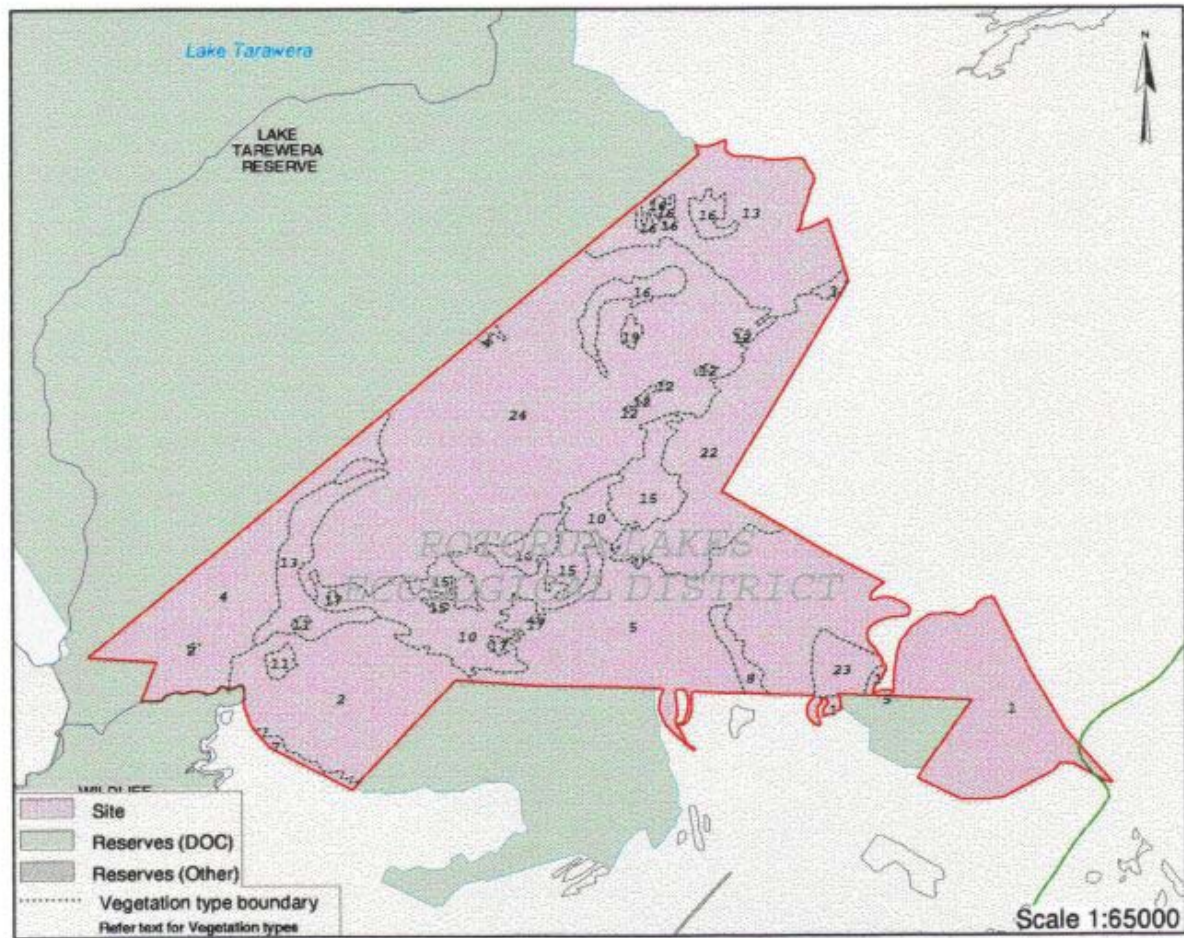
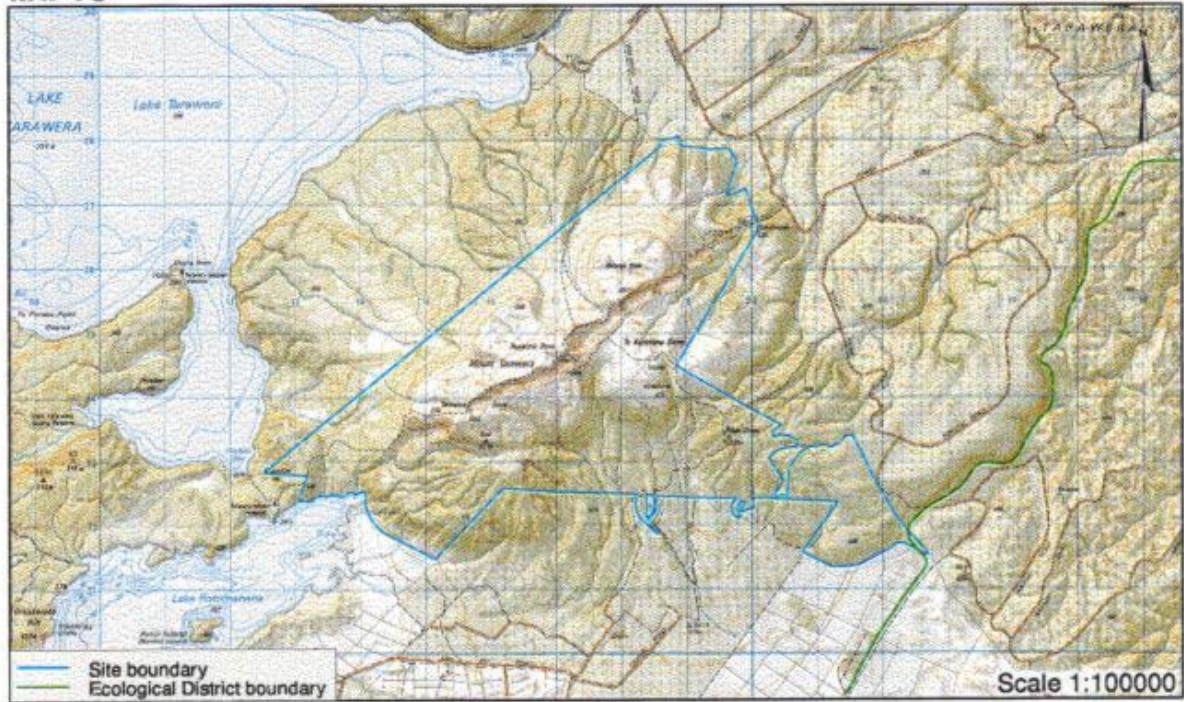


