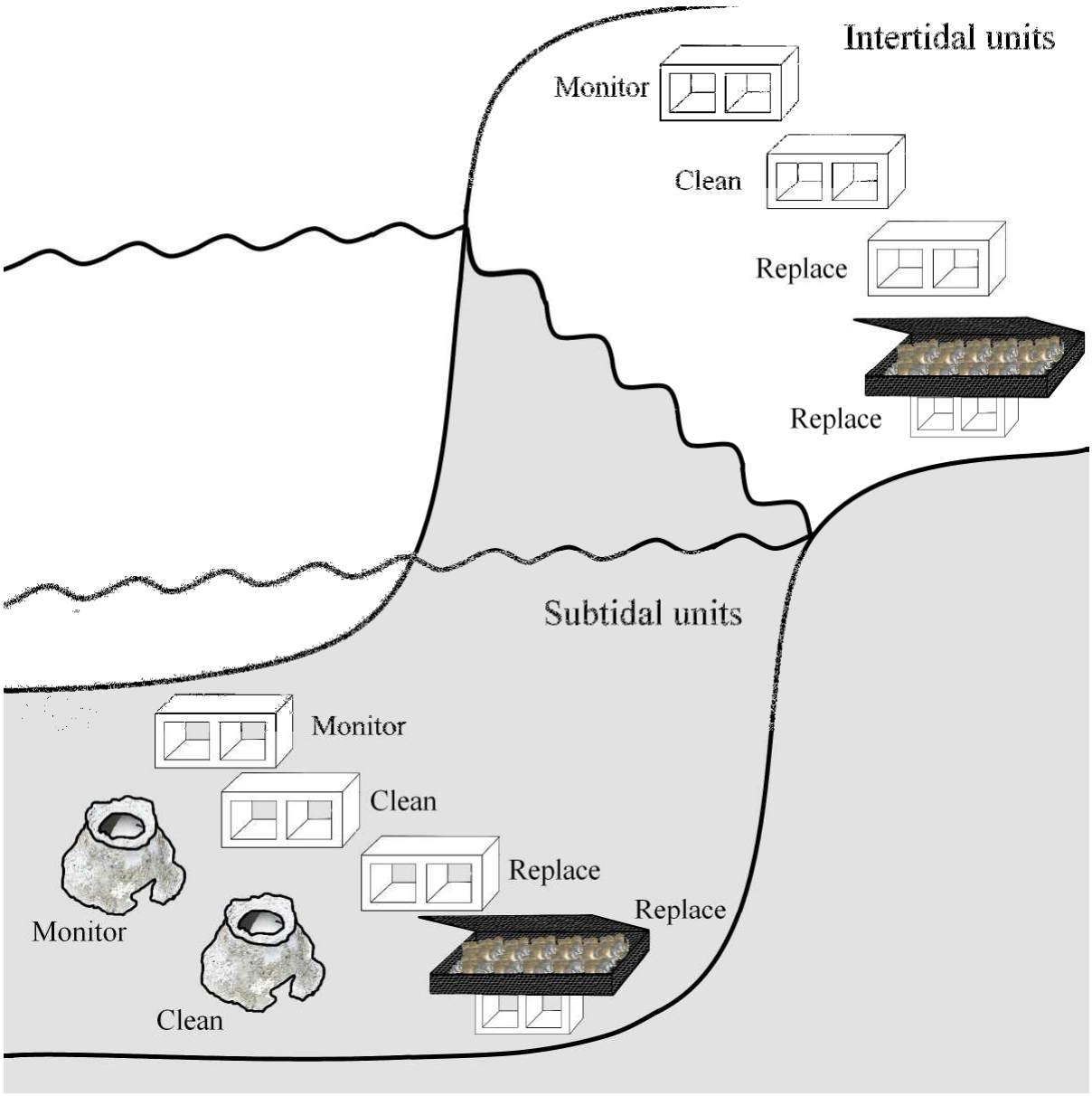
ANNUAL PATTERN OF SETTLEMENT OF SYDNEY ROCK OYSTER (*SACCOSTREA GLOMERATA*) SPAT IN PUMICESTONE PASSAGE, MORETON BAY

