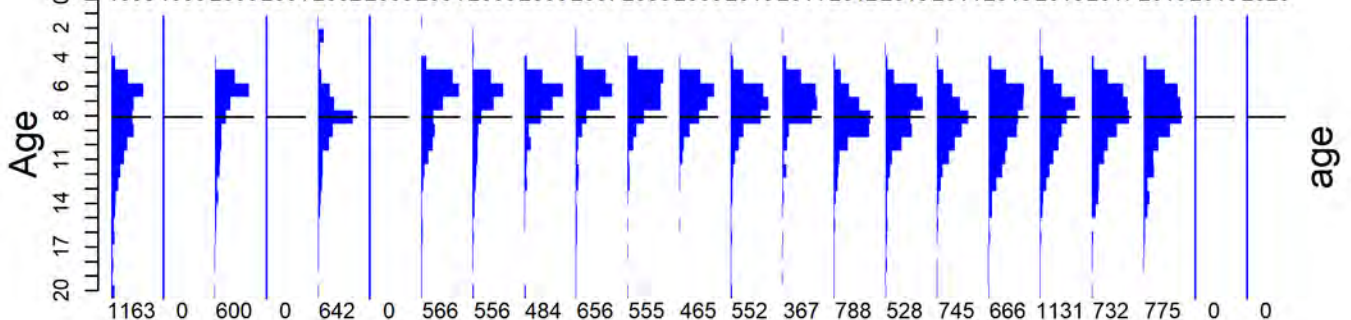
Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Financial year 2020 is incomplete

Figure 260 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Deepwater Flathead. For more information contact AFMA on (02) 6225 5555.

# Deepwater Flathead

# Port length data

Mon Aug 16 10:37:46 2021

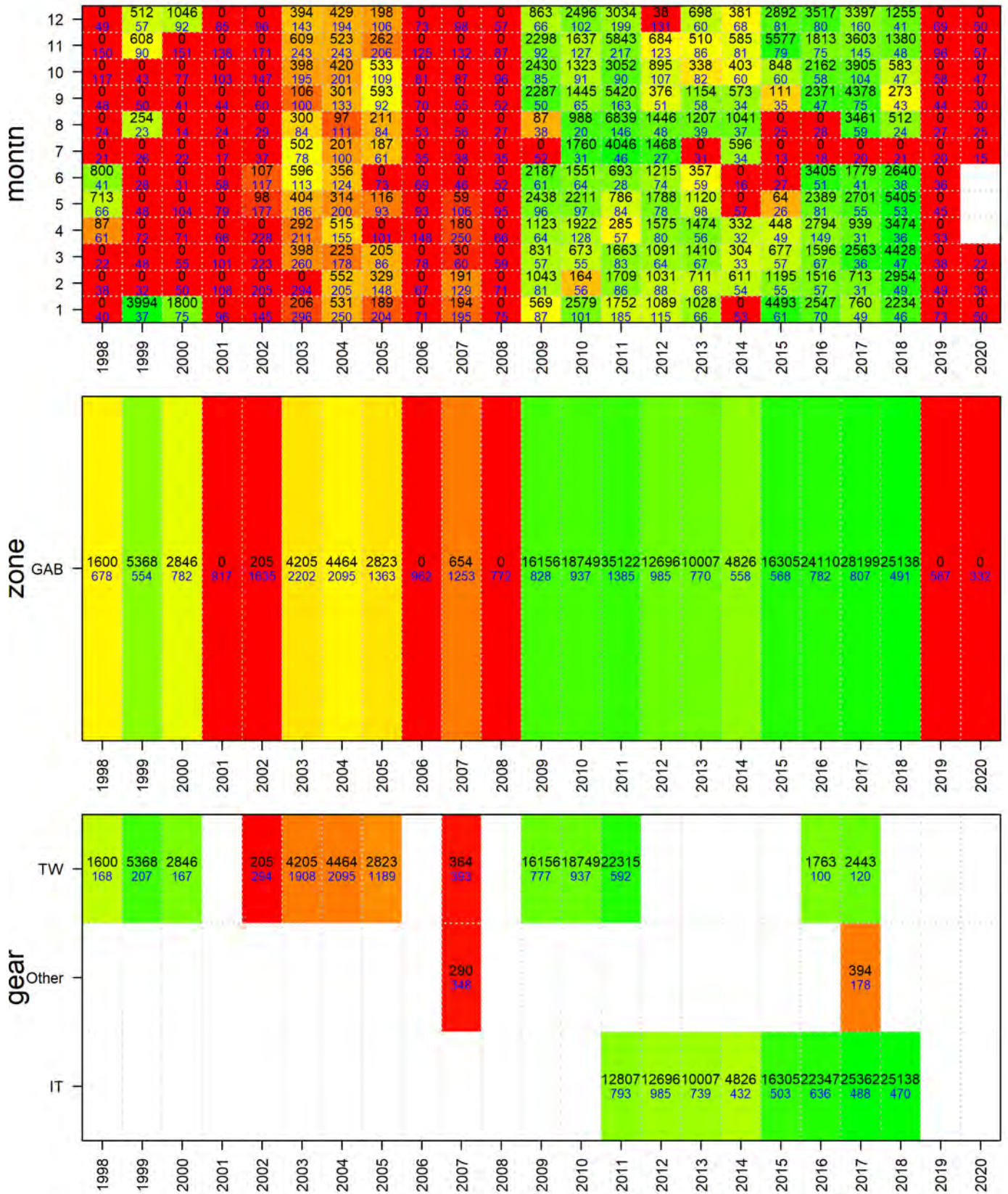


Figure 261 Port length data sampling coverage by month (top), zone (middle) and gear for Deepwater Flathead. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Deepwater Flathead Onboard discard weight data

Mon Aug 16 10:37:47 2021

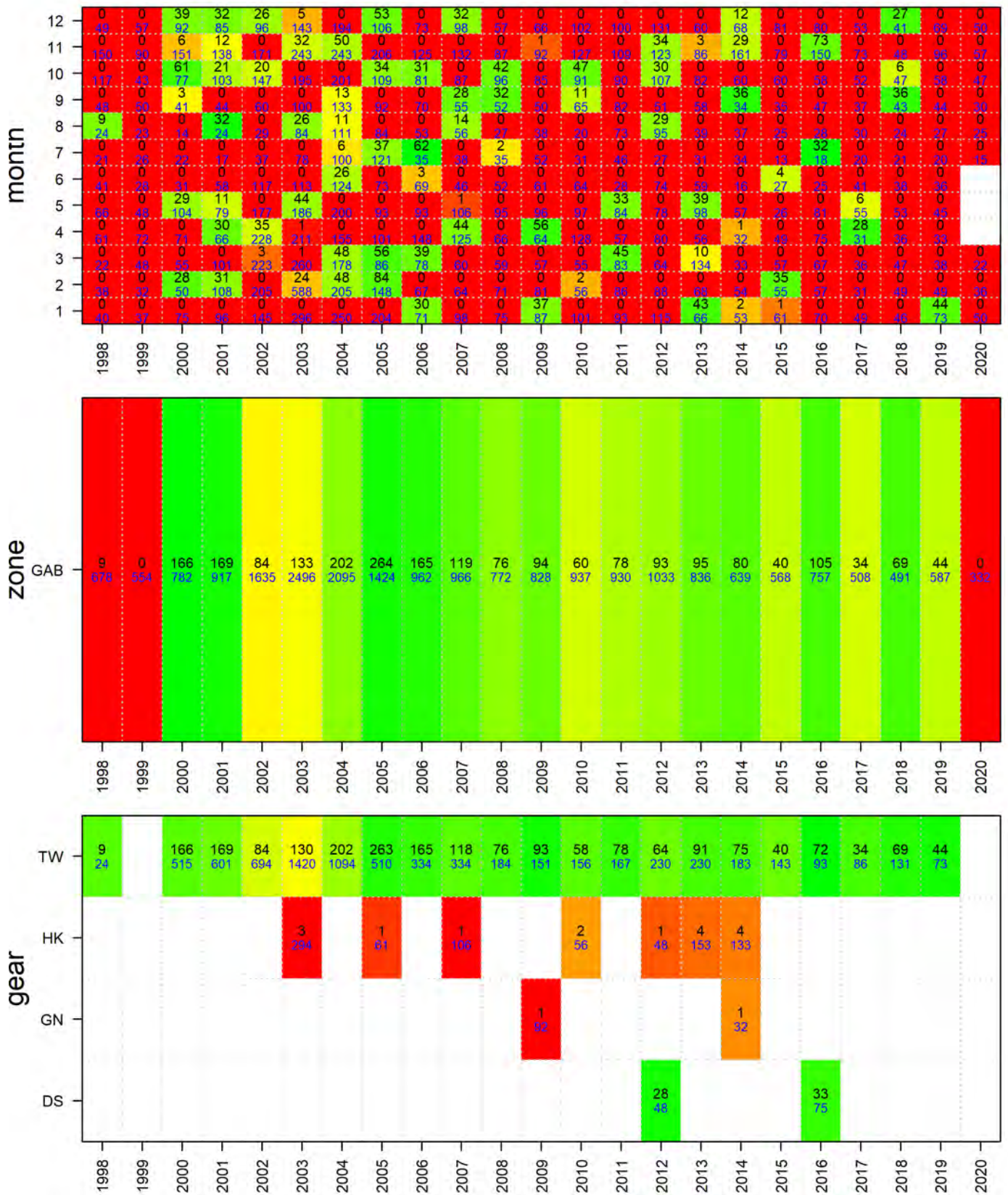


Figure 262 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Deepwater Flathead. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Deepwater Flathead Onboard length data

Mon Aug 16 10:37:48 2021

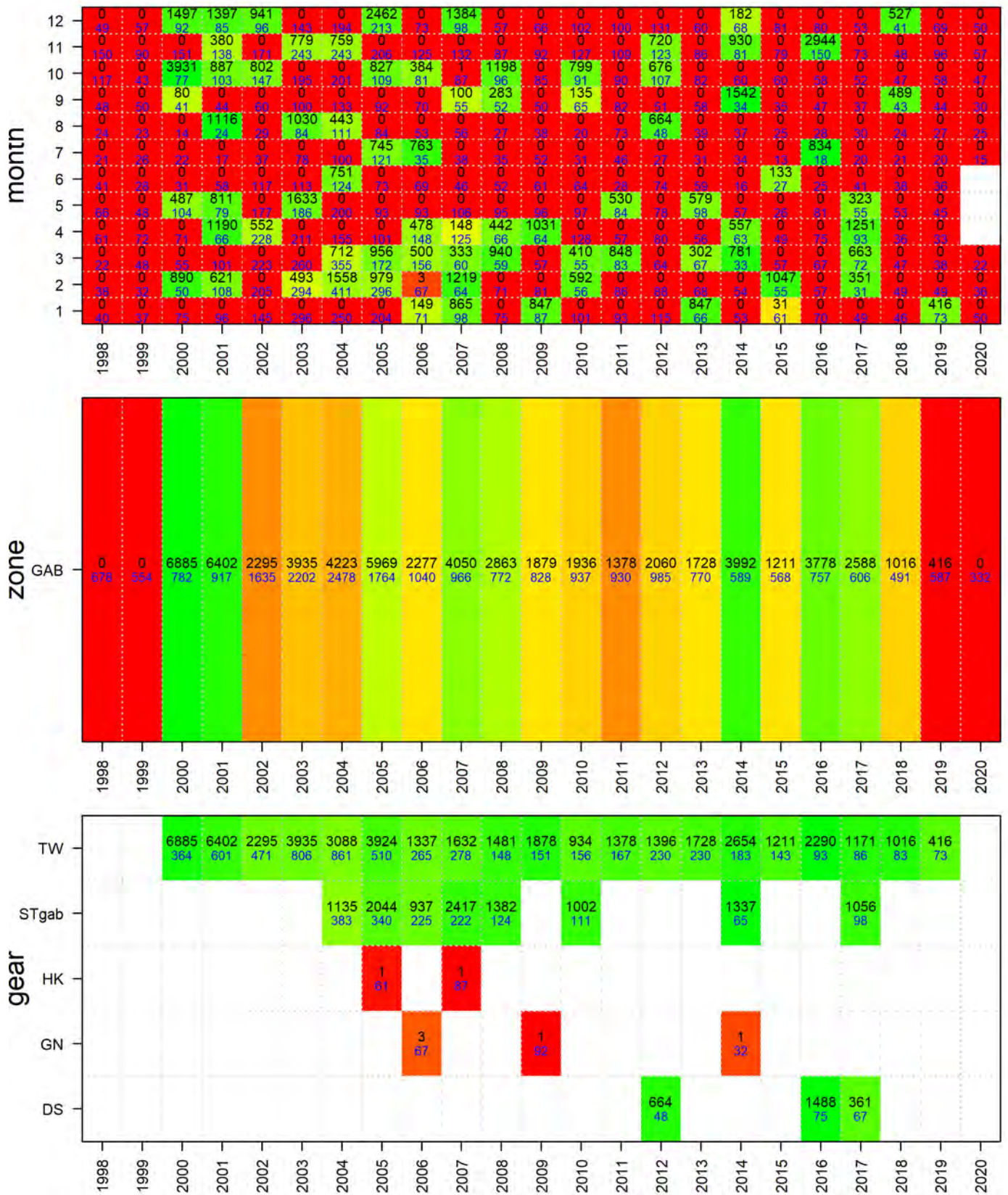


Figure 263 Onboard length data sampling coverage by month (top), zone (middle) and gear for Deepwater Flathead. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Deepwater Flathead

# Age data

Mon Aug 16 10:37:49 2021

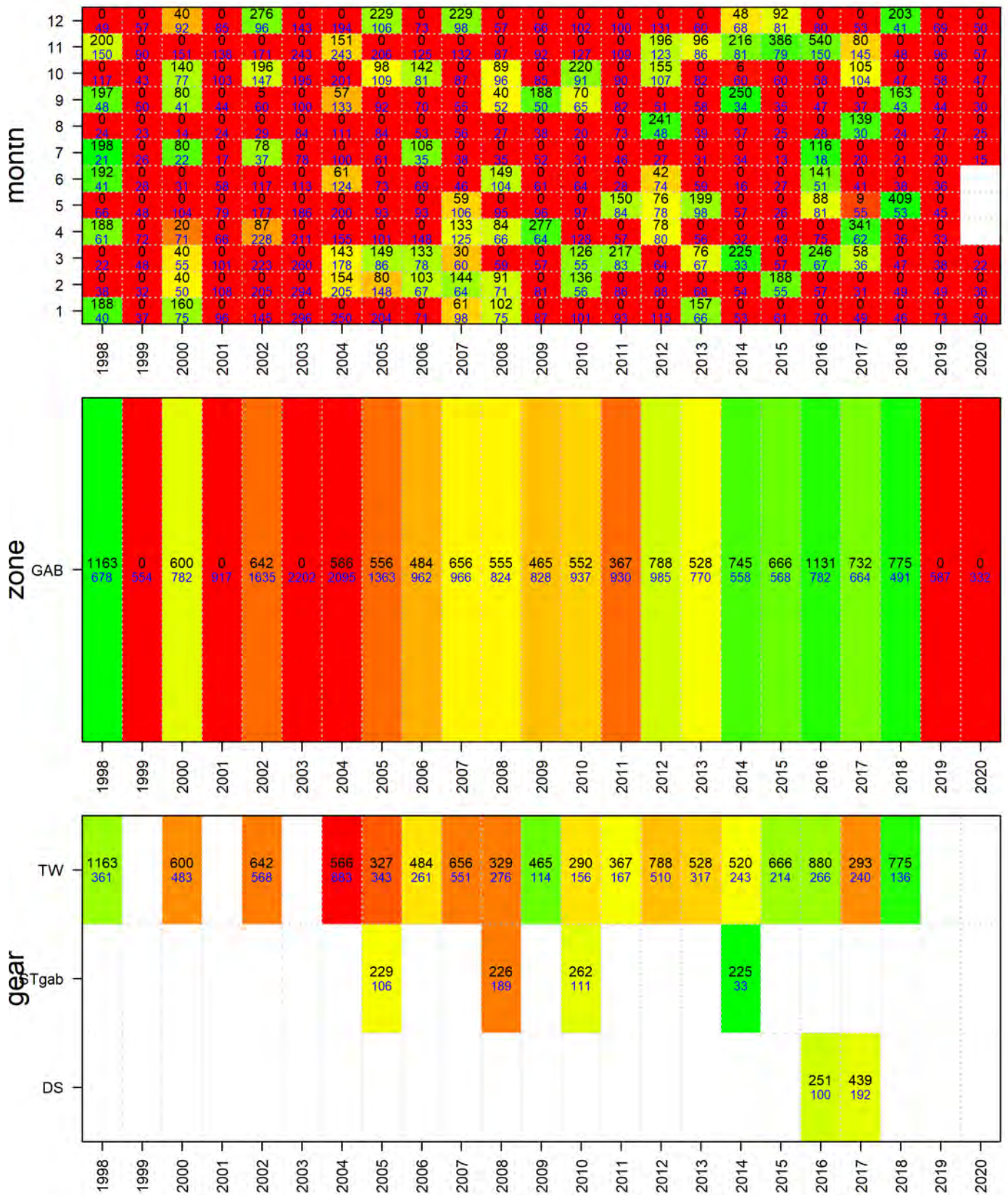
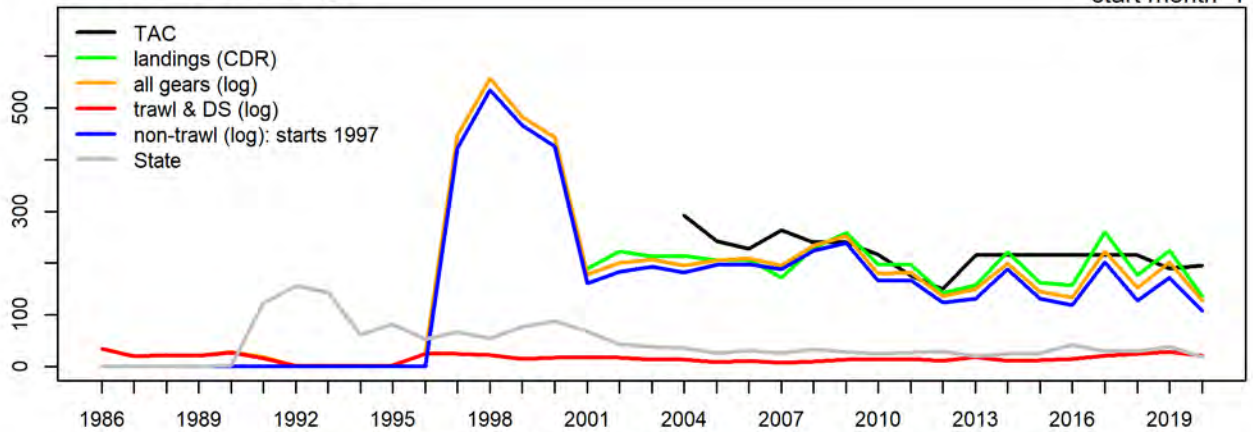


Figure 264 Age data sampling coverage by month (top), zone (middle) and gear for Deepwater Flathead. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

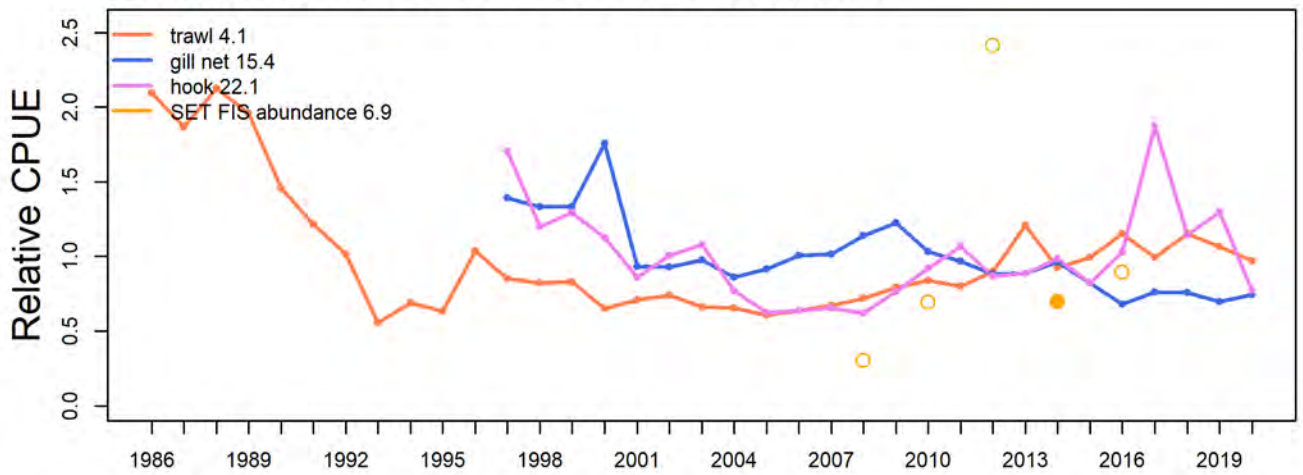
# School Shark

## TAC and landings

Mon Aug 16 10:37:51 2021  
 region ALL unit code SHS sa code SHS  
 37017008  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)



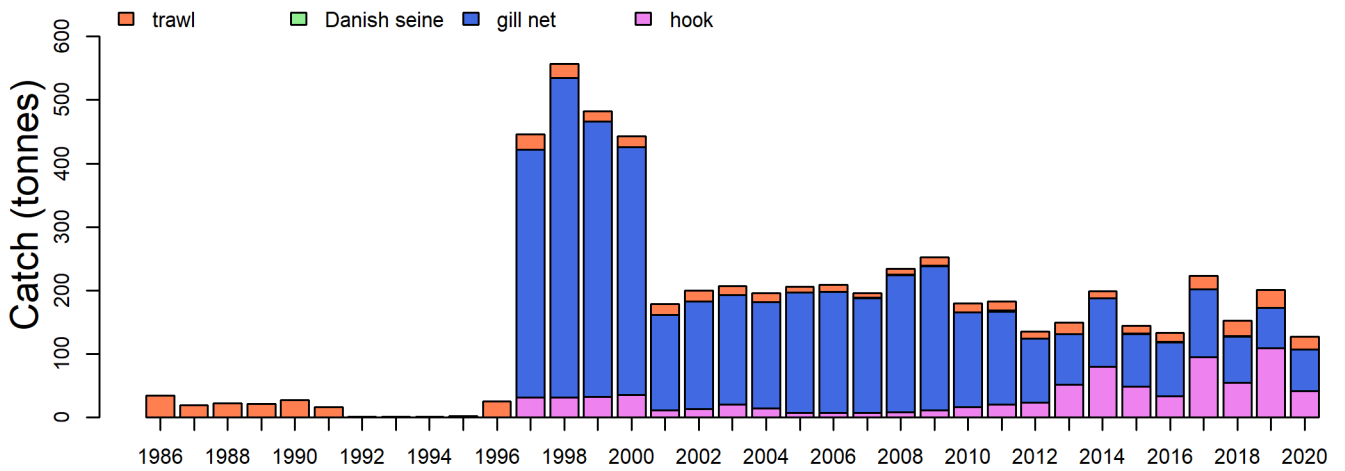
Figure 265 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for School Shark. For more information contact AFMA on (02) 6225 5555.



