Figure S1: As with the X-shredder HEG (Fig. 4), factors that increase the extent of mosquito dispersal heighten the probability an introduced classical HEG becomes established and causes population extinction. The plot shows mean probability of extinction (with 95% confidence limits based on 200 runs) when the parameters describing the basic propensity to disperse (blue), the strength of the reduction in movement near the object of search (green), and the maximum dispersal jump (red) are changed around the values used to draw Fig. 7 and in a landscape corresponding to point A in Fig. 7c.
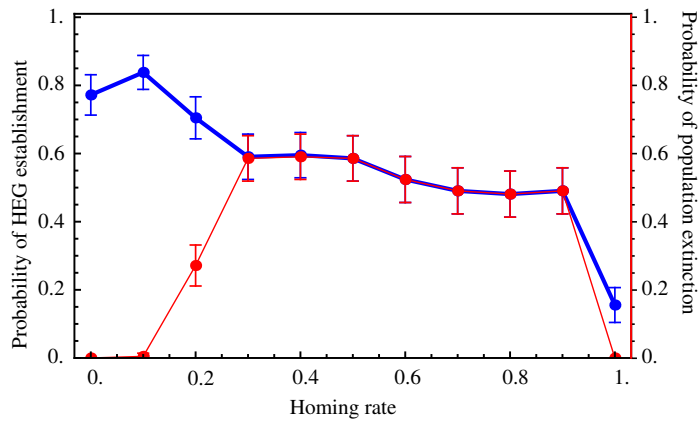

Figure S2: The role of homing rate for a classical HEG is similar to that of cleavage rate for an X-shredder HEG (Fig. 5) - the probability of both establishment (blue) and population extinction (red) are affected. Means and standard errors based on 200 simulation runs in a landscape corresponding to point A in Fig. 7c.
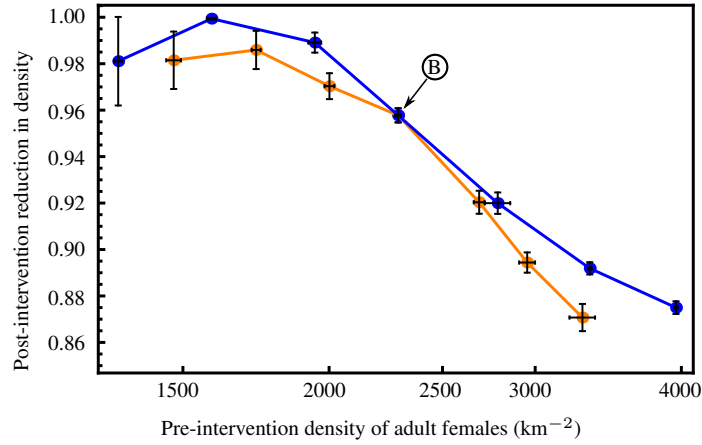
Figure S3: The effect of landscape structure on mosquito population suppression following the spread of a classical HEG. In the landscapes studied here a classical HEG introduction tended to result in a stable polymorphism with its corresponding wildtype allele, causing mosquito population suppression rather than extinction. Point B in this plot is the equivalent to Point B in Fig. 7g now plotted in a space with axes pre-intervention population density and the proportional reduction in density after the HEG has become fixed. The orange and blue lines show the result of changing either breeding site or feeding site density along the orthogonal range of values around B indicated in Fig. 7g. Increasing either leads to higher pre-intervention population densities and lower population reductions. Error-bars show one standard error based on 10 runs.
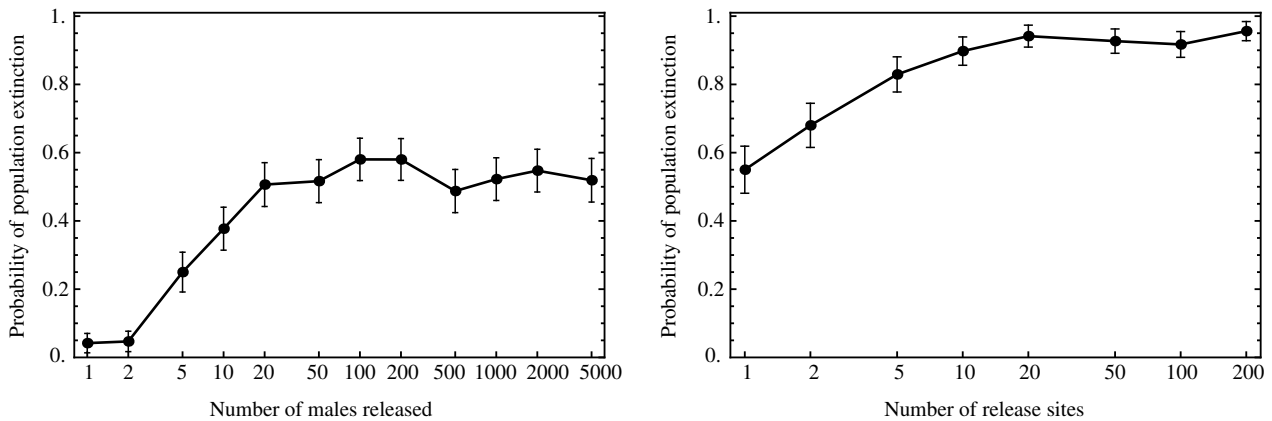

Figure S4: The effects of different release strategies on the probability that a classical HEG becomes established and causes mosquito population extinction. The landscape structure and other parameters are as at point A in Fig. 7c. In (a) varying numbers of male HEG-carrying mosquitoes are released at a single site while in (b) 200 males are distributed at a different number of sites from one release of 200 mosquitoes to 200 releases of a single mosquito. Means and 95% confidence limits from 200 simulation runs are shown.