

Assessment of Environmental Effects - Ecology

An Assessment of Environmental Effects (AEE) is a requirement under the Resource Management Act (RMA) for any proposed industrial activity.

Detailed research ensures thorough understanding of the effects of any new activities on the areas where we live, work and play, and identifies where it is necessary to avoid, remedy or mitigate these effects.

Independent experts have researched the predicted effects of the Te Ahi o Maui geothermal power plant and concluded that the effects of this plant on the environment will be extremely minimal. You can read more about this research in the Te Ahi o Maui fact sheet series.

Research

Ecology experts have carried out a variety of tests and surveys to find out if the Te Ahi o Maui geothermal project will have any significant effects on the fauna and flora in the area. Flora refers to the plant life of a particular region, and fauna is the corresponding term for animal life. Flora and fauna include both native (natural to the area) and exotic (introduced from another country) species.

A lot of background data was also reviewed and the combined results from the research meant the experts could create a map with GPS coordinates and recent aerial photography that showed all the flora and fauna, and specify their types, on the A8D Block. These results were then compared to similar habitats and reviewed against national standards and the Bay of Plenty Regional Policy Statement (RPS).

A8D block

Natural geothermal features like the ones found on the A8D block have dramatically declined since Europeans arrived in the Bay of Plenty. In the early 1970s, there was a big 'burn-off' on the A8D block, which disturbed a lot of vegetation. As a result, the majority of the vegetation on the block is now regenerating. There are examples of geothermal flora on A8D and these tend to be hardy species that have adapted to their environment. The area that will be used for the Te Ahi o Maui power plant is not a significant regeneration area and is of little ecological value to the region. The ecologically significant areas, which include the wetland, lake and geothermal zones, will not be affected.

Effects on vegetation

The entire area in vegetation for the proposed Te Ahi o Maui geothermal project is 167 hectares (ha). It is estimated that the project will clear approximately eight ha of native growth and three ha of exotic vegetation. Native vegetation includes rewarewa, kanuka, whauwhaupaku (five-finger) and manuka. Predominant exotic vegetation includes pine, black wattle, eucalypts, Chinese privet, blackberry and Spanish heath.



Geothermal vegetation has adapted to cope with difficult growing conditions

Generally, areas of ecological value are avoided. The clearing will be done to form wellpads (most of which will be replanted after construction), tracks and pipeline routes, access roads and paths for transmission lines. However, the project will use existing tracks and roadways wherever possible to minimise clearance.

Experts have recommended that a buffer zone of 20-30 metres is enough to protect the significant vegetation.

Experts have also outlined remediation and restoration plans to mitigate the effect of the project on the ecosystem. The clearance of exotic scrub and weeds will not have a negative impact on the ecology of the site; in fact, it will be beneficial for the regeneration and plant management on the A8D block. For example, planting will be carried out and steep land will be marked for restoration of native forest and specific planting will be done to support this growth.

Effects on wildlife

Fauna populations, including birds, lizards, bats and insects, exist (or are likely to exist) throughout the whole Te Ahi o Maui site. During the construction and operation of the project, these species may be able to move to other areas onsite. In reality, the increased



forest edges may actually benefit some fauna, because bats prefer to feed along the open edges of a forest and the clearance will create valuable foraging spaces.

Birds

Scientists conducted field surveys to find out what types and population sizes of birds there are in the area. The majority of birds found include common native forest birds such as tui, bellbird, fantail, grey warbler and ruru (morepork). There are also introduced species like chaffinch, greenfinch, sparrow, blackbird and magpie. In the wetland areas, typical wetland birds such as grey duck (which is nationally threatened), scaup, and paradise shelduck are found.



Both native and introduced bird species adapt well to changes in the landscape

The number of native species indicates that the site is an important habitat for birds. These native species adapt well to changes in the landscape and are strong fliers with a wide range of similar and better quality habitats available outside the construction zone. They have proven to be readily adaptable to noise and human disturbance so therefore, the project will only have a minor effect on the bird populations.

The wetlands are well protected from any operation or construction disturbance by a large hill. Similarly, the paper mill is nearby, as well as an access road, and neither of these activities appear to have an adverse effect on the bird populations.

Pests

There are also many pests on the A8D block including pigs, rabbits, possums, rats and mice, hares and possibly

feral cats. The Te Ahi o Maui project may incorporate pest control to a certain extent.

Lizards and other reptiles

Even though New Zealand has a relatively mild climate, there is a large number of lizard species throughout the country. A lot of these species are either rare, or very localised, mostly because of their predators. Lizards are very important in an environment as they help with pollination, seed dispersal, predation of insects and they are a source of food for birds. Experts surveyed the Te Ahi o Maui site for lizards using two methods: tracking tunnels, and searches at night, but did not find any evidence of lizards. Whether there is a small range of reptile species on the A8D block or not, the loss of habitat from the Te Ahi o Maui project is likely to be insignificant.

Bats

Although, in the past, bats have been present in the Rotorua-Kawerau area, the age and structure of the trees and vegetation on the A8D block means it is unlikely to be used by bats. Bat surveys can only be carried out in summer, but because other evidence suggests it is unlikely there will be any bats on the site, no surveys are planned.

Invertebrates

Invertebrates are a group of animals that do not develop a backbone, and this group includes insects and snails. No surveys were carried out to discover which invertebrates live in the block, but experts believe it is unlikely there are any threatened invertebrate species. This is because the types of plants on the block are not suitable to home any threatened invertebrates. The only exception is the aquatic invertebrates in the heated waters on the site, but these areas will not be disturbed by the Te Ahi o Maui geothermal project.

Questions? Please contact us

The Te Ahi o Maui Geothermal Project is a partnership between Eastland Group Limited and Kawerau A8D Ahu Whenua Trust.

For more information:

Visit www.taom.co.nz or call 07 308 2574