RAP 73

MT TARAWERA



RDC & ENVT BOP

Rotorua Lakes ED Survey

MT TARAWERA

RAP No.	73
RAP No.	96 & 96b
Geothermal Report ¹ No.:	42 (Category 1)
Grid Reference:	V16 170245
Area:	2737.2 ha
Altitude:	340-1111 m
Protection Status:	Unprotected
Landform Units:	Hills; undulating to hilly; scarps; very steep slopes; volcanic fans; volcanic rifts; flat to undulating; gullies; geothermal area; high terraces; lakes

BIOCLIMATIC ZONE	VEGETATION	LANDFORM
Lowland	<ol style="list-style-type: none"> 1. (Northern rata)/kamahi-rewarewa forest. 2. Kanuka forest, rewarewa/kamahi-kanuka forest, kanuka-kamahi forest. 3. Rewarewa/kanuka forest ⇌ kamahi forest. 4. Kanuka forest ⇌ kanuka scrub (with scattered emergent radiata pine and local black wattle in south west corner). 5. Kamahi forest (with mapou, kohuhu, tutu, kanuka, broadleaf and a few local Hall's totara) ⇌ kamahi-kanuka scrub (with akepiro, tutu, koromiko, Spanish heath, kohuhu, puka, <i>Coprosma lucida</i>). 6. Kanuka scrub (with karamu, akepiro, koromiko, and kohuhu). 7. Kanuka-manuka scrub. 8. Kanuka-tutu-kamahi scrub (with whauwhaupaku). 9. Kanuka-tutu-karamu-akepiro scrub. 	hillslopes, steep scree slope and rock outcrops
Submontane and lowland	<ol style="list-style-type: none"> 10. Tutu-monoao-<i>Gaultheria paniculata</i>-akepiro scrub and shrubland with broadleaf, toetoe and <i>Coprosma parviflora</i>). 11. Kanuka shrubland. 	
Submontane and lowland	<ol style="list-style-type: none"> 12. Broadleaf-tutu-<i>Cortaderia fulvida</i> shrubland (also occurs locally in craters not mapped). 13. Kanuka-manuka-monoao-<i>Gaultheria oppositifolia</i> shrubland (with kanuka locally dominant; other species present include radiata pine, prickly hakea, <i>Gaultheria paniculata</i>, <i>Morelotia affinis</i>, <i>Leucopogon fraseri</i>, tutu, kohuhu, lupin, karamu, Spanish heath, koromiko, prickly mingimingi, and <i>Pomaderris ericifolia</i>). 	
Submontane and lowland	<ol style="list-style-type: none"> 14. (<i>Cortaderia fulvida</i>)/tutu-monoao-kanuka/<i>Racomitrium-Pimelea prostrata</i>-<i>Raoulia glabra</i> shrubland (variable type; above species all locally 	

¹ Beadel et al. 1996c.



RDC & ENVT BOP

Rotorua Lakes ED Survey

Submontane	dominant; other species present include Spanish heath, pines, Douglas fir, Yorkshire fog, <i>Gaultheria pauciflora</i> , and <i>Gaultheria oppositifolia</i> .	
Submontane	15. Tutu-kanuka-monoao- <i>Gaultheria paniculata</i> / mosses-lichen- <i>Raoulia albosericea</i> - <i>Celmisia gracilentia</i> - <i>Pimelea prostrata</i> - <i>Raoulia glabra</i> -karetu shrubland (with akepiro, toetoe, puka, <i>Gaultheria paniculata</i> x <i>G. oppositifolia</i> (grass-herb-lichen growth rings).	
Submontane	16. (Monoao)-(<i>Gaultheria</i> spp.)-mingimingi-(<i>Olearia</i> spp.)/(<i>Racomitrium lanuginosum</i>)-(<i>Raoulia glabra</i>)-(<i>Raoulia albosericea</i>)-(<i>Rytidosperma viride</i>) shrub-herb-mossfield and scorialand. Grass/herb-lichen ring growths occur locally. These comprise the above species and also include tutu and <i>Meuhlenbeckia axillaris</i> . These have coaliesced to from irregular herbfield units. Typically shrubs are scattered over single plants or sporadic clumps of herbfield species.	
Submontane and lowland	17. (a) <i>Raoulia albosericea</i> - <i>R. glabra</i> - <i>Cyathodes fraseri</i> - <i>Pimelea prostrata</i> scorialand (other species present include catsear, <i>Rytidosperma</i> species, <i>Celmisia gracilentia</i> , <i>Muehlenbeckia axillaris</i> , <i>Racomitrium</i> , <i>Luzula subclavata</i> and <i>Cyathodes empetrifolia</i>) (b) <i>Racomitrium</i> scoria-mossland (with scattered <i>Leucopogon fraseri</i> , <i>Cyathodes empertrifolia</i> , <i>Raoulia albosericea</i> , catsear, <i>Rytidosperma</i> species, <i>Celmisia gracilentia</i> , <i>Pimelea prostrata</i> , monoao, and <i>Gaultheria paniculata</i>).	
Submontane	18. "Silver tussock basin" (from Dickinson 1980). 19. Gull colony. 20. <i>Racomitrium lanuginosum</i> -(manuka)- (monoao) herbfield (with common <i>Lycopodium cernuum</i> and <i>Morelotia affinis</i> , and local patches of prostrate kanuka). 21. Black wattle forest (not all mapped). 22. 14 + 6 + 9. 23. 1 + 5. 24. 17 + 16.	

