Wellington Botanical Society

Charities Commission Registration CC10518

9 March 2020

SUBMISSION ON DRAFT NATIONAL POLICY STATEMENT FOR INDIGENOUS BIODIVERSITY

INTRODUCTION

1. The Wellington Botanical Society welcomes the opportunity to comment on the draft National Policy Statement for Indigenous Biodiversity (dNPSIB) 2019. We hope the level of detail will help you understand the views of a long-established informed botanical organisation.

2. For several decades, the Society has been making lists of the indigenous plants and weeds growing at sites on public and private land. We are just back from a trip to Northland. Last summer it was Southland. Our species lists give the scientific, Māori and common names. Many land owners have been delighted to receive copies of our lists which help them learn more about the species on their land especially any rare plants they didn't know about. Subject to the land owner's agreement, we send copies of our species lists to the relevant council or DOC office, and make lists available to the botanical community via the New Zealand Plant Conservation Network (NZPCN). There is more about the Society in Appendix 1.

3. We regard the dNPSIB as a step towards saving more of our indigenous biodiversity, and trust it will contribute to saving more of Aotearoa-New Zealand endemic plant species. Many other national policy and strategic initiatives with implications for the maintenance of indigenous biodiversity are already underway. Some are listed in Figure 1 (next page). With so much changing, the first review of the dNPSIB should not be left for 10 years after gazettal. (See also paragraph 64). Territorial authorities and NZ's indigenous biodiversity will benefit from earlier feedback of the effectiveness of the NPSIB and its implementation.

4. Figure 1: Other Government initiatives with implications for indigenous biodiversity

- *New Zealand Biodiversity Strategy*
- *Focusing Aotearoa New Zealand's environmental reporting system; PCE 2019*
- Government's Response to Waitangi Tribunal's report on Wai 262. (Kete 2)
- *Urban Development Bill*
- *The Climate Change Response (Zero Carbon) Amendment Act 2019*
- *The Billion Trees Programme:* Government's plan to plant one billion trees by 2028
- Government's freshwater initiatives
- Resource Management Law Reform Project (2020)
- *Convention on Biological Diversity (CBD)*
- *The Global Strategy for Plant Conservation (GSPC), 2011-2020.*

5. There are three parts in our submission:

- Part 1 answers 26 of your 62 questions. Where questions generated more than one response, we have shown the different views.
- Part 2 identifies some issues in the draft NPSIB which were not raised in your questionnaire. As members of the indigenous biodiversity sector, we want to be able to understand the NPSIB and its implications for indigenous biodiversity, plants in particular.
- Part 3 addresses the lack of guidance in the draft NPSIB about the challenges associated with maintaining more categories of indigenous biodiversity; not just selected vertebrates. Four thousand terrestrial species/taxa are already threatened or at risk of extinction. About 1,250 (about 30%) of them are vascular plants. (See also paragraph 84). The generic dNPSIB objectives and policies leave too much responsibility with territorial authorities for planning how to maintain many of these species. Increasing the populations in the wild of kakabeak, kauri snails and kea will require very different combinations of knowledge, skills and resources.

PART 1: YOUR CONSULTATION QUESTIONS

Question 1: The need for an NPSIB

6. We agree an NPSIB is needed to strengthen requirements for protecting indigenous biodiversity under the RMA. Aotearoa's natural capital, which delivers a range of ecosystem services, has continued to decline since the RMA became law, compounding earlier losses.

Question 2. Role for NPSIB within coastal marine and freshwater environments?

7. Yes, because terrestrial, aquatic and marine ecosystems are intimately linked. Actions which degrade terrestrial ecosystems may ultimately degrade aquatic and marine ecosystems.

8. No. Don't delay finalising the terrestrial focus of this dNPSIB to incorporate statutory provisions for environments which already have national policy statements, i.e. *NPS for Freshwater Management* (2017) and *Coastal Policy Statement* (2010).

9. We found the description in section 1.5 on the application of the NPSIB confusing. The subheading refers to geographic application. Section 1.5 (1) excludes application of the dNPSIB to indigenous biodiversity in coastal marine areas, and waterbodies and freshwater ecosystems. Clause 1.5 (2) identifies the restoration and enhancement of wetlands as a high priority, and requires coastal marine areas, waterbodies and freshwater ecosystems to be included in regional biodiversity strategies. It seems regional biodiversity strategies are expected to play major roles in achieving integrated management, despite the omission of 'protection' from their vision.

Question 3: Agreement with objectives and policies

10. We agree with the objectives and policies.

Question 4 Hutia Te Rito as 'the underlying concept' of the NPSIB?

11. Hutia Te Rito is described as the framework for achieving an integrated and holistic approach to maintaining indigenous biodiversity (p.4). It requires territorial authorities to recognise and provide for the interrelationships between the health of the people and the health of indigenous biodiversity, the health of species and ecosystems that are taonga, and the health of the wider environment. 3.2(2a).

12. Yes, agree because nature and humans are inter-dependent.

13. No. The translation of Hutia Te Rito: "What is the greatest thing in the world – It is people, it is people it is people" could be read as either ignoring, or a willingness to sacrifice, other life forms. Can a Te Reo Māori proverb be found that states that nature in all its forms "...is the greatest thing in the world"?

14. What is the relationship between taonga species and Hutia Te Rito? What criteria are tangata whenua likely to apply when identifying taonga species? The only list of taonga species we've seen is in the Kai Tahu Settlement Act. We regard all indigenous species as treasures.

Question 5: Sufficient information about Hutia te Rito?

