Northland Kiwi Hui Proceedings

1-2 November 2025

KIWI COAST

TE RAWHITI

Massey University
COLLEGE OF SCIENCES

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

Save the kiwi

Minutes by: Tineke Joustra and Emma Craig
Save the Kiwi

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Summary

The 2025 Northland Kiwi Hui, themed “Te Kaupapa, te ora o te manu te kiwi - the well-being of kiwi”, brought together iwi and hapū representatives, kaumātua, kaitiaki, conservation practitioners, scientists, researchers, government agencies, NGOs, and community groups united by a single purpose: the long-term wellbeing and resilience of te manu huna a Tāne - the kiwi. Across two days, participants explored the whakapapa, status, and future of kiwi in Northland, weaving together mātauranga Māori, long-term monitoring, scientific research, genetic insights, and on-the-ground experience.

The hui reaffirmed that “successful kiwi recovery depends on strong, respectful relationships between mana whenua, community groups, scientists, agencies, and the wider public.” The kōrero highlighted both the successes achieved to date and the important challenges and opportunities ahead.

Key achievements and progress in Northland

Northland remains one of Aotearoa’s strongest regions for North Island Brown kiwi recovery, thanks to decades of community-led predator control, iwi-driven conservation, and strong partnerships. Highlights included:

- Kiwi numbers continue to rise in areas with sustained pest and dog control.
- Whangārei Heads has grown from 80 birds to over 1300 today.
- More than 966,000 pests have been removed across the Kiwi Coast network in the past 12 years.
- Translocations are occurring with increasing cultural and scientific refinement, including successful returns of kiwi from Moturoa Island to Opua.
- Young people and community members are deeply involved, sustaining intergenerational connection to taonga.

These gains reflect commitment, collaboration, and kaitiakitanga across diverse landscapes.

Welfare and whakapapa at the centre

A defining message of the hui was that welfare and whakapapa must remain the foundation of all kiwi management. Presenters and participants emphasised that whakapapa is not limited to genetic diversity - it includes:

- Behaviour and movement
- Fertility and survival
- Ecological context
- Spiritual and cultural relationships

Hapū representatives reinforced that mana whenua must lead decisions relating to movement, mixing, and future planning for kiwi whakapapa, supported by transparent evidence and respectful engagement.

Tomo (arranged marriage) was discussed as one possible framework for thinking about the pairing or mixing of lines, but participants noted that tikanga differs between iwi/hapū, and no single cultural model fits all iwi. The hui strengthened commitment to local decision-making, grounded in tikanga and kanohi ki te kanohi kōrero.

Genetics, inbreeding, and the future of translocations

New genomic research presented at the hui provided clearer understanding of the relatedness, diversity, and structure of Northland kiwi populations.

Key findings included:

- Northland kiwi are genetically similar across wide areas, questioning the long-held restrictive parameters (e.g. an eastern–western divide).
- Local inbreeding remains low, though some island populations show early indicators of concern due to small founder groups.
- Many assumptions about local adaptation or the “50 km rule” no longer align with genetic evidence.
- pōnui and other island populations show surprising resilience and diversity.

These insights support developing “more flexible, whakapapa-based translocation frameworks”, guided by both Mātauranga and scientific data.

Island populations: opportunities and concerns

Island kiwi populations, historically used as safe sites for kiwi under threat on the mainland, face increasing pressures:

- Drought and climate impacts
- High population densities
- Limited gene flow
- Welfare constraints

The hui recognised the need for an "island management strategy" to guide appropriate management, genetic refreshment, welfare monitoring, and long-term sustainability of island-based populations (e.g. some could function as a kōhanga).

Data sovereignty and genomic governance

A major theme of Day 2 was the future of kiwi DNA, including how samples are collected, stored, analysed, and governed. Challenges identified include:

- Samples are dispersed across many institutions
- Varying storage quality and security
- Increasing overseas sequencing
- Unclear iwi/hapū governance pathways for ownership of these samples

There was strong consensus for creating a centralised, culturally governed national repository for kiwi tissues, DNA, and genomic data - supported by Mātauranga Māori, aligned with iwi/hapū principles, and accessible for future research.

Monitoring and evidence-based management

Northland's call count programme - one of the largest and longest-running in the country - continues to provide insights into population trends. Presenters highlighted:

- Increases in well-managed regions (i.e., with effective predator control in place though trapping, pulses of toxin applications and dog control)
- Declines where dog pressure remains unchecked
- Potential beginnings of recolonisation in previously silent sites

The attendees agreed that long-term monitoring is a priority, and this should be supplemented with acoustic recorders, dog-assisted surveys, and ongoing genetic sampling to make informed management decisions.

Future directions

1. **Strengthen Hapū-Led Decision-Making**
Kiwi conservation must reflect the authority, tikanga, and aspirations of mana whenua, with improved resourcing and capacity support.

2. **Develop an Island Population Strategy (Save the Kiwi have drafted a recent version)**
Address welfare, drought resilience, genetic planning, and sustainable use as kōhanga.

3. **Modernise Translocation Frameworks**
Replace rigid distance-based rules with whakapapa-informed, evidence-based principles, including discussions about mixing birds from different management units.

4. **Establish a National Genomic Repository**
Centralised, culturally governed genomic data will safeguard taonga and support high-quality research.

5. **Sustain and Enhance Monitoring Networks**
Call counts, ARDs, dog surveys, and genetic sampling are essential to understanding kiwi viability over time. In some cases dog surveys are a must to determine health and make-up of a local population.

Conclusion

The 2025 Northland Kiwi Hui reaffirmed that the future of kiwi recovery in Te Tai Tokerau lies in the integration of Mātauranga Māori, strong community leadership, and world-class science. By grounding decisions in whakapapa, honouring mana whenua, and continuing rigorous monitoring and research, the collective can ensure that kiwi not only survive, but thrive, for generations to come.

Introduction

Te kaupapa, te ora o te manu te kiwi
The well-being of the kiwi

The 2025 Northland Kiwi Hui brought together iwi and hapū representatives, kaumātua, kaitiaki, conservation practitioners, scientists, researchers, government agencies, NGOs, and community groups united by a single purpose: the long-term wellbeing and resilience of te manu huna a Tāne – the kiwi.

Hosted in Te Tai Tokerau, this hui was grounded in whakapapa, recognising kiwi as both a taonga species and a member of our shared genealogical heritage. The theme Te kaupapa, te ora o te manu te kiwi acknowledged that the health of kiwi is intimately connected to the health of the whenua, the relationships between communities, and the integrity of knowledge systems that guide decision-making.

Over two days, participants engaged deeply with both mātauranga Māori and Western science, exploring how these knowledge systems can complement and strengthen each other in the stewardship of kiwi. This hui provided space for open dialogue, challenging conversations, and shared learning - anchored in tikanga, respect, and a collective commitment to kaitiakitanga.

Day 1: Understanding the present

Day 1 focused on the current knowledge of Northland brown kiwi, including genetic variation, dispersal patterns, observations from field sites, and the implications of the long-standing 50 km rule. Presenters demonstrated the complexity of kiwi whakapapa and highlighted growing evidence that kiwi are highly adaptable and capable of thriving beyond traditional regional boundaries. Māori perspectives emphasised the cultural significance of whakapapa integrity, inter-hapū relationships, and the need for respectful processes that align with tikanga.

The day also provided important context for community-led work across Te Tai Tokerau, celebrating the remarkable success of predator control, committed dog control, community trapping networks, iwi/hapū-led conservation leadership, and collaborative restoration efforts.

Day 2: Looking to the future

Day 2 shifted towards forward-looking conversations about inbreeding, genomic research, and the opportunities and challenges associated with new data. High-level scientific presentations helped clarify what is known - and not yet known - about inbreeding in kiwi. Discussions explored how genetic distance is measured, what constitutes meaningful risk, and how population history shapes genetic diversity.

A central thread throughout the day was the importance of Māori data sovereignty, governance over genetic samples, and the development of culturally grounded frameworks for storing, sharing, and using genomic information. Hapū representatives shared perspectives on customary practices, whakapapa relationships, movement of manu, and the cultural implications of genetic management tools.

The hui also explored future translocation planning, site readiness, and the emerging concept of adaptive, hapū-led management frameworks that reflect both scientific evidence and mātauranga Māori.

A hui grounded in tikanga and “mahi tahi”

Across both days, several themes emerged:

- Kaitiakitanga must be led by mana whenua, supported by communities, agencies, and researchers.
- Decision-making should be guided - though not constrained - by science, recognising its limits and the value of mātauranga.
- Genuine partnership (mahi tahi) is essential to the success of kiwi recovery.
- Monitoring and adaptive management must continue before and after any movement of kiwi.
- Long-term solutions require long-term relationships, resourcing, and intergenerational capacity building.

This document captures the kōrero, insights, and whakaaro shared over the two days. They are intended as a record, a resource, and a foundation for continued collaboration across Te Tai Tokerau and the wider motu. Most importantly, they honour the collective aspiration that the voices of our mokopuna will continue to hear the call of kiwi across the landscape - today, tomorrow, and for generations to come.

