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Victims of ignorance: Gaps in the protection of endemic lizards during land use activities in Aotearoa | New Zealand

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Abstract: New Zealand's lizard fauna is speciose and widespread across all regions of the country. Lizard species use diverse habitats in a wide range of terrestrial environments, including grasslands, indigenous forest, rural pastureland, and exotic vegetation in suburban gardens. Human land uses impact many lizard species; habitat loss and direct mortality from development present an ongoing threat to the persistence of many species. Despite the existence of legislation affording absolute protection to lizards and requiring land use activities to mitigate impacts upon biodiversity, in most cases of land use no consideration is given to lizards, and the loss of lizard populations is unquantified. Here, we examine four issues for native lizards during land use: (1) lack of protection under the Wildlife Act 1953, (2) lack of consideration during resource consenting due to current planning instruments, (3) incompleteness of information provided during consent applications, and (4) uncertainty of the outcomes of methods used to mitigate impacts for lizards. In summary, we find that current policies and practices are inadequate to prevent ongoing population loss; this is likely increasing the risk of species extirpation or extinction. We recommend that the proposed reform of wildlife protection legislation considers the practicalities of enforcing wildlife protection during land use through improved integration with resource management legislation. Further, any reform to resource management legislation needs to both improve the substantive protection requirements and adopt best practice compliance and enforcement mechanisms. In the meantime, changes to current practices are required, such as increasing awareness of the protected status of lizards among developers and those who advise them, and requiring a more comprehensive assessment of the impacts of activities upon lizards during consent applications. It is possible to start immediately to better protect this often-overlooked taonga.

Keywords: biodiversity protection, geckos, Resource Management Act, skinks, Wildlife Act

Introduction

As human populations grow, pressure also grows to use more land more intensively in order to meet human needs for food, energy, and economic growth (United Nations Environment Programme 2014). The resulting habitat degradation and loss presents one of the greatest threats to biodiversity globally (Foley et al. 2005; Powers & Jetz 2019). In New Zealand, historical habitat destruction in combination with introduced pests has already exacted a high toll on endemic species; ongoing change and intensification of land use continues to increase extinction risk by reducing the extent or quality of wildlife habitats. For example, between 1996 and 2018, 40 800 ha of indigenous forests, scrub, and shrublands were lost to exotic forestry, exotic grassland, or other exotic land covers (Department of Conservation; DOC 2020). While land use and resource extraction are necessary to meet the needs of the human population, if these activities are not well managed, they have the potential to destroy or degrade the natural environment and cause harm to wildlife. Good environmental management is only possible when laws and policies provide protection against such degradation that is comprehensive, applied consistently, enforceable, and is actually enforced (Brown et al. 2015; Brown 2017; Koolen-Bourke & Peart 2021). One area where such protection is currently lacking in New Zealand is in the management of lizards during land use.

New Zealand has a highly speciose native lizard fauna comprising some 48 gecko and 75 skink species (Hitchmough et al. 2021). The geographic range occupied by different species varies considerably, but as a fauna, lizards are present in all regions of the country, including cities and other modified landscapes (van Winkel et al. 2018; Woolley et al. 2019;

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Fig. 1). Due to the cryptic nature of many species, and the effort and expense required to identify population presence, the distributions of lizard species across New Zealand are poorly understood (Hitchmough et al. 2016). Species occurrence can be highly variable, ranging from widespread and abundant to patchy and low density. While some species have strong affinities with specific habitat types, others are generalists, occurring in a wide range of habitats including those that are highly modified and comprised of exotic and weedy vegetation (van Winkel et al. 2018; Woolley et al. 2023). These range and habitat characteristics mean that lizard species in nearly all parts of New Zealand can be present in habitat that is destined to be cleared, degraded, or disturbed by land use activities.

The Wildlife Act 1953 and the Resource Management Act 1991 (RMA) both play a role in managing indigenous biodiversity during land use in New Zealand. However, in many cases where land use impacts lizards, neither statute affords adequate protection. Furthermore, even when the legal framework does require management of lizards, time and financial pressures involved during land use projects, as well as a lack of evidence-based best practice, often mean outcomes for lizards are poor or uncertain. This lack of protection is likely resulting in the incremental loss of lizard populations around the country and is a significant conservation concern. With reform proposed for the Wildlife Act (DOC n.d.a) and ongoing changes to the RMA, including uncertainty around how the 2023 National Policy Statement for Indigenous Biodiversity will be implemented (Hoggard 2024), it is timely to explore the shortcomings of current protection for this vulnerable group and to consider what opportunities exist to improve outcomes.

Legislative regimes for protection of lizards and their habitat

The Wildlife Act 1953

The principal law providing protection to individual lizards and other wildlife in New Zealand is the Wildlife Act 1953: it has been called the "mainstay of statutory protection of animals in the environment" (Wells & Rodriguez Ferrere 2018). The precise protection afforded to wildlife depends on the species and its status under the Act, with a tiered system established through a series of provisions and schedules. Lizards are absolutely protected under the Act, such that it is an offence to hunt, kill, buy, sell, or otherwise dispose of a lizard, or even merely have a lizard (alive or dead) in one's possession (s 63). The Act defines "hunt or kill" widely and includes activities that do not result in mortality or even capture: "**hunt or kill**, in relation to any wildlife, includes the hunting, killing, taking, trapping, or capturing of any wildlife by any means; and also includes pursuing, disturbing, or molesting any wildlife, taking or using a firearm, dog, or like method to hunt or kill wildlife, whether this results in killing or capturing or not; and also includes every attempt to hunt or kill wildlife and every act of assistance of any other person to hunt or kill wildlife" (s 2).

