

# Virginia Lake Scenic Reserve Bird Aviary - Whanganui

Review

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PhD; BSc Hons

# Table of Contents

## **Preamble 3**

## **Scope of Review 3**

## **Limitations 4**

## **Background 4**

*Description of the reserve 4*

*Description of the Aviary 4*

*Description of animals 6*

*Description of staffing 6*

*Description of general processes 6*

## **Review 7**

*Structural 7*

*Operational 9*

Animal Husbandry Practices 9

Bird Welfare 11

Staffing and Staff Responsibilities 13

## **Suitability for Purpose 14**

## **Recommendations 15**

Priority Recommendations 15

Secondary Recommendations 15

## Preamble

A review was conducted of the bird aviary situated within Virginia Lake Scenic Reserve, in accordance with the submitted offer of service by Lorne Roberts (the reviewer), ZooWorks, and as requested by David Langford, Chief Executive Whanganui District Council.

This report has been compiled as a result of information gleaned from documented material provided by Wendy Bainbridge, Senior Parks Manager, and a site visit conducted on Friday 10 February 2023.

The site visit allowed for a detailed view of the aviary structure, its immediate environs, and the inhabitants of the facility, as well as some limited discussions with the following:

Wendy Bainbridge – Senior Parks Manager

██████ – Aviary Caretaker

██████ – Aviary Assistant

Unfortunately, only very limited time was spent with the Aviary Caretaker (not his work day) and the Aviary Assistant (who was busy with aviary duties). However, the reviewer was able to observe the behaviour of bird inhabitants within the aviary and their use of the structure. The site visit also provided the reviewer with some limited understanding of the interaction between the visitors to the aviary and/or reserve, and the birds within the aviary.

## Scope of Review

To provide an independent review of the care and husbandry of the birds, and an assessment of bird welfare, including the suitability of the aviary structure. The review will implicitly provide commentary on staff and staffing, containment and security, and health and safety. Commentary will be made in relation to legal animal welfare requirements relating to the *Animal Welfare Act 1999*<sup>1</sup> as administered by the Ministry of Primary Industries. Since there are no specific Codes of Welfare for public aviaries, it is prudent to utilise the Codes of Welfare: Zoos<sup>2</sup> for guidance on minimum and best practice standards since they are used to inform possible breaches of the Animal Welfare Act where minimum standards may not have been met (or as evidence that standards have been equalled or exceeded) and if charged under the Act. Furthermore, the reviewer will refer to a modern science-based animal welfare assessment model, *The Five Domains*<sup>3</sup>, that is being used globally within several

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<sup>1</sup> [Animal Welfare Act 1999](#)

<sup>2</sup> [Codes of Welfare: Zoos 2018](#)

<sup>3</sup> [The Five Domains](#)

animal management systems. The reviewer will then make recommendations based specifically within the context of the perceived purpose for the aviary's current existence.

## Limitations

As with such 'snapshot' review approaches, the reviewer may only observe a relatively small range of practices and outcomes. For the purposes of this review, it has been accepted that whilst there may be some variance of such practices and outcomes, we can extrapolate what is observed to create a picture of the general operational systems in place, the physical condition of the facility, and the health and welfare of the resident birds.

Not all care staff were interviewed as part of this review. As above, there is an assumption that commentary and observed practice would be similar across all staff with aviary operations' roles. It is possible that staff commentary and behaviour may have been altered due to perceptions surrounding the reviewer's presence.

## Background

### Description of the reserve

The Virginia Lake Aviary (aviary) is situated in a small reserve on the outskirts of Whanganui town centre. The Rotokawau Virginia Like is situated within the larger reserve and provides for a resident population of wild water birds. The wider reserve provides visitors with access to short flat walks, some areas of interest, a picnic/BBQ area, a children's playground, an art deco Winter Garden and a café, and other native and non-native wild birds.

### Description of the Aviary

The 'kite-shaped' aviary is situated in the southwest corner of the reserve and measures approximately 26.00m by 15.25m at the widest points.<sup>4</sup> Built in the 1970s, it has a small shed/storage room (shed) at the narrowest southern end with staff-only egress and ingress from the reserve to the aviary. Visitor access is via one of two enclosed turnstile type entrances/exits and associated inner doors, either side of the narrow cross section of the aviary. In 2005, approval was granted for a replacement to the eastern visitors' entrance which provided for two internal (roofed and panelled) "display cages", one of which extends as a wire enclosure in an angular fashion into the main aviary by approximately 1.8m at its longest point. The original outdoor aviary is sectioned into 3 separate enclosures by mesh fencing that cross laterally approximately 7.5m from the shed, and approximately 2.25m