Hui context and purpose

The Northland Kiwi Hui 2025 was convened to create a shared space where iwi/hapū, kaitiaki, researchers, practitioners and government partners could come together to explore the present and future of kiwi in Te Tai Tokerau. This hui recognised that kiwi are not only a species requiring careful management, but also a taonga with deep whakapapa connections to the people and landscapes of the North.

The purpose of bringing these groups together was threefold:

1. To share knowledge (scientific, cultural, historical, and local) regarding kiwi genetics, behaviour, population trends, and habitat resilience. Everything that has happened before us is good and valid - the purpose of research is to learn new things. We have to keep in mind that genetics is not the full story - it also matters how kiwi behave and how they succeed in surviving. Key thing to note: we must always continue to monitor - to determine success, we need access to the details.
2. To create space for meaningful dialogue around kiwi whakapapa, acknowledging the diverse perspectives, values, aspirations, and concerns held by mana whenua, conservation groups, landowners, and agencies.
3. To strengthen partnerships and pathways forward, ensuring that decision-making about kiwi management reflects both recent evidence and tikanga.

The hui was framed by tikanga, acknowledging the mana of the host iwi and the responsibilities carried by all who work with kiwi. Throughout the event, kaumātua and hapū representatives emphasised the importance of grounding discussions in whakapapa and in the cultural narratives that have guided species stewardship for generations.

At the same time, scientists and technical experts provided the latest evidence on kiwi population genetics, inbreeding risk, dispersal patterns, habitat requirements, and the implications of genomic tools. These contributions enabled participants to assess current management frameworks - such as the "50 km rule", translocation approaches, and the treatment of genetic samples - through both a scientific and cultural lens.

By design, the hui facilitated open, sometimes challenging, conversations, acknowledging that kiwi conservation sits at the intersection of identity, whakapapa, science, and community aspirations. The discussions were enriched by the breadth of attendees: those who hold iwi/hapū mandates, those who have walked the forest collecting data for decades, those who have managed populations across generations, and those who bring fresh scientific insights to help guide future decisions.

This context shaped the trajectory of the two-day kōrero - moving from understanding what the latest science tells us, to questioning how that aligns with Mātauranga Māori, and finally to exploring how these knowledge systems can work together to support kiwi for generations to come.

Key themes

Across the two days of kōrero, several strong, interconnected themes emerged. These themes reflect not only the scientific evidence presented, but the values, aspirations, and cultural responsibilities articulated by iwi/hapū, and community leaders. Together, they form the foundation for future decision-making and collaborative action in Northland kiwi conservation.

1. Whakapapa as the foundation of kiwi management

A central theme throughout the hui was the recognition that kiwi management cannot be separated from whakapapa. Kiwi hold ancestral significance; they are taonga, and their well-being reflects the well-being of the whenua and the relationships between people. Iwi/hapū representatives stressed the need to uphold whakapapa integrity and honour intergenerational responsibilities, while acknowledging that contemporary pressures - predators, habitat loss, and climate impacts - have changed the natural system that once supported kiwi without intervention.

2. Integrating mātauranga Māori and western science

Participants consistently affirmed that both knowledge systems offer critical insight. Western science provides tools for understanding genetics, population dynamics, and habitat requirements. Mātauranga Māori provides context, values, cultural histories, and tikanga that guide how species are stewarded at place. The challenge - and opportunity - is to weave these systems together without diminishing either. This requires respectful engagement, appropriate processes, and recognition of iwi/hapū diversity across the motu.

3. Genetic clarity: Kiwi are very similar across Northland

Scientific evidence presented at the hui demonstrated that Northland kiwi populations are highly genetically similar, with low levels of local inbreeding and only small differences between geographic groups. This challenges long-standing assumptions - such as the rigid interpretation of the 50 km rule - and suggests there may be more flexibility for translocations than historically believed. However, cultural perspectives on whakapapa and tikanga must continue to inform decisions about bird movement.

4. The importance of corridors, connectivity and movement

Multiple speakers emphasised that kiwi should not be enclosed within small or isolated areas. Genetic evidence, ecological theory, and mātauranga alike support the importance of allowing dispersal, creating safe corridors, and avoiding long-term fencing that restricts movement. Natural wandering strengthens populations, reduces inbreeding risk, and reflects the historical ecological patterns described by both science and cultural narratives. For islands, this means including them as part of a meta-population which requires ongoing management.

5. Māori data sovereignty and genomic stewardship

Conversations around DNA samples and genomic databases highlighted strong concerns about the long-term care, governance, and cultural integrity of kiwi genetic data. Iwi/hapū representatives called for:

- Clear custodianship agreements
- Culturally appropriate storage and access
- Transparent management pathways
- National coordination and long-term institutional stability
- Whakapapa-based metadata and cultural labels

There was broad support for developing a national, culturally governed genomic framework that respects both scientific needs and mana whenua rights.

6. Translocation readiness and long-term commitment

The hui reinforced that successful translocations require more than biological suitability. Sites must demonstrate:

- Strong iwi/hapū involvement from the outset
- Long-term predator control
- Financial sustainability
- Community buy-in
- Landscape connectivity
- Predator management readiness (e.g. dogs and ferrets)

This was coupled with a message that permit processing must be streamlined, and that early, clear engagement with mana whenua is essential.

7. Cultural appropriateness of concepts used in conservation

Extensive kōrero arose around the use of terms such as tomo in relation to kiwi genetics and translocations. Some iwi/hapū representatives expressed discomfort with repurposing culturally specific terminology without careful consideration of its origins, meaning, and appropriateness. The discussion signalled a need for culturally grounded language, frameworks, and decision-making processes that align authentically with tikanga Māori.

8. The need for long-term monitoring and adaptive management

Participants agreed that actions taken now - whether translocations, predator control expansions, or new genomic strategies - require long-term monitoring and evaluation. Both source and recipient populations must be assessed before and after management interventions. Adaptive management, guided by both scientific data and iwi/hapū observations, was highlighted as essential to ensuring ongoing success.

9. Building capacity and resourcing for rangatahi

A recurring message was the importance of resourcing young people, growing Māori-led research capacity, and supporting iwi/hapū to undertake their own monitoring, genetic sampling, and decision-making. Strengthening intergenerational capability was seen as one of the most important steps for sustaining kiwi across Te Tai Tokerau.

10. Mahi tahi – collaboration as a core principle

Above all, the hui emphasised mahi tahi: working together. Successful kiwi recovery depends on strong, respectful relationships between mana whenua, community groups, scientists, agencies, and the wider public. Shared goals must be matched by shared processes, transparent communication, and sustained commitment.


Backyard Kiwi #3
KIWI
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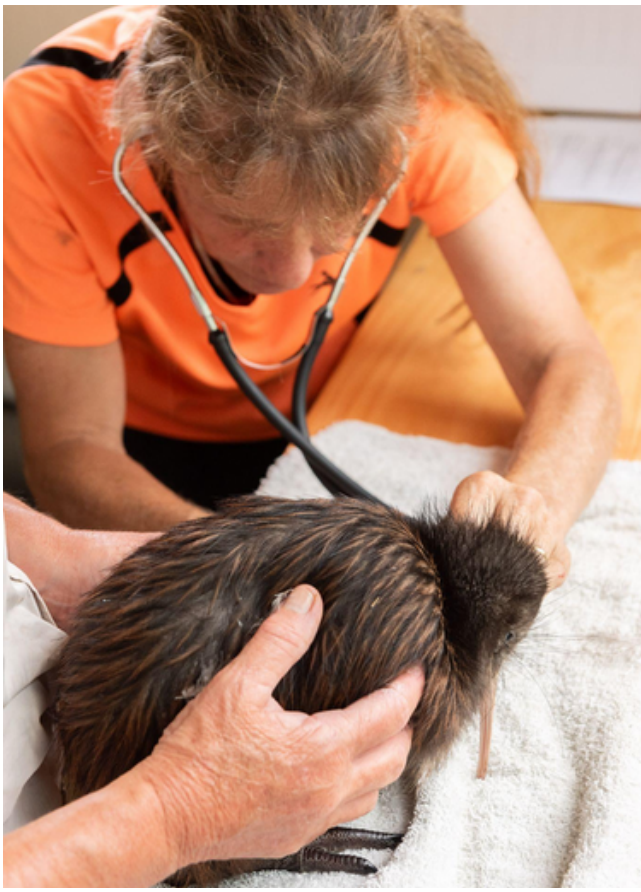
Presentation Summaries (Day 1)

Northland Brown Kiwi – successes to date (Ngaire Sullivan)



Kiwi Coast shared the story of grassroots mobilisation and collective action across Te Tai Tokerau. Beginning in 2013 with just 32 groups, the network has expanded to 274 groups comprising community organisations, hapū, landowners, forestry companies, schools, and local volunteers - together covering 285,000 hectares. Their kaupapa is: provide a platform of support, connect people with the right tools and expertise, and operate in a role of service so that communities and mana whenua can lead their own conservation efforts. Nowhere is this impact more visible than at Whangārei Heads, where the backyard kiwi population has risen from 80 birds in 2001 to an estimated 1,330 today, demonstrating what long-term commitment and community leadership can achieve.