B.K Diggles

Supplementary materials

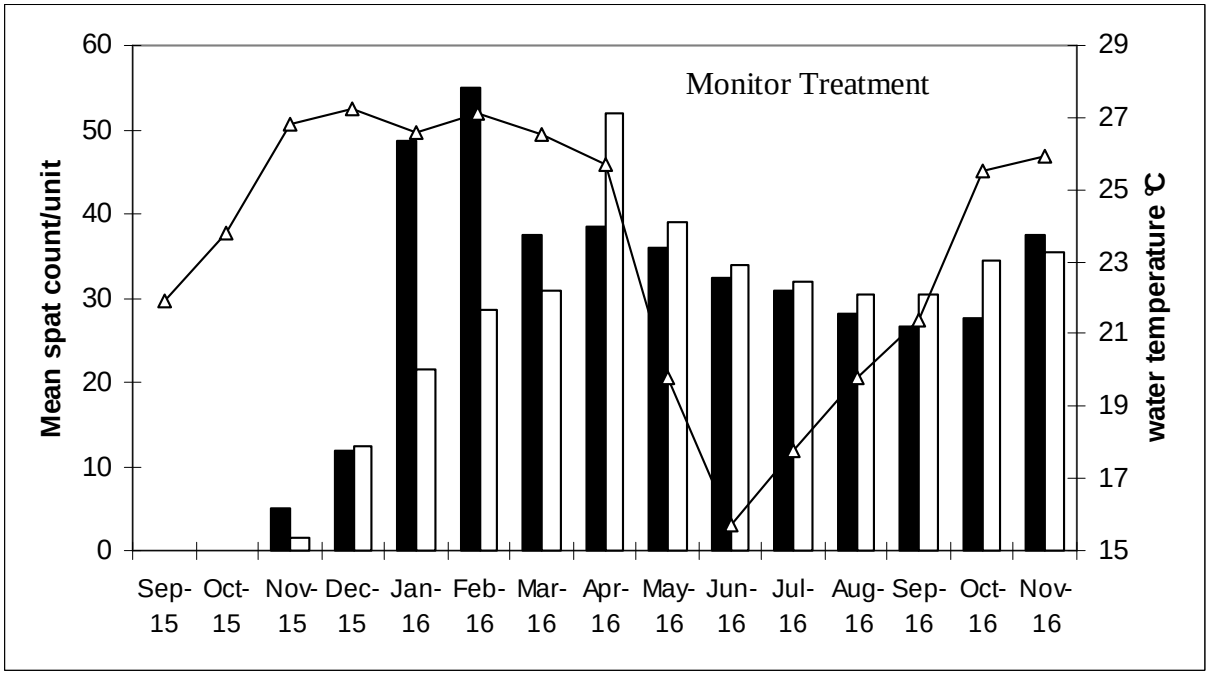
Supplement Table 1. Summary of water quality data collected during the course of the experiments at sites 1 and 2 in Pumicestone Passage.

	Site 1				Site 2			
Date	Temp ℃	Salinity ‰	DO mg/L / %	Turbidity Secchi/NTU	Temp ℃	Salinity ‰	DO mg/L / %	Turbidity Secchi/NTU
Sept 2015	21.8	34.2	7.8 / 108	2.5 m / <9	22.1	34.9	7.9 / 109	2.0 m / <9
Oct 2015	24.2	35.0	6.9 / 99	1.4 m /11	23.4	33.3	6.5 / 92	1.3 m / 12
Nov 2015	27.0	36.8	4.7 / 75	1.4 m / 11	26.6	36.4	5.8 / 90	1.6 m / <9
Dec 2015	27.4	36.7	6.1 / 96	1.9 m / <9	26.9	36.2	5.8 / 89	1.9 m / <9
Jan 2016	26.7	36.2	5.8 / 89	1.9 m/ <9	26.3	36	5.8 / 89	2.0 m / <9
Feb 2016	27.2	37.0	6.2 / 97	2.1 m / <9	26.9	36.6	5.8 / 87	2.3 m / <9
Mar 2016	26.8	36.0	6.4 / 98	1.8 m / <9	26.1	36.0	5.6 / 85	2.0 m/ <9
Apr 2016	25.8	34.1	7.5 / 112	1.8 m / <9	25.6	32.3	8.1 / 121	1.8 m / <9
May 2016	19.9	36.8	8.5 / 117	1.9 m / <9	19.6	36.8	8.1 / 109	2.5 m / <9
Jun 2016	15.4	32	8.5 / 102	1.9 m / <9	16.1	33.4	8.2 / 103	2.2 m / <9
Jul 2016	17.7	35.5	7.5 / 98	2.3 m / <9	18	35.4	7.4 / 97	2.0 m / <9
Aug 2016	19.8	35.8	6.9 / 94	2.1 m / <9	19.7	35.3	7.1 / 96	2.5 m / <9
Sept 2016	21.5	35.6	7 / 97	1.9 m / <9	21.2	35.3	6.8 / 95	2.5 m / <9
Oct 2016	25.4	36.8	7.5 / 112	1.9 m / <9	25.6	35.6	7.7 / 111	2.5 m / <9
Nov 2016	26.4	37.6	6 / 90	1.7 m / <9	25.4	37.4	5.6 / 85.2	1.9 m / <9