Despite this breadth, the Supreme Court has clarified that the particularly wide verbs "disturb" and "molest" take meanings in this Act that are narrowed by the conservation purpose of the legislation as well as by its scheme of offences and defences. Thus, "molest" means "intentionally troubling, distressing or injuring a protected animal" (*Shark Experience*

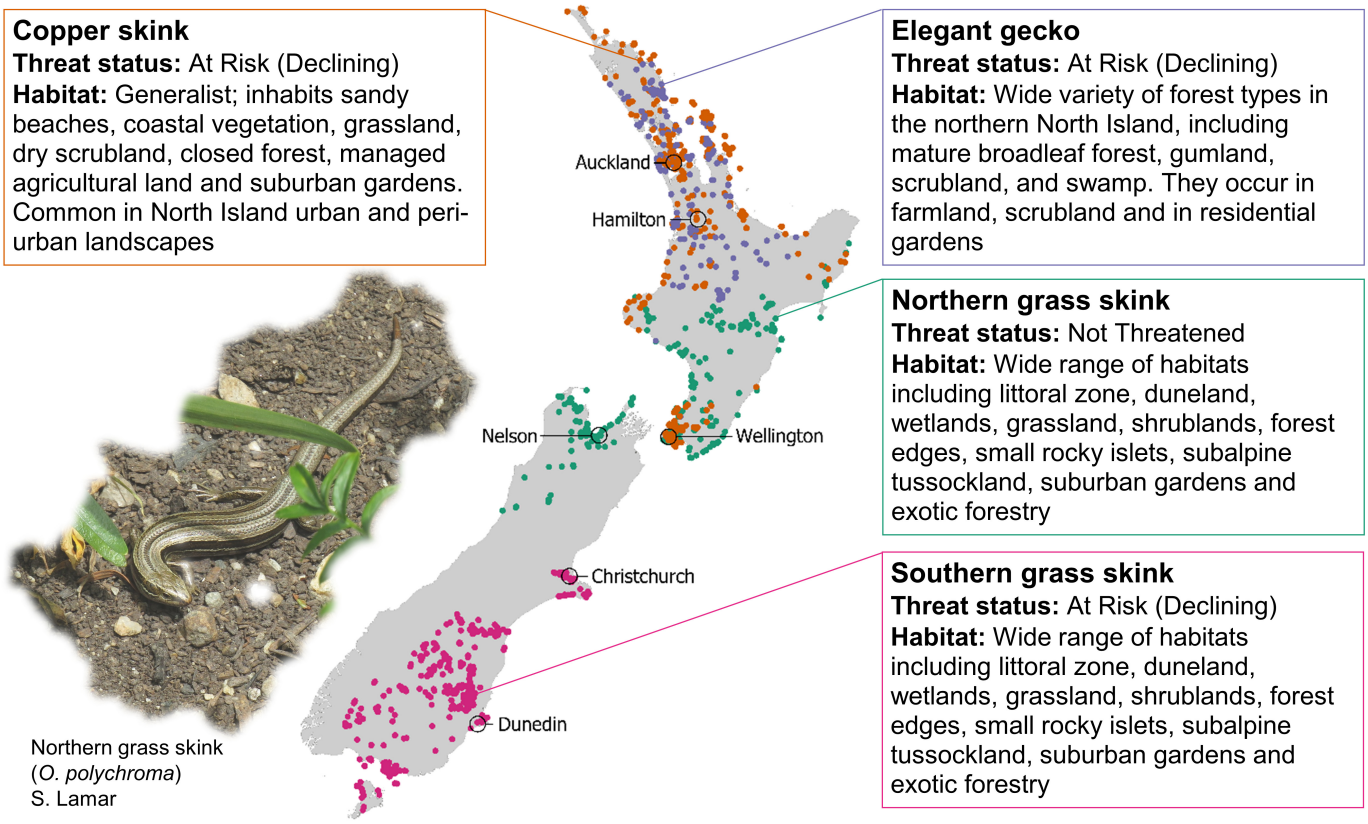

Figure 1. Species distribution (from DOC herpetofauna database; accessed 12/02/24), threat status (Hitchmough et al. 2021), and habitat (van Winkel et al. 2018) of four New Zealand lizards commonly impacted by development: Elegant gecko (*Naultinus elegans*; purple), copper skink (*Oligosoma aeneum*; orange), northern grass skink (*Oligosoma polychroma*; green), and southern grass skink (*Oligosoma* aff. *polychroma* Clade 5; magenta). Locations of five of New Zealand's largest cities are indicated.

Limited v PauaMAC5 Inc [2019]). For "disturbing" an animal to amount to a criminal offence, it must be an "action which physically or mentally agitates the protected wildlife to a level creating a real risk of significant harm" (*Shark Experience Limited v PauaMAC5 Inc* [2019]). It need not be done intentionally, but it must be done in relation to that particular animal (this interpretation of "disturbing" is different from the use of the concept of disturbance used in the Resource Management Act context). This means that more minor acts of lower level disturbance, "such as playing bird sounds to attract gannets, to encourage them to establish breeding colonies, or even feeding birds" (DOC n.d.b) would not amount to criminal disturbance if there was no real risk of significant harm. Similarly, forcing a protected animal to make a small detour or retreat to its hiding place would not amount to criminally disturbing it if there was no real risk of significant harm.

It is possible to get permission in advance from the Director-General of Conservation to undertake certain activities in relation to protected wildlife. If permission is obtained to undertake acts that would *otherwise* fall within the offence of hunting or killing (as defined above), this will avoid the permit-holder committing an offence. There is a range of actions for which permission may be granted, including catching alive, killing, hunting, the taking of eggs, and the keeping of specimens in museums. The permissions section most relevant to the protection of lizards from land use activities is section 53; this enables the Director-General of Conservation to issue what is commonly referred to as a wildlife permit or authorisation. Such a permit can authorise a specified person to "catch alive or kill" any protected wildlife "for any purpose approved by the Director-General" (s 53(1)), or to obtain alive, or obtain the eggs of, any protected wildlife for any scientific or other approved purpose (s 53(2)).

For example, if a researcher wants to catch lizards to put trackers on them or to translocate them, then they will very likely need a section 53 authorisation permit so as to avoid committing an offence. DOC advises (DOC n.d.c) that activities that need a permit include:

(1) catching, handling, and releasing wildlife at one site,
(2) catching wildlife in the wild and moving them to another wild location into which they are released,
(3) catching protected wildlife in order to hold them in captivity,
(4) holding wildlife in captivity or for rehabilitation,
(5) transferring captive wildlife from one facility to another,
(6) releasing captive wildlife into the wild,
(7) developing land where lizards or frogs are present,
(8) disturbing or killing wildlife or their eggs,
(9) exporting live/dead wildlife,
(10) holding dead specimens (any part of the wildlife).

The Resource Management Act 1991

The RMA is New Zealand's primary environmental statute that sets out the mechanisms for the sustainable management of natural and physical resources (s 5). It focuses on managing the use of resources while sustaining their potential to meet the needs of future generations, safeguarding the life-supporting capacity of air, water, soil, and ecosystems, and avoiding, remedying, or mitigating any adverse effects of activities on the environment (s 5(2)(b)). The RMA recognises as a matter of national importance "the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna" and directs decision makers to recognise and provide for them (s 6(c)).