The presentation highlighted the scale of predator management undertaken across the region, with over 966,739 pests removed in the past 12 years, not including the additional hidden impact of toxins. Ngaire emphasised that the success of kiwi recovery is not accidental - it is the result of years of hard work, skilled trappers, responsible dog owners, committed hapū, and communities willing to do the mahi. They also reinforced that kiwi are adaptable birds, thriving not only in native forest but also on farms, in pine plantations, dunes, gorse, and pampas. When these landscapes are made safe through trapping, toxins, and dog control, kiwi flourish. Tools such as 1080 and brodifacoum play a vital role; trapping alone is insufficient. Kiwi Coast supports communities in using these tools safely and effectively, while also prioritising strong messaging about dogs - Northland's single biggest threat to kiwi, with examples such as 15 kiwi killed on the Purerua Peninsula this year alone (and 40 in the last 6 years).

Beyond predator management, Ngaire described their expanding role in kiwi translocations, emergency responses, and public engagement. They have supported the recent emergency removal of birds from Motuora Island in partnership with Ngāti Manuhiri and Ngāti Wai, where all 17 kiwi survived despite arriving in poor condition. Their crew assists with safe translocation logistics, while public kiwi releases help build connection, pride, and stewardship. Kiwi rehab has become another emerging need, with nine malnourished or dehydrated kiwi receiving treatment this year. Now undertaking their third kiwi listening blitz using ARDs, Kiwi Coast is confirming that kiwi are recolonising sites that had gone silent - clear evidence of dispersal where landscapes have become safe. Throughout all their work, they remain closely aligned with DOC, KRG, and the best available science, recognising that the expired taxon plan and new genetic insights call for revised goals and updated direction for the next decade of kiwi recovery.

Moturoa island kiwi translocation (Ngāti Kawa Taituha - chair Te Tii Waitangi marae)

Ngāti Kawa Taituha shared a powerful and personal account of the recent Moturoa Island kiwi translocation, grounded deeply in whakapapa, responsibility, and service to both iwi and taonga species. His involvement began a decade earlier, when he was approached to help look after kiwi on behalf of Te Tii Waitangi marae. Moturoa had become a refuge for kiwi after a devastating dog incident in the 1980s wiped out an estimated 500 birds in Waitangi Forest, prompting community members of that time to move survivors to the island. Over the decades, the population flourished to well over 300 birds - eventually exceeding Moturoa's carrying capacity and creating an urgent need for translocation back to the mainland. As chair, Ngāti Kawa saw his role not only as logistical support but as guardian of the mauri and wairua of the kaupapa, ensuring that every step was culturally grounded and undertaken with integrity. Although the situation required bypassing the usual bureaucratic pathways, he emphasised that taking calculated risks under the guidance of trusted experts was essential - and ultimately successful.

The translocation itself was described as a memorable and uplifting experience. A team stayed overnight on the island, using night-vision goggles to safely capture kiwi in the dark - a method that brought both excitement and a sense of privilege. High winds meant they had to take a longer route by boat before transporting the 21 kiwi to Waitangi, where a moving handover ceremony was held with local schools and Bay Bush Action. This ceremony symbolised the gifting of kaitiaki responsibilities from the Moturoa whānau to the receiving community. Ngāti Kawa used the opportunity to share the pūrākau of how kiwi earned its unique form and became known as the bravest bird in the forest - one of Tāne's most courageous helpers. Through this storytelling, tamariki were able to name birds, understand the significance of kaitiakitanga, and see themselves reflected in the bravery and identity of the kiwi. Practical education also took place, including discussions about dogs, poisons, and how communities can keep kiwi safe.

Ngāti Kawa reflected on the wider lessons and next steps following the translocation. Early reports suggest the moved birds are settling well, and kiwi call counts on Moturoa indicate that the island population is stabilising and already recovering in the area the 21 birds were taken from. Looking ahead, he hopes to see more streamlined processes so translocations can occur when needed without unnecessary delay. He also expressed interest in developing long-term cultural and scientific strategies, including potential tomo-style exchanges or relationships with southern iwi, provided the frameworks are culturally appropriate. Although concerns about inbreeding and age selection were raised by others, Ngāti Kawa emphasised that his team targeted healthy birds over 1.2 kg and acted with care and balance. His presentation highlighted that translocations are not simply technical exercises - they are acts of whakapapa, community unity, and intergenerational responsibility. With many more kiwi still on Moturoa, he hopes this hui will help shape a safe, well-supported, and culturally grounded path forward.

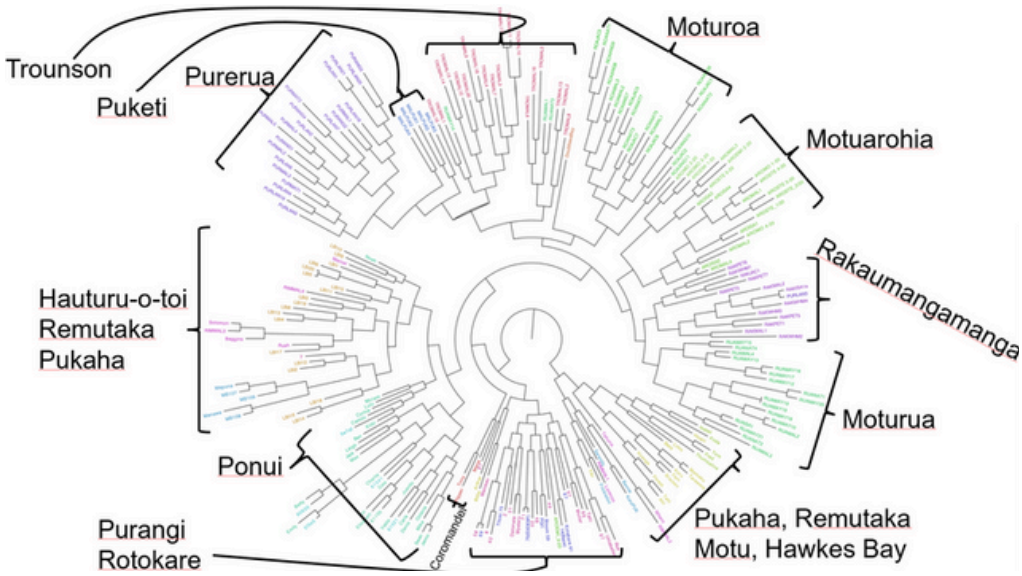
Kiwi whakapapa research results (Blandy Witehira, Simon Hills and Isabel Castro)

The presentation on kiwi whakapapa research began with Blandy recounting the origins of this long running kaupapa, which began over 13 years ago when DOC Kerikeri sought advice on the growing kiwi populations on islands throughout Pewhairangi and Ipipiri. At that time, DOC intended to move kiwi off the islands to relieve pressure, but Isabel cautioned against shifting birds without understanding their health and genetic status. This advice resonated strongly with mana whenua, whose kaumātua objected to translocations proceeding without proper assessment. From that point, the project grew into a collaborative effort spanning multiple hapū, including Ngāti Kuta and Patukeha, with funding eventually secured from the Overseas Investment Office and Nga Pae o te Matamanga, to build the capability needed to study the birds properly. Early work centred on the remnant population at Rākaumangamanga (Cape Brett), where intensive pest control had allowed a small kiwi population to expand. Concerns about potential inbreeding at isolated sites created further impetus for deeper genetic work and for hapū to gain hands-on skills in kiwi management.

Isabel explained that the project was shaped fundamentally by whakapapa - both the whakapapa of the kiwi and the relationships built among the research team and mana whenua. Securing funding took 4.5 years, but once achieved, it enabled a diverse scientific team to be assembled, including geneticists, evolutionary biologists, and students with strong links to Māori communities. Training of hapū members took place at sites such as Pōnui Island, where long-term studies of kiwi behaviour had already generated valuable baseline data. There, teams learned how to handle, monitor, and sample kiwi, including taking bloods - a skill that had been entirely unfamiliar but became central to the project's success. Isabel emphasised that this combination of cultural leadership and scientific expertise was essential, and that the project flourished because of the deep respect shared among all contributors.

Simon provided a crash course in kiwi genomics to establish the scientific foundation of the work. He explained how DNA - made up of billions of chemical "letters" - contains the instructions for every trait an animal carries, and how genetic variation is created through the mixing of maternal and paternal alleles.

