MT MESSENEGER BYPASS PROJECT: KEY POINTS FROM EVIDENCE OF LEE MARK SHAPIRO

1. Te Rūnanga o Ngāti Tama have engaged me to review the proposed pest control measures as well as the pest and biodiversity monitoring proposed for the Restoration Package within the Pest Management Area (PMA) as outlined in the Ecology and Landscape Management Plan (ELMP). The key points of this review were included in my EIC.

2. Mr Roger MacGibbon has responded to some of the points (included in my EIC) in his rebuttal evidence and during the hearing to date.

3. Paragraphs 4, 5, 6, 7 and 8 outlined below refer to specific points raised in my EIC that have been responded to by Mr MacGibbon in his rebuttal evidence and during the hearing to date. For each of these points the response has been that a correction or update to the ELMP would be made to either clarify the points raised or correct errors in the ELMP highlighted by these points. The most recent version of the ELMP (6 August 2018) does not clarify or correct the errors referred to below in paragraphs 5, 6, 7, 8 and 9.

Monitoring of pest species

4. As stated in my EIC, the proposed number of sample points for monitoring rats and stoats (three) in years 1 to 5 is not best practice and should be four. These four monitoring sample points per year should occur for the first 12 years. The single sample point proposed (for monitoring of rats and stoats) from year 6 onwards is insufficient to determine whether any decrease in forest bird abundance (proposed to be monitored in years 6, 9 and 12) can be attributed to high pest abundances or other influences.

5. As stated in my EIC, in addition to the monitoring of rats and stoats each year, in the years of aerial 1080 operations rats and stoats should be monitored immediately before and after the 1080 operation. These monitoring points should be in addition to the standard monitoring points for these species and be undertaken for every aerial 1080 operation.

6. The ELMP proposes that yearly monitoring of rats and stoats should be undertaken at three sample points in years 1 to 5 and then reduced to one sample point from year six onwards. Therefore, the standard yearly monitoring cannot be relied upon to determine the success of aerial 1080 operations from year six onwards as it would not provide an abundance measure for rats and stoats immediately before and after 1080 operations.

7. As stated in Mr MacGibbons EIC, pest monitoring buffer areas are proposed:

(a) 200 m for rats and possums; and

(b) 500 m for mustelids and feral cats

8. In paragraph 26 of Mr MacGibbons supplementary EIC he states "*The PMA buffers are excluded from pest density monitoring because of expected reinvasion pressure from uncontrolled populations on neighbouring land.*" In the rebuttal evidence of Mr MacGibbon he states that "*Rather I recommend that the monitoring results derived from monitoring of the whole PMA should not be used when calculating the average pest density for each species.*" This needs to be included in the ELMP clearly outlining the intention of what areas are to be monitored within the PMA and for what areas the pest abundances will be considered in reference to the monitoring thresholds outlined in the ELMP.

Biodiversity monitoring

9. The section of the ELMP (9.5.3.2) regarding the area of the PMA to be monitored for forest birds has not been updated as Mr MacGibbon suggested it would in his rebuttal evidence. As stated in my EIC, the ELMP states that the outcome monitoring of bird species will only occur within the 230 ha offset area of the PMA not within the remaining 3,420 ha of the PMA.

10. As stated in my EIC, the frequency of monitoring of forest birds should ideally be yearly in the 12 years following completion of the project. This will allow any changes (increases and decreases) in bird abundance to be recorded regularly.

Pest Control Methods

11. As stated in my EIC, in my opinion the A24 trap is still relatively new and unproven compared to DOC200 traps. In my opinion, double-set run through DOC200 traps should be used to control stoats and rats and Goodnature A24 traps should only be used in areas that are difficult to access.

LEE MARK SHAPIRO 07/08/2018