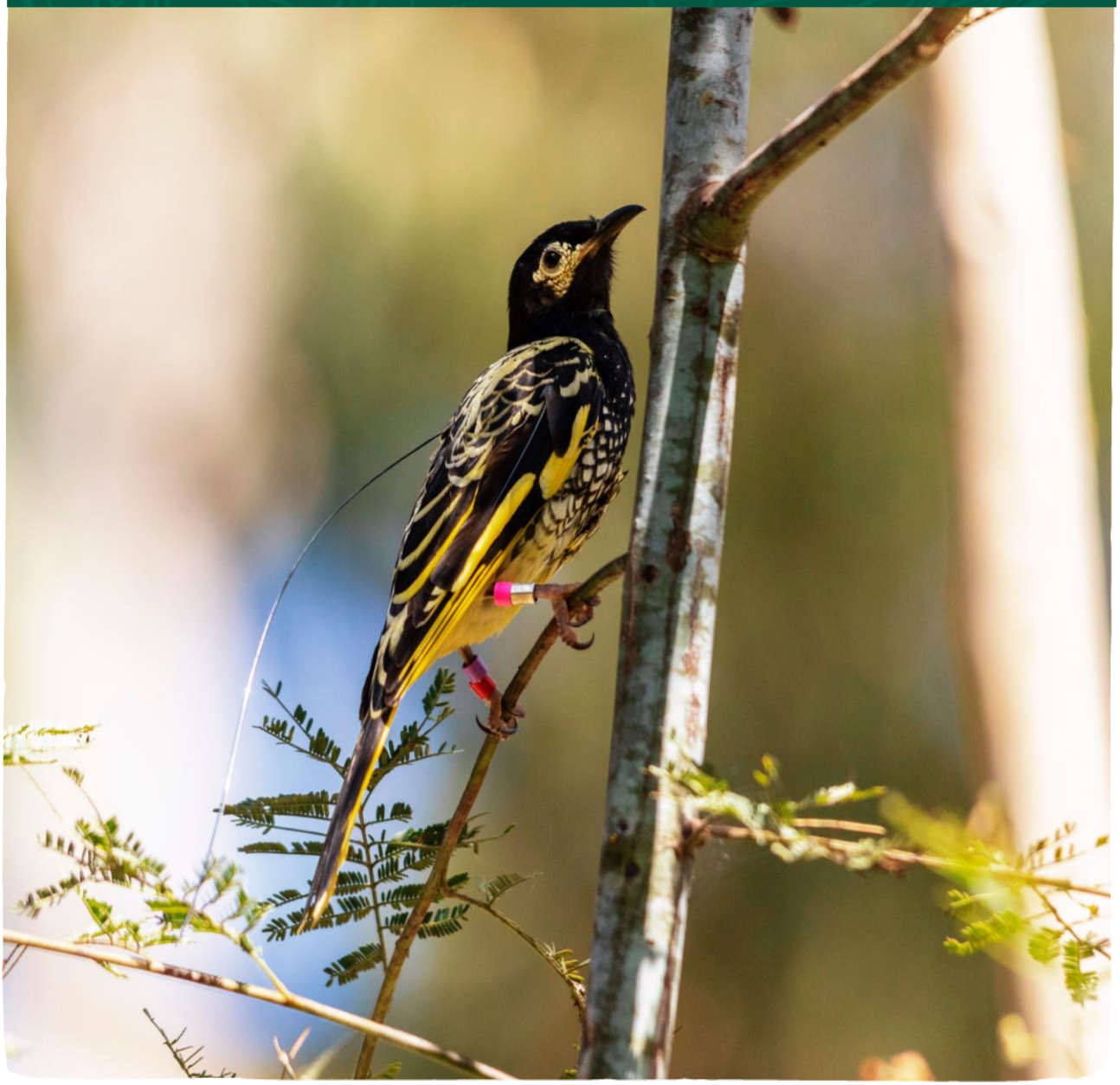
SCIENCE WEEK AT TARONGA

Innovation through Conservation:

Monitoring the status of the Regent Honeyeater



The regent Honeyeater used to flock in its thousands, across South-Eastern Australia and up into Southern Queensland.

