Speaking notes for Simon Waugh, Te Papa Atawhai Department of Conservation. Proposed Timaru District Plan, Hearing F, 1st May 2025.

- Hi, my name is Simon Waugh. I have been a biodiversity ranger for the Department of Conservation for 3 years. Part of my role involves the monitoring of long-tailed bats in the Timaru district. I gave evidence in relation to long-tailed bats at Hearing D of the Timaru District Plan.
- 2. Under the Department of Conservation's threat classification system long-tailed bats are ranked as "Threatened-Nationally Critical". This is the most severe threat ranking before extinction.
- 3. My evidence for Hearing F addresses:
 - a. Effects on long-tailed bats from artificial light; and
 - b. Best practice for reducing effects on long-tailed bats when using artificial light in bat habitat areas.
- 4. New Zealand's long-tailed bats are known to be sensitive to artificial light at night. Research to date has confirmed that bat activity declines significantly in the presence of artificial lighting.
- 5. Relevant international guidelines identify four key ways to reduce the effects of light on bats:
 - Avoid any lighting on key habitats (e.g. roosting areas and important foraging areas)
 - In supporting habitats, use the least amount of light possible (lowest possible illuminance or intensity) and implement sensitive lighting methods such as downward facing lights and dimmer switches and sensor lights.
 - If light is required, then using use light sources with low, no, or filtered UV and blue wavelength light i.e., with 2700K or warmer colour temperature.
 - Increase distances of lights from the areas bats use, including roosts and places used for breeding, foraging, and commuting.

- 6. In terms of the proposed lighting controls recommended in the s42A report, I made some observations at paragraph 29 of my evidence. In summary:
 - The recommended controls of light shielding and colour corrected temperature (at 2700K) within the BPA are likely to limit adverse effects on bats from artificial lighting within the areas where these controls would apply. Ideally there would be an additional requirement for light to point downwards;
 - I have some concerns about the proposed lux levels (light intensity):
 - (1) The lux levels that would apply to zones within the BPA are higher than the levels at which research demonstrates an adverse effects on bats.
 - (2) Bats are active between dawn and dusk. The timeframes proposed for lower lighting levels apply from 10pm, so don't correlate with bat activity levels. Controls that applied a lower lighting intensity from dusk until dawn would be more effective for reducing effects on bats.

I am happy to take any questions.