

Rethinking cumulative effects management of fisheries in dendritic river networks: examples from Alberta

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WEB: srd.alberta.ca/FishWildlife/EnvironmentalFlows/Default.aspx

Alberta’s fisheries resources are affected by human activities that create essentially five proximate stressors on fish populations: human harvest; decreased habitat quantity; decreased habitat quality; climate change; and, non-native species invasions. Cumulative effects management of aquatic ecosystems requires understanding the influence of these factors across both time and space. However, to make matters more interesting, river systems are dendritic networks with energy flows determined by advective, diffusive and directed movements. Layering energy pathways onto a landscape of differentially distributed impacts challenges our knowledge, legislation and management of riverine systems. In this talk, I present examples from Alberta illustrating how scales of time and space affect our perception and management of fisheries. I also discuss how science needs to play a pivotal role in linking fisheries legislation to river networks.

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