FMA Length Verification

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Introduction

The following document was created to provide the Fisheries Management and Analysis (FMA) Division of the Alaska Fisheries Science Center (AFSC) with records and historical data of fish encountered during the annual surveys of the Resource Assessment and Conservation Engineering (RACE) Division of the AFSC. Species found in this list were supplied by FMA and can be found in a CSV file in the projects code. Data for these species was pulled from the RACE database from 2005 to present. This was done to enure that data used was not outdated, and only encompassed the last ~20 years of data.

Findings for each species are provided in 4 ways; Firtly the number of records is provided. In a number of species the data contained in the respective database (RACE or FMA) is limited, and have a small number of instances. The total numbers are provided to give context to data and to help reviewers determine which method below may best fit their use.

Secondly a minimum and maximum lengths are listed. These are lengths where the pecentage of fish encountered is >0.01% of the total number of records. This ensures that the extrememly small or large individuals caught in a single instance are not reported and these values are where we start to see multiple records of this size.

Thirdly a Rolling Mean Minimum and Rolling Mean Maxmium are included. These values are largely similar to the minimum and maximums listed, but pecentages are averaged with surrounding values to eliminate small spikes of very small or large organisms providing false results. This ensures that the minimums and maximums are closer to the bulk of obervered lengths. For example, Giant Grenadier provides a minimum value of 3 cm, but this is due to a small group (~3 individuals) that cause a small spike that exceeds this 0.01% threshold. By averaging the values around this small spike and slightly increasing the threshold (to 0.0175%) this spike is eliminated and a new minimum is closer to 15 cm.

Fourthly a 95% confidence interval is provided. These represent the lengths that 95% of all encountered species on RACE surveys or Observer Data fall into.

Lastly a graph is provided to visually assess these values and see where the rises and falls in the length data occur. In this way a reviewer can see where the greatest percentage of lengths starts to increase or decrease and see where the previously listed values fall on this curve. The 95% confidence interval is shaded in this plot in blue in RACE data, and red in FMA data.

Species: SQUID UNIDENTIFIED

RACE DATA

Number of Records since 2005: **10**

Minimum: **5 cm** | Maximum: **8 cm**
Rolling Min: **5 cm** | Rolling Max: **8 cm**
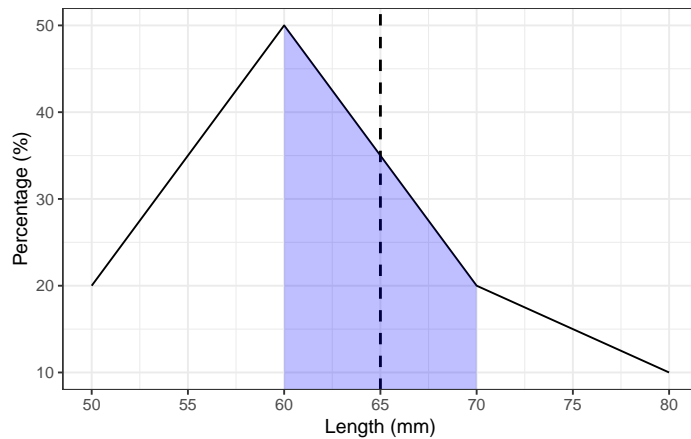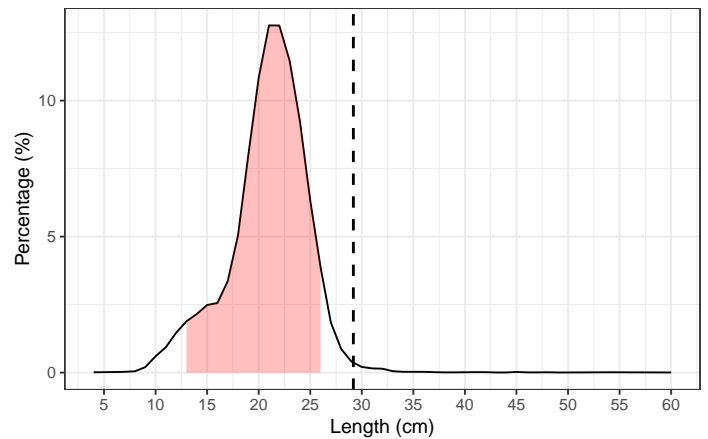95% Interval: **5 cm** to **7.775 cm**

Figure 1: RACE database lengths for SQUID UNIDENTIFIED lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **24,513**

Minimum: **4 cm** | Maximum: **54 cm**
Rolling Min: **7 cm** | Rolling Max: **37 cm**
95% Interval: **12 cm** to **27 cm**

Figure 2: FMA database lengths for SQUID UNIDENTIFIED as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: PACIFIC SLEEPER SHARK

RACE DATA

Number of Records since 2005: **187**

Minimum: **66 cm** | Maximum: **428 cm**
Rolling Min: **66 cm** | Rolling Max: **428 cm**
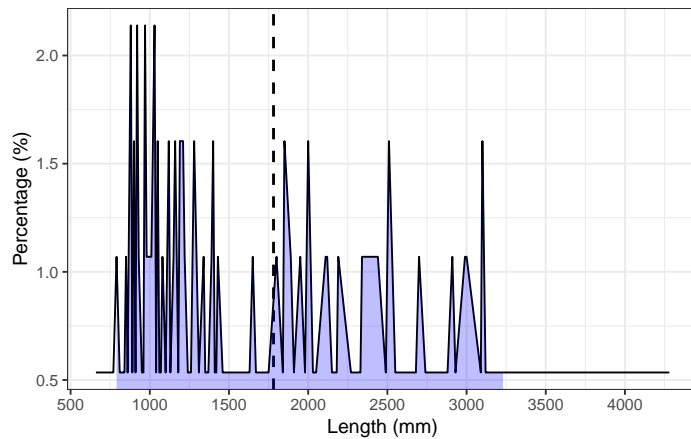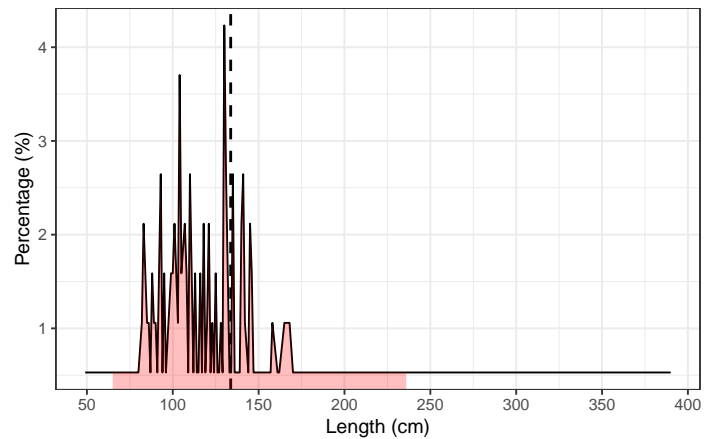95% Interval: **78.3 cm** to **323.35 cm**

Figure 3: RACE database lengths for PACIFIC SLEEPER SHARK lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **189**

Minimum: **49 cm** | Maximum: **390 cm**
Rolling Min: **49 cm** | Rolling Max: **390 cm**
95% Interval: **64.7 cm** to **237.8 cm**

Figure 4: FMA database lengths for PACIFIC SLEEPER SHARK as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: SALMON SHARK

RACE DATA

Number of Records since 2005: **5**

Minimum: **191 cm** | Maximum: **270 cm**
Rolling Min: **191 cm** | Rolling Max: **270 cm**
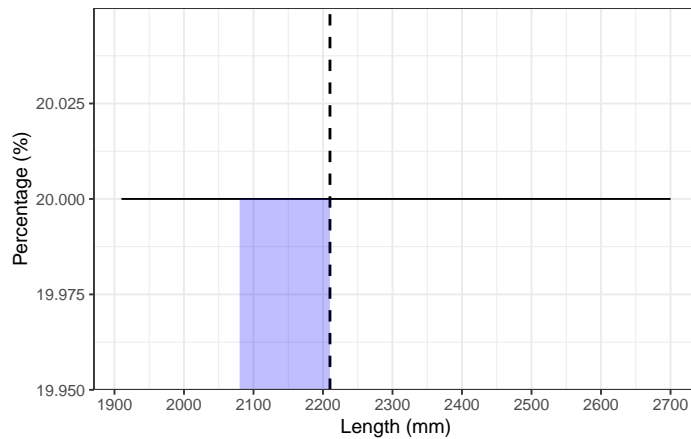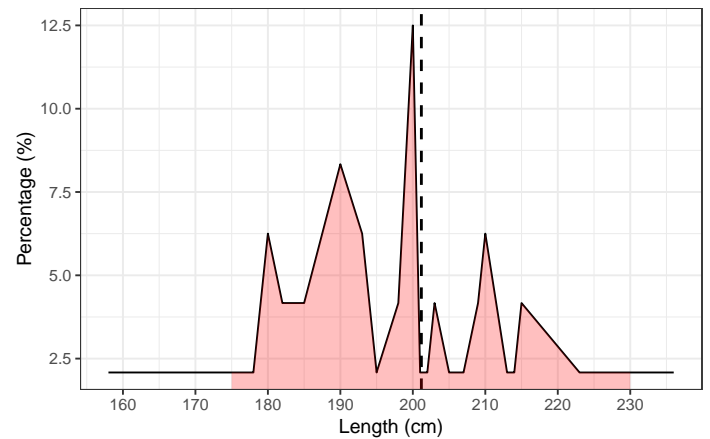95% Interval: **192.7 cm** to **265.1 cm**

Figure 5: RACE database lengths for SALMON SHARK lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **48**

Minimum: **158 cm** | Maximum: **236 cm**
Rolling Min: **158 cm** | Rolling Max: **236 cm**
95% Interval: **170.05 cm** to **231.65 cm**

Figure 6: FMA database lengths for SALMON SHARK as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: GIANT GRENADIER

RACE DATA

Number of Records since 2005: **67,159**

Minimum: **3 cm** | Maximum: **56 cm**
Rolling Min: **15 cm** | Rolling Max: **53 cm**
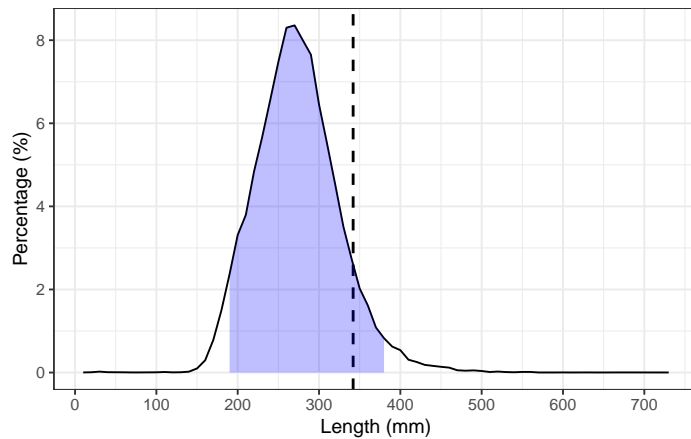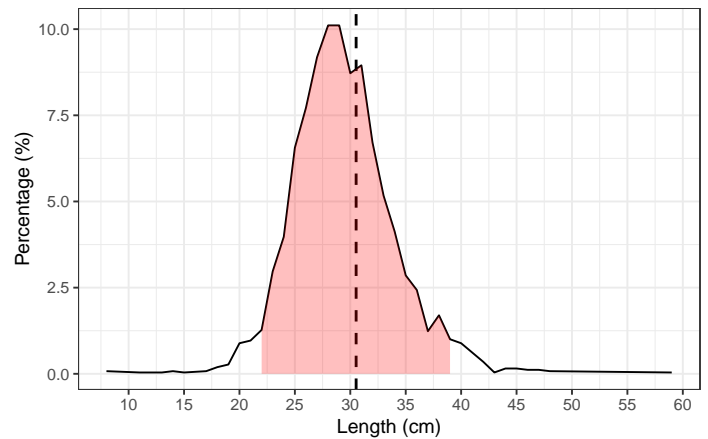95% Interval: **18 cm** to **39 cm**

Figure 7: RACE database lengths for GIANT GRENADIER lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **2,592**

Minimum: **8 cm** | Maximum: **59 cm**
Rolling Min: **8 cm** | Rolling Max: **59 cm**
95% Interval: **21 cm** to **40 cm**

Figure 8: FMA database lengths for GIANT GRENADIER as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: **ALEUTIAN SKATE**

RACE DATA

Number of Records since 2005: **8,123**

Minimum: **4 cm** | Maximum: **160 cm**
Rolling Min: **20 cm** | Rolling Max: **160 cm**
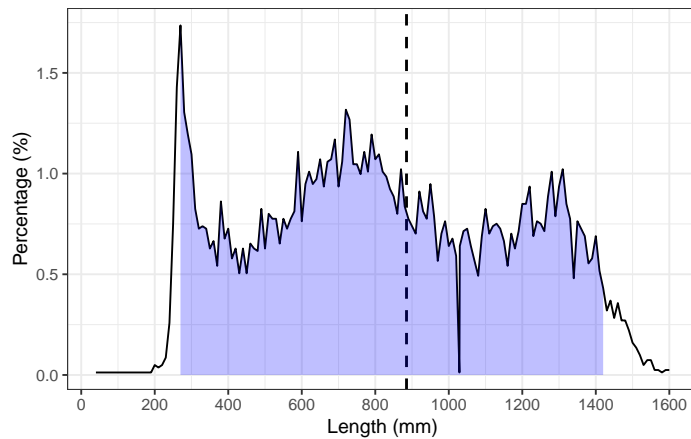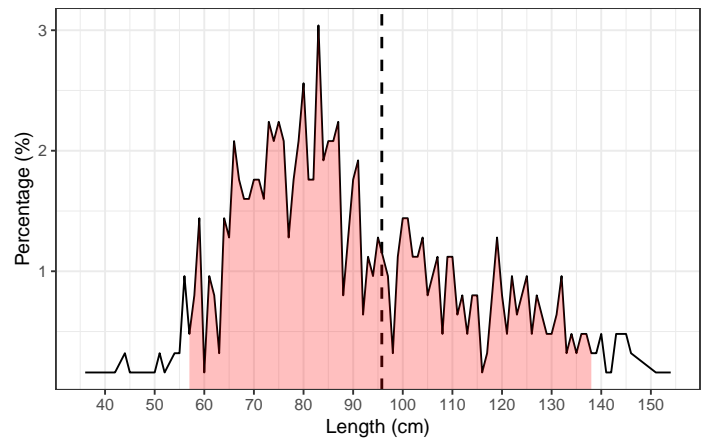95% Interval: **26 cm** to **143 cm**

