

The following supplements accompany the article

Invasion-mediated shifts in the macrobenthic assemblage of a rocky subtidal ecosystem

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Supplement 1. Conversion factors used to obtain estimates of dry weight for algae and invertebrates.

Table S1. Wet weight to dry weight conversions for canopy macroalgae

Species	Dry weight : wet weight	Reference
<i>Saccharina longicuris</i>	0.214	Mann (1972)
<i>Laminaria digitata</i>	0.244	Mann (1972)
<i>Codium fragile</i>	0.063	Scheibling & Anthony (2001)
<i>Fucus</i> spp.	0.218	Voskoboinikov et al. (2006)
<i>Desmarestia</i> spp.	0.171	Present study

Table S2. Linear regression of dry weight on body size for common invertebrate species at Little Duck Island. Regression equations are in the form: $\ln D = a(*\ln X) + b$, where D = dry weight (mg), X = size (mm), and a and b are regression coefficients ($p < 0.001$ for all regressions). Size was measured as: shell length of chitons, snails and bivalves; carapace length of hermit crabs; carapace width of brachyuran crabs; body length of polychaete worms; radius of sea stars; test diameter of sea urchins; and disc diameter of brittle stars

	a	b	r^2	n
Arthropoda				
<i>Cancer irroratus</i>	2.625	-1.341	0.9062	10
<i>Pagurus acadiensis</i>	2.907	-0.917	0.9784	14
Echinodermata				
<i>Strongylocentrotus droebachiensis</i>	2.833	-1.406	0.9975	110
<i>Asterias</i> spp.	2.1055	-0.387	0.9411	109
<i>Henricia sanguinolenta</i>	1.978	-0.607	0.9549	69
<i>Amphipholis squamata</i>	2.104	-0.538	0.8268	24
<i>Ophiopholis aculeata</i>	2.515	0.1907	0.9014	120
<i>Ophiura</i> spp.	2.149	-0.123	0.8179	32
Mollusca				
<i>Anomia</i> spp.	3.019	-2.579	0.9529	10
<i>Crenella glandula</i>	3.082	-1.787	0.9837	14
<i>Hiatella arctica</i>	2.812	-2.19	0.9470	32
<i>Modiolus modiolus</i>	3.030	-2.804	0.9938	95
<i>Musculus</i> spp.	2.956	-2.639	0.9867	31
<i>Mytilus edulis</i>	3.199	-3.507	0.9796	24
<i>Buccinum undatum</i>	3.331	-3.514	0.9956	23
<i>Testudinalia testudinalis</i>	2.596	-2.392	0.8815	15
<i>Ischnochiton albus</i>	2.969	-3.247	0.9569	20
<i>Ischnochiton ruber</i>	2.880	-2.851	0.9694	84
Annelida				
Polynoidae	2.872	-5.747	0.8029	34

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- Scheibling RE, Anthony SX (2001) Feeding, growth and reproduction of sea urchins (*Strongylocentrotus droebachiensis*) on single and mixed diets of kelp (*Laminaria* spp.) and the invasive alga *Codium fragile* spp. *tometosoides*. *Mar Biol* 139:139–146
- Voskoboinikov GM, Makarov MV, Ryzhik IV (2006) Changes in the composition of photosynthetic pigments and cellular structure of the brown algae *Fucus vesiculosus* L. and *F. serratus* L. from the Barents Sea during a prolonged period of darkness. *Russ J Mar Biol* 32:20–27

Supplement 2. Biomass and density of invertebrates in transects at Little Duck Island from 1992 to 2008

Table S3. Mean biomass (g m^{-2}) of invertebrates in transects at 6 and 8 m depth at Little Duck Island from 1992 to 2008 and also at 4 m from 1999 to 2008. Standard deviation is given below each mean in *italics*

	Year	1992		1993		1994		1995		1997		1998		1999		2000		2002		2008			
		Depth (m)	6	8	6	8	6	8	6	8	6	8	6	8	4	8	4	6	8	4	6	8	6
<u>Arthropoda</u>																							
<i>Caprella</i> spp.		0	0	0.004	0	0.002	0	0.001	0.0002	0.0002	0.004	0	0	0	0	0.01	0.02	0.02	0.001	0.01	0.01	0.1	0.1
		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
<i>Gammarus</i> spp.		0.4	0.2	1.2	0.003	2.0	0.1	2.1	0.02	0.3	0.3	0.7	0.1	1.3	0.5	6.5	6.5	6.5	3.8	2.9	4.1	4.2	2.1
		<i>1.7</i>	<i>3.9</i>	<i>3.0</i>	<i>2.298</i>	<i>0.5</i>	<i>1.6</i>	<i>1.0</i>	<i>1.21</i>	<i>0.2</i>	<i>0.3</i>	<i>4.5</i>	<i>1.8</i>	<i>0.4</i>	<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.4</i>	<i>0.1</i>	<i>0.3</i>	<i>1.7</i>	<i>4.3</i>	<i>1.3</i>
<i>Idotea</i> spp.		0.6	0	1.3	0.03	0.7	0	0.7	0	1.5	0.1	0.8	0.1	0.6	0.1	1.6	1.5	1.5	2.0	0.7	1.4	13.9	3.5
		<i>1.0</i>	<i>1.5</i>	<i>2.8</i>	<i>6.9</i>	<i>0.8</i>	<i>1.8</i>	<i>0.8</i>	<i>0.9</i>	<i>2.2</i>	<i>0.8</i>	<i>2.3</i>	<i>0.8</i>	<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.2</i>	<i>0.1</i>	<i>0.2</i>	<i>0.3</i>	<i>1.6</i>	<i>4.1</i>
<i>Pagurus acadensis</i>		0.4	0.6	0.5	0.1	0.1	0.1	0.6	0.1	0.5	0.2	0.1	0.7	1.1	0.1	0.2	0.1	0.1	1.1	1.2	0.04	3.9	0.5
		<i>1.7</i>	<i>0.3</i>	<i>0.7</i>	<i>2.1</i>	<i>1.0</i>	<i>0.9</i>	<i>0.2</i>	<i>1.0</i>	<i>1.2</i>	<i>0.1</i>	<i>0.2</i>	<i>1.4</i>	<i>0.9</i>	<i>0.3</i>	<i>0.1</i>	<i>0.1</i>	<i>0.3</i>	<i>2.0</i>	<i>0.2</i>	<i>0.7</i>	<i>0.1</i>	<i>1.4</i>
<i>Cancer irroratus</i>		2.0	1.1	5.9	0	0.2	0	0.9	1.6	0.2	2.8	6.1	1.8	11.8	3.4	7.4	8.5	11.7	0.4	8.9	8.9	7.5	4.7
		<i>1.9</i>	<i>3.3</i>	<i>0.0</i>	<i>7.3</i>	<i>0.0</i>	<i>0.5</i>	<i>2.7</i>	<i>2.8</i>	<i>6.0</i>	<i>0.3</i>	<i>2.7</i>	<i>8.2</i>	<i>3.4</i>	<i>8.0</i>	<i>19.9</i>	<i>13.3</i>	<i>7.0</i>	<i>9.9</i>	<i>10.9</i>	<i>1.2</i>	<i>12.5</i>	<i>25.6</i>
Pycnogonida		0	0.002	0.01	0	0.01	0	0.002	0	0.01	0.002	0.001	0.001	0	0	0.003	0.01	0.01	0.01	0.004	0.03	0.04	0.04
		<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
<u>Echinodermata</u>																							
<i>Strongylocentrotus droebachiensis</i>		95.6	113.7	46.7	100.6	44.8	171.0	98.4	178.5	1.4	7.4	4.1	2.2	11.8	13.1	0.4	0.1	0.4	0.01	0.1	0.8	0	0.03
		<i>131.9</i>	<i>93.1</i>	<i>45.4</i>	<i>41.6</i>	<i>103.9</i>	<i>32.2</i>	<i>75.2</i>	<i>67.0</i>	<i>4.2</i>	<i>1.0</i>	<i>6.8</i>	<i>1.0</i>	<i>2.6</i>	<i>1.9</i>	<i>0.6</i>	<i>0.2</i>	<i>0.7</i>	<i>1.5</i>	<i>0.1</i>	<i>0.1</i>	<i>0.4</i>	<i>0.0</i>
<i>Asterias</i> spp.		3.2	0.9	2.4	2.5	10.4	2.8	7.5	2.3	1.3	3.6	1.8	2.8	9.0	0.9	6.4	9.5	8.3	2.6	3.6	7.1	1.6	0.8
		<i>1.6</i>	<i>0.8</i>	<i>3.7</i>	<i>1.4</i>	<i>1.4</i>	<i>2.8</i>	<i>1.5</i>	<i>2.5</i>	<i>1.7</i>	<i>0.6</i>	<i>1.7</i>	<i>2.0</i>	<i>1.3</i>	<i>3.4</i>	<i>2.4</i>	<i>4.6</i>	<i>3.0</i>	<i>2.1</i>	<i>1.5</i>	<i>1.6</i>	<i>2.3</i>	<i>3.3</i>
<i>Henricia sanguinolenta</i>		0.3	0.2	0.1	0.01	0.8	0.2	0.9	0.1	0.2	0.4	0.2	0.5	0.03	0.9	0.1	0.05	0.02	0.1	0.1	0.1	0.002	0.02
		<i>0.2</i>	<i>0.1</i>	<i>0.4</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.2</i>	<i>0.3</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.1</i>	<i>1.2</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.0</i>	<i>0.0</i>
<i>Amphipholis squamata</i>		0.01	0.2	0.02	0.04	0.02	0.1	0.1	0.2	0.1	0.04	0.04	0.2	0.2	0.2	0.9	0.5	0.7	0	0.1	0.002	0.5	0.3
		<i>0.0</i>	<i>0.2</i>	<i>0.1</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>0.2</i>	<i>0.2</i>	<i>0.1</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>1.6</i>	<i>0.4</i>	<i>0.5</i>	<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>3.0</i>	<i>3.6</i>

