Submission

Department of Conservation
Action for nature: Implementing New Zealand's Biodiversity Strategy 2025–2030 public consultation
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MCGUINNESS INSTITUTE
TE HONONGA WAKA

1.0 Introduction

The McGuinness Institute (the Institute) welcomes the opportunity to submit on implementation of New Zealand's Biodiversity Strategy 2025–2030 (the Strategy). We would like to thank the Department of Conservation (DOC) for inviting feedback on the Strategy. The Institute would welcome the opportunity to make an oral submission if possible. Please do not hesitate to contact us if you have any further questions on the ideas discussed below. Protecting the environment for future generations is critical, and executing a strong biodiversity strategy is an essential part of this.

The Institute's submission includes:

1.1 About the Institute

The Institute was founded in 2004 as a non-partisan think tank working towards a sustainable future for Aotearoa New Zealand. Project 2058 is the Institute's flagship project focusing on Aotearoa New Zealand's long-term future. Because of our observation that foresight drives strategy, strategy requires reporting, and reporting shapes foresight, the Institute developed three interlinking policy projects: *ForesightNZ, StrategyNZ* and *ReportingNZ*. Each of these tools must align if we want Aotearoa New Zealand to develop durable, robust and forward-looking public policies. The policy projects frame and feed into our research projects, which address a range of significant issues facing Aotearoa New Zealand. The 11 research projects are: *CivicsNZ, ClimateChangeNZ, EcologicalCorridorsNZ, GlobalConflictNZ, OneOceanNZ, PandemicNZ, PublicScienceNZ, ScenariosNZ, TacklingPovertyNZ, TalentNZ* and *WaterFuturesNZ*.

The Institute has a significant interest in ocean management in Aotearoa New Zealand and we have been undertaking research on long-term ocean management as part of our project *OneOceanNZ*. This is an ongoing research project that aims to contribute to a wider discussion on how we might best manage our oceans and exercise stewardship in order to maintain a healthy and productive ocean. We continue to look at public policy solutions around ocean governance, as it is an important long-term issue for New Zealand.

1.2 Concerns over this submission

We are aware along with the biodiversity strategy and implementation plan, there are also three Predator Free related documents (see full list below). These strategy and planning documents are disconnected and should be mapped as a hierarchy – arguably the Predator Free strategy is a sub-strategy of the biodiversity strategy and should form part of the implementation plan.

The relevant documents we are aware of include:

1. Biodiversity Strategy 2020 (time horizon is to 2050),
2. Consultation on Action for nature: Implementing New Zealand's Biodiversity Strategy 2025–2030 (time horizon is to 2030),
3. Towards a Predator Free New Zealand (2020) (often referred to the PF2050 strategy, the time horizon is 2020 to 2050),
4. Predator Free 2050 Interim Implementation Plan (2024) (time horizon is 2024 to 2030), and
5. Predator Free 2050: Strategy review discussion document (time horizon is 2024 to 2030, and only mentions the PF2050 and not the Plan).

Hence the logical order should be something like this:

We consider that DOC needs to be careful with its language, particularly when submissions are open to public involvement. There is a significant difference between a strategy and a plan (although there are areas that they overlap). A strategy is a strategic document. It explores what options exist and why one option is selected over another. In other words, it is the means to the

end objective. In contrast, the detail of how to implement the agreed strategy becomes a plan. For example, the allocation of resources and allocation of tasks at specific points in time is a plan. In contrast, a review can be a review of a strategy or a review of a plan or both.

Given the above observations, we are not confident that we have responded appropriately as it is unclear what the purpose of the documents are and how they fit together. For consultation which aims to get the views of the public, this creates confusion and may result in submissions that do not provide DOC with the answers they are after.

1.3 Concerns about the transparent use of AI

The Institute recently prepared and published *Think Piece 43 – Unlocking Government documents with AI*.[1] Based on this work we learned a great deal about the risks and opportunities of applying AI is a government setting. Given these insights, the Institute now has a policy of requesting every organisation to:

- clarify how AI is expected to be used to analyse and report on public submissions when inviting submissions from the public
- prepare a public report on how AI was used to collate ideas and present the report to decision-makers when writing up submissions from the public.

Key information in both cases should include: (i) the AI tool (such as Google NotebookLM), (ii) the number of submissions that were read in full or in part by a human versus those that were only read by AI, (iii) how the AI results were verified as correct (i.e. the audit process), and (iv) a summary of the errors found as a result of the review process.

Furthermore, AI should be used for the benefits of citizens and submission processes should be reconsidered given this new tool.

1.4 Summary

New Zealand has the highest proportion of threatened species anywhere in the world.[2]

Once these species are lost, we cannot get them back. Protecting New Zealand's biodiversity is an intergenerational project and it is important we get this right. We need to design and implement a biodiversity strategy that prepares for the risks, opportunities and changes over the long term. It is important this Strategy provides certainty for all stakeholders so they can commit to plans and uphold them over the long term, even as governments and Ministers change.

This Strategy also needs to consider how the environment is interconnected with and is responsive to the combined crises of climate change and biodiversity. Rather than focusing on individual flora and fauna species, we need to consider the best way to protect the entire ecosystem, including coastal and marine areas. At this stage we do not know how vulnerable our livestock, horticulture and native species will be to the impacts of climate change (including temperature, humidity, extreme weather, etc). Regular monitoring and research will be essential going forward.

Key concerns with this Strategy include the focus on individual priority species, the push to build private investment rather than public support (without any research into how to obtain private investment), and a lack of consideration of how the Strategy will protect the coastal and marine ecosystems. Throughout this submission, we have used Bhutan as a case study to show that – if done with a long-term focus – biodiversity protection is not just good for the planet. It can also

achieve optimal outcomes for tourism, education, the economy and the wider community in New Zealand.

New Zealand is unique in our geographical isolation, beautiful natural environment, strong community, economic reliance on exports, and powerful international brand. Unlike many other countries, we have an opportunity to develop and maintain a strong reputation as a leader in environmental stewardship and protection, whilst ensuring the country is a safe place for people, flora and fauna to thrive.

2.0 Specific responses to the Strategy's critical actions

In this section, the 13 critical actions – taken directly from DOC's proposed Implementation Strategy – are in ***bold blue italics***, and the Institute's responses are in black text below.

1. Develop a national picture of our most important biodiversity values and quantify the costs to protect and restore priority species and habitats.

This critical action fails to reflect the interconnected nature of New Zealand's environment, and that each individual habitat and species has an impact on the others. Prioritising certain species and not others may have impacts down the line. Furthermore, with climate change and natural disasters it is difficult to predict which species and habitats will come under pressure. We recommend, as do many experts and environmentalists, that New Zealand's natural system is looked at as interactive: an entire ecosystem, rather than individual flora and fauna species.

The Institute also agrees with the *Forest & Bird Guidance Document* that this action is concerning because a focus on 'priority' species and habitats may lead to selective conservation, with efforts targeting the most 'lovable' species at the expense of others.[3]

Targeting individual species and habitats also means that those we know little about (such as marine or fungus species) will be less likely to receive conservation protection and support. As mentioned above, all species are ecologically significant and their loss may have significant and unknown consequences.

A longer-term and stronger action would be to look at measuring New Zealand's species as a whole, and design a system that tells a narrative of the interconnections between species and develops greater protected areas for flora and fauna across New Zealand (including both land and sea).

2. Tackle biodiversity loss by agreeing on priority programmes to:
- ***a. protect and restore high-priority degraded habitats (e.g. impacts from browsers, weeds, predators)***
- ***b. recover native species***
- ***c. develop nature-based solutions for biodiversity and climate change (e.g. wetland restoration), in light of environmental and climate change responsibilities.***

As mentioned above, focusing on individual species fails to consider the interconnected nature of the environment and species' reliance on one another to thrive.

We would also like to see reference to New Zealand's international biodiversity commitments, which are outlined further below in **Recommendation 7.**

3. Develop a biodiversity investment prospectus to attract and direct external investment into biodiversity priorities.

Although we agree with this concept in principle, we do not consider that it will work in practice. It would be useful to see where the government is hoping to get external investment from and what research has been done in this area. Biodiversity protection is a significant expense and it is risky to leave it solely in the hands of private investors, and/or without significant oversight. Biodiversity should not be 'monetised', as it is the responsibility of all New Zealanders to protect.

Importantly, it will be more difficult for DOC to take on its core protection role if it is funded by a company that breaches environmental standards. In New Zealand, DOC acts as a law enforcement agency to protect our natural and historical heritage. DOC officers, specifically Warranted Officers, are trained to monitor, promote and enforce compliance with conservation laws. They investigate offences, issue warnings or fines, and can even prosecute in court for serious breaches. Furthermore, DOC often advise on resource management issues and frequently provide expert analysis on legal cases and policy advice to Ministers. Employees of DOC are – in effect – acting as the environmental policeman in New Zealand, inviting the public to report illegal activity that negatively impacts the country's conservation resources, and encouraging voluntary compliance and promoting responsible behaviour.

