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Finite populations conditioned on non-extinction

It is well known that stochastic models of the dynamics of finite populations tend to fall into two categories (when the system is closed): those that allow for unlimited growth of the population with positive probability and those for which extinction of the population in the long run is certain.

In practice one often expects extinction times to be sufficiently long that useful conclusions such as stabilisation of population structure can be drawn from deterministic population models. The talk is about work, old and new, aiming to justify such conclusions rigorously.