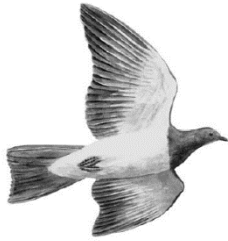


Pest Free Tiritiri Matangi Island



Y11 Science AS 90951 - 1.12

Investigate the biological impact of an event on a New Zealand ecosystem

Event: human action carrying out pest control.

Make significant causal links (what is responsible for the effects) between changed environmental factors and the ecological characteristics to discuss:

- the impact on the organisms, and
- the implications for the ecosystem as a whole.

1. Background



Māori occupation of Tiritiri Matangi Island from 1400-1500s resulted in the kiore (Polynesian rat) and kurī, (Māori dog) being brought to the Island. Kiore became well established until eradication (removed) in 1993.

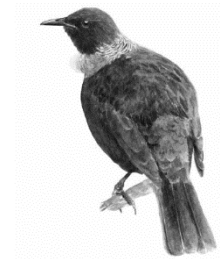
Tiritiri has never had the following pests: possums, mustelids - weasels, stoats, ferrets.

During the farming years from 1841 to 1970s the following were present:- sheep and sheep dogs, cattle, pigs, goats, horses, rabbits were abundant but vanished by early 1908, feral cats eliminated by 1909, lighthouse keepers kept cats until they were prohibited in the 1960s, one unpublished report to Wildlife Service in 1962 of the capture by the light house keeper of three ship or Norway rats. Hens and domestic ducks?

2. Present Day. Tiritiri is an Island with unique New Zealand

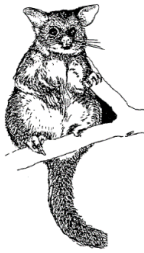
3. Keeping Tiritiri pest free through:-

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4. Why possums and rats are not wanted on Tiritiri.

5. What has been eradicated/removed:



6. Exotic/introduced predators not on Tiri but prevalent on the mainland.

- dogs
 - feral cats - briefly on Tiri in early 1900s
 - hedgehogs - feed on wētā, skinks, eggs, chicks
 - possums
-
- stoats
 - ferrets
 - weasels
 - mice
 - rats - kiore rat on Tiri until 1993
 - deer - 11 species
 - pigs
 - goats
 - rabbits - briefly on Tiri in early 1900s
 - hares
 - wallabies
 - feral cattle
 - feral horses

Response:-

introduced, exotic species have with the plentiful supply of food available but of our native, endemic fauna and flora species.

7. Summary of Tiritiri Island events to become a Wildlife Sanctuary:

- revegetation/replanting of Tiritiri 1984 – 1994
- kiore eradication in 1993 - mammalian pest free status achieved
- 16 endemic species translocated/brought to Tiritiri
- 24 year OSNZ (1987-2010) regular terrestrial bird monitoring
- monitoring and research of Tiritiri plants and animals are ongoing

8. Response by the Tiritiri ecosystem to improved habitat and no mammalian pests:

- Huge increase in biodiversity
- birdlife and sound very abundant
- Ruakawa gecko and giant centipede reappeared
- kererū/kūkupa - NZ pigeon numbers increased 268%
- increase in skink numbers
- kōtare - NZ kingfisher increased 773%
- seabird/petrel numbers and nests are increasing
- NZ dotterels nesting on Hobbs beach first time in 2015



Take away messages to set-up a 'Tiritiri Sanctuary' in your own backyard:

- Change our behaviour – no plastics/rubbish in our seas
- Volunteer to look after native areas near your home
- Invader Free NZ – eliminate pests, weeds and any invaders