<i>Ophiopholis aculeata</i>	39.0	18.3	31.4	16.8	45.9	42.3	40.5	43.1	48.8	35.6	26.4	13.1	36.4	12.1	1.4	1.2	6.8	0.03	2.1	6.2	0.8	4.1
	5.5	6.2	7.7	27.5	21.2	41.6	13.3	25.8	10.1	31.8	7.6	11.8	5.9	7.2	3.9	3.0	1.2	1.1	0.4	0.1	4.2	1.4
<i>Ophiura</i> spp.	0.02	0	0.003	0.01	0.02	0.08	0.03	0.08	0.002	0.04	0.004	0.003	0	0.1	0.01	0.01	0.03	0.4	0.7	0.7	0.004	0
	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
<u>Mollusca</u>																						
<i>Anomia</i> spp.	0.2	0	0	0.04	0	0	0.1	0	0	0	0.1	0.2	0	1.6	0.2	0.3	1.2	0.1	0.4	0.3	0.03	0
	0.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.4	0.6	0.0	2.8	0.2	0.6	0.9	0.2	0.9	0.3	0.6	0.0
<i>Crenella glandula</i>	0.8	0.3	0.5	0.3	0.5	0.4	0.9	1.1	0	0.5	0.3	0.3	1.2	0.8	0.2	0.1	0.2	0.3	0.1	0.9	0.2	1.1
	2.3	0.5	0.8	0.6	0.8	1.0	2.7	1.9	0.0	1.3	0.4	0.9	2.3	0.9	0.3	0.1	0.4	0.7	0.2	0.6	4.1	9.7
<i>Hiatella arctica</i>	1.0	0.8	0.3	0.1	2.2	0.8	0.6	0.4	1.8	1.0	1.6	0.7	1.3	3.0	1.0	1.3	2.5	0.5	1.0	1.5	1.5	0.4
	2.7	1.6	0.4	0.2	3.2	0.7	0.5	0.5	2.3	1.3	1.7	0.7	2.3	2.3	0.8	0.9	1.6	0.8	0.9	0.8	15.0	1.8
<i>Modiolus modiolus</i>	131.0	110.5	191.5	161.1	231.1	123.8	221.4	261.1	669.0	425.4	445.8	272.4	580.1	370.3	643.0	615.9	1018.7	72.3	102.1	517.6	403.5	421.8
	93.2	93.6	104.0	125.2	79.5	196.4	114.6	138.3	229.8	221.0	242.6	384.8	35.9	438.0	605.2	604.9	432.5	274.4	67.7	82.4	386.6	366.2
<i>Musculus</i> spp.	2.1	0.2	0.9	0.4	2.8	0.03	3.0	0.00	1.2	0.1	2.6	0.2	0.8	0.6	4.7	1.5	1.2	0.2	0.5	1.3	0.2	0.2
	2.8	0.5	1.2	0.9	2.0	0.1	2.2	0.0	1.2	0.3	1.6	0.5	0.5	0.5	11.5	1.6	1.1	0.3	0.6	1.7	1.7	2.6
<i>Mytilus edulis</i>	0.4	0	0	0	0.4	0.1	0.1	0	0.3	0.01	0.5	0.01	0.6	0.1	0.4	0.5	0	0.2	0.4	0.4	0.1	0.03
	1.1	0.0	0.0	0.0	0.6	0.2	0.3	0.0	0.4	0.0	0.8	0.0	0.7	0.1	0.3	0.5	0.0	0.2	0.4	1.0	1.1	0.5
<i>Buccinum undatum</i>	0.7	3.0	0	3.8	1.5	2.1	0.7	6.7	0.1	1.4	0.1	0.2	2.6	0	0.01	0.01	0.3	0.01	0	0.01	0.2	0
	6.0	1.4	3.2	0.0	6.1	4.7	6.4	1.9	3.7	0.3	0.7	0.2	0.0	5.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6
<i>Lacuna vincta</i>	0.5	0.01	7.9	0.004	27.4	0.1	5.0	0	21.5	20.1	7.6	6.6	1.6	6.9	4.6	5.2	5.2	10.3	11.8	15.0	52.3	40.6
	1.3	1.6	6.5	25.0	1.0	12.9	6.7	4.3	12.4	4.4	4.2	6.9	0.0	0.0	0.2	0.0	25.0	4.0	3.9	1.8	3.6	16.0
<i>Littorina littorea</i>	0	0	12.6	0	0	0	0	0	10.5	0	0	0	0	0	0	2.6	2.6	42.1	0	0	43.6	1.3
	0.0	0.0	66.1	88.8	0.0	32.8	0.0	0.0	33.3	0.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
<i>Margarites groenlandicus</i>	0	0	0.03	0	0.1	0.002	0.02	0	0.01	0.003	0.0002	0.0004	0	0	0.004	0.002	0.002	0.1	0.2	0.2	0.4	0.5
	0.0	0.0	0.1	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4
<i>Testudinalia testudinalis</i>	0.05	0.04	0.5	0.1	0.3	0.3	0.02	1.2	0.1	0.2	0.3	0.3	0.02	0.6	0	0	0	0	0	0	0.3	0.01
	0.1	0.1	0.7	0.2	0.5	0.5	0.1	1.9	0.2	0.4	0.4	0.7	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	0.3
<i>Crepidula fornicata</i>	0	0.05	0.05	0	0	0	0	0	2.4	0	0.9	0.5	0.2	0.2	0	0	0	0.5	0.5	0	0.1	0
	0.4	0.0	0.6	0.2	0.0	0.1	0.0	0.0	7.1	2.8	0.0	0.8	0.1	0.0	0.0	0.0	0.0	1.4	0.3	0.5	0.0	0.0

