

Logistical limitations hide trends in intertidal biodiversity.



Authors

Declan Taylor, Meredith Miller, Carter Burtlake, Naomi Lubkin

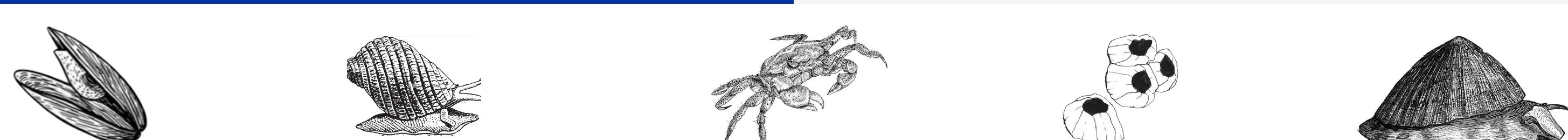
Affiliations

Bamfield Marine Sciences Centre

GOALS

We wanted to see if environmental stressors change the diversity of intertidal species:

Does the diversity of invertebrates change as you get higher in the intertidal, and change between wavy and non-wavy locations?



METHODS

We counted all the invertebrates we could find in a small number of areas that represent the whole intertidal.

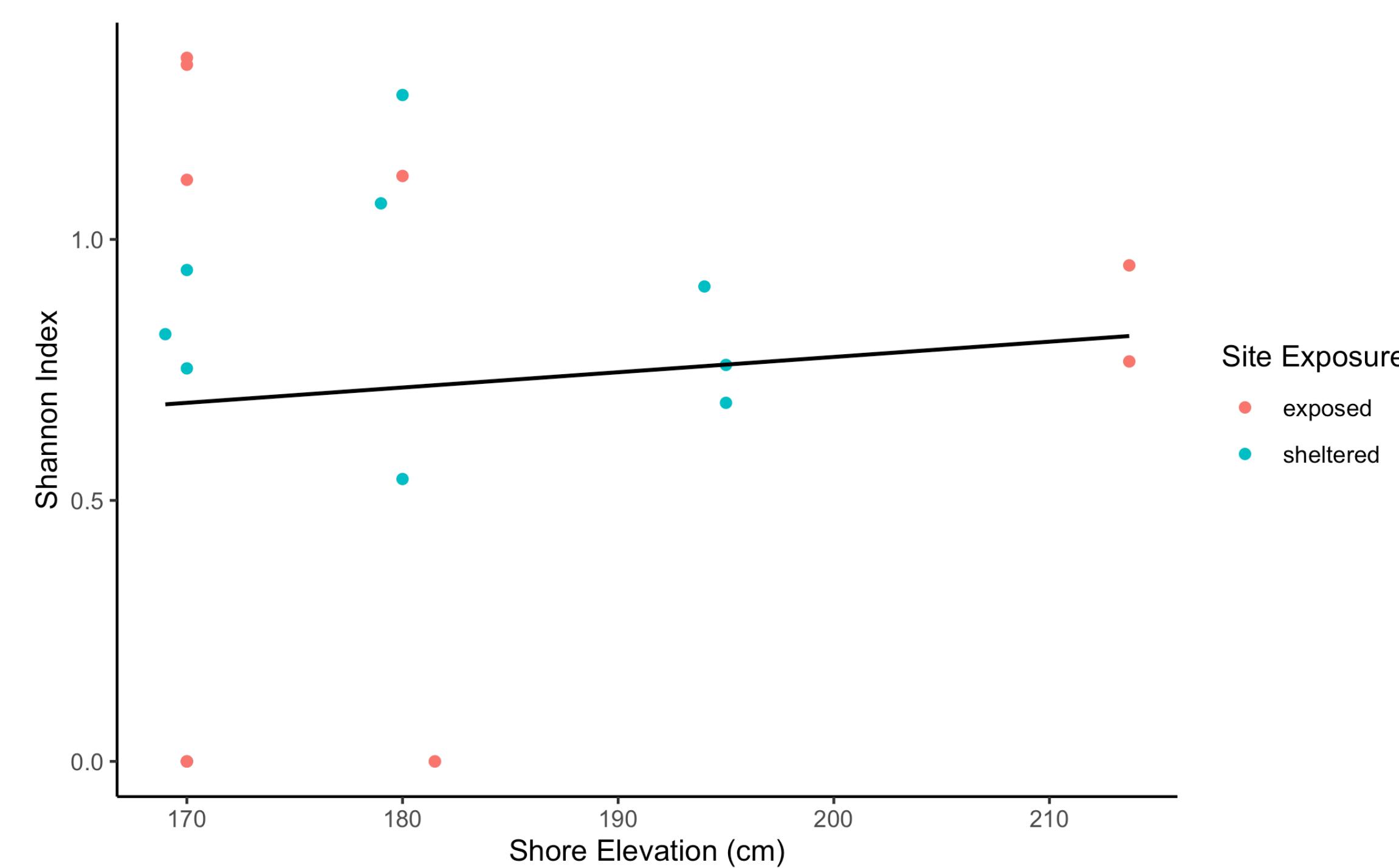
We used 17 sampling quadrats (right) and counted invertebrates in 10 of the small squares, and moved the quadrat up/down the intertidal.

