

## Abstract

Freshwater biodiversity, from fish to frogs and microbes to macrophytes, provides a vast array of services to people. Mounting concerns focus on the accelerating pace of biodiversity loss and declining ecological function within freshwater ecosystems that continue to threaten these natural benefits. Here, we catalog nine fundamental ecosystem services that the biotic components of indigenous freshwater biodiversity provide to people, organized into three categories: material (food; health and genetic resources; material goods), nonmaterial (culture; education and science; recreation), and regulating (catchment integrity; climate regulation; water purification and nutrient cycling). If freshwater biodiversity is protected, conserved, and restored in an integrated manner, as well as more broadly appreciated by humanity, it will continue to contribute to human well-being and our sustainable future via this wide range of services and associated nature-based solutions to our sustainable future. This article is categorized under: Human Water > Value of Water Water and Life > Nature of Freshwater Ecosystems Science of Water > Water and Environmental Change