<i>Ischnochiton albus</i>	0	0.02	0	0.02	0	0.2	0	0.2	0.03	0.02	0	0.01	0	0.2	0.04	0	0.01	0	0	0.01	0	0.03
	<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.3</i>	<i>0.0</i>	<i>0.3</i>	<i>0.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.2</i>	<i>0.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.7</i>
<i>Ischnochiton ruber</i>	1.4	2.4	1.5	0.7	5.0	8.4	3.9	8.9	2.3	2.3	1.9	1.4	0.6	1.5	1.2	0.7	2.6	1.1	4.1	0.7	1.7	1.5
	<i>1.2</i>	<i>3.0</i>	<i>1.2</i>	<i>0.6</i>	<i>1.9</i>	<i>4.2</i>	<i>2.4</i>	<i>5.8</i>	<i>1.6</i>	<i>2.1</i>	<i>1.0</i>	<i>1.4</i>	<i>0.5</i>	<i>0.3</i>	<i>0.8</i>	<i>0.7</i>	<i>5.2</i>	<i>0.6</i>	<i>5.4</i>	<i>0.7</i>	<i>15.7</i>	<i>12.5</i>
<u>Annelida</u>																						
Polynoidae	0.1	0.02	0.03	0.1	0.2	0.6	0.3	0.7	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.04	0.05	0.05
	<i>0.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>0.1</i>	<i>0.3</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.2</i>	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.1</i>	<i>0.0</i>	<i>0.1</i>

Table S4. Mean density (ind. m⁻²) of invertebrates in transects at 6 and 8 m depth at Little Duck Island from 1992 to 2008 and also at 4 m from 1999 to 2008. Standard deviation is given below each mean in *italics*

	Year		1992		1993		1994		1995		1997		1998		1999		2000		2002		2008		
	Depth (m)		6	8	6	8	6	8	6	8	6	8	6	8	4	8	4	6	8	4	6	8	6
<u>Arthropoda</u>																							
<i>Caprella</i> spp.	0	0	16.0	0	7.0	0	5.0	1.0	1.0	16.3	0	0	0	0	50.0	75.6	75.6	3.8	31.3	48.8	595.7	287.5	
	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>22.2</i>	<i>0.0</i>	<i>11.6</i>	<i>3.2</i>	<i>8.5</i>	<i>42.1</i>	<i>3.2</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>13.1</i>	<i>68.8</i>	<i>44.0</i>	<i>51.9</i>	<i>62.7</i>	<i>7.4</i>	<i>187.2</i>	<i>317.1</i>	
<i>Gammarus</i> spp.	122.0	75.0	396.1	1.0	635.5	27.2	665.1	5.1	85.0	86.8	227.4	27.2	399.4	172.7	2054.0	2055.6	2055.6	1217.5	925.0	1310.0	1332.9	675.0	
	<i>113.3</i>	<i>153.2</i>	<i>3.2</i>	<i>518.5</i>	<i>26.6</i>	<i>308.2</i>	<i>10.8</i>	<i>383.8</i>	<i>136.3</i>	<i>62.8</i>	<i>29.2</i>	<i>110.0</i>	<i>100.8</i>	<i>549.1</i>	<i>540.9</i>	<i>1413.6</i>	<i>1243.9</i>	<i>1378.3</i>	<i>572.3</i>	<i>968.0</i>	<i>418.2</i>	<i>729.9</i>	
<i>Idotea</i> spp.	18.0	0	38.5	1.0	19.5	0	21.6	0	43.3	2.8	23.3	2.2	18.0	3.3	48.0	45.6	45.6	58.9	20.3	41.5	409.0	103.9	
	<i>0.0</i>	<i>23.0</i>	<i>3.2</i>	<i>53.7</i>	<i>0.0</i>	<i>23.4</i>	<i>0.0</i>	<i>26.4</i>	<i>5.2</i>	<i>64.1</i>	<i>4.1</i>	<i>22.4</i>	<i>5.8</i>	<i>29.5</i>	<i>7.6</i>	<i>68.9</i>	<i>43.4</i>	<i>46.9</i>	<i>22.9</i>	<i>81.6</i>	<i>119.4</i>	<i>202.1</i>	
<i>Pagurus acadensis</i>	1.4	1.9	1.5	0.4	0.4	0.2	1.8	0.2	1.5	0.6	0.2	2.1	3.6	0.3	0.7	0.3	0.3	3.5	3.8	0.1	12.4	1.6	
	<i>3.0</i>	<i>3.2</i>	<i>0.8</i>	<i>3.0</i>	<i>0.4</i>	<i>0.5</i>	<i>0.4</i>	<i>3.3</i>	<i>1.0</i>	<i>3.9</i>	<i>6.3</i>	<i>0.4</i>	<i>0.6</i>	<i>5.3</i>	<i>2.4</i>	<i>0.8</i>	<i>1.1</i>	<i>0.4</i>	<i>4.5</i>	<i>2.3</i>	<i>4.6</i>	<i>6.9</i>	
<i>Cancer</i> spp.	0.5	0.5	0.5	0	0.3	0.5	0.2	0.4	1.65	2.375	1.3	1.1	2.2	1.7	0.8	1.1	0.7	0.3	1.0	0.8	0.6	0.3	
	<i>0.7</i>	<i>0.7</i>	<i>0.0</i>	<i>0.7</i>	<i>0.0</i>	<i>0.6</i>	<i>0.5</i>	<i>0.4</i>	<i>2.4</i>	<i>2.3</i>	<i>1.0</i>	<i>1.4</i>	<i>1.5</i>	<i>0.9</i>	<i>1.0</i>	<i>1.1</i>	<i>0.9</i>	<i>0.7</i>	<i>0.8</i>	<i>0.5</i>	<i>0.7</i>	<i>0.8</i>	
Pycnogonida	0	2.0	12.0	0	9.0	0	3.0	0	6.9	2.5	1.6	1.0	0	0	4.0	7.8	7.8	10.0	5.0	33.8	48.9	42.5	
	<i>6.3</i>	<i>0.0</i>	<i>0.0</i>	<i>27.8</i>	<i>0.0</i>	<i>25.1</i>	<i>0.0</i>	<i>6.7</i>	<i>7.1</i>	<i>15.5</i>	<i>3.2</i>	<i>3.4</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>6.7</i>	<i>7.0</i>	<i>39.3</i>	<i>5.3</i>	<i>9.3</i>	<i>32.0</i>	<i>30.0</i>	
<u>Echinodermata</u>																							
<i>Strongylocentrotus droebachiensis</i>	112.0	87.6	19.7	84.7	33.5	99.5	39.4	176.6	6.3	33.1	50.0	42.0	128.0	133.3	3.1	2.3	5.8	0.3	0.6	1.1	0	0.4	
	<i>6.3</i>	<i>0.0</i>	<i>0.0</i>	<i>27.8</i>	<i>0.0</i>	<i>25.1</i>	<i>0.0</i>	<i>6.7</i>	<i>7.1</i>	<i>15.5</i>	<i>3.2</i>	<i>3.4</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>6.7</i>	<i>7.0</i>	<i>39.3</i>	<i>5.3</i>	<i>9.3</i>	<i>32.0</i>	<i>30.0</i>	