Figure 9: RACE database lengths for ALEUTIAN SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **625**

Minimum: **36 cm** | Maximum: **154 cm**
Rolling Min: **36 cm** | Rolling Max: **154 cm**
95% Interval: **56 cm** to **139 cm**

Figure 10: FMA database lengths for ALEUTIAN SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: ALASKA SKATE

RACE DATA

Number of Records since 2005: **78,335**

Minimum: **19 cm** | Maximum: **122 cm**
Rolling Min: **20 cm** | Rolling Max: **118 cm**
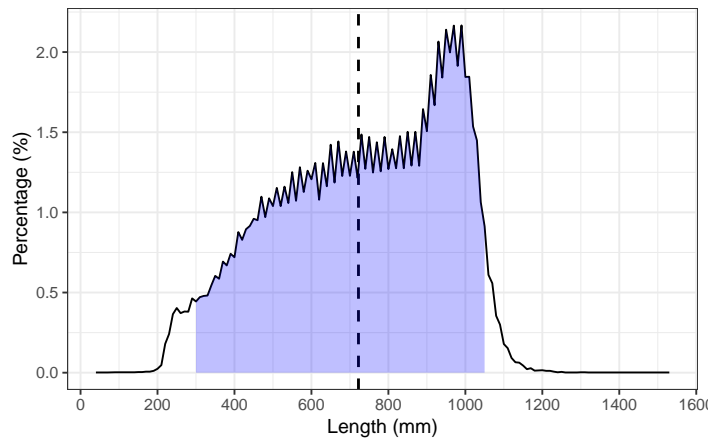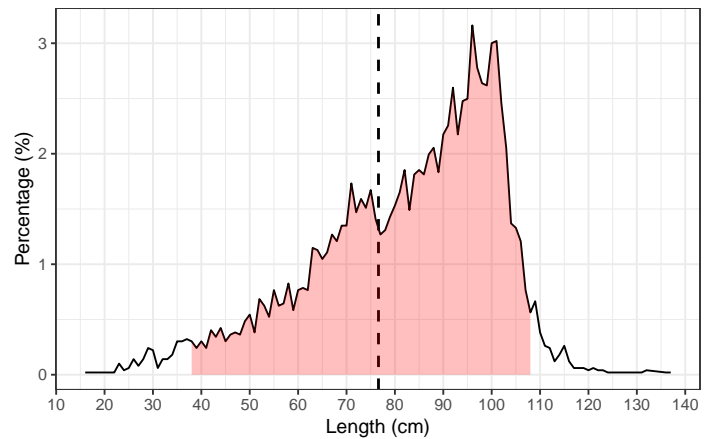95% Interval: **29 cm** to **106 cm**

Figure 11: RACE database lengths for ALASKA SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **4,966**

Minimum: **16 cm** | Maximum: **137 cm**
Rolling Min: **16 cm** | Rolling Max: **137 cm**
95% Interval: **37.125 cm** to **109 cm**

Figure 12: FMA database lengths for ALASKA SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: ROUGHTAIL SKATE

RACE DATA

Number of Records since 2005: **956**

Minimum: **15 cm** | Maximum: **93 cm**
Rolling Min: **15 cm** | Rolling Max: **93 cm**
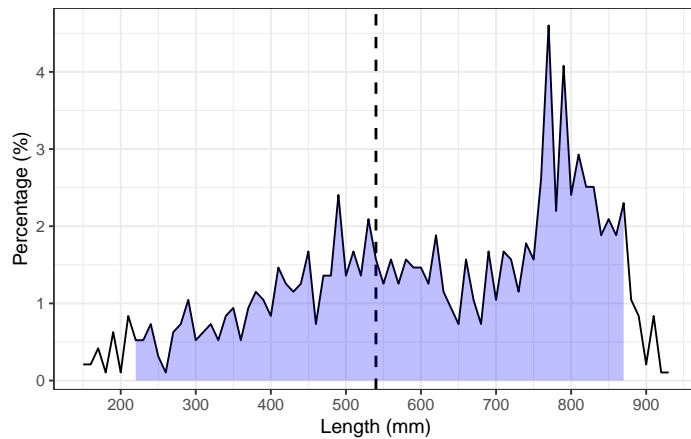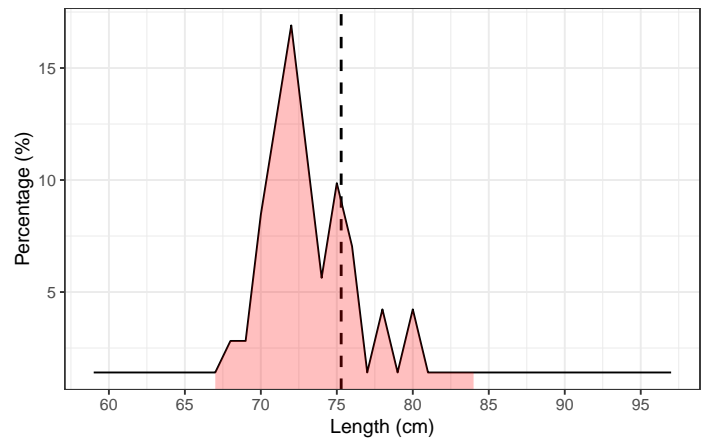95% Interval: **21.875 cm** to **88 cm**

Figure 13: RACE database lengths for ROUGHTAIL SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **71**

Minimum: **59 cm** | Maximum: **97 cm**
Rolling Min: **59 cm** | Rolling Max: **97 cm**
95% Interval: **66.25 cm** to **84.25 cm**

Figure 14: FMA database lengths for ROUGHTAIL SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: DEEPSEA SKATE

RACE DATA

This Species does not have lengths in the database

FMA DATA

This Species does not have lengths in the database

Species: BIG SKATE

RACE DATA

Number of Records since 2005: **1,589**

Minimum: **1 cm** | Maximum: **209 cm**
Rolling Min: **1 cm** | Rolling Max: **209 cm**
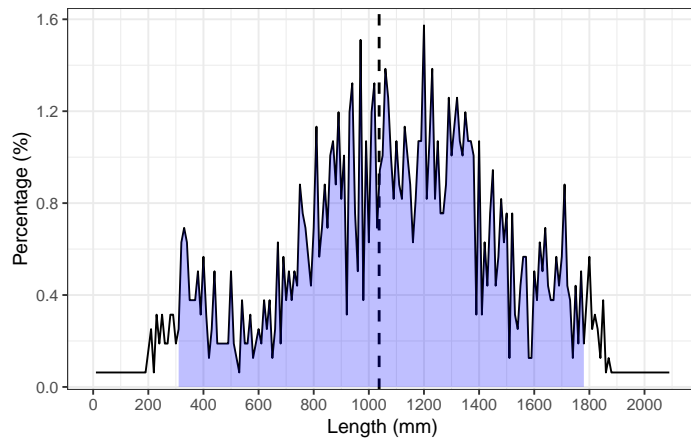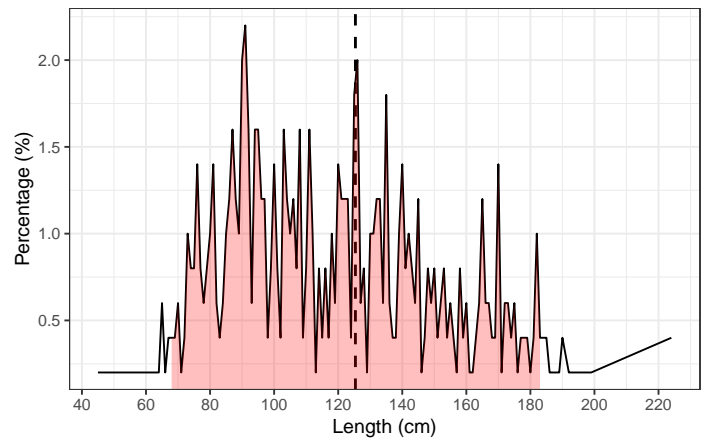95% Interval: **30 cm** to **179 cm**

Figure 15: RACE database lengths for BIG SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **500**

Minimum: **45 cm** | Maximum: **224 cm**
Rolling Min: **45 cm** | Rolling Max: **224 cm**
95% Interval: **67.475 cm** to **184 cm**

Figure 16: FMA database lengths for BIG SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: LONGNOSE SKATE

RACE DATA

Number of Records since 2005: **2,234**

Minimum: **4 cm** | Maximum: **162 cm**
Rolling Min: **4 cm** | Rolling Max: **162 cm**
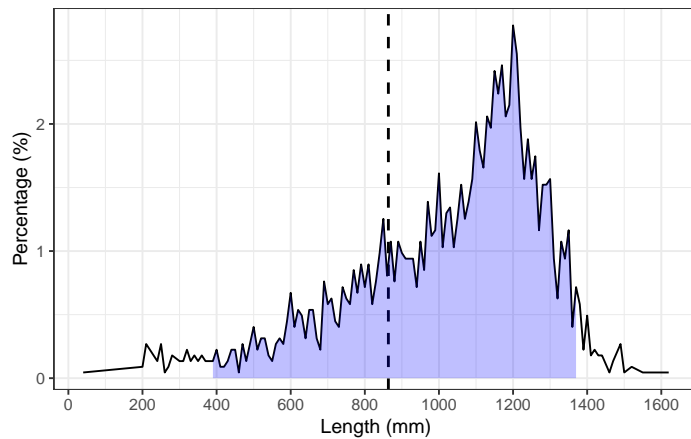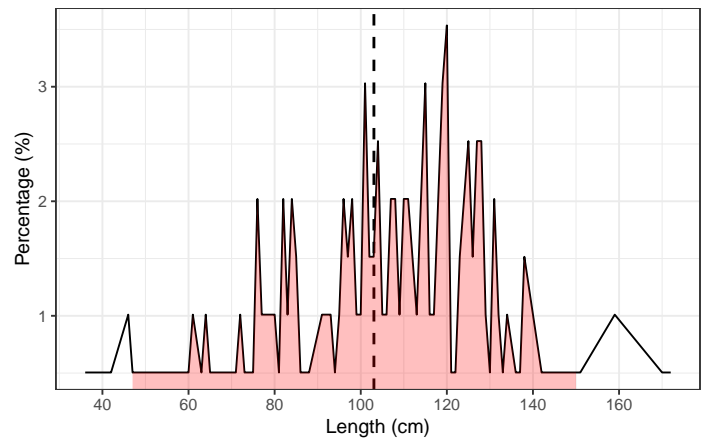95% Interval: **37 cm** to **138 cm**

Figure 17: RACE database lengths for LONGNOSE SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **198**

Minimum: **36 cm** | Maximum: **172 cm**
Rolling Min: **36 cm** | Rolling Max: **172 cm**
95% Interval: **46.925 cm** to **150.075 cm**

Figure 18: FMA database lengths for LONGNOSE SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: BERING SKATE

RACE DATA

Number of Records since 2005: **6,736**

Minimum: **3 cm** | Maximum: **142 cm**
Rolling Min: **16 cm** | Rolling Max: **142 cm**
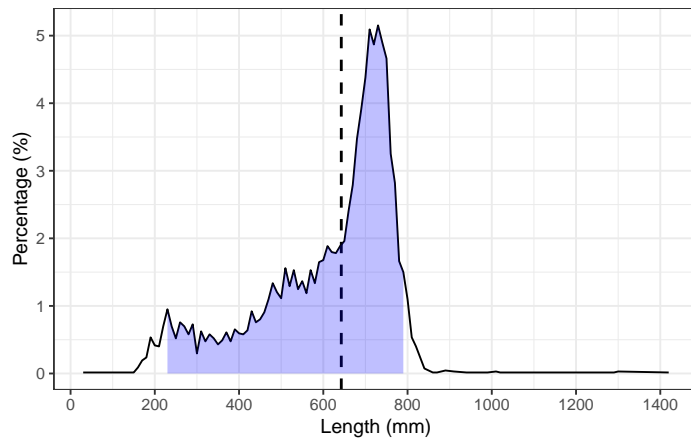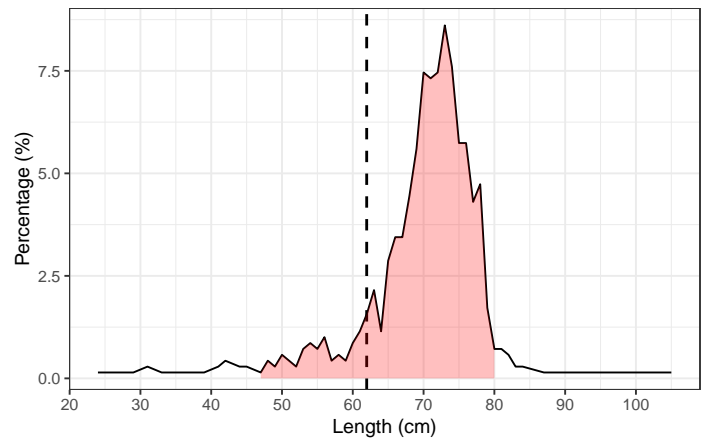95% Interval: **22 cm** to **80 cm**

Figure 19: RACE database lengths for BERING SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **697**

Minimum: **24 cm** | Maximum: **105 cm**
Rolling Min: **24 cm** | Rolling Max: **105 cm**
95% Interval: **45 cm** to **81 cm**

