

## Should there be tighter regulations on gene editing in wildlife?

The ethical issues raised by human germline engineering are not new. They deserve consideration, but outcry over designer babies and precision gene therapy should not blind us to a much more pressing problem: the increasing use of CRISPR to edit the genomes of wild animal populations. Unless properly regulated and contained, this research has the potential to rapidly alter ecosystems in irreversible and damaging ways.

Scientists have already used CRISPR to modify mosquitoes and the fruit fly *Drosophila melanogaster*. And in combination with another molecular-biology technique called gene drive, they have found a way to massively increase the efficiency of spreading these transformations to offspring and through the population. Once introduced, these genetic changes are self-propagating. If released beyond the laboratory, the effects would spread with every new generation and would quickly run out of control.

Gene drive achieves rapid changes in a sexually reproducing population because it relies on genes that are capable of preferential spread through generations. Without this, introduced traits meet the statistical obstacle of Mendelian inheritance and take hold in a population much more slowly. Altering wild animal populations using gene drive aims to rapidly disrupt a particular trait, such as the ability of *Anopheles* mosquitoes to transmit malaria. It makes only a small-scale initial change to the relevant ecosystem and, in this example, the preliminary disruption would be restricted to the mosquito's natural habitat. But the risk of broader ecosystem disruption is unknown and would require extensive mathematical modelling to estimate.

**The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: [Regulate gene editing in wild animals](#)**