15. No. The dNPSIB does not provide enough information on Hutia te Rito and how it should be implemented. There is an unfortunate gap in the two ways of thinking about "integrated management". The three integration requirements for local authorities in Section 3.4 are: from mountains to the sea; across administrative boundaries, and with the requirements of other legislation. This differs from our understanding of the integrated approach proposed in Hutia Te Rito. The gap may perpetuate iwi perceptions that MfE and iwi are still talking past each other.

16. Councils should consider other aspects of integration, e.g. management of taonga species [3.14, (5)], and species valued by taxonomic groups. Many different taxonomic societies submitted on the 2017 *Draft Strategy for Threatened Species*, e.g. Moths and Butterflies Trust, Herpetological Society, Entomological Society, Fresh Water Sciences Society, Fungal Network of New Zealand, NZ Plant Conservation Network. What opportunities will they have to contribute their expertise and knowledge to planning processes at the regional or local level?

Question 6: Taking into account the principles of the Treaty of Waitangi

17. Yes, because it provides for co-managment of natural areas by tangata whenua.

18. We agree that most of the NPSIB proposals relating to Te Tiriti are appropriate, including S3.9 2d(iv). Given, however, that some iwi and hapū are arguing that Mātauranga Māori is place-based, does this mean they are expecting to have the right to be at the table when any matters with implications for their role as kaitiakitanga are being discussed?

Question 7: Opportunities and challenges for councils and tangata whenua to work together

19. Improved biodiversity management will require education and engagement between councils, tangata whenua and landowners, not just more rules and regulations. A particular challenge will be to assist all parties to acquire a deeper understanding of indigenous species, and the ecological processes in indigenous terrestrial, aquatic and marine ecosystems.

Question 8: Providing for sustainable customary use of indigenous flora?

20. No. The first thing we noticed is that this ‘sustainable use’ provision is limited to ‘vegetation’; i.e. it excludes customary food sources such as eels, whitebait, freshwater mussels, albatross chicks, weka, and huhu grubs. Some hapū and iwi may contend that taking fauna is consistent with kaitiakitanga.

21. Action requested: include the words ... ‘indigenous fauna’ after the words ‘indigenous flora’.

22. Action requested: Consider listing in a NPSIB appendix, any provisions in any Acts and regulations that already authorise tangata whenua to harvest customary animal food sources sustainably.

23. There is no policy guidance on how to establish the ‘sustainable customary use of indigenous vegetation’. Does exercising kaitaikitanga includes the right for each iwi/hapū to determine what use of each species is customary in their rohe, and what levels of use are sustainable? Do kaitiakitanga rights and responsibilities extend beyond an iwi/hapū’s rohe, for example, into council reserves and public conservation land? Where the scientific community or the public suspect a customary use is not sustainable, or would only be sustainable over a very long time period, (the life of a tree), what rights and channels will they have to present their views and data? Will such matters have to be resolved by the courts?

Question 9: What information would help implement provisions in section A?

24. More information about the ways iwi and hapū are managing indigenous biodiversity on land where they have exclusive rights and responsibilities would be helpful. Perhaps the Ministers of Conservation and Māori Development could request a report on the results achieved under Ngā Whenua Rāhui kawenata since its establishment in 1991?

Question 10: Logistical issues in mapping SNAs, and what has been limiting this from happening.

25. Territorial authorities may need to employ botanists, mycologists, herpetologists, ornithologists, invertebrate specialists, etc., to identify the precise boundaries of areas within larger buffer areas that should have SNA status. Territorial authorities may also need to employ surveyors to map the boundaries. If the relevant specialist advice is not readily available, and if there are difficulties in obtaining access to prospective SNA sites, this work may be prone to delays.

Question 11 Who should be responsible for identifying, mapping and scheduling SNAs?

26. We recommend (11c,) a collaborative approach involving territorial authorities and regional councils because access to the combined

skills, institutional knowledge and networks will improve the chances of the work being done accurately and efficiently. Taxonomists in major museums may also be able to identify locations with significant species.

Question 12: Criteria for ecological significance

27. Section C6 of Appendix 1, page 35, lists four categories of criteria for qualifying an area as an SNA. Each criteria has several assessment principles and attributes. A suitably qualified ecologist may only have to show that a prospective SNA meets one of the four criteria, and possibly only one attribute. It will, for example, be relatively straight forward to justify SNA status under the 'representativeness' criteria, as these assessments can probably be made without accessing the site, e.g. by using aerial photographs or binoculars, and information already in the public domain. Such assessments won't, however, be effective in identifying,mapping and subsequently maintaining biodiversity elements that require on-site surveys, on-going access, and taxonomic expertise.

28. Given that 4,000 indigenous biodiversity taxa are currently threatened or at risk of extinction, an urgent priority for many territorial authorities will be to identify and map SNAs that qualify under the category C: Rarity and Distinctiveness, and then start planning how to maintain them and boost their populations. Accordingly, we strongly support clauses C6 (a) and (b), i.e.:

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

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

29. The *New Zealand Threatened Classification System* is a major asset for monitoring one aspect of the overall (national) state of New Zealand's indigenous biodiversity. It reinforces New Zealand's international reputation under the Convention of Biological Diversity. But territorial and regional authorities will need local or regional lists if they are going to improve and demonstrate their effectiveness in maintaining the indigenous biodiversity for which they are responsible, particularly the rare and threatened taxa and ecosystems.

