

# Boating, shoreline fishing and swimming may be damaging freshwater ecosystems

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German scientists brought together and re-analyzed the data from 94 previous studies looking at damage to freshwater ecosystems from recreational activities around the world, and say boating had the most consistently negative effect on the environment, affecting individual plants and animals, whole populations, and even whole communities of

organisms.

Human presence at [water bodies](#) can have a range of ecological impacts, creating trade-offs between recreation as an ecosystem service and conservation. Conservation policies could be improved by relying on robust knowledge about the relative ecological impacts of water-based recreation. The first global synthesis on recreation ecology in aquatic ecosystems differentiates the ecological impacts of shore use, (shoreline) angling, swimming, and boating. Impacts were assessed at three levels of biological organization (individuals, populations, and communities) for several taxa. Impacts of boating and shore use resulted in consistently negative, significant ecological impacts across all levels of biological organization. The results were less consistent for angling and swimming. Strongest negative effects were observed in invertebrates and plants.

Some water-based activities may have a [negative effect](#) on freshwater ecosystems. In the first global analysis of recreation and [aquatic ecosystems](#), researchers found impacts of water-based activities on freshwater ecosystems are often negative, but vary by activity type, species affected and their ecological responses. The authors recommend that conservationists should avoid bluntly assuming all recreation activities impact freshwater ecosystems the same way.

**More information:** Malwina Schafft et al, Ecological impacts of water-based recreational activities on freshwater ecosystems: a global meta-analysis, *Proceedings of the Royal Society B: Biological Sciences* (2021). [DOI: 10.1098/rspb.2021.1623](https://doi.org/10.1098/rspb.2021.1623)

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