Figure 20: FMA database lengths for BERING SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: PACIFIC HALIBUT

RACE DATA

Number of Records since 2005: **136,402**

Minimum: **8 cm** | Maximum: **130 cm**
Rolling Min: **13 cm** | Rolling Max: **123 cm**
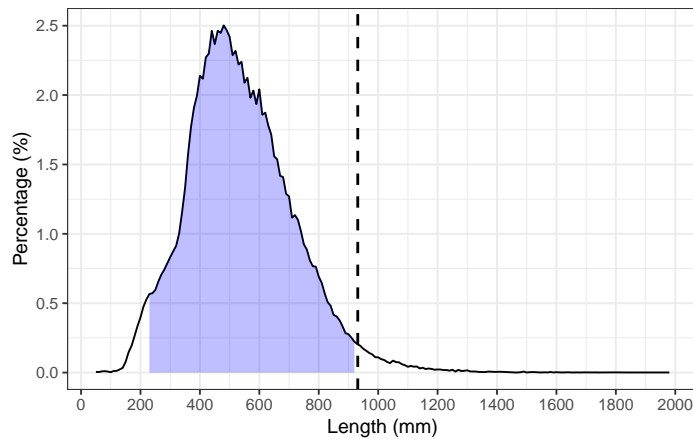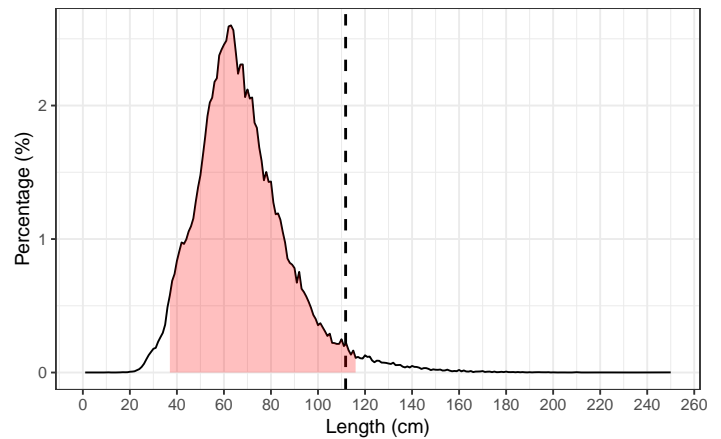95% Interval: **22 cm** to **93 cm**

Figure 21: RACE database lengths for PACIFIC HALIBUT lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **295,960**

Minimum: **23 cm** | Maximum: **170 cm**
Rolling Min: **24 cm** | Rolling Max: **156 cm**
95% Interval: **36 cm** to **117 cm**

Figure 22: FMA database lengths for PACIFIC HALIBUT as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: TURBOT (GREENLAND)

RACE DATA

Number of Records since 2005: **23,622**

Minimum: **9 cm** | Maximum: **106 cm**
Rolling Min: **9 cm** | Rolling Max: **106 cm**
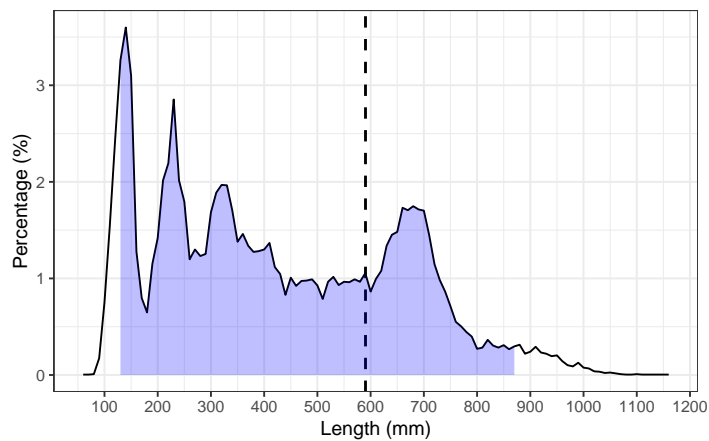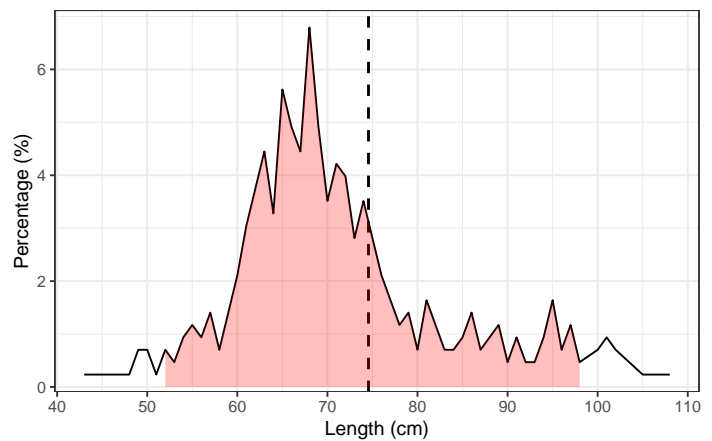95% Interval: **12 cm** to **88 cm**

Figure 23: RACE database lengths for TURBOT (GREENLAND) lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **427**

Minimum: **43 cm** | Maximum: **108 cm**
Rolling Min: **43 cm** | Rolling Max: **108 cm**
95% Interval: **51.65 cm** to **100 cm**

Figure 24: FMA database lengths for TURBOT (GREENLAND) as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: FLATHEAD SOLE

RACE DATA

Number of Records since 2005: **517,368**

Minimum: **6 cm** | Maximum: **53 cm**
Rolling Min: **7 cm** | Rolling Max: **53 cm**
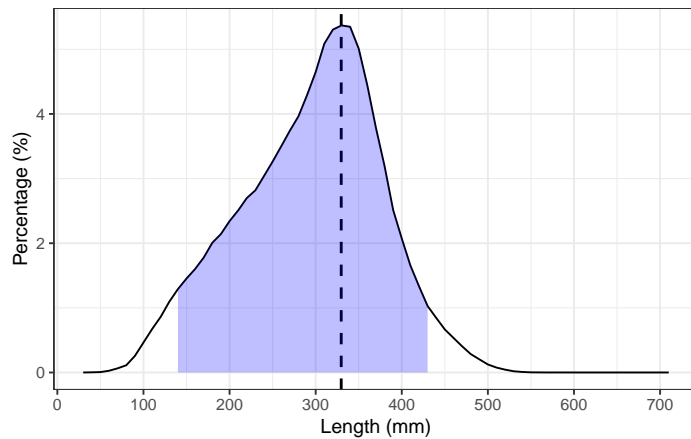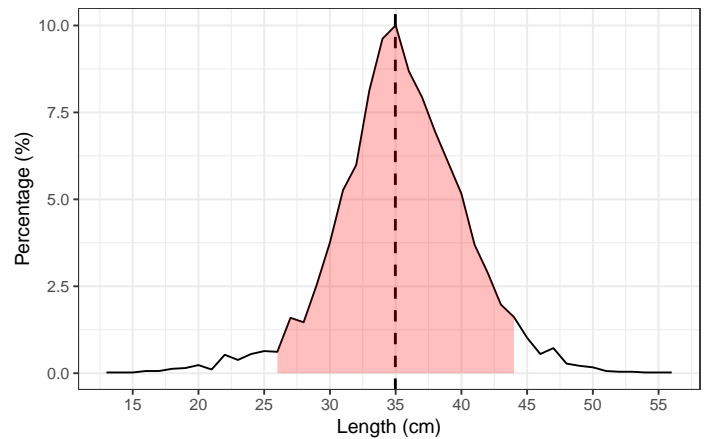95% Interval: **13 cm** to **44 cm**

Figure 25: RACE database lengths for FLATHEAD SOLE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **4,709**

Minimum: **13 cm** | Maximum: **56 cm**
Rolling Min: **13 cm** | Rolling Max: **56 cm**
95% Interval: **25 cm** to **45 cm**

Figure 26: FMA database lengths for FLATHEAD SOLE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: REX SOLE

RACE DATA

Number of Records since 2005: **190,873**

Minimum: **9 cm** | Maximum: **63 cm**
Rolling Min: **11 cm** | Rolling Max: **63 cm**
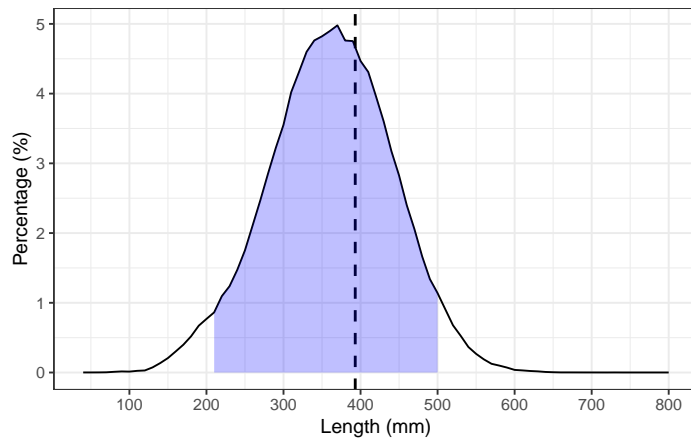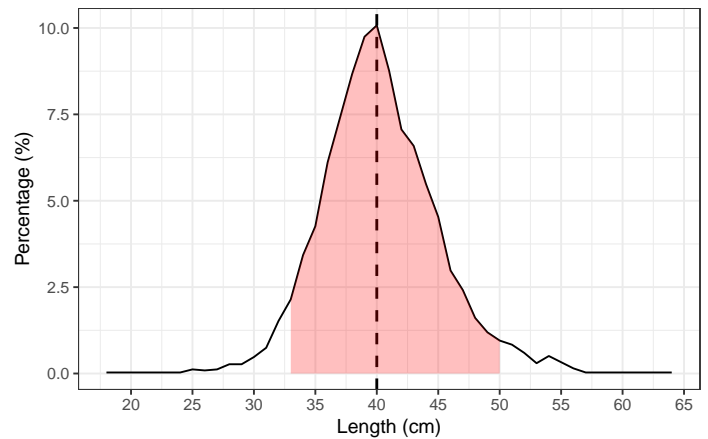95% Interval: **20 cm** to **51 cm**

Figure 27: RACE database lengths for REX SOLE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **3,355**

Minimum: **18 cm** | Maximum: **64 cm**
Rolling Min: **18 cm** | Rolling Max: **64 cm**
95% Interval: **32 cm** to **51 cm**

Figure 28: FMA database lengths for REX SOLE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: ALASKA PLAICE

RACE DATA

Number of Records since 2005: **223,543**

Minimum: **6 cm** | Maximum: **61 cm**
Rolling Min: **8 cm** | Rolling Max: **61 cm**
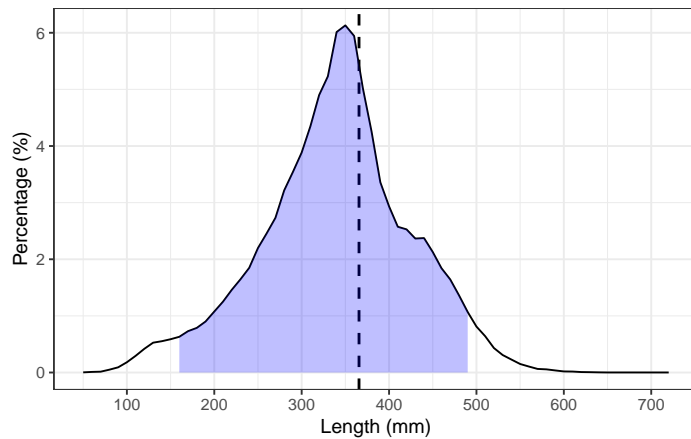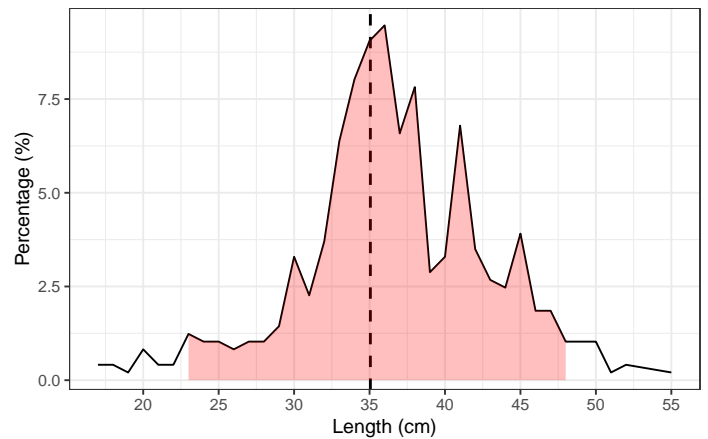95% Interval: **15 cm** to **50 cm**

Figure 29: RACE database lengths for ALASKA PLAICE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **486**

Minimum: **17 cm** | Maximum: **55 cm**
Rolling Min: **17 cm** | Rolling Max: **55 cm**
95% Interval: **22.125 cm** to **49 cm**

Figure 30: FMA database lengths for ALASKA PLAICE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: DOVER SOLE

