

**BEFORE THE INDEPENDENT HEARING PANEL  
APPOINTED BY HAMILTON CITY COUNCIL**

**IN THE MATTER** of the Resource Management Act 1991 (**Act**)

**AND**

**IN THE MATTER** of hearing submissions on Plan Change 5 to the Hamilton  
City District Plan

**BETWEEN** **THE ADARE COMPANY LIMITED**  
**Submitter #53**

**AND** **HAMILTON CITY COUNCIL**  
**Local authority**

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**REPLY EVIDENCE OF DR SARAH FLYNN  
FOR THE ADARE COMPANY LIMITED**

**ECOLOGY**

**21 SEPTEMBER 2022**

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Solicitors on Record

**WYNN WILLIAMS LAWYERS**  
*SOLICITOR — MIKE DOESBURG*

PO Box 2401, Shortland Street, Auckland 1140  
P 09 300 2600 F 09 300 2609 E mike.doesburg@wynnwilliams.co.nz

Counsel

**Dr R A MAKGILL**  
*BARRISTER*

PO Box 77-037, Mt Albert, Auckland 1350  
P 09 815 6750 E robert@robertmakgill.com

## SUMMARY OF EVIDENCE

1. My name is Dr Sarah Flynn. I prepared evidence in chief (**EIC**) on ecology on behalf of The Adare Company Limited (**Adare**) dated 16 September 2022.
2. I have the qualifications and experience set out in my EIC. I repeat the confirmation given in my EIC that I have read the Code of Conduct for expert witnesses and that my evidence has been prepared in compliance with that Code.
3. I respond to matters raised in expert evidence for the Department of Conservation (**DOC**) by Dr Ilse Corkery (Biodiversity Offsetting) and Dr Kerry Borkin (Bat Ecology and Effects of Development).
4. The scope of this reply relates to the adequacy of the significant bat habitat areas (**SBHA**), the bat habitat corridors, the appropriateness of a PSPA-wide response to managing effects on bats / bat habitat, the effects management hierarchy and ecological compensation.

## RESPONSE TO ILSE CORKERY (BIODIVERSITY OFFSETTING)

5. In her evidence, Dr Corkery explains the mitigation hierarchy<sup>1</sup> and concepts of offsetting, compensation and net gain<sup>2</sup>, and critiques the structure and allocation of the Biodiversity Compensation Model (**BCM**) in PC5<sup>3</sup>. I do not propose to respond at length to these matters, other than to note that the matter of confident prediction of biodiversity outcomes<sup>4</sup> remains an elusive goal due to the complexity of ecological systems and species dynamics, and the limitations of study methods, as addressed briefly in Mr Blayney's EIR<sup>5</sup>. Therefore, I do not agree with Dr Corkery<sup>6</sup> that bat surveys would provide definitive information that could be readily incorporated into a loss-gain model.

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<sup>1</sup> Dr Ilse Corkery EIC at [5.1 – 6.3].

<sup>2</sup> Dr Ilse Corkery EIC at [7.1 – 10.11].

<sup>3</sup> Dr Ilse Corkery EIC at [12.1 – 12.14, 14.15 – 14.23].

<sup>4</sup> Dr Ilse Corkery EIC at [8.3].

<sup>5</sup> Andrew Blayney EIR at [23-27].

<sup>6</sup> Dr Ilse Corkery EIC at [14.9].

6. I note that Dr Corkery's central criticisms of the BCM (i.e., insufficient knowledge or information on state and trend data for species, ecosystems, and their responses to management interventions etc<sup>7</sup>) with respect to the responses of long-tailed bats in the PSPA would require wide-ranging and long term research. This cannot be resolved simply by employing an alternative model.
7. I consider that while biodiversity accounting models can be helpful tools for clarifying assumptions and extrapolating hypothetical long-term outcomes, their predictions provide no additional proof that interventions will be successful over and above the assumptions on which they are based. Accordingly, I agree with Dr Corkery that the BCM used to calculate the quantum of ecological compensation required to address ecological effects of development in the PSPA does not conclusively demonstrate net gain.
8. Dr Corkery makes broad recommendations<sup>8</sup> that she considers would improve ecological outcomes (and the certainty of positive outcomes), including a high offset ratio, proximity of management measures to the PSPA, early implementation of habitat restoration, certainty of funding, clarity with respect to how funds will be allocated and used, and robust long term monitoring. I agree with these points, with the addition (as I note in my EIC) that a simple and practical means of determining landowner contributions, and coordinating and implementing effects management measures, will also improve confidence that ecological objectives will be achieved.
9. Dr Corkery concludes<sup>9</sup> that the Plan needs to be more explicit in ensuring that the effects management hierarchy is followed, in particular that avoidance, minimisation and remediation are demonstrated to be sequentially exhausted before residual effects can be addressed through either offsets or compensation. Dr Corkery also notes that she supports whole project/ landscape approach in principle<sup>10</sup> but argues for the effects

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<sup>7</sup> Dr Ilse Corkery EIC at [10.3].