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<sup>4</sup> Provided plans were not clear on fence size and aviary dimensions.

from the tip (most northerly end) of the aviary; both fences have access doors for staff. For ease of writing, the largest of the aviaries will be referred to as the 'main aviary'; the smaller aviary attached to the shed will be referred to as the 'medium aviary'; the area currently housing cockatoos at the northern tip of the structure will be referred to as the 'small aviary'.<sup>5</sup> Visitors may enter from either of the two entrances, and will alight onto a slightly raised boardwalk that crosses the aviary almost at its widest point. Visitors only have access via the barriered boardwalk. There are two small north/south extensions to the boardwalk providing a raised viewing platform that allow visitors to gather in the middle and read informational material about the resident birds. A mains-fed water feature starts as a stone structure fountain and associated moat in the northern end of the main aviary, and runs via a concrete culvert through the main aviary, under the visitor's viewing platform and out of the aviary to the southeast. The aviary is almost entirely constructed of approximately 4cm chainlink fencing, extending to an approximate maximum height of 6m. The aviary roofline slopes gently from the highest point back to the shed roofline but steeply to the ground at the northern tip off the aviary. Central supports form a flat roofline in elevation which drops steeply to the ground laterally from the central supports. The two 'indoor' display cages have glass viewing windows on one side, ply clad side and back walls and pitched roof, and ply clad front wall with full single doors with fine mesh for staff access. Each cage has been fitted with a seemingly non-opening clear corrugated plastic skylight.

Much of the substrate in the aviary is grass with some concreted paths and stands for staff access and the wooden boardwalk for visitors. The medium aviary is heavily vegetated with low lying plants and shrubs, thus there is a greater proportion of mulched surface in this area. The small aviary has small stone substrate and concrete. The two entrance display cages have mulch substrate inside and stone outside.

There are various nesting boxes throughout the enclosures, some high in the main aviary and medium aviary, associated with sheltered perching boxes. Smaller nesting boxes were fixed to the walls of the display cages at 1.5-2m off the ground. Very sparse perching branches had been placed in the display cages and feeding dishes were provided on the ground.

A wood-bordered chain link fence around 2m high and 10m long is fitted along the western edge of the main aviary. One section has been fitted with a large bundle of long branches and sticks. There is also a large, roofed feeding table in the main aviary and a smaller one in the medium aviary, both affixed to the ground. There are several other inclusions that will be discussed in the main body of the review.

Other than at the entrances to the aviary, no secondary containment system (airlock system) was seen between the display cages and the main aviary, nor between the main

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<sup>5</sup> NB: The terms 'main', 'medium' and 'small' are not related to technical dimensions nor are they specifically intended to infer substandard size.

aviary and each of the medium and small aviaries. Some gaps in fencing also allowed some free movement of small species between the small aviary and the main aviary.

### Description of animals

A number of bird species were located in all aviary spaces. Due to their containment specifications and cage furniture, the birds in the display cages were easy to identify and seemed to only contain aviary birds. All other aviary areas contained mixed species of birds, and a variety of species that may be considered invasive pest species. A bird inventory provided to the reviewer listed 176 individuals, however, there was also an unspecified number of invasive birds including pigeons, sparrows<sup>6</sup>, and blackbirds. Only 13 of the 18 species from the information boards were observed in the aviary (and the inventory) although the inventory listed 21 different species.

### Description of staffing

The reviewer was provided with a descriptive staffing schedule, weekend schedule and position descriptors for two differing positions of aviary carers. In short, the aviary is manned by staff 4 hours each day, usually from early in the morning to sometime around midday or just after. The most experienced carer (Aviary Caretaker) works 3 days per week (midweek), and Aviary Assistants cover the shoulder weekdays and weekends. It was confirmed that once aviary staff finish work around midday, no other specialised bird-experienced staff would normally be present until the following morning. Should a bird issue present during the day and be reported by the public, Wendy or █████ could be contacted via the Council website. Virginia Lake Reserve security are tasked with entering the aviary in order to lock it for the night at some time not specified but after 4pm.

The Job Descriptions provided (Position Descriptions) have been developed to provide for one experienced bird keeper with generic skills in bird health and husbandry (the Aviary Caretaker). The Aviary Assistant description reads more like a husbandry routine and would only require a person to follow memorised routines/standard operating procedures (SOPs) but may not have any credible experience and knowledge of the complexities of proactive bird healthcare and best practice welfare. It is noted that the term “animal welfare” is absent from both job descriptions. Such terminology would be expected in any credible modern animal husbandry or animal management role.