RACE DATA

Number of Records since 2005: **42,395**

Minimum: **16 cm** | Maximum: **67 cm**
Rolling Min: **17 cm** | Rolling Max: **67 cm**
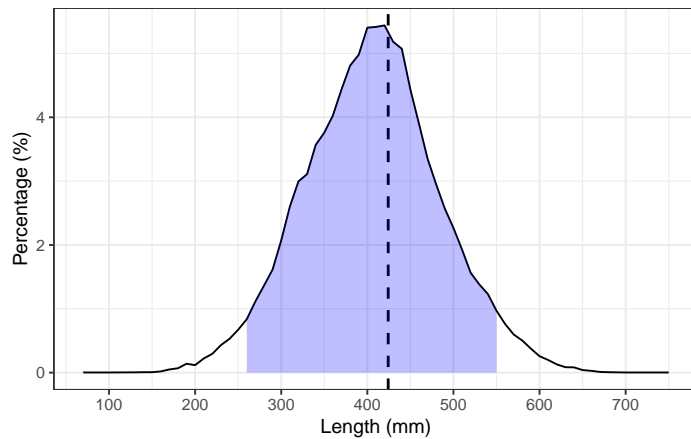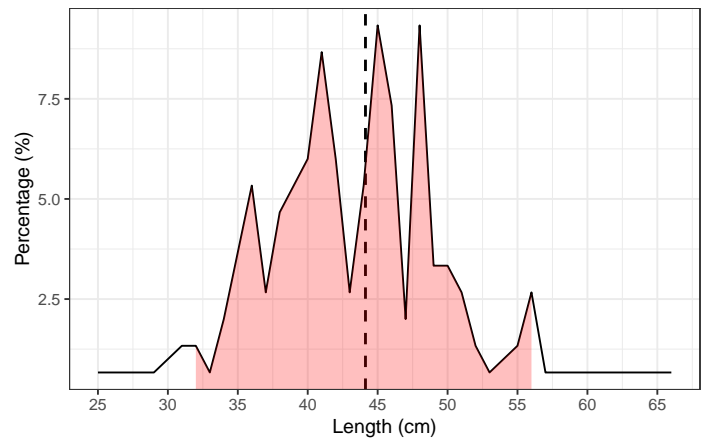95% Interval: **25 cm** to **56 cm**

Figure 31: RACE database lengths for DOVER SOLE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **150**

Minimum: **25 cm** | Maximum: **66 cm**
Rolling Min: **25 cm** | Rolling Max: **66 cm**
95% Interval: **31 cm** to **56.275 cm**

Figure 32: FMA database lengths for DOVER SOLE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: NORTHERN ROCK SOLE

RACE DATA

Number of Records since 2005: **593,321**

Minimum: **7 cm** | Maximum: **53 cm**
Rolling Min: **7 cm** | Rolling Max: **52 cm**
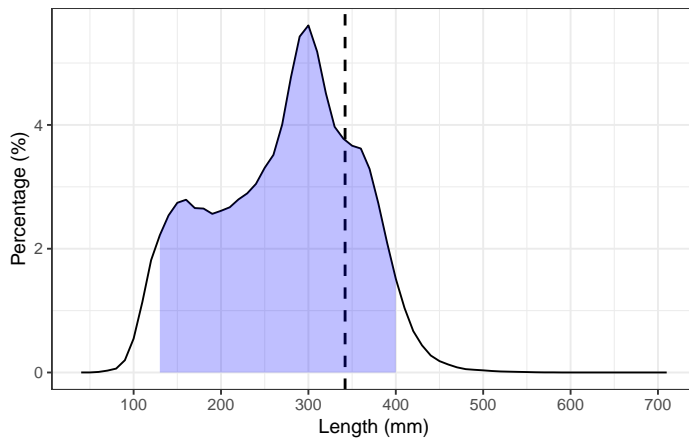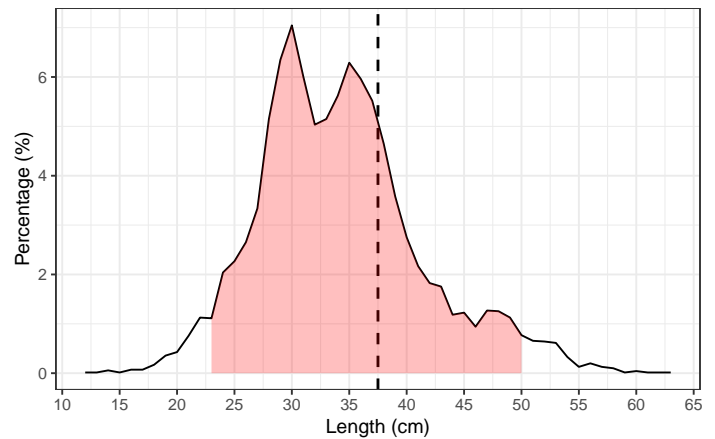95% Interval: **12 cm** to **41 cm**

Figure 33: RACE database lengths for NORTHERN ROCK SOLE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **7,012**

Minimum: **12 cm** | Maximum: **63 cm**
Rolling Min: **14 cm** | Rolling Max: **61 cm**
95% Interval: **22 cm** to **51 cm**

Figure 34: FMA database lengths for NORTHERN ROCK SOLE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: SOUTHERN ROCK SOLE

RACE DATA

Number of Records since 2005: **97,397**

Minimum: **11 cm** | Maximum: **58 cm**
Rolling Min: **12 cm** | Rolling Max: **57 cm**
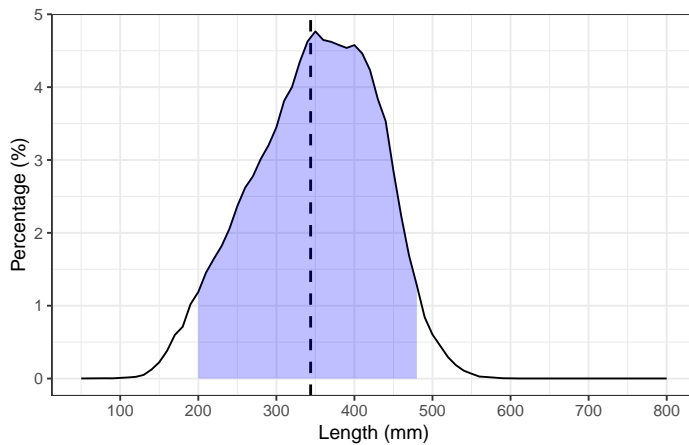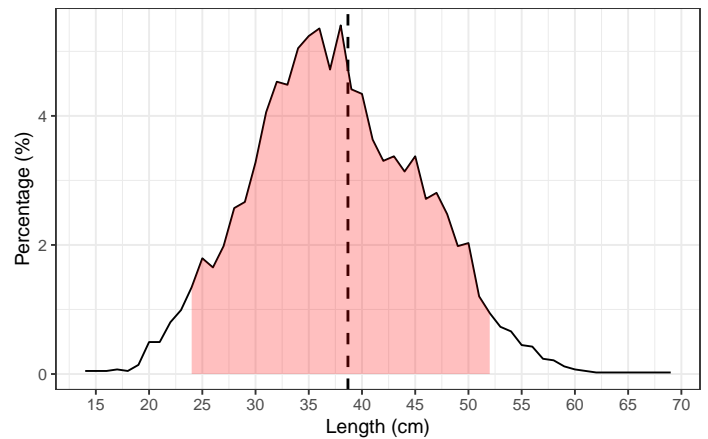95% Interval: **19 cm** to **49 cm**

Figure 35: RACE database lengths for SOUTHERN ROCK SOLE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **4,239**

Minimum: **14 cm** | Maximum: **69 cm**
Rolling Min: **14 cm** | Rolling Max: **69 cm**
95% Interval: **23 cm** to **53 cm**

Figure 36: FMA database lengths for SOUTHERN ROCK SOLE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: YELLOWFIN SOLE

RACE DATA

Number of Records since 2005: **511,077**

Minimum: **6 cm** | Maximum: **46 cm**
Rolling Min: **7 cm** | Rolling Max: **46 cm**
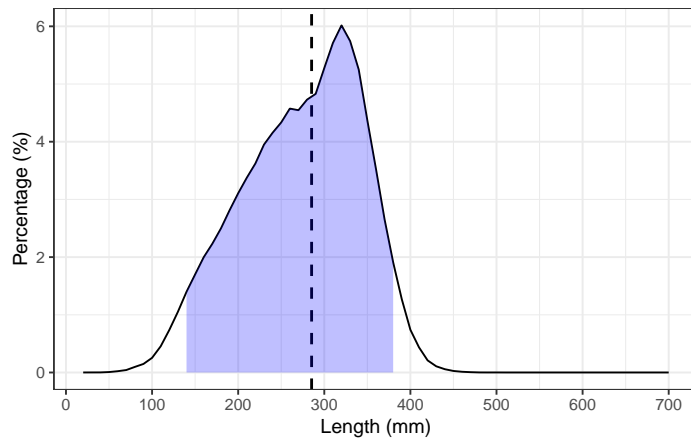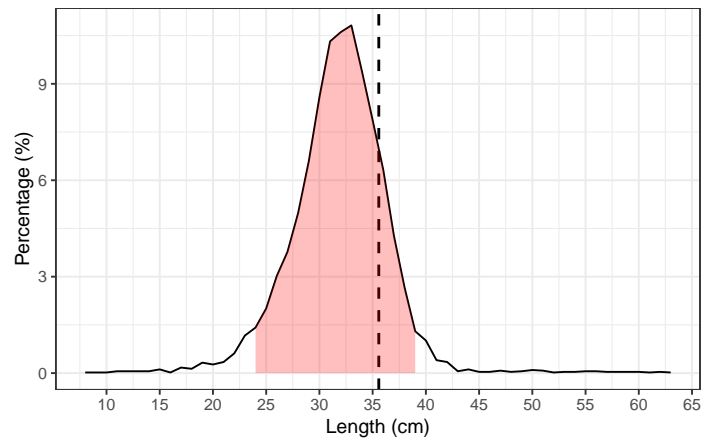95% Interval: **13 cm** to **39 cm**

Figure 37: RACE database lengths for YELLOWFIN SOLE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **5,223**

Minimum: **8 cm** | Maximum: **63 cm**
Rolling Min: **8 cm** | Rolling Max: **63 cm**
95% Interval: **23 cm** to **40 cm**

Figure 38: FMA database lengths for YELLOWFIN SOLE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: ARROWTOOTH FLOUNDER

RACE DATA

Number of Records since 2005: **738,690**

Minimum: **9 cm** | Maximum: **82 cm**
Rolling Min: **10 cm** | Rolling Max: **81 cm**
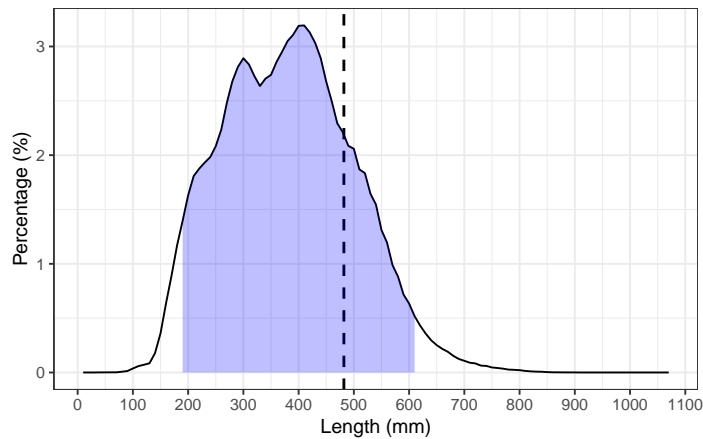95% Interval: **18 cm** to **62 cm**

Figure 39: RACE database lengths for ARROWTOOTH FLOUN-DER lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **14,410**

Minimum: **16 cm** | Maximum: **82 cm**
Rolling Min: **17 cm** | Rolling Max: **79 cm**
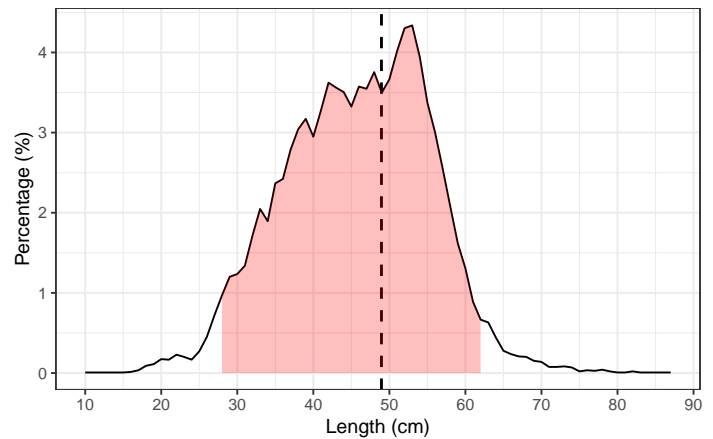95% Interval: **27 cm** to **63 cm**

Figure 40: FMA database lengths for ARROWTOOTH FLOUN-DER as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: KAMCHATKA FLOUNDER

RACE DATA

Number of Records since 2005: **83,446**

Minimum: **8 cm** | Maximum: **89 cm**
Rolling Min: **9 cm** | Rolling Max: **89 cm**
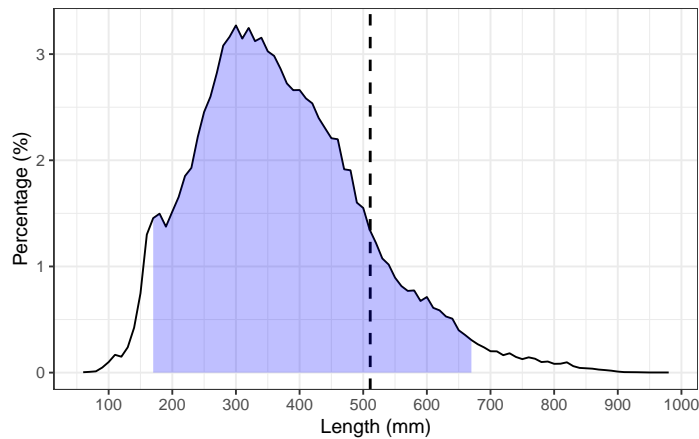95% Interval: **16 cm** to **68 cm**

Figure 41: RACE database lengths for KAMCHATKA FLOUNDER lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **217**