However, these interests sit alongside other competing social, economic, and cultural interests, and the Act itself does not prioritise protection for biodiversity (ss 6–8). While the Act underscores environmental protection as a core element of sustainable management (*Environmental Defence Society Inc v New Zealand King Salmon Co* [2014]), biodiversity protection can be outweighed by these other interests (e.g. *Royal Forest and Bird Protection Society of New Zealand Inc v New Zealand Transport Agency* [2024]). For one example, even where a Significant Ecological Area (SEA) had been identified, its area was reduced and its protection lessened in favour of economic considerations relating to a quarry (*Brookby Quarries Ltd v Auckland Council* [2021]).

The primary mechanism for giving effect to the purposes and principles contained in Part 2 of the Act is through the development of planning instruments (*Environmental Defence Society Inc v New Zealand King Salmon Co* [2014]). Generally, these instruments are developed by three different levels of institutions within the resource management system. The highest-level planning instruments are the national environmental standards, national policy statements, and national planning standards that are set by central government via relevant ministries, primarily the Ministry for the Environment (s 24). These instruments set the national direction for resource management because the planning documents adopted by all local authorities must give effect to them. This national direction is given effect at a regional level through regional policy statements and regional plans (s 30). These provide objectives, policies, and rules that apply across a region. Underneath these national and regional instruments, district plans set the objectives, policies, and rules for towns, cities, and districts. The aspiration underpinning the hierarchy of planning instruments is that communities will themselves determine how sustainable management will be defined and achieved for their region and community, within the purposes and principles of the RMA and the standards set under it.

Within this planning hierarchy, critical decisions are made about what, where, and how ecosystems and biodiversity are protected. These decisions shape the rules that control the use of land, water, and air in New Zealand. It is only recently that national guidance has been adopted on the protection of indigenous biodiversity: the National Policy Statement for Indigenous Biodiversity 2023 (NPS-IB). Until now, local government authorities have been left to adopt their own policies and rules on indigenous biodiversity protection, balancing the different matters in Part 2 of the RMA. For example, it is councils that decide what the rules for land clearance and earthworks are, and whether to designate any Significant Natural Areas (SNAs) in their plans and where they will be. A regional policy statement could provide priorities for indigenous biodiversity generally, and even for specific taxa such as lizards; but very few if any policy statements or plans provide the level of protection that is contained in the NPS-IB. While the NPS-IB provides essential guidance for councils, with policy statements and plans being reviewed on an up to 10-yearly cycle, it will take a while for the objectives and policies in the NPS-IB to be given effect to in such policy statements and plans. We note that the core direction in the NPS-IB to identify significant natural areas has been delayed by the current government; however, the provisions relating to the management of effects through an integrated environmental and precautionary approach remain in effect and can affect resource consent decisions (cl 3.4 and 3.7).

The rules in regional, district, or unitary plans class

activities as permitted, controlled, restricted discretionary, discretionary, non-complying, or prohibited. These classes create a spectrum of the degree of control that the relevant territorial authority may exercise over consenting the activity. For a permitted activity, a resource consent is not necessary if the conditions in the relevant plan are met. Whereas for controlled through to non-complying activities, a resource consent may be granted for the activity subject to conditions. Prohibited activities cannot be granted any resource consent.

Land use activities that affect habitat for indigenous biodiversity could in theory fall under any one of those categories. If they were classed as permitted, they would hopefully be subject to conditions in the plan that minimised adverse effects on the habitat and thus the wildlife living within it. If any resource consent application (RCA) is required, a full assessment of environmental effects (AEE) is required to be provided with any RCA (s 88(s)(b) & Schedule 4), and a council can impose conditions on the granting of any consent (ss 104A-D, 108). Moreover, it is a requirement that "any adverse effects of activities on the environment" be avoided, remedied, or mitigated (s 5(2)(c)).

The management of effects lies at the heart of the RMA (Upton 1991). All RCAs must assess how any likely effects of the proposed activity can be avoided, remedied, and/or mitigated (i.e. reduced). For example, in order to avoid damage to habitat or wildlife, an appropriate ecologist should be employed to assess the likely effects of a proposal and suggest ways to avoid the damage. The NPS-IB provides objectives and policies that direct how the effects on indigenous biodiversity must be managed; RCAs must consider how these objectives and policies are to be given effect. Through discussion with the proponent of the activity, it may be possible to relocate or modify aspects of the activity to avoid the habitat.

The NPS-IB has made explicit that the different options for effects management form a hierarchy (NPS-IB, cl 1.6, p. 8): "**effects management hierarchy** means an approach to managing the adverse effects of an activity on indigenous biodiversity that requires that:

(a) adverse effects are avoided where practicable; then

(b) where adverse effects cannot be avoided, they are minimised where practicable; then

(c) where adverse effects cannot be minimised, they are remedied where practicable; then

(d) where more than minor residual adverse effects cannot be avoided, minimised, or remedied, biodiversity offsetting is provided where possible; then

(e) where biodiversity offsetting of more than minor residual adverse effects is not possible, biodiversity compensation is provided; then

(f) if biodiversity compensation is not appropriate, the activity itself is avoided."

The NPS-IB requires that this effects management hierarchy "must" be applied where "a new subdivision, use, or development" outside an SNA might cause any "significant adverse effects…on indigenous biodiversity outside the SNA" (NPS-IB, cl 3.16, p. 24). The NPS-IB contains even stricter requirements for effects on indigenous biodiversity within SNAs, including the requirement to simply avoid many of them, but the SNA provisions in the NPS-IB have been suspended for 3 years (Hoggard 2024). The effects management hierarchy is also explicitly referred to in the principles for biodiversity offsetting and for compensation (NPS-IB Appendices 3 & 4).

Mitigation can include remedial measures for temporary damage to habitat, such as during construction, that is then restored afterwards (assuming that is possible). Predator control may be offered as a remedial measure for indigenous biodiversity. Mitigation measures to reduce loss and damage can include catching individual wildlife and relocating them, so at least a wildlife community is not bulldozed over, for example (though issues regarding mitigation translocation are discussed later).

If the adverse effects cannot be avoided, minimised, or reduced then biodiversity offsets are required (cl 1.6). Biodiversity offsets are increasingly being used where it is argued that it is not possible to avoid or remedy the damage to the site in question; instead, a different site is proposed to be protected to offset the damage to the activity site (RMA, s 104(1)(ab); see Quinn et al. 2021 for discussion of what counts as mitigation vs. offsetting, including examples of impacts on lizards). Indeed, sometimes financial compensation is offered by an RCA applicant in order to achieve conservation goals elsewhere and included as a condition on a resource consent; it may even be required by a rule in a local authority plan (e.g. RMA, s 77E(2)(a), s 108(10)(a)).

