Decision Tools in Support of Fish Passage. \*R. L. McLaughlin, University of Guelph, Department of Integrative Biology (rlmclaug@uoguelph.ca)

As humans, we domesticate nature to acquire space, food, water, and energy to improve our well being. This domestication process can have unwanted effects that create trade-offs between management objectives, and tensions between stakeholder groups. The form and magnitude of these trade-offs can be uncertain due to ecosystem complexity. This talk will summarize our efforts to develop decision tools to reconcile tensions between the use of dams, for control of invasive sea lamprey (*Petromyzon marinus*), and fishways and dam removals, for the rehabilitation of native migratory fishes, in the Laurentian Great Lakes. To a limited degree, these tools can help characterize trade-offs, reduce uncertainty, and identify a “best” solution. To a larger degree, they can provide a more inclusive, objective, and transparent means of clarifying and communicating management objectives and possible outcomes of different management actions, building stakeholder trust, and developing more adaptive approaches to managing resources under competing objectives. Although our efforts have focused on tensions between control of invasive species and rehabilitation of native fishes, similar efforts are addressing tensions between hydro production and rehabilitation of fishes, and could be applied more widely.