Vegetation:

There is a small area of thermal vegetation in this RAP (Beadel 1996).

The internal vegetation type boundaries on this map are a first approximation only based on existing information (Dickinson, Clarkson, Timmins 1981 & 1983, Timmins unpublished map (1983) and 1993 aerial photographs aerial photographs).

Threat and Modification:

Only limited field checking was carried out.



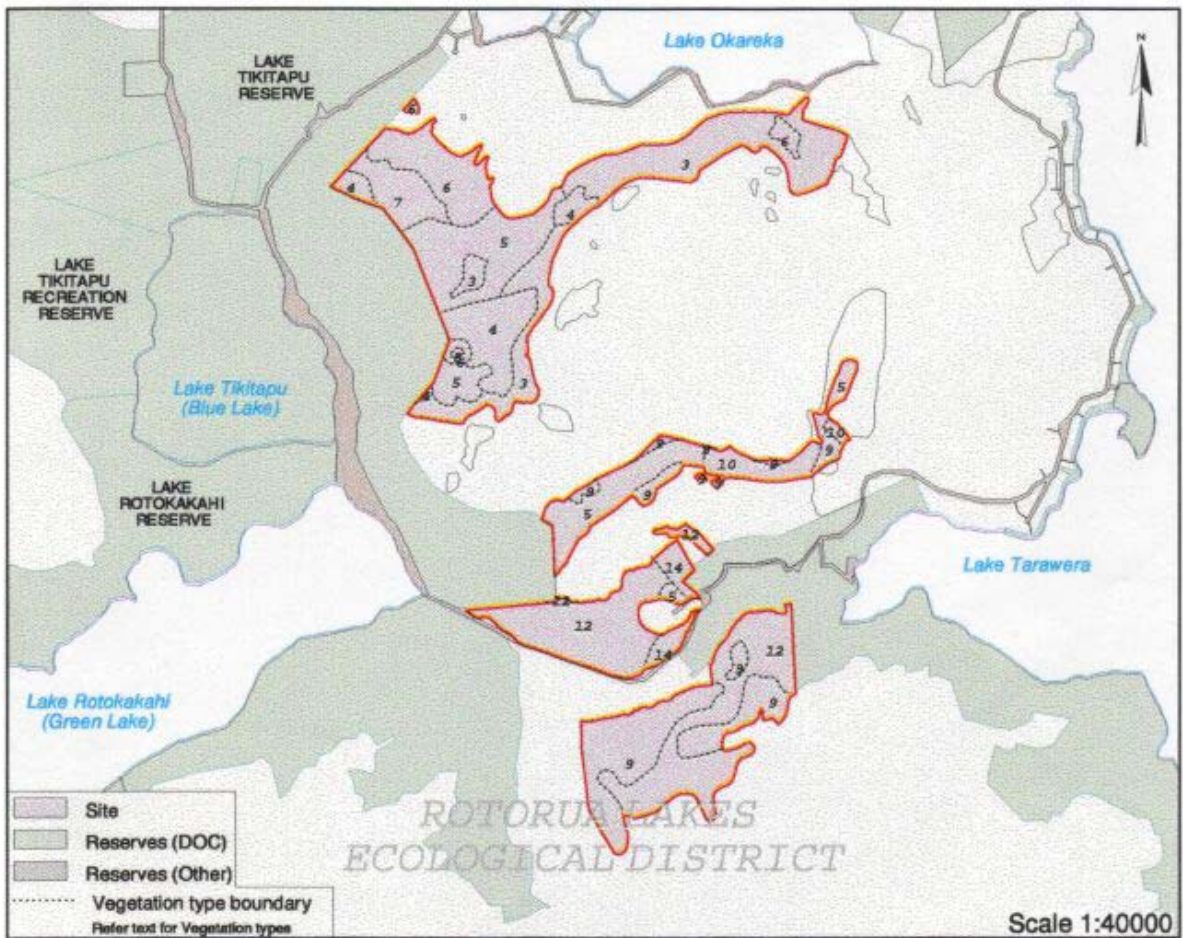
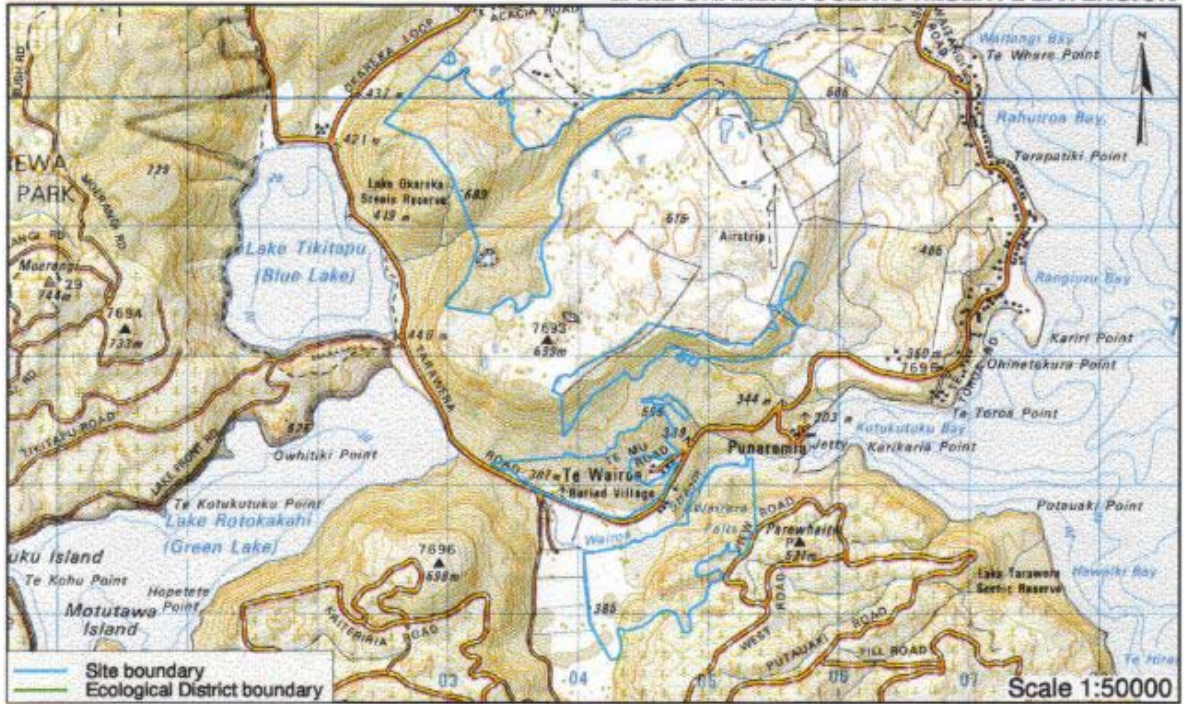
RDC & ENVT BOP**Rotorua Lakes ED Survey**