The NPS-IB builds upon existing practice for biodiversity offsets by providing principles in Appendix 4 to direct how they are applied in a given set of circumstances. These principles include providing a net gain to indigenous biodiversity values at the offset site that is equivalent to or exceeds that lost at the impact site, and ensuring that the gains are additional to any minimisation or remediation done in relation to the adverse effects. The offsets must avoid displacing harm to indigenous biodiversity in the same or any location. Any biodiversity offsetting needs to be managed so as to secure the outcomes for as long as the impacts last. Further, the offsetting must result in the best ecological outcome for the landscape, preferably close to the impact site or within the same ecological district. The biodiversity gains must occur within the resource consent period as appropriate.

Interaction between the Wildlife Act and the RMA

If individual animals that are protected under the Wildlife Act will likely be harmed by a proposed land use activity, this should trigger the Wildlife Act protection mechanisms of authorisation and criminalisation. For example, if relocation of protected wildlife is required, then a wildlife permit would need to be obtained for that catch and release. In order to make sure that the necessary wildlife permits were being applied for, so that DOC could have oversight, it would make sense for there to be referral of all such RCAs from consenting authorities to DOC.

If any protected wildlife was harmed as a result of land use activities, at least the criminalisation mechanism under the Wildlife Act could be triggered. Causing harm to wildlife may also breach rules in the local or regional plan, and/or conditions placed on a consent or activity status. Such breaches should thus trigger enforcement mechanisms under the RMA.

The Department of Conservation Lizard Technical Advisory Group (DOC LTAG) has prepared a guidance document for developers, consultants, and DOC staff on requirements if lizard habitat is to be disturbed or removed (DOC LTAG 2023). This guidance focuses on the information required for wildlife permits in the context of development works which will also be regulated under the RMA. The information required for assessment of actual and potential effects of the development on lizard habitat and the lizards

themselves will be the same kind of information as in an AEE under the RMA. It will include potential effects on important natural processes for lizards, and cumulative effects. For example: "Applications under the Wildlife Act should address measures to avoid loss of habitat used or potentially used by lizards or frogs. It is preferable that, post-development, the area involved in a development is returned as soon as possible to the same, or better, condition than was present prior to the work. The values considered in Table 1 need to be applied to each individual species of lizard or frog. Each species has specific ecological requirements and thus the potential effects of a development and any mitigation need to be appropriate for each species, i.e. each species will require specific mitigation actions related to their particular habitat requirements. Each species needs to be considered when preparing (developers and consultants) and assessing (DOC staff) applications for wildlife permits. These will need to be assessed on a case-by-case basis and are likely to require local knowledge and/or discussion with appropriate DOC staff." (DOC LTAG 2023).

It clarifies that a development proposal should "aim for at least no loss of the population(s) post-development" (DOC LTAG 2023). Any Threatened or At Risk species requires "more rigorous consideration", with greater justification for any loss of animals or the habitat, greater certainty of assessment techniques, and more comprehensive predator control such as via offset or compensation (DOC LTAG 2023). Any management plan will require monitoring and reporting, as well as contingency measures when mitigation methods are found to have failed (DOC LTAG 2023). It includes helpful tables to guide assessments, particularly in relation to identification and mitigation of potential effects (DOC LTAG 2023).

Lack of protection under the Wildlife Act 1953 during land use

As described above, the Wildlife Act criminalises the hunting or killing of protected wildlife without authorisation from DOC, and enables permits to be given to hold, catch, handle, or even kill protected wildlife. However, the Wildlife Act is not directly engaged in decisions relating to land use, and the protection it provides to species and individual animals is, in practice, very limited in cases of land use. The key reason for this lies in the primary mechanism for protection. Rather than enabling or directing activities to protect, manage, or support indigenous biodiversity, protection is achieved by creating offences for mostly deliberate acts against individual animals. The wildlife permits then provide an exception to criminalisation for the authorised activity.

The first point to note about criminalisation is that it does not protect the individual animal that was harmed and that is the subject of the offence. Criminalisation merely serves as a warning to people against harming protected animals for fear of later consequences. A criminal regime is always the ambulance at the bottom of the cliff rather than the fence at the top. Land development could destroy a whole community of lizards—perhaps the only community of lizards in an area—and all that could be done would be a criminal prosecution at most. There is no legislative requirement of restorative justice, for example, such as by restoring habitat or assisting with a breeding program, whether at that same site or elsewhere.

The second point to note about criminalisation is that it cannot always be used even when harm to protected wildlife has in fact taken place. DOC's powers are limited due to the need to meet prosecution tests for evidence and public interest for proceedings to take place. This means that even if DOC becomes aware of a land use activity that has killed lizards, they will not be able to prosecute unless there is sufficient evidence to ensure a good chance of conviction (beyond reasonable doubt), and it is determined that prosecution is in the public interest.

In relation to the interaction between the criminal provisions and the permitting regime, there are two issues to highlight. The first is that granting a permit to kill protected species may not be an effective mechanism for their protection. The High Court in the Mount Messenger decision clarified that a section 53 permit could only be issued if the purpose is to protect wildlife: "each individual act of catching alive or killing wildlife, viewed in isolation, needs to promote or at least be consistent with the purpose of protecting wildlife" (*Environmental Law Initiative v Director-General of the Department of Conservation* [2025]).

An example could be "the culling of diseased animals that might threaten the larger population or to address over population" (at [69], citing *PauaMAC5 v Director-General of Conservation* [2018] NZCA 348, [2019] 2 NZLR 1, at [53]). The High Court found that killing the protected wildlife merely in return for protecting other areas of land was not consistent with protection of the killed wildlife and that it was therefore outside the authority of DOC to grant such a permit (at [81]).

However, on 8 May 2025, Conservation Minister Tama Potaka announced amendments to the Wildlife Act to empower the Department of Conservation to authorise incidental killing of wildlife. The Minister described these changes as "restoring the approach that DOC was taking for authorising activities before the Court's decision and provide legal clarity." (https://www.beehive.govt.nz/release/wildlife-act-fix-enables-economic-growth-animal-protection). Parliament then passed under urgency amendments that introduced three new sections to enable an authorisation scheme.

The new s 53A empowered authorising "killing of wildlife that is incidental to carrying out an otherwise lawful activity". Incidental killing is defined as killing that is "not directly intended but is unavoidable and foreseeable as a consequence of carrying out the lawful activity". When exercising their discretion, the Director-General of Conservation must have regard to populations of wildlife, the viability of the species, the extent to which conditions may address adverse effects, and any other matter that the Director-General considers relevant. There is a direction to only grant an authority to kill if there are reasonable steps to avoid, minimise, and mitigate any adverse effects.