Minimum: **33 cm** | Maximum: **94 cm**
Rolling Min: **33 cm** | Rolling Max: **94 cm**
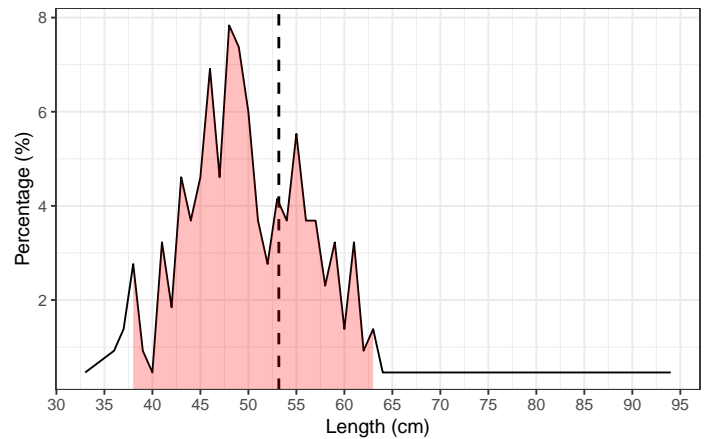95% Interval: **37.4 cm** to **63.6 cm**

Figure 42: FMA database lengths for KAMCHATKA FLOUNDER as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: WHITEBROW SKATE

RACE DATA

Number of Records since 2005: **1,071**

Minimum: **14 cm** | Maximum: **91 cm**
Rolling Min: **14 cm** | Rolling Max: **91 cm**
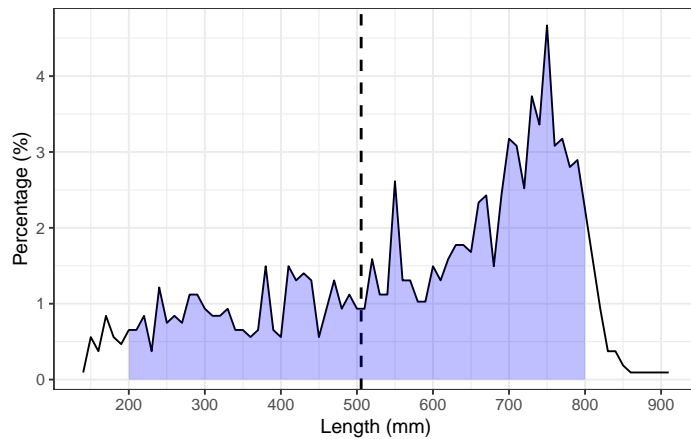95% Interval: **19 cm** to **81 cm**

Figure 43: RACE database lengths for WHITEBROW SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **71**

Minimum: **51 cm** | Maximum: **98 cm**
Rolling Min: **51 cm** | Rolling Max: **98 cm**
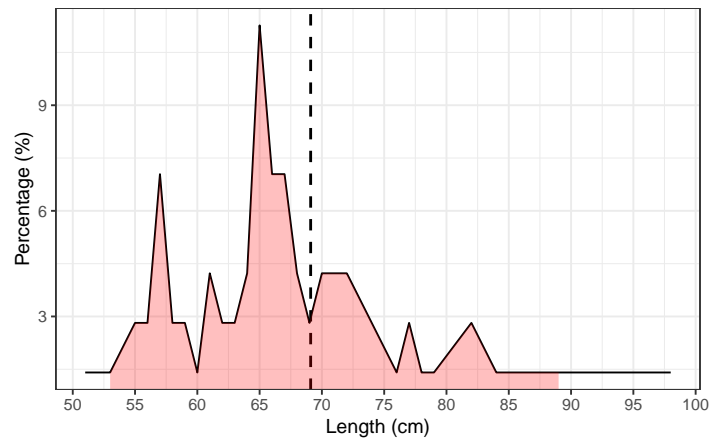95% Interval: **52.75 cm** to **90 cm**

Figure 44: FMA database lengths for WHITEBROW SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: COMMANDER SKATE

RACE DATA

Number of Records since 2005: **2,088**

Minimum: **15 cm** | Maximum: **115 cm**
Rolling Min: **15 cm** | Rolling Max: **115 cm**
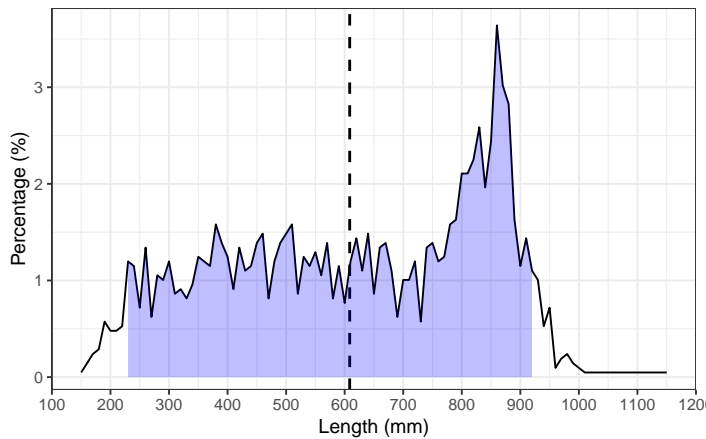95% Interval: **22 cm** to **93 cm**

Figure 45: RACE database lengths for COMMANDER SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **353**

Minimum: **33 cm** | Maximum: **114 cm**
Rolling Min: **33 cm** | Rolling Max: **114 cm**
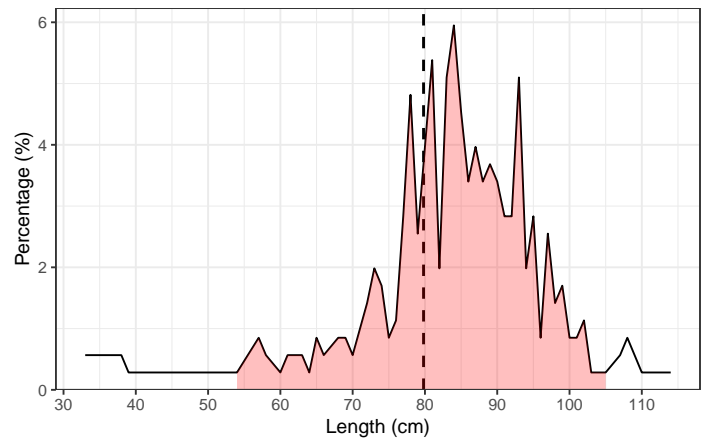95% Interval: **53.2 cm** to **105.4 cm**

Figure 46: FMA database lengths for COMMANDER SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: **WHITEBLOTCHED SKATE**

RACE DATA

Number of Records since 2005: **5,434**

Minimum: **8 cm** | Maximum: **171 cm**
Rolling Min: **8 cm** | Rolling Max: **171 cm**
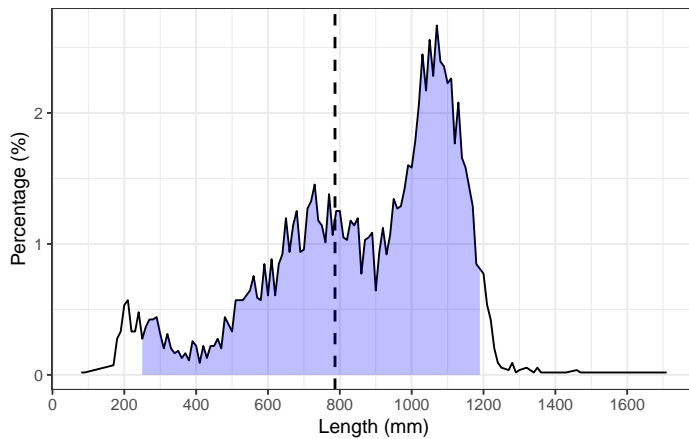95% Interval: **24 cm** to **120 cm**

Figure 47: RACE database lengths for WHITEBLOTCHED SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **297**

Minimum: **38 cm** | Maximum: **141 cm**
Rolling Min: **38 cm** | Rolling Max: **141 cm**
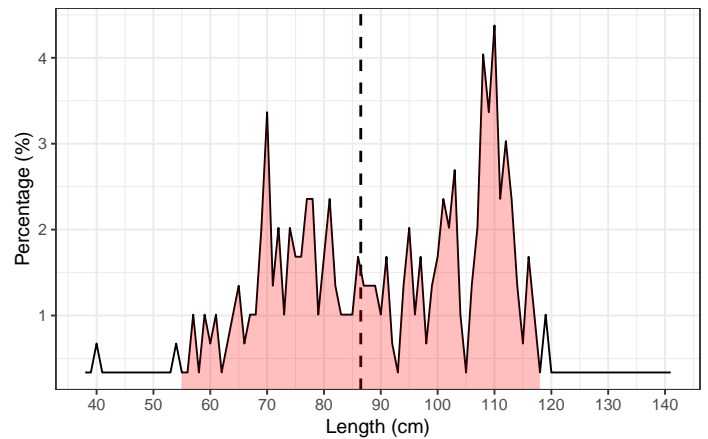95% Interval: **54 cm** to **119 cm**

Figure 48: FMA database lengths for WHITEBLOTCHED SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: MUD SKATE

RACE DATA

Number of Records since 2005: **2,315**

Minimum: **14 cm** | Maximum: **99 cm**
Rolling Min: **14 cm** | Rolling Max: **99 cm**
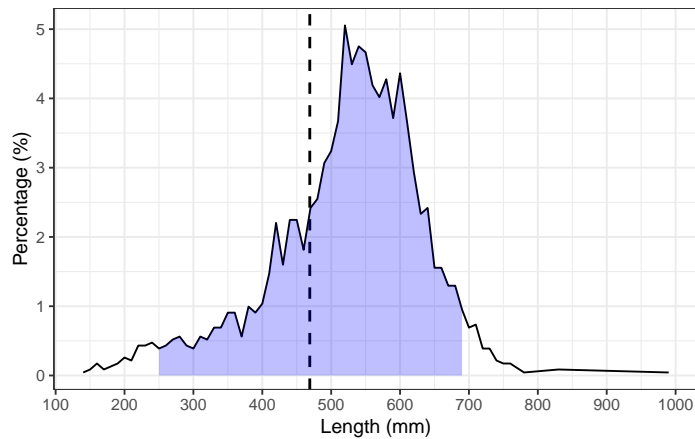95% Interval: **24.85 cm** to **70 cm**

Figure 49: RACE database lengths for MUD SKATE lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **109**

Minimum: **28 cm** | Maximum: **80 cm**
Rolling Min: **28 cm** | Rolling Max: **80 cm**
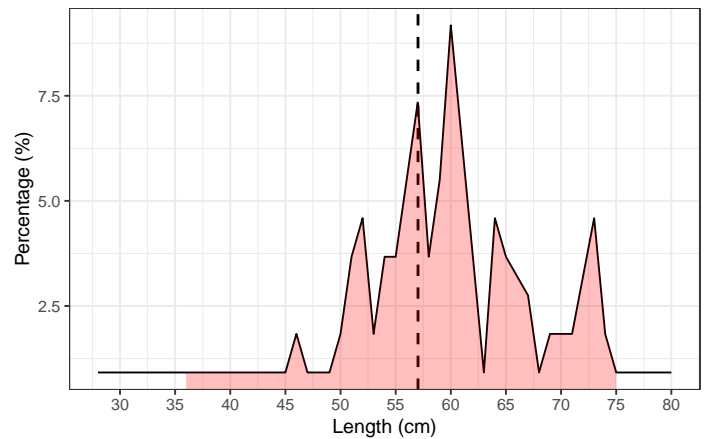95% Interval: **35.7 cm** to **75.6 cm**

Figure 50: FMA database lengths for MUD SKATE as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: ROUGHSHOULDER SKATE

RACE DATA

This Species does not have lengths in the database

FMA DATA

This Species does not have lengths in the database

Species: POLLOCK

RACE DATA

Number of Records since 2005: **948,516**

Minimum: **5 cm** | Maximum: **80 cm**
Rolling Min: **6 cm** | Rolling Max: **80 cm**
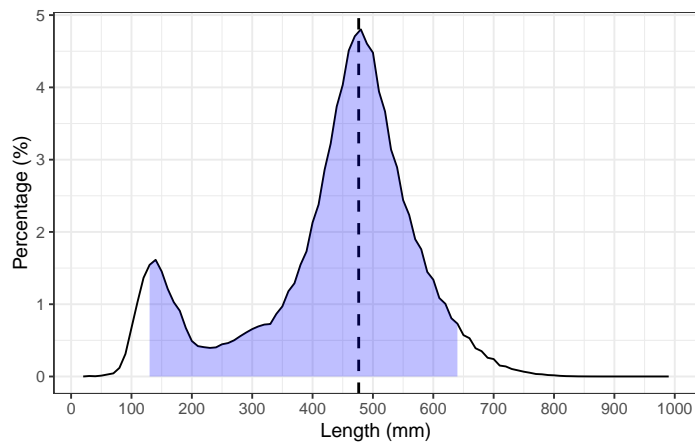95% Interval: **12 cm** to **65 cm**

Figure 51: RACE database lengths for POLLOCK lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **143,821**

Minimum: **19 cm** | Maximum: **77 cm**
Rolling Min: **20 cm** | Rolling Max: **76 cm**
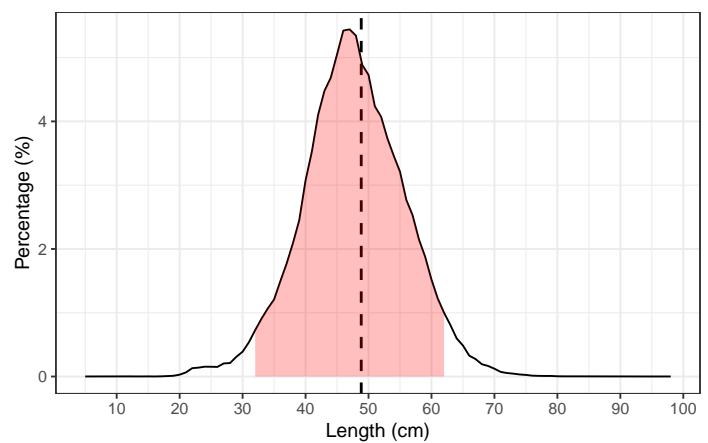95% Interval: **31 cm** to **63 cm**

Figure 52: FMA database lengths for POLLOCK as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: PACIFIC COD