30. Some years ago, DOC initiated a pilot project with several regional councils to work out how to develop regional threat classification lists which include all plant species within a region, not just those with a national threat status. Dr Philippa Crisp, of GWRC presented more recent details of this work to the joint conference of the Australasian Systematic Botany Society and the New Zealand Plant Conservation Network *Taxonomy for Plant Conservation* in Wellington in November 2019. By working together, botanists from throughout the Wellington region identified 72 Regionally

Threatened, 48 Regionally Critically Endangered, 15 Regionally Endangered and 9 Regionally Vulnerable taxa.

31. Action requested: Find ways to support selected territorial authorities, their partners, and their communities to develop the capabilities and systems for developing regional threat lists so they have a better understanding of the indigenous plants they are responsible for maintaining under the RMA and the NPSIB. A national portal will be required to manage this information. New IT tools and conservation hubs may provide more 'citizen science' opportunities for people to learn to recognise NZ's endemic plants and distinguish them from weeds.

32. The study, *Status Assessment of New Zealand's Naturally Uncommon Ecosystems*[1] shows that focusing on naturally uncommon ecosystems has advantages if the goal is to protect threatened plants. The research team wrote:

    We also tested the hypothesis that naturally uncommon ecosystems classified as threatened on the basis of IUCN Red List criteria contain more threatened plant species than those classified as non-threatened. We identified 18 critically endangered, 17 endangered, and 10 vulnerable ecosystems. We estimated that naturally uncommon ecosystems contained 145 (85%) of mainland New Zealand's taxonomically distinct nationally critical, nationally endangered, and nationally vulnerable plant species, 66 (46%) of which were endemic to naturally uncommon ecosystems. We estimated there was a greater number of threatened plant species (per unit area) in critically endangered ecosystems than in ecosystems classified as non-threatened.

33. Uncommon ecosystems are mostly small (less than 1 ha to 1000 ha), non-forested, and often support unique biodiversity. Their rarity means they are poorly understood, often threatened, and not distinguished in national-scale land cover classifications. The introduction in www.landcareresearch.co.nz/publications/factsheets/rare-ecosystems is excellent.

Question 13: Principles and approaches territorial authorities must consider when identifying and mapping SNAs. (In Part 3.8 (2))

34. Agree with 2a) to 2f) except 2d): The desktop assessment could be supplemented by the use of a drone, helicopter or light aircraft to photograph the canopy of a site.

1 https://conbio.onlinelibrary.wiley.com/toc/15231739/2012/26/4

Question 14: Which council plans should include SNA schedules?

35. [d]. SNA schedules should be included in regional and district plans so that regional councils know what natural values are being managed by local authorities.

Question 15: Are the proposed timeframes of five years for identification and mapping of SNAs and six years for preparing the schedules reasonable?

36. The timeframes may be reasonable if central government provides sufficient financial and technical support to help councils with small rating bases and large areas of land with natural values to do the necessary work.

37. A related concern is the timelines for regional biodiversity strategies in 3.18.3(a). Allowing councils to defer this work until three years after NPSIB gazettal will be very discouraging for the staff and stakeholders who are already working collaboratively and in good faith with private land landowners, volunteers and community groups.

Question 17: Should regional councils and territorial authorities work together to identify and manage highly mobile fauna outside of SNAs?

38. Yes, their mobility is part of their ecological value because they spread the seeds and pollen of native plants around the native plant communities they travel to and from, and into mixed indigenous/adventive plant communities beyond those communities.

39. Uncertain. The phrase ‘mobile fauna’ is puzzling because it is not limited to indigenous species. If the omission was accidental, please remedy it. If the intention to include mobile exotic species was deliberate, resolving the situation will be more complex because some birds, honey and bumble bees, wasps and possibly some mammals and fish can have negative effects on indigenous biodiversity in new environments. Introduced birds may contribute to the dispersal of the seeds of weeds and well as indigenous species. We learned from DOC websites that male tahr mix in with the females in their range over the winter breeding season but during the summer months they often travel long distances away from the female groups. Trampling by tahr creates tracking, opens up the vegetation and exposes soils, potentially leading to erosion. Their urine and faeces act as fertiliser changing the nutrient status of the soils. All this can have profound and long-lasting effects on fragile alpine ecosystems.

40. Action requested: If the omission of “indigenous” was intentional, consider adverse effects **of** highly mobile introduced fauna on indigenous biodiversity in other places as well as the effects of subdivisions, use and developments **on** mobile fauna. [3.153b]

Question 22: Classifying SNAs as High or Medium?

41. Clause 3.8 (1b) requires territorial authorities to classify areas of indigenous vegetation …. as either High or Medium according to Appendix 2, and appears to leave 'medium' SNAs more vulnerable to new activities.

42. The following statement rang alarm bells about the types of SNAs that may be classified as 'high'. Page 31 of *He Kura Koiora i Hokio* says 'SNAs represent the most iconic and highly valued indigenous biodiversity.' The words 'iconic' and 'highly valued' introduce a strong bias towards those taxa and taonga, which are popular with the public and mentioned frequently in the media, e.g. birds, tuatara, marine mammals and whitebait. (The media pay very little attention to plants and fungi, except when iconic trees start dying from recent disease incursions or when valued trees in urban neighbourhoods are to be cut down to allow for new housing developments.) There did not appear to be anything in s.3.8 to counteract the above HKKiH statement. Are SNAs likely to protect iconic and valued species with 'High' assessments while potential SNAs protecting species that are small, dull and difficult to find usually be graded as 'medium' or discontinued, even if they are at serious risk of extinction?

