



MMI

Maud Menten Institute
Mathematics for the Life Sciences



**University
of Victoria**



***Maud Menten Institute /
Mathematical and Statistical Biology Seminar***

Monday, November 30, 2026

12 pm PST (in person)

Clearihue A-313

Join Zoom Meeting

<https://uvic.zoom.us/j/85786033554?pwd=hubhZhpQcInRrAe6uxTM2JuQ3DY8vs.1>

Meeting ID: 857 8603 3554

Password: 124534

Attend the Watch Party:

At UAlberta @ 1:00 (MT) - room UComm 2-108

At UManitoba @2:00 (CT) - St. Paul's College - room 225

Maria Kuruvilla

Department of Biology

University of Victoria

**Estimating the impact of forestry on Pacific salmon in BC using
Bayesian hierarchical models, simulations, and profile likelihoods**

Industrial forest harvesting has altered the functioning of watersheds that support wild Pacific salmon. While the negative impact of forestry on salmon is well known among people whose lives are tied to the rivers that salmon spawn in, the population-level effects of forestry on salmon have not been quantified before.

In this seminar, I will talk about how we reconstructed annual time series of forest disturbances to 1,745 salmon watersheds in coastal BC dating back to 1883 and then developed multi-population spawner-recruit models and fit it in a hierarchical Bayesian framework to estimate the effect of forestry disturbance on salmon productivity. I will also talk about how I used simulations and profile likelihoods to overcome some of the estimation challenges that I faced.