### Description of general processes

A single page descriptor of daily care was received by the reviewer. This was split into *Daily Aviary Care – Weekend Staff*; and another section relating to tasks to be performed daily or over longer periods of time (weekly to monthly). The sheet was mostly generic hygiene practices, and more specific information relating to feeding practices (and very specific health observations for birds particularly in the lake). Apart from Lorikeet food, it was not clear what food is provided for what species, and there were no feed quantities related to

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<sup>6</sup> Sparrows seemed to come and go at will, so no definitive count would be possible.

known numbers of birds. No cleaning products (other than mention of the possible use of “soapy water”) were detailed, nor any SOPs for such practices. No species-specific diet sheets were received however a document was received containing a photograph of a recipe sheet for *Large Bird-Seed Mix*; *Small Birds – Seed Mix*; and *Lorikeet food*. The food mix was not related to bird numbers nor was it clear what constituted large and small birds. The document stated that vegetables and fruits were received from a supermarket and by public donation, but there is no mention of how this should be stored, quality controlled or utilised in the diets.

## Review

The body of the review section is split into two principal areas, Structural and Operational. The Operational section is further divided into Animal Husbandry Practices; Bird Welfare; and Staffing and Staff Responsibilities.

NB: Whilst the aviary is not a registered zoo nor a similar facility with the wider ranging objectives, the reviewer has taken the approach that given its *raison d'être* for free public entertainment/recreation and the fact that it is owned and managed by a district council, similar standards should be applied when reviewing the care and welfare of the birds. As such, husbandry systems and animal care outcomes should be measured against best practice welfare frameworks, not only from a legal viewpoint but also a philosophical and ethical perspective. It is recognised, however, that any unnatural captivity of animals will constitute a compromise in the range and extent of the expression of wild behaviours.

### Structural

The aviary itself is of a relatively old design and one that does not make best use of the area currently utilised by the facility. Whilst the structure is showing signs of age, it is generally structurally sound<sup>7</sup>. The main aviary has extensive open space for small to medium sized birds to fly within but does not provide for effective use by the birds with respect to perching, shelter, foraging and social distancing. The substrate was appropriate for a number of ground feeding birds (doves, guinea fowl, black birds etc) and the large feeding platform allowed for some birds to feed a short height off the ground (approximately 1m). However, due to the positioning of the nesting boxes and sheltered perching, many of the birds were relatively hard to see. The placement of nest boxes was of concern from a logistical perspective. In order to inspect and clean the main aviary nest boxes, long ladders would need to be utilised. This would present a moderate Health and Safety risk and would technically require two members of staff and possibly safety harnesses. The reviewer is not confident that inspections of the nest boxes are carried out frequently - a task usually carried out to ensure the health status of the birds, ensure an appropriate level of hygiene, and provide for the capability of population control. The large water feature is adequate as both a drinking opportunity

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<sup>7</sup> This evaluation is not derived from a credible structural engineering skill base but has been determined from experience of a wide-ranging of animal enclosures, their build specifications and condition.

for the resident birds and as a feature for visitors. However, the relative upkeep of such a structure maybe questioned. The surrounding moat and outflowing concrete stream would require a disproportionate amount of staff time to ensure that it looks appropriately maintained and is healthy for the birds in relation to the use by the birds. The source of the water seems to be town supply but if it is an open water system and the water flows out of the aviary to a stormwater drain, the sustainability of such a system may be called into question given current calls for more sustainable practices in all sectors. If it is a closed system (the same water is recycled through a sump, filtration and pumping system), further questions may be asked of the resourcing and upkeep of such a large system within such an aviary. It must be noted, however, that birds should have a number of clean water sources that are accessible to all individuals for both drinking and bathing. As such, any change to this structure would require a rethink of animal water needs. The boardwalk and viewing platform provides for a more immersive experience for visitors but this may create other challenges relating to animal welfare and safety, since humans and animals can come into direct contact. The information boards, whilst bright, are not indicative of all the species within the aviary, and provide only limited information. Since species seem to come and go over time within the aviary, it will be obvious that some information boards will be redundant whilst some species will have no information provided within the aviary.

The medium aviary is heavily planted with hardy shrubs but the roofline at this point is relatively low for some species of birds. Given the design of the whole structure, this aviary was possibly least effective for visitor viewing.<sup>8</sup> The mesh size, density of shrubbery, aviary dimensions, distance from viewing platform to medium aviary fence line, and size of resident birds seem to make viewing of, and thus interest in, the medium aviary relatively poor. The exception were the Galahs which, when clinging to the dividing barrier fence, were clearly visible. The quail were almost invisible to visitors since it likely that they do not know where to look for them.

