

Epidemiology of a lethal disease, in harbour seals and in simplified metapopulation models

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Harbour seals colonies occur on islands along the coasts of Sweden, England, Germany, Holland, Norway and Ireland. They form a spatially substructured population. The seal populations are plagued by a highly lethal virus (Phocine Distemper Virus) which causes mass mortality events with a conspicuous regional variation in disease dynamics. I will present some theories and model efforts that have been made so far in order to understand this particular system.

Furthermore a conceptual metapopulation model for disease that can be applied to two-host metapopulations will be presented. It is shown how the shape of the colonisation function (which encapsulates much biology) can have dramatic effects on model predictions.