

Fig. S1: Picture of marsh organ setup as deployed in July.



Table S1 *Spartina* abundance over the experimental period. Mean \pm SE shoot abundance of *Spartina* at each aboveground metric sampling period.

| Grass Level | Unenriched | | | | Enriched | | | |
|-------------|------------------|------------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| | Initial | After 1 month | Post-Isaac | Final | Initial | After 1 month | Post-Isaac | Final |
| Lowest | 9.00 \pm 0.68 | 6.00 \pm 1.29 | 3.00 \pm 0.97 | 1.80 \pm 1.56 | 9.83 \pm 1.04 | 7.40 \pm 1.34 | 2.40 \pm 1.08 | 1.75 \pm 1.18 |
| 10cm | 8.33 \pm 0.84 | 7.83 \pm 1.08 | 1.33 \pm 0.71 | 1.00 \pm 1.00 | 9.17 \pm 0.65 | 14.00 \pm 1.34 | 8.83 \pm 1.74 | 4.40 \pm 1.96 |
| 20cm | 11.33 \pm 0.80 | 9.60 \pm 2.09 | 7.20 \pm 2.56 | 7.25 \pm 4.31 | 10.00 \pm 0.45 | 12.67 \pm 2.03 | 8.67 \pm 4.72 | 2.00 \pm 2.00 |
| 30cm | 9.83 \pm 0.95 | 13.33 \pm 1.33 | 8.50 \pm 2.99 | 8.00 \pm 3.21 | 10.50 \pm 1.12 | 13.67 \pm 1.49 | 8.60 \pm 2.40 | 16.00 \pm 3.58 |
| 40cm | 8.50 \pm 0.72 | 10.83 \pm 1.35 | 7.00 \pm 2.12 | 12.50 \pm 3.79 | 10.33 \pm 0.99 | 19.83 \pm 2.27 | 13.00 \pm 2.74 | 29.50 \pm 5.95 |

Table S2. Condition of replicate planters by marsh organ. The two marsh organs built were designated marsh organ A, B. The final *Spartina* condition varied between these planters.

| Planter Condition | Organ A | Organ B |
|-------------------------------------|---------|---------|
| No Live <i>Spartina</i> Present | 8 | 6 |
| Live <i>Spartina</i> Shoots Present | 19 | 7 |
| Lost Due to Structural Collapse | 0 | 10 |
| Lost Prior to Hurricane Isaac | 1 | 1 |
| Lost After Hurricane Isaac | 2 | 6 |