As well as the issues mentioned above, external funding comes with risks and costs:

- It is likely to compound the issue of 'selective conservation', where species that are appealing to the public are more likely to receive funding.
- Reliance on external funding makes long-term planning difficult, and biodiversity conservation is a long-term issue.
- Private investment is much more likely to change as a result of changes in the economy, and we need New Zealand's biodiversity strategy to be consistent regardless of external factors.
- Private investment may come with terms and conditions that are inconsistent with the goal of protecting New Zealand's biodiversity as a whole.
- There is a risk private funding of public conservation may lead to greenwashing by companies. For example, salmon farms currently do not pay for the use of water space. In their operations, salmon farms also pollute the water space (both physically and visually) and have a high level of fish mortality. If the salmon industry use the narrative that they are working with DOC to save say a specific bird, that will be in the company's interest but not in the environment's interest. In that case, their environmental record may bring DOC's reputation into disrepute, and could position DOC in an invidious position as a defender of the environment. It will be harder for DOC to bring legal actions against a company that they are partnering with. There is also potential to create 'perception' risk. DOC's reputation is critical – acting ethically is as important as being perceived to act ethically.

As a result, we recommend:

1. It is prudent to ensure that DOC is well-resourced so it can cover core operational and administration costs of conservation without relying on external investment.
2. Research is undertaken to understand what quantity of private investment is likely, and what conditions, risks and costs might exist. The current economic environment is such that the amount of investment might be very small.

3. To reduce the potential conflict of interest, we suggest companies that pollute or negatively impact the environment in their day-to-day operations (e.g. forestry and salmon farming) are excluded from partnering/working with DOC.
4. To reduce the potential conflict of interest, we suggest DOC make it a requirement for companies to create a charitable organisation that they donate to, which then funds DOC projects. Although the conflict of interest would continue to exist, the funds in the charitable entity can only be used for a specific purpose and therefore provide some protection and safety for DOC, so that they are not compromised. Charitable status is achieved in New Zealand by applying to the Charities Services (part of the Department of Internal Affairs) under the Charities Act 2005. Furthermore, registration allows organisations to potentially gain 'donee status' for tax credit purposes.

4. Generate new revenue from public conservation lands and waters to invest back into biodiversity.

The Institute believes it is beneficial for DOC to review the fee schedules and processes for existing use of public conservation land and water activities; however, we suggest that the natural environment should remain as accessible as possible for New Zealanders. This may result in free access to national parks and tracks for New Zealanders, and a ticket system where visitors are required to make a compulsory donation which goes towards biodiversity protection and pest control.

We include below a case study of Bhutan, which has a strategy that focuses on high-value, low-volume tourism, and on charging substantial visitor fees to international visitors. This strategy would benefit New Zealand, and the money made could go towards biodiversity protection.

Case study 1: Bhutan – Bhutan's high-value, low-volume tourism, including a fee for international visitors
Since Bhutan opened up to tourists in the 1970s, its tourism strategy has always been to attract a low number of high-value visitors. The country has focused on developing a reputation as one of the most exclusive travel destinations in the world while working to protect Bhutanese communities and the environment from the impacts of mass tourism. As part of this strategy, Bhutan initially implemented a Minimum Daily Tariff. In June 2022, the Minimum Daily Tariff was replaced with a Sustainable Development Fee (SDF) for all international tourists.

When the country decided to reopen to tourism post-COVID, it was seen as an opportunity to reset the tourism industry. This started by significantly increasing the SDF (from US$65 to US$200 per person per day) and was combined with a stylish rebrand and new tagline, 'Believe'.[4] Dr Tandi Dorji, Bhutan's foreign minister and chair of the Tourism Council of Bhutan, said, 'COVID-19 has allowed us to reset, to rethink how the sector can be best structured and operated, so that it not only benefits Bhutan economically, but socially as well, while keeping carbon footprints low … in the long run, our goal is to create high-value experiences for visitors, and well-paying and professional jobs for our citizens … The priority is for Bhutan to preserve its culture and way of life. If we have to sacrifice tourism, so be it.'[5]

In June 2023, the Bhutanese Government amended the SDF to encourage longer stays and boost visitor numbers post-COVID – visitors who pay the daily US$200 fee for the first four nights of their trip do not need to pay for the next four days. Visitors paying the SDF for 12 days can stay the full month.[6] This was recently reduced to $100 per night, to encourage longer stays.[7] Visitors from neighbouring India will continue to pay their far lower rate of 1200 rupees (almost US$15) per night, which has not changed.

This update to the country's tourism strategy is an example of Bhutan designing policy for the long term, balancing economic development with other Gross National Happiness (GNH) pillars to benefit the whole community. 'Tourism is like minerals, to be protected for the future generation. The present generation might have to make sacrifices and lose some of our business in the short term, but in the long run, we all benefit,' said Mr Dorji.[8]

Bhutan says money collected from the SDF is used for 'investment in transformative programmes that sustain our cultural traditions, protect our environment, upgrade infrastructure, and build our resilience. Critically, it supports the development of training, mentorships and further education that will create long-term opportunities for our young people.'[9] The SDF income also contributes to free healthcare and education for all citizens.[10] If patients cannot be treated in Bhutan, the Government pays for them to be sent for treatment at hospitals in India.

During the Institute's recent trip to Bhutan, we noted how many Bhutanese people expressed gratitude for the policies that have allowed them to enjoy their quiet and peaceful country. Lower tourist volumes mean Bhutan's unique culture has been preserved and the country has avoided issues of mass tourism, many of which are evident in nearby countries like Nepal. Bhutan's conservation work has also benefited the country's international reputation, growing its eco-tourism industry and receiving glowing media coverage (for instance, the March 2023 *Tatler* travel essay titled 'Why Bhutan – home to one of the world's most intriguing royal families – is the last Shangri-La').[11] Bhutan has carefully marketed itself as a progressive and sustainable Himalayan kingdom, with former Prime Minister Tshering Tobgay's 2016 TED talk on the country's policy credentials receiving an impressive five million views.[12]

Implications for New Zealand

Despite being a major part of New Zealand's economy, our tourism industry has received criticism from both the private and public sectors for its fractured strategy. The experience in Bhutan suggests New Zealand would benefit from adopting a similar high-value, low-volume policy with a tourism fee. International tourists enjoy New Zealand's beautifully conserved public areas, use (clean and modern) public toilet systems, and throw their rubbish in well-maintained waste management systems. All of this costs money to build and maintain. Requiring tourists to pay an upfront fee for these costs will not only mean New Zealanders do not have to cover costs created by tourists, but will also enable us to ensure our public systems remain world-class while protecting the environment.

Low-volume strategies are sustainable: they minimise carbon emissions from mass tourism, promote eco-tourism and luxury travel, and mitigate issues such as environmental degradation and overcrowding. Our research suggests a successful tourist fee in the New Zealand context may not look the same as that in Bhutan. For instance, New Zealand may benefit from a smaller fee with a set time limit (e.g. only applies for the first two weeks to encourage longer stays), that has exceptions (e.g. does not apply to Australian citizens) and is more affordable (e.g. NZ$50 per day). Like Bhutan, New Zealand is already attractive to high-value tourists, and these tourists tend to be wealthier and stay for longer due to the time and expense it already takes to get here. A fee is unlikely to deter these tourists, and will also work to enhance the country's '100% pure' clean and green image. Protecting New Zealand's reputation for sustainability and our untouched natural environment will benefit both our tourism and export industries.

Images that form part of Bhutan's new 'Believe' brand, showing the country's focus on combining ancient traditions with bright modernity.

Source: Bhutan Department of Tourism (2023*).*[13]

5. Increase private investment in biodiversity by supporting business sector demand and system integrity: including private sector nature-based financial disclosures, reporting and investment.

There is a real opportunity to create a funding strategy that helps develop long-term protection of biodiversity and the environment. Page 23 of the Strategy Discussion Document does not give much detail on how this is anticipated to work, except that the Ministry for the Environment would be responsible:

> MfE would support and facilitate efforts by the private sector to develop a nature-based financial disclosure, reporting and investment system.[14]

As mentioned above, it is critical to make sure any private sector involvement is no-strings-attached. Introducing private sector disclosures, reporting and investment comes with risks that must be managed, and the system must be transparent and accountable. The financial details should be publicly available for transparency. It is recommended New Zealand looks to international examples to see what our trading partners are doing in this space and what might work best for our environment. The case study below is an explanation of 'Bhutan for Life' – a funding strategy that is designed to provide a long-term flow of investment for conservation of forests and protected areas in Bhutan. New Zealand could explore something similar. Any new mechanisms should be explored after careful consultation with relevant stakeholders.