RACE DATA

Number of Records since 2005: **388,070**

Minimum: **7 cm** | Maximum: **105 cm**
Rolling Min: **8 cm** | Rolling Max: **103 cm**
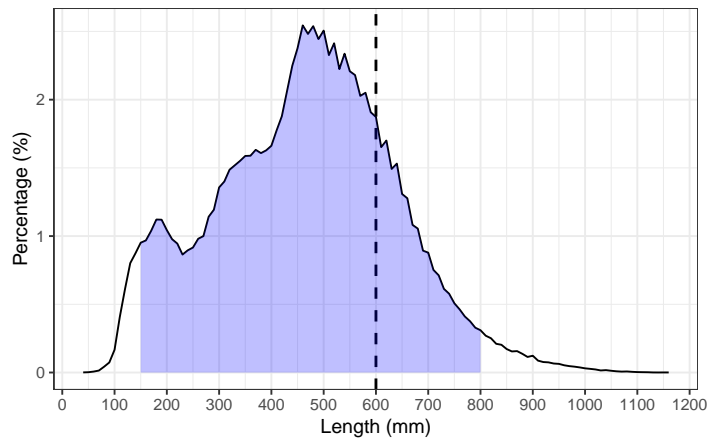95% Interval: **14 cm** to **81 cm**

Figure 53: RACE database lengths for PACIFIC COD lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **163,546**

Minimum: **25 cm** | Maximum: **110 cm**
Rolling Min: **27 cm** | Rolling Max: **110 cm**
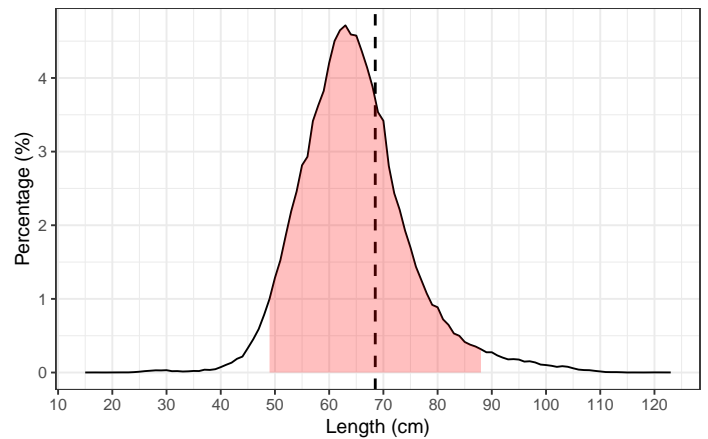95% Interval: **48 cm** to **89 cm**

Figure 54: FMA database lengths for PACIFIC COD as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: SABLEFISH (BLACKCOD)

RACE DATA

Number of Records since 2005: **58,301**

Minimum: **24 cm** | Maximum: **96 cm**
Rolling Min: **25 cm** | Rolling Max: **93 cm**
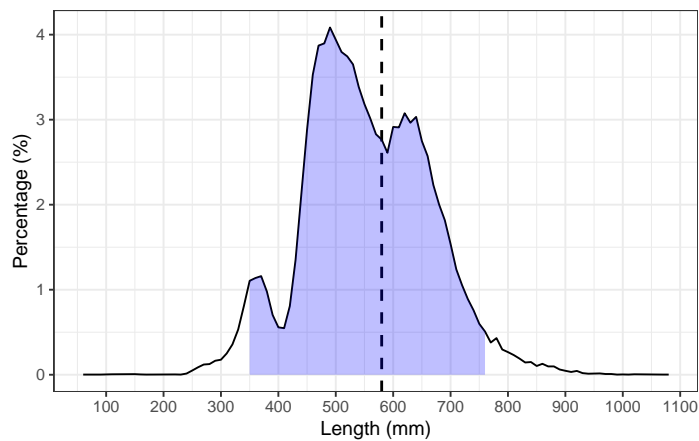95% Interval: **34 cm** to **77 cm**

Figure 55: RACE database lengths for SABLEFISH (BLACKCOD) lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **35,546**

Minimum: **23 cm** | Maximum: **106 cm**
Rolling Min: **24 cm** | Rolling Max: **104 cm**
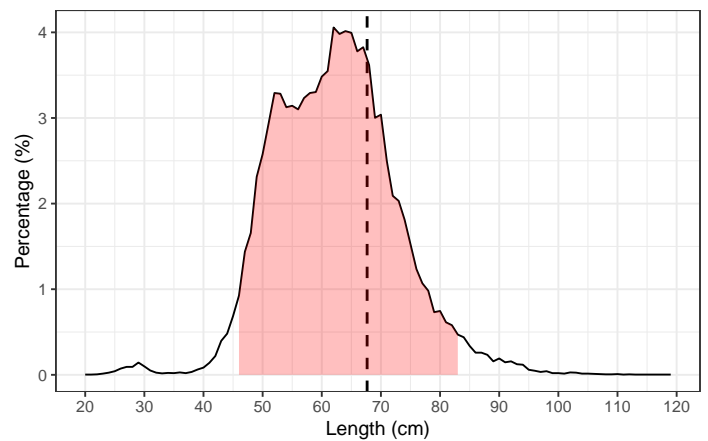95% Interval: **45 cm** to **84 cm**

Figure 56: FMA database lengths for SABLEFISH (BLACKCOD) as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: ATKA MACKEREL

RACE DATA

Number of Records since 2005: **68,652**

Minimum: **19 cm** | Maximum: **55 cm**
Rolling Min: **20 cm** | Rolling Max: **55 cm**
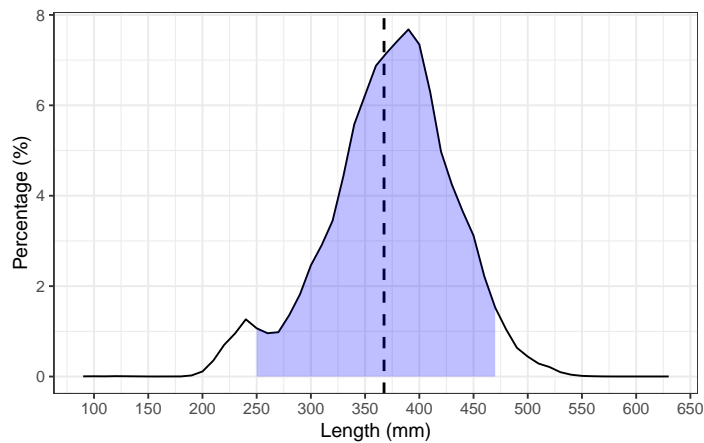95% Interval: **24 cm** to **48 cm**

Figure 57: RACE database lengths for ATKA MACKEREL lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **1,358**

Minimum: **21 cm** | Maximum: **55 cm**
Rolling Min: **21 cm** | Rolling Max: **55 cm**
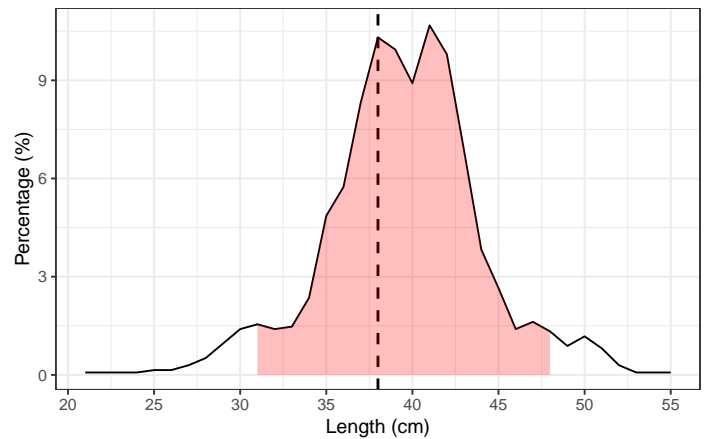95% Interval: **30 cm** to **49 cm**

Figure 58: FMA database lengths for ATKA MACKEREL as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: CHUM SALMON

RACE DATA

Number of Records since 2005: **1,628**

Minimum: **7 cm** | Maximum: **80 cm**
Rolling Min: **7 cm** | Rolling Max: **80 cm**
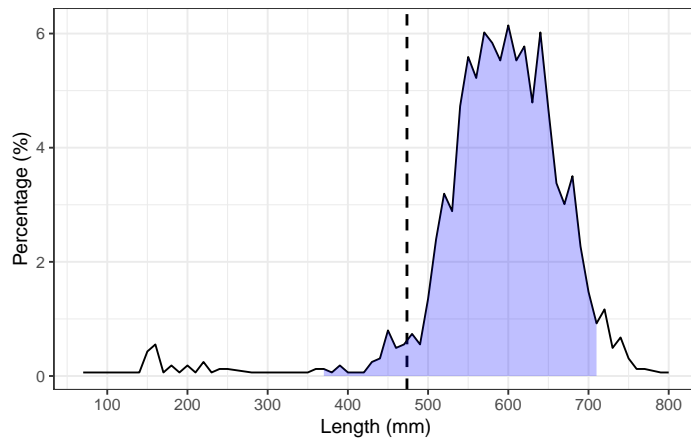95% Interval: **36 cm** to **72 cm**

Figure 59: RACE database lengths for CHUM SALMON lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **114,593**

Minimum: **32 cm** | Maximum: **80 cm**
Rolling Min: **33 cm** | Rolling Max: **79 cm**
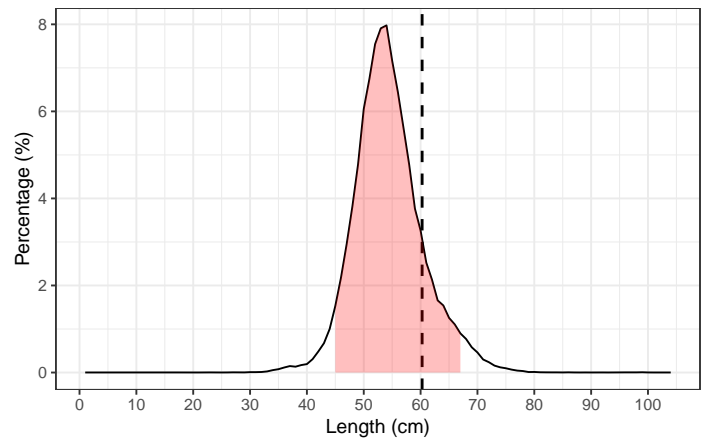95% Interval: **44 cm** to **68 cm**

Figure 60: FMA database lengths for CHUM SALMON as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: CHINOOK SALMON

RACE DATA

Number of Records since 2005: **654**

Minimum: **16 cm** | Maximum: **105 cm**
Rolling Min: **16 cm** | Rolling Max: **105 cm**
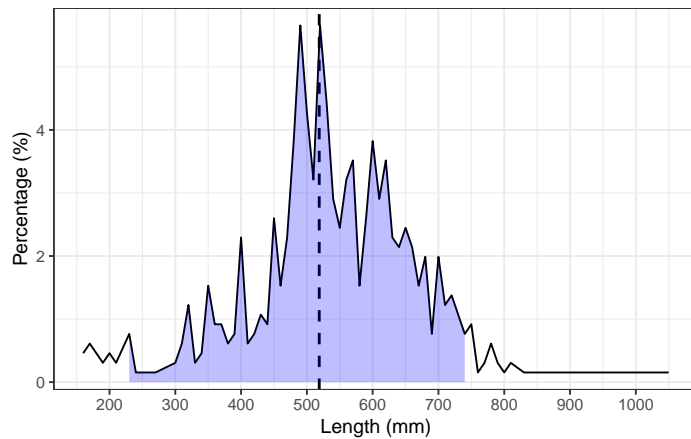95% Interval: **21.65 cm** to **75 cm**

Figure 61: RACE database lengths for CHINOOK SALMON lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **53,190**

Minimum: **24 cm** | Maximum: **97 cm**
Rolling Min: **25 cm** | Rolling Max: **94 cm**
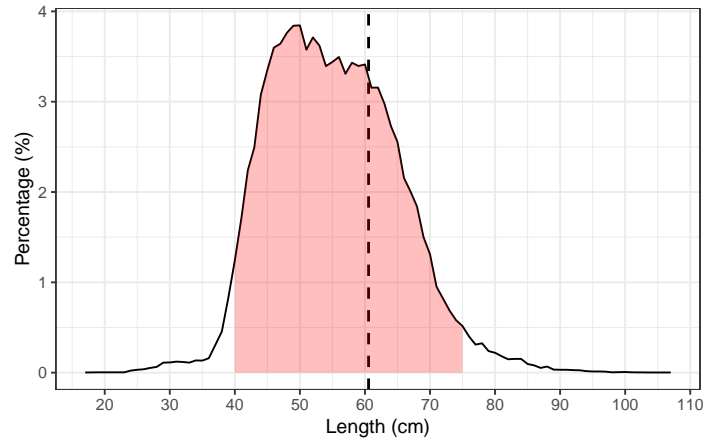95% Interval: **39 cm** to **76 cm**

Figure 62: FMA database lengths for CHINOOK SALMON as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: COHO SALMON

RACE DATA

Number of Records since 2005: **96**

Minimum: **14 cm** | Maximum: **78 cm**
Rolling Min: **14 cm** | Rolling Max: **78 cm**
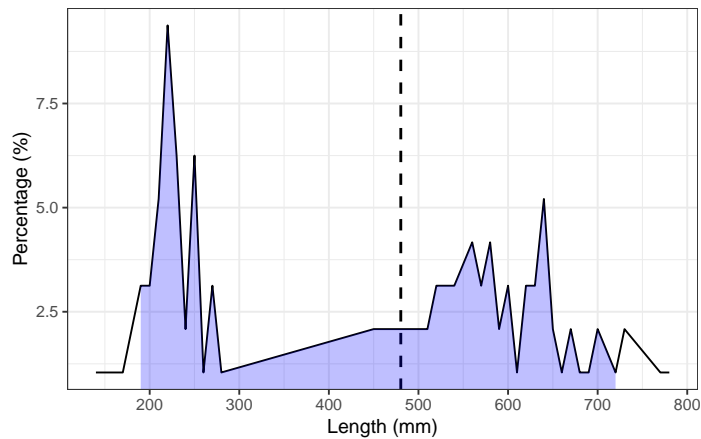95% Interval: **17.75 cm** to **73 cm**

