AVIFAUNA MANAGEMENT PLAN
for the
Waitaha Hydro Scheme

Date: 11 July 2025

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1. INTRODUCTION

1.1 This Avifauna Management Plan (**AMP**) sets out the methods that will be used to avoid, remedy or mitigate adverse effects on indigenous avifauna (including whio - *Hymenolaimus malacorhynchos*) during the construction phase of the Scheme and to a limited extent during operational maintenance and emergencies to minimise disturbance to whio. The term 'avifauna' or 'bird' used in the AMP (unless specifically worded otherwise) specifically refers to all Threatened' and 'At Risk' bird species, as well as the non-threatened species of western weka, kererū, rifleman and brown creeper. That is, all indigenous bird species of conservation importance1 that potentially could be affected by the Scheme on a population level during construction, and during operational maintenance and emergencies.

1.2 Potential impacts of the Scheme on avifauna include direct and indirect harm and/or mortality from traffic collision and vegetation clearance, habitat loss through vegetation removal and habitat displacement due to noise and lighting during both construction and operational maintenance and emergencies. It is noted that there are several nationally threatened bird species found within the Scheme including kea (classified as 'Nationally Endangered'), whio ('Nationally Vulnerable') and long-tailed cuckoo ('Nationally Vulnerable'). While effects of the Scheme on most bird species are considered minor or less than minor, there could be a potentially more than minor – significant effect on whio due to disturbance at the Headworks and the Power Station Site during construction and, for whio, operational maintenance and emergencies. Therefore, additional effects management measures are considered for whio.

2. PLAN PURPOSE AND OBJECTIVES

2.1 Plan purpose

The purpose of this AMP is to guide the construction processes for the Scheme to ensure that potential adverse effects of construction works on indigenous avifauna are appropriately managed under the various legislative (and condition) requirements. Further, to a much more limited extent, this AMP will inform operational activities in relation to channel maintenance and emergency sirens disturbing whio.

This AMP specifies the methods to avoid, remedy, minimise or mitigate or compensate adverse effects on avifauna (including whio) that may be caused by constructing the Scheme.

The term 'birds' and 'avifauna' used in this AMP refers to 'birds of conservation importance' being indigenous 'Threatened' and 'At Risk' birds, as well as non-threatened species that are uncommon, have fragmented/localised distributions, or have potentially genetic distinctiveness in the Waitaha Valley that potentially could be affected by the Scheme on a population level during construction. Such non-threatened birds would include western weka, kererū, rifleman and brown creeper.

1 The term 'birds of conservation importance' used in this report specifically refers to all indigenous 'Threatened' and 'At Risk' birds, as well as non-threatened species that are uncommon, have fragmented/localised distributions, or have potentially genetic distinctiveness in the Waitaha Valley that potentially could be affected by the Scheme on a population level during construction. Such non-threatened birds would include weka, kererū, rifleman and brown creeper.

The AMP has been guided by recommendations within the following expert reports (and a draft has been provided to experts):

- Waitaha Hydro Scheme: Assessment of Effects on Bats, Avifauna and Powelliphanta Land Snails (Buckingham 2025); and
- *Waitaha Hydro Scheme:* Assessment *of Effects on Whio (Blue Duck) (Overmars* 2025).

2.2 Plan objectives

The objective of the AMP is to set out the management response measures necessary to appropriately avoid, remedy, minimise or mitigate, and compensate for the actual or potential adverse effects of the Scheme on avifauna (including whio). More specifically this AMP provides measures in relation to:

(a) **Minimising habitat disturbance**: minimise habitat disturbance during construction. This includes:

  (i) applying relevant protocols as appropriate to the site and the context when removing potential habitat;

  (ii) undertaking in-channel maintenance at the intake outside of the whio breeding season (September – December) to the extent practicable;

  (iii) minimising helicopter disturbance in whio breeding season;

  (iv) where practicable protecting riparian whio habitat (large rocks) at the Headworks; and

  (v) providing clear signage to protect whio from human or dog disturbance or harm and to encourage reporting of any harm to whio.