<i>Asterias</i> spp.	52.0	17.0	23.1	5.6	158.1	9.3	77.8	11.5	36.6	15.8	47.0	20.0	64.0	16.7	28.7	23.4	21.7	17.8	26.0	28.9	19.0	20.7
	23.9	30.7	5.5	72.7	8.0	97.9	9.7	63.4	19.9	47.0	16.4	22.6	18.2	49.4	20.7	31.3	16.0	39.0	61.1	22.4	50.3	39.0
<i>Henricia sanguinolenta</i>	11.0	2.8	4.4	1.0	37.0	6.9	30.6	2.7	4.7	6.3	5.7	6.7	0.6	5.7	1.1	1.4	0.6	0.4	1.6	1.0	0.1	0.8
	23.9	30.7	5.5	72.7	8.0	97.9	9.7	63.4	19.9	47.0	16.4	22.6	18.2	49.4	20.7	31.3	16.0	39.0	61.1	22.4	50.3	39.0
<i>Amphipholis squamata</i>	29.0	2.0	11.0	3.0	31.0	6.0	42.0	19.0	15.0	17.5	47.0	11.0	38.0	53.3	167.5	138.9	97.0	2.5	15.0	0	164.0	181.9
	4.2	28.8	9.5	23.3	7.1	35.8	46.5	37.2	20.9	36.9	15.8	33.5	15.3	36.2	41.4	91.3	102.5	0.0	27.8	7.1	142.6	147.5
<i>Ophiopholis aculeata</i>	173.0	123.0	118.0	69.0	187.7	185.6	150.8	141.4	144.0	105.9	95.6	51.8	138.0	90.0	13.0	16.7	77.0	0.8	37.5	71.3	39.3	118.5
	163.9	137.1	74.3	243.2	210.5	460.3	116.6	235.9	78.8	112.5	91.8	107.5	86.6	275.9	56.9	66.4	16.9	71.0	27.9	5.4	108.0	43.0
<i>Ophiura</i> spp.	0.9	0	0.3	0.5	1.9	6.0	2.9	5.4	0.4	2.5	0.3	0.2	0	0.3	0.4	1.5	7.0	75.0	133.8	136.3	0.1	0
	0.0	21.8	3.4	4.8	9.0	3.7	9.4	9.0	4.2	7.0	6.3	3.5	5.8	0.0	7.8	6.3	3.2	58.9	124.4	79.2	0.4	0.0
<i>Chiridota laevis</i>	2.0	0	0	2.0	0.3	0	7.1	7.1	0	2.8	1.0	1.0	0	0	0	0	0	0	0	0	0	0
	0.0	4.2	4.2	0.0	0.0	0.9	9.6	11.5	4.5	0.0	3.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mollusca																						
<i>Anomia</i> spp.	4.0	0	0	1.0	0	0	0	0	3.0	0	2.0	5.0	0	13.3	17.5	40.0	85.0	2.5	8.8	23.8	1.3	0
	0.0	12.6	3.2	0.0	0.0	0.0	0.5	0.5	3.2	7.0	12.9	6.1	22.9	2.6	45.2	75.4	20.5	21.6	11.4	4.5	0.7	3.8
<i>Astarte</i> spp.	1.0	3.0	2.0	0.1	3.2	0.4	0.3	3.6	0	0.6	0	3.6	0	0	2.5	0	2.0	0	0	0	0	0
	9.5	3.2	0.3	6.3	0.5	9.4	4.9	0.7	1.6	0.0	10.0	0.0	0.0	0.0	4.6	0.0	6.3	0.0	0.0	0.0	0.0	0.0
<i>Clinocardium ciliatum</i>	0	0	0.2	0.2	0.2	1.1	0	0	0	0	0.2	0	0	0	0	0	0	0	0	0	0	0
	0.0	0.0	0.4	0.4	1.3	0.4	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<i>Cerastoderma pinnulatum</i>	1.0	0	0	0	1.2	1.0	2.0	0	3.0	5.0	9.0	4.0	2.0	53.3	3.8	16.7	31.0	0	7.5	1.3	0	0
	0.0	3.2	0.0	0.0	3.2	3.5	0.0	4.2	7.6	6.7	7.0	12.0	25.2	4.5	29.0	24.2	10.6	3.5	13.9	0.0	0.0	0.0
<i>Crenella glandula</i>	14.0	9.0	14.0	9.0	14.0	16.0	19.0	26.0	0	16.3	8.0	14.0	24.0	46.7	22.8	12.2	37.5	1.3	7.5	55.0	17.5	141.4
	12.9	30.6	15.5	22.2	28.8	15.8	53.0	41.9	43.0	2.2	22.5	13.2	40.7	33.1	19.8	17.4	21.0	25.6	10.4	3.5	98.2	24.5
<i>Hiatella arctica</i>	20.0	13.0	14.0	3.0	81.0	27.0	26.0	13.0	45.0	28.8	69.0	50.0	34.0	213.3	55.0	101.1	148.0	30.0	77.5	71.3	100.3	141.4
	25.4	27.1	7.2	13.4	20.8	112.5	14.3	17.7	29.1	44.9	42.9	32.0	61.8	25.1	107.4	48.9	30.3	23.4	56.5	28.8	43.3	57.0
<i>Modiolus modiolus</i>	12.1	5.0	17.6	7.1	21.6	5.7	58.4	9.0	95.6	55.6	165.1	34.3	175.2	121.3	384.0	896.8	1440.0	91.3	147.5	421.5	99.5	26.4
	4.2	48.2	6.0	37.4	6.3	84.5	4.2	24.2	86.0	63.9	22.9	72.7	94.5	105.6	408.1	564.4	387.3	112.0	69.1	62.3	55.7	52.2
<i>Musculus</i> spp.	17.0	3.0	24.0	9.0	81.0	1.0	75.0	1.0	30.0	10.0	113.0	19.0	62.0	33.3	40.0	78.9	75.0	10.0	22.5	25.0	30.0	25.7
	6.7	15.7	14.5	33.4	3.1	67.5	3.1	39.3	18.0	31.0	13.1	70.3	30.6	44.3	67.4	77.8	29.8	21.4	18.3	9.3	17.5	19.6
<i>Mytilus edulis</i>	2.0	0	0	0	8.0	1.0	2.0	0	10.0	3.8	23.0	3.0	46.0	10.0	31.3	27.8	0	13.8	22.5	8.8	22.5	8.6

