

Parameter	Symbol	Min.	KNOT	S1	Control	Shigemitsu et al. (2012)	Max.	Unit	Sources of min. and max. range
PS potential maximum growth rate at 0°C	$V_0, PS$	0.1	2.7	0.7	0.6	0.6	3.2	$\text{day}^{-1}$	Shigemitsu et al. (2012)
PS potential maximum affinity for $\text{NO}_3$	$A_0, \text{NO}_3, PS$	1	454	436	30	282	512	$\text{L mol N}^{-1} \text{s}^{-1}$	Shigemitsu et al. (2012)
PS half saturation constant for $\text{NO}_3$	$K_{\text{NO}_3}, PS$	0.5	1.871	2.9194	1	1	3	$\mu\text{mol NL}^{-1}$	Chai et al. (2002), Eslinger et al. (2000)
PS half saturation constant for $\text{NH}_4$	$K_{\text{NH}_4}, PS$	0.05	0.1225	0.2582	0.1	0.1	1	$\mu\text{mol NL}^{-1}$	Chai et al. (2002), Eslinger et al. (2000)
PS half saturation constant for FeD	$K_{\text{Fed}}, PS$	0.035	0.1	0.0602	0.04	0.05	0.1	$\text{nmol L}^{-1}$	Kudo et al. (2006), Price et al. (1994)
PS temperature coefficient for photosynthetic rate	$k_{PS}$	0.0392	0.0693	0.065	0.0693	0.0693	0.0693	$^{\circ}\text{C}^{-1}$	Eslinger et al. (2000), Fujii et al. (2005)
PS mortality rate at 0°C	$M_{PS0}$	0.012075	0.012075	0.043212	0.0585	0.0585	0.05878	$\text{L } \mu\text{mol N}^{-1} \text{day}^{-1}$	Fujii et al. (2005), Sugimoto et al. (2010)
PL potential maximum growth rate at 0°C	$V_0, PL$	0.1	3.2	1.5	1.2	0.8	3.2	$\text{day}^{-1}$	Shigemitsu et al. (2012)
PL potential maximum affinity for $\text{NO}_3$	$A_0, \text{NO}_3, PL$	1	437	171	10	252	512	$\text{L mol N}^{-1} \text{s}^{-1}$	Shigemitsu et al. (2012)
PL half saturation constant for $\text{NO}_3$	$K_{\text{NO}_3}, PL$	0.5	3	2.9194	3	3	3	$\mu\text{mol NL}^{-1}$	Eslinger et al. (2000), Jiang et al. (2003)
PL half saturation constant for $\text{NH}_4$	$K_{\text{NH}_4}, PL$	0.5	0.5	1.3129	0.3	0.3	2.3	$\mu\text{mol NL}^{-1}$	Eslinger et al. (2000), Fujii et al. (2005)
PL half saturation constant for $\text{Si}(\text{OH})_4$	$K_{\text{SiL}}, PL$	3	6	4.2857	6	6	6	$\mu\text{mol L}^{-1}$	Yoshie et al. (2007)
PL half saturation constant for FeD	$K_{\text{Fed}}, PL$	0.05	0.05	0.0887	0.09	0.1	0.2	$\text{nmol L}^{-1}$	Coale et al. (2003)
PL temperature coefficient for photosynthetic rate	$k_{PL}$	0.0392	0.0693	0.0392	0.0693	0.0693	0.0693	$^{\circ}\text{C}^{-1}$	Eslinger et al. (2000), Fujii et al. (2005)
PL mortality rate at 0°C	$M_{PL0}$	0.029	0.036941	0.034956	0.029	0.029	0.05878	$\text{L } \mu\text{mol N}^{-1} \cdot \text{day}^{-1}$	Fujii et al. (2005), Yamanaka et al. (2004)
ZS maximum rate of grazing PS at 0°C	$G_{\text{RmaxS}}$	0.3	0.7933	0.3	0.31	0.4	4	$\text{day}^{-1}$	Yoshie et al. (2007), Yoshikawa et al. (2005)
ZS threshold value for grazing PS	$PS_{ZS*}$	0.04	0.364	0.364	0.043	0.043	0.364	$\mu\text{mol NL}^{-1}$	Eslinger et al. (2000), Sugimoto et al. (2010)
ZL maximum rate of grazing PS at 0°C	$G_{\text{RmaxL}}, PS$	0.05	0.05	0.05	0.1	0.1	0.541	$\text{day}^{-1}$	Eslinger et al. (2000), Fujii et al. (2005)
ZL maximum rate of grazing PL at 0°C	$G_{\text{RmaxL}}, PL$	0.135	0.251	0.135	0.49	0.4	0.541	$\text{day}^{-1}$	Fujii et al. (2005)
ZL threshold value for grazing PS	$PS_{ZL*}$	0.01433	0.043	0.043	0.04	0.04	0.043	$\mu\text{mol NL}^{-1}$	Eslinger et al. (2000), Fujii et al. (2005)
ZL threshold value for grazing PL	$PL_{ZL*}$	0.01433	0.043	0.018426	0.04	0.04	0.043	$\mu\text{mol NL}^{-1}$	Eslinger et al. (2000), Fujii et al. (2005)
ZP maximum rate of grazing PL at 0°C	$G_{\text{RmaxP}}, PL$	0.1	0.4	0.1429	0.2	0.2	0.4	$\text{day}^{-1}$	Eslinger et al. (2000)
ZP threshold value for grazing PL	$PL_{ZP*}$	0.01433	0.043	0.018426	0.04	0.04	0.043	$\mu\text{mol NL}^{-1}$	Eslinger et al. (2000), Fujii et al. (2005)