Case study 2: Bhutan – Bhutan for Life – a new funding strategy

Bhutan for Life (BFL) is a forward-thinking funding mechanism designed to provide a sustained flow of finance to maintain forests and protected networks in Bhutan. Started in 2018 to permanently protect Bhutan's network of protected areas, which contribute to human wellbeing and biodiversity conservation, and improve resilience to effects of climate change, BFL is Asia's first Project Finance for Permanence model.[15]

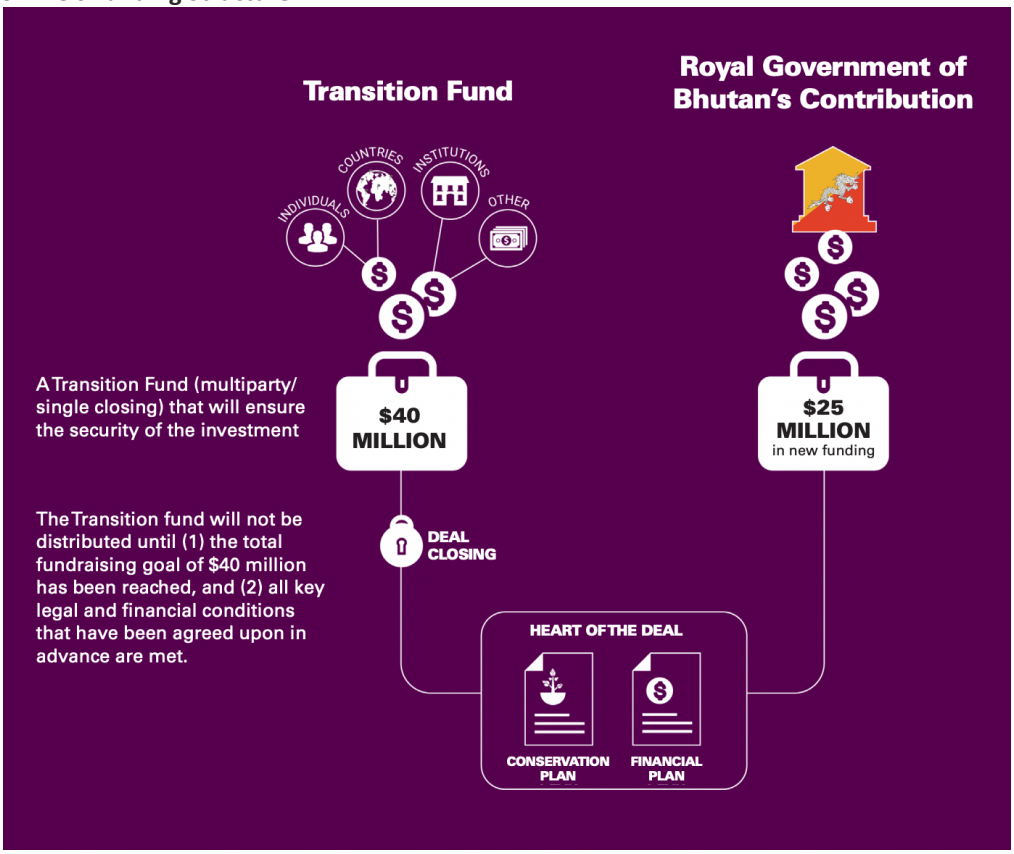
BFL is unique because it incorporates foreign investment and philanthropy into environmental management, with the eventual goal that Bhutan will cover these costs without foreign assistance.[16] The funding from the BFL model has been used for biodiversity conservation, species monitoring, habitat protection, developing ecological corridors and national parks, community education, waste management and working to promote gender equity.

Implications for New Zealand

New Zealand currently has a number of conservation and community projects designed to protect the environment and mitigate the impacts of climate change. However, local funding is often lacking, which means projects are not implemented. Unlike Bhutan, New Zealand does not utilise innovative combinations of public and international funding mechanisms for such projects. BFL is a funding alternative which allows a country to invest in conservation, even if it does not currently have all the funding required.

A New Zealand transition funding mechanism would allow large-scale conservation schemes (such as ecological corridors) to be implemented now, rather than sitting on the shelf until enough public funding is received. Starting conservation schemes as soon as possible will help New Zealand to meet its international commitments such as the Paris Agreement. If New Zealand is to achieve its international commitment to reduce net emissions by 50% by 2030[17] (currently five years away), large-scale projects to reduce and absorb carbon must begin now. Bhutan is a great example of implementing projects quickly and effectively, which could make a significant impact on New Zealand's carbon emissions. As the Chinese proverb says, 'The best time to plant a tree was yesterday. The second best time is now.'

Bhutan for Life's Funding Structure



Source: Bhutan for Life (2023)[18]

6. Increase the protection of biodiversity on private and Māori land by improving the accessibility and coordination of government support and incentives.

There is a great opportunity to reward people who are undertaking conservation and biodiversity protection on private and Māori land. We suggest consultation with key stakeholders and private land owners, especially Māori and the agricultural community, will be critical to ensure this is successful.

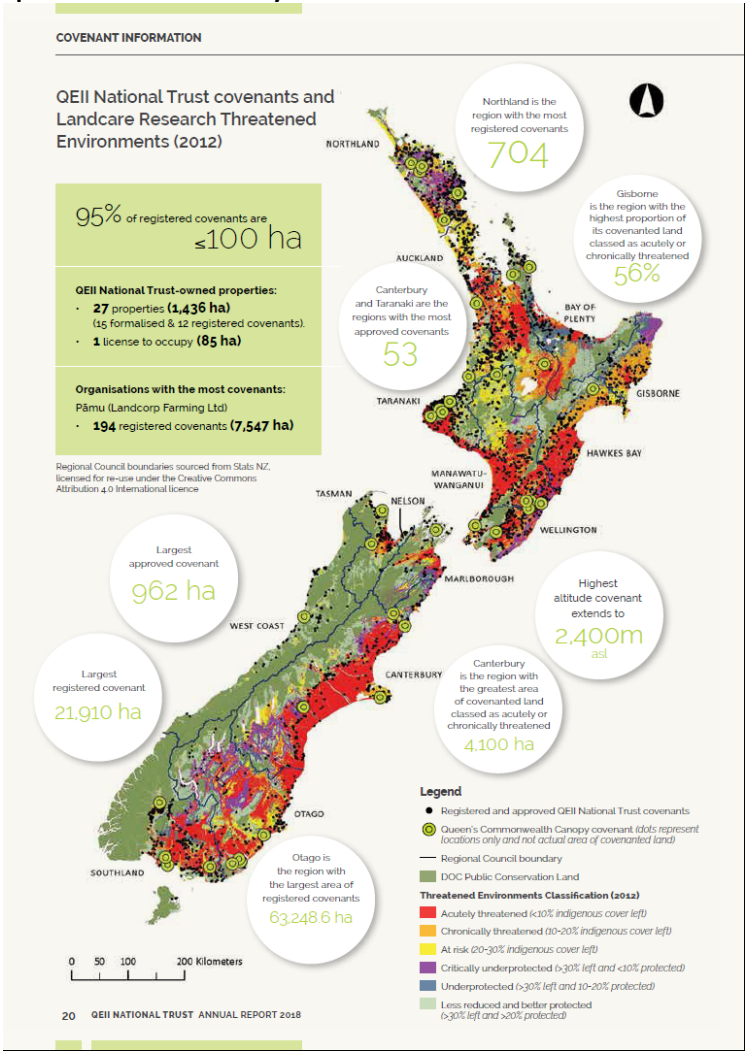
As mentioned above, this is a long-term strategy and it is recommended that protection of biodiversity could be achieved over the long term through legal protections such as covenants. We recommend that DOC build a relationship and collaborate with the Queen Elizabeth II National Trust (QEII National Trust), which has already been undertaking this work successfully across New Zealand for over 40 years (see Case study 3), and LINZ, which is in the process of encouraging tree planting on Crown pastoral land (see Case study 4). The opportunity to create ecological corridors between national parks could build on these two existing initiatives, creating a cost-effective mechanism to enhance our environment.

Case study 3: New Zealand – QEII National Trust in New Zealand – protecting land for generations to come

As explained in their own words, 'Queen Elizabeth II National Trust works in partnership with landowners to protect native biodiversity on their properties, forever. The landowner retains ownership of the land they are protecting. We provide the legal protection. Our land, our uniqueness, forever protected, for the future. Tō tātou whenua, tō tātou ahurei, ake ake ake, taonga, hoki te heke mai.'[19] What this means in practice is that the QEII National Trust supports private landowners in protecting their land for future generations.

The Trust has registered over 5246 covenants over private land in New Zealand since 1997, protecting areas from mining, development, and other uses that would harm the environment. Through its work, the Trust has successfully protected over 180,000 hectares of New Zealand for perpetuity.[20] This helps protect biodiversity and species habitats across the country, and also has climate change benefits.

QEII National Trust impacts across the country



Source: QEII National Trust (2025)[21]

Case study 4: New Zealand – Crown pastoral land

Crown pastoral land can be used by farmers in three ways: pastoral leases, pastoral occupation licences, and special leases. LINZ is working with Crown pastoral leaseholders to gauge their interest in planting trees on areas of their leases that are not suitable for farming and have low conservation value.

LINZ provides background on how this operates in New Zealand: 'Pastoral leases are the most common land use arrangement, and were created in the 1940s and 1950s under the Land Act 1948. They run for 33 years and can be continually renewed. We are not creating any new leases. Pastoral leases give the person holding the lease – the lessee – exclusive possession of the land, and the right to graze the land. Lessees need permission to carry out other activities on their lease. LINZ review the rent paid for pastoral leases every 11 years, basing the rent on how much stock the land can carry for pastoral farming.' [22] Refer to the map below for a visual of how this works in practice.

There are two processes in place: encouraging tree planting on Crown land and tenure review for some leaseholders that might enable additional conditions to be adopted.[23]

Location of Crown pastoral land

Source: LINZ website (2024).[24]

7. Agree and implement an achievable set of priority indicators for monitoring progress on national targets, monitoring the effectiveness of interventions, and meeting statutory and international reporting requirements.

A lack of baseline environmental data is a consistent issue that has come up in the Institute's research and work on conservation in New Zealand, particularly in terms of marine environments. As is commonly said by scientists, we cannot protect what we do not know. The more information we have on our native species and their habitats, the better placed we are to make conservation, planning and management decisions to protect the environment for future generations.