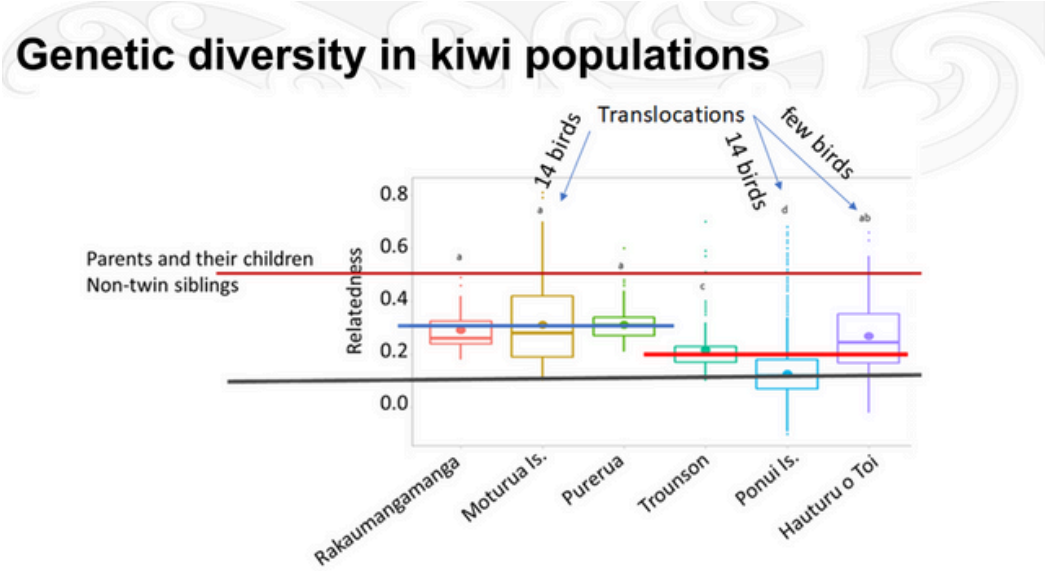
Kiwi have 40 pairs of chromosomes (compared with humans who only have 23), and understanding this structure is essential to determining how much genetic diversity exists within and between populations. The team's work builds on a growing body of international studies, including those by Le Duc et al. (2016), Weir et al. (2016), Bemmels et al. (2021, 2022), Westbury et al. (2022), and the Vertebrate Genome Project (2024). Importantly, Simon noted that many previous genomic studies were conducted overseas and often involved captive birds, raising important issues about data sovereignty and the governance of genomic information relating to taonga species.



The research team sampled widely across Aotearoa, including Trounson, Purerua, Puketi, Rākaumangamanga, Moturua, Motuarohia, Doubtless Bay, Owhata, pōnui, Hauturu, Purangi, Rotokare, Pūkaha, Remutaka, and several others - eventually analysing 456 genomic sequences, representing 378 unique individuals, including 146 Northland brown kiwi. The data revealed several key insights. First, kiwi across Northland are more closely related to each other than to populations in other parts of the motu. Island populations such as Moturua, Motuarohia, and Moturoa sit genetically between some mainland populations, reflecting their histories of founding events and past translocations. Second, known family groups on pōnui provided a benchmark for understanding relatedness. When compared against the broader dataset, nearly all wild populations showed higher-than-expected relatedness, suggesting that even in small or isolated areas, kiwi have historically mixed more than once assumed. The pōnui population, created from birds of both Hauturu and Northland origin, has become one of the most genetically diverse brown kiwi populations in the country - a powerful example of successful mixing.

A key takeaway from the research is that modern genomic tools now allow the team to accurately trace the whakapapa of individual birds, determine how populations relate to one another, and identify which groups may benefit from strategic mixing. This prompted a discussion about whether the concept of tomo - a traditional practice relating to the strategic union of whakapapa lines - could provide a culturally grounded framework for guiding future translocations. Blandy noted that tomo has long been part of tikanga for strengthening relationships and building resilience within whakapapa. If reframed appropriately, tomo could empower mana whenua-led decision-making and guide the careful pairing of kiwi populations to enhance their long-term health, provided that such actions are undertaken with monitoring, cultural approval, and scientific support.

The presenters concluded by highlighting future needs and opportunities. More samples will help refine the dataset, with the development of nanopore technology costs of sequencing are reducing and the variety of questions that can be asked of a sample increases. Establishing a culturally governed database is therefore essential, ensuring samples are collected, stored, and eventually sequenced in ways that uphold Māori data sovereignty. Ongoing monitoring is equally critical, as genetics must be interpreted alongside biological outcomes such as breeding success and survival. Questions from the floor explored issues such as whether new samples from sites like Ōpua would reflect island influence, and how future genomic technologies - such as more affordable genotyping-by-sequencing and nanopore technology, or targeted DNA marker pannels - might support decision-making. Ultimately, the team emphasised that integrating whakapapa, mātauranga, and science provides the strongest foundation for resilient, adaptable kiwi populations across the landscape.



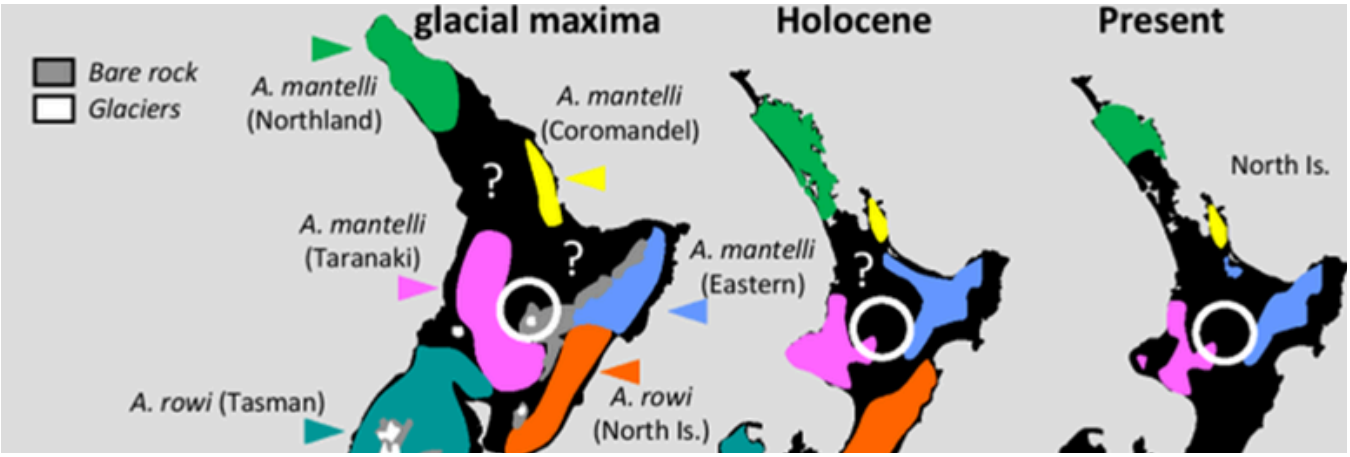
Reflections on kiwi conservation (Hugh Robertson)

Hugh Robertson opened his presentation with a long-view reflection on 34 years of kiwi conservation, tracing the evolution of the Kiwi Recovery Programme since it began in 1991. At that time, knowledge of kiwi biology was strong - anatomy, physiology, egg development, and captive husbandry were all well-documented - but very little was known about what was happening to kiwi in the wild. DOC's concern was high, yet the problems driving population declines were not well understood. Early assumptions pointed to habitat loss and dogs as primary threats, including the devastating case in Waitangi where a single dog killed an estimated 500 kiwi within weeks. Fragmentation of forests over the previous 150 years and incidental injuries from gin traps were also major concerns; in the 1980s, up to 20% of kiwi handed in, had foot or toe injuries linked to trapping. It was in this context that the Kiwi Recovery Programme set its initial long-term goal: to maintain and enhance the abundance, distribution, and genetic diversity of kiwi.

The first major step was filling the knowledge gap through systematic surveys. Between 1991 and 1996, Miller and Pierce revisited earlier distribution maps from the 1970s and identified striking declines in many areas - likely attributable to stoats. Call-count monitoring, particularly in Northland, began providing the first robust long-term dataset for measuring kiwi population trends. At the same time, research into the effects of toxins demonstrated that neither 1080 nor brodifacoum harmed adult kiwi survival; instead, chick survival improved significantly where toxins were used. These findings reshaped the threat model: dogs and ferrets were confirmed as the key predators of adult kiwi, while stoats remained the major predator of chicks. Hugh emphasised that although people often focus on chicks, adult survival is the dominant driver of population trajectories - if adults live long enough, recruitment eventually offsets losses.

The recovery programme progressed rapidly between 1996 and 2008. This era saw the establishment of the first KRG (Kiwi Recovery Group) plan, the rise of community-led conservation projects, advances in kiwi taxonomy (including the formal recognition of Rowi and Tokoeka as separate from the Brown Kiwi complex), and the expansion of Operation Nest Egg (ONE). By 2002, 286 eggs had been collected and 236 chicks released into the wild through ONE - a figure that now exceeds 3,000 eggs collected and 2,500 chicks raised through ONE or kōhanga systems. Crèche islands, such as Motuara for Rowi and Motuora for North Island brown kiwi, became powerful tools for boosting recruitment. The creation of five kiwi sanctuaries - Whangārei, Moehau, Tongariro, Ōkarito, and Haast - marked the beginning of large-scale, targeted management that directly influenced kiwi population growth.

