

S5 Table. Changes in seawater carbon concentrations after incubation with 23 species of macroalgae and 1 species of surfgrass. Δ DIC is deviation of Dissolved Inorganic Carbon concentration from expected DIC depletion under control Total Alkalinity conditions. ΔHCO_3^{2-} and ΔCO_2 are carbon gained due to TA-induced pH shifts driven by macroalgae. N indicates number of individuals per species. p value is for a two-tailed t test for changes in carbon concentrations. † indicates articulated calcifying species. ‡ indicates crust-forming calcifying species. Bolding indicates p value less than 0.050.

Division	Taxa	N	Δ DIC (SEM)	p Δ DIC	Δ HCO_3^{2-} (SEM)	p ΔHCO_3^{2-}	Δ CO_2 (SEM)	p ΔCO_2
			$\mu\text{mol/kgSW}$		$\mu\text{mol/kgSW}$		$\mu\text{mol/kgSW}$	
Chlorophyta	<i>Acrosiphonia coalita</i>	4	-458.46 (65.54)	<0.001	79.99 (11.53)	0.040	0.02 (4.2x10 ⁻³)	0.154
	<i>Codium setchellii</i>	6	-1.06 (17.29)	0.284	-22.28 (6.21)	0.203	-0.34 (0.08)	0.157
	<i>Ulva intestinalis</i>	5	-462.32 (25.05)	<0.001	148.32 (60.11)	0.332	0.17 (0.08)	0.367
	<i>Ulva lactuta</i>	4	-393.06 (54.99)	0.007	97.01 (16.73)	0.065	0.02 (0.01)	0.190
	<i>Urospora sp.</i>	3	-523.74 (37.96)	0.007	31.28 (3.42)	0.034	2.9x10 ⁻³ (4.5x10 ⁻⁴)	0.066
Phaeophyta	<i>Alaria marginata</i>	5	-45.67 (18.24)	0.012	76.01 (9.04)	0.020	0.09 (0.01)	0.021
	<i>Fucus gardneri</i>	4	-238.41 (132.44)	0.170	84.32 (45.52)	0.423	0.01 (0.02)	0.893
	<i>Saccharina groenlandica</i>	6	-0.85 (12.35)	0.106	26.19 (5.39)	0.104	0.07 (0.01)	0.091
Rhodophyta	<i>Callithamnion pikeanum</i>	3	-5.26 (99.82)	0.864	-12.14 (46.57)	0.894	-2.54 (1.37)	0.400
	<i>Corallina frondescens</i> †	5	-711.21 (31.57)	<0.001	152.71 (7.62)	<0.001	0.06 (0.01)	0.010
	<i>Corallina vancouveriensis</i> †	6	-710.97 (27.99)	<0.001	357.59 (7.59)	<0.001	0.33 (0.02)	0.002
	<i>Cryptopleura ruprechtiana</i>	3	-250.67 (35.25)	0.022	187.37 (15.40)	0.020	4.73 (0.28)	0.011
	<i>Dilsea pygmaea</i>	2	-105.27 (138.03)	0.671	83.18 (102.84)	0.669	0.06 (0.10)	0.766
	<i>Endocladia muricata</i>	6	-67.37 (9.97)	0.008	49.41 (4.36)	0.006	0.10 (0.01)	0.006
	<i>Halosaccion glandiformis</i>	6	-129.96 (20.95)	0.001	14.29 (0.85)	<0.001	1.0x10 ⁻³ (7.2x10 ⁻⁵)	0.002
	<i>Hymenena multiloba</i>	4	-161.70 (36.20)	0.026	143.43 (16.34)	0.022	1.04 (0.12)	0.023
	<i>Lithothamnion phymatodeum</i> ‡	4	-155.43 (25.19)	0.005	134.24 (11.29)	0.009	1.41 (0.11)	0.007
	<i>Mastocarpus alaskensis</i>	4	-63.42 (63.67)	0.377	15.60 (25.07)	0.776	-0.02 (0.02)	0.680
	<i>Neorhodomela larix</i>	4	97.13 (64.44)	0.232	-122.07 (40.48)	0.229	-0.18 (0.07)	0.281
	<i>Odonthalia floccosa</i>	6	-114.65 (41.39)	0.019	144.05 (17.53)	0.020	0.13 (0.02)	0.038
	<i>Porphyra sp.</i>	4	149.00 (27.61)	0.017	-181.85 (17.45)	0.014	-0.17 (0.02)	0.038
	<i>Pseudolithophyllum whidbeyense</i> ‡	5	-122.87 (20.99)	0.006	92.92 (7.50)	0.005	2.94 (0.19)	0.002
	<i>Weeksia coccinea</i>	6	46.57 (28.48)	0.162	-44.14 (10.42)	0.145	-0.61 (0.20)	0.275
Viridiplante	<i>Phyllospadix scouleri</i>	6	-756.59 (72.36)	<0.001	151.92 (4.60)	<0.001	0.07 (4.8x10 ⁻³)	0.002