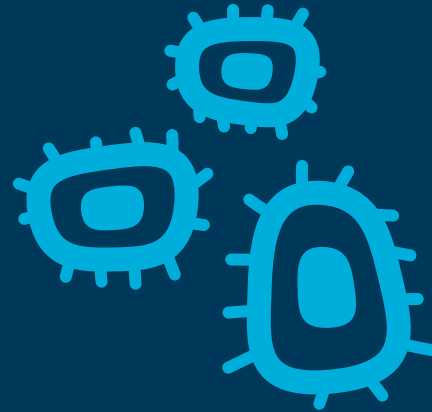


SYNTHETIC BIOLOGY: Reducing mosquito-borne diseases





Mosquitos
can transmit
harmful viruses
to humans.



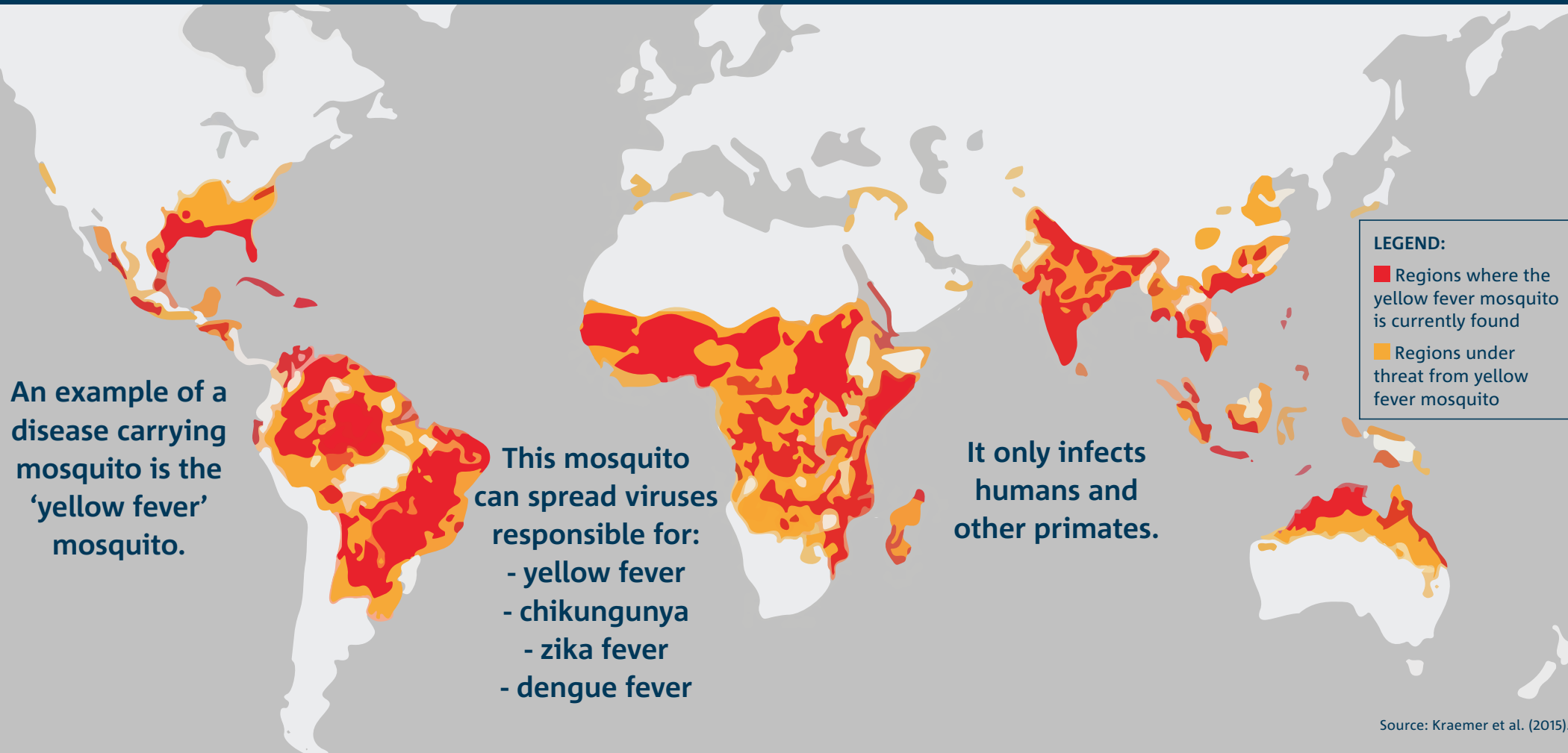
Some examples of
mosquito-borne
viruses include:
malaria, dengue,
chikungunya and
yellow fever.