The decade from 2008 to 2018 was characterised by dramatic expansion of community involvement and increasingly sophisticated genetic and ecological research. Hundreds of community groups were now actively protecting kiwi, many in regions where people live close to breeding birds. Genetic work revealed previously unrecognised lineages of kiwi pukupuku (Little Spotted Kiwi) and connections to Rowi ancestry in some North Island birds. Long-term sanctuary monitoring produced valuable insights: untrappable stoats suppressed productivity in Whangārei until an aerial 1080 operation triggered chick survival increases to 60%; Moehau brown kiwi grew at 6.5% per year for two decades under combined trapping and periodic 1080; and Tongariro research confirmed that a five-year toxin cycle was too long, leading managers to adopt a three-year cycle. Ferrets unexpectedly emerged as a major new threat in Tongariro, reducing adult survival from ~96% to 80%, demonstrating how predator dynamics continue to shift.



From 2018 to today, the sector has been working under an ambitious challenge: achieve 2% growth per year across all kiwi species and return to 100,000 kiwi by 2030. This required a shift from ex-situ management to large-scale in-situ approaches, further refinement of taxonomic units (including the role of historic events such as the Taupō eruption in shaping North Island brown kiwi lineages), and the full implementation of the SOIK (Saving Our Iconic Kiwi) programme. Hugh highlighted remarkable gains, particularly among the rarest taxa: Ōkarito Brown Kiwi have grown from 160 birds to more than 700, with annual adult survival close to 98%; Haast tokoeka have increased from 200 to 5,000 birds through a mix of ONE, trapping, 1080, and kōhanga management; and Southern Fiordland tokoeka, once facing complete breeding failure due to stoats, are now recovering following large-scale aerial 1080 operations.

Hugh concluded by reflecting on the progress made and the challenges ahead. Despite North Island brown kiwi now being considered “Not Threatened,” they remain conservation dependent and require ongoing management. Expanding predator-controlled areas and developing new release sites will be essential as kiwi populations grow. Strong partnerships with modern forestry practices will play an increasingly important role, something Save the Kiwi is actively engaged in. The most difficult hurdle for the Kiwi Recovery Programme will be achieving sustained 2% growth for Tokoeka in Fiordland and for Roroa (Great Spotted Kiwi) - species that require large-scale predator management at landscape levels. Hugh closed with a reminder that although it is easy to forget the dire situation of 1991, the sector has made remarkable progress over 34 years, and today’s programme is strong, adaptive, and grounded in both science and community leadership.

Workshop 1: Local adaptation and phenotypic plasticity

The workshop began by defining the core biological concepts shaping current discussions about kiwi movement, whakapapa, and population management. Local adaptation was described as the evolutionary process through which a population becomes finely tuned to the specific environmental conditions of its home range, giving individuals a "homesite advantage." In contrast, phenotypic plasticity refers to an organism's ability to adjust behaviour, physiology, or morphology - such as changes in feeding behaviour or variations in bill length - without any underlying genetic change. These definitions set the stage for examining whether kiwi populations are genetically adapted to their local environments or whether they rely more heavily on behavioural and physiological flexibility.

The workshop explored whether kiwi show meaningful signs of local adaptation. Participants discussed the theoretical risk that if populations have genetically adapted to local food, climate, or parasite pressures, moving birds between distinct areas could produce offspring less capable of surviving in their new environment. However, two lines of evidence now exist - some pointing toward possible local adaptation, others suggesting high phenotypic plasticity. Real-world examples strongly informed the discussion. Mixed populations on pōnui (Taranaki × Northland) and on Moturua (west x east Northland), Motuarohia (east Northland), and Moturoa (east Northland) have thrived for decades, showing strong breeding success, high survival, and increased genetic diversity with no signs of maladaptation. These outcomes suggest that carefully considered mixing - particularly within management units - may be both safe and beneficial.

Genetic insights presented by Peter Lockhart showed high allele sharing across Northland and greater differentiation between Northland and Taranaki birds, although most Single Nucleotide Polymorphism (SNP) differences appear neutral rather than linked to fitness. Demonstrating true local adaptation requires strict evidence - matching traits to environment, showing those differences persist when raised in a common environment, and proving that each population performs best in its home habitat. While kiwi have not been tested through formal reciprocal transplant experiments, history has already provided partial natural tests: the long-term success of mixed island populations suggests that strong local adaptation is unlikely to be a major constraint. The workshop concluded that although ecological whakapapa should continue to guide decisions, current evidence supports strategic, moderate tomo/mixing within management units to improve genetic health, while ongoing monitoring and hapū-led decision-making remain essential.

Workshop 2: The current 50km rule

Emily King opened the workshop with background on the origins of the 50 km rule, explaining the role of the Kiwi Recovery Group (KRG) as an advisory body comprising iwi, DOC scientists, Forest & Bird, Save the Kiwi, and other experts. The KRG provides guidance and recommends research priorities, but does not make formal decisions - those rest with other parts of DOC. The 50 km rule was originally developed following the advice of Professor Allan Baker, who identified fine-scale population structuring in brown kiwi similar to small mammals with low dispersal. Because most kiwi do not disperse far from where they hatch - typically around 10 km - the 50 km radius was intended to mimic natural gene flow while preventing mixing between potentially locally adapted populations. Early evidence, such as consistent bill-length differences between kiwi in Trounson and Waitangi (with Purerua birds intermediate), suggested long-term regional differentiation that might influence foraging success and survival.

Much of the kōrero explored whether these patterns truly reflect local adaptation or whether kiwi exhibit enough phenotypic plasticity to cope with new environments. Some participants argued that once genes from one population are mixed into another, the change cannot be reversed, while others countered that nature has long mixed and un-mixed lineages through glacial cycles and environmental shifts. Examples from past translocations were discussed, including pōnui Island - where small, short-billed Taranaki kiwi and large, long-billed Trounson kiwi now coexist with the full spectrum of bill sizes between them. This suggests that both forms can persist in a single environment without maladaptation. Additional genetic evidence showed that similarity does not always correlate with geographic distance: for example, birds from Doubtless Bay are genetically closer to Purerua and Puketi than to some nearer populations, and Moturua birds sourced from multiple locations now cluster genetically with Rākaumangamanga and Trounson populations. These findings led to a growing sense that strict geographic boundaries may oversimplify the natural whakapapa of kiwi.

The workshop then turned to key questions and concerns. Participants asked whether 50 km makes sense when some populations are genetically closer despite being geographically farther apart, and whether translocations should prioritise genetic similarity rather than straight-line distance. There were also cultural considerations: whether mixing birds with different ecological whakapapa risks disrupting ancestral roles shaped over millennia, such as bill length linked to foraging depth. However, behavioural observations show kiwi rarely probe deeply into soil, suggesting bill length differences may not translate to strong adaptive constraints. The kōrero also addressed the long timescales of genetic change, the potential for outbreeding vigour rather than outbreeding depression, and how tomo (strategic pairing) aligns with kiwi mate choice in natural systems. Overall, the collective takeaway was that while the 50 km rule served an important purpose when data were limited, emerging genetic and ecological evidence suggests it may be overly conservative, and there is value in re-examining the rule in light of new science, mātauranga Māori, and the lived experience of communities working closely with kiwi.

Translocations, kōhanga and islands – making informed decisions (Lesley Baigent & Tineke Joustra)

Lesley Baigent and Tineke Joustra opened their presentation by outlining why informed decision-making around kiwi translocations and kōhanga sites is becoming increasingly urgent. Many kiwi populations have been established from small founder groups, some island sites have grown beyond their carrying capacity, and genetic diversity at several locations is now limited. Effective long-term management therefore requires a clear understanding of where kiwi are, how many there are, how they are doing, and whether their sites remain suitable. Tineke emphasised that kiwi conservation follows a continuous cycle of assess → decide → act → monitor, and that decisions must be grounded in robust ecological data, good genetics, cultural values, and collaborative thinking across all stakeholders.

The presenters provided an overview of the survey tools that guide these decisions - call-count monitoring, acoustic recorders, camera traps, and certified kiwi dog surveys - noting the strengths and limitations of each. Dog-assisted surveys provide the most comprehensive information: they detect all life stages, reveal recruitment and breeding success, allow for health checks, enable genetic sampling, and can produce reliable population estimates through mark–recapture. These data streams directly inform decisions about where kiwi may need support, where translocations are appropriate, and where genetic intervention may be necessary. Two case studies where dog surveys have been completed illustrated these points. Motuora Island, with just seven founders in the 1980s, now holds more than 300 birds but shows signs of low recruitment and drought stress, indicating the need for both welfare and genetic considerations. Kawau Island, founded by unknown birds from Hokianga in the 1860s, where a dog team managed to examine 51 individuals - all in poor to moderate condition, with no chicks or juveniles detected and low genetic diversity - suggesting a population under stress and requiring management planning to safeguard potentially unique genes while improving genetic health.

