

Table 1: Descriptions and values of parameters used in a simulation study to evaluate the performance of alternative methods for estimating maternity parameters

Symbol	Description	School shark	Gummy shark
$L_\infty$	Asymptotic length (mm)	1618.3	2019
$K$	Growth coefficient ( $\text{yr}^{-1}$ )	0.16	0.086
$t_0$	Age at length 0 (yrs)	-1.2818	-3.01
$CV_L$	CV length at age	0.075	0.075
$A_{Max}$	Maximum age	54	16
$L_{50}$	50 % maturity (mm)	1349	1253
$L_{95}$	95 % maturity (mm)	1502	1472
$L'_{50}$	50 % maternity (mm)	1421	1263
$L'_{95}$	95 % maternity (mm)	1488	1405
$\alpha$	Intercept (litter size)	-46	0.2804
$\beta$	Slope (litter size)	0.0491	0.00286
$R$	Sex ratio (M:F)	1	1
$\theta_1$	Selectivity parameter 1	192	184.3
$\theta_2$	Selectivity parameter 2	67595	29739
Mesh (low)	Gillnet mesh size (in)	7.05	6.08
Mesh (high)	Gillnet mesh size (in)	7.75	7.62

Table 2: Parameter estimates and model selection criteria for three parameter logistic functions fit to empirical data for western North Atlantic sandbar sharks

Method	$P_{\text{Max}}$	$L_{50}^{\wedge}(\text{cm})$	$L_{95}^{\wedge}(\text{cm})$	AIC	$\Delta_i$	$w_i$
3PLF - fixed	0.5*	161 (159 - 163)	176 (171 - 181)	833.91	0.00	71.63
3PLF - estimated	0.48 (0.392 - 0.611)	160 (157 - 164)	174 (167 - 183)	835.77	1.86	28.31
3PLF - fixed	0.333*	156 (155 - 158)	167 (163 - 171)	848.06	14.15	0.06