43. Given that Cabinet may still decide to identify SNAs on Public Conservation Land (PCL), the next step would see those SNAs classified as High or Medium. Parts of national parks, conservation areas and scientific reserves classified as Medium, would then be vulnerable to the provisions and processes which facilitate 'nationally significant infrastructure' as defined in s.1.8 on page 13. This is totally unacceptable. These areas are already well-protected legislatively. 'Medium' SNAs in PCL also contribute to buffering and connectivity of 'High' SNAs. We are suspicious of the motives of the individuals and organisations who are proposing transferring decision-making about pieces of PCL to the much weaker SNA system under the RMA.

44. We are also concerned that premature communications of a territorial authority's intention to label some SNAs as "medium" may generate a less than helpful reaction from some private landowners. Establishing good relationships with private land-owners early in the 'SNA' process will potentially increase private landowners' long-term interest, commitment and investment in maintaining the indigenous biodiversity on their land.

45. We do not yet understand the specific responsibilities of private landowners to maintain the indigenous biodiversity in any SNAs on their land. Nor are we aware of the level of the financial and other contributions councils and/or government intend to make for actual management and opportunity costs experienced by landowners if they lose their rights to make independent decisions about the future use of land that is classified as a SNAs. More recognition and

support is needed for the existing voluntary contribution many landowners have been making to the well-being of all New Zealanders by protecting important biodiversity on their land and streams.

Question 38: Priorities for restoration and enhancement

46. Enhancement: The heading of 3.16 clause includes the term ‘enhancement’ but it took time to find any insights into the term/concept. It would be unfortunate if the term ‘enhancement’ resulted in the planting of non-indigenous species such as fruit trees (community gardens) or exotic plants with attractive flowers, (amenity values), or ‘contact with nature activities’ such as mountain bike tracks. It was only when we re-read objective 5, (… and enhance the ecological integrity of ecosystems), and found a definition for ecological integrity in section 1.8, that we started to understand what ‘enhancement’ may mean in practice. Policy 11 would be more helpful if it established a link between ecological integrity and monitoring.

47. Action requested: Consider supporting ‘enhancement’ with ‘enrichment planting’ as used by WCC in *Our Natural Capital* 2015, pp78. Enrichment plantings could include reintroducing species previously growing at the site, reintroducing missing layers, e.g. ground covers or creepers in a forest, or creating seed sources of tree species better suited to future climatic conditions, e.g. warmer, drier.

48. Restoration priorities: Clause 3.16 (4) gives statutory priority over all other indigenous biodiversity projects to five types of restoration projects; wetlands, former wetlands, degraded SNAs, areas that provide important connectivity or buffering, and any national priorities for indigenous biodiversity protection. Our comments and questions follow:

49. Protection: Why are restoration projects given statutory priority over projects that contribute to protection, e.g. stronger legal protection (e.g. covenants, renewing kawenata, fencing, pest management, the preparation of species lists, and checking on the health of populations every three or four years? Protecting regional biodiversity assets and their ecosystem services will often be cheaper than trying to re-establish them.

50. Wetlands: We agree that the NPSIB should make restoration of wetlands and former wetlands a priority. (Protection of wetlands is in the NPSFW).

51. Degraded SNAs: Restoration is not like the instant garden makeovers on TV. It can take years for all the species in an ecosystem to become self-sustaining. For much of that time, the ecosystem may still look ‘degraded’. Will councils be able to distinguish between ecosystems which look ‘degraded’ and those

which are already ‘recovering’, either naturally or with human help?

52. National priorities: Requiring territorial authorities to give priority to ‘any national priorities for indigenous biodiversity protection’ raises questions about the meaning of ‘national priorities’; how are they established, and how long may act as a barrier to other initiatives. Do national pest management initiatives such as Predator Free NZ 2050, the Dirty Dozen Weeds, and removing wilding pines qualify as ‘national priorities for indigenous biodiversity protection’ under this clause?

53. A new national priority: restoration of wilding pine areas? Several territorial authorities may already be considering their responsibilities to restore areas where wilding pines have been or will be poisoned or felled. There is a risk that many of these areas will be left to regenerate by ‘natural means’, i.e. birds and the wind bringing in seeds and pollen of indigenous from nearby or more distant seed sources. Proponents don’t always realise that birds (indigenous and exotic) and the wind are also likely to bring in seeds and pollen from exotic plants, including from plantations being developed under the Billion Trees Programme. Williams et al (2002) estimated that there were 24,700 exotic plant species growing in New Zealand compared with about 3,000 indigenous species. DOC identified 328 plant species as environmental weeds (in 2008?). Has any modelling been done to assess the likely results of relying on ‘natural restoration’ if the goal is to re-establish predominantly indigenous ecosystems? What other options are there for restoring these areas if Government decides that establishing ecosystems with a high proportion of indigenous species is a national priority?

54. Soils and soil biota? Dr Kath Walker, DOC’s snail scientist recently advised that NZ urgently needs to do a much better job of reducing the causes of dried-out soils and degraded forest floors. She was speaking for one threatened species of snail, but her advice applies to many other soil fauna, fungi, bacteria, seedlings and to young kiwi (their beaks couldn’t penetrate dry soils in Northland). Would any of the priorities in Clause 3.16 (4) contribute to projects designed to maintain soil moisture during droughts.

55. The limited attention to soils throughout the NPSIB is probably an outcome of human self-interest in two of the four categories of ecosystem services (provisioning and cultural services). The supporting and regulating ecosystem services like nutrient cycling, soil formation and pollination rarely get much attention.