These changes are targeted to overturn the *Mt Messenger* case. The purpose of this authorisation regime is to enable activities such as major infrastructure projects (as in that case). The discretion given to the Director-General mirrors the broad language that created issues in earlier cases. The ability to have regard to any other matter the Director-General considers relevant allows significant scope for what can be taken into account. In light of the *Mt Messenger* case, it is likely that factors such as the economic or public interest in the activity would be valid for the Director-General to consider when deciding whether to allow wildlife to be killed.

The second issue with the criminal provisions and the s 53 permitting regime is that, unfortunately, they do not mesh together neatly. Through clarifying the definition of "hunt or kill", the courts have identified that the actions that are prohibited under s 63 of the Act are different from those that

may be authorised under s 53. The Wildlife Act's authorisation regime has been limited to circumstances involving activities that "catch alive or kill" wildlife; these words are not defined in the Act and so have their normal meaning, and not that of the definition for the criminalised "hunt or kill". Further, authorisations granted under the Wildlife Act must be for the conservation purposes of protecting wildlife (or controlling game, depending on the provision). This means that the Director-General has not had the jurisdiction to grant wildlife permits for accidental killing or disturbances described above that do not involve catching or killing, irrespective of whether or not it might meet the test for disturbing or molesting in the offence in section 63. Finally, nor does the Director-General have the power to authorise the catching or killing of wildlife during activities for other purposes, such as sport or tourism.

The new authorisations scope in sections 53A to 53C do not fully clarify the scope of the Department of Conservation to resolve these issues. Rather, these new sections are a deliberate response to the *Mt Messenger* decision. The changes were not made to create a coherent permitting system overall. The focus of these sections is only on incidental killing when undertaking other activities. The types of activities that may give rise to this and whether the Department of Conservation would grant an authority to kill and on what conditions has not yet been tested. The catching of wildlife during activities that may disturb habitats remains legally unclear.

The new Schedule 1AA references the possibility of committing an offence under s 63 even when holding a s 53 authorisation (in clause 2(3)), and fixes some instances of this occurring. However, it may not fully address the issue identified above from the *PauaMAC5* case, because the s 71 consent referred to in the new Schedule only applies to some legislation (listed in Schedule 9). There may thus still be a gap between some activities authorised by a s 53 permit and those criminalised by s 63.

It might seem on its face to be a good thing for lizards if activities affecting them either cannot be authorised, or cannot be authorised without attention to the conditions and approaches necessary to protect or reduce harm. A key benefit of the permitting process is that DOC can provide guidance for applicants who want to undertake land use activities to better enable them to avoid adverse effects on lizards and their habitat, plus it can impose conditions on the activities both as to process and results.

However, the gaps and resulting uncertainty could restrict conservation work. Researchers who undertake conservation activities that do *not* involve catching or killing, but *do* involve disturbing in the broad, ordinary sense, cannot get a s 53 wildlife permit for their work. If an activity cannot even be authorised, DOC guidance and oversight is lost. Further, without a s 53 permit, the new Schedule 1AA provisions are irrelevant; researchers will thus have to be very careful to not cross the Supreme Court's threshold of significant harm, for fear of prosecution under s 63. The potential remaining gaps in the legislation between the authorisation and criminalisation mechanisms are unfortunate and need to be fully remedied.

An additional concern is that the criminal provisions of the Wildlife Act are focused primarily on direct or intentional human interference with wildlife; while this is necessary, it is not sufficient to properly protect wildlife in New Zealand. The Wildlife Act does not adequately address responsibility for incidental interferences with wildlife, such as those that might result from habitat removal. The Act places DOC in a reactionary position where oversight of species pursuant to this Act is limited to considering applications for authorisations to "catch alive or kill", or prosecuting activities that cross the Supreme Court's threshold of significant risk of harm. DOC is not given scope to investigate or prosecute any wider incidental conduct that also has adverse effects on wildlife (other than permitting it under s 53 using the expanded incidental killings provisions).

In respect of many activities that harm lizard habitat or lizards themselves, DOC may not even know about them nor be involved in decision-making about them. For most situations, incidental adverse effects on wildlife resulting from land use are considered under the Resource Management Act rather than the Wildlife Act. Some activities may be publicly notified pursuant to resource consent applications under the Resource Management Act, thereby allowing DOC to participate; however, a significant amount of habitat destruction and disturbance is permitted under current planning instruments, and many consents are granted without notification. This means that decisions can be made that affect wildlife without input from DOC and without ensuring that the wildlife is meaningfully protected.

If DOC is given wider scope to participate in the processes of either Act, then it will need the resourcing to do so, as well as resourcing to enable follow up actions, such as in relation to enforcement. Without adequate resourcing, the closing of any gaps will only be in theory or on paper, whereas the gaps will still exist in practice.

In summary, the Wildlife Act provides limited protection to lizards (and other wildlife) through establishing offences and requiring permits to be obtained for the activities discussed. It is helpful that the welfare of individual animals is considered carefully, and that the process when engaged gives careful consideration to the best protection, including of their habitat. However, for the reasons outlined above, the Wildlife Act 1953 is not sufficient for ensuring the success or welfare of wild animals or their populations, especially in relation to land use activities. The May 2025 amendment in particular has widened the situations where permits may be given for killing wildlife, and has narrowed the application of the offences. The proposed reform to the Wildlife Act (DOC n.d.a) should devise better mechanisms for wildlife protection during land use activities, particularly focusing on efforts providing a fence at the top rather than an ambulance at the bottom of the cliff. Any reform of the Wildlife Act should consider adopting changes enabling protection of wildlife habitat and better integration with the Resource Management Act 1991. Effective wildlife management will also require a wider range of more effective compliance measures than the current authorisation and criminalisation mechanisms, along with the resourcing needed to implement them.

Lizard habitat is not adequately protected by planning instruments under the RMA

Given the shortcomings of the Wildlife Act in providing protection for lizards during land use, the RMA plays an important role in regulating land use activities that impact lizards. As discussed above, the framework for regulating land use activities is provided by the planning regime; this provides objectives, policies, and rules designed to obtain the behaviour and outcomes chosen by the various authorities, local, regional, and national. Because the NPS-IB was adopted only in July 2023, even the broad objectives and policies in plans relating

to biodiversity protection and their interaction with land use activities vary around the country. Rules also vary between plans, as does the status for different land use activities; this means that the rules for what land use activities are permitted vary, as do the biodiversity protection conditions that can be placed on them. Only for areas that have already been identified as significant for biodiversity protection will there be controls that are meaningful for biodiversity protection.

