Division of Biology Presents:

Small, Forested Headwater Streams and their Riparia: are Forest Managers and Ecologists Ready for Climate Change?

Monday, October 31, 2022 • 3:30 PM • 221 Ackert Hall

Leon A. Barmuta
Biological Sciences
School of Natural Sciences
University of Tasmania & Fulbright Scholar

Small headwater streams comprise as much as 40% of the catchment area of river basins, and are important for aquatic biodiversity, ecosystem processes and services. To mitigate changes in forest management, stream ecologists have obsessed about riparian protection, while hydrologists have obsessed about water yield and geomorphologists obsessed about managing source areas to minimise erosion. Meaningful connections between these disciplines have been difficult to forge and maintain thus hampering managers’ abilities to develop “joined-up” responses to changes in forest management. Perversely, the challenges presented by climate change might provoke more meaningful collaboration. In lutruwita/Tasmania, global heating won’t result in uniform drying of streams across the island. All models suggest strong regional differences in changes to precipitation. Some catchments may transition from permanent to intermittent streams while others will experience more frequent and intense high-flows. Accordingly, managers and researchers will need to modify the ‘one-size-fits-all’ set of prescriptions embodied in the current Forest Practices Code. However, our greatest ignorance is about the aquatic impacts of changes in fire regimes. Even if pre-European fire regimes were re-established, we face more frequent and intense fire seasons. Accordingly, I hope to use part of my Fulbright time here at KSU to break out of my forest silo and interact with stream and catchment researchers who work outside the forestry bubble and look forward to sharing hopes and fears for the ecology of small, headwater streams in the coming decades.

If you would like to visit with Dr. Leon Barmuta, please contact Dr. Walter Dodds at wkdodds@ksu.edu.

Coffee & cookies served preceding the seminar in Ackert Hall, Room 225