(b) **Minimising light and noise pollution**: minimise light and noise pollution from construction and during operational maintenance (for whio). This includes adopting appropriate relevant artificial-lighting design principles and designing the Power Station without windows and having no artificial lighting along the access road. Excessive artificial lighting, and noise, can disrupt avifauna behaviour including breeding, foraging and commuting. Emergency sirens for public safety must be designed to avoid permanent whio hearing loss at the river.

(c) **Minimising collision and electrocution risk**: reduce the risk of avifauna collisions and electrocution with the transmission lines. This includes using the most effective design (c. 2-2.7 m horizontal spacing between conductors) and marking lines across Macgregor Creek.

(d) **Minimising roadkill**: minimise roadkill from construction traffic by imposing a speed limit of 50 kph or less at, and upstream of, Macgregor Creek, and minimise and manage the potential effects of traffic between dusk and dawn between the Power Station and Macgregor Creek.

(e) **Providing for whio duckling access over the weir,** if practicable without compromising the priority of kōaro passage and trout exclusion, to reduce impacts on the local whio population.

(f) **Minimising other potential adverse avifauna effects from the construction and operation of the Scheme**: this includes managing pest numbers through rubbish disposal controls, minimising disturbance or harm from dogs and human interactions associated with the Scheme, and shepherding whio away before some loud construction activities commence (helicopters, drilling and blasting) and before undertaking channel maintenance.

(g) **Additional effects management measures**: a funding contribution towards an ecosystem programme or programmes within the region to compensate for residual construction effects on whio, bats and birds of conservation importance and residual operational effects on whio.

(h) **Reporting**: ensure that mitigation measures are implemented, and any indigenous avifauna-related incidents are recorded and reported as required.

2.3 Responsibilities and competencies

Westpower, as the Approvals Holder, will be responsible for ensuring that the site works are undertaken in accordance with this AMP and all relevant conditions set out in the Approvals.

Delivery of, and compliance with, the AMP will be the responsibility of the Project Engineer who will, with support from the Liaison Officer, liaise with the Project Ecologist, Contractor and Site Construction Manager regarding all construction activities requiring vegetation removal, earthworks and blasting and in-channel works at the Headworks site.

The Project Ecologist will have the relevant competency classes for the type of bird work being undertaken, as listed in the DOC avifauna handling competencies authorisation (Version 1.4, September 2023) or equivalent.

The responsibilities of the Project Engineer include but are not limited to:

- Reading and understanding the AMP;
- Facilitating a project start-up meeting with the Liaison Officer, Project Ecologist, Contractor, Site Construction Manager, and any relevant contractors sub-contracted by the Contractor before Project Construction Work Components involving vegetation clearance, earthworks and blasting and in-channel works at the Headworks site commence. The objective of this meeting will be to determine habitats scheduled for clearance each season and other works scheduled that may impact on avifauna, enabling forward planning and avoiding delays in the construction schedule and to confirm all pre-clearance requirements;
- Contacting the Liaison Officer and Project Ecologist before any vegetation clearance, geotechnical drilling, earthworks and blasting and in-channel works at the Headworks site;

- Maintaining clear lines of communication with the Contractor, Liaison Officer, Project ecologists, Site Construction Manager, other site engineer(s) or any relevant contractors regarding any changes in the works schedule; and
- Briefing new personnel about the contractor's responsibilities under this plan.

The Contractor will be responsible for managing the physical vegetation removal, geotechnical drilling, earthwork activities and blasting and in-channel works at the Headworks, including the activities undertaken by the relevant sub-contractors employed by the Contractor.

The Contractor's personnel and any employed subcontractors' personnel working on site are responsible for alerting the Site Construction Manager and the Project Liaison Officer to the discovery of any injured or killed indigenous birds. The Project Liaison Officer or Project ecologist(s) is/are responsible for reporting the discovery of injured or killed indigenous birds to the DOC Local Area Manager and for maintaining a database with an incident register and file log of actions taken for each such discovery.

2.4 AMP induction

Westpower must ensure that a copy of the AMP is always available onsite during construction of the Scheme.