Under s 6(c) of the RMA, councils are required to recognise and provide for the protection of areas of significant indigenous vegetation and significant habitats for indigenous fauna as a matter of national significance. The typical way of doing this is by designating SNAs within plans (a council may also have their own regime or labels, such as the SEAs identified by Auckland Council). Wetlands are also subject to special protections under the RMA and in council policies and plans (National Policy Statement – Freshwater Management and National Environmental Standards – Freshwater Management). Once SNAs are designated, rules can be made for biodiversity protection within those areas that are stricter than those in other areas of less significance.

In terms of designating significant areas, the Courts have refrained from providing definitive or exhaustive criteria for assessing significance under s 6(c) but rather considered that it requires an assessment of the area's intrinsic or extrinsic values (*West Coast Regional Council v Friends of Shearer Swamp Inc* [2012]). The Courts have recognised that the common significance criteria adopted in regional policy statements provide a general framework; this has been endorsed by ecologists who have provided expert evidence in the hearings (e.g. *Royal Forest and Bird Protection Society Inc v Central Otago District Council* [2004], *Minister of Conservation v Western Bay of Plenty District Council* [2001]). These criteria include: representativeness, diversity and pattern, rarity factors, special features, naturalness/intactness, size and shape, inherent ecological viability/long-term sustainability, relationship between natural areas and other areas of more modified character, vulnerability to "threat processes" liable to disturb the equilibrium, and management input to enhance or maintain an area's significance. While these criteria have been interpreted and defined differently across regional policy statements and the NPS-IB, they provide the high-level concepts used in assessing significant natural areas.

The NPS-IB reflects and elaborates on these criteria in its Appendix 1. For example, the rarity and distinctiveness criterion includes this elaboration in C(6): "An area that qualifies as an SNA under this criterion has at least one of the following attributes:

(a) provides habitat for an indigenous species that is listed as Threatened or At Risk (declining) in the New Zealand Threat Classification System lists:

(b) an indigenous vegetation type or an indigenous species that is uncommon within the region or ecological district:

(c) an indigenous species or plant community at or near its natural distributional limit:

(d) indigenous vegetation that has been reduced to less than 20 per cent of its pre-human extent in the ecological district, region, or land environment:

(e) indigenous vegetation or habitat of indigenous fauna occurring on naturally uncommon ecosystems:

(f) the type locality of an indigenous species:

(g) the presence of a distinctive assemblage or community of indigenous species:

(h) the presence of a special ecological or scientific feature."

The criteria for establishing SNAs sets a fairly high bar. Despite this high bar, in many cases an SNA could be established by the presence of many lizard species; for example, species that are At Risk (Declining) or Threatened meet the criterion for rarity and distinctiveness (NPS-IB Appendix 1, C(6)(a)). However, a lack of consideration for lizards in designated SNAs and substantial knowledge gaps about population distributions mean that SNAs do not cover all occupied lizard habitat, especially where species are cryptically present or where they occupy habitat that is of otherwise low ecological value (e.g. weedy exotic vegetation or rank exotic grassland). Records of lizard presence (Fig. 2) show that protection of lizards by SNAs alone is highly inadequate for protecting all populations and preventing ongoing declines.

Yet even where SNAs or other areas with significant biodiversity values such as SEAs and wetlands are delineated, the rules in plans may not adequately provide for biodiversity protection even within that area, particularly in relation to lizards and their habitat. For example, even within an ecologically significant area, plan rules can still enable biodiversity protection to be overridden by the other priorities listed in Part 2 of the RMA.

A bigger issue is that land use activities with potential to impact lizards commonly take place outside such identified areas, from urban backyards to rural areas. It is common for plans to allow activities such as earthworks and vegetation clearance across a wide range of zones, with very few conditions. For most such activities, conditions are typically only in relation to the size of an area to be cleared, and sediment control in relation to waterways. In cases where no resource consent is required for an activity or where plan rules do not otherwise trigger biodiversity protections, then no AEE of a land use activity is required. This means that assessing and managing effects on lizards relies upon developers and any consultant ecologists being aware of the potential for lizards to be living there, and being proactive in looking for them before and during any development activities. Perhaps not surprisingly, if no AEE is required, there may not even be any consultant ecologists on site. Even if there were, they may not be aware and proactive in relation to lizard protection. As a result, for most land use activities, there is little if any consideration given to the protection of lizards as a matter of both process and substance; there is thus currently a high risk of developers killing at least individuals if not whole colonies of lizards, leading to their population decline and loss.

Incompleteness of information provided during resource consent applications

In circumstances where resource consent is required and rules are triggered that enable consideration of biodiversity (such as land use within an SNA), decisions about how best to manage lizards at a site require sufficient information about the activity and its effects to be presented in an RCA. If not initially presented, then council consent reviewers have the power to ask for information about the ecological impacts of an activity and how they will be mitigated through the resource consenting process, first through "an assessment of the activity's effects on the environment" (as provided in s 88 and Schedule 4 of the RMA) and then through a s 92 request for further information.