This gap in data is especially concerning in New Zealand's ocean management, as there is a gap in research on ocean species health. Without this information, we cannot offer protection to the species and ecosystems that need it. It will therefore be very useful to invest in science and research to set priority indicators for the environment.

We recommend these targets are:

- developed in consultation with all affected stakeholders (especially Māori)
- consistent with our international partners (e.g. Australia, UK, etc.)
- publicly available, and
- revisited regularly.

8. Support Māori to use knowledge systems, including mātauranga, in decision making and biodiversity management.

The Institute acknowledges Māori have a critical role as tangata whenua in Aotearoa and that we do not purport to represent or account for those perspectives in this work. The perspectives of Māori communities must be considered in biodiversity management, including how to preserve traditional practices, such as gathering kai moana.

It is noted further consultation is required to understand Māori cultural connections to the land and ocean, and how this Strategy will impact them. It is recommended any new biodiversity policies and strategies are formulated in close collaboration and coordination with Māori stakeholders.

9. Capture and embed the lessons from existing partnership-based delivery models for biodiversity and biosecurity management to inform decisions on future programmes.

See answer to question 3.

10. Encourage optimal investment in nature-based solutions, including the restoration and protection of native ecosystems for carbon and biodiversity benefits, by improving the evidence base, developing case studies and operationalising existing research.

This Strategy should consider how New Zealand could develop ecological corridors between our conservation areas to protect biodiversity and provide a number of other benefits.

Ecological corridors (also known as biological or wildlife corridors) act as 'green belts', and are protected areas designed to connect species habitats (or other conservation areas, such as reserves or national parks). The corridors are a nature-based solution that would protect biodiversity because they allow species to travel freely between areas. They improve habitats, protect species and their ecosystems from the impacts of climate change, mitigate against biodiversity loss, and allow native flora and fauna to thrive. Ecological corridors will also act as a carbon sink, benefiting the world as native forests absorb carbon and purify the air we breathe.

For more information on how these would operate in practice and for international examples, refer to **Recommendation 1: Implement ecological corridors** below.

11. Develop a cross-sector plan to address the most important capability gaps in the biodiversity system.

We recommend further programmes are developed to attract talent to nature-facing jobs across New Zealand. It is especially beneficial to provide meaningful work for people in regions or who do not have traditional qualifications. Providing long-term public funding to biodiversity and conservation projects will allow for people to plan long-term projects, which will attract and retain staff.

The Institute supports Forest & Bird's suggestion that programmes such as Jobs for Nature are an essential part of building New Zealand's biodiversity capability and attracting talent to the conservation industry.

> Capability gaps are a direct consequence of the Government's failure to prioritise our environment by defunding our universities and public sector agencies, causing subject matter experts to lose their jobs. The Jobs for Nature programme engaged and upskilled people who would not have normally considered a job in conservation, or had the opportunity, due to not having the specialist knowledge and experience. Losing Jobs for Nature meant losing those upskilled people and not having new

people coming through the conservation system to fill gaps. Mobilising all New Zealanders is fundamental to addressing the scale of the biodiversity crisis we face. However, it is paramount to prioritise and provide accessible and meaningful opportunities for New Zealanders to engage with nature first-hand, as this is crucial for building the emotional connections and sense of place.[25]

12. Increase New Zealanders' awareness of the value of our biodiversity, show how they can make a difference to biodiversity in their communities, and drive urgency and momentum for action.

As mentioned above, protecting New Zealand's environment is an intergenerational issue. Education, especially of the next generation, is therefore an essential part of developing a strong biodiversity Strategy for New Zealand. Below is a case study of how Bhutan educates the next generation on the impacts of climate change on biodiversity. This programme also assists with developing environmental monitoring data which can be used to monitor targets and produce frequent reporting.

Case study 5: Bhutan – Use observational data to engage youth with biodiversity and climate change
The Himalayan Environmental Rhythms Observation and Evaluation System (HEROES) Programme is a Bhutanese youth science programme which we believe could be replicated to great success in New Zealand. The Institute learned about this programme when we visited Ugyen Wangchuck Institute for Conservation and Environmental Research (UWICER) and met with Sangay Tiger in 2023. The programme started in 2014 as a way to both educate young generations about the environment and generate high-quality scientific data. In the programme, school students observe weather patterns and plant species, taking note of changes that occur. These observations are then compared with different years as a way of observing the impact climate change has on the weather and flora and fauna.

The aim is to gather environmental data and understand the impacts of climate change on weather and native biodiversity. The HEROES programme has generated high-quality data on climate change impacts in 20 cities and on the yearly life-cycles of 110 plant species. Over 400 students are involved each year, recording 2.8 million observations.[26] This climate data is then also available for public use, and can be accessed by anyone on the HEROES website.

Implications for New Zealand
Implementing a local version of the HEROES programme would help gather quality data on biodiversity and climate change in New Zealand. The programme could start small and expand across schools as its systems improve. The data can then be used to make educated environmental management decisions and feed into conservation policy. Engaging school groups to become invested in gathering data not only educates youth on how to make data-driven decisions, but also promotes awareness of the environment and inspires young people to get involved in responding to climate change and protecting biodiversity.
Developing responsible future citizens should be an important part of every country's strategy for the future. We think implementation of a programme similar to HEROES in New Zealand is a relatively simple policy idea which achieves benefits for education, conservation, science and the community. The more information we have on our native species and their habitats, the better placed we are to make conservation, planning and management decisions to protect the environment for future generations.

Examples of the data collection process and the data collected in Bhutan's HEROES programme

Source: HEROES – Himalayan Environmental Rhythms Observation and Evaluation System (n.d.)[27]

13. Establish cross-agency emerging risks capability for domestic biosecurity to horizon scan, share intelligence and support decision-makers in prioritising emerging risk management.

Given the Institute's focus, we clearly support this work. However, our view is that DOC should lead this work, *not* MPI. MPI is likely to provide some useful insights but their focus is too narrow to lead this work. MPI's focus is on growing and protecting New Zealand's primary industries, not the wider environment, and managing key systems to ensure the sustainability and success of these industries. We also consider you should add LINZ as a support organisation given the opportunity that Crown pastoral land provides (see Case study 4 above).

External parties could include Forest & Bird, Fish & Game, and the QEII National Trust (see Case study 3 above).

3.0 Recommendations to improve the proposed approach

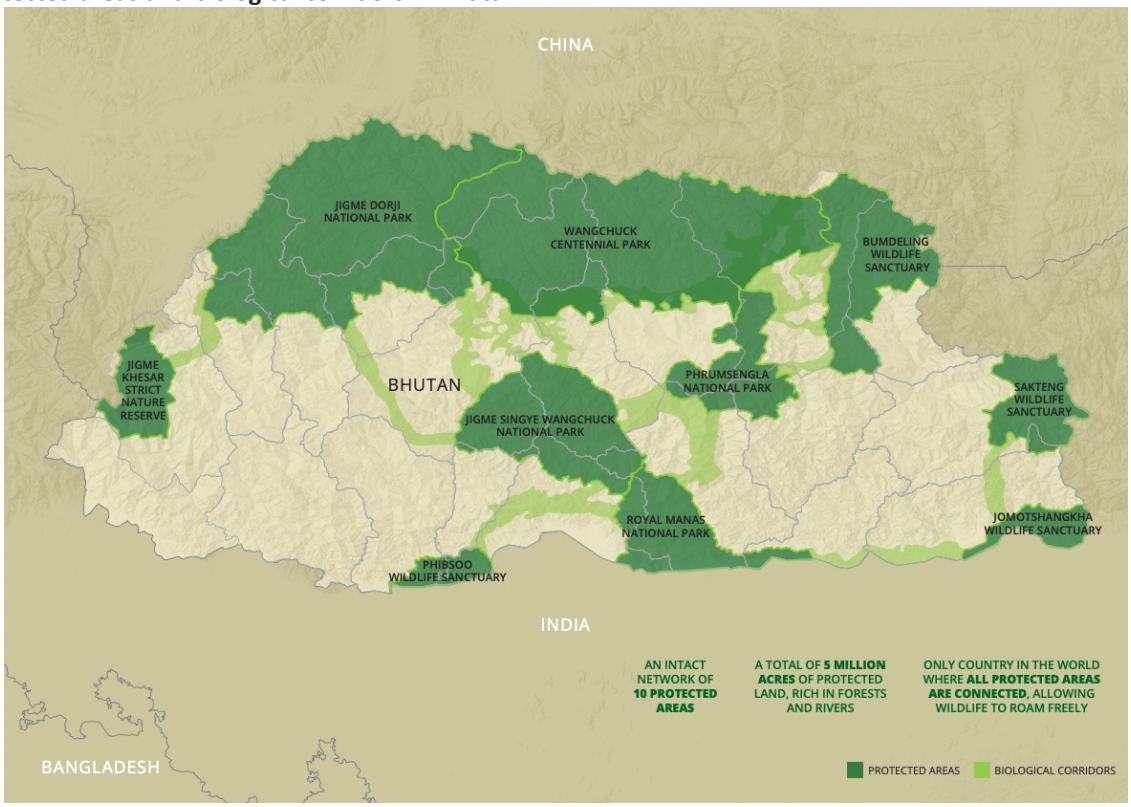
Recommendation 1: Incorporate ecological corridors as a tool to protect biodiversity, capture carbon and mitigate the impacts of climate change

The Institute recommends the Strategy incorporates development of ecological corridors to connect national parks (and other conservation areas) along the length of the country. This is not a new idea and has been implemented internationally, and in Aotearoa (although on a much smaller scale). It is suggested this project would begin with the country's first ecological corridor of scale, using stewardship land currently owned by DOC to connect national parks on the west coast of the South Island.