A site induction must occur for all employees and contractors who are likely to be involved in vegetation removal, geotechnical drilling, earthworks and blasting and in-channel works at the Headworks site is required to understand and comply with the specific constraints and requirements of this AMP.

This induction must include as relevant to the works being undertaken:

- vegetation removal and protection protocols;
- intake construction protocols;
- in-channel maintenance protocols;
- procedures for the discovery of injured or killed indigenous birds inside work areas;
- identification of activities that cannot commence, or must stop, if whio are within a 50m or where practicable for certain activities 400m distance;
- training on shepherding whio away from loud construction activities and helicopters;
- the importance of compliance with the protocols and the reporting processes for observed breaches of required protocols; and
- contact details for the Project Engineer, Contractor and Site Construction Manager and Project Ecologist, environmental compliance staff, and emergency numbers for any identified issues observed onsite.

3. SUMMARY OF THE SCHEME'S POTENTIAL EFFECTS ON AVIFAUNA

3.1 Potential adverse effects of the Scheme on avifauna (with the exception of whio) were assessed in the *Waitaha Hydro Scheme: Assessment of Effects on Terrestrial Fauna: Bats, Avifauna and Powelliphanta Land Snails* (Buckingham 2025). Potential adverse effects of the Scheme on Whio were assessed in the *Waitaha Hydro Scheme: Assessment of Effects on Whio (Blue Duck)* (Overmars 2025). More detail on all relevant specific matters can be found in those reports.

3.2 In summary:

- Threatened and at-risk birds are significant because they are nationally declining. However, populations of all threatened bird species in the Waitaha Valley are widely represented elsewhere.
- The nationally non-threatened western weka is of potential significance as it may be genetically discrete.
- Other birds of conservation importance including kererū, rifleman and brown creeper are uncommon in the Waitaha Valley and unlikely to be affected by the Scheme at a population level.
- Other non-threatened indigenous birds are of lower significance as they are well represented in adjoining forests and elsewhere in the South Island.
- Introduced birds have no value of significance as they are widespread, and some such as blackbird and song thrush might be competing with indigenous birds.

This AMP relates to management and minimisation focused, as relevant, on the first three bullet points above.

3.3 Context and Scheme Areas

The Scheme's footprint is divided into four areas, being:

- Footprint Area 1 - upper footprint area (proposed Headworks infrastructure and temporary Construction Staging Area 1)
- Footprint Area 2 - middle footprint area between the farm boundary on the true right of Macgregor Creek and the proposed Power Station (vehicle access and transmission line route through DOC land, construction and structures around the proposed Power Station Site including Construction Staging Area 2).
- Footprint Area 3 - part of lower footprint area immediately north of Macgregor Creek within farmland (Spoil Disposal Areas and Construction Staging Area 3) and the gravel extraction area within the Waitaha River; and,
- Footprint Area 4 - main lower footprint area from Construction Staging Area 3 to SH6 and along SH6, Beach Road and Bold Head Road to Waitaha Substation (road access and transmission line within farmland and road reserve).

Areas 3 and 4 are predominantly within private land and road reserve, differing from Areas 1 and 2 that are predominantly within DOC Conservation Estate (a very small area on the true right of Macgregor Creek is administered by Land Information New Zealand (LINZ) (see Terrestrial Flora Report)).

The areas of the Scheme's footprint where effects on terrestrial fauna are potentially the greatest are:

- Area 1: the Headworks above the Morgan Gorge (highest number of threatened species identified, but a relatively small area of affected habitat); and,
- Area 2: along the vehicle access/transmission route through DOC forested land from Macgregor Creek to the proposed Power Station (the largest area of affected habitat).

3.4 Potential adverse effects on avifauna

Key potential adverse effects on avifauna include:

- direct loss (death) of individuals during habitat removal, other construction, traffic, etc.;
- loss or modification of habitat;
- disturbance to breeding, roosting and foraging activities caused by noise, vibration, lighting, traffic, human presence, gravel extraction from the dry, braided Waitaha River channel; and
- potential downstream effects (sudden flow changes affecting nesting riverine birds and predicted less than minor indirect effects on invertebrate food prey for long-tailed bat and riverine birds).