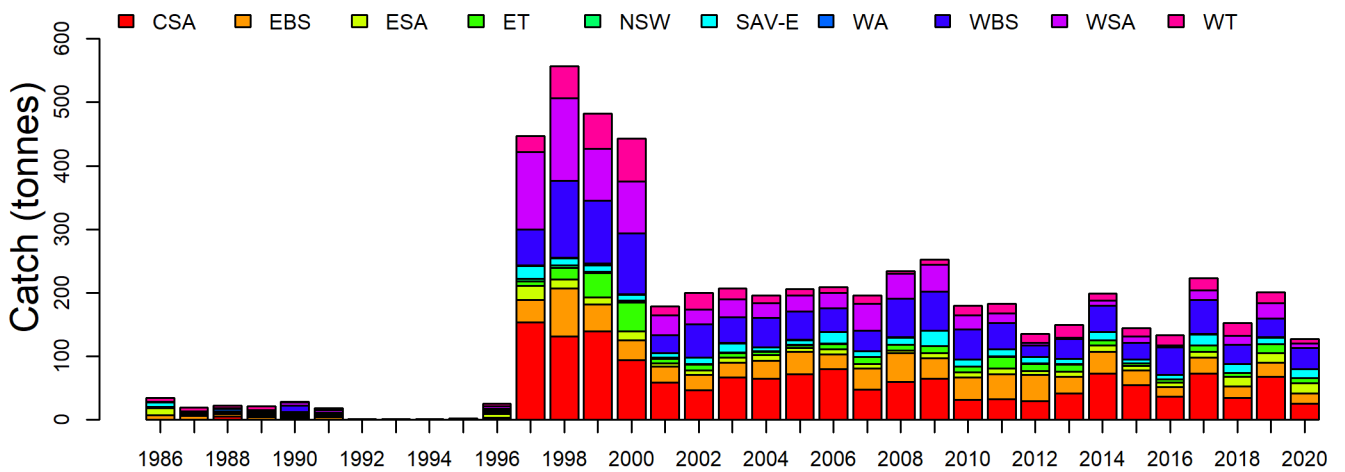
# School Shark

Mon Aug 16 10:37:53 2021

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

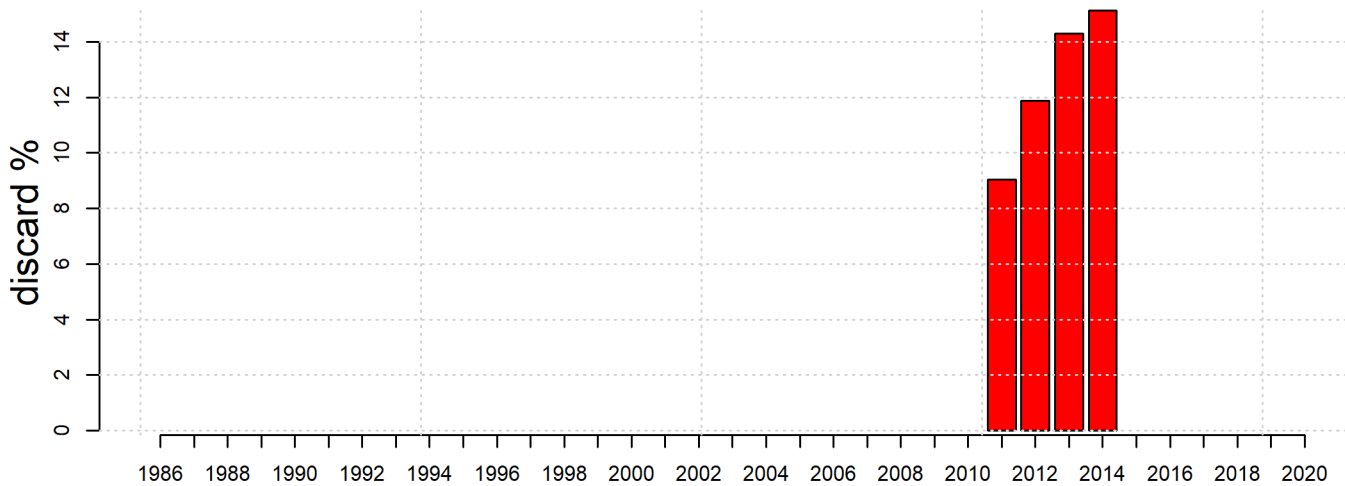


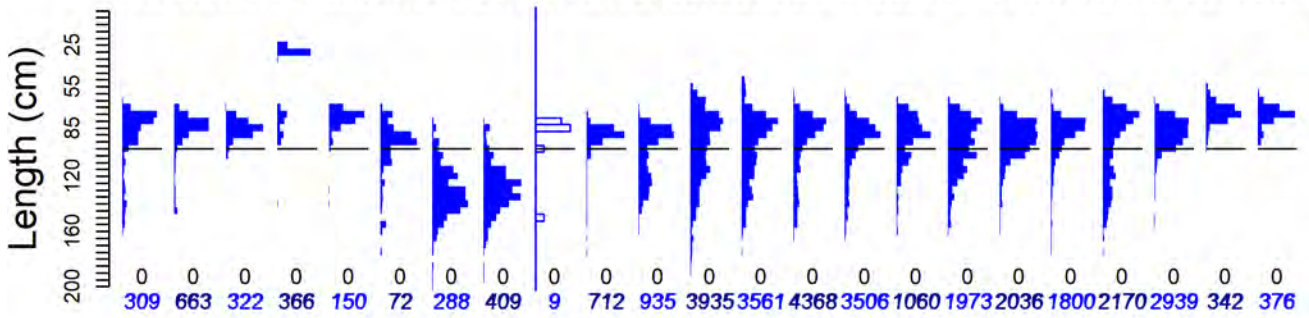
Figure 266 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for School Shark. For more information contact AFMA on (02) 6225 5555.

# School Shark

Mon Aug 16 10:37:54 2021

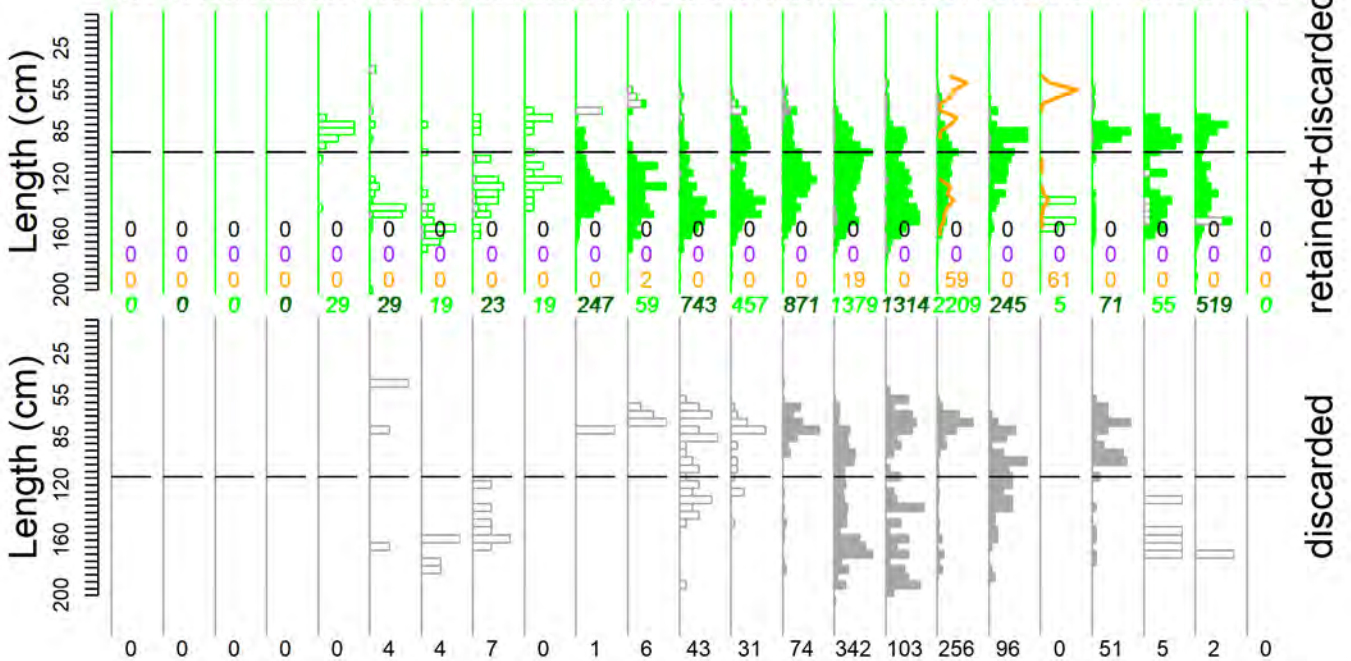
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

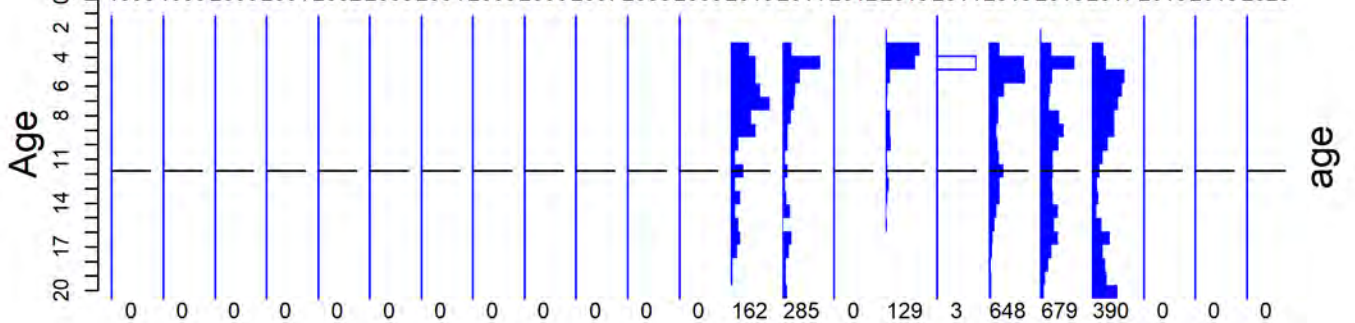


Figure 267 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for School Shark. For more information contact AFMA on (02) 6225 5555.

# School Shark

# Port length data

Mon Aug 16 10:37:55 2021

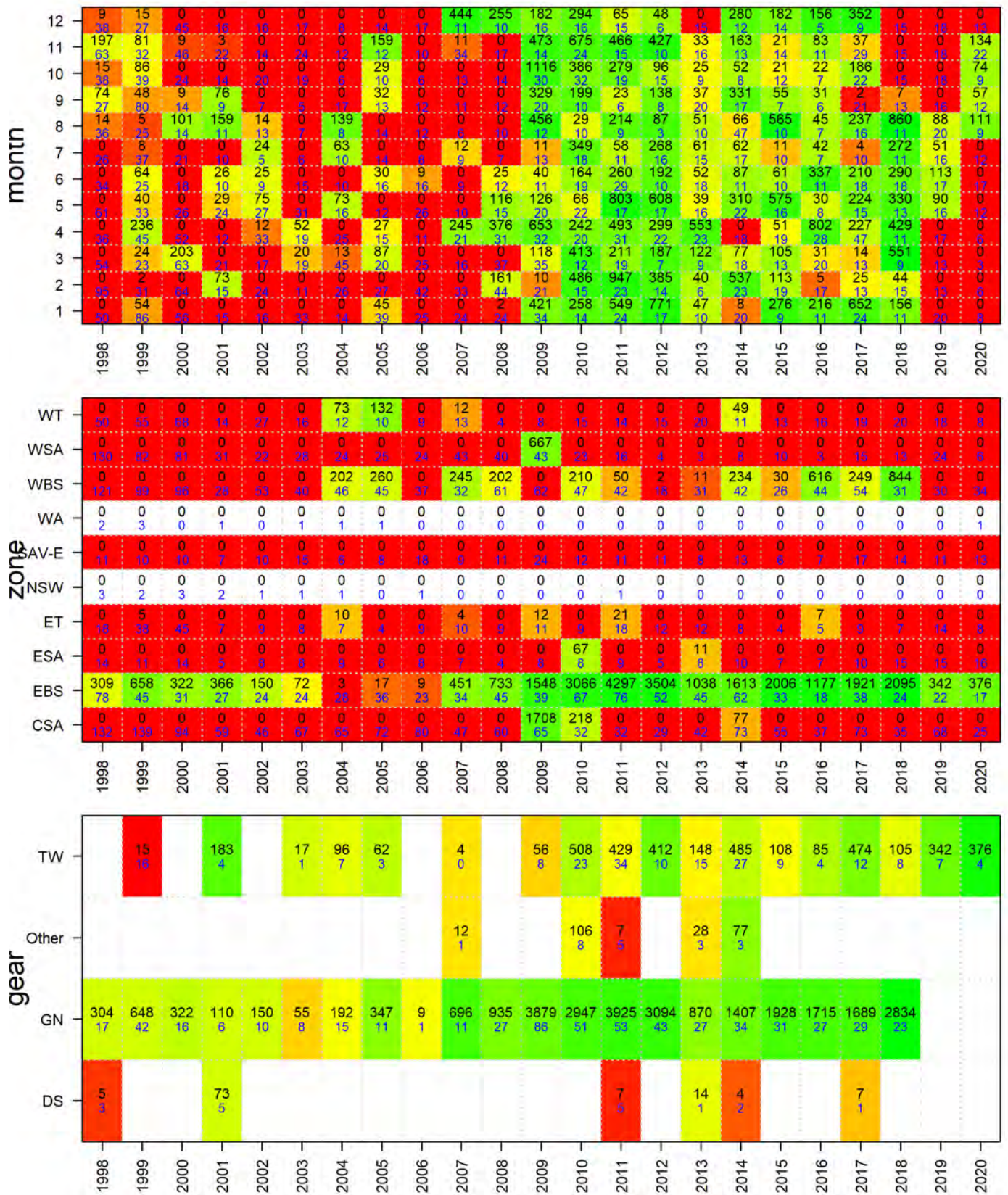


Figure 268 Port length data sampling coverage by month (top), zone (middle) and gear for School Shark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# School Shark

## Onboard discard weight data

Mon Aug 16 10:37:56 2021

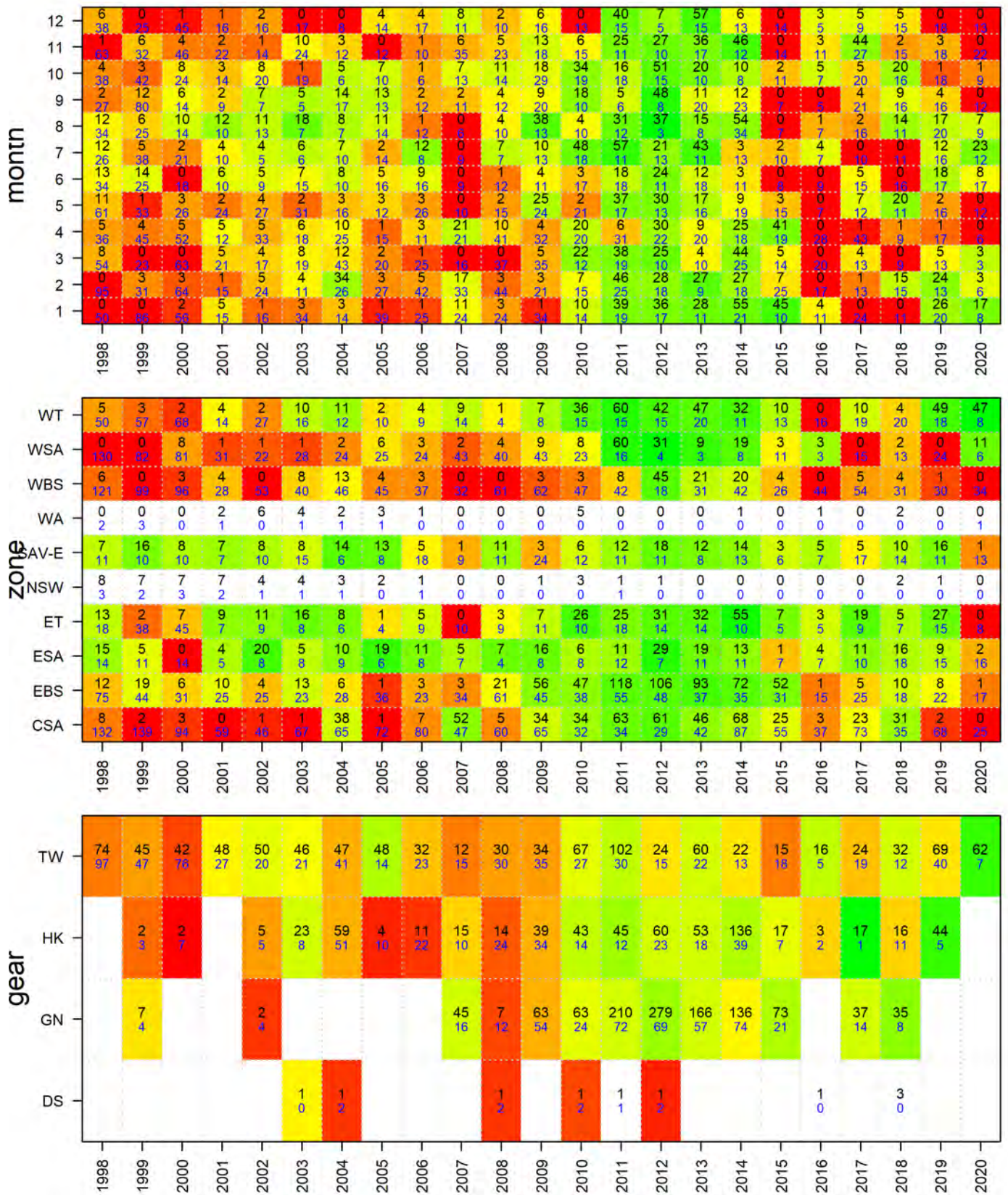


Figure 269 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for School Shark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# School Shark