	0.0	4.2	0.0	0.0	3.2	9.2	0.0	6.2	10.4	13.6	4.8	35.9	10.0	57.0	4.5	34.8	23.9	24.7	22.1	17.6	12.5	26.1
<i>Buccinum undatum</i>	0.2	1.4	0	1.4	0.1	0.3	0.4	2.5	0.2	1.1	0.2	0.1	0.4	0	0.3	0.3	0.9	0.6	0	0.1	0.8	0
	2.8	0.4	1.8	0.0	0.7	0.3	4.0	1.0	1.7	0.7	0.3	0.4	0.0	5.5	10.4	5.4	4.8	0.4	0.0	9.2	0.0	18.6
<i>Hydrobia minuta</i>	0	0	0	0	5.0	0	0	0	0	0	0	0	0	0	36.3	10.0	20.0	0	0	0	1.3	1.4
	0.0	0.0	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6	13.6	26.6	0.0	0.0	0.0	3.5	3.8
<i>Lacuna vincta</i>	14.0	0.3	215.7	0.1	745.4	3.1	137.1	0	585.4	546.5	206.2	180.2	43.6	188.0	125.0	142.2	142.2	280.0	322.5	408.8	1424.3	1106.3
	0.7	28.4	0.3	351.4	6.2	183.5	0.0	118.0	680.9	336.9	109.4	120.4	107.5	34.5	48.2	113.7	43.5	98.9	187.1	175.9	436.8	679.9
<i>Littorina littorea</i>	0	0	1.2	0	0	0	0	0	1.0	0	0	0	0	0	0	0.3	0.3	4.0	0	0	4.1	0.1
	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	6.3	0.4	8.4
<i>Margarites groenlandicus</i>	0	0	15.0	0	40.0	1.0	9.7	0	6.2	1.3	0.1	0.2	0	0	2.0	1.1	1.1	45.0	82.5	76.3	185.7	227.5
	0.0	0.0	0.0	25.1	3.2	36.5	0.0	12.8	3.5	8.3	0.6	0.3	0.0	0.0	0.0	3.3	6.3	77.4	90.5	43.1	172.2	166.2
<i>Onoba aculeus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	223.8	87.8	4.0	148.8	98.8	205.0	0	0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	68.5	123.8	101.3	98.3	143.6	0.0	0.0
<i>Turbonilla</i> spp.	5.0	1.0	8.0	0	1.1	0	0	0	22.7	7.1	1.0	4.0	2.0	13.3	18.8	5.6	12.0	20.0	42.5	47.5	27.5	44.3
	3.2	15.8	0.0	9.2	0.0	3.1	0.0	0.0	10.3	62.6	9.7	3.2	5.8	4.5	6.4	8.7	12.5	21.9	44.3	20.0	16.0	28.8
<i>Velutina laevigata</i>	0	0	0	0	2.2	0	10.8	0.1	0	0	0.1	0.1	0	0	0	0	0	0	1.3	0	0	0
	0.0	0.0	0.0	0.0	0.0	6.6	0.3	17.8	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0
<i>Testudinalia testudinalis</i>	3.0	4.0	46.0	2.0	37.0	19.0	1.0	65.0	21.0	18.8	21.0	29.0	4.0	40.0	0	0	0	0	0	0	25.0	0
	5.2	4.8	4.2	54.8	32.5	52.4	101.4	3.0	39.2	44.1	64.4	15.9	43.8	8.8	0.0	0.0	0.0	0.0	0.0	0.8	0.4	18.2
<i>Crepidula fornicata</i>	0	0.1	0.1	0	0	0	0	0	5.2	0	2.1	1.0	0.4	0.3	0	0	0.5	1.0	1.0	0	0.1	0
	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	15.7	3.2	6.3	0.6	0.9	1.0	0.0	0.0	0.0	1.8	1.4	0.0	0.4
<i>Ischnochiton albus</i>	0	1.0	0	2.0	0	8.0	0	18.0	2.0	1.3	0	1.0	0	16.7	0	0	1.0	0	0	1.3	0	1.4
	3.2	0.0	4.2	0.0	9.3	0.7	23.8	0.3	3.4	7.0	3.1	0.5	15.7	0.0	3.5	0.0	3.2	3.4	0.5	0.0	3.5	0.0
<i>Ischnochiton ruber</i>	67.0	146.0	100.0	33.0	320.0	414.0	331.0	344.0	150.0	103.8	150.0	147.0	80.0	323.3	168.8	110.0	141.0	78.8	162.5	133.8	77.5	131.4
	178.3	41.8	27.9	71.4	241.1	116.3	184.7	156.2	63.9	64.4	97.4	69.3	92.1	71.8	55.1	81.2	104.6	88.5	103.7	35.9	79.8	52.4
<i>Tonicella marmorea</i>	0	0	0	0	0	0	0	0	0.9	3.3	0.6	1.3	0	0	0	0	0	0	0	0	0	0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	1.2	1.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<u>Annelida</u>																						
<i>Nereis</i> spp.	10.1	5.9	23.1	2.0	50.3	10.4	24.2	6.6	16.0	10.0	18.0	11.0	59.6	15.3	17.5	17.8	30.0	29.3	36.1	18.1	6.8	0.6
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	1.2	1.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Polynoidae	2.5	5.2	9.8	2.6	36.0	14.2	48.3	19.3	26.2	5.0	22.8	5.2	12.8	12.3	5.9	7.4	14.5	3.3	8.4	10.8	10.1	5.3
	47.6	24.2	12.4	68.1	53.8	119.0	68.4	65.9	37.2	54.4	33.4	41.3	49.4	28.9	35.6	45.3	27.7	28.8	58.4	31.3	7.4	8.3
Other Polychaeta	15.0	2.4	18.7	0.4	54.1	11.4	84.9	14.3	25.6	20.3	40.9	19.0	9.0	78.0	2.5	0	5.0	18.8	58.8	3.8	66.3	84.3
	3.1	11.6	1.3	26.7	12.9	68.2	11.2	66.5	21.9	26.4	27.9	29.9	62.5	13.6	10.6	6.7	6.3	5.2	57.9	26.4	35.4	44.1
<u>Chordata</u>																						
<i>Ascidia callosa</i>	2.0	0	48.0	0	186.5	1.0	101.0	0.1	0.7	3.1	0.1	0	0	0	109.6	105.2	94.9	54.8	134.6	268.6	0.1	0
	0.0	4.2	0.0	98.3	3.2	74.0	0.3	58.5	8.7	1.5	0.0	0.3	0.0	0.0	39.5	56.1	53.6	101.0	90.0	67.0	0.4	0.0
<i>Boltenia echinata</i>	4.0	0	2.0	0	7.2	0	3.9	0.1	0.2	0	0	0.2	0	0	0	0	1.0	0	0	0	0	0
	0.0	7.0	0.0	4.2	0.0	14.2	0.3	5.1	0.0	0.7	0.4	0.0	0.0	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0
<i>Dendroda carnea</i>	0	0	0.0	0	16.5	1.0	0.4	0	3.0	0	0	1.0	0	0	36.3	17.8	31.7	2.6	39.3	32.3	0	1.4
	0.0	0.0	0.0	0.0	3.2	17.0	0.0	0.7	0.0	9.5	3.2	0.0	0.0	0.0	38.7	15.5	48.4	37.4	51.0	7.0	3.5	0.0
<i>Molgula</i> spp.	1.0	0	0	0	0	0	0	0	11.9	5.6	27.3	4.1	4.4	6.7	0	0	0	0.1	0	0	32.5	0
	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	10.4	16.0	6.9	28.7	11.5	8.8	0.0	0.0	0.0	0.0	0.0	0.4	0.0	45.7
<u>Porifera</u>																						
<i>Scypha ciliata</i>	0.7	1.2	0	0	0.3	0	3.0	0	0.5	0.3	4.2	1.4	0	0	1.3	2.2	6.7	12.8	120.6	99.8	15.6	31.7
	1.4	1.3	0.0	0.0	0.0	0.7	0.0	3.2	0.8	0.9	2.0	2.4	0.0	0.0	8.2	3.3	4.2	38.3	68.1	17.1	26.6	29.9

