

CGU_B_04: Riparian zones in a multi-contaminants/multi-goals watershed management context

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Session Description

Riparian zones have been used for water quality management with respect to nitrate (NO_3^-) in subsurface flow and total phosphorus (TP), sediments, and pesticides in overland flow for decades. Only recently has the fate and transport of soluble reactive phosphorus (SRP), mercury (Hg), emerging contaminants, and greenhouse gas fluxes (GHG: N_2O , CO_2 , CH_4) been examined in riparian zones. In addition, as increasing pressure is put on federal, state, and local agencies to manage watersheds to achieve multiple environmental benefits (e.g., water quality improvement, soil C sequestration, fish habitat, bank stabilization, flood resilient communities), riparian zones are now often used along with other BMPs or ecological engineering practices such as stream restoration (e.g., cross-vane and j-hook in-channel structures), subsurface drainage, two-stage ditches, beaver dam analogues, denitrification bioreactors, permeable reactive barriers, artificial wetlands, and short rotation forestry crops (e.g., shrub willow). This session aims to bring together riparian studies looking at the fate and transport of a variety of contaminants in riparian zones including and beyond the “usual suspects” (N, P, sediments, pesticides), along with studies investigating the combined impact of riparian zones with other BMPs.

Primary Affiliation: CGU, Biogeosciences

Joint Session Submission: none