Table S1. Results of preliminary analysis showing no relationship between initial length of transplanted macroscopic juvenile *Ecklonia radiata* sporophytes and their growth rates after 90 days.

Season	F-*value*	*p-value*
autumn	$F_{(1,54)} = 1.942$	0.169
winter	$F_{(1,65)} = 0.257$	0.614
spring	$F_{(1,56)} = 0.509$	0.479

Table S2. Regression of survivorship and growth of transplanted macroscopic juvenile *Ecklonia radiata* against patch size. Assessments were taken at 42 and 90 days after transplanting for each season, and data also pooled to produce total annual survivorship. Response variable and associated transformation is noted in the first and second columns, respectively. The factor, patch size, was $\log_3$-transformed to best meet test assumptions. During summer 2016, juvenile sporophytes were only installed for ~42 days. Significant relationships denoted in bold and with an asterisk.

data	*no. of days*	F *(df)*	*p*
SURVIVORSHIP OF TRANSPLANTED JUVENILE SPOROPHYTES			
pooled annually	42 $(Y)^{5.5}$	$F_{(1,8)} = 1.191$	0.307
	90 $(Y)^{-1.25}$	$F_{(1,8)} = 1.950$	0.200
autumn 2015	42 $(Y)^{1.4}$	$F_{(1,8)} = 0.534$	0.485
	90 (Y)	$F_{(1,8)} = 0.164$	0.696
winter 2015	42 $(Y)^{4.5}$	$F_{(1,8)} = 0.295$	0.602
	90 $(Y)^{0.6}$	$F_{(1,8)} = 4.384$	0.070
spring 2015	42 $(Y)^{4.0}$	$F_{(1,8)} = 0.532$	0.487
	90 (Y)	$F_{(1,8)} = 0.335$	0.579
summer 2016	42 $(Y+0.1)^{0.6}$	$F_{(1,8)} = 0.415$	0.844
GROWTH OF TRANSPLANTED JUVENILE SPOROPHYTES			
autumn 2015	42 $(Y+0.1)^{0.3}$	$F_{(1,58)} = 4.728$	**0.034***
	90 $(Y)^{0.15}$	$F_{(1,54)} = 1.826$	0.182
winter 2015	42 $(Y)^{0.05}$	$F_{(1,84)} = 1.504$	0.224
	90 $(Y)^{0.1}$	$F_{(1,65)} = 0.007$	0.934
spring 2015	42 $(Y)^{0.25}$	$F_{(1,80)} = 7.235$	**0.009***
	90 $(Y)^{0.4}$	$F_{(1,56)} = 1.070$	0.305
summer 2016	42 $(Y)^{0.15}$	$F_{(1,45)} = 0.017$	0.896

Table S3. Output from linear regressions examining how above-canopy abiotic conditions vary with patch size within seasons. Response variable and associated transformation is noted in the first column. The factor, patch size, was $\log_3$-transformed to best meet test assumptions. Significant relationships denoted in bold and with an asterisk

Data analysed	F *(df)*	*p*
WATER FLOW		
autumn $(Y)^{-1.60}$	$F_{(1,8)} = 0.002$	0.962
winter $(Y)^{-3.50}$	$F_{(1,8)} = 0.005$	0.945
spring $(Y)^{1.50}$	$F_{(1,8)} < 0.001$	0.984
summer $(Y)^{6.00}$	$F_{(1,8)} = 1.947$	0.200
IRRADIANCE		
autumn $(Y)^{0.15}$	$F_{(1,38)} = 75.25$	**<0.001***
winter $(Y)^{-1.00}$	$F_{(1,38)} = 37.34$	**<0.001***
spring $(Y)^{-1.00}$	$F_{(1,38)} = 0.071$	0.791
SEDIMENT DEPOSITION		
autumn $(Y)^{-0.40}$	$F_{(1,8)} = 0.053$	0.823
winter $(Y)^{0.50}$	$F_{(1,8)} = 0.673$	0.436
spring $(Y)^{0.40}$	$F_{(1,8)} = 0.017$	0.901
summer $(Y)^{-0.50}$	$F_{(1,8)} = 0.501$	0.499