3.5 Potential adverse effects on whio

Key potential adverse effects on whio include:

- sedimentation and contamination during construction potentially reducing the abundance of aquatic invertebrates;
- disturbance and temporary hearing loss, including from surveying, blasting and helicopter flightpaths, people or dogs, during construction;
- effects on riparian zones and whio roosting sites;
- direct mortality or entrainment from weir and intake structures;
- decreased accessibility and movement for whio ducklings over the weir and intake structures;
- increased competition for food from trout if access facilitated above Morgan Gorge;
- noise and lighting disturbance and temporary hearing loss associated with Scheme operations (emergency sirens, helicopter flightpaths, or channel maintenance) or people and dogs; and
- sedimentation (at low flow) during the Scheme's operation.

4. SUMMARY OF PROPOSED EFFECTS MANAGEMENT

4.1 Overview

As explained in *Waitaha Hydro Scheme: Assessment of Effects on Bats, Avifauna and Powelliphanta Land Snails* (Buckingham 2025) the potential for adverse effects on avifauna is focused on Areas 1 and 2 and within the gravel extraction area of the Waitaha River bed.

However, while additional avifauna vegetation removal and gravel extraction protocols are applied to those priority areas, the Project Ecologist will be engaged during construction and should any specific issues in Areas 3 and 4 be identified during construction that person will be able to assist the contractor with any responses. Further, the Project Ecologist will also be available should any issues during vegetation clearance in Areas 1 and 2 arise outside of the peak breeding season for both forest birds and river birds.

The Project Ecologist will also provide specific advice to the contractor on:

- Measures to address and report any injury or mortality to birds of conservation value (if birds are found injured or dead the procedures in Section 4.3 below will be implemented);
- Measures that could be utilised in advance of, and during the breeding season, to minimise potential disturbances to nesting birds;
- on management of weka generally during the construction period;
- on minimising contractors' interactions with whio, kea and weka including gently persuading / shepherding[2] whio away from loud construction activities; and
- appropriate window treatments to avoid birdstrike on temporary construction buildings

4.2 Managing effects on indigenous avifauna including whio

(a) General avifauna management measures

To minimise the risk of harm to avifauna (including whio) during construction of the scheme the following measures will be implemented. Generally:

- Minimise, as far as practicable, disturbance to all birds, and avoid feeding species that commonly approach people (notably weka and kea.)
- Undertake vegetation rehabilitation either through natural regeneration or supplementary planting where required (refer to the Vegetation Management Plan)
- Manage transport effects upstream of Macgregor Creek by:
  - Imposing vehicle speed limits (50 kph or less);
  - Minimising as far as practicable traffic between sunset and sunrise to reduce risk of incidental roadkill;

[2] 'Shepherding or ''gentle persuasion' aims to entice a bird to fly or walk away. It first involves a slow approach and gentle hand waving, and then, if necessary voice projection. The slow approach is continued until the bird leaves. Practitioners will first be trained by a Project Ecologist.

- Where practicable ensuring vehicles do not travel close to each other and slow down when two vehicles pass in opposite directions. (This will prevent weka from becoming confused and getting run over.)
- Using road signs and staff induction.

- Manage noise effects by:
  - ensuring emergency siren levels do not cause permanent hearing damage to whio;
  - minimising as far as practicable construction activities between dusk and dawn, when weka and other crepuscular/nocturnal species are more vulnerable to disturbance;
  - avoiding flying helicopters up-valley of the Construction Staging Area, and using a flight path on the true right side of the river, to the extent practicable;
  - locating the helicopter landing site in the Headworks Construction Staging Area 1 at its maximum down-valley practicable extent;
  - preparing and implementing a Helicopter Flight Management Plan during construction to:
    - Confirm helipad locations, flight paths and helipad use protocols for all pilots;
    - Inform pilots flying to and from the Project Site of the relevant requirements of these Consents; and
    - Raise the awareness of pilots flying to and from the Project Site of the proximity of high value ecological areas supporting wildlife that can be adversely affected by helicopter noise including the particular care required when whio are sighted near flightpaths and helipad locations. This includes, where safety considerations allow and where practicable:
      - using a slow approach from perpendicular to the river, to enable any whio present to move from the site; and
      - land at and take off from the riverbed more than 200 m upstream of the Morgan Gorge entrance;
      - where trained people are onsite, shepherding away any whio within 50m of a helipad prior to take off or landing.
- Managing lighting effects by:
  - minimising as far as practicable construction activities and lighting, site wide, between dusk and dawn, when weka and other crepuscular/nocturnal species are more vulnerable to disturbance;