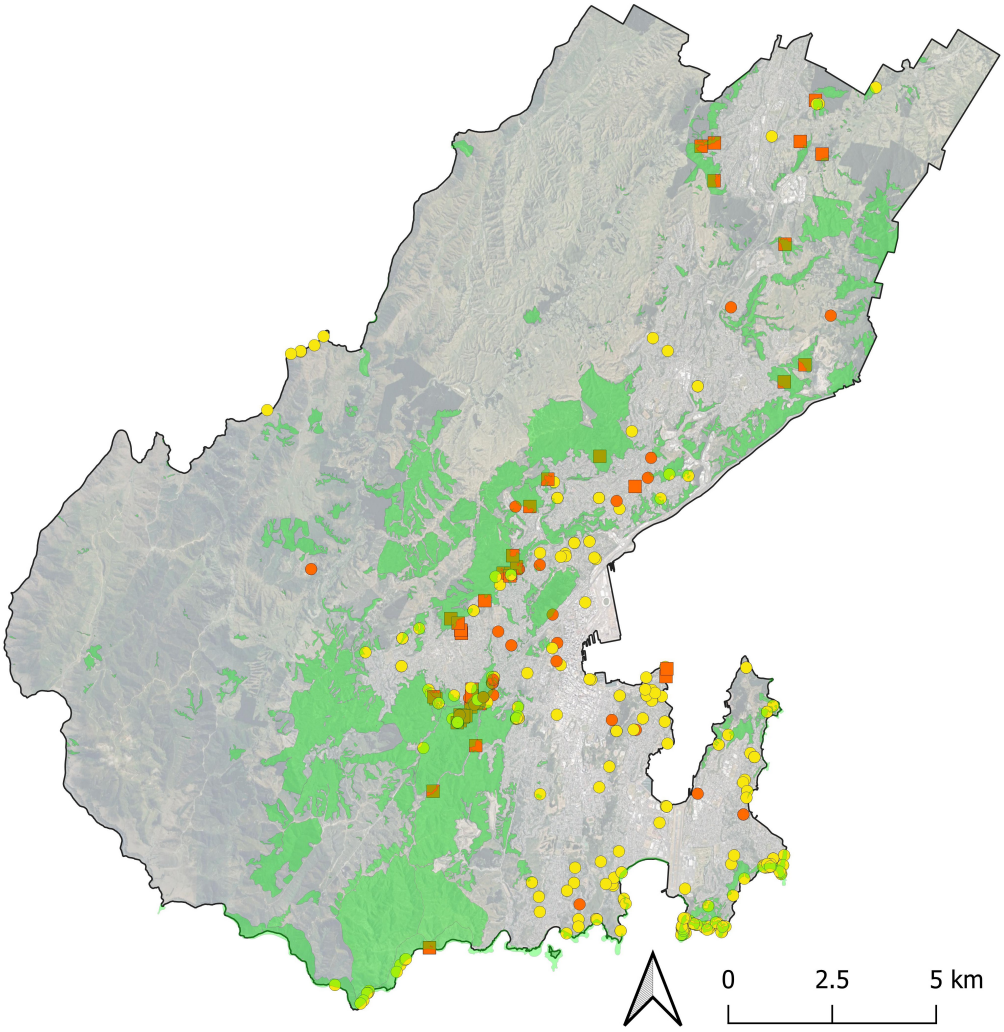

Figure 2. Records of geckos (squares) and skinks (circles) within the Wellington City boundary over the last 20 years from the DOC herpetofauna database (accessed 12/02/24) in relation to Wellington City Council's Significant Natural Areas (green polygons). Point colour indicates threat status in the New Zealand Threat Classification System (Hitchmough et al. 2021): orange = At Risk (Declining); yellow = Not Threatened.

However, standard and example lizard conditions obtained for five territorial authorities in the Wellington Region (Wellington City, Porirua City, Hutt City, Upper Hutt City, Kāpiti Coast District) suggest that information about lizard management is often required through the conditions of granted consents rather than being required in the application. All councils used consent conditions that require lizard surveys to be carried out prior to vegetation clearance, and in the event that lizards were identified, a lizard management plan was required to be written and submitted to the council and DOC for approval. A sixth council, South Wairarapa District Council, was approached but stated that they did not have examples to share as resource consents were never sought in areas where biodiversity or ecosystems would be considered under district plan rules (K. Hammond, Manager Planning, South Wairarapa District Council, pers. comm.).

The practice of using conditions to identify and mitigate potential impacts after a consent has already been granted is bad practice as it leaves decisions about management to subjective discretion. This is a pragmatic and economically efficient measure as it avoids applicants having to pay for detailed survey work before they know they have a resource consent. However, it can limit the options available for biodiversity effects management. For example, if information about lizard presence at a site is only gathered after consent is granted, there is little opportunity to avoid impacts on the population by redesigning the project. This is at least the wrong scientific approach to lizard protection and may also be the wrong approach in law, because it does not comply with any effects hierarchy requirements.

It appears from the various consent conditions seen by the authors that delaying decisions about management until after consent is granted leads to an overuse of translocation as a management tool for lizards. Delaying decisions about lizard management to future discretion also means that project timelines are often created prior to consulting a herpetologist. It further prevents consideration of the significance of the location for lizard populations by preventing an informed decision of the potential effects. This is problematic as lizard ecology and biology mean there are optimal times of year for survey, capture, and translocation of different species. Decision-makers have in most cases the discretion to require details, timing, and qualifications of suitable experts that can ensure that best practice is achieved (e.g. *Cardrona Cattle Company*

Ltd v Queenstown Lakes District Council [2022]; *Lake Road Preservation Society Inc v Nampara Holdings Ltd* [2020]). However, many decision-makers leave requirements of lizard management plans to the discretion of the consent holder to provide (e.g. *Greenpeace Aotearoa Inc v Hiringa Energy Ltd* [2023]; *Judgeford Environmental Protection Society Inc v Greater Wellington Regional Council* [2023]; *Lang v Buller District Council* [2023]). Failing to consider these constraints in project timelines puts consultant ecologists under pressure to meet the demands of the client while also maintaining best practices, which can result in project delays, consent breaches, and/or bad outcomes for wildlife.

Uncertainty of the outcomes of methods used to mitigate negative impacts on lizards

The preceding three sections outline issues surrounding policy and process that inhibit the protection of lizards during land use activities. Even in best case scenarios where timely consideration is given to lizards and where management plans are produced, outcomes remain uncertain due to lacking evidence for the efficacy of tools typically used for mitigating the effects on lizards. Typical methods for mitigating the effects of activities on lizards can involve any or a combination of the following: salvage and relocation (also called mitigation translocation), habitat remediation or enhancement, and predator control.

Lizard salvage and relocation has become a common practice in New Zealand, with rates increasing more than three-fold in the 10 years from 2012 to 2022 (Romijn & Hartley 2016; D. Methner, Te Herenga Waka, Victoria University of Wellington, pers. comm.). Its efficacy and appropriateness for mitigating effects upon lizards and other herpetofauna is debated both within New Zealand and internationally (Platenberg & Griffiths 1999; Germano et al. 2015; Sullivan et al. 2015; Knox & Wairepo 2019; Lennon 2019). This is due to international reviews reporting high failure rates for herpetofauna translocations, including 63% of mitigation translocations (Dodd & Seigel 1991; Germano & Bishop 2008). Due to these concerns, DOC advises that translocation should only be used in cases where avoidance and habitat remediation cannot result in no-net-loss of lizards from the development area (DOC LTAG 2019). Despite this advice, the use of consent conditions to require lizard management plans after consent has already been granted means that the options available for avoidance of impacts through project redesign can be limited.