- Flora:** Mt Tarawera supports the only known population of *Celmisia gracilentia* ss. x *Olearia arborescens*.
- Other taxa present include prostrate kanuka and *Lycopodium cernuum*.
- Justification:** This RAP is large and diverse, and contains representative examples of the vegetation of the ecological district. It includes indigenous vegetation on several landform units that are under represented in the existing reserve system - volcanic fans, high terraces, low terraces, flat to undulating. Indigenous vegetation on high terraces comprises only about 1% of this landform unit, with only 12 ha of this protected in reserves.
- This RAP includes the only examples in the submontane bioclimatic zone in the ecological district of the following landform components; flat to undulating, undulating hills, volcanic rifts, and scarps.
- Mt Tarawera most recently erupted in 1886, creating the Tarawera Rift, where this site is located. The vegetation of Mt Tarawera was described prior to and after the eruption, and has been re-surveyed and described subsequently (Timmins 1981 & 1983; Dickinson 1980; Clarkson & Clarkson 1983 & 1986). Vegetation development since the eruption is of considerable scientific value and interest.
- Contains the only montane geothermal site in the Bay of Plenty region.
- References:** Beadel *et al.* 1996c; Clarkson 1988; Clarkson & Clarkson 1983 & 1986; Timmins 1981 & 1983; Dickinson 1980.