- using lighting only where necessary (lighting only the object or area), and ensure lights emit no UV, are designed to reduce light scatter (i.e. reflected downwards where practicable and shielded to minimise light spill); and
- where windows are involved (e.g. temporary contractor's facilities at the staging areas) when rooms are not in use turn off lights or close blinds or curtains on advice of the Project Ecologist.
- using the lowest intensity lighting appropriate for the task;
- using adaptive light controls to manage light timing, intensity and colour;
- using non-reflective, dark-coloured surfaces; and,

- Avoiding disturbance of water flows when extracting gravel from the Waitaha River as this could affect riverine birds nesting or foraging downstream, undertaking pre-gravel extraction nesting bird surveys, and maintaining appropriate setbacks from nesting birds;
- Implementing measures, c. 2-2.7 m horizontal spacing between conductors is proposed, and mark lines across Macgregor Creek to minimise the risk of electrocution from the transmission lines during operations;
- Ensuring all food and rubbish is collected, stored securely and removed from the site; and
- Avoiding dogs in the area by personnel associated with the Scheme. This excludes dogs required for bird monitoring purposes or in an emergency / or a specific purpose for Scheme construction and operation (with safety around wildlife confirmed or muzzles).

(b) For whio specifically

- Managing helicopter flightpaths, take offs and landing with care as per the Helicopter Flight Management Plan.
- By searching, and if necessary shepherding away any whio within a 400m area (excluding Morgan Gorge) before the commencement of blasting at the Headworks and Power Station sites, and if not practicable, at least 100m;
- By searching, and, if necessary, shepherding whio at least 50m away from the piling area at Granite Creek before the works begin
- Providing access for whio ducklings up over the weir structure if practicable without compromising on the priority of kōaro passage and trout exclusion (with advice from an appropriately experienced whio specialist in the detailed design phase);
- Implementing measures to minimise disturbance to whio in particular during breeding seasons and during construction;

- all practicable steps be taken through design and construction to retain the present whio habitat features of large rocks in the riparian zone at the Headworks site, including a five metre setback from the steep bank at Construction Staging Area 1;
- signage around the Scheme area recording: do not disturb whio, do not feed whio, ensure all food and rubbish is collected and removed from the site, report to DOC any dead whio found near the Scheme.

(c) Avifauna vegetation removal protocols for Areas 1 and 2, for the gravel extraction area in the Waitaha River bed and for whio

In addition to the general measures in **Section 4.2(a)** above, avifauna vegetation removal and gravel extraction protocols will be used to minimise effects on nests occupied by identified birds of conservation importance within the report *Waitaha Hydro Scheme: Assessment of Effects on Bats, Avifauna and Powelliphanta Land Snails (*Buckingham 2025). These are, for the identified forest birds of conservation value:

(i) For vegetation clearance in Areas 1 and 2 either:

For vegetation clearance, per year of clearance occurring, Westpower will pay $10,000 to an ecosystem programme to support regional biodiversity.