Method	Pros	Cons	Usefulness for management decisions
Call count monitoring	Low cost Trends over time Community engagement	Only calling adults detected Variable quality (weather, hearing, other noise)	Shows where kiwi are Some individuals/pairs recognised Limited for demographics
Acoustic Recorders	Long term recording Confirms presence/absence	High data processing demand Only detects adult calls No distance, direction or individuals recognised	Presence confirmation Limited for demographics
Cameras	Non-invasive Detects other fauna (including predators)	Low kiwi detection	Presence confirmation Predator presence Behaviour of birds Limited for demographics
Dog surveys	**Detects all ages** **Provides demographic data** **Provides health data**	**Requires skilled teams** **Limited season** **Requires permits**	**Most informative – essential for health, density and/or genetic sampling**

The kōrero that followed underscored that these challenges are shared across many sites and cannot be solved by any one organisation. Participants asked whether invertebrate studies should be included to understand food availability on islands, and whether human-made structures could assist kiwi during droughts. The presenters noted that kiwi cannot easily be provided artificial environments, but artificial shelters, water provisioning, wetland restoration, careful vegetation management, and pest control can help. Questions about animal welfare on Motuora led to a discussion about determining management intent before deciding on actions. For Kawau, attendees asked whether it could serve as a "control" for low-genetic-diversity populations; Lesley and Tineke explained that no transfers are planned at present, and the priority is continued monitoring, as the population may also be ageing. The session ended with a clear message: informed, collaborative decision-making is essential, and the future of kiwi conservation depends on multiple partners contributing data, expertise, mātauranga, and shared responsibility.

Wrap up day 1 (Isabel Castro)

Isabel closed Day 1 by reminding the hui that kiwi density is not a one-size-fits-all metric. What is "normal" varies by site, history and stage of population recovery: newly established or recently supplemented populations often show high chick production and a skew towards younger age classes, while long-settled populations may stabilise with fewer recruits but strong adult survival. Sites such as pōnui show extremely high local densities (2-9 kiwi/ha) yet the birds appear healthy; conversely, high numbers alone do not automatically indicate a welfare crisis. Isabel urged everyone to resist alarmist conclusions and instead to apply measured, evidence-led thinking: consider age-structure, recent recruitment, habitat, condition and seasonal effects (for example drought), and interpret data in that broader context.

She also highlighted clear behavioural and welfare signals that should prompt action: increased daytime activity, poor body condition, or unusual mortality events (including those linked to karaka poisoning or water-trough hazards during drought) are real warning signs. Islands present particular management dilemmas - droughts and limited dispersal can produce periodic welfare problems even where densities appear high. Isabel's core message was practical and pragmatic: know your population (who, how many, what age classes), monitor regularly, and use established surveillance tools (call counts, dog surveys, health checks) so managers can distinguish normal demographic patterns from genuine decline or suffering.

Finally, Isabel issued a direct call to those with management responsibility: decide and act where required. Thinking and discussion are essential, but managers must pair those discussions with clear, timely decisions - whether that is targeted welfare intervention, recalibrated harvest for the purpose of translocations or translocation thresholds, or scaled-up predator and habitat work. She acknowledged the excellent engagement of landowners and communities.

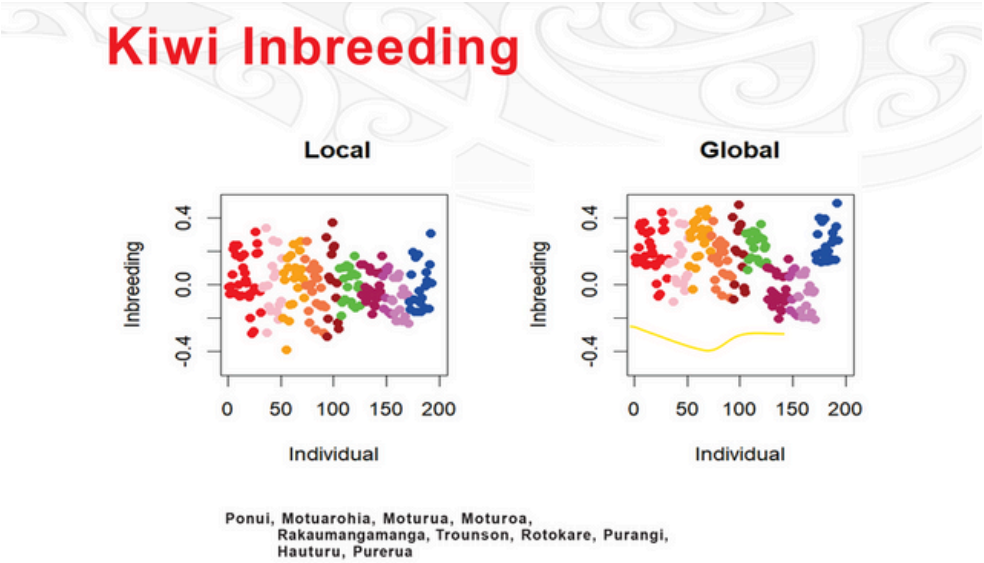
Presentation Summaries (Day 2)

Are Northland kiwi inbred? (Bruce Weir)

Bruce Weir's presentation explored the concept of inbreeding and how it applies to Northland brown kiwi, beginning with a clear explanation of what inbreeding means in population genetics. Inbreeding refers to the mating of related individuals, resulting in offspring with a higher probability of inheriting identical copies of genes from shared ancestors. Bruce explained that understanding inbreeding requires context: offspring of unrelated parents have an inbreeding coefficient of zero, while offspring of first cousins sit at around 6.25%. But these numbers hold meaning only when paired with knowledge of how related the parents were to begin with, especially in small or historically isolated populations. Drawing parallels from human populations - including societies where cousin marriage is forbidden, permitted, or culturally common - he highlighted that inbreeding is neither rare nor inherently catastrophic, although high levels of homozygosity can increase the risk of recessive diseases. Modern studies such as Clark et al. (2019), based on data from 1.4 million people, show measurable effects in humans, but translating this directly to kiwi requires caution.

Bruce then provided a broader evolutionary context through the 1000 Genomes Project, which sampled 26 human populations worldwide. He described how human genetic diversity reflects deep evolutionary history: African populations show the greatest diversity because they are the oldest, while populations that dispersed more recently carry only a subset of that variation due to genetic drift. He used this model to explain why small or isolated populations - whether human or kiwi - do not necessarily exhibit extreme inbreeding, but may show reduced diversity due to drift and founder effects. Importantly, Bruce noted that we cannot directly calculate "true inbreeding" in kiwi; instead, we infer it through allele sharing using tens of thousands of SNPs. These markers allow comparison of within-individual and between-individual genetic patterns, revealing whether birds are more or less related than expected.

Using this approach, Bruce presented a kiwi inbreeding table, showing that at a local level, Northland kiwi populations sit close to zero - indicating little evidence of problematic inbreeding within each site. What differences do exist appear to reflect the genetic diversity (or lack thereof) of their founding populations rather than recent inbreeding. Some populations showed negative values, meaning they were more diverse than the reference group, while others -particularly some Northland groups - showed higher global relatedness, consistent with small founder numbers. Overall, Bruce emphasised that Northland kiwi are genetically very similar, and the differences among populations are modest rather than alarming. He cautioned that individual SNPs contribute little to fitness, so these diversity measures do not automatically predict biological outcomes such as survival or breeding success.



The kōrero then turned to what these findings mean for conservation. Bruce argued that isolated populations will inevitably become more inbred over time, especially if kept behind fences or confined on predator-free islands without the ability to disperse or mix naturally. He advised against “penning up” kiwi populations, supporting instead the creation of habitat corridors and opportunities for natural movement. Rod Hitchmough echoed this, noting that while current populations may still appear healthy due to the presence of long-lived founders, the impacts of drift and inbreeding can take decades to manifest. Acting early - rather than waiting for signs of decline - was seen as essential. The discussion also explored whether genetic similarity across populations leaves room for local adaptation; Bruce did not claim expertise on adaptation, but noted that high allele sharing suggests limited divergence, meaning there may be scope for mixing where appropriate.

A significant part of the discussion centred on mātauranga Māori, whakapapa, and iwi perspectives on inbreeding, mixing, and the uniqueness of local kiwi lineages. Arvay Armstrong-Reid highlighted that while inbreeding is not foreign to Māori knowledge systems, it has traditionally been governed through strict tikanga and deep understanding of whakapapa. She expressed concerns that modern scientific decisions around mixing or translocation often occur without adequate engagement with hapū, whose ancestral relationships with kiwi guide their views on maintaining lineage integrity. Others, including representatives from Te Roroa, emphasised that conversations about tomo (strategic pairing), whakapapa, and movement of manu must be grounded in tikanga, kanohi ki te kanohi dialogue, and local decision-making. The sentiment was clear: science must walk alongside mātauranga, not ahead of it.