Figure 63: RACE database lengths for COHO SALMON lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **740**

Minimum: **19 cm** | Maximum: **80 cm**
Rolling Min: **19 cm** | Rolling Max: **80 cm**
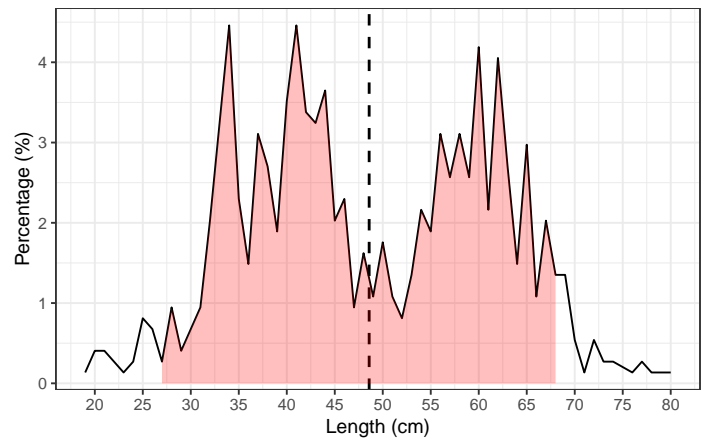95% Interval: **26 cm** to **69 cm**

Figure 64: FMA database lengths for COHO SALMON as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: SOCKEYE SALMON

RACE DATA

Number of Records since 2005: **27**

Minimum: **23 cm** | Maximum: **63 cm**
Rolling Min: **23 cm** | Rolling Max: **63 cm**
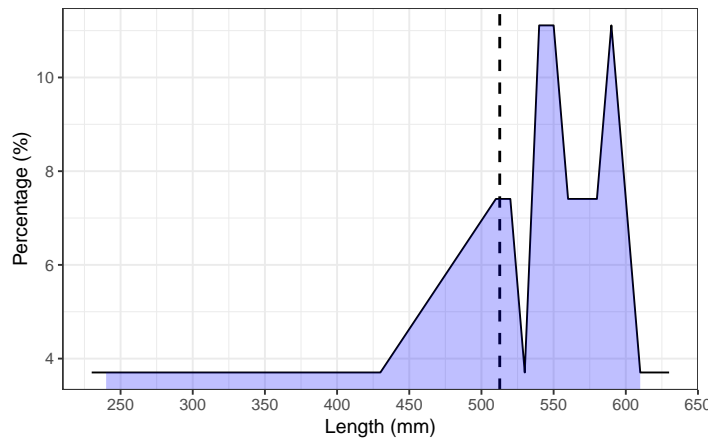95% Interval: **23.65 cm** to **61.7 cm**

Figure 65: RACE database lengths for SOCKEYE SALMON lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **901**

Minimum: **20 cm** | Maximum: **78 cm**
Rolling Min: **20 cm** | Rolling Max: **78 cm**
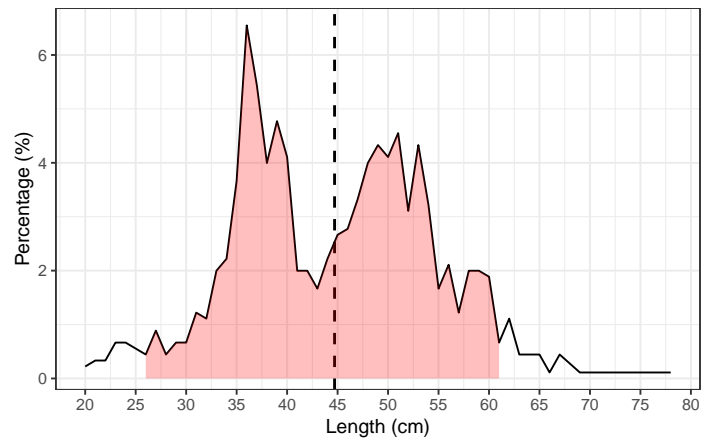95% Interval: **25 cm** to **62 cm**

Figure 66: FMA database lengths for SOCKEYE SALMON as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: PINK SALMON

RACE DATA

Number of Records since 2005: **175**

Minimum: **12 cm** | Maximum: **57 cm**
Rolling Min: **12 cm** | Rolling Max: **57 cm**
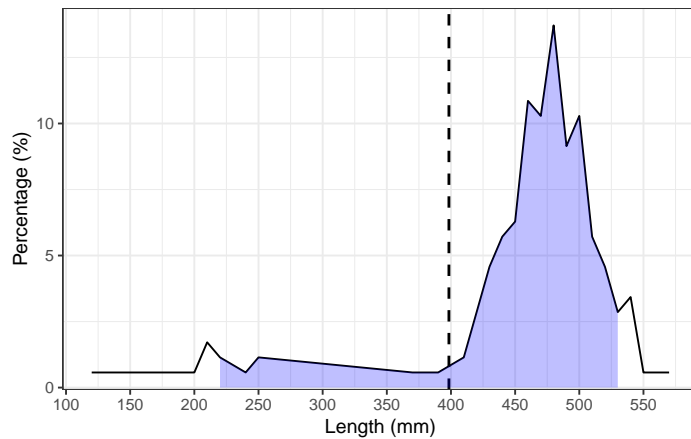95% Interval: **21 cm** to **54 cm**

Figure 67: RACE database lengths for PINK SALMON lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **4,764**

Minimum: **18 cm** | Maximum: **64 cm**
Rolling Min: **18 cm** | Rolling Max: **64 cm**
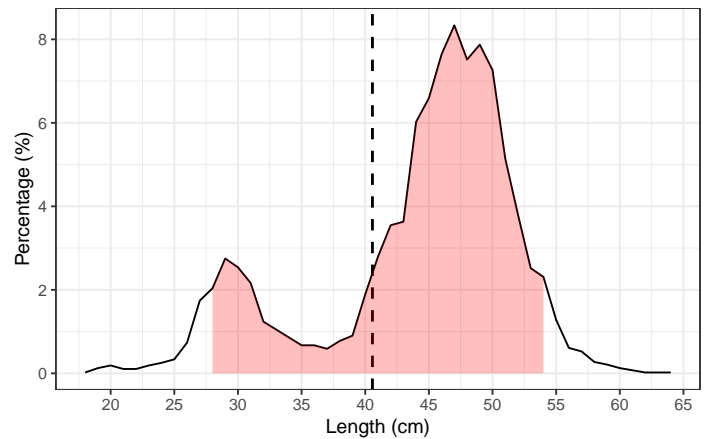95% Interval: **27 cm** to **55 cm**

Figure 68: FMA database lengths for PINK SALMON as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: PACIFIC OCEAN PERCH

RACE DATA

Number of Records since 2005: **423,231**

Minimum: **7 cm** | Maximum: **50 cm**
Rolling Min: **9 cm** | Rolling Max: **50 cm**
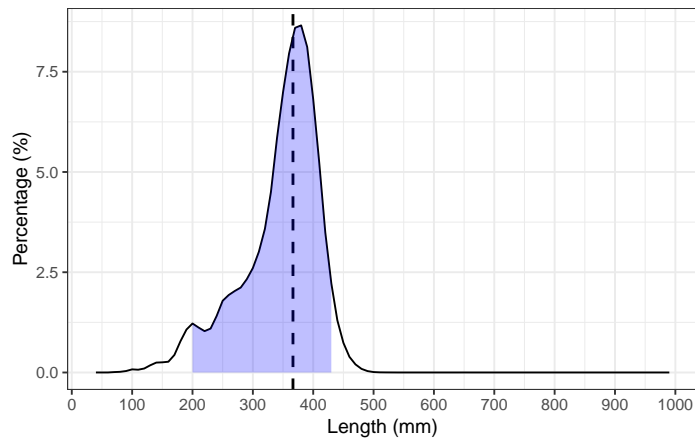95% Interval: **19 cm** to **44 cm**

Figure 69: RACE database lengths for PACIFIC OCEAN PERCH lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **3,891**

Minimum: **13 cm** | Maximum: **51 cm**
Rolling Min: **13 cm** | Rolling Max: **51 cm**
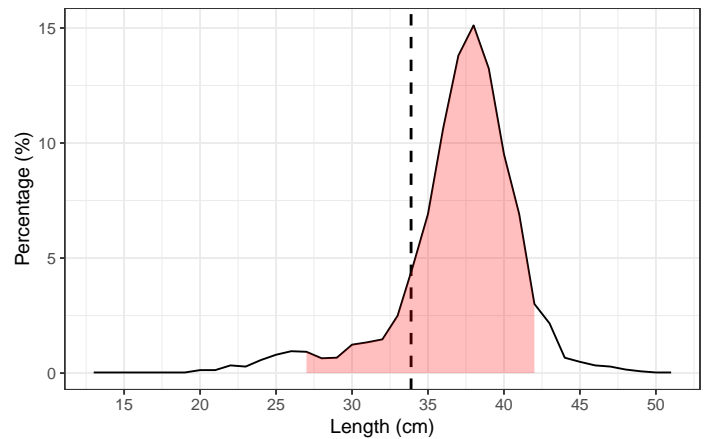95% Interval: **26 cm** to **43 cm**

Figure 70: FMA database lengths for PACIFIC OCEAN PERCH as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: **NORTHERN ROCKFISH**

RACE DATA

Number of Records since 2005: **114,132**

Minimum: **12 cm** | Maximum: **49 cm**
Rolling Min: **14 cm** | Rolling Max: **49 cm**
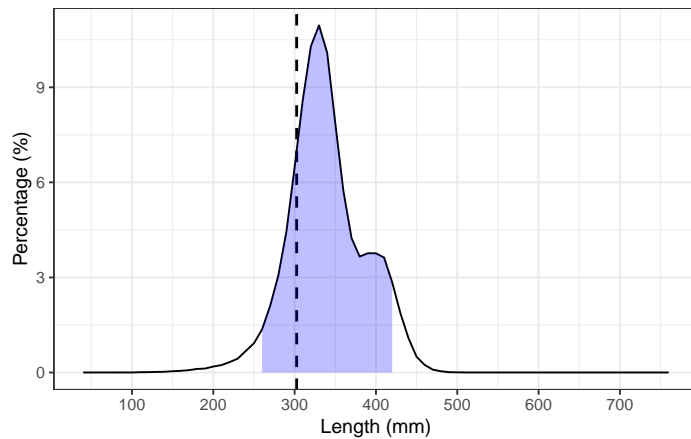95% Interval: **25 cm** to **43 cm**

Figure 71: RACE database lengths for NORTHERN ROCKFISH lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **1,658**

Minimum: **24 cm** | Maximum: **50 cm**
Rolling Min: **24 cm** | Rolling Max: **50 cm**
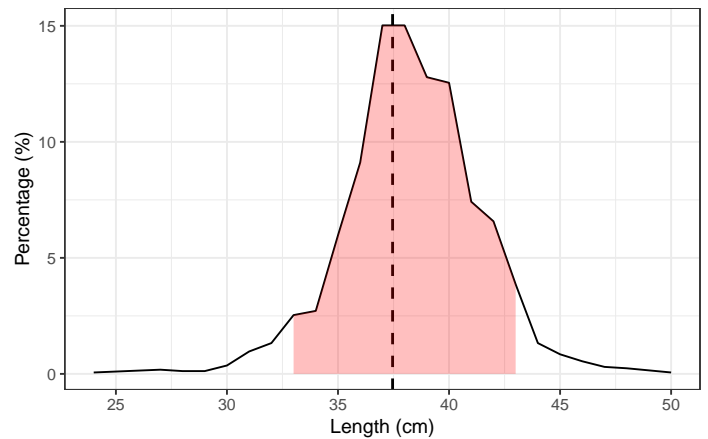95% Interval: **32 cm** to **44 cm**

Figure 72: FMA database lengths for NORTHERN ROCKFISH as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: ROUGHEYE ROCKFISH

RACE DATA

Number of Records since 2005: **13,774**

Minimum: **8 cm** | Maximum: **76 cm**
Rolling Min: **9 cm** | Rolling Max: **72 cm**
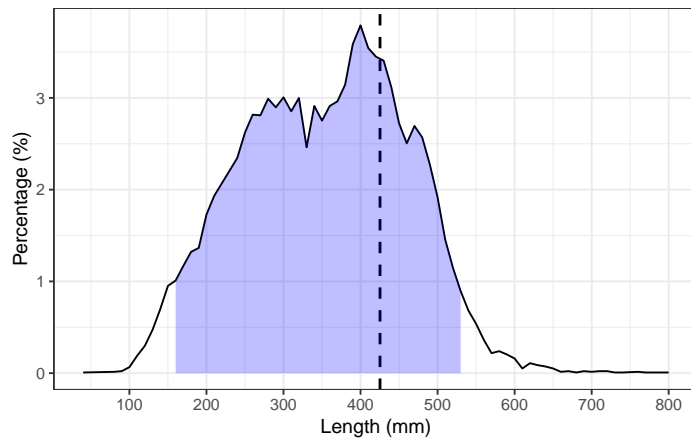95% Interval: **15 cm** to **54 cm**

Figure 73: RACE database lengths for ROUGHEYE ROCKFISH lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **1,566**

