

**Table S1. Details of the 19 sites sampled by H. S. Colton in 1915–1922 and resampled by us in 2007**

| Lot    | Year | Site description  | Exposure          | N <sub>C</sub> | N <sub>F</sub> | Latitude   | Longitude   | Other ANSP lots        |
|--------|------|---|-------------------|----------------|----------------|------------|-------------|------------------------|
| 142335 | 1915 | Goose March Cove, east shore near pond, Blue Hill Bay, Maine      | Sheltered cove    | 57             | 25             | 44.2552051 | −68.4037318 | 142370                 |
| 142342 | 1915 | Latty's Cove, Blue Hill Bay, Maine                                | Sheltered cove    | 88             | 25             | 44.2542943 | −68.4183517 |                        |
| 142343 | 1915 | Buckel Island, west side <i>Fucus</i> zone, Blue Hill Bay, Maine  | Semiexposed shore | 57             | 38             | 44.1802699 | −68.4768424 |                        |
| 142344 | 1915 | East side Buckel Island, Blue Hill Bay, Maine                     | Sheltered cove    | 51             | 33             | 44.1790321 | −68.4740261 |                        |
| 142360 | 1915 | Southwest Harbor, Stanley House Point, Mt. Desert Island, Maine   | Sheltered cove    | 54             | 19             | 44.2668000 | −68.2991000 | 142361, 142362, 142368 |
| 142363 | 1915 | Gilpatricks Cove, West Point, Mt. Desert, Maine                   | Sheltered cove    | 55             | 29             | 44.2868287 | −68.2909639 |                        |
| 142364 | 1915 | Placentia Island, south end, Red Rocks, Maine                     | Semiexposed shore | 53             | 28             | 44.2004144 | −68.3328989 | 142386                 |
| 142371 | 1915 | Black Island, south end, west side of point, Blue Hill Bay, Maine | Semiexposed shore | 50             | 25             | 44.1750000 | −68.3539000 |                        |
| 142373 | 1915 | Seal Harbor Cliffs halfway to Hunters Beach, Mount Desert, Maine  | Exposed coast     | 50             | 45             | 44.2942172 | −68.2301185 | 142372                 |
| 142374 | 1915 | Seal Harbor, Steamboat Wharf, Blue Hill Bay, Maine                | Semiexposed shore | 33             | 43             | 44.2826351 | −68.4018562 |                        |
| 142376 | 1915 | Salisbury Cove, south point, Frenchman's Bay, Maine               | Sheltered cove    | 79             | 25             | 44.4320422 | −68.2859914 |                        |
| 142385 | ?    | Seal Cove, south side, Blue Hill Bay, Maine                       | Sheltered cove    | 51             | 50             | 44.2857372 | −68.3976791 | 142379, 142387         |
| 142398 | 1922 | Sea Wall, Mt Desert, Maine  | Exposed coast     | 75             | 24             | 44.2469159 | −68.3098012 |                        |
| 142404 | 1922 | Great Gott Island, Head south side, Mt. Desert, Maine             | Semiexposed shore | 83             | 36             | 44.2004144 | −68.3328989 |                        |
| 142405 | 1922 | Great Gott Island, Head north side, Mt. Desert, Maine             | Semiexposed shore | 75             | 36             | 44.1627958 | −68.4410794 | 14206                  |
| 142407 | 1922 | Black Island, east side, Mt. Desert, Maine                        | Semiexposed shore | 40             | 25             | 44.1705000 | −68.3413000 |                        |
| 142408 | 1922 | Black Island, east side, wharf, Mt. Desert, Maine                 | Semiexposed shore | 45             | 25             | 44.1707000 | −68.3400000 |                        |
| 142411 | 1922 | Thomas Bay, south shore, Frenchmans Bay, Maine                    | Sheltered cove    | 63             | 25             | 44.4342403 | −68.3338685 | 142412                 |
| 142417 | 1922 | Blue Hill Falls, Mt. Desert, Maine                                | Exposed coast     | 94             | 51             | 44.3739000 | −68.5581000 |                        |

Colton's lots were deposited at the ANSP. ANSP lot number, year collected by Colton, and site description are provided for each collection together with the relative wave exposure and geographic coordinates of the paired location sampled in 2007. N<sub>C</sub> represents the number of shells subsampled and measured from ANSP lots, and N<sub>F</sub> represents the number of shells collected and measured in 2007. "Other ANSP lots" refers to lots collected at locations close the lot used; these lots were initially used as replicates nested within sites in analyses, although their inclusion did not affect the analyses, and thus they were not included.