RESULTS/FINDINGS

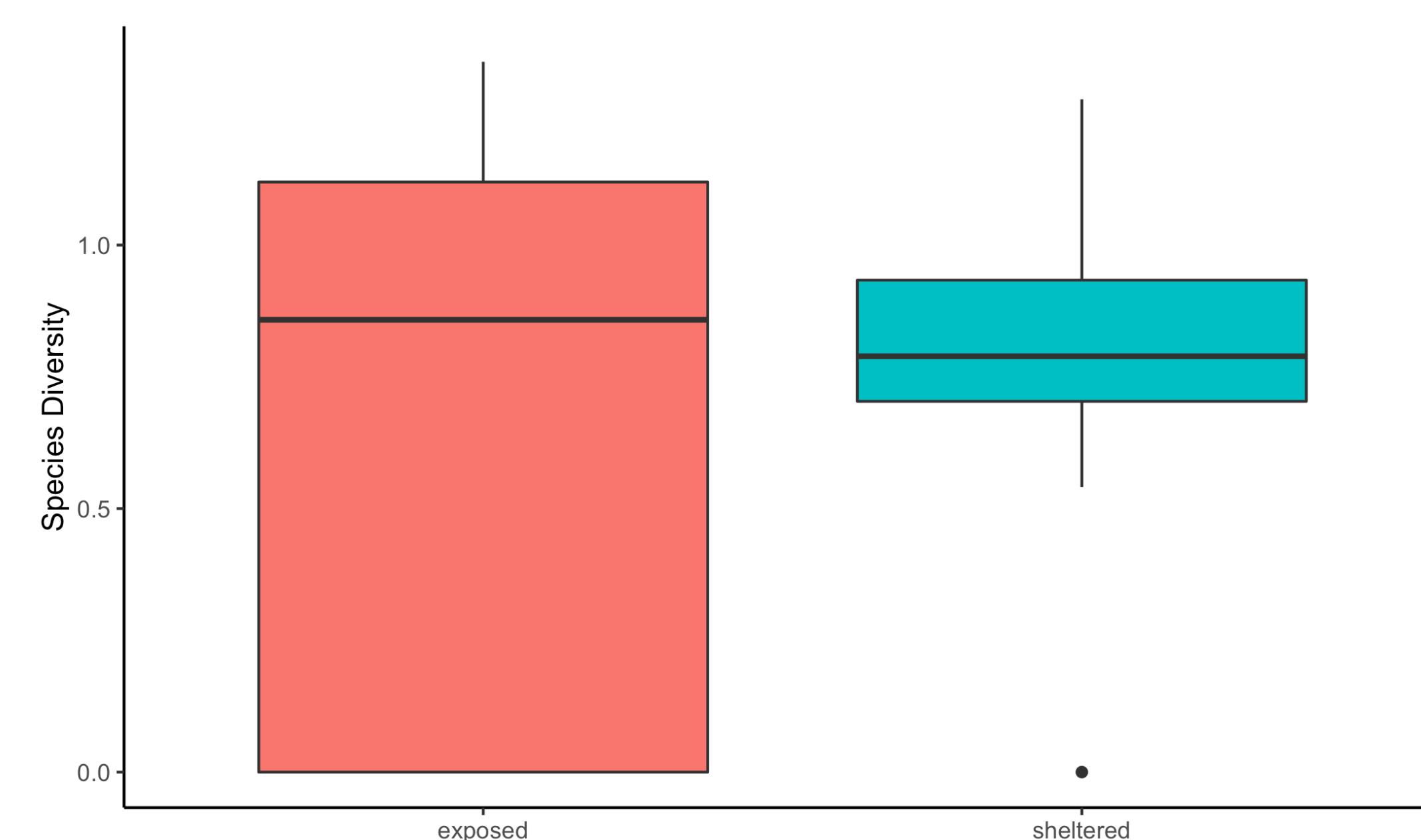
We determined that the Shannon Index (a measure of biodiversity) increased with height, and that wave exposure does not make a difference to biodiversity.

↑ height = ↑ biodiversity... sort of.

DIVERSITY VS. SHORE HEIGHT



DIVERSITY VS. WAVE EXPOSURE



ANALYSIS

- As you move higher in the intertidal, there are more pressures from the environment:
 - Waves
 - Heat and sunlight
 - Freshwater stress (rain)
- This high-stress environment may never let a single species take over.
 - promotes diversity!
- The statistics behind our results suggest that none of them are significant.

CONCLUSION

- We were not able to find a difference in diversity:
- With varying shore height
 - With different amounts of wave exposure.

We can conclude that we did not sample enough height within the intertidal to be meaningful.

We also didn't sample enough quadrats to see a difference between the two sites.

RELATED LITERATURE

Quadrat photo credit Carter Burtlake.