Corridors allow species to travel freely between areas, improving their habitat, protecting them from the impacts of climate change, improving biodiversity and allowing native flora and fauna to thrive. Successfully implementing corridors will increase the amount of forest cover in Aotearoa, creating carbon sinks to mitigate our increasing carbon emissions, and purifying the air we breathe.

Refer to the map and case study below to see an international example of these corridors working to benefit biodiversity, the climate, the community, tourism and the economy.

Protected areas and biological corridors in Bhutan



This map shows Bhutan's protected areas (dark green), connected by ecological corridors (light green). Map source: Bhutan for Life (2023).[28]

Case study 6: Bhutan – Incorporate ecological corridors as biodiversity protection

In New Zealand, the total amount of greenhouse gas emissions removed by forest land each year between 1990 and 2020 ranged from 19.1 million tonnes (in 2019) to 36.4 million tonnes (in 2007).[29] This shows a huge opportunity for improvement. Bhutan is a world leader in this concept, with the country's forested areas already connected through a network of ecological corridors.

Presently, Bhutan is home to five national parks, four wildlife sanctuaries, one nature reserve, and nine biological corridors which connect these areas. There is also work being undertaken to create an additional tenth corridor, which would connect Bumdeling Wildlife Sanctuary with Sakteng Wildlife Sanctuary, as seen in the map above. These corridors are part of why Bhutan is considered a 'global biodiversity hotspot'[30] and has become a leading destination for eco-tourism.

Implications for New Zealand

Ecological corridors have been a strong focus of the Institute's climate change work – we have been investigating the idea since 2018.[31] In 2023, our meetings with conservation and government organisations in Bhutan confirmed that the country's corridors are not only a strong idea, they are also extraordinarily successful in practice. Forestry experts we met reported the corridors have allowed species (such as tigers and leopards)[32] to travel between protected nature areas, while also protecting ecosystems by promoting genetic diversity, helping make flora and fauna more resilient to climate change and extreme weather. Our meetings were invaluable for learning how corridors operate in practice, and understanding how they could be implemented within New Zealand.

Ecological corridors are effective when they connect national parks and large reserves. In New Zealand this could begin with stewardship land along the West Coast of the South Island, which in 2024 was reviewed by DOC.[33] The carbon-absorbing properties of ecological corridors would also make them an effective new mechanism for carbon credits based on native rather than exotic forestry. This is an idea the Institute will explore further, with a possible proposal to COP which could include other countries like Canada and Australia. This is a big idea and one that may enable New Zealand to reduce our carbon credit deficit in 2030. The need to reduce New Zealand's carbon debt by 2050 is discussed in the Institute's *Discussion Paper 2021/04 – An Accounting Dilemma: Does a commitment to purchase offshore carbon credits create a requirement to disclose that obligation in the financial statements of the New Zealand Government?*[34]

Recommendation 2: Implement constitutional protection of conservation areas for the long term

The current Strategy does not consider how we can protect biodiversity for future generations. We recommend it would also be beneficial to add a long-term goal to the Strategy that will protect land even as governments and Ministers change. With a constitutionally coordinated approach, all political parties and other stakeholders would more likely work together and deliver better long-term outcomes.

One international example of how this can be achieved is in Bhutan, which protects natural areas constitutionally: they are protected for perpetuity, allowing flora and fauna to thrive in conservation areas. Article 5 of Bhutan's Constitution states that a minimum of 60% of land should be covered by forest at all times, protecting conservation land for generations to come. In addition, low carbon emissions and sequestration of carbon in vast forests benefit biodiversity and mean Bhutan has received the title of the 'world's first carbon-negative country'.[35] This example is further discussed in the case study below.

Bhutan's planning process encourages long-term strategic thinking, a concept that is often neglected in New Zealand due to our relatively short three-year election cycle. Bhutan's government works with two types of strategic planning: a Five-Year Plan (currently up to the 12th edition), and a Ten-Year Plan.[36] The Ten-Year Plan involves designing a long-term strategic vision, and the Five-Year Plan outlines how this will be achieved, taking policy tools

into account. This holistic approach to planning means Bhutan is always looking forward, working to see how public policy can work for the whole community. For large and complex issues like protecting biodiversity, we need to implement policies and protections that operate over the long term.

Case study 7: Bhutan – Protecting natural areas constitutionally for the long term

The Constitution of Bhutan provides a high level of protection for the environment and assigns every citizen a role as trustee of the country's natural resources. It also gives Parliament the power to declare any part of the country a national park, wildlife reserve, protected forest, biosphere reserve, critical watershed or any other category protecting the environment. This long-term approach to environmental protection and conservation strategy is another area where New Zealand, and the rest of the world, can learn from Bhutan.

Bhutan's Constitution was written in 2008, making it one of the newest constitutions in the world, and it is interesting to see how it was written compared to New Zealand's much older Constitution Act of 1986. With the benefit of foresight, Bhutan has been able to research other countries' constitutions and imitate what works well. The country has incorporated constitutional elements from the UK, the USA and India while incorporating its own distinctive Bhutanese and Buddhist elements.

The Constitution of Bhutan 2008 Article 5: Environment

1. *Every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations and it is the fundamental duty of every citizen to contribute to the protection of the natural environment, conservation of the rich biodiversity of Bhutan and prevention of all forms of ecological degradation including noise, visual and physical pollution through the adoption and support of environment friendly practices and policies.*
2. *The Royal Government shall:*
   - *Protect, conserve and improve the pristine environment and safeguard the biodiversity of the country;*
   - *Prevent pollution and ecological degradation;*
   - *Secure ecologically balanced sustainable development while promoting justifiable economic and social development; and*
   - *Ensure a safe and healthy environment.*
3. *The Government shall ensure that, in order to conserve the country's natural resources and to prevent degradation of the ecosystem,* ***a minimum of sixty percent of Bhutan's total land shall be maintained under forest cover for all time.***
4. *Parliament may enact environmental legislation to ensure sustainable use of natural resources and maintain intergenerational equity and reaffirm the sovereign rights of the State over its own biological resources.*
5. *Parliament may, by law, declare any part of the country to be a National Park, Wildlife Reserve, Nature Reserve, Protected Forest, Biosphere Reserve, Critical Watershed and such other categories meriting protection.*[37]

Constitutional protection of the environment is an important legal tool to ensure development fits into the values of Bhutan. Current estimates report over 70% of the country is covered,[38] with designated national parks making up half the country's total area.[39] As well as protecting biodiversity, these forests are a natural carbon sink and are estimated to absorb over nine million tonnes of carbon each year, which is more than three times what Bhutan emits.[40]

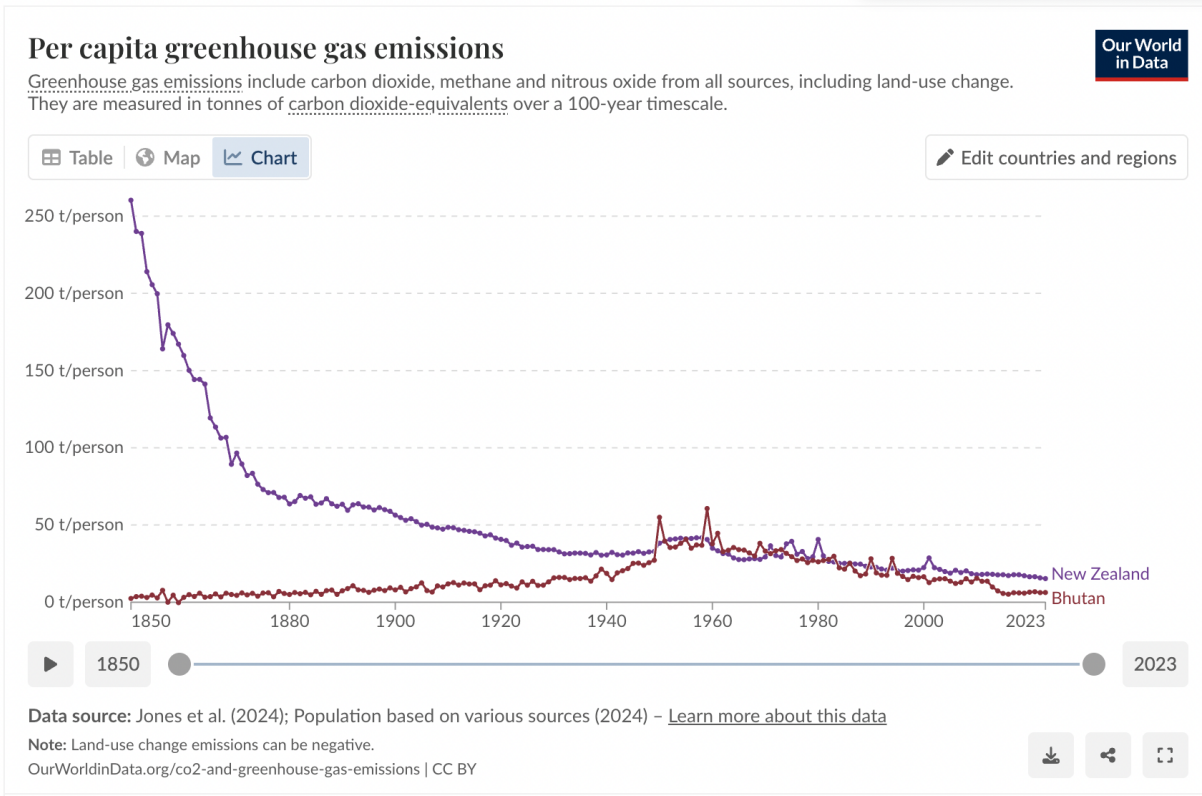
Implications for New Zealand

In comparison to Bhutan, New Zealand's gross greenhouse gas emissions were, per capita, the 19th-highest in the world in 2023,[41] with our total emissions continuing to increase (refer to graph below) despite international commitments to the contrary.[42] Our Protected Areas Network is estimated to cover a little over 30% of our land area, with legally protected marine reserves estimated to cover only 7% of our territorial sea.[43]

