

## ‘Serious trouble’ for the natural world. Can synthetic biology protect it by redesigning insects and saving threatened species?

A [paper](#) in the journal PLOS Pathogens described how they synthetically engineered mosquitoes to stop the spread of dengue fever, a viral tropical disease that sickens as many as [100 million people](#) each year.

Now imagine genetically tweaking an invasive species of mosquito to save native Hawaiian birds from extinction, or transferring genes from one species of endangered chestnut tree to another to help the latter resist blight. Employing the same sort of genetic engineering used to make a [plant-based burger bleed](#), scientists are beginning to explore the ways synthetic biology could help protect [biodiversity](#) and conserve species.

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The Asian elephant (*Elephas maximus*) is on the IUCN Red List of Threatened Species.

A team led by George Church out of Harvard University hopes that by transferring genes in the mammoth genome to the Asian elephant it will be able to survive in the Arctic; relevant genes might include those that code for extra fat and dense hair. That would extend the animal's range into regions that are already changing due to a warming climate.

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“I think the natural world is in serious trouble,” [conservation expert Kent] Redford said. Whether synbio can be part of the answer to that problem remains a big question.

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