The Regent Honeyeater is now considered Critically Endangered due to significant population decline across its range following dramatic loss and fragmentation of woodland habitat. Taronga's conservation effort involves a successful zoo-based breeding program and a partnership with the NSW government to restore 5000 hectares of box gum forest to rejuvenate the lost habitat.

TARONGA
CONSERVATION SOCIETY AUSTRALIA
For the Wild

FACT FILE

Conduct research to find the following information

Distribution:

_____

_____

_____

Habitat:

_____

_____

_____

_____

Life Span:

_____

_____

Size:

_____

Weight:

_____

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Diet:

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_____

Breeding./Offspring:

_____

_____

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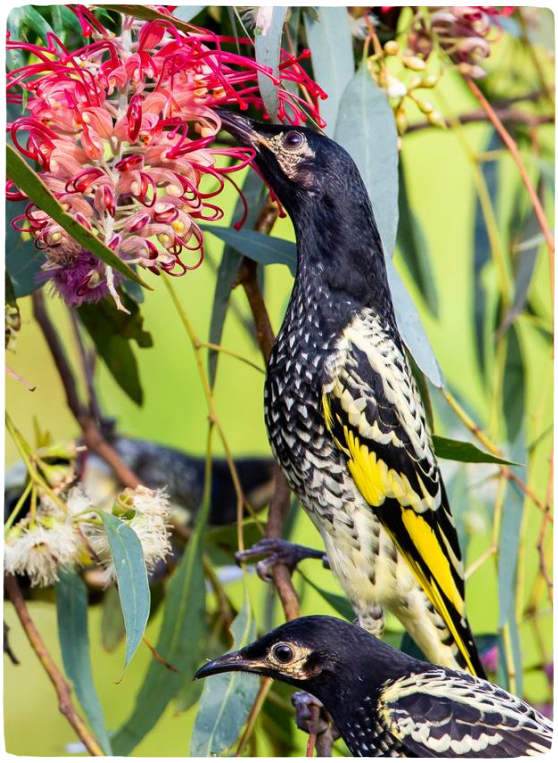


DID YOU KNOW?

Regent Honeyeaters are ecosystem engineers and important pollinators for trees that provide habitat for other species in the area.

TARONGA'S CONSERVATION EFFORT

More than 600 regent honeyeaters have been bred at Taronga and about 400 of these have been released into the wild.

It is important that the birds released to the wild are equipped with a radio tracker to monitor their movement and behaviour and provide a greater understanding of their survival, breeding and dispersal.

DESIGN BRIEF

What you are developing

WHY DO RELEASED BIRDS NEED TRACKING DEVICES?

Tracking devices are important for any zoo bred animal because we need to monitor their success in
the wild. The scientis ts overseeing their release need to ensure that these birds can survive in the wild while also tracking how far they spread.

Ethics

- Trackers cannot weigh more than 5% of the animal's weight.
- Trackers cannot cause long term harm to the animal.

Tracking Technology

- The battery must last for 10 weeks from the release date.
- Radio frequency trackers require a lot less battery power and can last longer.
- GPS trackers require a lot of battery power, Solar technology was trialled, unfortunately Regent honeyeaters are not successful candidates for this as they spend a lot of time in the understory.

Attaching the tracker

- The current practice for attaching trackers to flighted birds is to attach the devices to a harness.
- Harnesses need to have a weak point to stop birds getting snared on trees and to ensure they are able to break off after 10 weeks, so the bird isn't carrying them around their whole lives.
- The harness cannot impact the movement of the wings or tail

TARONGA SCIENTISTS NEED YOUR HELP

The ways that tracking devices are attached to an individual in the wild is species dependent on a number of factors that you need to take into consideration when you develop your prototype:

- **New, innovative idea for the harness**
- **Has to have a 'tracker' that is attached to the harness**
- **Ensure it doesn't impact the bird's natural movements**
- **Weighs less than 5% of the bird's body weight**
- **Has to include a weak point made of a material that can break easily if the bird becomes stuck, or the battery life runs out.**

For more information about the research of Taronga Scientists and the breeding programs our keepers oversee head to our science week website
www.taronga.org.au/education/science-week

TARONGA ZOO SYDNEY
TARONGA WESTERN PLAINS ZOO DUBBO
For the Wild

PROTOTYPE DESIGN PROCESS

How are you going to develop your prototype?