The Small enclosure was of serious concern given that it houses the largest of the resident birds (cockatoo). The angle of roofline results in a very narrow and restricted flight area and the overall depth of the aviary from the visitors' viewing path outside the aviary to the dividing barrier fence, means that birds have little opportunity to remove themselves from close contact from the public external to the aviary. From a visitor's visibility perspective this may be seen as positive but from an animal welfare perspective, the resident birds have very restricted opportunities for agency<sup>9</sup> and is very small for cockatoos regardless of age.

The "Display Cages" as they are set-up are not well designed. There is very little natural light, and although there is mesh in the door, there would be little air movement within each enclosure. The absence of a vent near the apex of the enclosure would suggest that cold air would sit at the bottom of the enclosure and warm air at the top. The bland features of the walls would also suggest that

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<sup>8</sup> Clearly, no lengthy study was performed to establish visitors' observation behaviour and times however, it was generally noted that visitors spent far less time viewing the medium aviary from the viewing platform than the main aviary in the opposite direction.

<sup>9</sup> In this case agency refers to an animals' ability to make appropriate decisions that affect how it copes and relates to its social or physical environment. An animal exercises "agency" when it engages in voluntary, self-generated and goal-directed behaviours - Mellor, David J. (2017). Operational Details of the Five Domains Model and Its Key Applications to the Assessment and Management of Animal Welfare. *Animals* 7, no. 8: 60. <https://doi.org/10.3390/ani7080060>. See also Spinka, Marek. (2019). Animal agency, animal awareness and animal welfare. *Animal Welfare*. 28. 11-20. 10.7120/09627286.28.1.011.



viewing is not particularly appealing. From a visitor's standpoint, the reviewer felt that these "displays" were uninteresting, sparse and did not show bird husbandry and care at an appropriate level. Solid/smooth walls are not conducive to birds as usable structures, and thus the inhabitants have little need to fly anywhere near 3 of the 4 walls. As a result, the 3-dimensional space of the enclosure is not well utilised. The small amount of perching available was minimal and linear, and birds have little opportunity to alight on many other natural structures. Whilst the single branch hanging from the roof may be changed, it is unlikely that it would be done regularly to provide an enriching environment for the resident birds. Animal enrichment will be discussed later but modern enclosures are built with the forethought of ensuring flexible, dynamic, and interesting environments for the animals therein. The external extension to the Rosella display cage did not enhance the display to any extent since the shape and size doesn't allow for any extended flight of, what are, larger birds than those in the other display cage. The build of the external extension was seemingly amateur in design and appearance, and its position would have made any regular checking of the nest box above very awkward. In this reviewer's opinion, these display cages are not fit for purpose as they currently stand.

Although the two visitors' entrances replicated an 'airlock'<sup>10</sup> system, both are old fashioned, can feel claustrophobic and would limit some forms of wheel chair access. Since they can be utilised by visitors/staff moving in and out at the same time, the inner door is the only effective barrier to many of the smaller birds, and there is nothing to stop people moving round the revolving compartments whilst the inner door is open. None of the other doors between aviary sections have a double door system which means that birds from one aviary section or display cage could exit into another section of the aviary system as carers move from one section to the next. For some birds it would likely mean that they would not be captured and may result in major health and welfare issues for those birds.

It was observed that the outer path in the reserve does not surround the entire aviary. As such, the medium aviary is unlikely to be view by the public from any other angle other than from within the main aviary (since visitors would have to walk across grass to get a close view). Visitors following the path around the north end of the aviary will be provided with moderate views of the birds (more so at the northern tip and into the small aviary housing the cockatoos). However, modern aviaries use netting that provides very good viewing through the aviary containment. The age and style of the fencing used in the aviary in this review is far more opaque, obscuring the visitors' views.

## Operational

### Animal Husbandry Practices

In the reviewer's experience of modern, professional, public facing facilities, husbandry practices are defined by clear, comprehensive, accurate and evidenced based husbandry manuals and SOPs. The information provided was deficient in much of the detail that would be expected in a modern best practice facility. The inventory provided was not of a professional standard and clearly not recorded

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<sup>10</sup> Airlock is a term used in the zoo industry to describe a double door safety system that can be used to reduce the chances of resident animals exiting the enclosure (or indeed unwelcome wildlife entering the enclosure). It is generally reliant on correct use by staff/visitors but current systems usually involve a magnetic locking system that only allows one door to be opened at any one time.