# Onboard length data

Mon Aug 16 10:37:57 2021

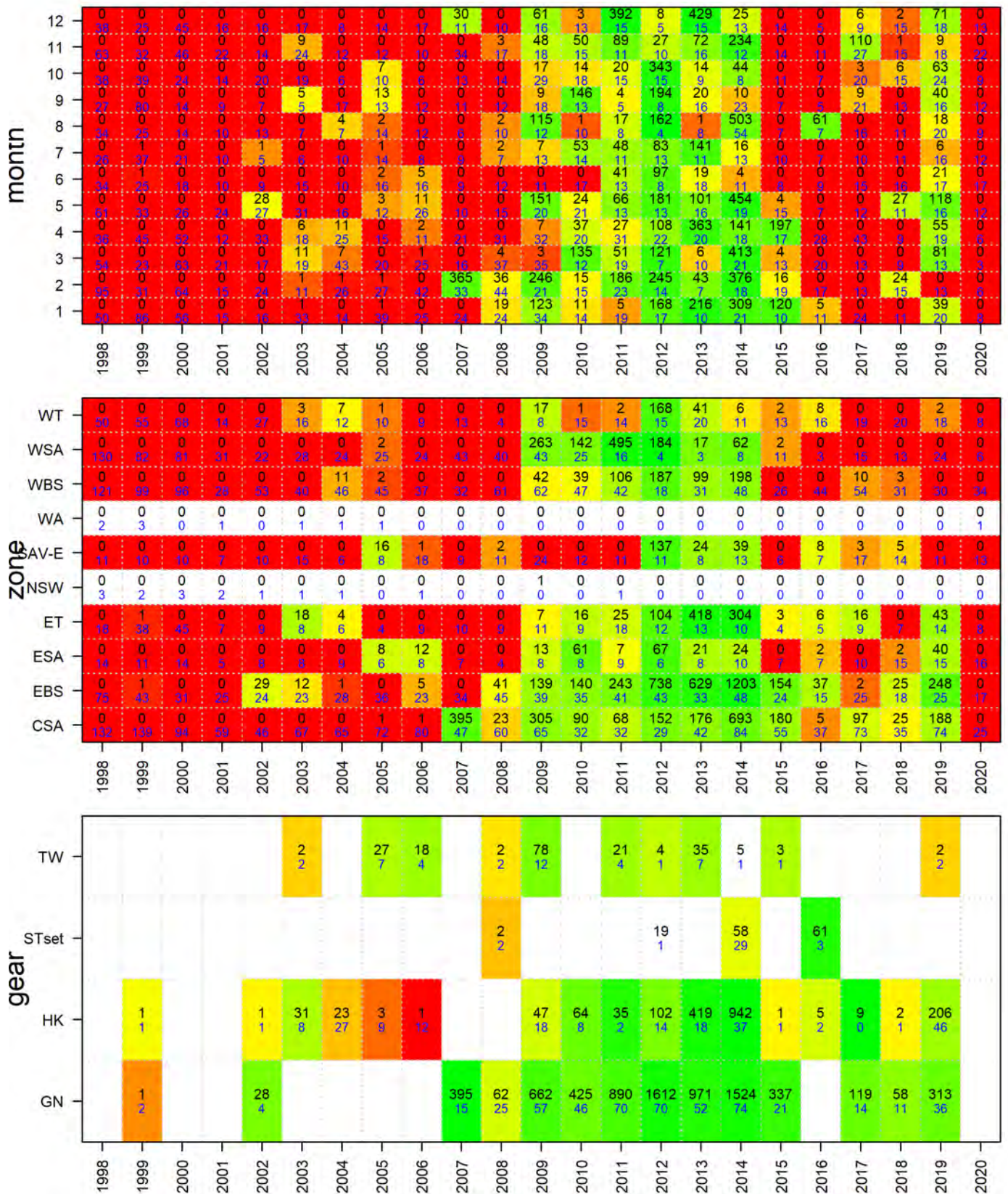


Figure 270 Onboard length data sampling coverage by month (top), zone (middle) and gear for School Shark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# School Shark

# Age data

Mon Aug 16 10:37:57 2021

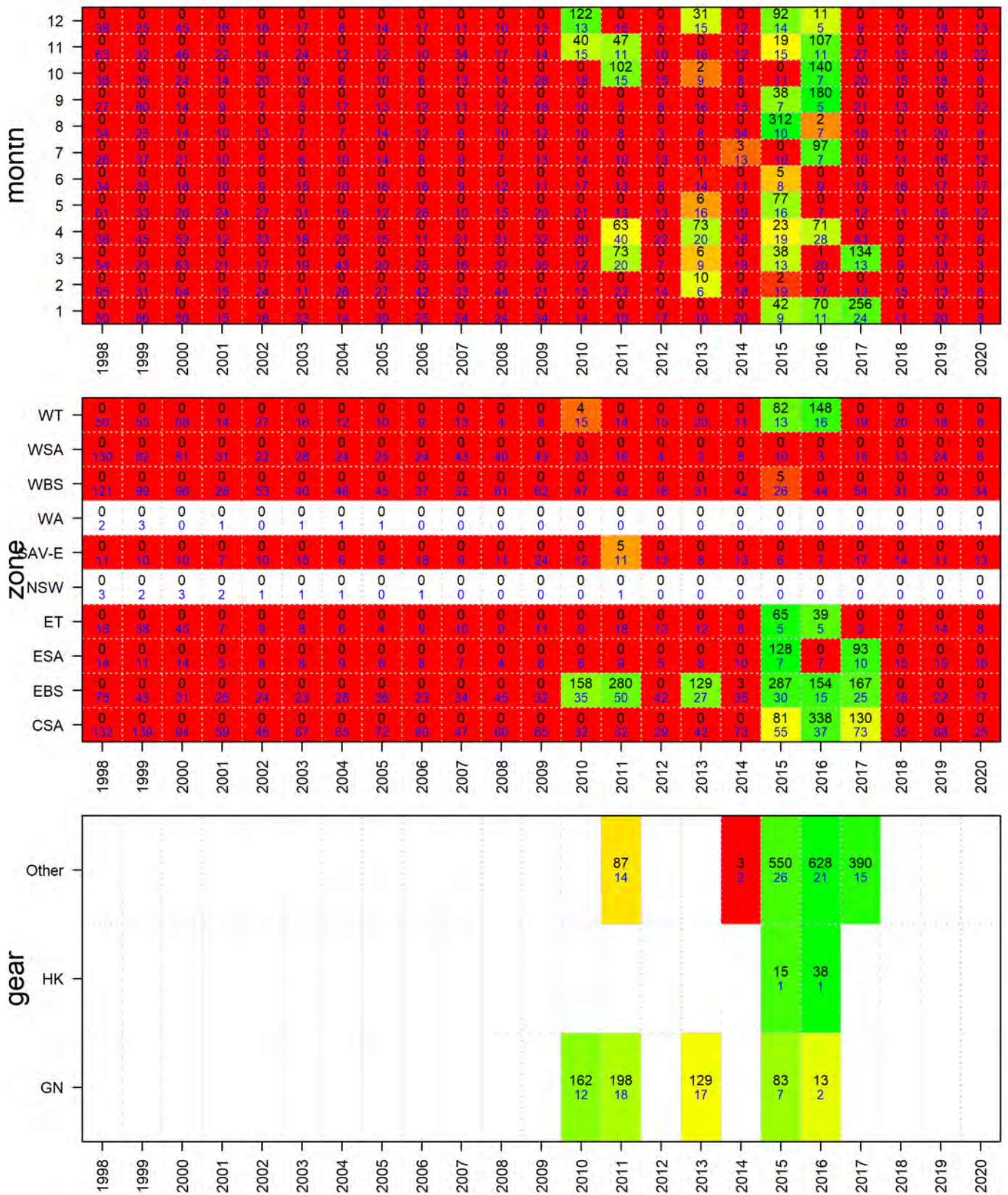
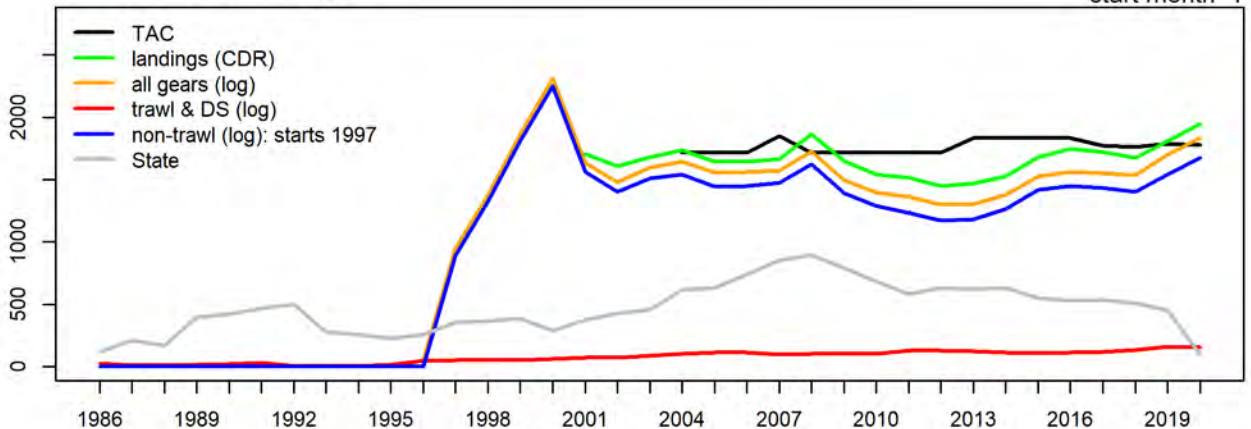


Figure 271 Age data sampling coverage by month (top), zone (middle) and gear for School Shark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

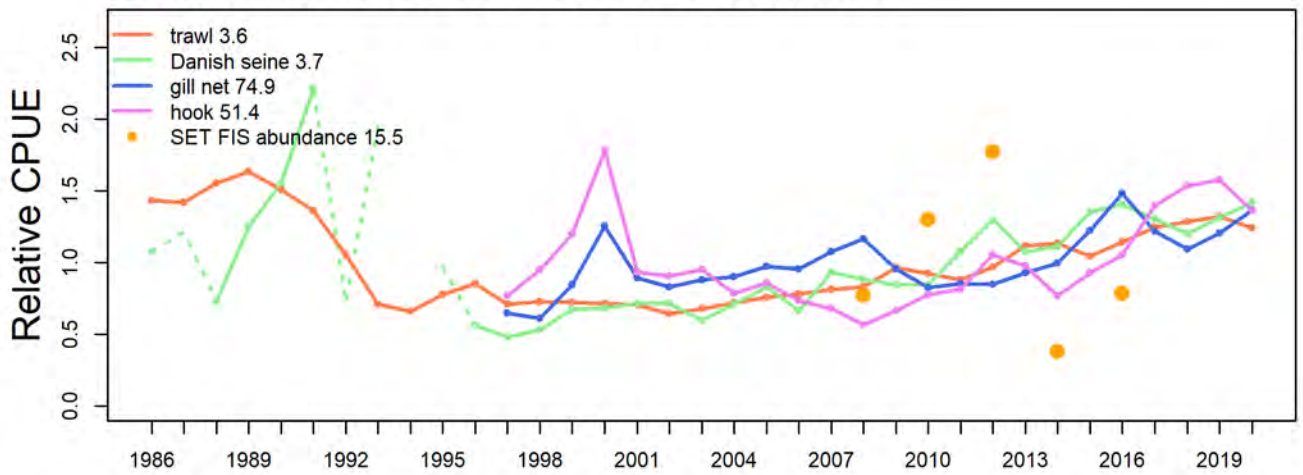
# Gummy Shark

## TAC and landings

Mon Aug 16 10:38:02 2021  
 region ALL unit code SHG sa code SHG  
 37017001  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

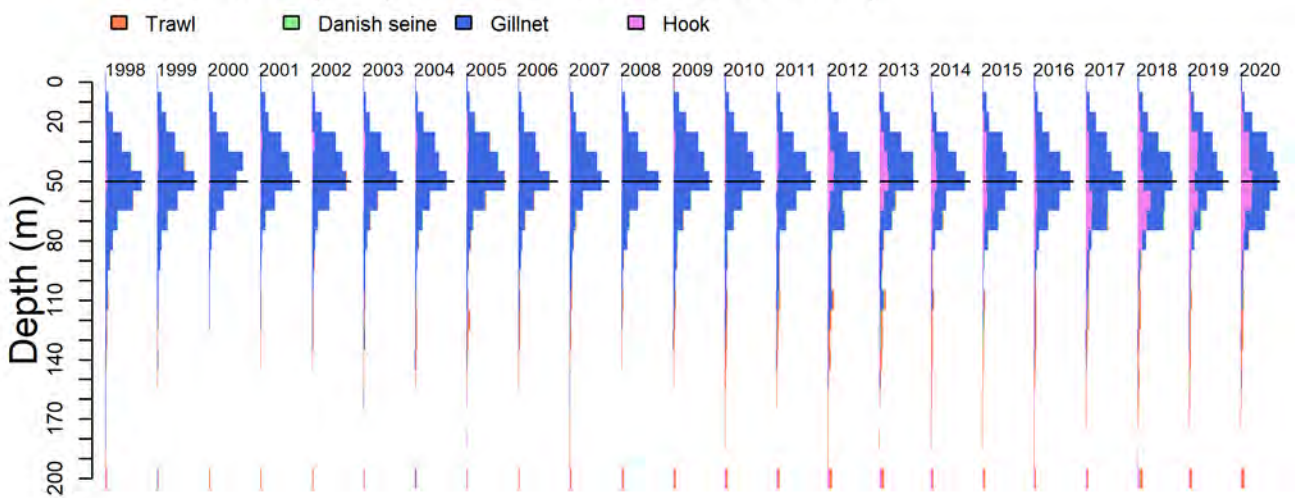
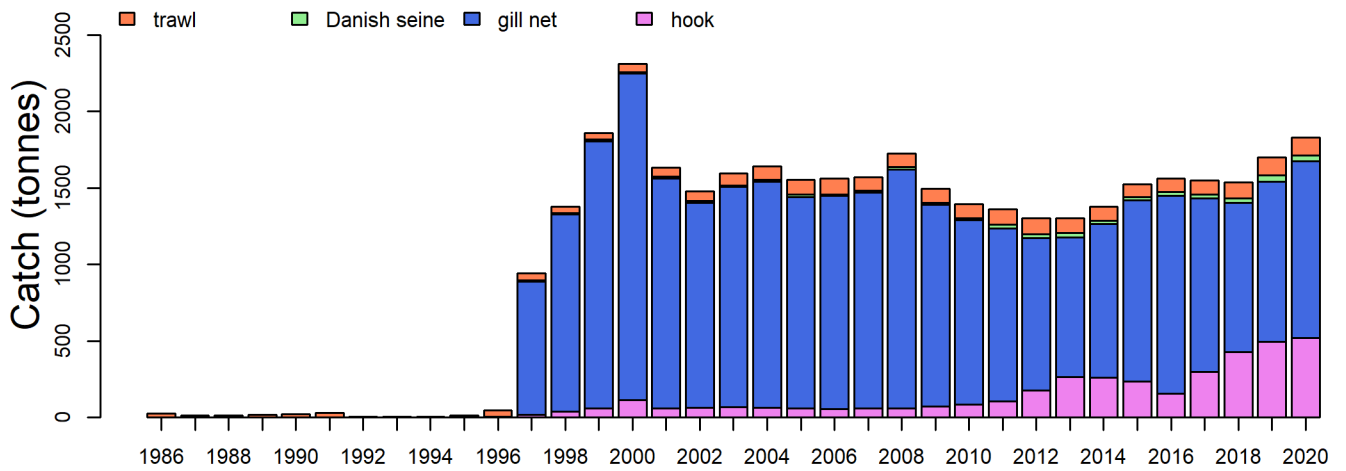


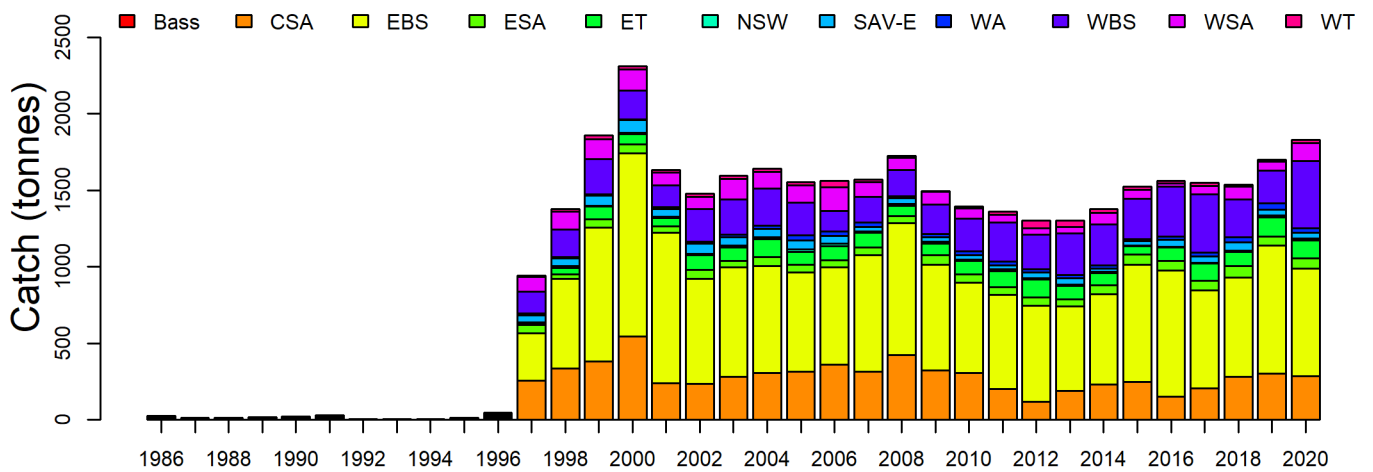
Figure 272 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Gummy Shark. For more information contact AFMA on (02) 6225 5555.

# Gummy Shark

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

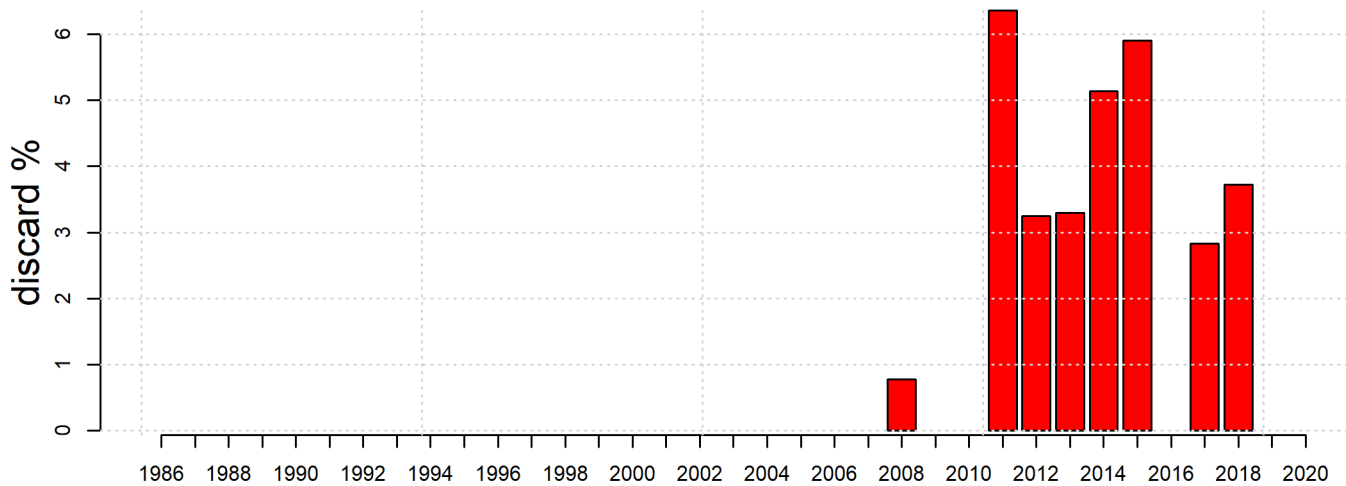


Figure 273 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Gummy Shark. For more information contact AFMA on (02) 6225 5555.

