EBEX site audit and carbon pool assessment

GENERAL INFORMATION	
Site name (from RECCE sheet)	Cape Jackson
Landowner name	Ron and Gerry Marriott
Landowner contact	Ron Marriott Rural Bag 363, Picton (03) 579 9025. Email: wilderness@truenz.co.nz
Site district and relevant topomap	Ecological District: Sounds-Wellington NZMS 260, Q26
Site GPS reference	E2618700 N6018400
Audited by	Fiona Carswell, Sarah Richardson, Larry Burrows
Date of audit	March 2005
Number of plots (plot labels)	13 (CJ1-5, CJ7-9, CJ11, CJ13-15, CJ16)
Estimated area (ha) of 'EBEX'-registered forest pre-audit (incl. 10% insurance component)	400
Total area (ha) of Kyoto-compliant forest post-audit (incl. 10% insurance component)	394.9
NVS data archive reference	2555, 2556, 2557 (other plots for biodiversity assessment = 2886, 2887)

CARBON STOCK AT TIME OF AUDIT (mean across all plots)		
Component	**C (t/ha)**	**CO_2 (t/ha)**
Vegetation (incl. belowground)	17.4 ± 1.4*	63.9 ± 5.3*
Litter	-	-
Coarse Woody Debris	-	-
TOTAL corrected for slope	17.4 ± 1.4	63.9 ± 5.3
Estimated sequestration rate†	1.5 ± 0.1	5.3 ± 0.4

*Value is an average across all plots ± one standard error. The standard error is a measure of variability between the plots at your site, *i.e.*, larger values indicate more variability.

†Sequestration rate has been estimated as the maximum rate of CO_2 accumulation per hectare per year in vegetation pools only, based on the date you gave us as the time of land use change from pastoral farming to native forest regeneration.

BIODIVERSITY INFORMATION			
Measure	**Total**	**Mean per plot**	**SE***
Number of native plant species	78	20	2
Number of exotic plant species	55	15	2
Total number of species	133	35	3
Ratio of native to exotic species	1.4	1.3	-

*SE = standard error of the mean across all plots.

NOTES (e.g., verification of pre-1990 forest during site audit)

Pre-1990 vegetation exists largely as a large remnant near the southern boundary of the property. This forest is largely podocarp-broadleaved with some tawa on fertile slopes at lower altitudes. Gullies closer to the lodge in Anakakata Bay are also comprised of pre-1990 vegetation but this vegetation is seral in nature (tree ferns, tall kanuka and broadleaved shrub species). Other pre-1990 vegetation occurs as isolated patches along the peninsula of mainly kohekohe-karaka forest.

Regenerating (post-1989) shrubland is mostly tauhinu (*Ozothamnus leptophyllus*) although manuka/kanuka also occur within the tauhinu and sometimes form the dominant shrub cover. Broadleaved species are evident under the tauhinu canopy but are most abundant in regeneration in an area where browsing mammals have been excluded. Control measures are currently in progress for introduced browsing mammals (goats, deer, pigs) so we expect a relatively rapid increase in the frequency and vigour of palatable shrubland species.

Most sites are easily accessed from the central 4WD track/s although one or two are quite steep. There are a couple of plots on the western side of the property that require access along the route of the water pipe to the dwelling on that side. One other plot on the headland opposite the lodge is most easily accessed by boat with a scramble to the shrubland above the coastal scarp.

Sequestration rate has been calculated as accumulation of carbon in vegetation over 12 years, i.e., from 1993 to date of site audit.