Supplemental Appendix 1: Conversions and Power-Law Relationships

Supplemental Table 1. Conversions between different measures of size

	To length l or ESD d (cm) from: (d)			To carbon weight, w (g_C) from:		
	Dry weight (g_{DW})	Carbon (g_C)	Wet weight (g_{WW})	Dry weight (g_{DW})	Length or ESD (cm)	Wet weight (g_{WW})
Vertebrates and Cephalopod (c)	$5.9w^{1/3}$	$7.9w^{1/3}$	$4.6w^{1/3}$	0.41 (b)	$0.0019\ l^3$ (c)	0.20 (b)
Crustaceans (copepods)(a)	$18w^{0.37}$	$26w^{0.37}$	$11w^{0.37}$	0.48	$1.4 \times 10^{-4} l^{2.74}$	0.10
Invertebrates (ex. gelatinous forms)				0.44		0.096
Prototists		$1.5w^{1/3}$	$0.36w^{1/3}$		$0.3\ d^3$ (e)	0.15 (a)

(a) l refer to promosome length (Chisholm, L.A. & Roff, J.C. 1990. *Mar. Biol.*, 106, 71–77)
(b) Average of data from Crabtree (1995, Bulletin of Marine Science 56(2) 434-449) and Durbin & Durbin (1983, *Fishery Bulletin* 81.2, 177-199).
(c) Assuming a relationship between wet weight and length $w = al^3$ with $a = 0.01$ g cm^{-3}.
(d) Conversion between linear length l and equivalent spherical diameter d may be performed by assuming that the organism is an ellipsoid with aspect ratio (ratio between major and minor axis) a and major axis d: $l = a^{-2/3}d$.
(e) Assuming a spherical cell without vacuoles