

Length-weight relationships adopted by the SCRS for major Billfish species: White marlin (WHM) (*Tetrapturus albidus*), Blue marlin (BUM) (*Makaira nigricans*), Sailfish (SAI) (*Istiophorus albicans*), Longbill spearfish (SPF) (*Tetrapturus pfluegeri*).

Spp.	Area	Sex	Relationship ¹	Reference	n	L range (cm)
WHM	Atl.	Male	$RWT = 1.9556 \times 10^{-5} LJFL^{2.7487}$	Prager <i>et al.</i> (1995)	1719	96.0-195.5
		Female	$RWT = 3.9045 \times 10^{-6} LJFL^{3.0694}$		3149	91.4-205.0
		Combined	$RWT = 5.2068 \times 10^{-6} LJFL^{3.0120}$		4868	91.4-205.0
BUM	Atl.	Male	$RWT = 2.4682 \times 10^{-6} LJFL^{3.2243}$	Prager <i>et al.</i> (1995)	1978	23.0-378.5
		Female	$RWT = 1.9034 \times 10^{-6} LJFL^{3.2842}$		3267	23.0-277.0
		Combined	$RWT = 1.1955 \times 10^{-6} LJFL^{3.3663}$		5245	23.0-378.5
SAI	Atl.	Male	$RWT = 1.6922 \times 10^{-6} LJFL^{3.1879}$	Prager <i>et al.</i> (1995)	907	27.1-188.0
		Female	$RWT = 1.1441 \times 10^{-6} LJFL^{3.2683}$		1280	27.1-204.5
		Combined	$RWT = 1.2869 \times 10^{-6} LJFL^{3.2439}$		2187	27.1-204.5
SPF	Atl.	Combined	$RWT = 2.7 \times 10^{-5} LJFL^{2.6}$	Witzell (1989)	34	85-195

¹ Weights in Kg and lengths are in cm.

DWT = Dressed Weight (gilled, gutted, part of head off, fins off)

GWT = Gilled and Gutted

RWT = Round Weight (all catch statistics are maintained in RWT units)

FL = Fork length

EYFL = Eye fork length

LJFL = Lower jaw fork length

References

Prager, M. H., Prince, E. D. and Lee, D. W. 1995. Empirical length and weight conversion equations for blue marlin, white marlin, and sailfish from the North Atlantic Ocean. *Bulletin of Marine Science*, 56: 201-210.

Witzell, W. N. 1989. Longbill spearfish, *Tetrapturus pfluegeri*, incidentally caught by recreational billfishermen in the western North Atlantic Ocean, 1974-86. *Fishery Bulletin*, 87: 982-984.

Length and weight conversion factors adopted by the SCRS for major billfish species

Spp.	Area	Sex	Relationship ¹	Reference	n	L range (cm)
WHM	Atl.	Female	$LJFL = 5.923 + TL \times 0.731$	Prager <i>et al.</i> (1995)	51	190-245
		Male	$LJFL = 18.664 + TL \times 0.667$		65	130-235
		Combined	$LJFL = -0.720 + TL \times -0.760$		127	130-280
		Female	$LJFL = 96.462 + PAL \times 1.231$		105	40-66
		Male	$LJFL = 103.501 + PAL \times 1.100$		123	40-85
		Combined	$LJFL = 108.00 + PAL \times 1.000$		272	35-85
		Female	$LJFL = 9.400 + PFL \times 1.280$		188	92-145
		Male	$LJFL = 26.000 + PFL \times 1.133$		172	80-180
		Combined	$LJFL = 13.572 + PFL \times 1.242$		424	80-180
		Female	$LJFL = 48.834 + PDL \times 1.278$		127	72-115
		Male	$LJFL = 53.316 + PDL \times 1.211$		121	68-110
		Combined	$LJFL = 39.250 + PDL \times 1.375$		294	65-115
		Female	$LJFL = 14.743 + EOFL \times 1.061$		65	128-165
		Male	$LJFL = 9.581 + EOFL \times 1.097$		30	115-160
		Combined	$LJFL = 15.444 + EOFL \times 1.056$		102	115-165
		Female	$LJFL = 29.184 + DFL \times 1.053$		75	115-150
		Male	$LJFL = 14.539 + DFL \times 1.154$		47	105-150
		Combined	$LJFL = 13.834 + DFL \times 1.167$	129	105-150	
		Combined	$DWT = 1.20 \times RWT$	ICCAT Manual 1990	-	-

