



Human Impact on Taiaroa Head

A Biology Programme for
Secondary Students
at the **Royal Albatross Centre**

Student Work Sheets

2022

Conservation Manager – Enhancement Activity

Enhancement – aspects that improve on nature

1. Use lines to match up the intervention method with the effect of that technique

Intervention Methods	Effect of those Methods
1. Weed control	a) Technique for identifying individual birds to keep a reliable record of individual life history, presence on the headland, population data and health information.
2. Dummy Eggs	b) Device used to ensure the nesting albatross do not die from heat-induced organ failure due to extreme climatic conditions.
3. Hand Rearing	c) Fledglings that land in the harbour and are unable to take off again are returned to headland or taken out to the open ocean where there is more wind.
4. Rabbit Exclusion	d) Action of removing introduced plants that make the headland less suitable for nesting and take off.
5. Incubator	e) Object used to keep breeding pairs at the nest after the egg or young chick is removed for weighing, measuring of keeping in incubator for a while. Has a calming effect when presented to nervous or aggressive breeding adults during nest checks
6. Supplementary Feeding	f) Used to control access of humans, stock, and dogs to the nature reserve.
7. Drug Treatment	g) Used to minimise visual disturbance to nesting birds from people in the observatory
8. Predator Trapping	h) Lagomorph control to reduce bare patches of ground that attract flies: increase vegetation and nesting material for all seabirds; reduce competition for space with burrowing seabirds and reduce erosion and prey for introduced predators.
9. Trail Camera	i) Device used to keep eggs safe when high risk of desertion and/or infection.
10. Supply extra nesting material and shelter	j) Used to treat disease (e.g. Aspergillosis and other infections).
11. Security Fence	k) Technique used to eliminate threat from feral cats, mustelids (stoats, ferrets), hedgehogs and rats.
12. Window Tinting and double glazing	l) Action of additional feeding by rangers when one parent goes missing or when the pair is unable to supply the chick with enough food to stay healthy.
13. Leg Banding	m) Action where chicks are housed and fed solely by wildlife ranger when both parents die or disappear, and no foster pair is available.
14. Manual treatment of eggs and chicks	n) Provides vulnerable chicks or eggs with protections from weather extremes.
15. Nest check and chick weighing	o) Nests or chicks needing extra monitoring, perhaps if a parent is suspected to be missing.
16. First Flight rescue	p) Hand removal of maggots on hatchling or very young chicks on their health, parent presence and nesting behaviour.
17. Candling	q) A technique to see if an egg is viable.
18. Nest sprinklers	r) Weekly monitoring of eggs and chicks to check on their health, parent presence and nesting behaviour.

1. *Outline any negative aspects to these management techniques*

2. How can the rangers tell if the birds are stressed?

3. Do you think these enhancement techniques should be used to increase the fledging rate of Royal Albatross at Taiaroa Head?

- *Management has increased the fledging rate by ~20%*
- *Of those chicks in managed colonies: 75% of non managed offspring survive to 5 years, only 60% of those that are managed survive to 5 years but those managed chicks may not have survive without any intervention.*

Residents of Taiaroa Head

Use the Otago Daily Times Poster to fill out the **Taiaroa Head Population** column. Describe what you see in the various locations to fill out the **Site Features** column and record whether or not a species was viewed. Information for negative and positive human impacts will come from discussions, observations and displays.

Pilot's Beach:

Species	Status	Taiaroa Head Population	Viewed ?	Site Features <i>Why breed at Taiaroa Head?</i>	Human Impacts – NEGATIVE <i>What do we do that negatively impacts the species?</i>	Human Impacts – POSITIVE <i>What do we do that benefits the species?</i>
Blue Penguin <i>Native</i>	At Risk (declining)					
New Zealand Sealion <i>Endemic</i>	Threatened (Nationally vulnerable)					

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Fur Seal <i>Native</i>	Least Concern (Increasing)					
Variable Oystercatcher <i>Endemic</i>	At Risk (recovering)					

Observatory:

Species	Status	Taiaroa Head Population	Viewed ?	Site Features <i>Why breed at Taiaroa Head?</i>	Human Impacts – NEGATIVE <i>What do we do that negatively impacts the species?</i>	Human Impacts – POSITIVE <i>What do we do that benefits the species?</i>
Otago Shag <i>Endemic</i>	Threatened (nationally increasing)					

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Northern Royal Albatross <i>Endemic</i>	Threatened (Nationally vulnerable)					
Sooty Shearwater <i>Native</i>	At Risk (declining)					

Signposts

Species	Status	Taiaroa Head Population	Viewed ?	Site Features <i>Why breed at Taiaroa Head?</i>	Human Impacts – NEGATIVE <i>What do we do that negatively impacts the species?</i>	Human Impacts – POSITIVE <i>What do we do that benefits the species?</i>
Spotted Shag <i>Native</i>	Threatened (Nationally vulnerable)					

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Little Shag <i>Native</i>	At Risk (relict)					
Royal Spoonbill <i>Native</i>	At Risk (naturally uncommon)					
Red-billed Gull <i>Native</i>	At Risk (declining)					
Black-backed Gull <i>Native</i>	Not Threatened					

Protection of Albatross – *What would happen if?*

Protection = aspects that minimize detrimental human impacts

Methods:

1. In groups of 2 or 3 people review the “What would happen if...” scenarios that you have been given. Record them in the first column of the table below and then complete the rest of the table with your ideas.
2. Report your ideas to the class during the discussion

What would happen if...	Impact	Management Techniques	How can YOU help prevent it happening or help with the management of the situation?
Pollutants contribute to reduced food available to the albatross to feed to chicks, resulting in underweight chicks			
An albatross chick repeatedly spills/vomits due to stress			