

With so many parameters, the exploration of the system could take a very long time. To keep things simple, we choose values for all of the parameters except A (our management variable), and then study the system as we vary A . This is why we have included only A in the parameter vector. The units for the population quantities V , M , H , and A are in millions of individuals. The units of the time constants r , β , b and c are in inverse years. We will assume that A can be varied from 0 up to a maximum of 15. We specify now all of the parameters that will be fixed throughout this study.

■ Stability of Equilibrium

We begin by calculating the derivative matrix at the three equilibria.