
ALEX POTAPOV, University of Alberta, Edmonton, AB, T6G 2G1

Modeling aquatic invasions and control in a lake system: principles and approaches

Bioeconomic approach to biological invasions requires accounting for a number of processes and combining several analysis techniques: models of establishment, population dynamics and control from invasion biology; transportation models for invader flow between the lakes; cost-benefit analysis and discounting from economics; and methods of optimization and optimal control. Each side of the problem can be considered with a different degree of detailization, therefore it is possible to build a collection of models of different complexity. I will describe four models and most important results about the lake invasions, which were obtained with the help of these models.