Specific to **Construction Staging Area 1 (at the Headworks)**, if any trees larger than ≥30 cm will be felled in the peak forest breeding season of November and December, then the below management occurs:

- Prior to vegetation clearance a suitably qualified person must check for active falcon, kea, kākā, kākāriki, weka or brown creeper nests especially in (≥60 cm dbh for hardwoods and ≥30 cm dbh for podocarps). This will involve a walkthrough survey (visual and aural observations) two days prior to affected areas (including a 10m buffer) to evaluate whether these birds are nesting (e.g. occupied nests seen, adult birds carrying nesting material, adults feeding young, calling behaviour); and
  - Utilise and implement nesting deterrents (such as fencing) as may be agreed between the Project Ecologist and contractor
  - If an active nest is identified in the walkthrough survey above:
    - The tree shall be marked and not felled until the chicks have fledged or the nest is naturally abandoned (subject to the process below); or
    - If the active nest remains after 10 days, then the Project Ecologist and contractor will consider alternative methods to progress vegetation removal in consultation with DOC. This will be a risk assessment-based approach dependent on the type of nest identified; and
    - Clearance within 25m of the tree may only occur with the management of the Project Ecologist.

Kākā and kākāriki tend to be noisy around nest sites and therefore relatively easy to detect visually. Falcons (particularly female) are very aggressive protecting their nests and are therefore also easy to find visually. If a falcon attacks, or bird displays alarm activity, you are likely near a nest and would then need to follow bird nest protocol as below. Nests can also be detected by following other bird behaviour, such as birds carrying material to a nest site, or birds repeatedly flying to the same site.

Identifying potential nest sites will involve a walk-through survey covering the vegetation removal footprint (and 10m buffer) within 48 hours of tree felling.

A potential nest site can be identified if it is considered highly likely to contain a nest, but could not be confirmed using external visualisation of the nest, and birds exhibiting nesting behaviour are frequently seen arriving and departing from the expected nest.

(ii) For gravel extraction in the bed of the Waitaha River:

Ideally undertake gravel extraction works outside the months July to February (peak breeding season for potential **riverine birds**);

- If that is not practicable then ideally commence gravel extraction activities before July as riverine birds will then likely choose other areas for nesting (of which there is an abundance); or
- If that is not practicable and gravel extraction commences during July to February:
  - affected areas must be surveyed by a suitably experienced person for active oystercatchers, banded dotterel, and pied stilt nests, within 2 days of the gravel extraction works commencing; and
  - if an active nest is identified in the survey above:
    - The nest must be clearly marked;
    - Gravel extraction within 75m of the nest of a riverine bird must not occur until the chicks have fledged or the nest is naturally abandoned; or
    - If the active nest remains after 10 days, then the Project Ecologist and contractor will consider alternative methods to progress gravel removal in consultation with DOC. This will be a risk assessment-based approach dependent on the type of nest identified; and
    - During that time gravel extraction within 50-75m of the nest may only occur with the management of the Project Ecologist.
  - Utilising nesting deterrents (e.g. silt fences or similar) may be considered to block the birds' line of sight and deter banded dotterels and other birds from nesting due to predator avoidance mechanisms (for example Dotterels have been shown to construct nests a mean

distance of 20 m from the nearest low cover (>30 cm height) (Rebergen et al., 1998).

(iii) For whio in Area 1 (the Headworks and Power Station) and Area 2:

- If practicable, avoid geotechnical surveying, blasting and vegetation clearance during the main whio breeding season (September - December) including during both construction and operations (such as in-channel operational maintenance works) at the Headworks and Construction Staging Area.
- If practicable begin construction activities, before the peak breeding season for whio begins in September to encourage nesting away from the Scheme area.
- Where practicable, do not commence blasting at the Headworks until any whio within 400m (or at least 100m) has been shepherded to at least that distance away (or until Morgan Gorge given the inaccessible terrain).
- Follow the Helicopter Flight Management Plan, prioritising safety considerations and including, where practicable, shepherding whio at least 50m from the helipads prior to take off and landing, where trained people are on site to do so.
- If practicable, combine helicopter access for the geotechnical drilling and geophysical surveying. If practicable, retain present whio habitat features of large rocks in the riparian zone including a five metre set back from the steep bank at Construction Staging Area 1.
- If practicable, do not commence piling at Granite Creek until any whio within 50m has been shepherded to at least that distance away.
- Affected areas must be checked by a suitably experienced person for active whio nests, no longer than 2 days before works commencing.
- If an active whio nest is found, all construction and/or operational works within 50 m will be stopped until the chicks fledge or the nest is naturally abandoned. The status of the nest will be monitored by the Project Ecologist, utilising techniques that avoid disturbance.

