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LETTERS

Dear Sir

Re. Potential adverse effects of climate change on historic heritage, Tony Walton, *AINZ*, 50(3).

Tony has produced an excellent summary of some of the adaptation needs as they affect heritage. He correctly identifies sea level rise as one of the key impacts in New Zealand. Surrounded by ocean the ambient temperature rise here is never going to be as great as in continental land masses, but the sea rises everywhere.

I can extend the possible impacts he discusses in a couple of areas.

Sea level rise predictions are commonly made for the time scale of the next century and have quite a large band between the high and low estimates. If in the next century mankind gets greenhouse gas emissions under control and caps warming that is not the end of sea level rise, for the oceans will not in that time have come into thermal equilibrium. They will continue to absorb heat and the water in them expand, the principal cause of sea level rise. This will continue for several centuries more. Thus sea level rise is going to be a very long term adaptation problem. The one plus we can look at in this is that sea level rise is the slowest response to global warming, and hence one that can be best prepared for.

The decreased rainfall and increased drought frequency predicted for the east coast of both islands will bring pressure to bear for more irrigation and more water for existing schemes. Groundwater is very fully committed already so an increased resource in this area can only come from dams catching winter rain and more water transport infrastructure. There is something of a boom in this already from land use intensification. Expect more.

Since Tony wrote his piece the Government has announced its policy for local implementation of carbon trading. Part of that is to allow owners of forests planted after 1989 to gain carbon credits for wood grown (and liabilities when harvested). This should stimulate some new planting. For those owners that do not choose to join there is an incentive scheme for the planting of new rotation forests. This may see a return to the planting of exotic forests on the scale of the past. The Government certainly hopes so, for its neutrality targets depend on some off-setting in carbon sequestration from new forest planting. As this planting has to be on land not forested in 1990 the clearing

processes may not be as destructive as experienced in the past, but still a lot of heritage could come under threat.

The realisation that some climate change is inevitable is now widely held. Governments are planning mitigation measures. Heritage needs a share of this.

Garry Law