Following a request from the Commission, the Panel on Animal Health and Welfare was asked to deliver a Scientific Opinion on: 1) the expected prevalence (design prevalence) under different circumstances, and, 2) an updated scientific assessment of the size of the relevant geographical area for the purpose of monitoring and surveillance programmes for bluetongue. A systematic literature review and a review of monitoring and surveillance data from European Union Member States was performed in order to estimate the prevalences observed in the Member States. The prevalences observed in areas that have been infected for several years were slightly lower than the design prevalence of 2% currently used for monthly testing of sentinel animals, but much lower than the design prevalences of 20% and 10% for annual surveys in populations of unvaccinated and vaccinated ruminants, respectively. Currently there is no scientific evidence that suggests an optimal size of the relevant geographic unit for BTV monitoring and surveillance, since it depends on many factors, including the goal of the surveillance programmes. Early warning based on passive surveillance will take place irrespective of the size of the geographical unit but, when based on active surveillance, it is best targeted at regions considered at risk for introduction, using small geographical units, a high sampling frequency and sample size. For estimating the impact of interventions on the prevalence of infected animals, smaller areas result in more precise estimates of the prevalence and also take better account of local differences. For establishing freedom from infection, smaller areas result in lower design prevalence for a region as a whole and take better account of local differences in infection dynamics.