4.3 Bird (including whio) injury and mortality protocol

In the event of finding an injured or killed bird of conservation importance (including whio) the following procedures should be implemented under the management of the Project Ecologist:

- all works at that immediate site will cease immediately;
- the location of any discovered bird or carcass will be recorded, the bird photographed at the location, and an incident mortality data sheet filled out; relevant data will be included in an annual report;

- injured birds will immediately be triaged and cared for (and once removed from the site works may recommence unless it is a whio and the cause of death is potentially associated with the Scheme);
- birds will be placed in a cool dark material-lined box/bag with one corner of the bag moistened by or under the direction of the Project Ecologist to ensure the animal is handled appropriately;
- If needed the Project Ecologist will ensure that the bird is taken to a veterinarian for appropriate care;
- If a recently dead whio is found:
  - the Project Ecologist will commence a review with a whio specialist for the purpose of determining if the death was associated with the Scheme;
  - the Project Liaison Officer will contact the local DOC office or DOC hotline (if after hours) within 48 hours of the injured or dead bird being found;
  - the whio carcass will be sent to be autopsied at Massey University to determine the cause of death and whether it is associated with the Scheme;
  - if the whio specialist and Project Ecologist conclude the death is not associated with the Scheme, construction will re-commence;
  - if there is evidence that the death is associated to the Scheme, the review must include steps to be taken to prevent further whio deaths at the site;
- Works may recommence no later than 48 hours after an injured or dead bird has been found, unless it is a whio in which case a review into the death must be complete, and in all cases following updated advice from the Project Ecologist;
- DOC and veterinary advice will be sought in conjunction with the Project Ecologist when considering the rehabilitation requirements of any injured bird (for example legislative requirements will need to be considered); once the vet has made an assessment the Project Ecologist and vet will determine any rehabilitation action required and the longer-term future for the bird(s);
- bird(s) confirmed as injured will be sent to the vet or appointed carer for rehabilitation. It is noted that release after rehabilitation is unlikely due to the risk of disease being transferred back into the local bird population;
- birds confirmed by the veterinarian as healthy may be released by the Project Ecologist, provided that the birds are:
  - only liberated in an area where works are not occurring; and
  - liberated into an appropriate habitat as determined by the Project Ecologist;
  - liberated in appropriate environmental conditions: little to no rain with temperatures above 12 degrees Celsius; and

- if the bird is dead or euthanised by the vet, the local DOC office are to be notified as soon as practicable.

It is noted that a Wildlife Act Authority is being sought as part of the Approvals for handling birds in accordance with this injury and mortality protocol.

4.4 Review of AMP in event of whio mortality or injury

As referred to in 4.3, a review of the AMP will be undertaken in the event of whio mortality or injury occurring because of the construction of the Scheme. The review is to be conducted by a suitably qualified whio expert and the Project Ecologist and commence immediately on identification of a recently dead whio within the Scheme.

4.5 Financial contribution to an ecosystem programme

To compensate for residual adverse effects on whio during the construction of the Scheme, and for any other adverse ecological effects of the ongoing operation of the Scheme, Westpower will make an annual $35,000 contribution to an ecosystem programme that benefits the regional whio population for the duration of the consent. From year 11 to the end of consent, the focus of this funding will be reconsidered with an objective of achieving the best regional ecosystem/biodiversity gain with $35,000 in either the region or locally in the Waitaha Valley.

Westpower will contribute $10,000 to an ecosystem programme to compensate for residual adverse effects on birds of conservation importance for each year of vegetation clearance. Noting that particular management of larger trees in Construction Staging Area 1 will occur if clearance is in November and December.

As referred to in the Bat Management Plan, a $15,000 contribution to an ecosystem programme in the region, will be also be made, commencing on construction, for a ten year period to address less than minor effects of construction on long tailed bats and birds of conservation importance.