New Zealand's extremely low level of protection for our biodiversity is of local and global concern, with our country reporting the world's highest proportion of species at risk.[44] These species are vital parts of our ecosystems and once they are lost, we cannot get them back. The urgency of the biodiversity crisis was reinforced in December 2022, when the UN Convention on Biological Diversity (of which New Zealand is a member) committed to protecting 30% of land and ocean by 2030.[45] This gives our country only five years to more than quadruple our amount of marine protected areas, and progress in 2025 has stalled as parties struggle to agree on methods of implementation.[46] This issue links into the Institute's *OneOceanNZ* project, and to our work on aquaculture strategy in New Zealand.

It is time for New Zealand to adopt a long-term, Bhutanese-style approach to environmental protection and conservation, particularly in the marine space. Bhutan's megafauna are land-based, including tigers and leopards, and New Zealand's megafauna are ocean-based, including whales and other marine mammals. Protecting the land and the sea for future generations also aligns with the Māori value of kaitiakitanga, or guardianship. With a constitutionally coordinated approach, all political parties and other stakeholders would more likely work together and deliver better long-term outcomes.

Annual greenhouse gas emissions per person in New Zealand (purple) and Bhutan (red)



Graph source: Our World in Data (2025)[47]

Recommendation 3: Incorporate futures thinking, including AI

Any strategy that will work in the future needs to consider the speed at which technology, especially AI, is changing. Developing technology in this area is an opportunity to improve New Zealand's biodiversity strategy and to make implementation, monitoring and reporting more efficient.

Public policy and strategy should be designed in ways that anticipate, and prepare for, how AI can be implemented in digital systems. In May 2025, the Institute explored how AI will impact government documents in *Think Piece 43: Unlocking Government documents with AI*.[48] This think piece explores what AI could look like when applied to Government documents, and in particular how AI might provide taxpayers with more value in terms of delivering quality products and services.

Improvements are possible not just in terms of the delivery of goods and services to citizens, but also in terms of delivering a more interconnected and aligned policy ecosystem. Any new Strategy should consider this. The use of AI, or other new technology, must be clearly defined and transparently shared with the public to maintain trust and democracy. The Strategy should also include how it will manage risks from the new technology.

Recommendation 4: Incorporate plans for minimising impacts on the climate and protecting the environment from climate change

New Zealand's environment is under significant pressure and there is an urgent need to adapt to climate change as well as to reduce carbon emissions to prevent further biodiversity loss. Climate change is one of the most serious risks facing New Zealand, and this Strategy should include detail on how it will respond to a changing climate and how it will help slow the impacts of climate change. Detailed approaches on preventing our emissions and responding to the impacts of the changing climate should be included in this Strategy.

Like the rest of the world, New Zealand is experiencing a changing climate and is facing the impacts of rising temperatures, changing weather patterns, and increased occurrences of natural extreme weather events. These changes are serious and will continue to increase in the future, impacting the next generation and beyond. New Zealand needs to both reduce our greenhouse gases and prepare for future climate-related risks. Stats NZ has noted the impacts are increasing in frequency and severity across the country:

> Aotearoa New Zealand experienced its second warmest year on record in 2023, just shy of the record set in 2022, with an average temperature of 13.6 °C. Climate change projections for Aotearoa show further warming is projected by 2090, with more hot days and fewer cold days across the country over the next decades.

The changing climate means certainty in the long term is implausible. The uncertainty around New Zealand's agricultural and fishing industries is deeply intertwined with that of a changing environment where waters are warming, causing unprecedented fish mortalities and changes to species migration patterns.

Making decisions in the name of economic prosperity today, with a substantial risk of creating an economic burden later on, is irresponsible to future generations. Further, the lack of consideration of climate change in this Strategy undermines New Zealand's investment and commitment to climate mitigation and adaptation strategies.

This Strategy lacks detail on how it will protect New Zealand's environment and biodiversity from the impacts of the changing climate. For instance, warming temperatures and natural disasters will mean species' habitats need to change. The idea of introducing ecological corridors discussed in **Recommendation 1** above is one possible solution to this, and we recommend more research is undertaken in this area.

Recommendation 5: Increase resources allocated for environmental monitoring and reporting to establish baselines and monitor species health

New Zealand needs more investment in monitoring and researching our species and their habitats. In the fishing industry, few stocks are regularly assessed and stock assessments rely on industry data instead of independent bodies. Species health and population levels should be analysed annually so that a precautionary management approach can be applied where necessary. This can only be achieved when we have sufficiently detailed information on which to make decisions.

In a world with a changing climate, political uncertainty and global trade wars, this Strategy brings into question whether the government is adequately considering future challenges. The

issues faced by our environment are complex and interconnected, and currently decisions must often be made with a lack of information. This is especially true of our marine environments.

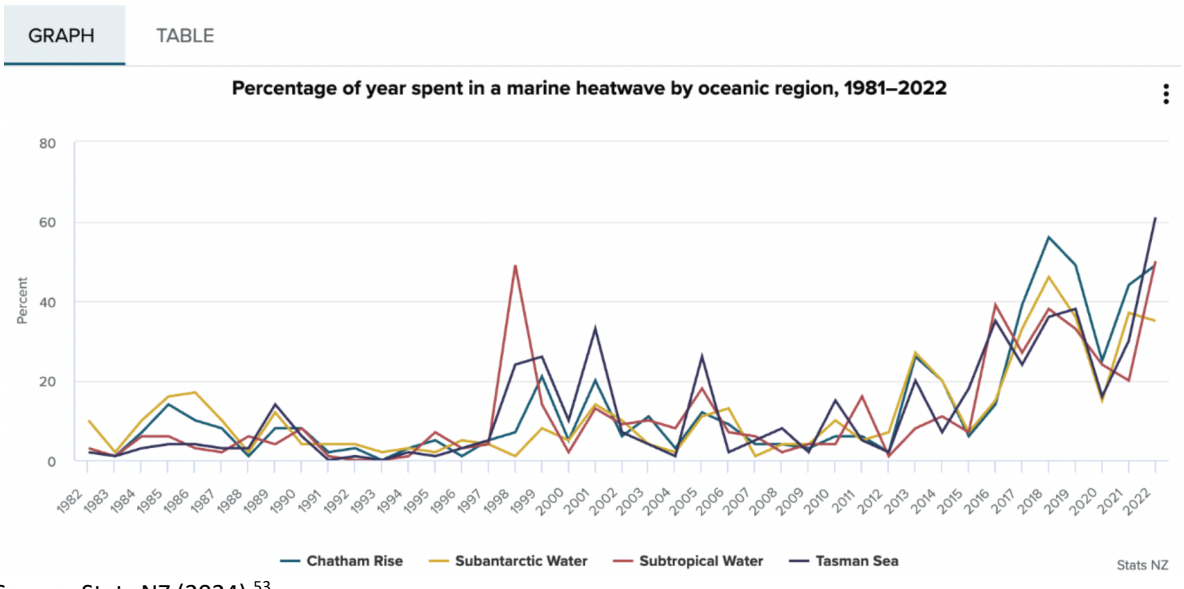
We need to improve our environmental monitoring and reporting in the marine space so that we can make better decisions and future-proof our Strategy.

Recommendation 6: Include detail on how the Strategy will protect ocean biodiversity

The Strategy does not reflect the wider context of what is happening in New Zealand's ocean management and how important it is to develop strategies to protect New Zealand's oceans over the long term:

- Our Exclusive Economic Zone (EEZ) is the area of sea and seabed that extends from 12 to 200 nautical miles offshore. New Zealand has the fifth-largest EEZ (approximately 430 million hectares) in the world, about 15 times the size of our land mass.[49] This is likely to mean New Zealand has the largest marine area per capita of any developed country on the planet.[50]
- Less than 1% of New Zealand's ocean territory is in Marine Protected Areas, despite the Government committing to meet the global target of protecting 30% of the ocean by 2030.[51]
- According to Stats NZ, many marine birds and identified taonga species are threatened with extinction or at risk of becoming threatened, including:
    - over 90% of indigenous seabirds
    - over 80% of shorebirds, and
    - over 22% of indigenous marine mammals.[52]
- Oceanic sea-surface temperatures are increasing. Between 1982 and 2023, each coastal region had its warmest years for sea-surface temperature recorded in either 2022 or 2023.
- Marine heatwaves are on the increase (see graph below). In 2022:
    - the Tasman Sea spent 61.1% of the year in marine heatwaves, the longest duration out of the four oceanic regions
    - the Western North Island spent 88.5% of the year in marine heatwaves, the longest duration out of the nine coastal regions.