BUM	Atl.	Female	$LJFL = -3.563 + TL \times 0.784$	Prager et al. (1995)	69	250-490
		Male	$LJFL = 19.182 + TL \times 0.691$		153	200-330
		Combined	$LJFL = 2.000 + TL \times -0.763$		258	30-500
		Female	$LJFL = 19.464 + PAL \times 2.707$		123	34-120
		Male	$LJFL = 93.600 + PAL \times 1.600$		249	35-90
		Combined	$LJFL = 61.656 + PAL \times 2.156$		453	30-120
		Female	$LJFL = 9.725 + PFL \times 1.252$		243	80-270
		Male	$LJFL = 14.651 + PFL \times 1.209$		387	100-220
		Combined	$LJFL = 7.696 + PFL \times 1.261$		732	65-280
		Female	$LJFL = 17.419 + PDL \times 1.726$		140	85-190
		Male	$LJFL = 36.500 + PDL \times 1.500$		276	66-150
		Combined	$LJFL = 9.836 + PDL \times 1.772$		482	60-190
		Female	$LJFL = 10.000 + EOFL \times 1.091$		113	130-300
		Male	$LJFL = 9.095 + EOFL \times 1.095$		104	135-210
		Combined	$LJFL = 8.887 + EOFL \times 1.096$		250	120-300
		Female	$LJFL = 10.254 + DFL \times 1.198$		115	125-280
		Male	$LJFL = 4.302 + DFL \times 1.231$		125	115-200
		Combined	$LJFL = 7.152 + DFL \times 1.212$		271	100-280
		Combined	$DWT = 1.20 \times RWT$		ICCAT Manual 1990	-

SAI	Atl.	Female	$LJFL = 32.188 + TL \times 0.623$	Prager et al. (1995)	83	120-260
		Male	$LJFL = 21.961 + TL \times 0.657$		52	110-245
		Combined	$LJFL = 18.171 + TL \times -0.686$		142	40-270
		Female	$LJFL = 120.170 + PAL \times 0.798$		652	30-90
		Male	$LJFL = 111.175 + PAL \times 0.907$		455	35-80
		Combined	$LJFL = 107.196 + PAL \times 0.999$		1553	30-100
		Female	$LJFL = 36.766 + PFL \times 1.025$		728	75-175
		Male	$LJFL = 34.211 + PFL \times 1.043$		484	90-150
		Combined	$LJFL = 29.441 + PFL \times 1.083$		1810	75-180
		Female	$LJFL = 44.570 + PDL \times 1.268$		113	55-120
		Male	$LJFL = 19.074 + PDL \times 1.526$		42	75-110
		Combined	$LJFL = 38.322 + PDL \times 1.332$		330	55-120
		Female	$LJFL = 18.235 + EOFL \times 1.015$		58	85-175
		Male	$LJFL = 21.707 + EOFL \times 0.987$		27	105-155
		Combined	$LJFL = 11.240 + EOFL \times 1.076$		251	85-175
		Female	$LJFL = 39.104 + DFL \times 0.951$		59	75-165
		Male	$LJFL = 1.555 + DFL \times 1.221$		21	110-145
		Combined	$LJFL = 38.438 + DFL \times 0.958$		252	75-165
		Combined	$DWT = 1.20 \times RWT$		ICCAT Manual 1990	-

1 Length measurement types:

TL: Total length;

PAL: Pectoral-anus length;

PFL: Pectoral-fork length;

PDL: Pectoral-second dorsal length;

EOFL: Eye orbit-fork length;

DFL: Dorsal-fork length;

DWT: Dressed weight.

References

Prager, M. H., Prince, E. D. and Lee, D. W. 1995. Empirical length and weight conversion equations for blue marlin, white marlin, and sailfish from the North Atlantic Ocean. *Bulletin of Marine Science*, 56: 201-210.

Conversion factors for fish products adopted by the SCRS for major Billfish species

Spp.	Area/Source	Factor ¹	Reference
WHM	Any	$RWT = 1.20 \times DWT$?
BUM	Any	$RWT = 1.20 \times DWT$?
SAI	Any	$RWT = 1.20 \times DWT$?

¹ Product types:

BM = Belly Meat

DWT = Dressed Weight (gilled, gutted, part of head off, fins off)

FIL = Fillet Weight

GWT = Gilled and Gutted

RWT = Round Weight (all catch statistics are maintained in RWT units)

OT = Other