56. There’s more about restoration in paragraphs 76-79.

Level of detail required in SNA descriptions

57. Direction 4(c) in Appendix 1 requires that every SNA assessment must include “a description of the indigenous vegetation,

indigenous fauna, habitat and ecosystems present", but does not indicate the level of detail required. A description, which may be sufficient to identify a SNA, may not be sufficient to identify and prioritise the management actions required to halt the decline of all the significant indigenous biodiversity in and near that SNA. This view was reinforced with a quick case study of Te Kopahou Waipapa Stream in Wellington.

- Wellington City Council's *Outer Green Belt Management Plan, 2019* includes a detailed description of the Te Kopahou site *(*16 pages) and a comprehensive list of 23 actions under the heading Nature (5.7.2.2, p.190-192). Council staff are now propagating some of the rare plants from Te Kopahau off-site with a view to replanting them on site when it's safe to do so.
- WCC has also disseminated a fact sheet on Te Kopahou as one of about 150 (?) SNA fact sheets developed for WCC's *Managing for Growth* initiative under its *Urban Growth Plan 2014-2043*. Experienced ecological consultancy Wildlands prepared the fact sheets which can be found on (*backyardtaonga@wcc.govt.nz).*
- A strength of the fact sheet for Te Kopahou is that it lists taxa other than trees, including an orchid, a herb, a grass and a weevil.

  Description: Coastal scrub and shrubland. This is a large site consisting of coastal hills and valleys with diverse vegetation. It is one of a number of coastal and semi-coastal sites which, in combination, include a range of habitats and connect ecological areas. Rare and threatened plants, birds, fish and invertebrates are known to live here. It is also a likely home for lizards. Vegetation includes mahoe, kohekohe, kanuka and manuka. Also includes Kirk's crassula, Cook Strait kowhai, Grassland greenhood orchid, Speargrass, Speargrass weevil.
- We don't know whether this text meets the new criteria in Appendix 1, clause 4c for the description of an SNA or assessing it as High or Medium. We don't think the fact sheet would have contained enough information to inform either the Te Kopahou section of the statutory management plan for the Outer Green Belt Management Plan, or the review of conservation sites in chapter 18 of Council's District Plan.

Question 24: Nationally significant infrastructure

58. Section 1.8 identifies eight types of national infrastructure, (mostly corridors associated with transport and energy, but not the pipelines for the three waters). Forms of infrastructure that require more land in one place have been overlooked, e.g. infrastructure associated with human waste management such as landfills, cemeteries, and treatment of sewage. Nor is there any reference to new infrastructure that may become nationally or regionally significant, e.g. sea walls.

59. Action requested. Consider whether the NPSIB is the most appropriate place for guidance to assist territorial authorities developing or making decisions on new proposals for regionally significant infrastructure. Clause 3.7(b) is very vague with two uses

of the word ‘appropriate’, i.e., ‘the maintenance of indigenous biodiversity does not preclude subdivision, use and development in appropriate places and forms within appropriate limits’.

Question 41: Regional Biodiversity Strategies

60. We don’t agree with making regional biodiversity strategies a statutory requirement under the NPSIB. WCC’s *Our Natural Capital* 2015 is an excellent example of a non-statutory local biodiversity strategy. It presents a diverse list of actions under four themes (protect, restore, connect and research).

61. We agree with most of the analysis of the disadvantages and risks of the NPSIB approach as listed in *He Kura Koiora i Hokio* (Table 5, p76). We see no evidence that the combination of the NPSIB and regional biodiversity strategies will result in better monitoring of outcomes.

62. Action requested: Delete policy 14, section 3.18 and Appendix 5 about regional biodiversity strategies from the dNPSIB, and promote a more flexible approach through the NZBS 2020.

Question 42: Principles proposed for regional biodiversity strategies

63. We do not agree with the principles (or contents) proposed in Appendix 5 for regional biodiversity strategies.

- Protection is not included. Clause 1 limits the purpose to promoting ‘a landscape-scale restoration and enhancement vision for the region’s biodiversity’.
- There is no justification for the preference for ‘landscape-scale’ interventions instead of local or site-based interventions. We suspect the rationale may be financial, not ecological. *Te Koiroa o te Koiora* page 52 criticised local efforts as follows. “Local efforts are not always interconnected or strategic, potentially missing opportunities to have a bigger impact. There is a significant opportunity to join up management efforts and scale-up both the effort and the impact of actions”. This financially driven marketing message discounts the social motivations underlying many people’s decisions to engage in conservation projects. Some won’t volunteer if they suspect they aren’t wanted.

64. Appendix 1, clause 2(b) requires regional biodiversity strategies to include a comprehensive record of all actions being undertaken and all methods available to achieve protection, restoration and enhancement. It does not, however, explain the purpose of these records. If a small territorial authority is responsible for 300 SNAs, and maintenance of species/ecosystems in each SNA requires an average of five actions per annum, and a further five actions are available but not affordable, the ‘comprehensive record’ will require 7,500 entries. It’s not clear what happens next. Will additional

fields be added for operational and capital costs, output and outcome indicators, progress to date, e.g. dates populations and ecological integrity have been monitored, and the file reference for the results?

65. Action requested: describe the intended purpose and use(s) of these comprehensive records.

Question 43: Role of regional biodiversity strategies in promoting other outcomes, e.g. preventing the spread of pests and pathogens

66. Another concern is the limited recognition in the dNPSIB of councils' roles in maintaining indigenous biodiversity by managing pests and weeds. The latest batch of Regional Pest Management Plans (2019-2039) were written to a MPI template to improve consistency. Objectives still include reversing the loss of biodiversity in managed high-value biodiversity areas in the region (good) but landowners are now expected to accept more responsibilities for pest management on their land as a result of statutory cost benefit analysis thresholds (defined under the Biosecurity Act).