on a regular basis (in fact the only record provided was of an animal count made on 01/02/23). Whilst it is recognised that in larger aviaries it is not always possible to count every single bird every day, it is expected that counts would be made regularly and with as much accuracy as possible. With no accurate count nor records made, it is difficult to understand how carers might become aware that birds may be sick or dead but out of sight. If birds are sick or injured in human care, they must be provided with timely treatment to alleviate suffering as per the Animal Welfare Act 1999. Given that no definitive number of birds is known, it is also unclear how accurate diets have been formulated. It seems likely that an overabundance of food is provided to account for the lack of accurate bird counts. To the greatest degree, there is no professional diet sheet used relating to each species and specifying how much of what type of food is appropriate for a single bird on a daily basis. It is clear that apart from an undisclosed quantity, quality and type of vegetables and fruit, all birds appear to receive the same mix of feeds, and would thus rely on the differing species to find the appropriate feed for them (this does not apply to the Lorikeets who have their own specific diet, although how this is made up is not mentioned). Other than the aforementioned supplementation use of vegetables and fruit, it would appear that there is no change in the composition or amount of the feed as it may relate to the number of individuals, season, reproductive status, growth stage, size, state of health, weather conditions etc. No other records seem to be documented e.g. breeding frequency, health checks, ages, male/female split, food eaten-food left, behavioural data, acquisition/disposition statistics, deaths, veterinary or treatment regimes, irregular maintenance or changes to the furniture, pest numbers.

The one page sheet describing generic hygienic practices is not of a professional standard and does not describe “appropriate” hygiene for such a facility. Although harsh chemical cleaners should not be used often with birds, there are a number of instances where differing cleaning agents should be used. For instance, feed bowls or trays should be cleaned more stringently where birds regularly defaecate in the receptacle; bird boxes should be hygienically cleaned after breeding which may involve boiling water or safe cleaning products. There are no guidelines as to what a carer should “check” on a daily, weekly or longer period of time eg. stability of perches, condition of substrate, maintenance of fencing and doors, nest box care and hygiene etc.

There are no minimum standards within the Codes of Welfare for ensuring effective and professionally documented husbandry protocols and systems but Recommended Best Practice for such quality assurance systems (manuals, records, SOPs) is well documented in the Codes of Welfare 2018, part 11.1 and 11.2.

It would appear that there is no determination at a senior level as to what the bird collection plan should be. As such, it is left to the Caretaker to make individual decisions relating to how best to achieve what is essentially an undetermined collection plan. As such, acquisition and disposition of birds tends to be reactive, and based on the results of uncontrolled breeding and the ultimate reduction of birds due to death (and maybe escape too). No records are provided relating to quality processes which determine where birds are acquired from or disposed to. Whilst this may be common practice amongst private collectors, public facing and council owned facilities should be capable of providing information that documents the nature and credibility of facilities that are utilised for buying or selling (or swapping) of birds. This would provide some peace of mind that acquired birds are of good health and genetic composition, and are not the product of poor welfare

practices, and similarly that birds are moved on to facilities that have husbandry practices that are of similar or better standards.

### Bird Welfare

Although animal welfare law is currently based around the Five Freedoms<sup>11</sup>, modern day animal welfare is moving towards the Five Domains Model. The Five Freedoms is an assessment of what a carer might provide for an animal and whether it meets a basic standard of care. The Five Domains Model assesses what the animal is likely to feel (its affective or mental state) regardless of what is provided by the carer. For example, the correct amount of food might be given but if presented in a way that is difficult to access or is not palatable to the animal, the experience of the animal may be negative, despite the minimum standard being achieved within the Five Freedoms. As such, the assessment of bird welfare is provided within the context of the Five Domains model.

Reviewer observations of the birds on the day of the visit (a warm sunny summer's day) suggest that a majority of the birds were in good physical condition; plumage and body scores viewed from afar seemed appropriate for a majority of the birds; and no serious injuries or disease was observed. One of the Lorikeets was seen to have some feather loss around the neck area, discoloration to some breast feathers, and seemed to display stereotypical behaviour<sup>12</sup> by running back and forth along the top edge of the open door leading to the display cage with its beak pressed against the door top. Although some birds in the main and medium aviary were actively foraging on the ground, a majority of birds were perched high up in the main aviary, and in general many birds were inactive. This may have been a symptom of the timing of the observations (after feeding and across the late morning and middle of the day) and the warm weather. However, finches in the display cages rarely moved from the branch perching across the 4 hours of the visit. This was similar for the cockatoos that seemed unengaged and lethargic; one barely moved from a perching point and seemed asleep for much of the time observed. It is understood that one of the cockatoos is possibly nearly 70 years of age. One blackbird seemed huddled on the ground but when approached, flew awkwardly to a nearby perch. Galahs, tend to flock in large numbers and perch high in trees or man-made structures. Whilst Galahs are also kept individually as pets, in the context of this aviary, the resident Galahs seemed to be quite restricted in movement given the dimensions of the medium aviary. In addition, having quail in the medium aviary seemed risky since it is a main foot-traffic route for busy staff from the shed to the various aviaries.

