

Hernández et al. 2023

1. What gaps does the “evidence map” highlight in research on the reversibility of tipping points in freshwater ecosystems? Which would you say might be the most urgent?
2. What additional study designs or methodologies could help address these gaps and improve our understanding of ecosystem recovery potential?
3. How does the evolving terminology surrounding tipping points in freshwater ecosystems (e.g., "alternative stable state," "regime shift," and "tipping point") reflect changes in research focus or scientific understanding over time?
4. The authors conclude that most studies focus on single drivers (especially chemical and climate change) and short-term monitoring (<1 year). How can future research designs better capture the long-term, multi-driver dynamics of tipping points in freshwater ecosystems? Given the difficulty in predicting tipping points and their potential irreversibility, what design elements would be necessary to provide more actionable insights for freshwater ecosystem management and conservation?

Carrier-Belleau et al. 2023

1. Does considering the impacts of multiple stressors make us more confident in this body of concepts (thresholds, tipping points, alternative stable states)? Why or why not?
2. “This novel finding questions the usefulness of identifying tipping points along singular gradients, given the current cumulative exposure in aquatic ecosystems, when attempting to provide specific thresholds for conserving and managing aquatic ecosystems and resources.” Do we agree? Is it still important to identify tipping points along singular gradients?
3. How might managing the combined effects of multiple stressors differ from managing the impact of a single stressor?
4. Do the results of this study make it seem even less plausible that ecological tipping points can be predicted?