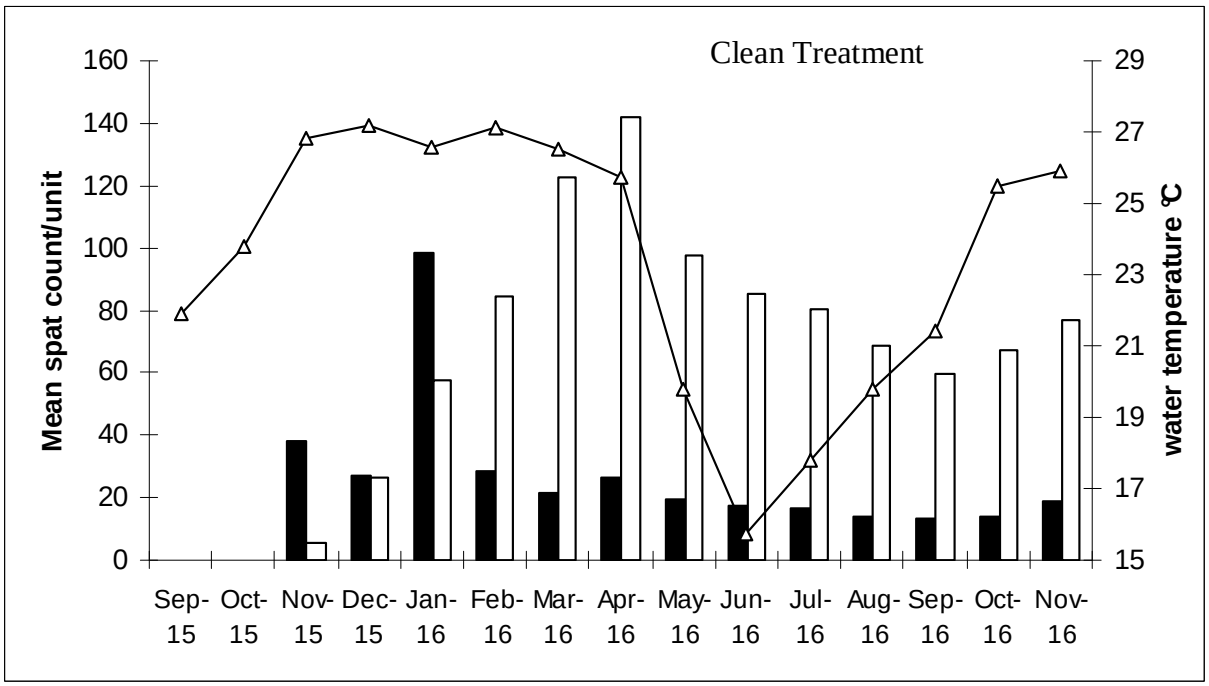


Supplement Figure 1. Experimental design. At 2 different sites six three-dimensional concrete spat settlement units were equally divided between subtidal (n = 3) and intertidal (n = 3) locations and subjected either to monthly monitor, clean or replace treatments. Two oyster reef balls were also placed subtidally and subjected to monthly monitoring or cleaning. Every month, subtidal units in the monitor and clean treatments were retrieved onto the intertidal bank for no more than 30 minutes during the counting and cleaning process before being returned to their original subtidal location. Units in the replace treatment were replaced each month with new units. After theft of intertidal PVC oyster trays in October and November 2015, PVC oyster trays containing 100 cleaned and dried *S. glomerata* shells (shell cultch treatment) were deployed subtidally only, for 30 days at each site every second month.

