

Debating perils and promise of gene editing

“Crap!” That was the first word out of Kevin Esvelt’s mouth as he scanned a paper published in *Science* in March. The work described the use of a gene-editing technique to insert a mutation into fruit flies that would be passed on to almost all of their offspring. Although intriguing, the report made Esvelt feel uneasy: if engineered flies escaped from a lab, the mutation could spread quickly through a wild population.

But that was exactly what exhilarated molecular biologist Anthony James at the University of California, Irvine. “Holy mackerel!” he wrote to the study’s authors. “Can we use it in mosquitoes?”

On 30 July, the US National Academy of Sciences, Engineering, and Medicine (NAS) held the first in a series of meetings meant to find ways to balance the promise and perils of the technique, called ‘gene drive’. The method can rapidly modify not just a single organism but a whole population, by inserting a desired genetic modification into an organism along with DNA that increases the rate at which the change is passed to the next generation. The technique could be used to render mosquitoes unable to carry malaria parasites or to wipe out harmful invasive species, but it could also have unanticipated environmental costs and might be impossible to reverse.

The idea of gene drive has been around for more than a decade. But its practicality was given a huge boost around three years ago with the arrival of [CRISPR](#), a gene-editing technique that allows precise changes to an organism’s DNA.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis. Read full, original post: [Caution urged over editing DNA in wildlife \(intentionally or not\)](#)