The session concluded with reflections on governance and decision-making. Tim Robinson noted that while the 50 km rule and genetic frameworks are valuable guides, they were never intended to be rigid rules. Instead, DOC and partners should be courageous and flexible - using science, tikanga Māori, and local knowledge together to make context-specific decisions. Participants agreed that while Northland kiwi show limited genetic differentiation and no evidence of harmful inbreeding, management must still prevent long-term isolation, respect whakapapa, and ensure hapū maintain agency over the future of their manu. Bruce's overarching message was both scientific and philosophical: genetics tells part of the story, but long-term resilience depends on movement, connection, cultural stewardship, and thoughtful planning for the generations ahead.

Kiwi DNA database (Isabel Castro/ Simon Hills)

Isabel began by outlining the widespread and fragmented state of kiwi DNA samples across Aotearoa - held by universities, researchers, independent projects, iwi-led initiatives, and historically through the Kiwi Recovery Group. For many hapū who carry kaitiakitanga over kiwi in their rohe, understanding where samples are stored, how they are treated, and how they may be used over time is critically important. When this project began, Isabel visited multiple sites and asked mana whenua how they wished samples to be managed; the guidance varied widely, highlighting the need for a consistent, culturally grounded framework. She noted that global conversations are moving toward greater respect for Indigenous genomic sovereignty, and Aotearoa must do the same. As more people propose collecting new samples, the sector must first consider capacity - there is limited freezer space, limited funding, and significant responsibility attached to each sample.

Simon expanded on the practical and ethical challenges of building a national kiwi DNA database. From a scientific viewpoint, more samples allow for deeper insights and more informed management decisions, but the main impediment is not the research need - it is how to safely store, govern, and fund the processing of high-quality DNA. He outlined the different sample types and storage requirements: blood stored at −80°C provides the highest DNA integrity but requires expertise and can be difficult to collect; pinfeathers are simpler, less invasive, and surprisingly durable, with some feather samples still viable after 70+ years. Simon described developing a genomic repository that balances research needs with Māori data sovereignty - for example, the Aotearoa Genomic Data Repository (AGDR) allows researchers to see that data exist but requires engagement with kaitiaki before access is granted. Massey University, Manaaki Whenua, and others are exploring how such systems could serve kiwi conservation while ensuring hapū and iwi retain authority over their mātauranga and biological heritage.

The discussion raised important questions about sovereignty, consent, data access, and standardised sampling protocols. Participants asked about the level of consultation undertaken during the development of AGRD and highlighted the need for wider, national-level engagement with iwi and hapū. There was strong interest in establishing consistent standards for how samples are collected, stored, and sequenced - for example, batching samples to reduce costs, freezing feathers and blood correctly, taking samples opportunistically from deceased birds, and ensuring that all handling complies with permits and animal welfare standards. The kōrero also acknowledged the need for clear procedures around what happens to physical material after DNA extraction, whether remains are returned to the whenua, and how long-term repositories can remain culturally appropriate. The overall message was unified: a national kiwi DNA database is valuable and necessary, but it must be built on strong science, transparent governance, and deep partnership with tangata whenua, ensuring kaitiaki have oversight of how the genetic legacy of their manu is stored, accessed, and used into the future.

Kiwi translocations: site readiness (Tineke Joustra)

Tineke outlined Save the Kiwi's growing involvement in translocations (more than 650 to date – at a scale which has never been done before in kiwi recovery history) and kōhanga kiwi, noting major sites such as Motutapu (coming online soon) and Maungatautari, and increasing interest from new community projects wanting to prepare for kiwi. Because DOC permitting can be slow, the aim is to streamline the process by helping projects understand what "site readiness" really requires. Successful translocations must demonstrate the potential for a self-sustaining population, provide a measurable conservation benefit, and align with Kiwi Recovery Group (KRG) goals. To support this, Save the Kiwi has developed a two-stage assessment that begins with clarifying the purpose of the translocation (reintroduction vs supplementation), understanding neighbouring kiwi populations, and assessing habitat size, quality, climate considerations, predator control, and – critically - stakeholder alignment.

A major focus of the framework is ensuring habitat is large and safe enough to support 100+ pairs of kiwi, with high-quality vegetation, adequate invertebrate availability, and long-term predator management, including stoat control to best practice and clear ferret detection and response planning. Dog management is identified as one of the most complex and essential components, requiring behaviour-change approaches and early commitment from communities. Connectivity must also be considered - what happens when kiwi disperse, and will surrounding areas keep them safe? To guide consistent decision-making, the KRG is drafting national translocation guidelines identifying when transfers are appropriate and when risks (e.g., isolation, small habitat size, dog/ferret pressure) make them unsuitable. The assessment process includes clear scoring - Red (not ready), Orange (significant work needed), Yellow (minor improvements), Green (ready to progress) - to help reduce delays in DOC approvals and ensure projects understand exactly what needs to be addressed.

Tineke emphasised the need for early and ongoing involvement of iwi and hapū, using examples such as the partnerships with Ngāi Tai ki Tāmaki (Motutapu) and Ngāti Koroki Kahukura (Maungatautari). Community commitment, land access, long-term funding, and capacity to maintain predator control and monitoring for decades are all essential. Once a site meets readiness criteria, Save the Kiwi can support training, technical advice, identification of release areas, and training to allow projects to do post-release monitoring (typically 2-3 years), which helps track population outcomes and share learnings. In discussion, Tamra Gibson (DOC) reinforced the importance of involving iwi and hapū from the outset - including early conversations about protocols for dead kiwi - and encouraged looping DOC in before finalising plans to streamline the permitting pathway. Arvay further stressed that engagement with mana whenua must occur first, not after community and landowner discussions, ensuring that translocation efforts begin with and remain grounded in kaitiaki leadership.

Discussion 1: Science conversation: genetics, research needs, and integrating mātauranga māori

The science-focused discussion drew together researchers, kaitiaki, and practitioners to reflect on the current genetic knowledge base for kiwi and the implications for future management. With newer genomic tools offering far better resolution than what existed when the 50 km rule was first proposed, participants agreed that the rule - originally based on limited genetic distance estimates - may now warrant reassessment. Advances such as GBS (genotyping-by-sequencing), landscape genomics, and Fst-based genetic distance measures provide more precise insights into population structure, dispersal, and relatedness. However, the conversation emphasised that these tools depend on high-quality samples (ideally blood), which can be difficult to obtain, especially in colder southern regions where veins collapse more readily. Despite these challenges, researchers agreed that the genomic framework now available for kiwi is robust, offering a solid platform for refining management approaches and informing DOC's decision-making - though several speakers noted that DOC often struggles to apply these data confidently, leading to overly cautious or inconsistent decisions.

From this scientific foundation, the kōrero moved to deeper questions about kiwi origins, molecular clocks, and the limits of what DNA can reveal about the species' ancient whakapapa. Participants highlighted similarities between scientific and mātauranga narratives - for example, iwi observations of historic species such as giant eagles aligning with geological and evolutionary evidence. There was strong acknowledgement that mātauranga Māori has long held ecological insight into kiwi behaviour, movement, and local characteristics, yet is often under-utilised or siloed within individual iwi/hapū. The group explored how Māori knowledge can sit alongside genomic science to strengthen research and management, noting that Māori are not a homogeneous group and that each iwi/hapū brings its own tikanga, priorities, and relationships with kiwi. A recurring theme was the need for genuine engagement at the hapū level, particularly in relation to translocations, research design, and data governance, ensuring that scientific directions reflect cultural values and long-standing relationships with manu.

The conversation then shifted to data sovereignty, sample management, and the future of kiwi genetic research infrastructure. With samples currently dispersed across labs, universities, and long-term freezers - many at risk of future disposal - there was clear concern about the lack of a national, culturally informed strategy for storing and governing both physical samples and genomic data. Speakers discussed the potential of the Aotearoa Genetic Resources Depository (AGRD) as a secure, long-term solution, provided its governance structure genuinely incorporates kaitiaki authority and cultural data labelling (such as whakapapa-based metadata, provisos for use, and hapū permissions). Hapū participants stressed that access must be carefully managed, with clarity around who can use data, for what purpose, and how benefits return to communities. A strong aspiration emerged to build hapū-led research capacity, where whānau are trained and involved in data collection, analysis, and decision-making, ensuring research is not produced "about them" but with them. The kōrero closed with agreement that continued collaborative wānanga are essential, and that the next step is to consolidate and publish current datasets in a form usable by both scientists and kaitiaki, honouring both knowledge systems and strengthening the future of kiwi conservation.