RAP 74

LAKE OKAREKA SCENIC RESERVE EXTENSION



RDC & ENVT BOP**Rotorua Lakes ED Survey****LAKE OKAREKA SCENIC RESERVE EXTENSION**

RAP No.	74
PNAP Survey No. (1996/97)	170, 171, 173
Area	368.54 ha
Altitudinal Range	320 - 689 m
Grid Reference	NZMS 260 U16 041276, U16 049267, U16 035294
Landform Unit	Undulating to hilly; scarps; gullies; flats
Status	Unprotected

BIOCLIMATIC ZONE	VEGETATION TYPE ¹	LANDFORM
Lowland	2. (Rewarewa)/mahoe-kotukutuku shrubland and scrub (with common kohuhu, karamu and makomako, and scattered ti kouka, mamaku and toetoe).	gentle hillslopes
	3. (Rewarewa)-(kamahi)/whauwhaupaku-mamaku-mahoe scrub and forest (with scattered kohuhu, kotukutuku, heketara, local mangleo, and local exotic plantings of poplar and birch around the margins).	rolling and steep hillslopes
	4. Rewarewa-kamahi forest (with scattered tawa).	ridge; steep hillslopes
	5. (Rewarewa)/tawa-mangleo-(kamahi)-(mamaku) forest.	ridge and rolling hillslopes
	6. (Rewarewa)-(kamahi)/wheki ponga-whauwhaupaku-kohuhu-mahoe-(kanuka) scrub and fernland (with local rarahū and gorse).	steep hillslopes
	7. Rewarewa-kamahi-(tawa)/mahoe-kohuhu-whauwhaupaku-mamaku-(wheki ponga) forest and scrub (with local gorse).	steep hillslopes
	8. Wetland vegetation surrounding pond.	gully bottom
	9. Whauwhaupaku/rarahū fernland (with scattered kohuhu, mahoe, blackberry, old man's beard and Japanese honeysuckle).	rolling and steep hillslopes
	9. (Whauwhaupaku)/rarahū fernland (with scattered kohuhu, toetoe, wheki ponga, locally common gorse, and scattered radiata pine).	rolling and steep hillslopes
	10. Mangleo-mamaku-kamahi forest.	rolling and steep hillslopes
	11. (Rewarewa)-(mangleo)/mamaku forest (with local kiokio on steep gully faces).	rolling and steep hillslopes
	12. Whauwhaupaku-kohuhu/rarahū treeland (with scattered kamahi, mamaku, mahoe, and wheki).	rolling and steep hillslopes
	13. Rangiora/rarahū fernland.	rolling and steep hillslopes

¹ There is not vegetation type 1 in this RAP.



RDC & ENVT BOP**Rotorua Lakes ED Survey**

	14. Whauwhaupaku-mahoe-kohuhu forest (with common karamu, local rarahu, and scattered kotukutuku, kanuka, toetoe and kamahi).	rolling and steep hillslopes
--	---	------------------------------

Vegetation	Modified forest, and secondary forest and scrub developed following previous clearance mainly in this case following devastation in the 1886 Rotomahana mudfall.
Flora	Typical species only were noted.
Fauna	Common forest birds are present. Some of this area is suitable habitat for fernbird, although none were recorded.
Threat/Modification	<i>Clematis vitalba</i> is being controlled in this area. Deer, goats, wallabies, and pigs are present. Part of this RAP was the site of a proposed resort development. Development of parts of this area for exotic forestry, and for farming or housing and commercial development in areas which are not too steep, are still a potential threat to this site.
Justification	This RAP is a moderately large area of indigenous vegetation, contiguous with Lake Okareka and Lake Tarawera Scenic Reserves. It includes 43 ha of indigenous vegetation on flats, an ecological unit which is under represented in the existing reserve system.
References	Beadel 1986.