Minimum: **24 cm** | Maximum: **92 cm**
Rolling Min: **24 cm** | Rolling Max: **92 cm**
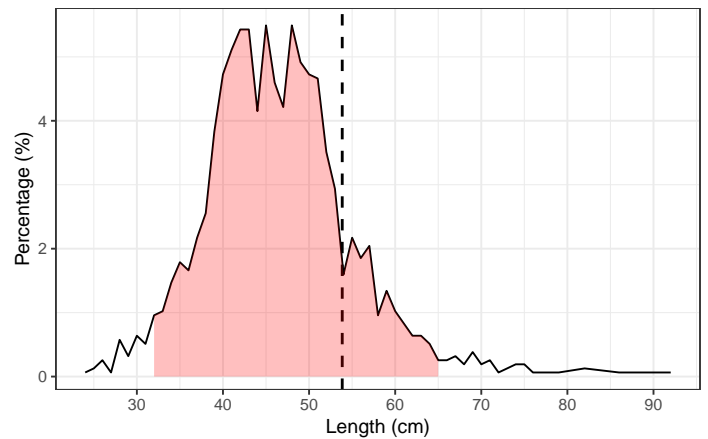95% Interval: **31.125 cm** to **66 cm**

Figure 74: FMA database lengths for ROUGHEYE ROCKFISH as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: SHORTRAKER ROCKFISH

RACE DATA

Number of Records since 2005: **15,153**

Minimum: **10 cm** | Maximum: **101 cm**
Rolling Min: **11 cm** | Rolling Max: **99 cm**
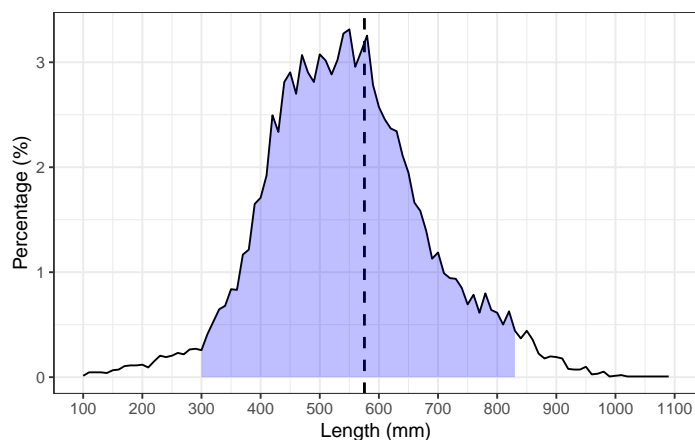95% Interval: **29 cm** to **84 cm**

Figure 75: RACE database lengths for SHORTRAKER ROCKFISH lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **3,082**

Minimum: **23 cm** | Maximum: **112 cm**
Rolling Min: **23 cm** | Rolling Max: **112 cm**
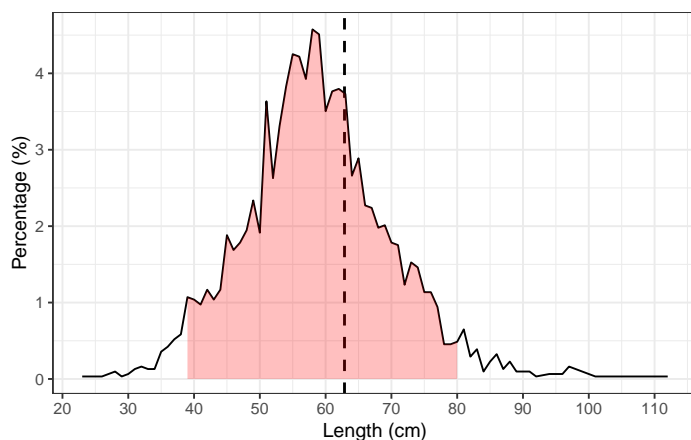95% Interval: **38 cm** to **81 cm**

Figure 76: FMA database lengths for SHORTRAKER ROCKFISH as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: DUSKY ROCKFISH

RACE DATA

Number of Records since 2005: **20,779**

Minimum: **15 cm** | Maximum: **56 cm**
Rolling Min: **15 cm** | Rolling Max: **56 cm**
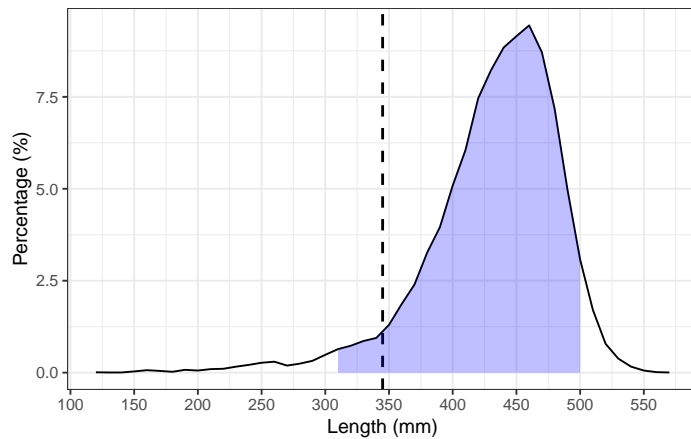95% Interval: **30 cm** to **51 cm**

Figure 77: RACE database lengths for DUSKY ROCKFISH lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **1,245**

Minimum: **30 cm** | Maximum: **64 cm**
Rolling Min: **30 cm** | Rolling Max: **64 cm**
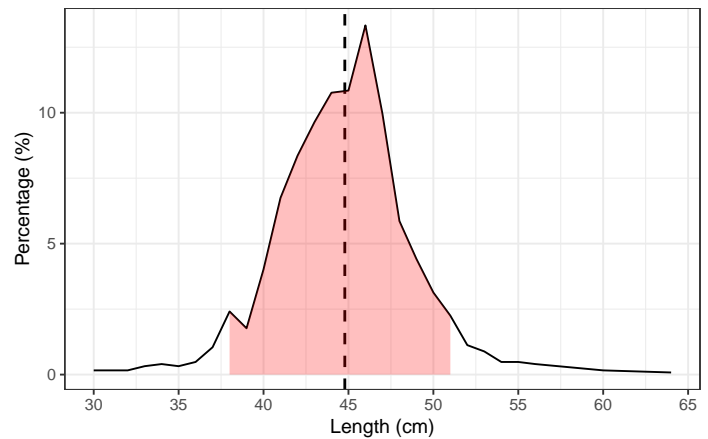95% Interval: **37 cm** to **52 cm**

Figure 78: FMA database lengths for DUSKY ROCKFISH as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: DARK ROCKFISH

RACE DATA

Number of Records since 2005: **1,779**

Minimum: **21 cm** | Maximum: **53 cm**
Rolling Min: **21 cm** | Rolling Max: **53 cm**
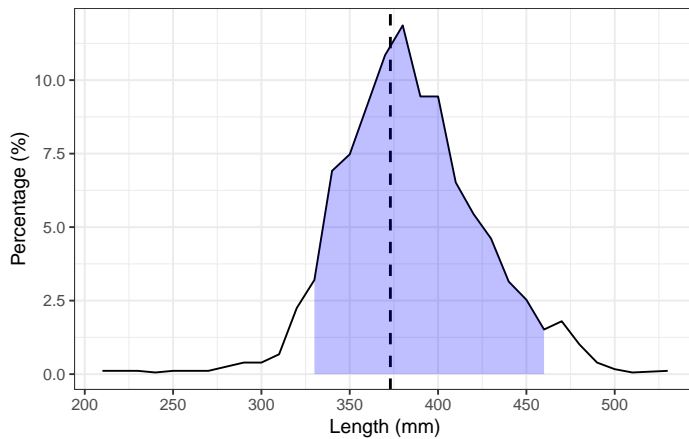95% Interval: **32 cm** to **47 cm**

Figure 79: RACE database lengths for DARK ROCKFISH lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **32**

Minimum: **32 cm** | Maximum: **51 cm**
Rolling Min: **32 cm** | Rolling Max: **51 cm**
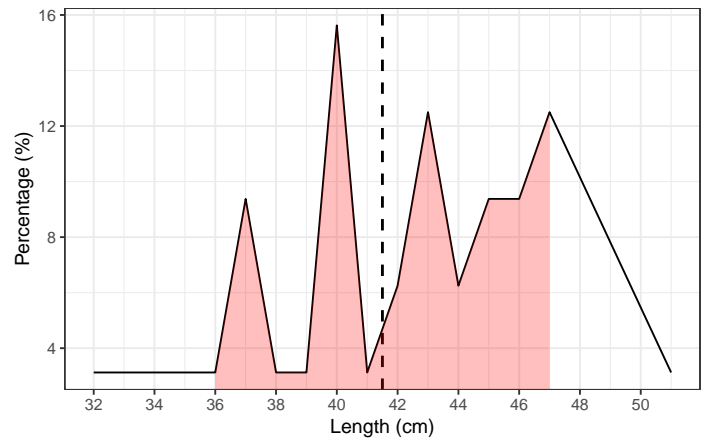95% Interval: **35.1 cm** to **47.9 cm**

Figure 80: FMA database lengths for DARK ROCKFISH as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: SHORTSPINE THORNYHEAD

RACE DATA

Number of Records since 2005: **174,387**

Minimum: **7 cm** | Maximum: **66 cm**
Rolling Min: **8 cm** | Rolling Max: **64 cm**
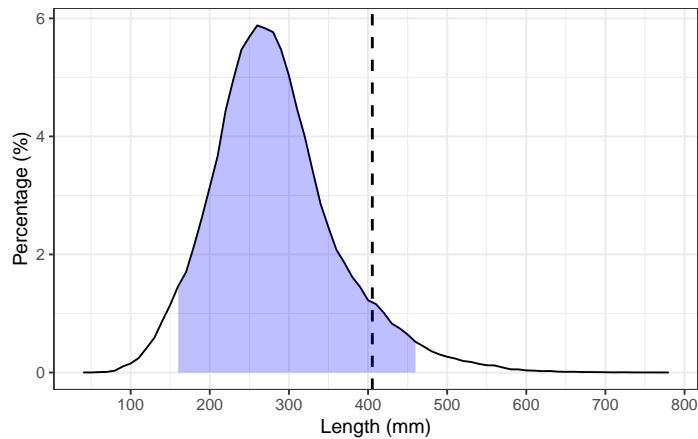95% Interval: **15 cm** to **47 cm**

Figure 81: RACE database lengths for SHORTSPINE THORNY-HEAD lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **5,574**

Minimum: **12 cm** | Maximum: **84 cm**
Rolling Min: **12 cm** | Rolling Max: **84 cm**
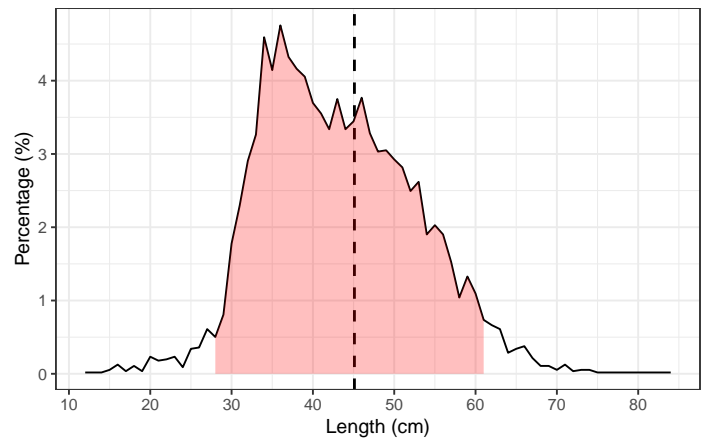95% Interval: **27 cm** to **62 cm**

Figure 82: FMA database lengths for SHORTSPINE THORNY-HEAD as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

Species: LONGSPINE THORNYHEAD ROCKFISH

RACE DATA

Number of Records since 2005: **5,591**

Minimum: **6 cm** | Maximum: **61 cm**
Rolling Min: **6 cm** | Rolling Max: **61 cm**
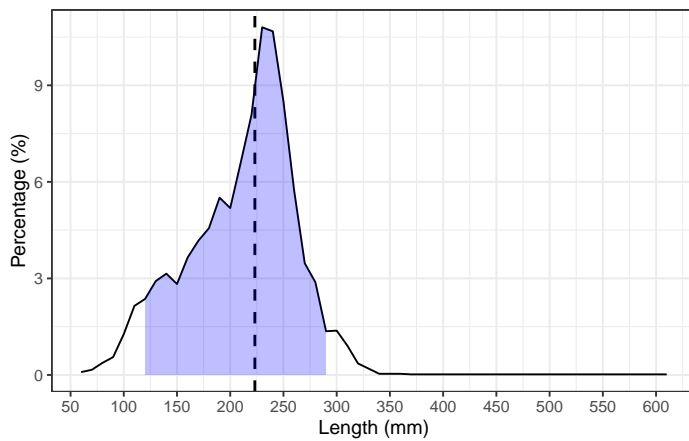95% Interval: **11 cm** to **30 cm**

Figure 83: RACE database lengths for LONGSPINE THORNY-HEAD ROCKFISH lengths as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.

FMA DATA

Number of Records: **15**

Minimum: **29 cm** | Maximum: **43 cm**
Rolling Min: **29 cm** | Rolling Max: **43 cm**
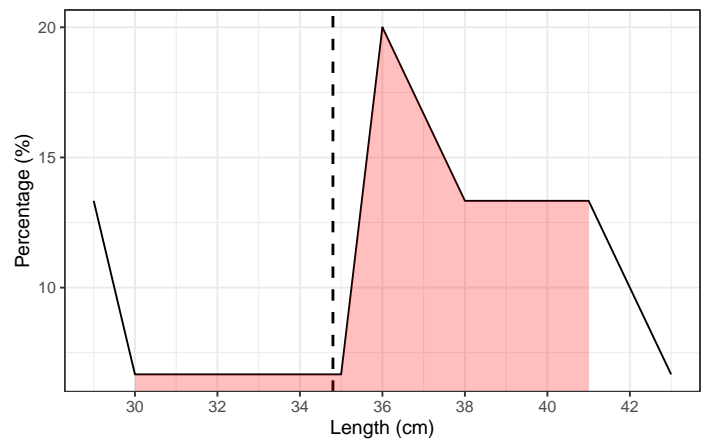95% Interval: **29 cm** to **42.3 cm**

Figure 84: FMA database lengths for LONGSPINE THORNY-HEAD ROCKFISH as a percentage of recorded individuals. The shaded area is within the 95th percent confidence interval.