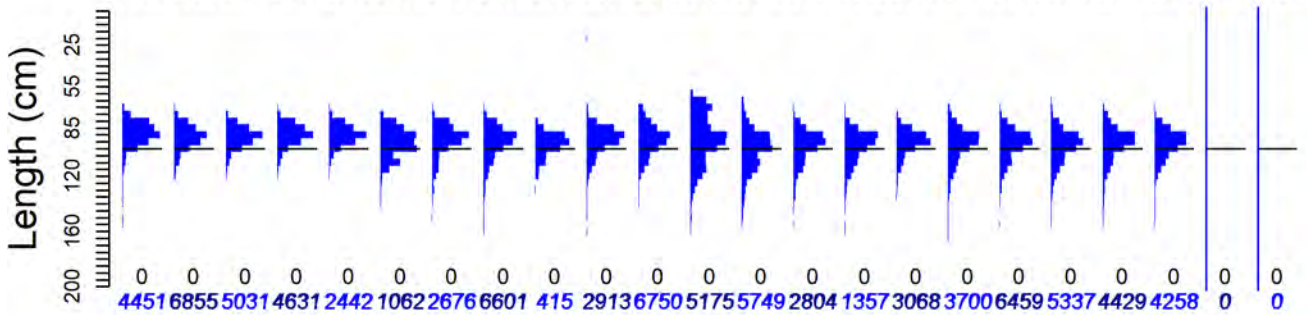


# Gummy Shark

Mon Aug 16 10:38:08 2021

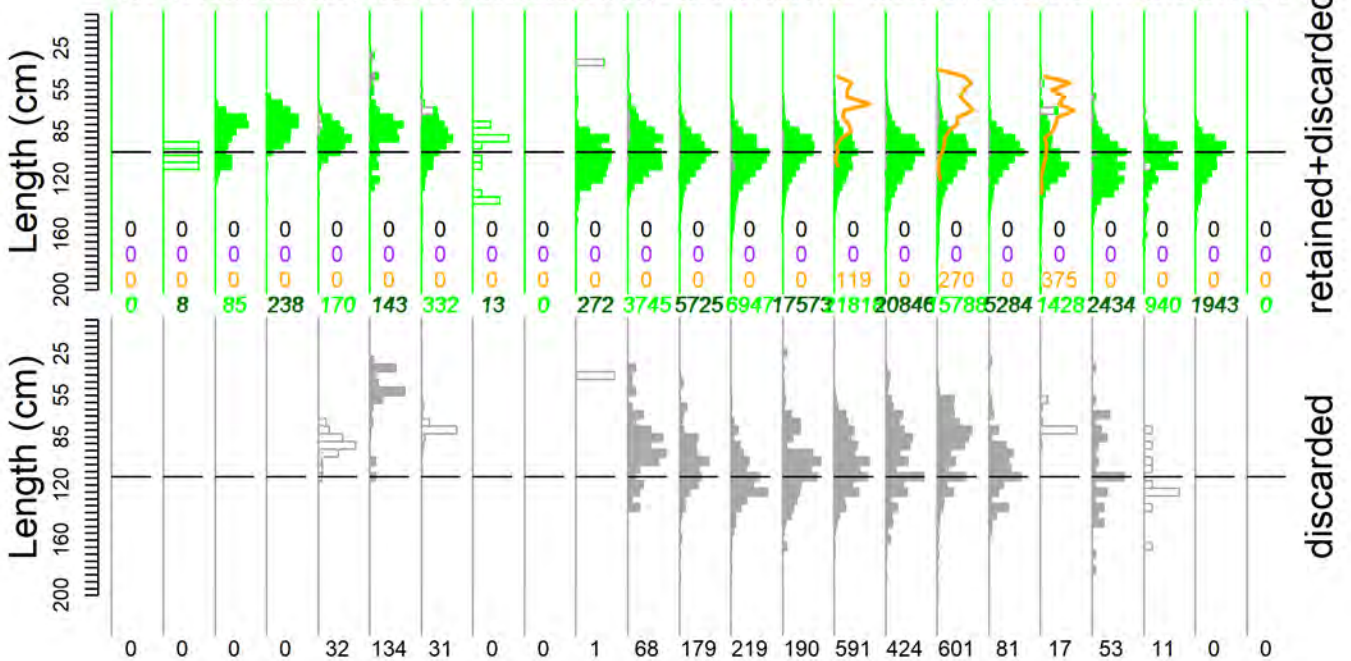
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

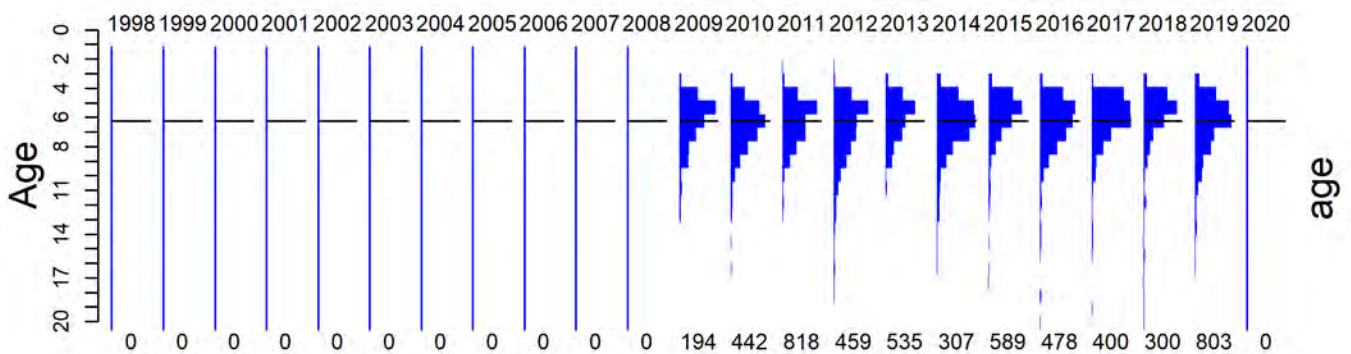


Figure 274 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Gummy Shark. For more information contact AFMA on (02) 6225 5555.

# Gummy Shark

# Port length data

Mon Aug 16 10:38:10 2021

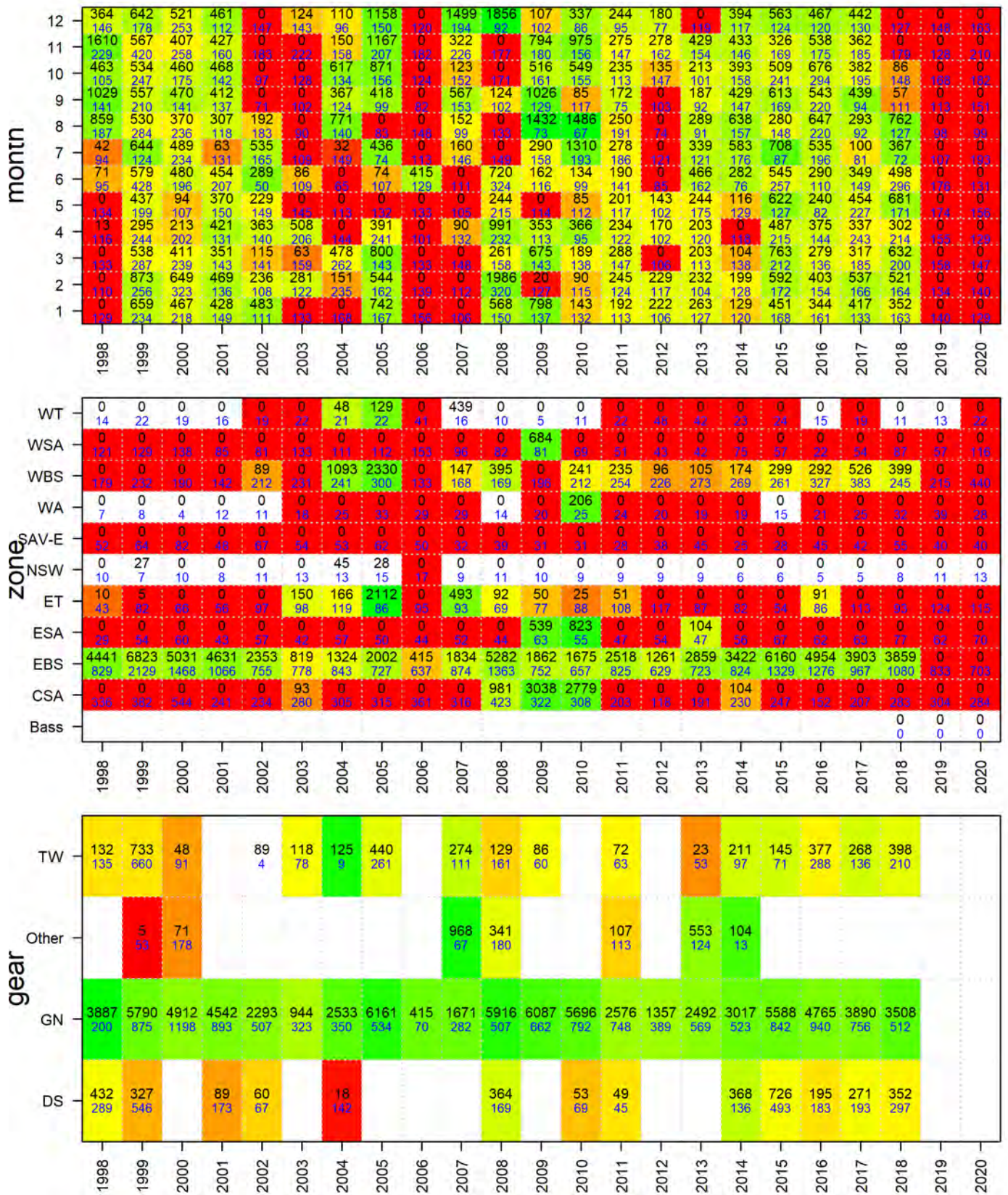


Figure 275 Port length data sampling coverage by month (top), zone (middle) and gear for Gummy Shark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Gummy Shark

## Onboard discard weight data

Mon Aug 16 10:38:11 2021

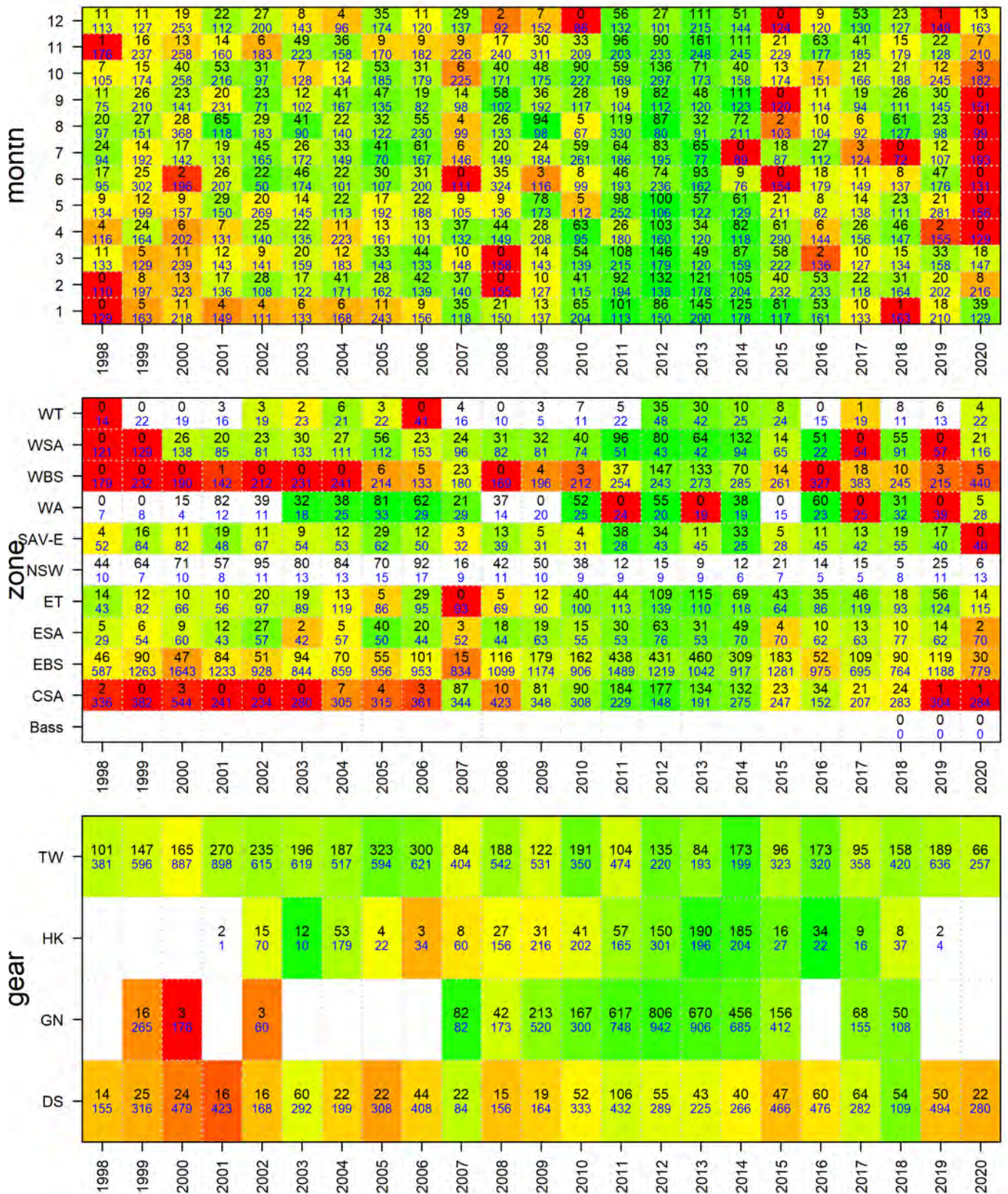


Figure 276 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Gummy Shark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Gummy Shark

# Onboard length data

Mon Aug 16 10:38:12 2021

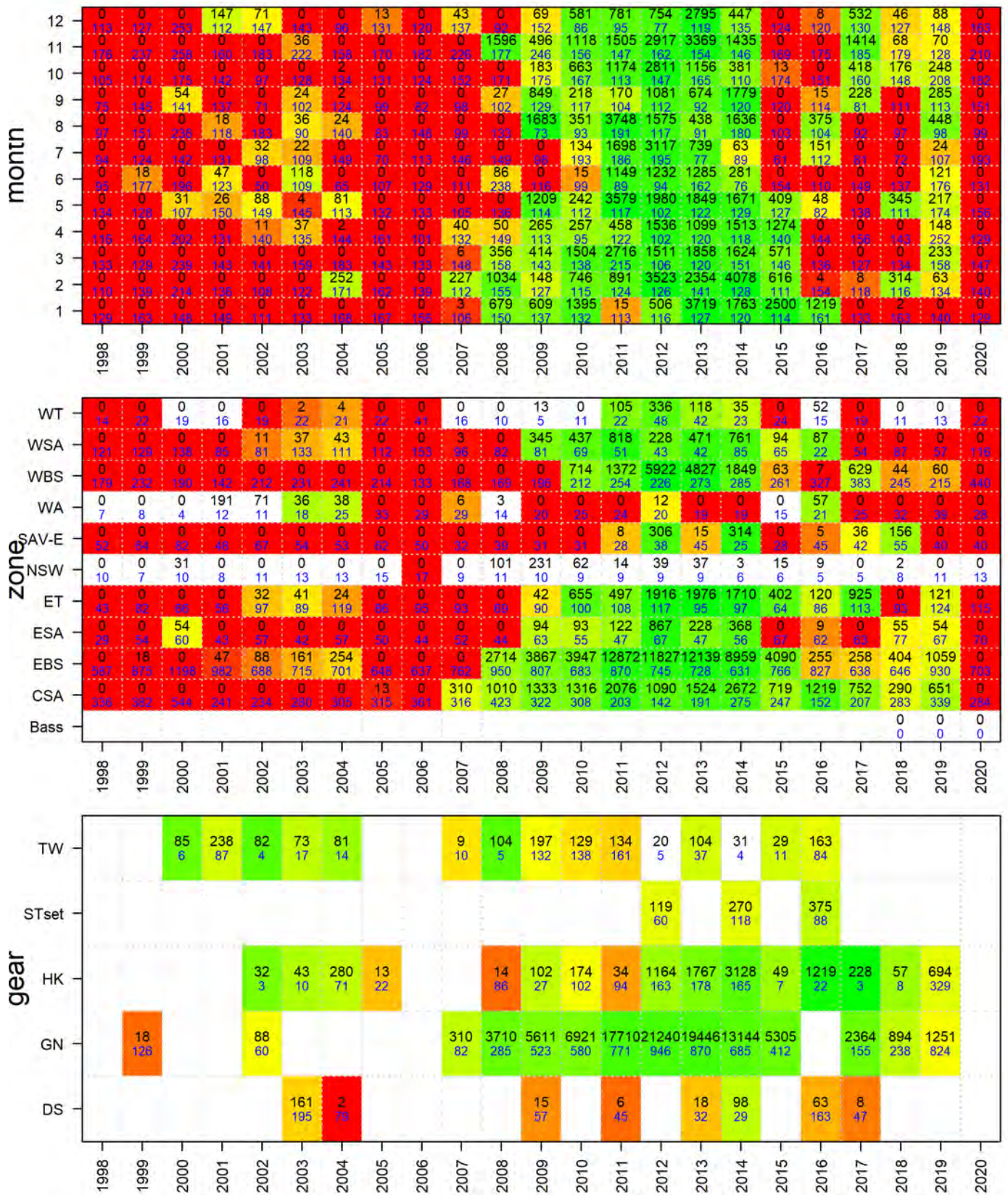


Figure 277 Onboard length data sampling coverage by month (top), zone (middle) and gear for Gummy Shark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Gummy Shark