<sup>8</sup> Dr Ilse Corkery EIC at [10.8, 10.11, 11.2, 14.27].

<sup>9</sup> Dr Ilse Corkery EIC at [15.2].

<sup>10</sup> Dr Ilse Corkery EIC at [14.36].

management hierarchy<sup>11</sup> to be worked through sequentially at all spatial scales<sup>12</sup>, with financial contributions considered only where local indigenous biodiversity gains cannot be achieved<sup>13</sup>.

10. As Mr Collins explains<sup>14</sup>, PC5 addresses the ‘avoidance’ step of the effects management hierarchy primarily through identification and protection of SNAs and SBHAs, along with tree felling controls. I agree with Mr Blayney<sup>15</sup> that while a site-by-site evaluation may result in individual habitat features (i.e., trees or groups of trees) being retained, this does not ensure avoidance of an effect if the function of the feature is lost due to urbanisation of the surrounding landscape. Site-by-site evaluations do not anticipate development of the surrounding landscape or coordinate mitigation measures between developments, and hence are generally not good at dealing with cumulative effects. Furthermore, a site-by-site approach requires a consent to be issued before an effects management response is confirmed and any contribution to landscape-scale habitat enhancement is determined. This approach creates uncertainty and delay, both of which increase the risk that anticipated landscape-scale outcomes will not be effective.
11. As I explain in my EIC, taken at a landscape scale (which I consider appropriate to the scale of bat home ranges and movements<sup>16</sup>), financial contributions from individual landowners that fund a well-coordinated enhancement of the local habitat framework within the PSPA is a ‘site-led’ response. I consider that this effects management measure is, by definition, mitigation (minimisation), insofar as buffering alleviates effects from lighting and other disturbance on the Mangakotukutuku gully system, and retains the connectivity, viability and functions of existing features, as well as expanding the habitat to reinforce connections with adjacent features such as the Waikato River. I note that this rationale underpinned

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<sup>11</sup> Dr Ilse Corkery EIC at [5.3].

<sup>12</sup> Dr Ilse Corkery EIC at [14.2-14.4].

<sup>13</sup> Dr Ilse Corkery EIC at [11.1].

<sup>14</sup> Andrew Collins EIC at [19 – 23, 28, 64].

<sup>15</sup> Andrew Blayney EIC at [13 -15].

<sup>16</sup> Dr Stuart Parsons EIC at [24 -41].

the creation of bat habitat corridors within the Amberfield subdivision that was approved by the Environment Court<sup>17</sup>.

12. Given that offsetting and/ or compensation are intended to address residual effects once other components of the effects management hierarchy have been applied, I suggest that matters concerning the appropriateness of the BCM can be set aside with respect to enhancement initiatives within the PSPA. This approach would give a clear priority to effects management initiatives within the PSPA, and alleviate the risk that resources are diverted to management of bat populations elsewhere<sup>18</sup>. I agree that the ecological objective of PC5 must remain squarely focused on practical measures to achieve effective protection and enhancement of functional bat habitat within the PSPA. A biodiversity accounting model can be utilised to calculate a quantum for residual effects (for example, associated with time lag until specific habitat features achieve their full functionality) once a landscape-scale implementation plan for the PSPA is developed.

#### **DR KERRY BORKIN (BAT ECOLOGY AND EFFECTS OF DEVELOPMENT)**

13. I agree with Dr Borkin<sup>19</sup> that long term monitoring is essential for understanding whether mitigation measures have been effective in ensuring bats continue to inhabit and use the PSPA. I also agree with Dr Borkin that both management and monitoring of long-tailed bats throughout Hamilton City and the wider Waikato Region needs to be integrated into a wider framework of initiatives to be successful in the long term. As Mr Collins notes<sup>20</sup>, the Council's S42a report sets out a proposed objective and policy that places the PSPA response within a City-wide approach to bat management, and I support their inclusion in PC5. I also agree with Mr Collins's proposed policy wording and rationale<sup>21</sup> concerning the establishment of a City-wide Bat and Habitat Enhancement Panel in order to ensure a strategic, coordinated,

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<sup>17</sup> *Weston Lea Limited v Hamilton City Council* [2020] NZEnvC 189.

<sup>18</sup> Dr Ilse Corkery EIC at [14.31].

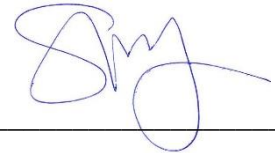
<sup>19</sup> Dr Kerry Borkin EIC at [22.1, 22.2].

<sup>20</sup> Andrew Collins EIC at [42, 43].

<sup>21</sup> Andrew Collins EIC at [45 - 52].

centralised and evidence-based approach to bat conservation in the PSPA and wider landscape.

**Dated this 21<sup>nd</sup> day of September 2022**

A handwritten signature in blue ink, appearing to be 'S. Flynn', written over a horizontal line.

**Dr Sarah Flynn**