

SYNTHETIC BIOLOGY: Protecting endangered species



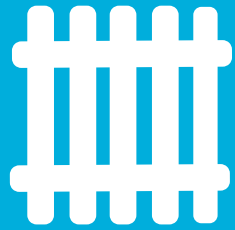
58 animals have become extinct in
Australia since European settlement...

...and many more are in
danger of becoming extinct

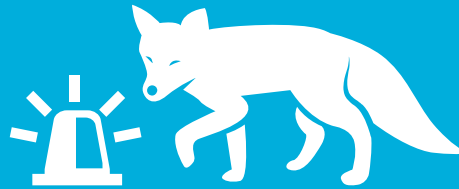


**All of these animals perform (or performed)
valuable functions for the natural environment,
ensuring a balanced and healthy ecosystem.**

Currently, endangered species are being protected through manual methods, such as:



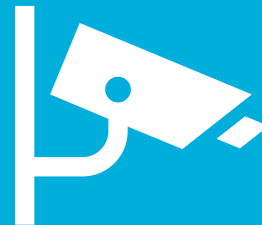
Fencing
(habitat protection)



Controlling
predators



Policies
and laws



Monitored
enclosures

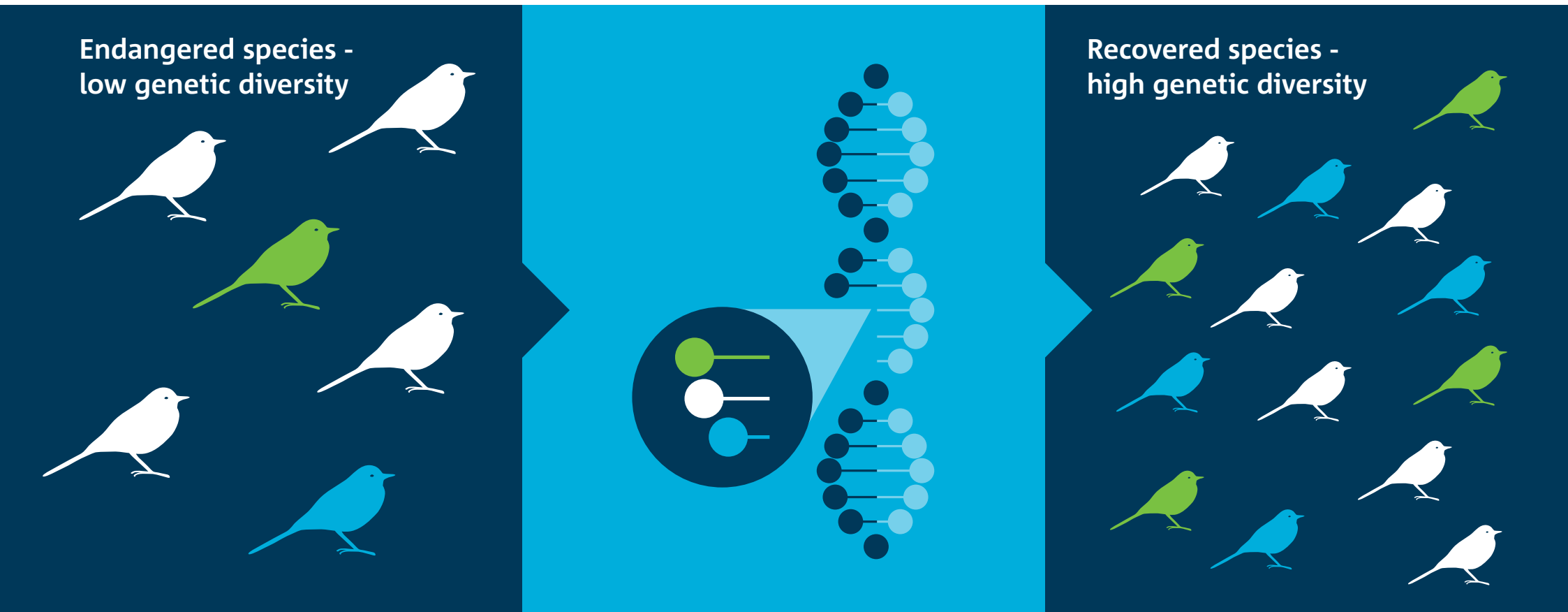
But these methods are not keeping up with the rate of species decline.



These methods are also labour-intensive, expensive and small-scale.