## Age data

Mon Aug 16 10:38:13 2021

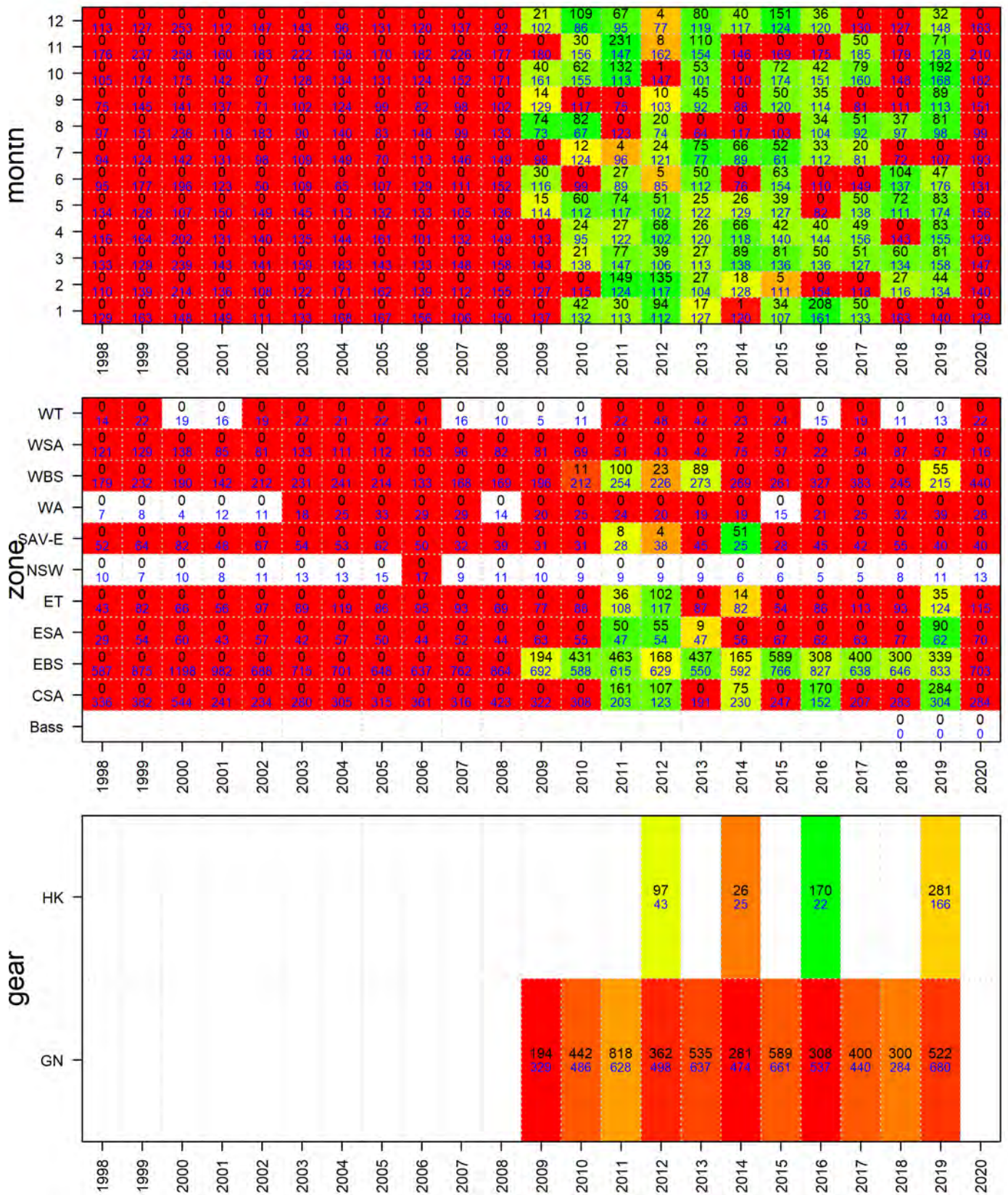
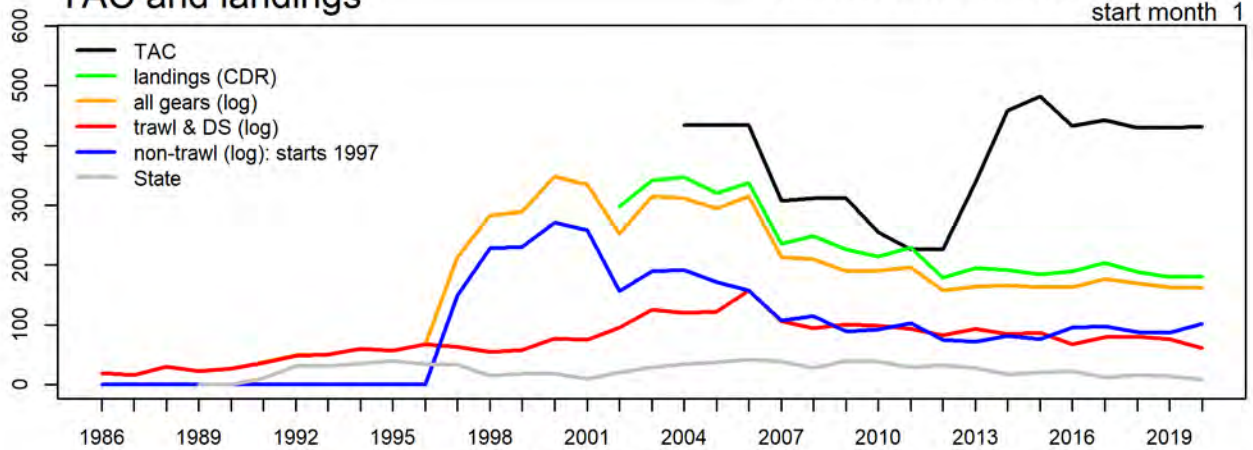


Figure 278 Age data sampling coverage by month (top), zone (middle) and gear for Gummy Shark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

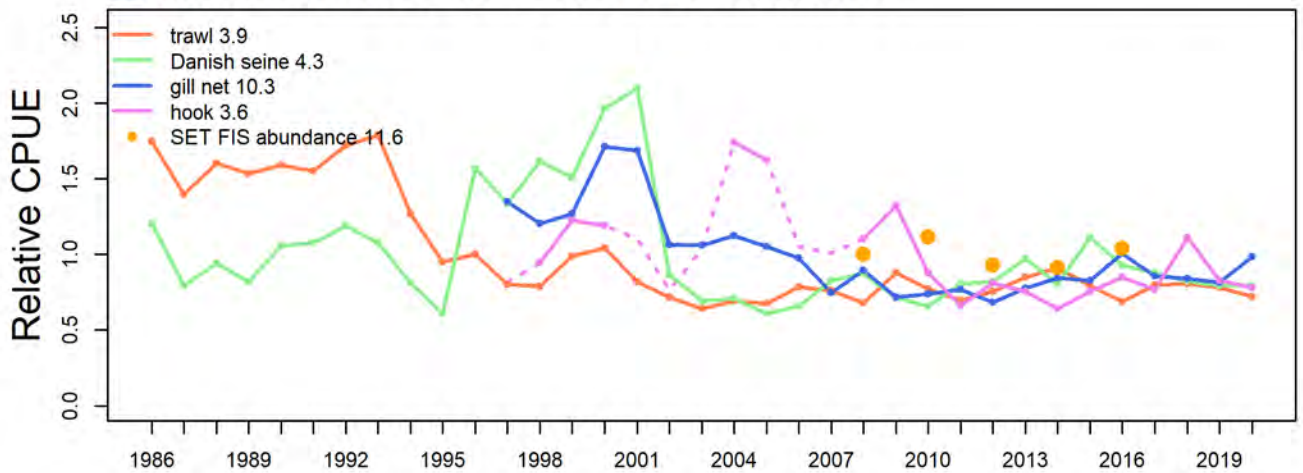
# Sawshark

## TAC and landings

Mon Aug 16 10:38:16 2021  
 region ALL unit code SHWF sa code SHWF  
 37023000 37023001 37023002 37023900  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

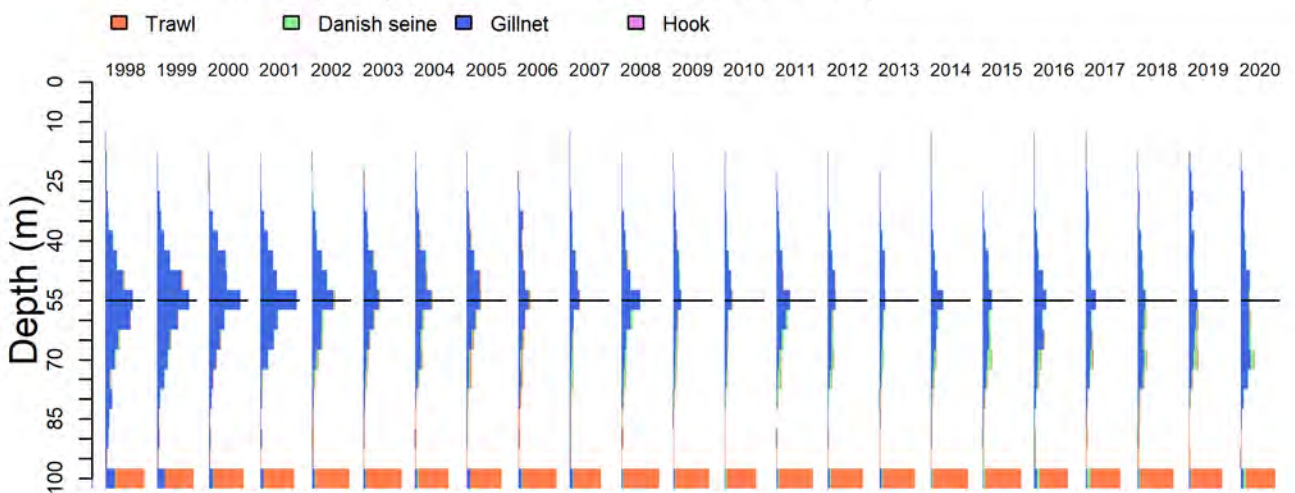
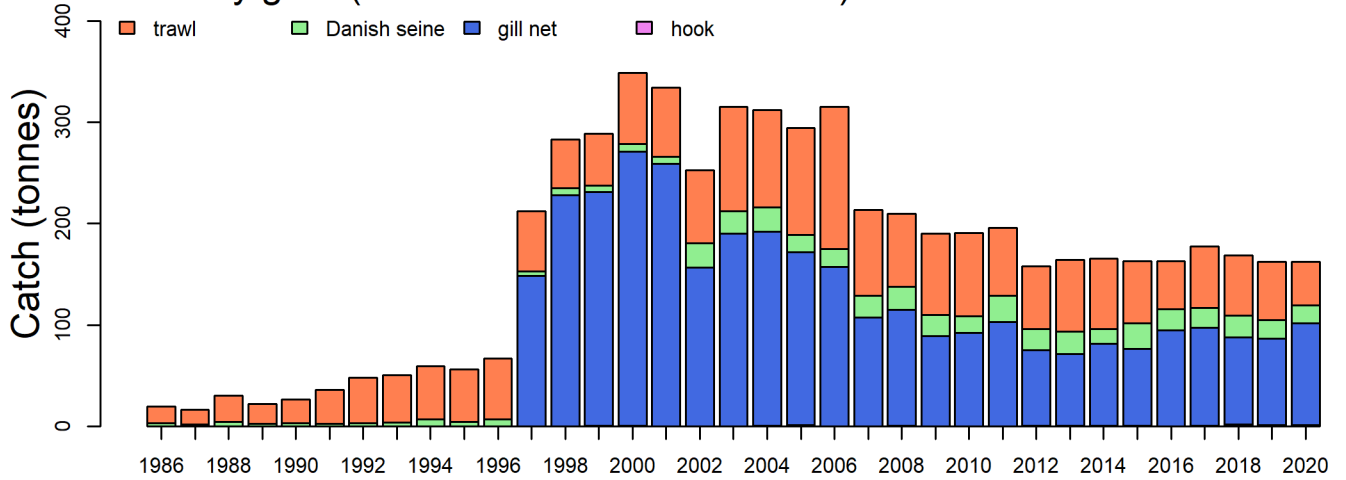


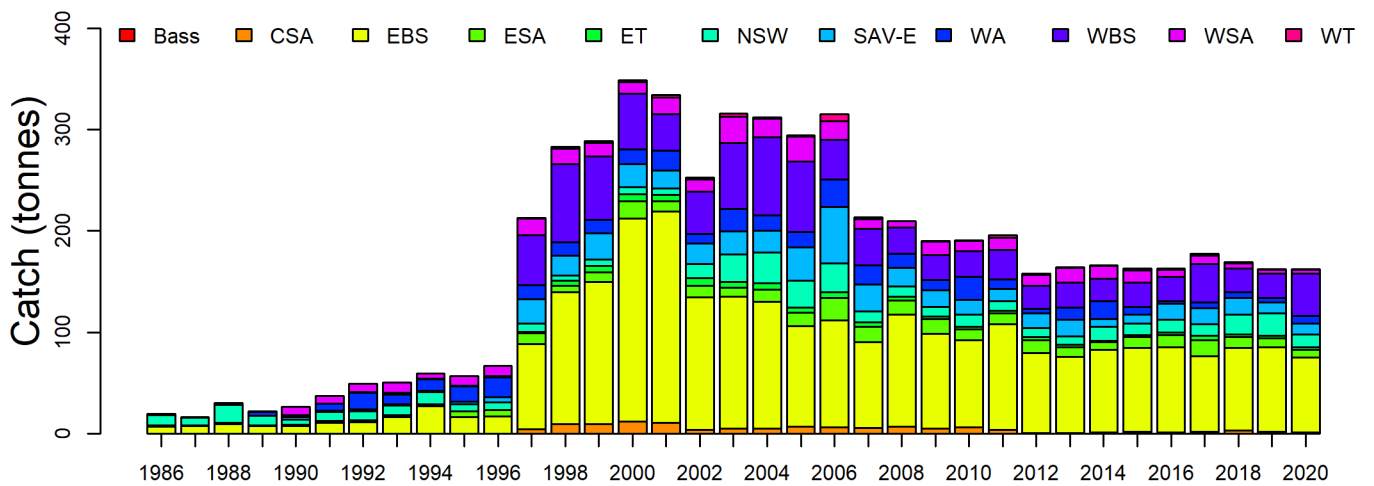
Figure 279 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Sawshark. For more information contact AFMA on (02) 6225 5555.

# Sawshark

Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

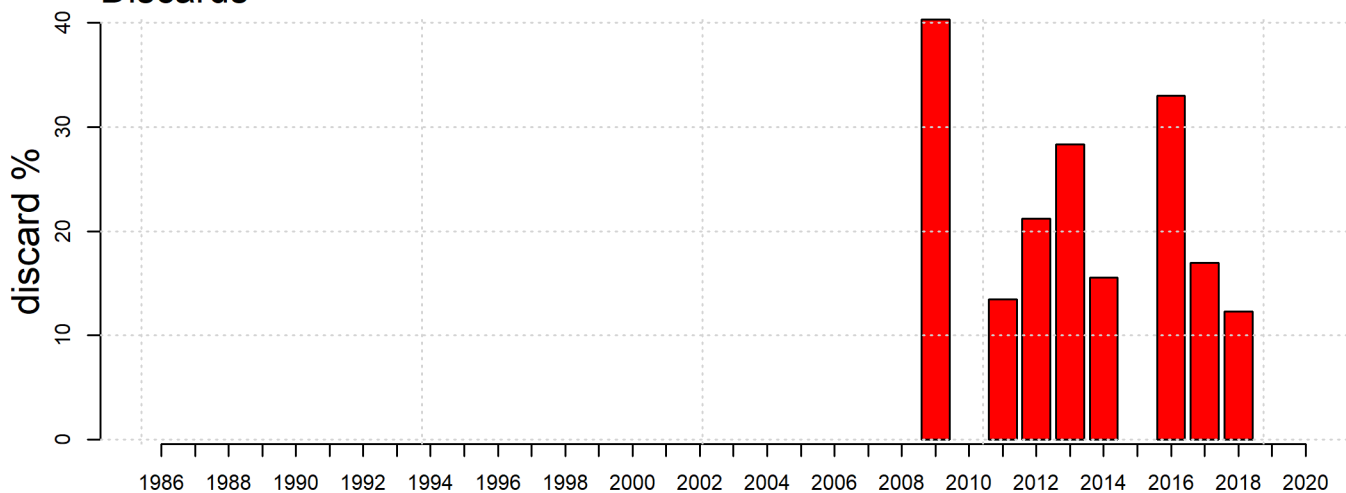


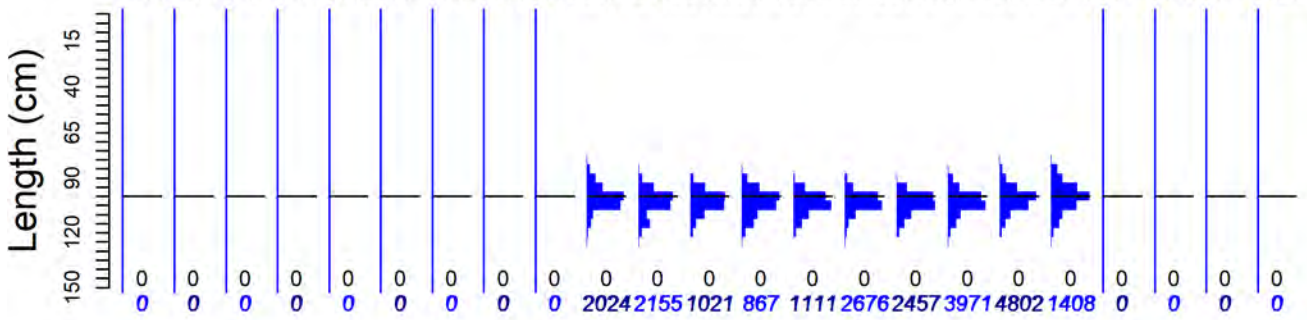
Figure 280 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Sawshark. For more information contact AFMA on (02) 6225 5555.

# Sawshark

Mon Aug 16 10:38:20 2021

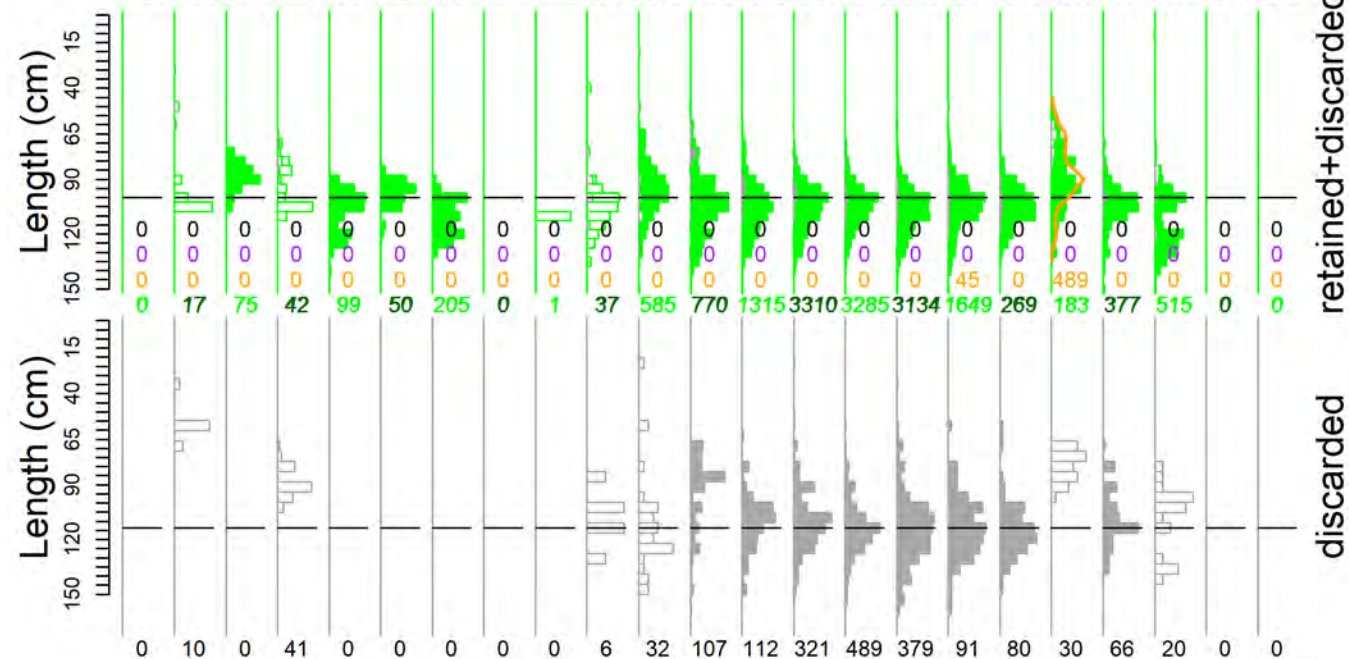
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter GAB FIS Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

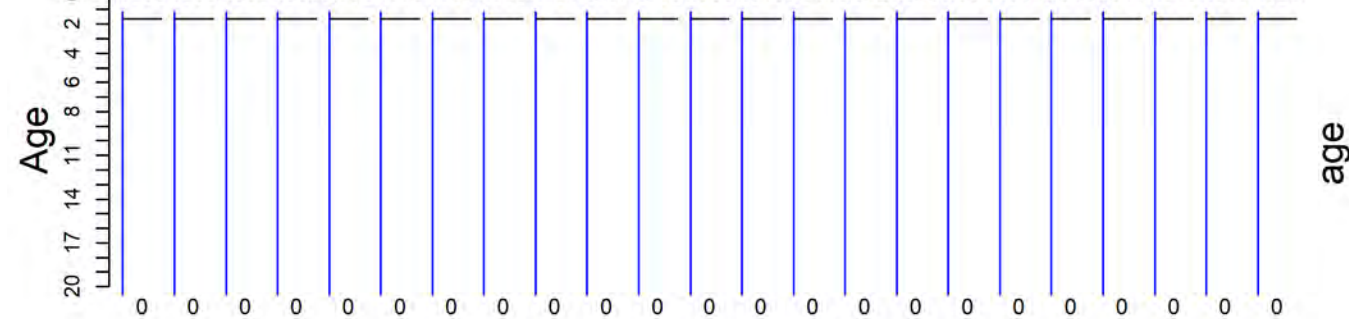


Figure 281 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Sawshark. For more information contact AFMA on (02) 6225 5555.