67. The proposed regional biodiversity strategies could play crucial roles in promoting control of animal pests and weeds, outside the constraints of regional pest management plans. It has been estimated that there are 250,000 deer (six species), scores of thousands of thar, chamois, possums, wallabies, rodents, mustelids, hedgehogs, Canada geese, magpies, rooks, wasps, hares and rabbits, plus feral horses, pigs, goats, cattle, cats and dogs. All these animal pest species and the increasing numbers of weeds that are 'jumping the fence', have adverse impacts on indigenous biodiversity.

Question 47: Effectiveness reviews of the proposed NPSIB by MfE

68. We agree that the first two actions s.4.1 1(a) and (b) are reasonable requirements for MfE. We do not agree that MfE is the appropriate agency for [c] and (d), i.e., undertaking the first assessment 10 years after commencement and releasing a report. We think the PCE should be asked to undertake a preliminary assessment within five years of commencement, and a complete effectiveness review within 10 years so that the effectiveness of the management of indigenous biodiversity by all agencies, tangata whenua, landowners and others in the region can be evaluated.

69. Action requested: Encourage Government to resource the Parliamentary Commissioner for the Environment with sufficient funding to appoint and lead a team of Assistant Parliamentary Commissioners to oversee and report on the effectiveness of regional councils' maintenance of indigenous biodiversity.

Question 51: SNAs on Public Conservation Land

70. We support alternative (c), i.e. don't require the identification or mapping of SNAs on public conservation land (PCL). Including PCL in the SNA methodology creates an unacceptable risk that classifying areas of PCL as 'medium' SNAs would expose them to more uses and developments than would be acceptable under the current conservation legislation, e.g. allowing for nationally significant infrastructure.

71. Identifying and mapping SNAs in stewardship areas may be acceptable as a first step towards identifying the most appropriate tenure for stewardship areas at some time in the future.

Question 52: SNAs on Defence Land.

72. Many years ago, the Wellington Botanical Society had the privilege and pleasure of exploring several areas of significant biodiversity on army land near Waiouru. Our memory is that the army had controls to keep heavy vehicles such as tanks out of these areas. We see no benefit in identifying and mapping SNAs in each of the nine NZDF sites on the relevant territorial authorities' lists. Governance responsibilities for these sites lies with the NZDF who could be asked about the effectiveness of their management of indigenous biodiversity.

PART 2 OTHER ISSUES IN THE DRAFT NPSIB

73. This section addresses a few issues we would have raised if there had been no MfE questionnaire. In brief, the dNPSIB appears to have been written for those who work with the RMA. We think the NPSIB should be more accessible to more councillors, tangata whenua, landowners and the intelligent lay public to help them understand how the NPSIB fits into the wider jigsaw of legislative and statutory documents with implications for indigenous biodiversity.

Inadequate glossary

74. The gaps in the Glossary (section 1.8) were one of the main barriers to our understanding the draft NPSIB. We also checked the main Act for some of these terms, but didn't find them.

75. Action requested: Please ensure that all terms used in the objectives and policies are defined in the glossary or explained in the text, e.g., restoration, landscape-scale.

76. We commend the use of the words 'indigenous biodiversity' in the title and purpose. We regard the use of the word 'nature' in *Te Koiroa o Te Koiora* as inaccurate and inappropriate for a biodiversity strategy. But it was frustrating when looking for the definition of 'indigenous biodiversity' in the dNPSIB to find the glossary in section 1.8 and then a reference to clause 1.7 (2).

77. Action requested: Please include the two definitions of indigenous biodiversity from 1.7(2) in Section 3, the purpose statement.

Fundamental Concepts (section 1.7)

78. Three of the four 'fundamental concepts' in section 1.7 are purely informative: i.e. indigenous biodiversity, maintenance of indigenous biodiversity, and adverse effects on indigenous biodiversity. This means Te Rito Huia is the only conceptual framework endorsed to guide decision-making under the NPSIB. Where are the pathways for ensuring that input from relevant sciences including horticulture is included in decision-making processes? Where are frameworks featuring natural capital and ecosystem services?

79. The approach based on natural capital and ecosystem services is similar to household financial systems, where natural capital is the $$ left in the bank account, and the annual interest (after the bank has taken its management fees) can be spent on ecosystem services or re-invested in the capital. Restoration can maintain the asset (repair a leaking roof). Enhancement may increase its value (install solar panels on the roof). See Appendix 2 for more about the importance of precise language when talking about indigenous biodiversity, natural capital and ecosystem services, in extracts from https://ecometrica.com/article/biodiversity-ecosystem-services-and-natural-capital-terms-matter.

80. Action requested: Include an outline of the natural capital/ecosystem services approach to the maintenance of indigenous biodiversity in Section 1.7 (Fundamental Concepts) or in the implementation section.

Restoration

81. A short note in 1.7(3), says maintenance of indigenous biodiversity may also require 'restoration', and one of the "r" words is defined in the s.1.8 glossary.

82. Suggested action: Add more of the 'r' words which are in common use to s.1.8.

- *Reconstruction means re-introducing and maintaining appropriate biota to recreate an ecosystem that would not regenerate or recolonise even with best practice restoration interventions. (already in s.1.8).*
- *Restoration is an intentional activity that initiates or accelerates the recovery of an ecosystem.* (WCC *Our Natural Capital*)
- *Revegetation is the process of replanting and gaining vegetation cover on disturbed land. (as above)*
- *Regeneration is the natural process by which plants replace or re-establish themselves. (as above). (Sometimes referred to as natural regeneration).*

- *Translocation is the deliberate and mediated movement of wild individuals or populations from one area to another*. (as above)

83. People and organisations in New Zealand have many different objectives for engaging in 'restoration' initiatives. They may want to attract more birds, or bring back plants that used to grow in the area (including rongoa species), or increase opportunities for cultural harvest, or ensure native species are planted as part of the Billion Trees Programme, or establish a paddock of manuka to support local apiarists, or quickly establish landslips to prevent further erosion and sedimentation, or buffer fire-prone ecosystems with non-flammable species, or improve the water quality of streams with riparian planting.

