

Interactive comment on “Expansion of great cormorant colony immediately increased isotopic enrichment in small mammals” by Linas Balčiauskas et al.

Anonymous Referee #2

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General comments:

First of all I have to precise that I am not familiar with the topic of biogenic pollution but with the use of ^{13}C and ^{15}N isotopic methods for other fields in ecosystems. However, such as they are presented in the introduction, the aims of this study sound very close to those of the previous paper published by the same authors in 2016. Perhaps consistent with this comment, the sentence ending the introduction (L28) was probably necessary to really indicate the novelty of this paper and then, its original aim: evaluating the speed of impact of great cormorant colony on small mammals. The results presented here partially confirm/reinforce the first results published in 2016 on

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the impact of colony. However, I am not convinced by the methods (and a fortiori by the results) used for studying the speed of this impact, yet consisting in the main novel objective of this paper. This study emerged from a particular event where cormorant colony drastically and rapidly grew (2015) following several years of measures of limiting breeding success. I understand this consisted in an opportunity to test if colony expansion has rapid effect in this site. However it cannot help to quantify the speed of the effect but can only state if the effect can be rapid (1 year) or not, in this site. The design used does not allow statistical calculations (multiple sites) to generalize the effect of colony growth on isotopic signatures of small mammals. Moreover, Fig1 shows that the 3 zones (expansion, ecotone and colony) are partially confounded e.g. the ecotone zone is included in the colony zone - this point was unclear and very disturbing for me. Therefore, the scope of this study is strongly limited, not only regarding 1) the characterization of the speed of the effect (the main message) but also 2) its reliability to generalize the speed of colony effects in other sites. For these major reasons I mainly perceived this manuscript as a complement of the former paper (2016) rather than a novel paper addressing a research on the speed of the cormorant colony effects.

Detailed comments: Introduction should better develop scientific implications and questions emerging from studying colony impact. What are the consequences in terms of scientific interests? P3L18-24. This half-paragraph is focused on the approach. It should be shortened here and be developed more extensively in the material & methods section. P4L13: Replace It's by Its P8L18: "Stable" is repeated twice, remove one P9L1-2: This sentence sounds redundant with previous paragraph. Maybe it could be included in previous paragraph. Table2: horizontal alignment should be modified

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