These viruses cause
severe symptoms
(nausea, fever, joint
pain, rash) and can
be fatal.

Mosquito-borne disease is a significant problem in developing countries. However, Australians can contract these diseases when travelling overseas.

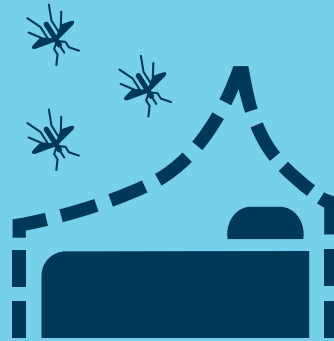
Mosquitos capable of spreading these diseases have also been found in northern parts of Australia.



Currently, humans control mosquito-borne diseases by:



Spraying to reduce mosquito numbers



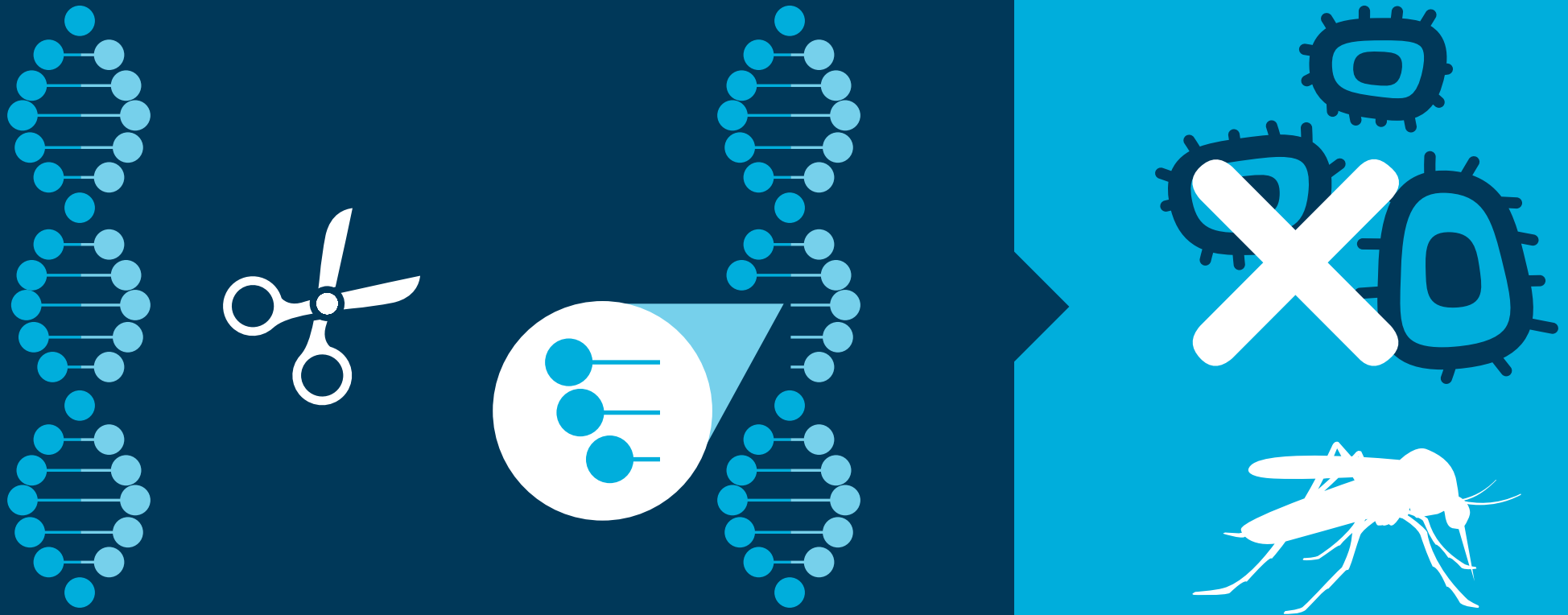
The use of insecticidal mosquito nets



Protective measures
(e.g. use of insect repellent, wearing long sleeves)