Percentage of year spent in a marine heatwave by oceanic region, 1981–2022



Source: Stats NZ (2024).[53]

Our marine species are highly interconnected and cannot be dealt with in isolation. As well as seabirds dying of starvation, reports in February 2024 showed nearly 1000 fur seals died along the Kaikōura coastline, with scientists pointing to warmer sea temperatures and depleted fish stocks as the cause.[54] These seals are near the top of the food chain and have a varied diet, so it is of significant concern if they cannot sustain themselves from fish in our oceans. Department of Conservation marine science adviser Dr Jody Weir agreed, stating that a 'recent report showed that New Zealand fur seals eat 46 species of fish, 18 cephalopod species and so the fact they are still starving, that they couldn't find enough food with that very diverse diet, is very troublesome'.[55]

In this wider context of ecosystem collapse and climate change, it is clear our ocean management needs to be reassessed. However, we have serious concerns that DOC's proposals threaten long-term sustainability. The Consultation Document does not consider the long-term health of the ocean and the species living within it, or the impacts of climate change. Of particular concern are the proposed new multi-year catch limits and new discard rules, as well as the lowering of on-board camera surveillance, when it is established that this successfully improves reporting.

New Zealand's lack of consideration for the environment is also inconsistent with the regulations of our traditional allies, having a negative impact on important international relationships. In 2024, New Zealand caused friction with international allies when it successfully blocked consensus on a measure to restrict bottom trawling in the South Pacific at the annual meeting of the South Pacific Regional Fisheries Management Organisation. We need to work together with our allies and partners to promote an effective international plan for climate change and biodiversity loss. See also why it is critical to meet New Zealand's international obligations below in **Recommendation 7: Incorporate New Zealand's international commitments.**

There is a real lack of information on species health and ocean management in New Zealand, as well as a serious lack of information on marine science in general. Most stocks are not assessed, which means there is not enough key information to make informed decisions. This needs to be fixed so we can ensure the fishing industry, and the biodiversity of our ocean species, can survive for the long term.

It is inadequate that this Strategy does not include any proposals to implement more marine protected areas or to improve transparency and monitoring of the fisheries industry, which would help protect our marine biodiversity. See also why it is important to improve our data above in **Recommendation 5: Increase resources allocated for environmental monitoring and reporting to establish baselines and monitor species health.**

The ocean is a public resource and as such, the companies who privately profit from it owe a duty of care to the community. It would be good to see some consideration of ways the fishing industry could help fund biodiversity protection in the ocean. For instance, aquaculture operations could pay a fee for 'renting' ocean space (a public resource which they currently use for free). This money could then be spent on monitoring ocean health and protecting species habitats.

There is an argument that fishers should be charged an ocean tax to help government fund a strategy to protect and maintain the ocean for current and future generations. This could take the form of a hypothecation tax (also called ring-fencing or earmarking), where the revenue from a specific tax is dedicated for a particular expenditure purpose. Penalties charged on vessels/companies found poaching in New Zealand waters could also be ring-fenced for ocean

management. This is not a new idea and there have been calls for a World Tax Authority to help bring some common frameworks into existence.[56]

Currently, the fisheries industry can use this public asset for its own private gain and without any payment to the public. Furthermore, a significant portion of seafood that is caught here is sold internationally.

As seen in Table 1 and Figure 4 below, seafood is forecast to be New Zealand's fifth-biggest export in the food and fibre sector in the years 2020–26, with the majority exported to China and the United States.[57] It is estimated 80–90% of our seafood is exported. However, recent data to show what percentage of seafood caught here is sold overseas is not published.[58] According to a 2021 RNZ article, the industry body Seafood NZ said there has been no need to collect the information.[59] It is recommended the seafood industry's export data is measured, which will allow for better analysis of how the sector benefits New Zealand.

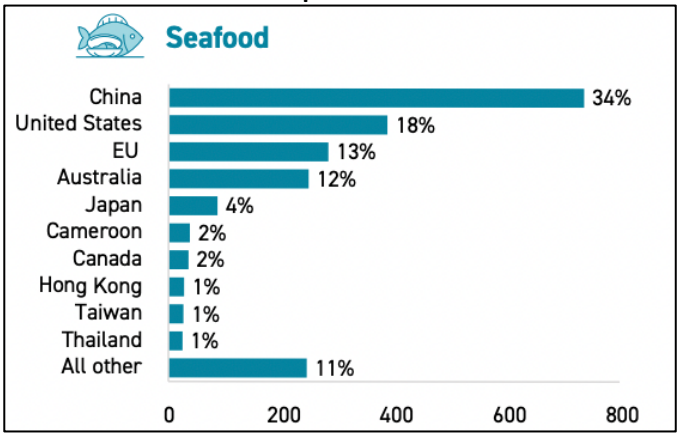
This Strategy misses the opportunity to help turn New Zealand into a world leader in sustainable fisheries management. We need to design our ocean management policy for the long term, and it needs to take into consideration local communities and protecting the environment as well as the fishing industry. If we do this right, future generations can enjoy the sea as we have been able to.

Table 1: Food and fibre sector export revenue 2020–26
Year to 30 June, NZ$ million

	Actual					Forecast	
Sector	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**
Dairy	20,102	19,055	21,998	26,008	23,231	25,500	25,560
Meat and wool	10,617	10,373	12,310	12,114	11,336	11,390	11,870
Forestry	5,452	6,499	6,578	6,353	5,748	5,980	6,100
Horticulture	6,541	6,579	6,825	7,088	7,116	8,000	8,470
Seafood	1,857	1,789	1,919	2,097	2,141	2,210	2,370
Arable	289	261	252	272	345	360	370
Processed food and other products*	2,988	3,087	3,228	3,493	3,416	3,460	3,570
Total export revenue	**47,846**	**47,642**	**53,110**	**57,425**	**53,333**	**56,890**	**58,310**
Year-on-year % change	**3%**	**0%**	**11%**	**8%**	**-7%**	**7%**	**2%**

Source: Ministry for Primary Industries (2024).[60]

Figure 4: Destinations of New Zealand's seafood exports



Source: MPI (2024).[61]

Recommendation 7: Incorporate New Zealand's international commitments

New Zealand is party to a number of international commitments for the environment and climate change and this Strategy should ensure these obligations are met. It is important we stand by these agreements to maintain our international relationships, our international reputation, and the 'clean, green' image of our export and tourism industries.

The United Nations Biodiversity Conference (COP15) ended in Montreal, Canada, on 19 December 2022 with a landmark agreement to guide global action on nature through to 2030. The agreement includes concrete measures to halt and reverse nature loss, including putting 30% of the planet and 30% of degraded ecosystems under protection by 2030.

The Global Biodiversity Framework (GBF) also features 23 targets to achieve by 2030, including effective conservation and management of at least 30% of the world's lands, inland waters, coastal areas and oceans, with emphasis on areas of particular importance for biodiversity and ecosystem functioning and services. The GBF prioritises ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation, recognising indigenous and traditional territories and practices. Currently 17% and 10% of the world's terrestrial and marine areas respectively are under protection.[62] As mentioned above, less than 1% of New Zealand's ocean territory is in Marine Protected Areas, despite the Government committing to meet the global target of protecting 30% of the ocean by 2030.[63]

Three of the United Nations 17 Sustainable Development Goals are relevant to this Strategy:

13. **Climate Action:** Make urgent efforts to combat climate change and its effects.
14. **Life Below Water:** Protect and manage the oceans, seas, and marine resources.
15. **Life on Land:** Conserve and promote the sustainable use of land-based ecosystems.[64]

These UN goals (and their wider intent), along with the Paris Agreement, are increasingly being included in New Zealand's trade agreements. For example, Article 3 of the Free Trade Agreement with the EU, signed on 9 July 2023, states that a party has an obligation to refrain from any action or omission that materially defeats the object and purpose of the Paris Agreement.

Recommendation 8: Undertake research and incorporate international strategies

The biodiversity crisis and changing climate are global issues that will not be solved by one country alone. There is a lack of any international examples in this Strategy to show where similar strategies have worked, what hasn't worked, and how New Zealand can incorporate these lessons from overseas. It is prudent to see what our trading partners are doing in this space, and these case studies should be publicly available. Good research is sorely needed, including understanding what is working (or not working) in other similar countries (e.g. UK, Australia and Canada).

We recommend that international analysis is undertaken so our biodiversity Strategy can be consistent with international standards, and we can learn and incorporate best-practice strategies from our international partners.