# Sawshark

# Port length data

Mon Aug 16 10:38:21 2021

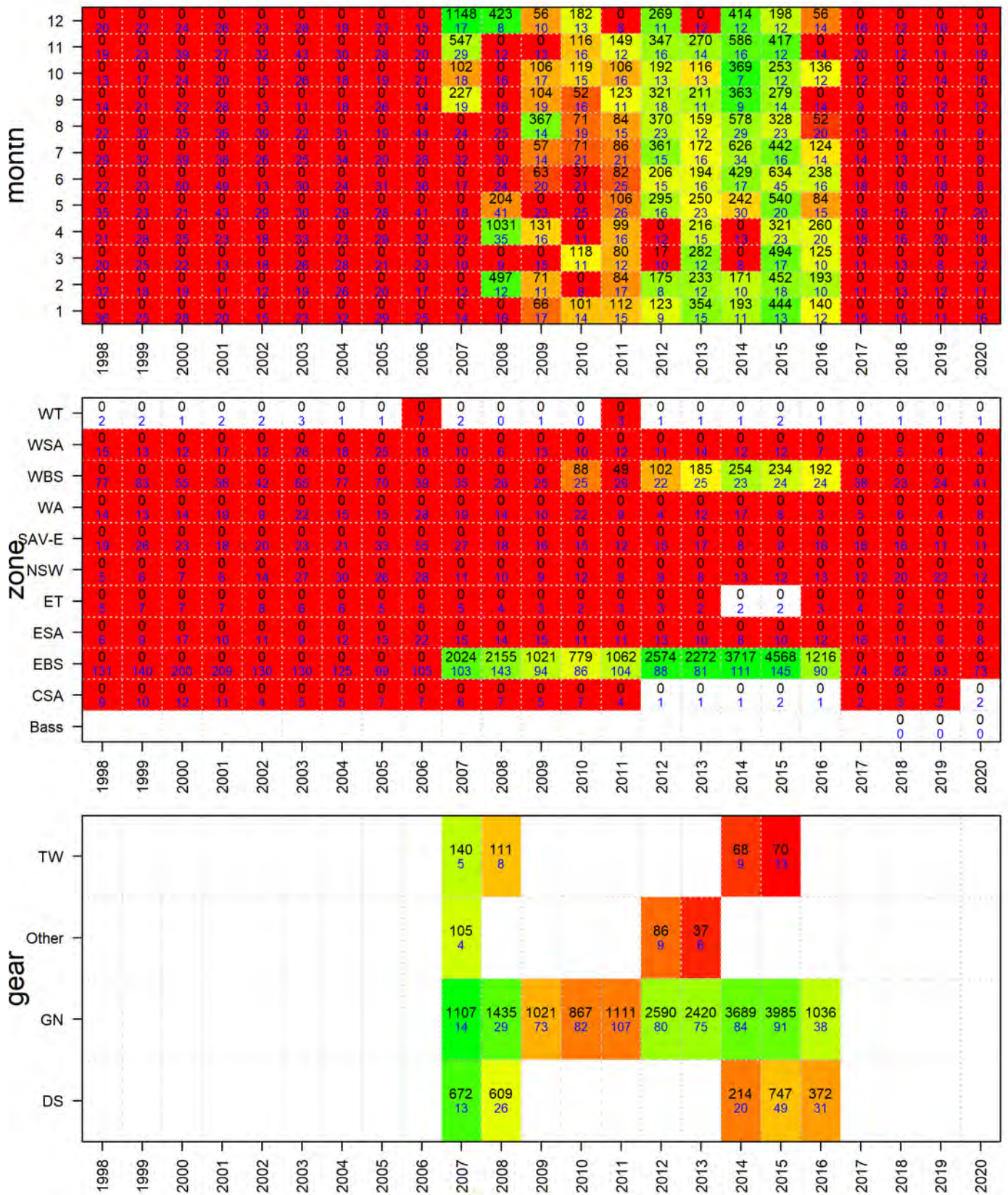


Figure 282 Port length data sampling coverage by month (top), zone (middle) and gear for Sawshark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Sawshark

## Onboard discard weight data

Mon Aug 16 10:38:22 2021

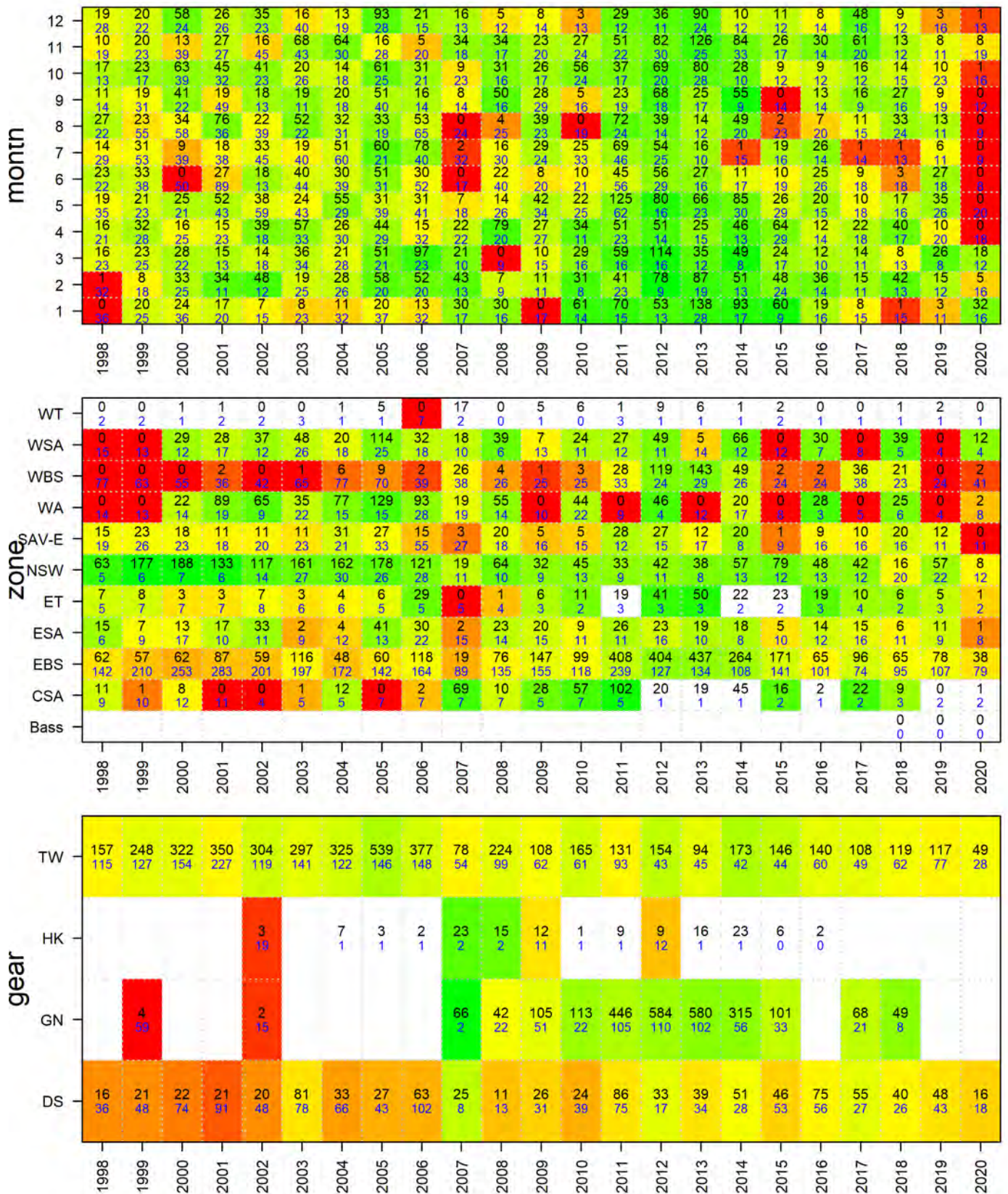


Figure 283 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Sawshark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Sawshark

# Onboard length data

Mon Aug 16 10:38:23 2021

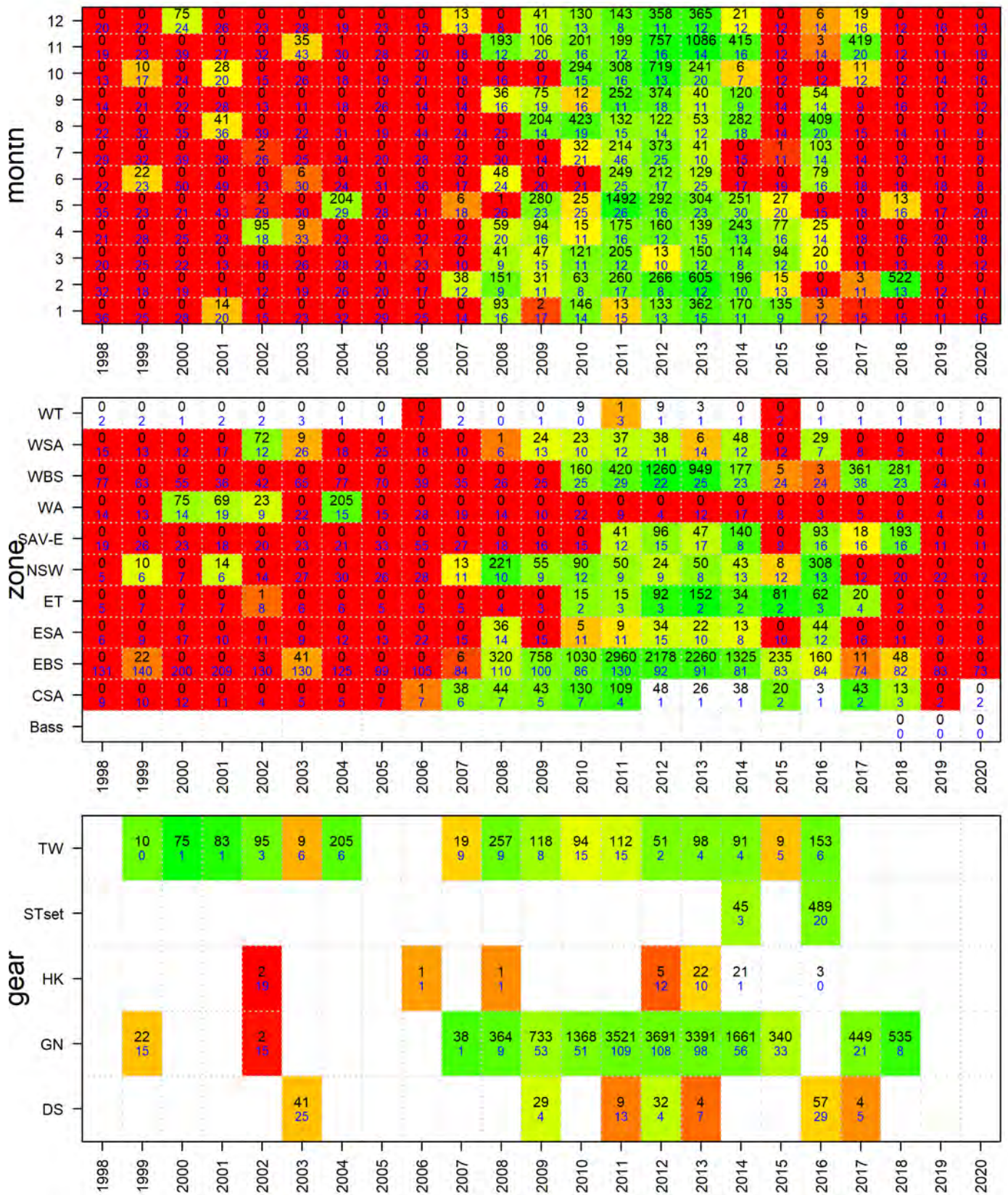
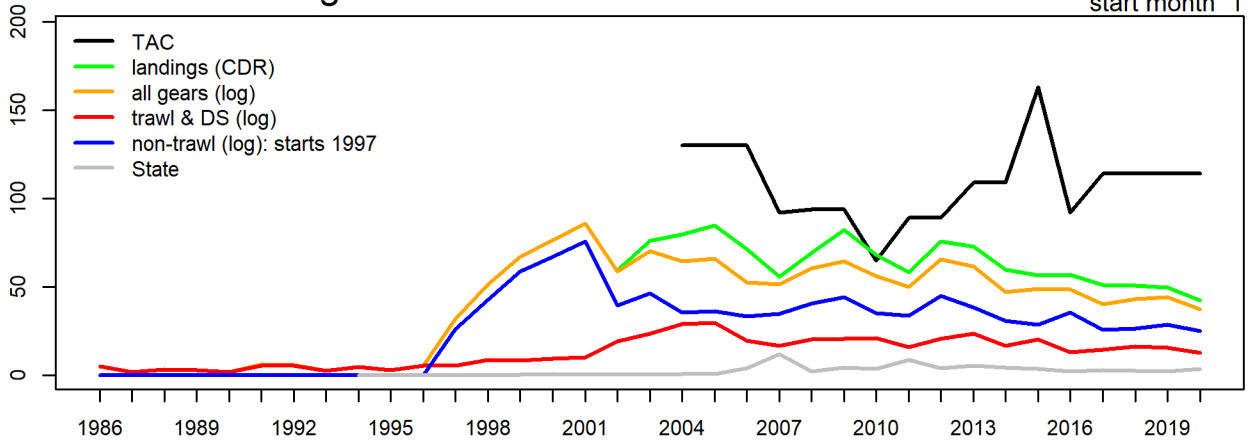


Figure 284 Onboard length data sampling coverage by month (top), zone (middle) and gear for Sawshark. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

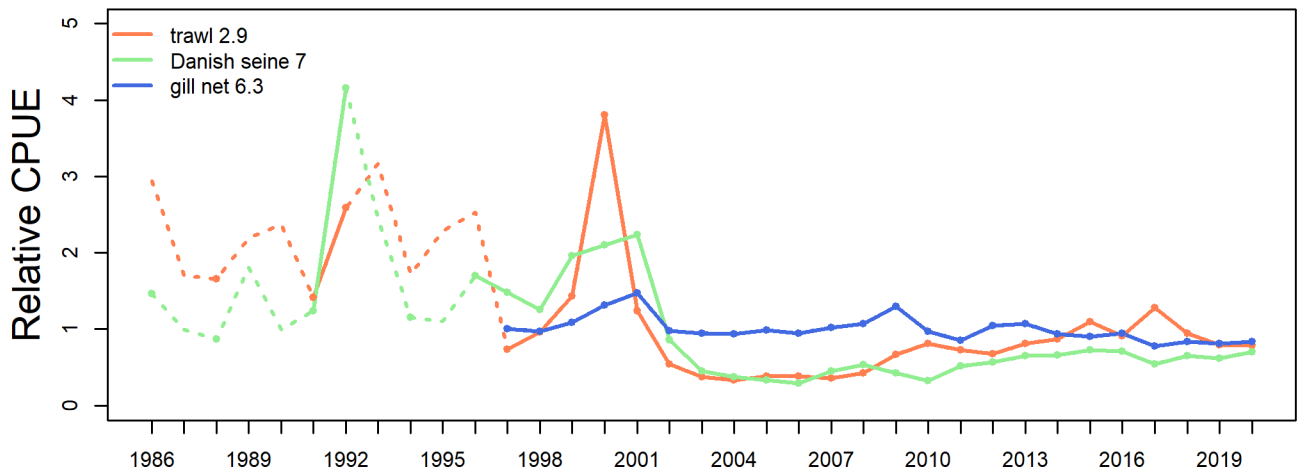
# Elephantfish

## TAC and landings

Mon Aug 16 10:38:25 2021  
 region ALL unit code SHEF sa code SHEF  
 37043000 37043001 37044000 37043901 37044902  
 start month 1



## Geometric mean CPUE & SET FIS abundance



## Catch at depth (non-trawl record starts 1997)

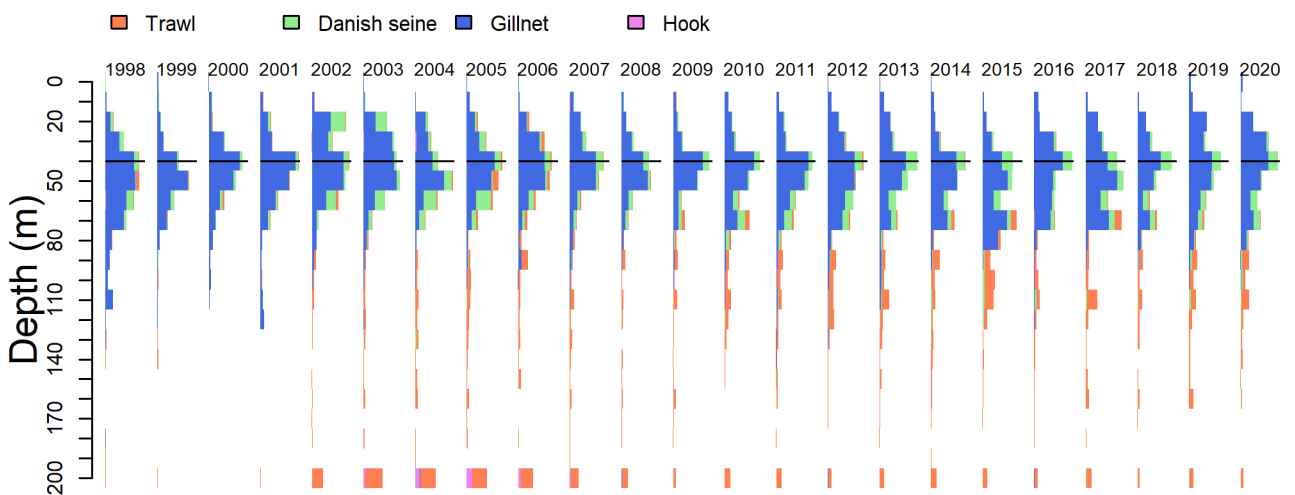
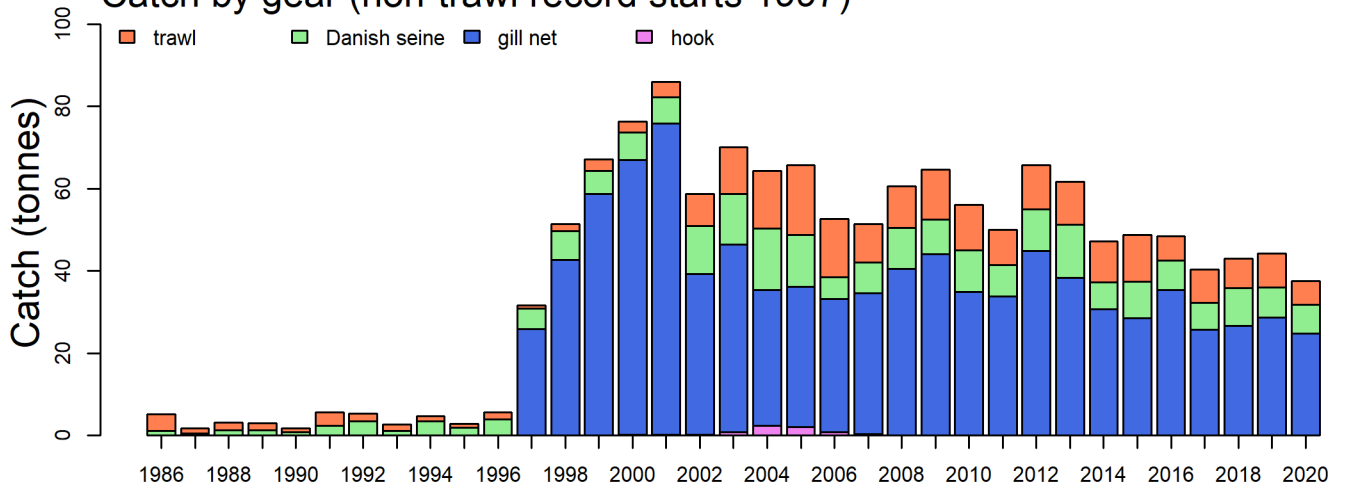


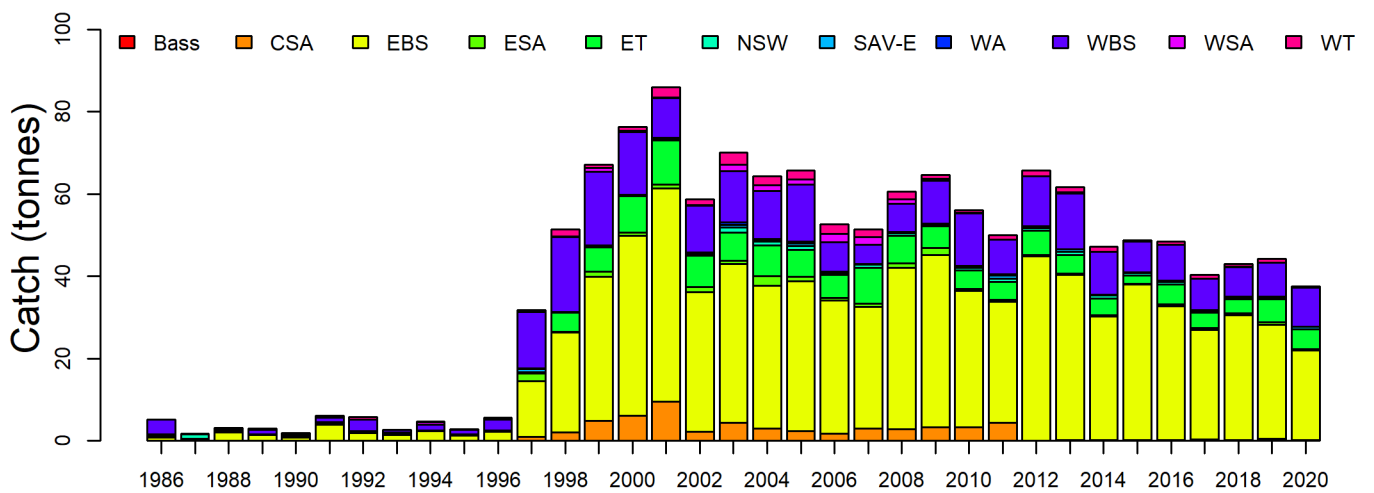
Figure 285 TAC and landings (top), CPUE and FIS abundance estimates (middle) and catch at depth (bottom) for Elephantfish. For more information contact AFMA on (02) 6225 5555.

