

Worksheet 2: Introduction to Takahē at ZEALANDIA

During your visit today, in addition to spending some time observing the takahē living here, you will be taken on a walk through the sanctuary and into the bush. In this time you will see a range of endangered, endemic bird species including takahē.

The sanctuary 'ZEALANDIA' takes its name from the lost landmass that broke away from the ancient super-continent Gondwana some 80 million years ago. As a result of its isolation, ZEALANDIA evolved a unique and highly diverse flora and fauna, including birds, reptiles and insects now found nowhere else in the world.

Many of the birds here have common characteristics. This is because they evolved in the same conditions - from ancestors isolated from the rest of the world for millions of years on a landmass that had no mammalian predators.

The education rangers at ZEALANDIA will speak to you on the following topics:

1. New Zealand's unique biodiversity, the impact of humans on Aotearoa's landscape, flora and fauna, and why conservation is necessary.
2. The role of sanctuaries – including:
 - Biosecurity / pest management at the sanctuary
 - How are introduced mammals kept out?
 - How it this monitored?
3. Unpacking the standard - AS 91158 'Where have all the takahē gone?'

Make your own notes on what you learn, on the 'dot and jot' page headed up Education Ranger's Presentation

Education Ranger's Presentation - Dot-jot notes

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In the valley

The main predators of the ancient ZEALANDIA continent were aerial and there were no mammals for birds to compete with, except bats. Many of our birds' adaptations have evolved to help them survive in this environment. When humans arrived relatively recently, mammalian predators and competitors were introduced. Many endemic birds did not have the adaptations required for survival against these introductions.

For each of the birds below, make your own notes below under the following headings:

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Name of endemic/native bird	Characteristics/Adaptations	How these adaptations aided or compromised survival	Introduced Predators & Competitors
<p>Kākā</p> 			
<p>Tieke</p> 			
<p>Toutouwai</p> 			
<p>Pūkeko</p> 			

Takahe Observations:

In the box below write down ALL your observations of the takahē during your half hour observation time.

Take note of their appearance, behaviours, interactions with others, how they use their beak, feet, feathers, 'talk' etc.

At the Visitor Centre

Back in the Visitor Centre, in the Exhibition, watch the film on New Zealand's geological history (plays every half hour). Take notes in the space below particularly on the impact specific introduced species (including humans) have had on the habitat of these birds.

In the exhibition, find the display headed 'Situations Vacant'.

- a. Watch the video clip of 'Mammal Free Zone' and use the display to take notes on how some of New Zealand's animals have evolved to occupy ecological niches that in other places were usually occupied by mammals.
- b. Watch the video clip 'Bird on Bird' and use this to explain why New Zealand's ecosystem and its bird species are unique.

In the exhibition, find the display headed 'Made in New Zealand'. Watch the video clip 'A World Apart' and use this to explain why New Zealand has so many endemic species compared to other parts of the world.



In the exhibition, find the display headed 'Ode to the West Wind'. Read the information on how the takahē arrived in New Zealand. What are the three related species? Why is the pūkeko thriving and the takahē not?



As you make your way upstairs to the Pāteke Room, observe the display boards and reflect on the number and variety of New Zealand's endemic flora and fauna which have already become extinct.

Upstairs at 'New Zealand's Most Unwanted' display, make a list of the introduced mammals. How did these introduced species come to be in New Zealand?

Describe the adaptations of the introduced mammals which have contributed to their success.

If the display 'Safer Havens' is available, watch the video clips:

- a. 'Finding the takahē'
- b. 'Restoring the Islands'

Explain why this environment is so successful in keeping our endemic birds protected.
Take note of some of the steps taken to create a 'conservation island'.