NC – A2BH –PROPOSED FROG MANAGEMENT PACKAGE - DRAFT

Summary:

The proposed package consists of three linked components: (1) maximise relocation success through a Release Site Selection Framework, pre-release management, habitat enhancement, legal protection, pest management and reviewable release-site selection; (2) measure relocation success using multiple lines of evidence including persistence, establishment, population contribution and, where feasible, genomic monitoring; and (3) additional management actions (if appropriate).

Proposed Three-Layer Frog Effects Management Package

Layer 1 – Maximise the Likelihood of Relocation Success

Objective

Demonstrably reduce uncertainty and maximise the chances of successful establishment before any frogs are released.

Key Components

Release Site Selection Framework
No release site relied upon unless it has been assessed for:

- habitat suitability;
- water quality;
- food availability;
- occupancy status;
- carrying capacity / headroom;
- predator and stock risks;
- forestry and sediment risks;
- long-term protection (as appropriate);
- monitoring feasibility; and
- independent review / verification where appropriate.

Governance and Decision-Making

- Key release-site decisions documented, auditable and reviewable.
- Framework assessments undertaken by suitably qualified experts.
- Independent review or verification used where appropriate.
- Success assessments based on predefined criteria and review triggers.
- Monitoring results reviewed through a documented process.

The objective is to provide confidence that key decisions follow a transparent and reviewable process rather than relying on individual opinion alone.

Priority Site Investigations

- Apply the Release Site Selection Framework to priority candidate sites as early as practicable.
- Confirm site suitability, occupancy status, carrying capacity and management requirements prior to relocation.
- Establish a confirmed release-site portfolio before relocation activities commence.
- Potential candidate sites for assessment currently include: Pukekaroro Scenic Reserve; Pukeareinga / Maungatoroto Scenic Reserve; and Maranui Conservation Project / Brynderwyn Scenic Reserve area.
- Additional sites may continue to be assessed through the Framework if required.
- Multiple release sites may be used, either sequentially or concurrently, with final allocations informed by suitability, capacity and readiness.

Pre-release Management (as appropriate)

- habitat enhancement;
- stock exclusion;

- pest management;
- sediment management;
- legal protection mechanisms;
- completion and verification of prerequisite works.

Layer 2 – Measure Relocation Success

Objective

Assess relocation performance using multiple lines of evidence rather than a single pass/fail outcome.

- **Tier 1 – Implementation Success**
  - frogs successfully salvaged;
  - frogs successfully released;
  - release-site management implemented.
- **Tier 2 – Persistence**
  - frogs remain present at release sites;
  - continued occupancy demonstrated.
- **Tier 3 – Establishment**
  - occupancy maintained through time;
  - abundance trends broadly consistent with expectations.
- **Tier 4 – Population Contribution**

  Evidence of:
  - recruitment;
  - population contribution;
  - maintenance of viable populations.
- **Tier 5 – Genetic Contribution (subject to feasibility and technical development)**

  Where feasible:
  - establish baseline genomic profiles for donor and receiving populations;
  - assess contribution of relocated frogs to future generations;
  - assess genetic integration;
  - assess genetic diversity benefits.

  Genomic monitoring is an additional line of evidence to support assessment of population contribution and genetic outcomes at sites where there is an existing frog population prior to relocation. It does not replace traditional monitoring methods and remains subject to feasibility and technical development.

Occupied and Unoccupied Release Sites

Different release-site types may require different success indicators. For occupied sites, indicators may include persistence, recruitment, genetic contribution and increased genetic diversity. For unoccupied sites, indicators may include occupancy, persistence, breeding evidence and population establishment. Success should be assessed using multiple indicators rather than a single pass/fail test.

Programme-Level Success Assessment

Programme-level success should be assessed separately from individual release-site performance.

- successful implementation of the release-site portfolio;
- establishment of frogs across the release-site portfolio;
- delivery of habitat enhancement and appropriate long-term protection measures;
- implementation of monitoring and appropriate adaptive management commitments;
- successful delivery of conservation investment initiatives;
- evidence of population or genetic contribution across the wider programme;
- achievement of the overall objectives of the frog management package.

The objective is to evaluate the effectiveness of the overall management package rather than requiring universal success across every release site.

Illustrative Programme Performance Categories

- **High Success** – majority of release sites successful; persistence and establishment demonstrated; conservation objectives substantially achieved.
- **Moderate Success** – mixed release-site outcomes; overall programme objectives largely achieved; package considered sufficient.
- **Low Success** – widespread under-performance; agreed success criteria not achieved; additional management actions triggered.

These are conceptual examples only and not final success thresholds.

Specific success criteria, thresholds and review triggers will require further development in consultation with DOC and will be informed by best available scientific evidence. The purpose of the framework is to establish how success will be assessed rather than predetermine final thresholds.

Layer 3 – Additional Management Actions

Objective

Provide a clear pathway for responding where agreed success criteria are not met or performance remains uncertain.

- **Step 1 – Monitoring and Review**

  Formal review points. Assess:
  - monitoring outcomes;
  - abundance trends;
  - persistence;
  - recruitment;
  - genomic results (if implemented);
  - achievement of agreed success criteria.

- **Step 2 – Adaptive Management**

  If performance is below expectations, adaptive management measures may be considered, where appropriate, including:
  - increase pest management;
  - expand habitat enhancement;
  - investigate additional release sites;
  - modify future release allocations;
  - reassess site suitability and capacity.

- **Step 3 – Conservation / Compensation Package**

Contingent Component

Triggered where agreed success criteria are not achieved, having regard to release-site and programme-level performance. This may include:
- additional conservation funding;
- additional habitat protection;
- further management obligations;
- agreed compensatory measures.

Contingent compensation should be informed by monitoring outcomes, adaptive management, release-site and programme-level performance, and the conservation outcomes already delivered through the upfront component.

The package is intended to avoid reliance on a simple pass/fail determination and instead recognise varying levels of ecological performance.

- **Contingency for Higher-Than-Expected Frog Numbers**

  If salvage numbers exceed anticipated release-site capacity:
  - additional Framework-assessed release sites may be activated;
  - additional management may be implemented;
  - agreed compensation/conservation responses may be implemented.

  The objective is to provide flexibility while maintaining confidence in relocation outcomes.