Reviewer #1: Comments to author

Review of JEMBE-D-15-00121

Title: Evidence of Ostrea lurida (Carpenter 1864) population structure in Puget Sound, WA

This is a brief report presented in a very limited context. It looks like a MS thesis or similar that has been edited from a longer report style document. It needs a broader ecological context to be high priority for JEMBE (J. of Experimental Marine Biology and ECOLOGY). What is reported appears to have been carefully planned, implemented, analyzed and reported. I have line-by-line suggestions for the authors to consider below.

Line by suggestions and comments.

Needs citations. Line 54 … whose theory suggests?

Line 75 - define adaptive structure, it is very important to define terms in a study such as that being described here.

Please delete all the unnecessary subheadings and (2.2.2 mortality, 2.2.3 growth and so on) and simply write in paragraphs with journal format.

Line 188 and onwards. Please use a reasonable number of significant numbers. Can you consistent measure to two decimal places when assessing the length of an oyster. I also use image J and reporting to this level (10 microns) is not realistic. I would accept 0.1 mm as more reasonable. Chi squared to 4 decimal places?

Line 205, minor grammar point… topical paragraph sentences should not contain "also." If this is an "also" sentence then it should be a continuation of the above paragraph.

Line 206, if it is not significant is it a trend? Either employ statistics (no SD therefore no trend) or not , but you cannot do both in the same analysis. You are contradicting yourself.

Line 252… "Temperature appear to…." I think you can be more definitive. Temperature DID affect mortality…..

Line 264, The text changes from third to first person - was this intentional?

Line 266, now at one significant figure for SL, much better Line 272, Sites showed a difference in size… No, the oysters showed a difference in size. Please revise the sentence.

Line 276-278. Overall growth… This is a throw away sentence, it is obvious.

Line 281, ….reproduce in year 1 as females. Earlier (line 68) you stated that they first reproduce as males, so do they reproduce twice in year 1? If so then add a few words just to make this clear, otherwise you leave the sense of contradiction.

Line 296. Also again - see earlier note on line 205 Line 304-316. This is the basis of well established "hardening" procedures for spat on shell in the intertidal.

On the figures:

These need serious revision for publication. They are rainbow colors, they need to be presented in black, white and grey scale and in a format that will work on the size of the "printed" digital page

Addressed revisions

Line 54 … whose theory suggests?

Changed ‘Theory’ to common knowledge as that’s what this was referring.

Line 75 - define adaptive structure, it is very important to define terms in a study such as that being described here

Defined Adaptive structure as the ability of independent populations to adapt to local conditions in significantly different ways

Line 188 and onwards. Please use a reasonable number of significant numbers. Can you consistent measure to two decimal places when assessing the length of an oyster. I also use image J and reporting to this level (10 microns) is not realistic. I would accept 0.1 mm as more reasonable. Chi squared to 4 decimal places?

Updated all significant numbers to 1 decimal place

Line 205, minor grammar point… topical paragraph sentences should not contain "also." If this is an "also" sentence then it should be a continuation of the above paragraph.

Combined the two paragraphs because they cover the same material

Line 206, if it is not significant is it a trend? Either employ statistics (no SD therefore no trend) or not , but you cannot do both in the same analysis. You are contradicting yourself.

Deleted offending sentence because it obvious in the graph but unnecessary to state.

Line 252… "Temperature appear to…." I think you can be more definitive. Temperature DID affect mortality…..

Dropped the vagueness of the statements and directly attributed mortality to temperature.

Line 264, The text changes from third to first person - was this intentional?

Corrected the language to third person.

Line 266, now at one significant figure for SL, much better

Updated all to show 1 significant figure

Line 272, Sites showed a difference in size… No, the oysters showed a difference in size. Please revise the sentence.

Revised sentence to indicate that a difference in size was related to site. This comment reminded me of my old mentor that constantly caught me writing goofy things like this.

Line 276-278. Overall growth… This is a throw away sentence, it is obvious.

Deleted as unnecessary.

Line 281, ….reproduce in year 1 as females. Earlier (line 68) you stated that they first reproduce as males, so do they reproduce twice in year 1? If so then add a few words just to make this clear, otherwise you leave the sense of contradiction.

Added a couple sentences discussing this contradiction.

Typically *O. lurida* reproduce first as male then subsequently as female (Coe, 1932b). While we were unable to determine whether this head true for these animals, it can be assumed that the female spawning event is the second spawn of the year for these animals.

Line 296. Also again - see earlier note on line 205

Revised to eliminate the Also

Line 304-316. This is the basis of well established "hardening" procedures for spat on shell in the intertidal.

I’m not versed in hardening procedures for spat, so I’m unsure of what this is refering.