84. Action requested: Explain the diversity of 'restoration' objectives either as a fundamental concept in section 1.7 or as introductory text to Appendix 5 on Regional Biodiversity Strategies.

PART 3: REVERSING THE DECLINE OF NEW ZEALAND'S INDIGENOUS VASCULAR PLANTS

85. In recent months, New Zealanders have been told that 4,000 species of indigenous plants and animals are threatened or at risk of extinction. Only a few people know there are 1,254 vascular plants among the 4000. That's about 31% or nearly 1 in 3. DOC won't be able to save all of them, and may lose some. If each of the territorial authorities and regional councils could secure a future for three of these plants, and not let the status of any others decline, we could crack the 1,000 figure. That could be an exciting and motivational target: less than 1000 of New Zealand's vascular plants are threatened or at risk of extinction by 2023 when the next report is due. Or perhaps there is another way of setting a target that will show New Zealanders that some progress is being made.

86. New Zealand can be proud that the Department of Conservation has led the development of the *New Zealand Threat Classification System* (NZTCS), a monitoring system which produces data on the conservation status of many taxa.

87. The NZCTS also shows how the conservation status of vascular plants has changed at the national level over the five years from 2012 to 2017. Almost 10% are in a worse state in 2017 than they were in 2012. The authors attribute the declines to deteriorating water quality, the impact of dairy farming in the inter-montane basins of the eastern South Island, ongoing loss of habitat, and direct pressure from browsing animals and from diseases. (de Lange et al; *Conservation status of New Zealand's indigenous vascular plants* 2017).

	Vascular Plants		
Category/Conservation	**Total taxa**	**Total taxa**	**Change**

Status	2012	2017	
Extinct	8	7	-1
Data deficient	77	107	30
Threatened – Nationally Critical	155	213	58
Threatened – Nationally Endangered	62	77	15
Threatened – Nationally Vulnerable	72	113	41
At Risk – Declining	102	158	56
At Risk – Recovering	7	8	1
At Risk – Relict	13	23	10
At Risk – Naturally Uncommon	628	662	34
Non-resident Native – Vagrant	12	14	
Non-resident Native – Coloniser	17	20	
Not Threatened	1427	1383	
Introduced and Naturalised	1	1	
Total	**2581**	**2786**	**205**

Variability within species

88. The definition of indigenous biodiversity includes variability within a species. DNA analysis is becoming a very useful tool in taxonomy and biodiversity management. For example, where the gene pool of a population is diverse, there are more reasons for plantings to be representative of plants within the local population (ecosourcing). Where a gene pool is limited, it may be possible to increase the resilience of the population to diseases or climate change by introducing plants from genetically different populations of the same species.

Protecting indigenous plants

89. Action requested: Please acknowledge the existence of the Native Plants Protection Act 1934 (NPPA) in the NPSIB. The Wildlife Act (1953) gives much more protection to most species of animals than the NPPA gives to plants. The Wildlife Act even protects empty shells of threatened snails.

90. Action requested: Consider including more provisions in the NPSIB to protect, on land of any tenure, any indigenous plants that require additional protection.

The importance of small-scale local initiatives

91. The proposed focus of regional biodiversity strategies is on ‘landscape-scale restoration and enhancement’, but protection’ is not included.

92. The term ‘landscape-scale’ suggests a large geographical area. This would leave many other areas, ecosystems and species at risk. Micro-habitats also need to be maintained, e.g., leaving logs and leaf litter on the ground to rot returns minerals to the soil and creates habitat for invertebrates, regenerating seedlings and food for some birds.

93. Some protection, restoration and enhancement work requires specialised skill sets and knowledge. Many volunteers are more suited to assist with tasks requiring minimal training and minimal supervision. Skilled volunteers looking after small patches of nationally critical plant species deserve better support and recognition. It would be unfortunate if species were lost or sacrificed because a national policy statement or strategy required councils to give priority to landscape-scale work.

Case study: the Titahi Bay populations of *Leptinella nana*,

- When DOC prepared a 10-year recovery plan for the species in 2001, *Leptinella nana,* (pygmy button daisy), a small, perennial herb, was known from only three sites nationally including Titahi Bay, Porirua. By 2017, it was assessed as nationally critical.
- That L. nana is still surviving at Titahi Bay today is the result of 10 years voluntary effort by Robyn Smith, one of our members. Robyn works as a volunteer, but she is no ordinary volunteer; she is an ecologist with decades of professional experience in plant conservation. She understands the dynamic requirements of the Titahi Bay populations, and has the necessary specialised knowledge, skills and dedication to look after the two populations in Whitirea Park. Robyn worries about what will happen to these populations when she can no longer look after them. She can find willing helpers but as yet, no one is prepared to accept responsibility for caring for a species that is nationally critical. We remain hopeful that more assistance will become available under DOC increased budget for biodiversity initiatives.
- Other volunteers are involved through the Whitirea Park Restoration Group. They trap pest animals and are restoring coastal species on dunes. Set-backs have included reinvasion by cattle and a fire in February 2010 which destroyed 70ha of gorse and regenerating bush. Kikuyu is a current problem that needs spraying. There are Health and Safety limits on the spraying volunteers are allowed to do.
- The park was previously managed by DOC but governance responsibility now lies with the Whitirea Park Board, a joint board between Greater Wellington Regional Council and Te Rūnanga o Toa Rangātira Inc which was established in 2014 under the Ngāti Toa Rangātira Claims Settlement Act 2014. How is *Leptinella nana* benefitting from their governance and oversight?