For such a large aviary with so many birds, the behavioural repertoire of many of the birds was far smaller than might be expected across several daylight hours in warm conditions. This may be the result of a large quantity of food being consumed quickly in the morning and few engaging environmental enrichment<sup>13</sup> opportunities. It was recognised by the reviewer that some attempts

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<sup>11</sup> [SPCA Animal Welfare Certified – Five Freedoms versus Five Domains](#)

<sup>12</sup> Stereotypic behaviour can be defined as repetitive, predictable and persistent behaviours that appear to have no obvious goal or function. Such behaviours may be an indicator of poor welfare and are rarely seen in the wild. NB: stereotypies may not be an indicator of poor welfare in the current environment or facility but may be related to prior experiences. Such behaviours are not easily removed from an animals repertoire even when the current environment has improved. See [Stereotypies as animal welfare indicators \(zawec.org\)](#)

<sup>13</sup> Animal enrichment (variously called environmental enrichment or behavioural enrichment) is a husbandry technique aimed at provision of engaging opportunities and choices to express a wide range of natural behaviours over appropriate time periods. Lack of opportunities for expressing natural behaviours may lead to

had been made to provide a number of enrichment opportunities but in discussion with staff, these had only been added very recently. These new enrichment additions are supported by the reviewer and seen as a starting point for a more expansive programme. However, enrichment programmes require some initial research, a structured approach to their implementation, a review of the outcomes and should be appropriately recorded. The result of such enrichment items is to provide the birds with choice and thus agency to mimic some of the positive experiences of the wild.

The staffing roster, staffing hours and time on section reveal that birds are fed only once during the day. Given the amount of food provided, many birds would gain more than the daily requirement within the few hours or so after feeding and would have little incentive to forage or work for food across the day as they do in the wild. Apart from the likely significant gains in animal welfare, 2-3 feeding times across the 7 hours of opening would provide visitors with a more engaging and enjoyable experience as they view birds actively foraging and behaving naturally within their environment throughout the day. The large quantities of food initially presented may attract unwanted species that are able to enter the aviary, especially in the winter months when wild food is less abundant. Although the aviary is open air, disease transfer is more likely between non-aviary birds and resident birds where close contact is possible.

One area of critical concern was that there are no veterinary records for any birds. It was ascertained that birds that seemed sick or injured are taken home by the Caretaker to be treated. It is unclear as to how many birds treated survive or die. Further, there were no records to document which birds had been treated, with what treatment, for what symptoms/illness/injury. As such, no follow up would be likely unless the bird in question was one of the larger less abundant species. Care staff would have to call each other to report a sick bird taken from the aviary since no records are kept on site. When asked how he might judge that an aviary wide issue may be affecting the birds, the Caretaker suggested that if several animals were seen dead, this would alert him to a bigger problem (not the exact words used). In discussion with care staff, the reviewer concluded that no preventative health care system is in place (other than worming although no records are kept) and no necropsy is performed by a vet to diagnose cause of death. Further, no trained staff are on site from around midday onwards even though visitors may enter the aviary until closing (4-5pm). It is likely that an injured or acutely sick bird may go unnoticed for many hours. If visitors observe a sick/injured bird, they have no direct, simple way to inform keeping staff of the health issue. The Codes of Welfare: Zoos have minimum standards (No.13) for Illness and Disease (which includes injury, distress, and loss of condition) including the calling of a vet for severe health concerns. Best practice suggests that all health indicators should be record including mortality; post-mortem inspections; and implementation of a preventative health care programme.

Whilst birds should have privacy in nest boxes during the breeding season, the accessibility of many of the boxes is such that no monitoring of young would ever be possible. Sick or abandoned chicks would likely die, conceivably unnecessarily, and not in a humane way. It is likely that such events do happen even with the most attentive staff, but suffering is more likely to be alleviated when systems are in place for appropriate monitoring.

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abnormal and/or extreme expression of behaviours, linked to poor welfare. See [Enrichment & Animal Welfare \(Wild Welfare\)](#) and [Animal Enrichment](#).