Supplement 3. Results of analyses of similarity percentages (SIMPER) based on algal assemblage type

Table S5. Pairwise Bray-Curtis dissimilarities between algal assemblage types (kelp-dominated, barrens, *Codium fragile*-dominated, or transitional) from analysis of similarity percentages (SIMPER) on biomass of algae. Analysis was performed using 4th-root transformed data, but abundances given in the table are untransformed values. Average abundances for each assemblage type were calculated based on clusters from multidimensional scaling (MDS) analysis of algal biomass

		Average abundance \pm SE (g dry weight m ⁻²)			Dissimilarity (%)		
		Kelp	Barrens	<i>Codium fragile</i>	Transitional	Avg.	Cum. %
Barrens vs. kelp Avg. dissim = 63.9%	<i>Saccharina longicuris</i>	587.5 \pm 21.2	0.0 \pm 0.0			6.0	37.9
	Turf algae	82.1 \pm 56.7	0.8 \pm 0.5			2.1	54.9
	<i>Desmarestia</i> spp.	60.7 \pm 33.6	5.9 \pm 5.8			1.8	71.2
	<i>Corallina officinalis</i>	430.3 \pm 127.7	43.9 \pm 8.9			2.0	85.7
	<i>Laminaria digitata</i>	32.1 \pm 21.2	0.0 \pm 0.0			1.5	100.0
Barrens vs. transitional Avg. dissim = 70.2%	<i>Saccharina longicuris</i>		0.0 \pm 0.0		284.8 \pm 95.6	3.4	24.9
	Turf algae		0.8 \pm 0.5		207.3 \pm 57.3	4.2	44.8
	<i>Codium fragile</i>		0.0 \pm 0.0		110.5 \pm 37.9	3.5	63.4
	<i>Laminaria digitata</i>		0.0 \pm 0.0		105.0 \pm 46.9	2.5	79.8
	<i>Corallina officinalis</i>		43.9 \pm 8.9		431.1 \pm 125.4	1.8	90.8
Barrens vs. <i>Codium fragile</i> Avg. dissim = 65.9%	<i>Codium fragile</i>		0.0 \pm 0.0	880.1 \pm 115.4		8.9	45.3
	Turf algae		0.8 \pm 0.5	65.1 \pm 14.9		3.0	63.8
	<i>Corallina officinalis</i>		43.9 \pm 8.9	484.5 \pm 36.5		5.2	81.7
	<i>Saccharina longicuris</i>		0.0 \pm 0.0	23.2 \pm 16.9		1.9	95.3
Kelp vs. transitional Avg. dissim = 26.9%	<i>Codium fragile</i>	0.0 \pm 0.0			110.5 \pm 37.9	3.5	31.3
	<i>Desmarestia</i> spp.	60.7 \pm 33.6			34.3 \pm 20.2	1.5	47.3

	<i>Laminaria digitata</i>	32.1 ± 21.2		105.0 ± 46.9	1.4	63.0
	Turf algae	82.1 ± 56.7		207.3 ± 57.3	2.0	75.9
	<i>Saccharina longicuris</i>	587.5 ± 21.2		284.8 ± 95.6	1.5	88.6
	<i>Corallina officinalis</i>	430.3 ± 127.7		431.1 ± 125.4	1.4	100.0
Kelp vs. <i>Codium fragile</i> Avg. dissim = 46.1%	<i>Codium fragile</i>	0.0 ± 0.0	880.1 ± 115.4		10.3	38.2
	<i>Saccharina longicuris</i>	587.5 ± 21.2	23.2 ± 16.9		2.7	60.5
	<i>Desmarestia</i> spp.	60.7 ± 33.6	0.0 ± 0.01		3.1	77.6
	<i>Laminaria digitata</i>	32.1 ± 21.2	0.0 ± 0.0		1.6	90.3
<i>Codium fragile</i> vs. transitional Avg. dissim = 32.1%	<i>Laminaria digitata</i>		0.0 ± 0.0	105.0 ± 46.9	2.4	24.4
	<i>Codium fragile</i>		880.1 ± 115.4	110.5 ± 37.9	2.3	47.4
	<i>Saccharina longicuris</i>		23.2 ± 16.9	284.8 ± 95.6	1.9	69.0
	<i>Desmarestia</i> spp.		0.0 ± 0.01	34.3 ± 20.2	1.2	82.6
	Turf algae		65.1 ± 14.9	207.3 ± 57.3	1.4	91.4

Table S6. Pairwise Bray-Curtis dissimilarities between algal assemblage types (kelp-dominated, barrens, *Codium fragile*-dominated, or transitional) from analysis of similarity percentages (SIMPER) on biomass of invertebrates (27 taxa). Analysis was performed using 4th-root transformed data, but abundances given in the table are untransformed values. Average abundances for each assemblage type were calculated based on clusters from multidimensional scaling (MDS) analysis of algal biomass