Ex-situ populations and collections

94. A principle on p. 29 of *Te Koiroa o Te Koiora* states “where possible, biodiversity is best conserved in situ by conserving ecosystems and ecological processes to maintain species in their natural habitats”.

Translocating iconic species such as kiwi has a long history and is still acceptable to DOC and iwi/hapū/whānau. There are, however, many reasons why it's not going to be possible to maintain all plant species in their natural habitats. Target 8 of the current GSPC signals an increasingly important role for ex-situ collections of plants. In 2017, the previous Conservation Minister Maggie Barry signed a Memorandum of Understanding with Botanic Gardens Australia and New Zealand Incorporated (BGANZ) to coordinate on native plant conservation issues. Anticipated benefits included increased capacity for research, advocacy, training and community engagement, e.g. when dealing with myrtle rust.

95. Several of the botanic gardens managed by territorial authorities are already doing valuable work to develop more skills in plant propagation and establishing ex-situ plant populations. Some also support researchers by providing facilities and assistance with the propagation of rare plants and plants that are difficult to propagate. Staff at Otari-Wilton's Bush are making important contributions to the development of new techniques for saving the seeds of taxa which can't be stored in 'ordinary' seed banks.

96. Action requested: Recognise the potential contribution of botanic gardens and their staff to the development and implementation of regional biodiversity strategies, including the conservation of plant taxa that can't yet be protected in-situ.

Resilience to Climate Change

97. The text in 3.5 makes a brief but reasonable start to advising territorial authorities on how and when they can promote the resilience of indigenous biodiversity to changes in the climate.

SOME FINAL POINTS

98. The dNPSIB acknowledges only two aspects of the diversity of NZ-Aotaroroa's indigenous biodiversity: taonga species/other species; terrestrial, freshwater and marine ecosystems. Planning for protection needs to pay much more attention to the biotic and abiotic needs of each species.

99. The dNPSIB has not acknowledged the limitations of the statutory protection for plants outside of public conservation land.

100. No attention has been given to socially divisive issues such as 1080.

Appendix 1: Other activities of the Wellington Botanical Society

Submissions:

101. Over the last three decades, the Society has submitted on many statutory and non-statutory plans and strategies at local, regional and national levels. We are often one of few organisations able to provide informed comment on management issues with implications for indigenous plants and ecosystems. We submitted on an earlier draft *National Policy Statement for Indigenous Biodiversity* in 2010. More recent submissions include *Te Koiroa o Te Koiora* (DOC 2019), *the Draft Threatened Species Strategy* (DOC 2017*), the Draft Regional Pest Management Plan* (GWRC 2019), *Our Natural Capital* (WCC 2015), *Outer Green Belt Management Plan* (WCC 2018), and the *Wellington Conservation Management Strategy 2018* (Wellington Conservation Board).

Other

102. Our activities also include:

- almost 30 years ecological restoration in a small reserve at Te Mārua with GWRC support
- publishing a semi-scientific bulletin every 1-2 years (over 56 editions)
- publishing a newsletter three times per year
- disseminating botanical knowledge through lectures at monthly meetings
- awarding an annual research grant (currently $2,600), and some annual grants to students at Victoria University School of Biological Sciences
- participating in public decision-making processes through oral and written submissions.

Appendix 2 Extracts only from:

https://ecometrica.com/article/biodiversity-ecosystem-services-and-natural-capital-terms-matter

Rarely a day goes by without a new publication highlighting the importance of biodiversity, ecosystems and natural capital to businesses, policymakers. This proliferation of information about these related concepts has also been accompanied with a proliferation of different ways in which these terms are being used.

For these concepts to be incorporated into policy-making and business decision-making these terms must be pinned down into precise concepts which can then be measured, monitored and reported. When these terms are used imprecisely or interchangeably it becomes more difficult to agree upon and construct the robust and useful indicators needed by governments and business.

Some of the confusion in how people refer to these terms has been a result of the quite recent introduction and popularisation of the term ‘natural capital’ into these discourses. To many it would seem that this term represents merely a rebranding of ‘ecosystem services’ or ‘biodiversity’ for the purpose of making these concepts sound more relevant to business; however, there is actually a quite simple and clear distinction between how the terms ‘ecosystem services’ and ‘natural capital’ should be used.

Ecosystem services are the flows of benefits which people gain from natural ecosystems, and natural capital is the stock of natural ecosystems from which these benefits flow. So, a forest is a component of natural capital, while climate regulation or timber might be the ecosystem service it provides. Healthy soil is a component of natural capital, while food or energy production might be the ecosystem service it provides. Natural capital is the stock of resources which generate ecosystem services. The crucial link between natural capital and ecosystem services is that when some classes of ecosystem services are appropriated by humanity at an unsustainable rate, the stocks of natural capital which provide them may be depleted.

Terms matter in this field because it is with these terms that businesses, governments, and NGOs are attempting to build the frameworks needed to maintain natural capital stocks, ensure sustainable flows of ecosystem services, and conserve biodiversity – so the greater clarity with which these terms are used and understood the better.