# Elephantfish

## Catch by gear (non-trawl record starts 1997)



## Catch by zone



## Discards

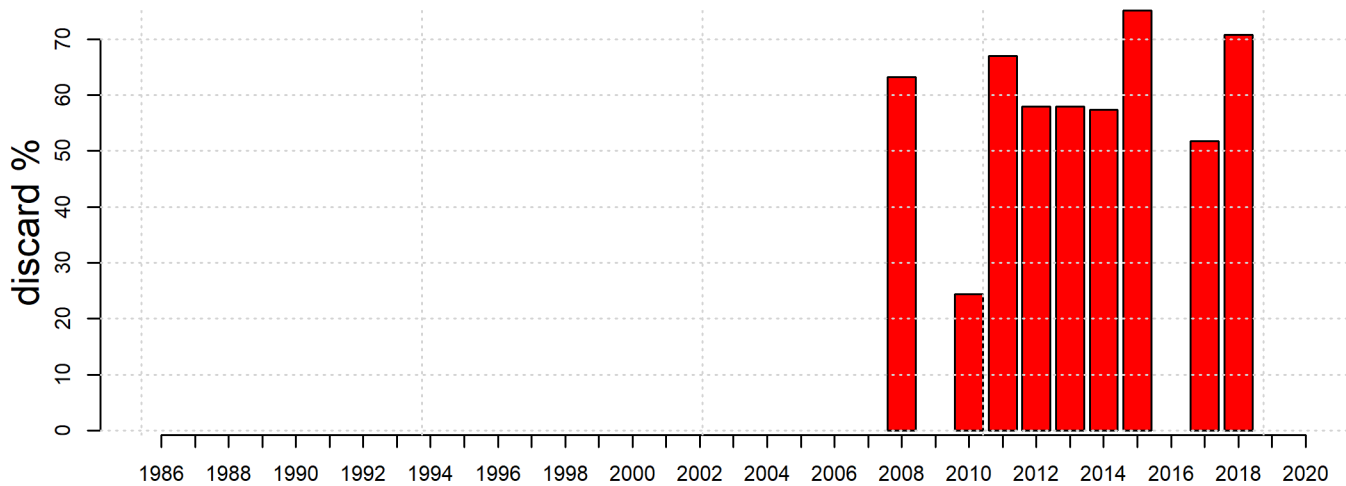


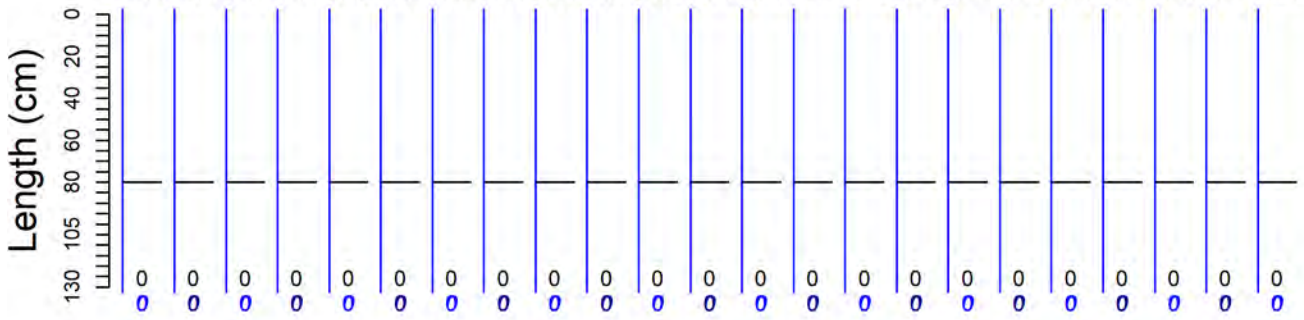
Figure 286 Catch by gear (top) and zone (middle) and estimated discard percentage (bottom) for Elephantfish. For more information contact AFMA on (02) 6225 5555.

# Elephantfish

Mon Aug 16 10:38:27 2021

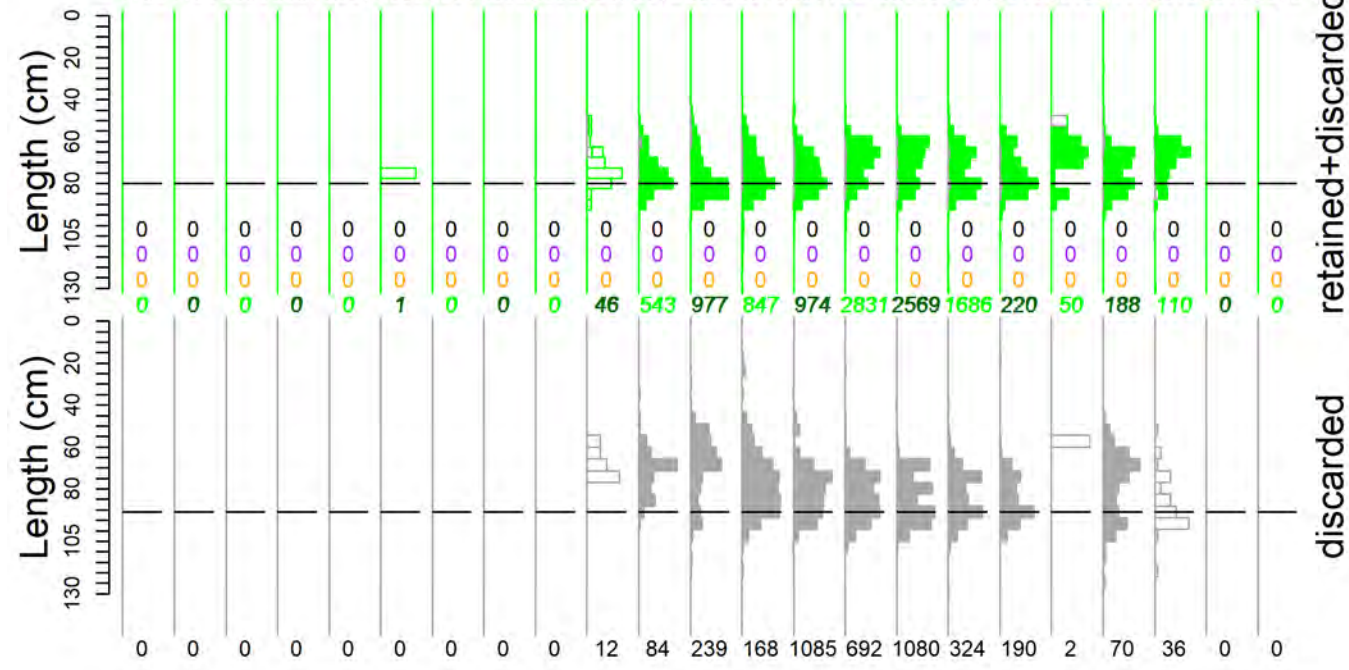
Length frequencies: ISMP Port, GAB Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



Length frequencies: ISMP Onboard, SET FIS winter, GAB FIS, Industry

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020



## Age frequency

1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

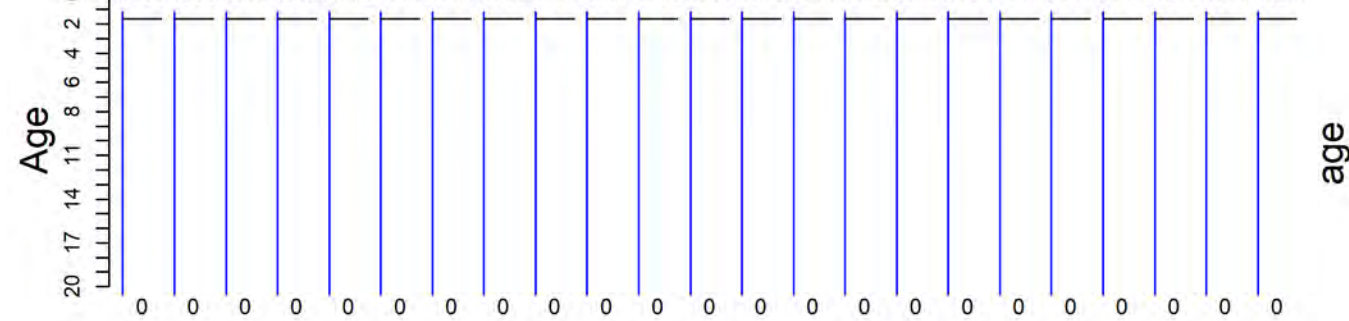


Figure 287 Length frequency data from ISMP port and GAB industry (top) and ISMP onboard and FIS (middle) and age frequency (bottom) for Elephantfish. For more information contact AFMA on (02) 6225 5555.

# Elephantfish

# Port length data

Mon Aug 16 10:38:28 2021

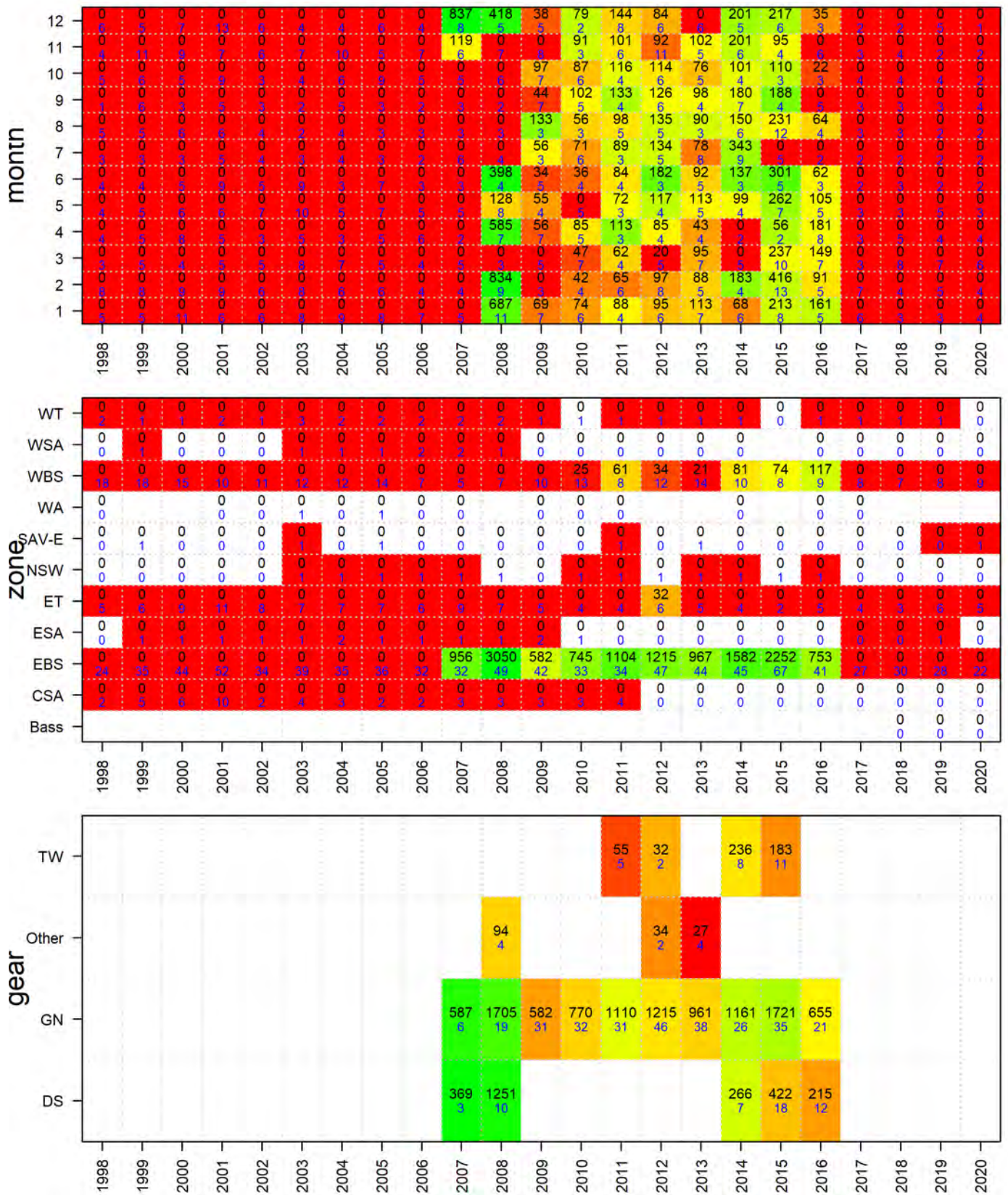


Figure 288 Port length data sampling coverage by month (top), zone (middle) and gear for Elephantfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

# Elephantfish

# Onboard discard weight data

Mon Aug 16 10:38:29 2021

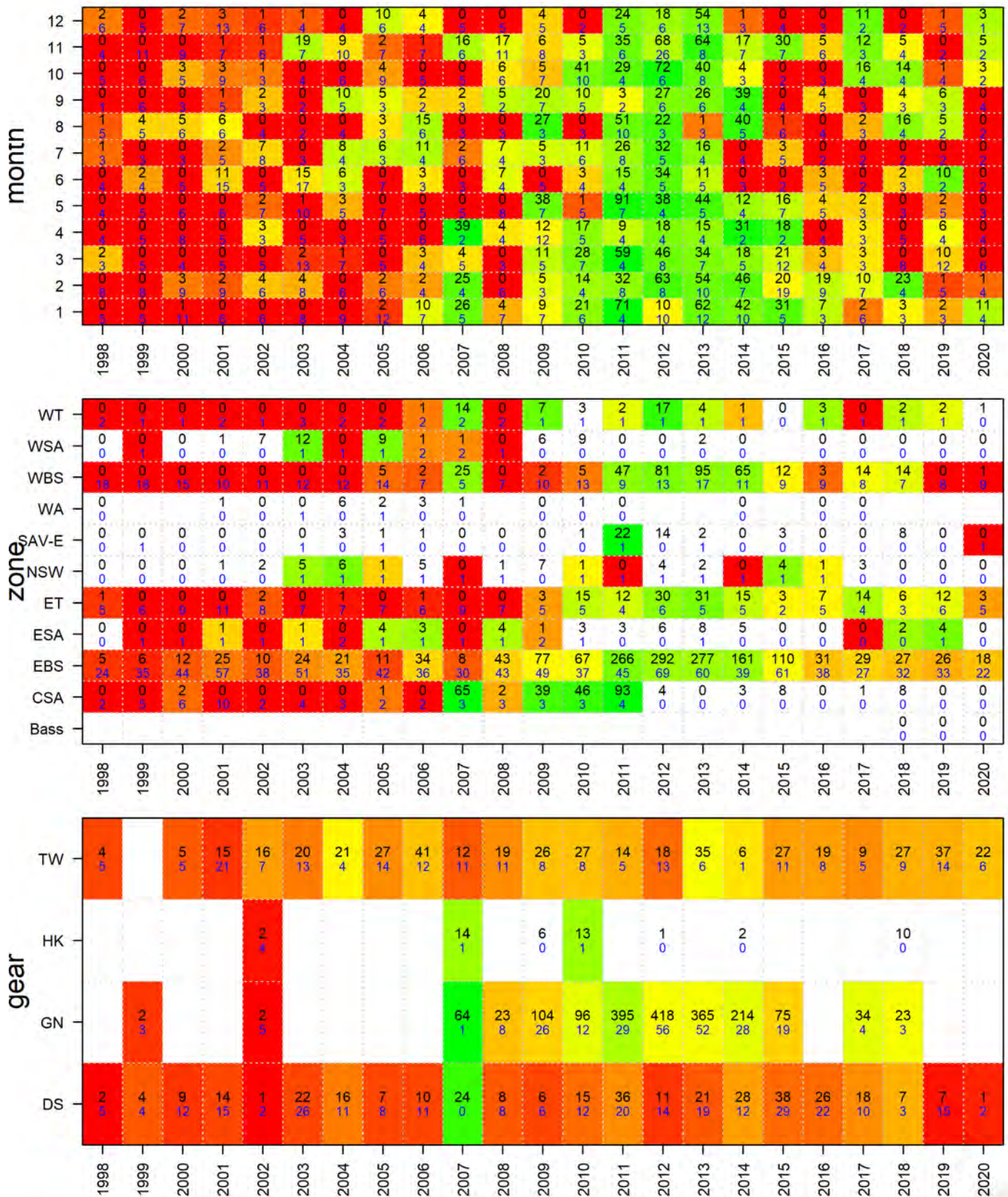


Figure 289 Onboard discard weight data sampling coverage by month (top), zone (middle) and gear for Elephantfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.



# Elephantfish

# Onboard length data

Mon Aug 16 10:38:30 2021

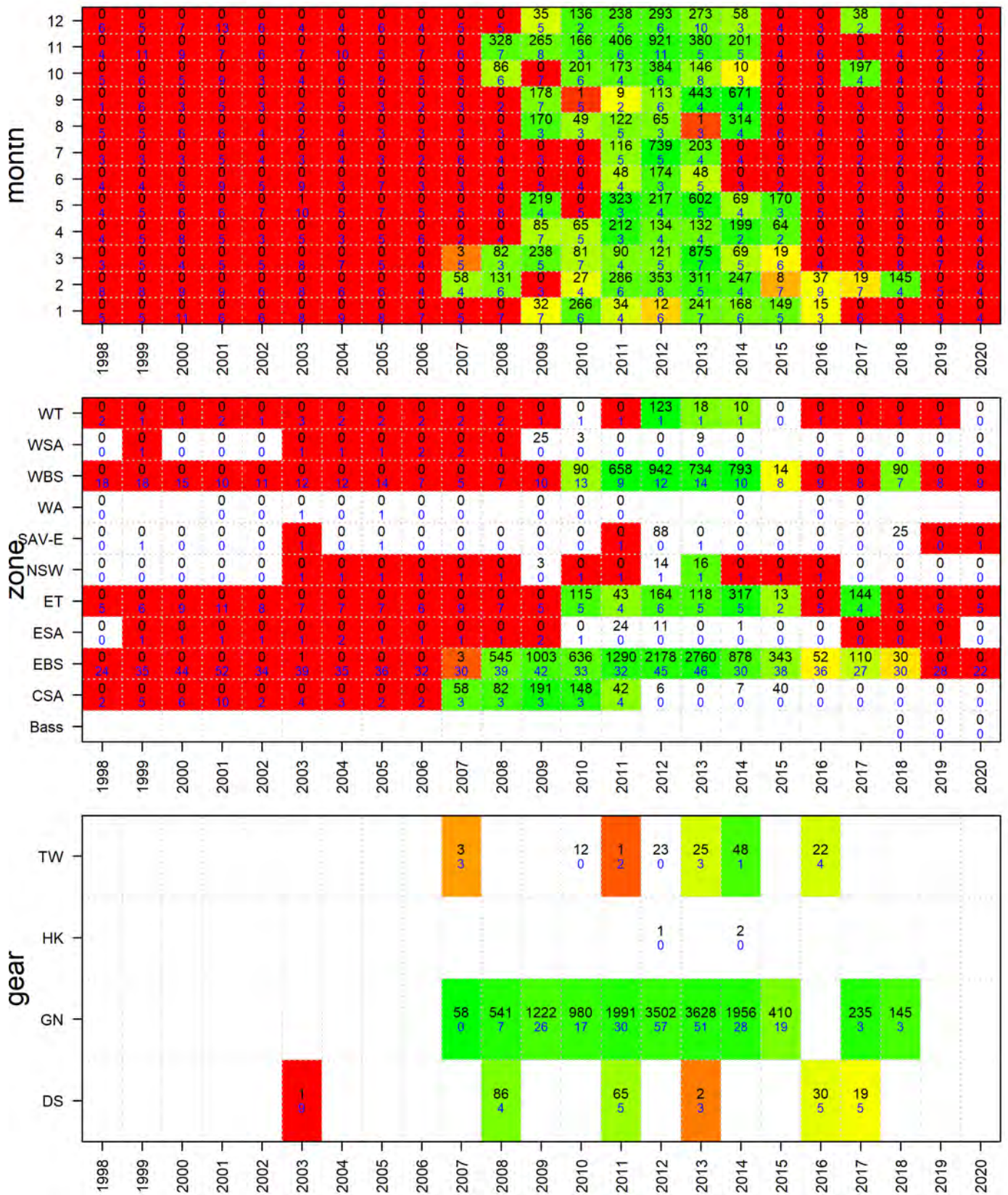


Figure 290 Onboard length data sampling coverage by month (top), zone (middle) and gear for Elephantfish. Black numbers indicate numbers of fish sampled, and blue numbers give logbook catch in tonnes. For more information contact AFMA on (02) 6225 5555.

