

Co-Authorship Form

This form is to accompany the submission of any thesis that contains research reported in co-authored work that has been published, accepted for publication, or submitted for publication. A copy of this form should be included for each co-authored work that is included in the thesis. Completed forms should be included at the front (after the thesis abstract) of each copy of the thesis submitted for examination and library deposit.

Please indicate the chapter/section/pages of this thesis that are extracted from co-authored work and provide details of the publication or submission from the extract comes:

Chapters 2, 3 and 4 in this dissertation are extracted from co-authored work. Chapter 2 has been published in the journal *Ecology Letters* in volume 24, no. 7, pages 1443–1454.

Please detail the nature and extent (%) of contribution by the candidate:

For Chapter 2, the candidate contributed to the development of the theoretical framework (80%), wrote the code (100%), analysed all data (100%), and wrote the manuscript's first draft (100%).

For Chapter 3, the candidate contributed to the development of the theoretical framework (80%), wrote the code (100%), analysed all data (100%), and wrote the manuscript's first draft (100%).

For Chapter 4, the candidate contributed to the development of the theoretical framework (60%), wrote the code (80%), analysed all data (100%), and wrote the manuscript's first draft (100%).

Co-authors contributed to the collection of data used in Chapters 2 and 3. Co-authors in Chapter 4 wrote part of the code used to perform simulations. All co-authors contributed to subsequent drafts of the respective manuscripts.

Certification by Co-authors:

If there is more than one co-author then a single co-author can sign on behalf of all

The undersigned certifies that:

- The above statement correctly reflects the nature and extent of the Doctoral candidate's contribution to this co-authored work
- In cases where the candidate was the lead author of the co-authored work he or she wrote the text

Name: *Daniel B. Stouffer*

Signature:

Date: 2021-11-22