Recommendation 9: Produce updated research on the value of New Zealand's environment and reputation

New Zealand's clean green international brand is critical for our economic wealth. We need to understand what it is worth and the actions we can take to optimise that net worth. Equally we need to know the actions we should avoid taking as they will reduce it. In 2001, MFE prepared a report on this, *Valuing our Clean Green Image.* A supporting report answered the following question: *Our clean green image: What's it worth?* This is what the research found:

> **Dairy sector**
> If New Zealand's environment was perceived as being degraded, on average the consumers surveyed would purchase 54% less consumer products. The actual loss in revenue would depend on how much of the lost product could be redirected to products and markets where environmental image plays a less important role, so the potential annual loss would vary between:
>
> - $241 million (all lost product redirected), and
> - $569 million (none of the lost product redirected).
>
> **Tourism**
> The extent of change in purchasing behaviour (measured by change in length of stay) varied by country. Under worsened environmental perceptions, tourists in New Zealand would alter their stay by an average of, for example:
> • Australia – 48% reduction
> • Japan – 79% reduction
> • Korea – 77% reduction.
> The annual loss to New Zealand from the five markets covered in the survey of tourists would be between NZ$530 million and NZ$938 million (depending on whether lost wages and GST effects are taken into account).
> **Organic produce**
> Buyers were presented with two scenarios: New Zealand allowing (a) limited field test of GM crops for research and (b) uncontrolled releases of GM crops. In the short term New Zealand's organic sector would not be affected by allowing field tests of GM crops for research, although in the long term buyers would probably shift to other sources. Adopting a policy of uncontrolled release would see New Zealand almost certainly suffer immediate losses, with buyers either stopping or substantially decreasing purchases.[65]

Before this government implements the biodiversity Strategy, it is critically important that it takes the time to ensure risks are calculated, interconnections are explored (such as second- and third-level effects), and where possible risks are managed. It is now 24 years since New Zealand last attempted to value its clean, green brand. It seems overdue to revisit and answer this important question so that decisions are made on complete information. Updating the 2001 report will allow New Zealand to place a number on our biodiversity and clean environment.

Recommendation 10: Include a requirement for the Strategy to become part of a central register of government department strategies (GDSs) and mandate the Strategy by law

Legislation is central to regulation. The Institute started a *GDS Index* research project in 2014 and it has been regularly updated ever since. The *Government Department Strategies Index Handbook – He Puna Rautaki* ranks each GDS in terms of essential information. It does not rate the strategy as such; it rates the strategy document's provision of essential information and clarity of communication so that readers can assess the strategic approach for themselves. Every GDS is reviewed against the Institute's Transparency Scorecard to determine how well it articulates each of six elements. Refer below for the Institute's analysis of the 2020 Biodiversity Strategy. We recommend these lessons are incorporated into the 2025 Strategy.

The Institute's *GDS Index* aims to illustrate how New Zealand might strengthen GDSs to be more effective, responsive, measurable, comparable and durable through public consultation, engagement and ownership.[66] However, the 2024 *GDS Index* found only 16% of GDSs in operation (32 out of 195) were required or referred to in legislation.[67] Page 12 of the Institute's *2024 GDS Index Methodology* contains a comprehensive list of these 32 GDSs.[68]

Requiring in law that a strategy be published is a useful mechanism for Parliament to ensure strategies are developed, consulted upon and made public. In 2023, the Institute raised the issue of whether such GDSs might come under the governance of Ministry for Regulation (MFR). MFR has advised that it does not have a stewardship role for all GDSs, but has an interest, as a consumer, in specific GDSs during its reviews of where regulatory failures might exist.

It is recommended more GDSs, including this Strategy, be mandated by law to ensure a higher level of due diligence, ownership, durability and accountability. The Institute believes this ia a governance issue for the Minister for the Public Service and the Minister for Regulation.

The *GDS Index* is important because if government departments make the content of GDSs more transparent, Ministers, officials and the wider public will be better able to assess their quality and, where appropriate, work together to deliver better outcomes more cost-effectively.

Recommendation 11: Incorporate a specific plan for wilding pines

One key issue in biodiversity is the spread of wilding pines across the country. The spread of this invasive species is a serious issue: over a quarter of New Zealand is at risk of being smothered by wilding pines.[69] The spread includes areas of ancient native landscapes, unique biodiversity and productive soils for high value sustainable land use.

We would like to see analysis of this biodiversity issue and recommend that a specific plan for how to control and prevent the spread of wilding pines is incorporated as a key part of New Zealand's Biodiversity Strategy.

Recommendation 12: Incorporate a specific plan for septic tank management

It is recommended that DOC works to understand the issue of septic tanks and the risks they could pose to local communities and the environment. We refer to *Water New Zealand,* who have stated that this is a serious concern since 2020: '...effluent leakages from flooding and poorly maintained septic tanks pose a major health risk to the community.'[70]

We recommend that as part of the Biodiversity Strategy provides that councils should identify septic tanks, especially those prone to flood risk and to work with owners to raise their awareness to help reduce risk of environmental contamination before it spreads onto the surrounding environment.

The Institute's ranking of the Biodiversity Strategy 2020 in the *2024 GDS Index*

GDS02–15

Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020

Purpose

'The vision we set out for this strategy is not only for the return of health to the natural world in a way that we can measure but also for the return of a health and vibrancy that we can feel, touch, smell and hear, as well as an emotional reconnection with nature.' (p.10 [out of 125])

Strategy (to achieve the purpose):

The approach is to focus on three pillars:

- Getting the system right
- Empowering action
- Protecting and restoring biodiversity.

(p.43 [out of 125])

Key data

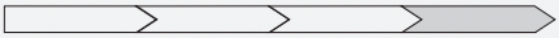
Publication date:	August 2020
Duration:	2020–2050
Number of pages:	125 (merged)
Signed by:	Crown (Minister of Conservation and Associate Minister for the Environment)
This GDS replaces:	*Biodiversity Strategy 2000* (2000)
Jointly held with:	Not applicable
Transferred from:	Not applicable
Strategy map:	Yes, p.43 (out of 125)
Legislation:	Not applicable

McGuinness Institute analysis

Duration

Scope of subject matter

Climate intelligence



Transparency Scorecard

26= out of 195 GDSs

3 out of the 24 GDSs in DOC

6 out of the 57 GDSs in the Natural Resources Sector

		Score	Out of
1:	**Opportunities and Threats**		
1.1	Identifies potential opportunities	2	4
1.2	Identifies potential threats	3.5	4
1.3	Contains a clear statement describing the problem	6	8
2:	**Capabilities and Resources**		
2.1	Identifies current and future capabilities	3	4
2.2	Identifies capabilities it does not have but needs	3	4
2.3	Identifies current and future resources	2	4
2.4	Identifies resources it does not have but needs	2	4
3:	**Vision and Benefits (Purpose)**		
3.1	Provides a clear aspirational statement as to what success would look like	4	8
3.2	Identifies who the beneficiaries are	3	4
3.3	Describes how success will be measured	3	4
4:	**Approach and Focus (Strategy)**		
4.1	Breaks down the purpose into a number of strategic goals/objectives	4	4
4.2	Identifies a range of strategic options	2	4
4.3	Describes the chosen approach	2	4
4.4	Highlights the risks, costs and benefits	1	4
5:	**Implementation and Accountability**		
5.1	Identifies who is responsible for implementation	4	4
5.2	Identifies who will report on its progress	1	4
5.3	Explains how progress will be reported	3.5	4
5.4	Discusses whether the GDS will undergo a review	3.5	4
6:	**Alignment and Authority**		
6.1	Discusses predecessors to the strategy and identifies any lessons learnt	3.5	4
6.2	Aligns with its department's SOI	6	6
6.3	Aligns with its department's annual report	6	6
Total		68	96

Source: McGuinness Institute (2024).[71]

4.0 Further questions

The Strategy leaves a number of questions unanswered, including:

1. Who are the private funders and how much is anticipated to be donated? What are the conditions on this private investment?
2. How will this Strategy be measured? What does success look like?
3. How will this Strategy pivot with changes in technology and changes in the environment?
4. What can we learn from other countries? It would be useful to have international examples.

5.0 Conclusion

A significant amount of policy work, consultation, scientific research, economic analysis, and community and environmental analysis is required before this Strategy achieves any of the promised benefits for New Zealand.

The Ministry for the Environment's 2025 edition of New Zealand's report on the state of our environment, *Our Environment 2025*, paints a picture of the seriousness of the issues we are facing:

> 'New Zealand's unique biodiversity has a high proportion of threatened or at-risk species – one of the highest amid the global biodiversity crisis', the report said, noting that land use, pollution, invasive species and climate change can all have an impact on biodiversity.
> The report also found the most widespread water quality issue affecting groundwaters was the presence of *E coli* – a bacteria found in the guts of animals and humans that can cause serious illness and has been linked to farming and cities in New Zealand.
> Of more than 1,000 groundwater monitoring sites, nearly half failed to meet the drinking water standard for *E coli* on at least one occasion between 2019 and 2024, while nearly half of the monitored rivers show worsening *E coli* trends.
> Meanwhile, a significant proportion of groundwaters have accumulated excess nitrate due to activities such as intensive farming, logging and urbanisation, which also affects water quality and degrades surface water ecosystems.[72]

New Zealand has a unique opportunity that many countries do not have: we are proud of our unique environment with precious flora and fauna, geographic isolation, strong connection with the land and ocean, and Treaty obligations – and we have high-quality exports that profit from our clean, premium, sustainable brand. The Strategy does not reflect the complexities of protecting species in a way that empowers a country with our unique values and characteristics.

We want to be responsible stewards for the next generation. This Strategy document falls short and does not allow for the long-term planning required in order to protect our environment for future generations. The Institute, and many others, have undertaken a significant amount of work to ensure New Zealand's public policy safeguards the environment for future generations. As it is currently written, this Strategy has a way to go before it is solid in protecting our unique ecosystems for the challenges New Zealand is facing.

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