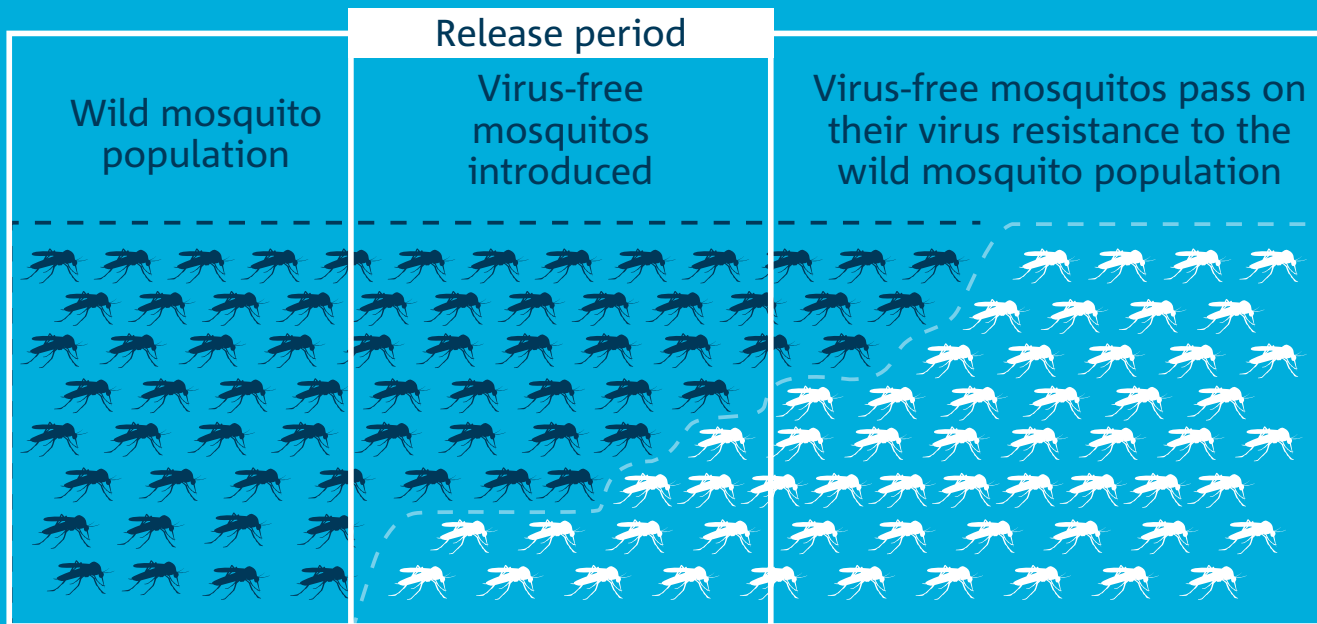
Unfortunately, for many mosquito-borne diseases, there are no vaccines available to protect humans from catching these viruses.

New synthetic biology technology can enable scientists to identify virus-susceptible genes in the mosquito and remove them, producing virus-free mosquitoes.



Virus-free mosquitos could be released into the environment and mix with wild mosquitos, passing on their virus resistance to their offspring.

This technology could significantly reduce the number of people catching mosquito-borne viruses in Australia and throughout the world.



**DENGUE
FEVER**





This technology would likely be approved and/or regulated by:

The Office of the Gene Technology Regulator

The Environment Protection and
Biodiversity Conservation Act

The State-based Department of Agriculture

Together these regulatory bodies and standards would ensure that:

- The research and development occurs under controlled laboratory conditions, and
- Any environmental, ecological and health risks or concerns are properly reviewed and addressed.



Australian residents like you may have the opportunity to

Take part in public events where scientists share their research on the technology

Participate in online or face-to-face discussions to ask questions and share your thoughts about the technology

Sign up to receive regular updates on the technology development

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