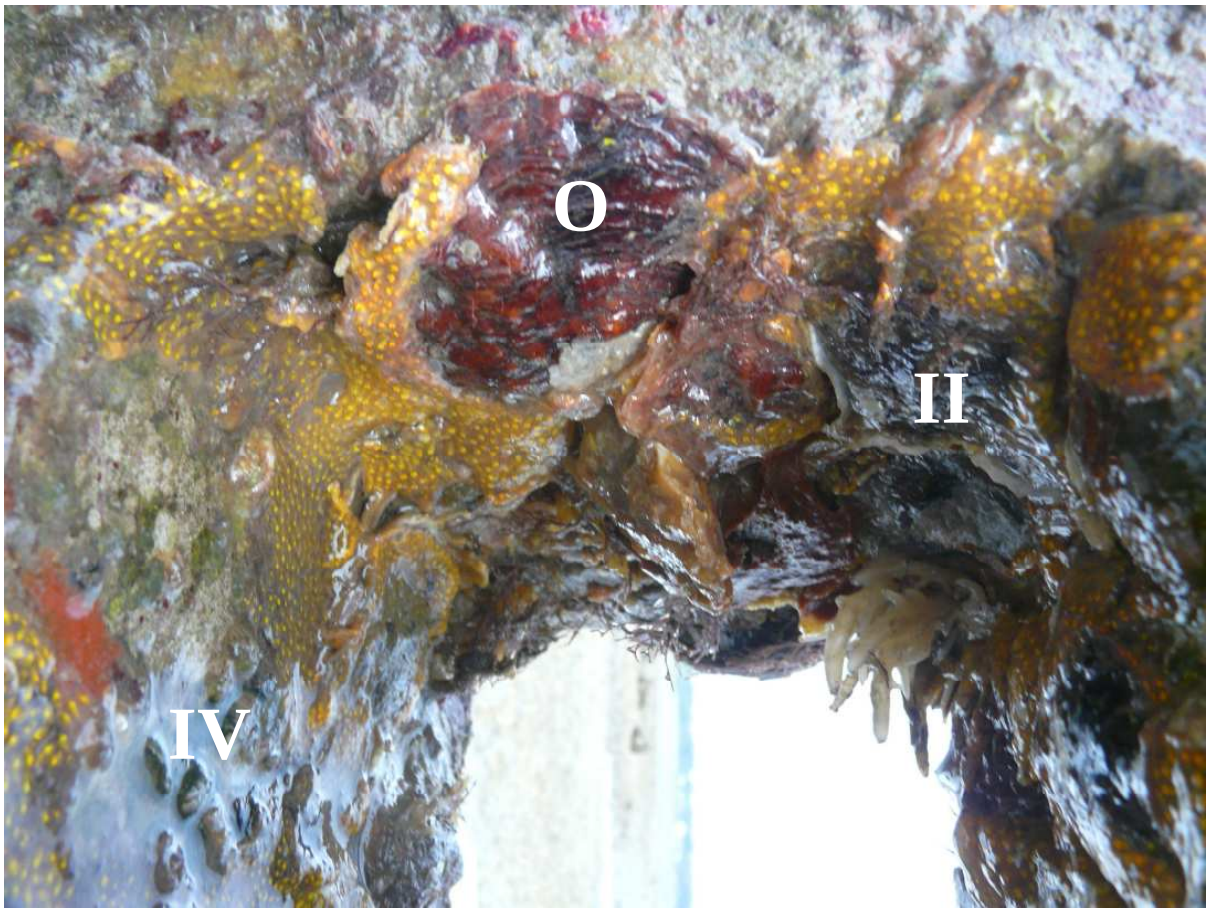
Supplement Figure 2. Heavy smothering of a subtidal shell cultch unit at site 1 in August 2016 by drifts of the brown algae *Ectocarpus faciculatus*. Smothering by algae may have contributed to mortality of young of the year spat during the cooler winter months when water clarity (and hence sun penetration) was highest.



Supplement Figure 3. Cumulative spatfall recorded from concrete spat settlement units deployed and monitored at monthly intervals at 2 sites in Pumicestone Passage between September 2015 and November 2016 (Monitor treatment). More spatfall was recorded on subtidal (black columns) units during late spring and early summer, but survival through winter was slightly higher on intertidal units (white columns). -△- water temperature.



Supplement Figure 4. Cumulative spatfall recorded from concrete spat settlement units deployed and cleaned at monthly intervals at 2 sites in Pumicestone Passage between September 2015 and November 2016 (Clean treatment). More spatfall was recorded on subtidal (black columns) units during early summer, but spatfall and survival into winter was much higher on intertidal units (white columns). -△- water temperature.



Supplement Figure 5. Closeup view of *S. glomerata* settled on the internal vertical (IV) and internal inverted (II) surfaces inside a concrete spat settlement unit after 11 months subtidal deployment at site 2. In-between the shell valves of *S. glomerata* (O), a significant amount of invertebrate biodiversity was observed including species of coralline and encrusting algae, colonial tunicates (*Symplegma* sp., *Botrylloides* sp.), as well as several species of gastropods and crabs (not visible in photograph).