WORKING MATHEMATICALLY

Use a model or plush toy to represent your regent honey eater (it can be anything as long as you describe it well – eg arms represent wings) and find ou how much it weighs. Your design must be 5% of this total weight.

Weight of the plush: _____

5% of the weight:_____

Show you're working out below:

Tracking harness design

Label the materials and describe their purpose in the design

TARONGA ZOO SYDNEY

TARONGA WESTERN PLAINS ZOO DUBBO

For the Wild

FINAL DESIGN

Submission form

Name of design: _____

Name of designers: _____

School: _____

Weight of model:_____

Weight of design:_____

Write a description about your design, explain how it works and how it overcomes the identified problems.

Explanation of design:

_____

_____

_____

_____

_____

_____

Safety features:

_____

_____

_____

_____

Other notable facts

_____

_____

_____

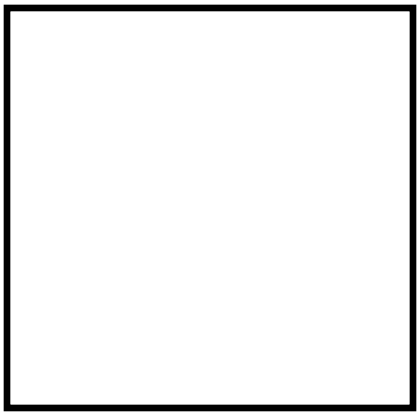
_____

Submit your digital entry to Taronga.org.au/education/science-week

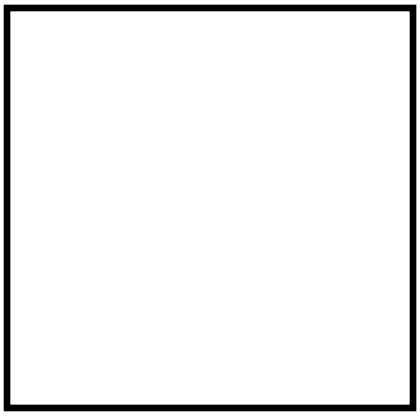
FINAL DESIGN

Submission form

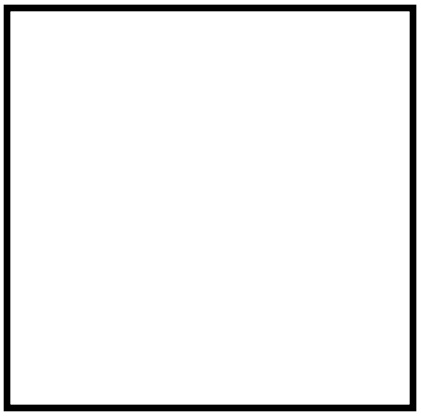
Take four photos of your design and write a brief explanation of what is visible on each photo.



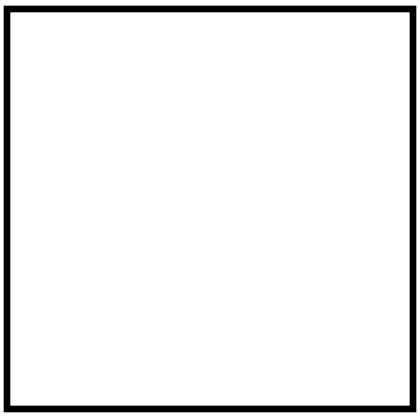
Left View



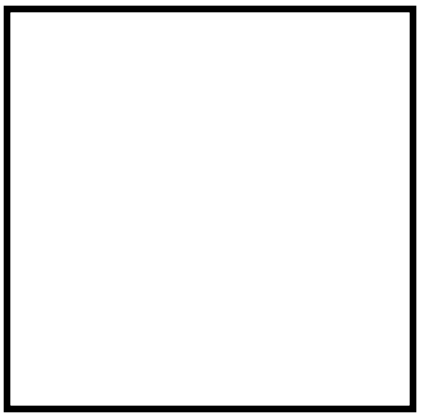
Front view



Right View



Top View



Unattached View

Submit your digital entry to Taronga.org.au/education/science-week