**Objective**
To understand how dam-induced changes to subsurface hydrology influence the ecological health of river corridor ecosystems.

**New Science**
A framework to guide future research on how the impacts of hydropower operations cascade via subsurface biogeochemistry from hydrologic exchange flows (HEF) to river corridor food webs, thus impacting ecosystem health.

**Significance**
Hydropower has grown six-fold in recent years, accounting for roughly 80 percent of the world’s renewable energy. By integrating our knowledge of biogeochemical processes across scientific disciplines, we can improve predictions of riverine health, particularly within dam-impacted systems that have large HEFs.

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