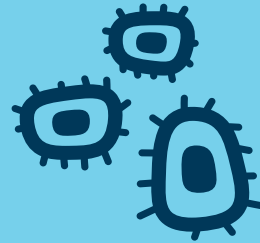
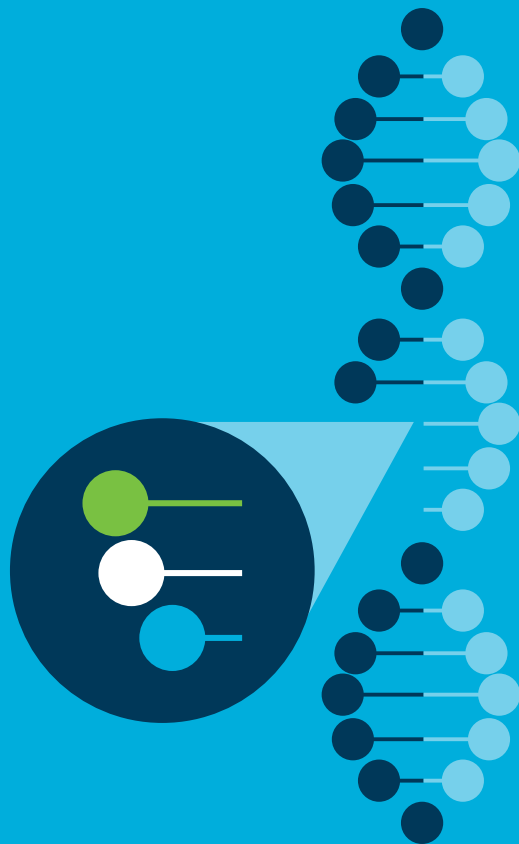


With new synthetic biology technology, it would be possible to recover endangered species by re-introducing genetic diversity into the species.



Greater genetic diversity strengthens the ability of a species to survive.

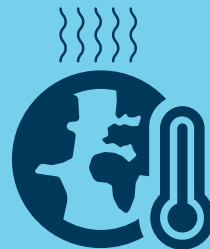
With this new technology, it may also be possible to edit specific genes to make the species...



...more resilient to disease



...eat different and more abundant food sources



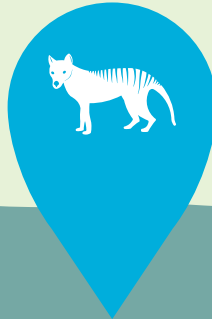
...adapt to a changing climate

...thereby improving the species' chance of survival

Through gene editing, it would be possible to:



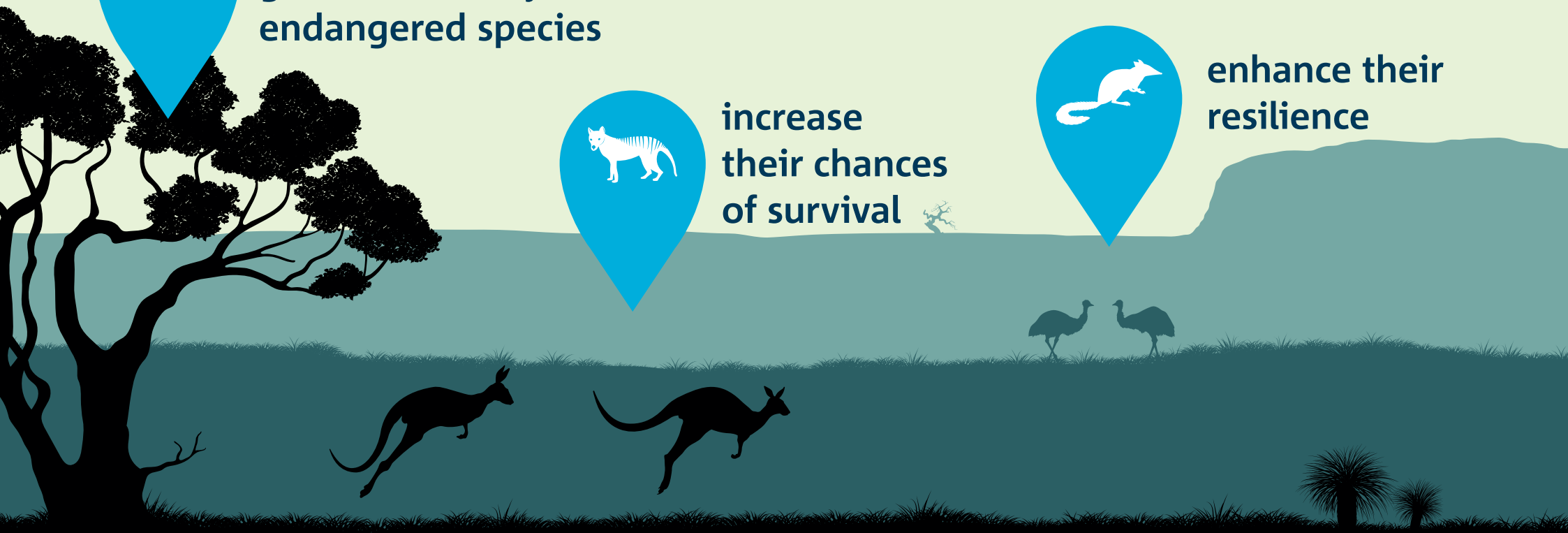
**increase the
genetic diversity of
endangered species**



**increase
their chances
of survival**



**enhance their
resilience**



**This could help increase biodiversity and restore
balance in the environment.**



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 RSPCA

The State-based
Biosecurity legislation

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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