Discussion 2: Tomo opportunities

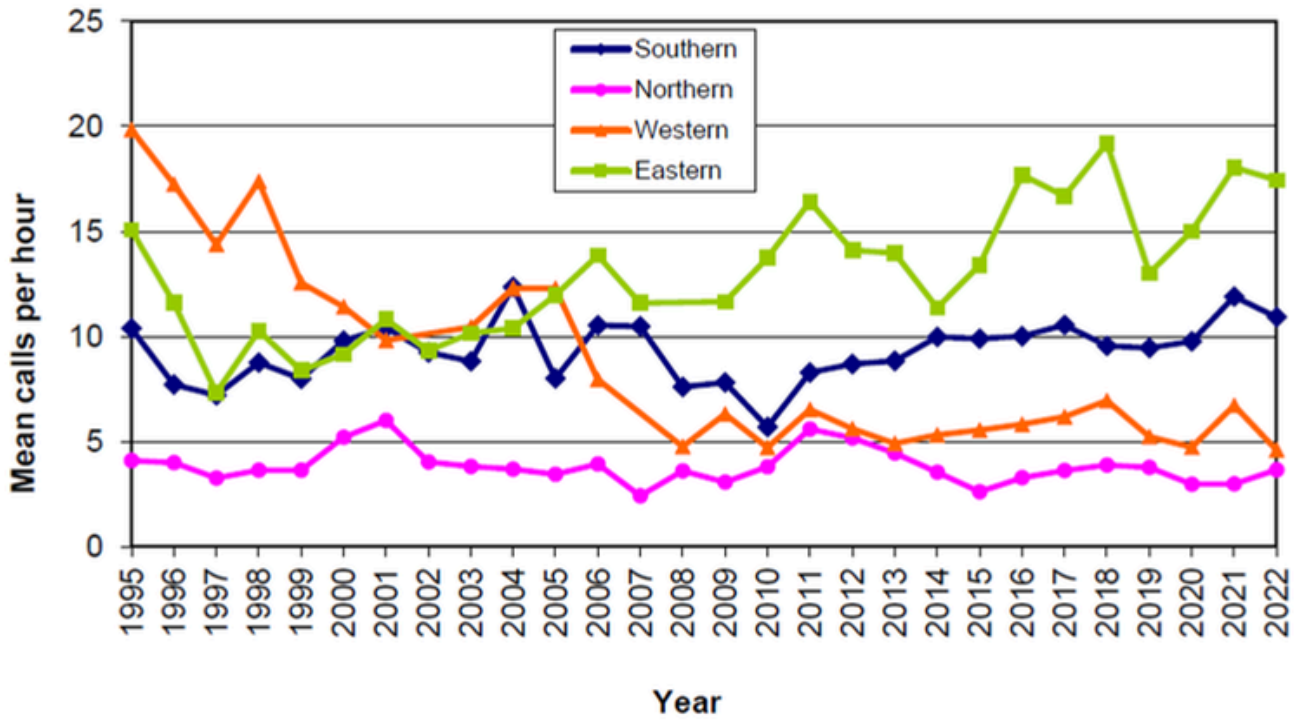
Alongside the science conversation was another discussion focused around the concept of tomo and its relevance to kiwi management. The kōrero on tomo highlighted the importance of mana whenua leadership in shaping future kiwi translocations, supported by community partners, practitioners, and government agencies. Participants emphasised that the current 50 km rule should function as guidance rather than constraint, with pathways (ara) developed through informed decision-making, strong technical advice, and shared values across iwi, hapū, and agencies. Kaumātua reflected on traditional understandings of tomo, noting that the practice embodies relationship-building, reciprocity, and careful judgement - principles that differ significantly from the hypothesis-driven nature of Western science. With these perspectives in mind, participants explored opportunities to bring kiwi from a wider range of areas when appropriate, acknowledging the generosity of iwi such as Ngāti Hine who have gifted kiwi in the past, and recognising that it may now be time to gift back.

A central theme was mahi tahi - working together. Effective tomo requires not only monitoring after translocations but also robust assessment beforehand: understanding the health, population trends, and genetic profile of both source and recipient sites. This approach ensures that translocations support long-term resilience, cultural aspirations, and species recovery. Participants stressed that translocation is never a "one-and-done" action; rather, it is an adaptive, intergenerational process that must be continuously evaluated, refined, and guided by both mātauranga Māori and science.

Northland kiwi call count survey update (Tamra Gibson/ Ngaire Sullivan)

Tamra and Ngaire presented an update on the long-running Northland kiwi call count programme, one of the most comprehensive datasets for kiwi anywhere in Aotearoa. Annual call counts have been undertaken since 1995 across 24 core sites, expanding in recent years to nearly 300 listening stations thanks to extraordinary support from volunteers, community groups, and mana whenua. This dataset provides invaluable long-term insight into population trends, particularly within Northland where sustained community involvement makes it one of the strongest regional monitoring programmes in the motu. While coordination of the listening effort remains robust, Tamra noted challenges with analysing and publishing results - partly due to the programme's scale and partly because North Island brown kiwi are no longer classified as "Threatened", leading to a re-prioritisation of DOC funding towards other at-risk species such as matuku-hūrepo (bittern) and tara iti (fairy tern). Partnerships between NRC, Kiwi Coast, and Save the Kiwi have stepped in to help bridge this gap, with an acknowledgement to Emma Craig who has written the reports annually for many years. A new report writer, Katie Gibbs, has been identified to bring the last few years of data together in a consolidated publication.

Ngaire provided an update on the Kiwi Coast Kiwi Listening App which is now in their direct management. Improvements include autosave functionality, a desktop platform for data viewing and the ability to map calls to check location data. This development not only improves data accuracy and user experience but also opens the door for integration with platforms like TrapNZ to better align pest management with areas of known kiwi presence. Hugh highlighted how Northland's decades-long dataset has already proved instrumental - for example in Save the Kiwi's successful SOIK application - and expressed enthusiasm for updating the analysis now that almost 30 years of call count data are available.



Conclusion

Over two full days of kōrero, presentations, and workshop sessions, this hui brought together many stakeholders to reflect on the current state of kiwi populations, the challenges facing recovery efforts, and the opportunities ahead. What emerged clearly was a shared commitment to the long-term wellbeing of kiwi, alongside an equally strong desire to weave mātauranga Māori and western science more deliberately and respectfully into future decision-making. The discussions highlighted the success stories - thriving community-led projects, rapidly growing populations where predator control is strong, and the enormous gains made through kōhanga, islands, and translocations - but also the pressures: drought, site carrying capacities, limited genetic diversity at some sites, and the need for more consistent, coordinated management approaches. A central theme throughout was that none of this work can be done alone. Mahi tahi - collective, cross-sector effort - remains the foundation of kiwi recovery.

The hui also provided space for deep reflection and debate around genetics, local adaptation, translocation rules, island management, phenotypic plasticity, and the future of the 50 km rule. Stakeholders voiced a strong desire for more flexible, evidence-based frameworks that acknowledge the new genomic tools now available, alongside the cultural values, whakapapa relationships, and tikanga of each iwi and hapū. Conversations around tomo highlighted just how important it is to ensure Māori-led processes determine how whakapapa is protected, shared, or interwoven through translocation decisions. Equally, the science sessions underscored how much knowledge has advanced, how many questions remain, and how vital it is to ensure data sovereignty, transparent storage of samples, and co-designed research directions. Across every session, the message remained clear: kiwi conservation will only thrive when science, mātauranga, and local leadership walk together.

Next steps

- Prepare and circulate the full minutes from the hui to ensure transparency, accuracy, and a shared record of decisions, questions, and action points (assigned to Tineke - Save the Kiwi)
- Convene a follow-up meeting of the scientists and technical experts to refine areas of consensus, identify remaining uncertainties, and propose an updated framework that better integrates genetic evidence, mātauranga, and practical management realities. (assigned to Emily King - chair Kiwi Recovery Group)
- Develop or refine a unified management plan that incorporates these discussions -ensuring it is co-created with mana whenua, grounded in both science and tikanga, adaptive to new information, and practical for decision makers and project teams to use (to be assigned).

Key closing reflections from participants

Te Roroa representatives reminded the group that the stories handed down to them carry weight, responsibility, and guidance - they are not simply narratives but anchors of identity, environmental understanding, and cultural practice. The challenge moving forward is to fully understand these stories and embed them in the way kiwi are managed, recognising that while the scientific mahi is strong, the wisdom of kuia, kaumātua, and hapū must be equally honoured and integrated.

Fred Tito (Te Parawhau) spoke powerfully about responsibility, identity, and intergenerational duty. As the greatest predator on earth, humans have an obligation to te taiao and to the manu that once flourished everywhere. He acknowledged the dedication in the room and emphasised the need to resource rangatahi so they can carry this work forward. Fred encouraged participants to envision not boundaries, but corridors - pathways that reconnect landscapes and restore the ability for kiwi and other species to move freely, well beyond an arbitrary 50 km limit. Above all, he urged that while coming together is important, listening to each other is essential. Only through genuine, respectful kōrero can we build a shared future where our mokopuna will still hear kiwi calling in the night.