## 5 Appendix

### 5.1 Data changes prior to 2021

This appendix describes the changes made to the Data Summary report in 2018, 2019 and 2020.

#### 5.1.1 Changes in 2020

During the processing of the logbook data this year, CSIRO became aware that a number of vessels were reporting a single (invariant) depth in their e-log. Given the importance of fishing depth in the 2020 catch per unit of effort (CPUE) standardisations, SESSF Data Summary, Discard and Catch reports CSIRO requested that SESSF provide out of session advice on this issue. SESSF agreed out of session to the following actions:

1. CSIRO undertake a correction for depth records in 2020 (data up to 2019), using shot location and bathymetry data, for boats who are not correctly recording shot depth information, where: shot location and bathymetry data are used to establish the depth of fishing operations for vessels that have produced invariant depth records.
2. SESSF discuss the matter further in more detail at the SESSF data meeting in August 2020 to determine the best approach for 2021 onwards. With particular emphasis on exploring the benefits of using the start position as a proxy for depth.

In addition, the following modifications have been made:

1. The modification of depth records resulted in changes to the catches of species for which depth is used in separating species groups (e.g. inshore and offshore Ocean Perch and Deepwater Sharks).
2. Two new species groups have been added to this report in 2020: Squid (CAAB 23 636004 and 23 615000) and Latchet (CAAB 37 288006). These species are not under quota in the SESSF.
3. NSW State catches between 2008 and 2018 have been corrected to use whole weight instead of processed weight. In addition, there have been major data corrections to the catches of some species in recent years as the NSW catch records branch has audited records and reporting requirements changed in 2009 (John Stewart pers. comm.).
4. Discard estimates for 2016-2018 have been adjusted to correct an error where observer records with zero (NA) discards were excluded before estimating discards. In most cases this has resulted in lower estimates of discarded catches, however, the inclusion of the additional data (records with zero discards) has meant that for some species groups and years we are able to estimate discards where we couldn't before.
5. Shark Industry Data Collection Program (SIDaC) length data for species School Shark, Gummy Shark, Blue-Eye Trevalla, Pink Ling and Ribaldo has been added.
6. Age data for School Whiting in 2000 that were found to have lengths incorrectly entered in the age column, this has been corrected by Fish Ageing Services.

### **5.1.2 Changes in 2019**

There were four versions of this report produced in 2019. Draft reports were presented to the SESSFRAG meeting in Melbourne in July (Thomson et al., 2019a), the SESSFRAG Data Meeting in Hobart in August (Thomson et al., 2019b) and the SERAG meeting in Hobart in October (Thomson et al., 2019c). The final version of the 2019 report was prepared for the GABRAG in Hobart in November (Thomson et al., 2019d).

### **5.1.3 November 2019**

The following changes were made in Thomson et al. (2019d) and presented to the November 2019 GABRAG meeting.

1. GABIA for 2017-2018 and 2018-2019 have now been added, and a mistake has been corrected where 2016-2017 data were accidentally doubled (only in the August 2019, not in earlier, reports). The October version of this report claimed to have solved this problem but the solution was not properly implemented and has now been corrected.

### **5.1.4 October 2019**

Thomson et al. (2019c) differs from the August 2019 version, which was presented to the 2019 SESSFRAG Data meeting, as specified below.

1. It contains a note regarding a deepwater shark CAAB code (under 'Changes from 2018' below) that was mistakenly omitted previously.
2. It contains a note (under 'Data issues' below) about large john dory, noted and investigated during SESSFRAG Aug 2019.
3. It includes discard plots for the oreo basket, ribaldo, smooth oreos (Cascade and other) and deepwater shark, that were mistakenly omitted (although some of these contain no discard rates, e.g. deepwater shark, because the data have not provided estimates in the past).
4. The SET FIS length frequency plot has been labelled 'SET FIS winter' because only the winter lengths were included in the data processing.
5. An attempt was made to add GABIA data that were missing from the August report but that was unsuccessful and was correct in this (November) version of the report.
6. An error was corrected in the new code for the multi-coloured block plots, that sets cell colour to white when less than 10% of the total catch for the year was taken from that cell. The plots presented in August 2019 evaluated percentage catch by row, instead of by column (i.e. year).
7. Tables have been added that show quota species for which the difference between the logbook total catch, and the CDR total catch, differs by more than 25% in any of the most recent five years.
8. Information regarding sub-zones has been added to the captions of the maps that show zonation schemes, and a list of changes to the zone schemes as well as possible variations from other authors or earlier work, has been added.

9. A table showing the CAAB codes used for each species or species groups has been added.

### **5.1.5 July and August 2019**

The July (Thomson et al., 2019a) and August (Thomson et al., 2019b) reports differ from the 2018 report (Thomson et al., 2018) in that:

1. Data for 2018 have been added (along with a small amount of additional 2017 data that had not yet been entered into the AFMA database prior to the 2017 summary);
2. AFMA have made numerous changes to their observer database, affecting data for all years, and correcting entries in most of the important fields. This included correction of the royal red prawn length measurements in the observer dataset, many of which were erroneously recorded in mm instead of cm.
3. State catches for 2018 for all states have been added, the data from Victoria for 2017 is also new because it was unavailable for the 2017 data summary report.
4. CSIRO have reviewed their zone definitions and found that there was an overlap between the ECDW zone (SET zone 70) and NSW (SET zone 10). We therefore separated ECDW from the SET schema. Malcolm Haddon has used an alternative zone schema for blue-eye trevalla that aligns with the SET zones. We have used that system, and this has introduced a new zone named 'North' that loosely corresponds to ECDW. The old ECDW zone is still used for alfonsino.
5. We also examined the data selection process used in this report and chose to stop eliminating records that had missing data (such as depth, or position) wherever possible.
6. Port data, and age data, do not include a lat-long position where the samples were caught, instead, a zone of capture is 'provided.' That zone field can have difficult to interpret entries (such as 'east' or '10-20'); or shark samples might be given a SET zone that spans two shark zones. We revised the algorithm that interprets this data, in some cases making small corrections that change the zones to which some data were allocated.
7. We have revised the process that scales port as well as onboard collected length frequencies using the ratio of the weight of fish sampled to the weight of the whole catch. It was found that this ratio was sometimes larger than one, either because the sample weight was larger than the catch weight (perhaps the entries were switched) or the value was expressed as a percentage. The sample weight entry in the Port data was sometimes '9999' which presumably was meant to indicate 'no data.' All such entries, as well as those for which data were missing, were changed to having a ratio of one so that the length measurements are used, but no scaling up is performed. This change has altered the appearance of some length frequencies in this report.
8. A gear code 'OTM' (midwater trawl) used in the Observer database has been added to the records that we recognise as trawl records.
9. Some species, that are assessed separately in the east and the west despite having an aggregated quota (e.g. jackass morwong), were previously aggregated in this report. We have separated all such datasets into east versus west, but this has resulted in some early state catches no longer appearing because those were not available in disaggregated form.

10. Port and age data for ocean perch do not contain depth information and therefore cannot be attributed to either inshore or offshore ocean perch. Previous versions of this report plotted the same, aggregated, port and age data on both the inshore and offshore plots, but this report shows it on neither. In future, an additional, aggregated set of plots for inshore plus offshore ocean perch might be informative.
11. Data summaries have been added for two non-quota species: king dory and frostfish. Interest in those species was expressed during SESSFRAG meetings in February 2019.
12. The coloured square plots that illustrate the level of sampling effort in relation to catches have been altered so that cells that have a small amount of catch (less than 10% of the total for the year) are not given a colour because sampling in those cells is unimportant.
13. GAB industry sampling for 2009-June 2012 was reported twice in previous versions of this report. The data were in both the AFMA Observer database and included as external GAB industry files that were obtained from Fishwell. The external file is no longer being used and the samples appear as ISMP observer data only (it is not yet clear whether these data were industry collected, or AFMA collected - AFMA are looking into the question).
14. The CAAB codes '37 044902' and '37 0449000' (spookfishes) have been added to the 'elephant fish' quota basket, after consultation with AFMA. However, neither appear in the logbook dataset or the Observer dataset (neither port nor onboard). The age, and CDR datasets do not use CAAB codes. This change therefore has no effect on data processing.
15. The 'other sharks' CAAB code, 37990003, has been removed from the deepwater shark basket given advice from Dan Corrie and John Garvey (AFMA) that the code would include many species that are not deepwater sharks. For 1974 to 1984 the 'Other shark' category included 100% of the catch previously attributed to deepwater shark. Between 1985 and 2004 the percentage dropped steadily to 7%, remaining between 2% and 12% until 2012, after which it remained below 2.5% (the final year examined was 2018).
16. Fish Ageing Services have made numerous corrections to their database, including changes to the 'year of capture' for some records. They have added a text field for sex (previously numeric, 1=male, 2=female) to avoid misinterpretation. They have standardised the gear codes used in their 'gear of capture' field.
17. There is more industry (GABIA) collected data for Bight redfish and deepwater flathead for 2017 because the raw data file was re-analysed by CSIRO and fewer records were discarded because of missing data fields.

## 5.2 Data anomalies in previous reports

Anomalies noted in the data in 2020 include:

1. There is discrepancy between logbook and CDR catches for Orange Roughy, CDR catches are higher than logbook catches in the southern zone and logbook catches are higher than CDR catches in the western zone. This may be due to errors in assigning zone to logbook records.

Anomalies noted in the data in 2019 include:

1. Last year's report showed anomalously deep fishing for some species, especially redfish, that resulted from a single vessel reporting a credible minimum depth of capture along with a erroneously deep maximum depth. The average depth (which we display in this report), was therefore unusually deep. Those records were corrected by removing the maximum depth and only using the shallower depth, which seems to have resulted in a 'spike' at relatively shallow depth for Redfish and to a lesser extent some other species. At the same time, anomalously deep records persist in the 2018 dataset.
2. There is an anomalous spike in the depth profile for Royal Red Prawn at approximately 300m.
3. There are a surprisingly large number of very large Jackass Morwong. These are predominantly caught offshore (not shown).
4. The 2018 onboard, and to some extent Port, length frequency is skewed towards larger fish. This does not seem to be an artefact of skewed sampling by zone or by depth nor was an error introduced through conversion between length types (the samples are all total lengths, as they have been in the past).

## 5.3 Zone definitions

The zones are defined by sets of polygons, which are in turn defined by four vertices given by two latitudes and four longitudes (Table 5).

**Table 5** Zones names, zone numbers, and the vertices of the polygons that define the zones within each zone scheme. Some zones have been divided into sub-zones.

SCHEME	CODE	NUM	SUBZONE	WLONG	ELONG	NWLAT	NELAT	SWLAT	SELAT
SEF	NSW	10	10	149.0000	160.0000	-33.5830	-33.5830	-35.3000	-35.3000
SEF	NSW	10	10	149.0000	164.0000	-35.3000	-35.3000	-36.7500	-36.7500
SEF	EBass	20	20	148.7330	155.0000	-36.7500	-36.7500	-40.7500	-40.7500
SEF	EBass	20	20	148.3170	148.7330	-38.4000	-37.7500	-40.7500	-40.7500
SEF	EBass	20	20	148.0000	148.3170	-38.4000	-38.4000	-40.7500	-40.7500
SEF	ETas	30	30	148.0000	154.0000	-40.7500	-40.7500	-48.0000	-48.0000
SEF	ETas	30	30	147.0000	148.0000	-42.0000	-40.7500	-48.0000	-48.0000
SEF	WTas	40	40	138.1330	144.0000	-40.0000	-40.0000	-48.0000	-48.0000
SEF	WTas	40	40	144.0000	146.0000	-40.0000	-42.0000	-48.0000	-48.0000
SEF	WTas	40	40	146.0000	147.0000	-42.0000	-42.0000	-48.0000	-48.0000
SEF	WBass	50	50	138.1330	144.0000	-34.0000	-34.0000	-40.0000	-40.0000
SEF	Bass	60	61	148.3170	148.7330	-37.5000	-37.5000	-38.4000	-37.7500
SEF	Bass	60	61	148.0000	148.3170	-37.5000	-37.5000	-38.4000	-38.4000
SEF	Bass	60	61	147.0000	148.0000	-37.5000	-37.5000	-42.0000	-40.7500
SEF	Bass	60	62	146.0000	147.0000	-37.5000	-37.5000	-42.0000	-42.0000
SEF	Bass	60	62	144.0000	146.0000	-37.5000	-37.5000	-40.0000	-42.0000
SEF	GAB	80	81	115.0000	121.0000	-30.0000	-30.0000	-42.0000	-42.0000
SEF	GAB	80	82	121.0000	129.0000	-30.0000	-30.0000	-42.0000	-42.0000
SEF	GAB	80	83	129.0000	133.0000	-30.0000	-30.0000	-42.0000	-42.0000
SEF	GAB	80	84	133.0000	136.0000	-30.0000	-30.0000	-42.0000	-42.0000
SEF	GAB	80	85	136.0000	138.1330	-30.0000	-30.0000	-42.0000	-42.0000
SEF	North	90	91	148.0000	157.0000	-28.2000	-28.2000	-33.5830	-33.5830
SEF	North	90	92	148.0000	157.0000	-21.0000	-21.0000	-28.2000	-28.2000
SEF	North	90	71	157.0000	180.0000	-21.0000	-21.0000	-33.5830	-33.5830
ECDW	ECDW	70	70	154.6600	163.4000	-24.4900	-24.4900	-33.5830	-33.5830
ECDW	ECDW	70	70	153.2700	154.6600	-33.5830	-30.0000	-33.5830	-33.5830
ECDW	ECDW	70	70	156.1700	163.4000	-33.5830	-33.5830	-35.3000	-35.3000
SHK	WA	0	0	120.0000	129.0000	-31.0000	-31.0000	-44.0000	-44.0000
SHK	WSA	10	10	129.0000	134.0000	-31.0000	-31.0000	-44.0000	-44.0000
SHK	WSA	10	10	134.0000	135.0000	-31.0000	-31.0000	-33.0000	-33.0000
SHK	CSA	20	20	134.0000	135.0000	-33.0000	-33.0000	-44.0000	-44.0000
SHK	CSA	20	20	135.0000	139.0000	-31.0000	-31.0000	-44.0000	-44.0000

SCHEME	CODE	NUM	SUBZONE	WLONG	ELONG	NWLAT	NELAT	SWLAT	SELAT
SHK	CSA	20	20	139.0000	140.0000	-31.0000	-31.0000	-37.0000	-37.0000
SHK	ESA	30	31	139.0000	141.0000	-37.0000	-37.0000	-41.0000	-41.0000
SHK	WBS	40	40	143.0000	146.0000	-37.0000	-37.0000	-41.0000	-41.0000
SHK	EBS	50	50	146.0000	165.0000	-37.5000	-37.5000	-41.0000	-41.0000
SHK	WT	60	60	139.0000	146.0000	-41.0000	-41.0000	-50.0000	-50.0000
SHK	ET	70	70	146.0000	165.0000	-41.0000	-41.0000	-50.0000	-50.0000
SHK	NSW	80	80	146.0000	165.0000	-20.0000	-20.0000	-37.5000	-37.5000
SHK	SAV-E	30	32	141.0000	143.0000	-37.0000	-37.0000	-41.0000	-41.0000
GEM	GEMEAST	100	100	146.3670	148.0000	-37.5000	-37.5000	-42.0000	-40.7500
GEM	GEMEAST	100	100	148.0000	148.3170	-37.5000	-37.5000	-38.4000	-38.4000
GEM	GEMEAST	100	100	148.3170	148.7330	-37.5000	-37.5000	-38.4000	-37.7500
GEM	GEMEAST	100	100	147.0000	148.0000	-42.0000	-40.7500	-48.0000	-48.0000
GEM	GEMEAST	100	100	148.0000	154.0000	-40.7500	-40.7500	-48.0000	-48.0000
GEM	GEMEAST	100	100	148.0000	148.3170	-38.4000	-38.4000	-40.7500	-40.7500
GEM	GEMEAST	100	100	148.3170	148.7330	-38.4000	-37.7500	-40.7500	-40.7500
GEM	GEMEAST	100	100	148.7330	155.0000	-36.7500	-36.7500	-40.7500	-40.7500
GEM	GEMEAST	100	100	149.0000	156.1700	-33.5830	-33.5830	-35.3000	-35.3000
GEM	GEMEAST	100	100	149.0000	164.0000	-35.3000	-35.3000	-36.7500	-36.7500
GEM	GEMEAST	100	100	146.0000	147.0000	-42.0000	-42.0000	-48.0000	-48.0000
GEM	GEMEAST	100	100	138.1330	144.0000	-42.0000	-42.0000	-48.0000	-48.0000
GEM	GEMEAST	100	100	144.0000	146.0000	-42.0000	-42.0000	-48.0000	-48.0000
GEM	GEMWEST	150	150	138.1330	144.0000	-34.0000	-34.0000	-40.0000	-40.0000
GEM	GEMWEST	150	150	138.1330	144.0000	-40.0000	-40.0000	-42.0000	-42.0000
GEM	GEMWEST	150	150	144.0000	146.0000	-40.0000	-42.0000	-42.0000	-42.0000
GEM	GEMWEST	150	150	144.0000	146.0000	-37.5000	-37.5000	-40.0000	-42.0000
GEM	GEMWEST	150	150	146.0000	146.3670	-37.5000	-37.5000	-42.0000	-42.0000
GEM	GEMWEST	150	150	115.0000	138.1330	-30.0000	-30.0000	-42.0000	-42.0000
ORO	East	10	10	146.3670	155.0000	-39.5000	-39.5000	-43.0000	-43.0000
ORO	South	20	21	140.0000	146.3670	-42.0000	-42.0000	-45.0000	-45.0000
ORO	South	20	22	146.3670	149.5000	-43.0000	-43.0000	-45.0000	-45.0000
ORO	West	30	30	138.1330	146.3670	-35.0000	-35.0000	-42.0000	-42.0000
ORO	C	40	40	150.1692	150.7703	-43.7011	-43.7011	-44.1356	-44.1356
ORO	NER	50	50	146.3670	164.0000	-33.5830	-33.5830	-39.5000	-39.5000
ORO	GAB	60	60	115.1330	138.1330	-31.0000	-31.0000	-41.0000	-41.0000
ORO	STR	70	70	146.5010	150.0000	-46.4340	-46.4340	-48.0000	-48.0000
ORO	PED	80	80	146.5000	147.0537	-44.0000	-44.0000	-44.5500	-44.5500
ORO	PED	80	80	147.0537	147.2520	-44.0000	-44.5500	-44.5500	-44.5500
TBE	SLOPE	10	10	115.0000	153.0000	-20.0000	-20.0000	-50.0000	-50.0000



SCHEME	CODE	NUM	SUBZONE	WLONG	ELONG	NWLAT	NELAT	SWLAT	SELAT
TBE	SEAMOUNTS	20	20	153.0000	180.0000	-20.0000	-20.0000	-50.0000	-50.0000

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