		Average abundance \pm SE (g dry weight m ⁻²)				Dissimilarity (%)	
		Kelp	Barrens	<i>Codium fragile</i>	Transitional	Avg.	Cum. %
Barrens vs. kelp Avg. dissim = 23.1%	<i>Lacuna vincta</i>	10.2 \pm 5.9	0.0 \pm 0.0			2.7	11.7
	<i>Idotea</i> spp.	0.8 \pm 0.2	0.0 \pm 0.0			1.8	19.4
	<i>Cancer irroratus</i>	2.3 \pm 1.3	0.7 \pm 0.4			1.5	25.8
	<i>Musculus</i> spp.	2.2 \pm 0.5	0.2 \pm 0.0			1.4	31.9
	<i>Buccinum undatum</i>	0.7 \pm 0.3	3.9 \pm 1.0			1.4	37.9
	<i>Gammarus</i> spp.	1.4 \pm 0.4	0.1 \pm 0.1			1.3	43.4
	<i>Strongylocentrotus droebachiensis</i>	71.4 \pm 14.8	141.0 \pm 19.8			1.2	48.4
	<i>Ischnochiton albus</i>	0.0 \pm 0.0	0.1 \pm 0.1			1.1	53.1
Barrens vs. transitional Avg. dissim = 31.4%	<i>Strongylocentrotus droebachiensis</i>		141.0 \pm 19.8		4.0 \pm 1.8	5.0	15.9
	<i>Lacuna vincta</i>		0.0 \pm 0.0		22.2 \pm 6.8	3.8	28.0
	<i>Modiolus modiolus</i>		164.1 \pm 34.1		429.8 \pm 45.4	2.1	34.8
	<i>Bucchinum undatum</i>		3.9 \pm 1.0		0.3 \pm 0.2	1.9	40.9
	<i>Idotea</i> spp.		0.0 \pm 0.0		2.9 \pm 1.9	1.9	46.9
	<i>Cancer irroratus</i>		0.7 \pm 0.4		3.8 \pm 1.0	1.8	52.6
Barrens vs. <i>Codium fragile</i> Avg. dissim = 37.7%	<i>Strongylocentrotus droebachiensis</i>		141.0 \pm 19.8	1.9 \pm 1.7		5.8	15.4
	<i>Lacuna vincta</i>		0.0 \pm 0.0	7.7 \pm 1.8		2.9	23.0
	<i>Modiolus modiolus</i>		164.1 \pm 34.1	507.1 \pm 124.5		2.7	30.1
	<i>Cancer irroratus</i>		0.7 \pm 0.4	8.2 \pm 1.5		2.5	36.6
	<i>Ophiopholis aculeata</i>		30.1 \pm 7.3	7.7 \pm 4.9		2.2	42.5
	<i>Gammarus</i> spp.		0.1 \pm 0.1	4.5 \pm 0.8		2.1	48.1

	<i>Idotea</i> spp.		0.0 ± 0.0	1.4 ± 0.2		2.0	53.6
Kelp vs. transitional Avg. dissim = 21.9%	<i>Strongylocentrotus droebachiensis</i>	71.4 ± 14.8			4.0 ± 1.8	3,5	15.8
	<i>Littorina littorea</i>	3.2 ± 3.2			7.9 ± 6.1	1.8	23.8
	<i>Modiolus modiolus</i>	193.8 ± 22.6			429.8 ± 45.4	1.6	31.1
	<i>Lacuna vincta</i>	10.2 ± 5.9			22.2 ± 6.8	1.3	36.9
	<i>Ophiopholis aculeata</i>	39.2 ± 3.0			20.1 ± 6.6	1.2	42.4
	<i>Crepidula fornicata</i>	0.0 ± 0.0			0.6 ± 0.3	1.1	47.3
	<i>Bucchinum undatum</i>	0.7 ± 0.3			0.3 ± 0.2	1.0	51.8
Kelp vs. <i>Codium fragile</i> Avg. dissim = 24.6%	<i>Strongylocentrotus droebachiensis</i>	71.4 ± 14.8		1.9 ± 1.7		4.2	16.9
	<i>Ophiopholis aculeata</i>	39.2 ± 3.0		7.7 ± 4.9		2.3	26.3
	<i>Modiolus modiolus</i>	193.8 ± 22.6		507.1 ± 124.5		2.3	35.6
	<i>Littorina littorea</i>	3.2 ± 3.2		6.8 ± 5.9		1.8	42.7
	<i>Cancer irroratus</i>	2.3 ± 1.3		8.2 ± 1.5		1.2	47.6
	<i>Testudinalia testudinalis</i>	0.2 ± 0.1		0.0 ± 0.0		1.1	52.1
<i>Codium fragile</i> vs. transitional Avg. dissim = 22.9%	<i>Littorina littorea</i>			6.8 ± 5.9	7.9 ± 6.1	2.0	8.7
	<i>Modiolus modiolus</i>			507.1 ± 124.5	429.8 ± 45.4	1.7	16.1
	<i>Ophiopholis aculeata</i>			7.7 ± 4.9	20.1 ± 6.6	1.7	23.5
	<i>Strongylocentrotus droebachiensis</i>			1.9 ± 1.7	4.0 ± 1.8	1.5	30.1
	<i>T. testudinalis</i>			0.0 ± 0.0	0.3 ± 0.1	1.2	35.4
	<i>Gammarus</i> spp.			4.5 ± 0.8	1.2 ± 0.6	1.1	40.2
	<i>Lacuna vincta</i>			7.7 ± 1.8	22.2 ± 6.8	1.1	44.9
<i>Crepidula fornicata</i>			0.2 ± 0.1	0.6 ± 0.3	1.0	49.3	

Table S7. Pairwise Bray-Curtis dissimilarities between algal assemblage types (kelp-dominated, barrens, *Codium fragile*-dominated, or transitional) from analysis of similarity percentages (SIMPER) on density of invertebrates (45 taxa). Analysis was performed using 4th-root transformed data, but abundances given in the table are untransformed values. Average abundances for each assemblage type were calculated based on clusters from multidimensional scaling (MDS) analysis of algal biomass

		Average abundance \pm SE (ind. m ⁻²)				Dissimilarity (%)	
		Kelp	Barrens	<i>Codium fragile</i>	Transitional	Avg.	Cum. %
Barrens vs. kelp Avg. dissim = 34.0%	<i>Lacuna vincta</i>	278.1 \pm 161.2	0.9 \pm 0.7			2.7	7.9
	<i>Gammarus</i> spp.	454.7 \pm 126.2	27.1 \pm 17.0			2.4	14.8
	<i>Ascidia callosa</i>	84.4 \pm 39.6	0.3 \pm 0.2			2.1	21.0
	<i>Idotea</i> spp.	24.4 \pm 4.8	0.3 \pm 0.3			1.8	26.3
	<i>Ischnochiton albus</i>	0.1 \pm 0.0	8.0 \pm 4.4			1.3	30.2
	<i>Margarites groenlandicus</i>	16.2 \pm 8.5	0.3 \pm 0.3			1.2	33.7
	<i>Boltenia echinata</i>	4.3 \pm 1.1	0.0 \pm 0.0			1.2	37.0
	<i>Musculus</i> spp.	51.6 \pm 18.0	3.7 \pm 1.8			1.1	40.4
	<i>Caprella</i> spp.	7.0 \pm 3.3	0.3 \pm 0.3			1.1	46.4
	Pycnogonida	6.0 \pm 2.7	0.5 \pm 0.5			1.0	49.3
Barrens vs. transitional Avg. dissim = 37.7%	<i>Lacuna vincta</i>		0.9 \pm 0.7		601.0 \pm 179.9	3.7	9.9
	<i>Idotea</i> spp.		0.3 \pm 0.3		77.8 \pm 55.2	1.9	14.8
	<i>Gammarus</i> spp.		27.1 \pm 17.0		360.6 \pm 169.9	1.5	19.6
	<i>Caprella</i> spp.		0.3 \pm 0.3		123.0 \pm 83.4	1.0	23.5
	<i>Turbonilla</i> spp.		0.3 \pm 0.3		17.1 \pm 5.8	2.4	27.5
	<i>Molgula</i> spp.		0.0 \pm 0.0		12.6 \pm 4.7	2.2	31.4
	<i>Mytilus edulis</i>		0.3 \pm 0.3		12.4 \pm 3.4	2.8	35.2
	<i>Margarites groenlandicus</i>		0.3 \pm 0.3		61.2 \pm 39.4	1.1	38.9
	<i>Strongylocentrotus droebachiensis</i>		112.1 \pm 21.7		37.9 \pm 17.7	1.4	42.2
	<i>Modiolus modiolus</i>		6.7 \pm 0.9		65.4 \pm 18.7	2.9	45.5
Pycnogonida		0.5 \pm 0.5		14.6 \pm 8.1	1.5	48.5	

