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Abdul-Aziz Yakubu* (ayakubu@howard.edu), Department of Mathematics, Washington, DC 20509. *A viral dispersal linked farmed — wild salmon infectious salmon anemia virus discrete — time model.*

We introduce a discrete-time viral dispersal-linked farmed and wild salmon infectious salmon anemia virus (ISAv) disease model with intrinsically generated Ricker demographic population cycles. For the model, we use an extension of the next generation matrix approach for calculating the basic reproduction number, R_0 , to explore the effects of viral migration on the persistence or extinction of ISAv disease infection, where the salmon demographic dynamics is periodic. When $R_0 > 1$, we use simulations to study the relationship between the period of the demographic Ricker period k population cycles and the period of the endemic period k population cycles of the viral dispersal-linked farmed-wild salmon ISAv model. (Received September 14, 2019)