### Staffing and Staff Responsibilities

The reviewer had very little time to assess staff knowledge and experience and as such, this part of the review is based on a) the short conversations with aviary staff, b) the level of professional knowledge and experience drawn from the husbandry documentation provided; c) the Position Descriptors, and d) the overall condition of the aviary and physical provision of animal care. It is unknown how much induction, training and professional development staff have had to support their key result areas, and whether that is documented.

As outlined in the paperwork provided, for 4 days out of a 7-day week, the aviary is managed by an “assistant” whose position description does not seem appropriate to provide for the sole responsibility of safety, care and welfare of aviary visitors and all resident birds. It is also clear that current practices are not in keeping with the Key Result Areas in some cases (for example, one key result area for the Caretaker role is to maintain an inventory of birds).

Neither the Aviary Caretaker nor the Assistant have any formal qualifications in the animal industry. As such, their skills and knowledge are gleaned from the pet aviary bird trade and amateur bird society connections. Such knowledge and associated skillset are invaluable as a starting tool for working in a professional setting. However, to work independently (in sole charge) of an animal care facility funded by a district council and open to the viewing public, requires a much greater knowledge of current regulatory and technical systems that apply to such facilities and the animals within. The most obvious concern for the reviewer is the lack of documented husbandry processes and procedures, healthcare systems and current animal welfare understanding. Public facilities such as these should not be held to the standards perceived by the general public but should be leaders in the provision of best practice care and positive welfare as understood from current credible literature. As such, staff should have a knowledge base that supports such standards of care in a professional setting. Whilst the reviewer is sure that both aviary staff may be well respected in the home aviary community, managing a large public aviary requires far greater levels of understanding.

It was clear that much of the healthcare processes undertaken at the aviary are reactive in nature, with little clear proactive strategies. In modern animal management systems, preventative care is key to high standards of animal welfare.

Although it is in effect as single aviary, the reviewer would suggest that one aviary carer could not adequately manage the aviary on 4 paid hours per day. Given that the carer should be responsible for containment checks, the cleaning and hygiene of all areas and receptacles including the kitchen/storage/preparation room, pest management, maintenance to internal structures and substrate, feed collection, preparation and dispersal, preparation of enrichment devices, animal record keeping, safety checks and their documentation, visitor engagement, as well as the best practice healthcare and management of well over 100 birds, the reviewer would expect one person to more reasonably and professionally manage this work in a full working day (8 hours). This would also provide time to train other staff, communicate to upline management, support other volunteers and student programmes, and allow for their own professional development. In addition, it would be expected that a qualified responsible staff member is present during all visitor opening hours (when members of the public have free access and contact to aviary birds) and can thus perform final checks before locking the facility for the night. This would, given the requirements outlined

above, require at least two qualified and experienced staff to ensure that all days of the week are covered by proficient and accountable staff.

It should be noted that given the current practices, much relies on the Aviary Caretaker and his understanding of the processes, acquisition and disposition contacts, care for sick birds, and memorised records. The reviewer is extremely concerned about how the aviary would manage if the Aviary Caretaker was suddenly unable to attend to his position. This would be exponentially more concerning if both [REDACTED] and [REDACTED] were not available concurrently.

## Suitability for Purpose

From the reviewer's perspective, the aviary is one part of a recreation facility (Virginia Lake Scenic Reserve) provided by the Whanganui District Council for the public. Given the information provided, there are no other objectives of the facility and the birds within. Thus, the greater 'purpose' of the facility would simply focus on the entertainment/enjoyment of visitors. Minor roles may also be to provide some work experience for students, but the extent and level at which this is achieved is not documented. Further, it is not clear if there are any realistic and measured goals to educate members of the public. It was not within the remit of this review to establish visitor expectations and whether they were met, however, within the few hours on-site, the reviewer observed a small number of visitors (both within the aviary and as observers from outside the aviary) that seemed content with what they saw and experienced.

However, in order to fulfil its purpose, best practice, sustainable animal care and management, and positive animal welfare outcomes should also be expected by visitors and the wider public, other professionals that utilise the aviary, and the extended district council staff. As is the case for zoos, public facilities such as these may, and often do, come under both reasonable and unreasonable scrutiny, the fallout of which may be spread far and wide very quickly with unfortunate consequences. In the zoo industry, it is recognised that the layperson's understanding of differing standards of animal care and welfare has grown considerably in the last 30-40 years. It is thus the responsibility of institutions that 'own' such facilities to ensure the systems and structures are in place to achieve these best practice standards in order to mitigate for public concerns.