Methods for salvage and transfer can be highly diverse and depend upon the species present, the size of the population, and the characteristics of the development and release sites. Lizards may be released at sites that vary in the presence of conspecifics, predator control, and enhanced habitat (Table 1; DOC LTAG 2019). Little is known about how release site characteristics affect translocation outcomes. Predator suppression can be imposed at a site either in perpetuity, or for a set period with the aim to help translocated animals establish (DOC LTAG 2019). However, there are currently no agreed upon standards for predator control in terms of the species to be controlled, duration, or targets for residual pest abundance. Limited evidence exists for the benefits of pest mammal suppression (as opposed to eradication) for native lizards (though see Reardon et al. 2012; Norbury et al. 2014; Wilson et al. 2017), but it is likely that high intensity suppression may be needed that targets a wide range of lizard predators, including house mice (*Mus musculus*; Norbury et al. 2023), European hedgehogs (*Erinaceus europaeus*), and cats (*Felis catus*). Short-term predator control is unlikely to have any positive long-term population impacts as the reinvasion of predators will quickly cause any benefits to be lost.

Habitat at receptor sites is also highly variable, and enhancements such as rock or log piles or dense vegetation are often used to increase available habitat for the translocated animals and ensure the habitat is not at carrying capacity. However, as with predator suppression, there is currently no evidence of the efficacy of these enhancements for native lizard population establishment or viability.

While DOC recommends that post-release monitoring be used to evaluate salvage outcomes (DOC LTAG 2019), the presence of a preexisting conspecific population (as is commonly the case) makes this very challenging. Even with permanently marked animals, determining the establishment and viability of the translocated portion of the population is not possible among the unmarked progeny. It begs the question, what should the success criteria be for a translocation into an existing population of conspecifics? Under International Union for Conservation of Nature (IUCN) guidelines for reintroductions and other conservation translocations, this scenario is termed a reinforcement translocation, but only if there is a conservation benefit for the receiving population (IUCN/SSC 2013). In the case of most mitigation translocations, a conservation benefit is unlikely to be the outcome (Lennon 2019), and the IUCN guidelines caution that "evidence shows that individuals released into established populations may experience very high mortality" (IUCN/SSC 2013).

Table 1. Release site characteristics adapted from "Key principles for lizard salvage and transfer in New Zealand" (DOC LTAG, 2019). A dash (-) indicates where the site characteristic is undefined.

Usage	Presence of conspecifics	Predators	Habitat quality
Best practice	Absent	Predator-free or suppression in perpetuity	High quality existing habitat
Common practice	Low density	Predator-free or suppression in perpetuity	High quality existing habitat
Common practice	Low density	Control during release or for short period (e.g. < 10 years)	Enhanced habitat
Not recommended	-	-	Enhanced previously unsuitable habitat
Not recommended	Absent	Uncontrolled	-

Conclusion and Recommendations

The Wildlife Act 1953 and the Resource Management Act 1991 both regulate the impacts on wildlife during land use. However, their overlap and lack of integration creates substantial gaps in the protection of wildlife, of which lizards are only one example. Examples of other species that have fallen through such gaps include Hochstetter's frogs (*Leiopelma hochstetteri*; Wren et al. 2023), long-tailed bats (*Chalinolobus tuberculatus*; Jones et al. 2019), and snails of the *Powelliphanta* genus (Otley et al. 2020).

Planning laws around New Zealand allow activities that kill lizards and other wildlife, even when they are protected under the Wildlife Act. Without a s 53 Wildlife Act permit from DOC, a developer could potentially be liable for prosecution for such killing. However, without knowledge of the existence of these species, nor more duties to obtain it, such prosecution is unlikely. It thus leaves a lot of species that are protected in theory unprotected in fact.

Several of the issues we describe are in part due to a lack of knowledge about the distributions of lizards and their protected status among development professionals. Reform is likely needed to address this information gap. For example, one option is to impose and fund more ecological assessment and monitoring requirements for public bodies, and make such information widely available (Parliamentary Commissioner for the Environment 2019).

Another option could be for DOC to use its advocacy role to raise awareness for lizards, their habitat characteristics, and the need to gain Wildlife Act authorisation to catch alive or kill protected wildlife. This needs to be directed at developers, architects, planners, and others who advise on the regulatory requirements for land use, not just ecologists. Advice should be given that, even if a resource consent is not required for proposed land use activities, a Wildlife Act authorisation or permit may be necessary to assess the impacts on wildlife and to mitigate any effects on them.

Consenting authorities could also adopt non-binding advice notes advising that particular land use activities (such as vegetation clearance or earthworks) may require mitigation in order to comply with the Wildlife Act in addition to the RMA. This is already done for other legislative requirements, such as for building consents under the Building Act 2004 and Building Code.

Early warning is essential for planning lizard surveys and management, which can cause expensive delays to projects. Where biodiversity is a matter of discretion for a consenting authority and an activity may impact lizard habitat, councils should ensure that lizard surveys and lizard management plans are completed as part of consent applications, as opposed to requiring these through the conditions of consent. If necessary, this may require a s 92 request for further information, as well as follow-up monitoring and compliance efforts.

To be confident that translocations are preventing the loss of lizard populations caused by development, their outcomes must be tested. Conditions imposed on resource consents and on Wildlife Act permits should require that all translocations undertaken for lizards contribute evidence towards its conservation efficacy. This could involve specifying standardised methods of habitat remediation, predator control, and release site characteristics. Long-term outcome monitoring against predetermined success criteria (e.g. Miller et al. 2014) should be required where practicable. Where conservation outcomes of a mitigation are uncertain, offsetting or compensation should be considered to fund local lizard conservation or research priorities, especially those that focus on developing better tools for use in the mitigation arena.

Most of these recommendations can be implemented within the current policy framework. That would at least help to improve the consideration of lizards in the resource consenting process, and it may also achieve better substantive outcomes for the conservation of this group. Ultimately, though, current policies are inadequate to prevent ongoing population loss due to land use changes and activities, and this is likely to be increasing the risk of species extirpation or extinction. It is therefore imperative that the proposed reforms to both the RMA and Wildlife Act are aimed at protecting wildlife through considering how best to fill the gaps that have been identified in this paper. These gaps have been identified in the RMA planning and consenting frameworks, the Wildlife Act authorisation and compliance frameworks, the operational measures undertaken under each of them, and the gaps between the two regimes. These are on top of systemic gaps such as have been identified in relation to ecological information, reporting, compliance, monitoring, and enforcement. The RMA measures required will thus range from making sure that policy statements and plans give effect to the objectives and policies in the NPS-IB as soon as possible, to making sure that lizard protection is appropriately considered in resource management decisions, and to the operational choices about best methods for lizard protection in the face of land use activities, including compliance, monitoring, and enforcement. But perhaps even more important is the need to better integrate the RMA with the Wildlife Act protections and its consideration of the welfare of individual animals, while the Wildlife Act 1953 is updated to be fit for conservation purposes today. Not to do so would be a missed opportunity 70 years in the making.

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