



Sequence effects of disturbance on community structure.

Fukami T
Oikos. 2001; 92:215-24

Evaluations **1**

Comments **0**

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F1000 Ecology

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RECOMMENDED

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This interesting article shows that sequences of ecological disturbance events have the potential to drive communities to different final states. In other words, the same disturbances acting in a different sequence may differently affect ecosystem structure. This result has important implications for ecological research: i) multiple-stressors research, besides demonstrating the interaction among multiple human pressures, should probably account for the time dimension; and ii) to reach their goal, manipulative experiments should account for the past history of the ecosystems to be treated.

This article shows a characteristic of ecosystems that may be intuitive, i.e., that the history of ecosystems shapes their present structure. On the one hand, this confirms the importance of long-term research to understand ecosystem dynamics, whereas, on the other hand, it evidences that our understanding of the effects of human pressures on ecosystems, mainly based on comparative experiments or short-term manipulations, is probably not sufficient. Most studies aimed at assessing the effect of human pressures on ecosystems tend to focus on 'recent' or 'artificially produced' disturbances and stresses, while the past history of ecosystems and the potential for a 'legacy effect' are often neglected. In other words, manipulating systems having a different history will likely produce different results that, however, have nothing to do with the manipulated variables. Extensive meta-analyses on multiple stressors have shown a strong system dependency concerning their cumulative effect on ecosystems {1}. Accounting for the past history of ecosystems may, at least in part, explain such a context dependency and provide insight on the cumulative effect of multiple stressors.

References:

{1} Crain et al. Ecol Lett 2008, 11:1304-15 [PMID:19046359].

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 **Cite this evaluation**

Parravicini V, Boero F: "This interesting article shows that sequences of ecological disturbance events have the potential to drive..." Evaluation of. [Fukami T. Sequence effects of disturbance on community structure. Oikos. 2001; 92:215-24; doi: 10.1034/j.1600-0706.2001.920203.x]. Faculty of 1000, 20 Mar 2012. F1000.com/14054957#eval15521058