

---

**QIHUA HUANG**, University of Alberta

*Mathematical Risk Assessment of Contaminants on Fish Population Dynamics*

We formulate a basic toxin-dependent population model by introducing a dose-dependent mortality rate function. We analyze positive invariant region and stability of boundary and interior steady states. The model is connected to experimental data via model parametrization. In particular, we investigate the effect of mercury on the persistence and likelihood of extinction of a small native rainbow trout (*Oncorhynchus mykiss*) population.