Barrens vs. <i>Codium fragile</i> Avg. dissim = 45.9%	<i>Gammarus</i> spp.		27.1 ± 17.0	1304.3 ± 254.3		3.5	7.6
	<i>Lacuna vincta</i>		0.9 ± 0.8	204.3 ± 50.3		2.6	13.3
	<i>Onoba aculeus</i>		0.0 ± 0.0	109.7 ± 33.6		2.3	18.4
	<i>Modiolus modiolus</i>		6.7 ± 0.9	488.8 ± 192.9		2.3	23.4
	<i>Ascidia callosa</i>		0.3 ± 0.2	109.7 ± 31.3		2.2	28.2
	<i>Idotea</i> spp.		0.3 ± 0.3	35.3 ± 8.0		1.8	32.2
	<i>Mytilus edulis</i>		0.3 ± 0.3	23.4 ± 5.9		1.7	35.9
	<i>Strongylocentrotus droebachiensis</i>		112.1 ± 21.7	20.2 ± 18.0		1.6	39.3
	<i>Caprella</i> spp.		0.3 ± 0.3	32.3 ± 11.6		1.6	42.8
	<i>Turbonilla</i> spp.		0.3 ± 0.3	21.2 ± 6.6		1.5	46.1
	<i>Dendroda carnea</i>		0.3 ± 0.3	22.8 ± 6.1		1.5	49.3
Kelp vs. transitional Avg. dissim = 26.4%	<i>Ascidia callosa</i>	84.4 ± 39.6		0.6 ± 0.4		1.6	6.2
	<i>Caprella</i> spp.	7.0 ± 3.3		123.0 ± 83.4		1.3	11.0
	<i>Lacuna vincta</i>	278.1 ± 161.2		601.0 ± 179.9		1.2	15.3
	<i>Margarites groenlandicus</i>	16.2 ± 8.5		61.2 ± 39.4		1.1	19.6
	<i>Molgula</i> spp.	0.3 ± 0.3		12.6 ± 4.7		1.1	23.5
	<i>Gammarus</i> spp.	454.7 ± 126.2		360.6 ± 169.9		1.0	27.2
	<i>Boltenia echinata</i>	4.3 ± 1.1		0.0 ± 0.0		0.8	30.7
	<i>Strongylocentrotus droebachiensis</i>	51.5 ± 20.7		37.9 ± 17.7		0.7	33.6
	Pycnogonida	6.0 ± 2.7		14.6 ± 8.1		0.7	36.3
	<i>Cerastoderma pinnulatum</i>	1.1 0.4		10.6 ± 7.2		0.7	38.9
	<i>Anomia</i> spp.	1.1 ± 1.0		0.6 ± 0.5		0.7	41.5
	<i>Turbonilla</i> spp.	3.5 ± 1.8		17.1 ± 5.8		0.7	44.1
	<i>Idotea</i> spp.	24.4 ± 4.8		77.8 ± 55.2		0.7	46.6
<i>Ischnochiton albus</i>	0.1 ± 0.0		3.7 ± 2.3		0.7	49.1	
Kelp vs. <i>Codium fragile</i> Avg. dissim = 29.4%	<i>Onoba aculeus</i>	0.0 ± 0.0		109.7 ± 33.6		2.3	6.6
	<i>Modiolus modiolus</i>	27.4 ± 10.5		488.8 ± 192.9		1.9	11.6

	<i>Testudinalia testudinalis</i>	22.1 ± 11.5	0.7 ± 0.6	1.5	15.5
	<i>Gammarus</i> spp.	454.7 ± 126.2	1304.3 ± 254.3	1.1	19.3
	<i>Anomia</i> spp.	1.6 ± 0.6	25.9 ± 11.1	1.1	22.9
	<i>Dendroda carnea</i>	4.2 ± 4.1	22.8 ± 6.1	1.1	26.4
	<i>Strongylocentrotus droebachiensis</i>	51.2 ± 20.7	20.2 ± 18.0	1.1	29.8
	<i>Margarites groenlandicus</i>	16.2 ± 8.5	29.6 ± 14.2	1.0	33.0
	<i>Boltenia echinata</i>	4.3 ± 4.1	0.1 ± 0.1	1.0	36.2
	<i>Ophiura</i> spp.	1.5 ± 0.6	50.9 ± 23.9	0.9	39.4
	<i>Scypha ciliata</i>	1.0 ± 0.7	34.8 ± 19.7	0.9	42.4
	<i>Ascidia callosa</i>	84.4 ± 39.6	109.7 ± 31.3	0.9	45.5
	<i>Caprella</i> spp.	7.0 ± 3.3	32.3 ± 11.6	0.9	48.4
	<i>Ophiopholis aculeata</i>	168.4 ± 7.9	52.5 ± 18.2	0.8	51.2
<i>Codium fragile</i> vs. transitional Avg. dissim = 29.2%	<i>Onoba aculeus</i>		109.7 ± 33.6	0.0 ± 0.0	6.6
	<i>Ascidia callosa</i>		109.7 ± 29.6	0.6 ± 0.4	1.9
	<i>Gammarus</i> spp.		1304.3 ± 254.3	360.6 ± 254.3	1.8
	<i>Caprella</i> spp.		32.3 ± 11.6	123.0 ± 169.9	1.6
	<i>Testudinalia testudinalis</i>		0.7 ± 0.6	23.0 ± 4.6	1.3
	<i>Margarites groenlandicus</i>		29.6 ± 14.2	61.2 ± 39.4	1.3
	<i>Dendroda carnea</i>		22.8 ± 6.1	0.8 ± 0.4	1.1
	<i>Modiolus modiolus</i>		488.8 ± 192.9	83.9 ± 18.7	1.1
	<i>Ophiura</i> spp.		50.9 ± 23.9	1.1 ± 0.6	1.1
	<i>Molgula</i> spp.		0.7 ± 0.6	12.6 ± 4.7	1.0
	<i>Lacuna vincta</i>		204.3 ± 50.3	601.0 ± 179.9	0.9
	<i>Strongylocentrotus droebachiensis</i>		20.2 ± 18.0	37.9 ± 17.7	0.9