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Evan M Milliken* (evmilliken@ufl.edu), Department of Mathematics, University of Florida, Gainesville, FL 32611, and **Sergei S Pilyugin**, Departement of Mathematics, University of Florida, Gainesville, FL 32611. *Persistence in a 2-patch SIV model coupled via diffusion*. Preliminary report.

Infectious Salmon Anemia virus is a flu-like member of the Orthomyxoviridae family of viruses which affects a variety of finfish, including Atlantic Salmon. The virus has caused devastating outbreaks of Infectious Salmon Anemia in populations of farmed Salmon. Susceptible host species can become infected either by direct contact with an infected individual or by contact with the virus in the environment. A 2-patch model is presented to study the dynamics of an infection in the setting of a large Salmon farm in close proximity to a wild Salmon population. Each patch is modeled by a Susceptible - Infected - Virus model and the patches are coupled via linear diffusion in the viral compartment. The basic reproduction number \mathcal{R}_0 is determined and conditions given for the existence of equilibria as well as for persistence or extinction of the virus. (Received January 27, 2015)