It is the opinion of this reviewer that husbandry and welfare standards within the aviary are far from best practices as recognised by modern animal management and display industries. In some cases, it is suggested that minimum standards of care may barely be achieved, which should be of concern to the aviary managers. The reviewer also suggests that given the aviary structure, and the husbandry and management of the birds, the visiting public are not gaining as much as they otherwise might. As such, it may be concluded that the aviary is now not suitable for its current purpose. If the aviary was redesigned and practices developed to provide for engaging, active birds within an immersive environment that displays 'happy', healthy birds performing a wide range of positive behaviours in natural surroundings, as opposed to an attractive display of disengaged caged birds, then one might suggest that the purpose is once again fulfilled. It is also possible that visitation and positive feedback may increase.

## Recommendations

### Priority Recommendations

1. The aviary should, at least, be redesigned:
  - 1.1. To negate the areas that are currently not fit for purpose. This would include the small aviary at the north end of the structure and the two display cages at the eastern entrance.
  - 1.2. To ensure effective placement of appropriate nest boxes that can be safely maintained and monitored to provide for best practice animal healthcare.
  - 1.3. To provide structures and plantings for species appropriate enrichment, which may include differently sized perching, objects for engaging and variable delivery of differing food types, and varying structures for shelter allowing birds to choose appropriate social grouping or distancing.
  - 1.4. To provide a preparation room and office that can be used for best practice food storage, food and enrichment preparation, cleaning of receptacles and implements, and record keeping (and other administrative duties).
2. Development of a collection plan that is agreed by senior park staff and aviary staff that fulfils the purpose of the facility within budgeted resource limitations, whilst providing best practice (or approaching best practice) animal care. It is advised that any agreed collection plan should incorporate an overall reduction in the number of birds within the facility. The final number of birds should be based on the new dimensions of the aviary sections, the resources budgeted for husbandry and care, and appropriate social groupings for each species.
3. Husbandry systems require complete development to include species specific husbandry manuals, diet sheets, SOPs, and an effective records system.
4. Professional husbandry practices should be developed to include recorded health monitoring, regular animal counts and identification, positive welfare states (as assessed by the Five Domains Model), appropriately controlled breeding to reduce disposition and acquisition requirements to and from the facility, and vet consultations and necropsies.
5. Staffing levels should be increased to ensure that a qualified/experienced bird carer is present throughout the day, for all days of the week. This would enable feeding regimes to be extended throughout the day.
6. Provide public signage that clearly provides a direct telephone number that can be used if the public are concerned about the health and welfare of birds, or the health and safety of staff and visitors whilst aviary staff are not on-site.
7. Staff should be acquired or trained to ensure knowledge and application of best practice care and all regulatory requirements of a public facing, professional animal display facility. This should be reflected in updated position descriptors that will provide for the employment of suitably trained/qualified staff.

### Secondary Recommendations

These recommendations should not be viewed as alternatives or partial fixes for the priority recommendations above. Rather, they are recommendations that may be implemented in parallel with the priority recommendations.

1. The aviary could be redeveloped to include;

- 1.1. double door entry systems for safe and inclusively accessible public movement;
  - 1.2. double door systems for internal access of staff between aviary sections;
  - 1.3. shelter for public comfort (from rain or extreme sun) at the viewing platform;
  - 1.4. a more sustainable and bird friendly water feature;
  - 1.5. modern interchangeable information/education systems for visitors;
  - 1.6. re-routing and extending the boardwalk to meander further through the main enclosure and with more sight barriers (shrubs, trees, other alighting structures) could make for a more interesting movement through the aviary.
2. Develop a core of well-trained responsible volunteers that may be utilised to carry out unskilled tasks under the supervision of the carer, allowing the paid staff more time to concentrate on more technical tasks and developments.
  3. Although not a zoo, it may be possible to align the purpose of the aviary with some zoo philosophies and systems e.g. defined education outcomes for the public, sustainability practices, advocacy for the natural environment and conservation efforts, engaging with research facilities.
  4. It may be prudent for aviary management to study the Codes of Welfare: Zoos and the Five Domains model to acquaint them with minimum standards of animal care and provide some guidance as to applicable best practice standards of animal welfare.

*Supplementary Note:*

If council resources allowed, it would likely be prudent and more impactful to completely redesign and rebuild an aviary from scratch. Zoo designers would be able to create a modern, attractive, sustainable facility; one that is purpose built to house and display birds with best practice standards and positive animal welfare at the heart of the design.

Alternatively, should the decision be made to modify the current aviary and its practices, there are a number of well respected and skilled bird husbandry and aviary design specialists that can be employed to create an upgraded facility both in terms of bird care and welfare, and visitors' experience. The reviewer would be happy to provide some suggestions.